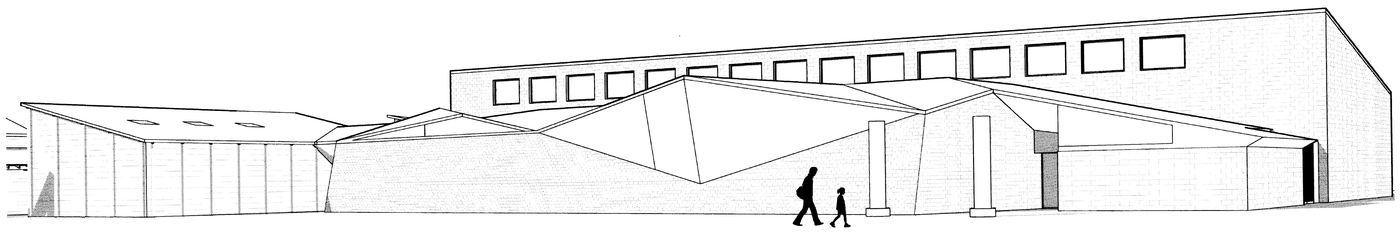
THE HIBULB MUSEUM

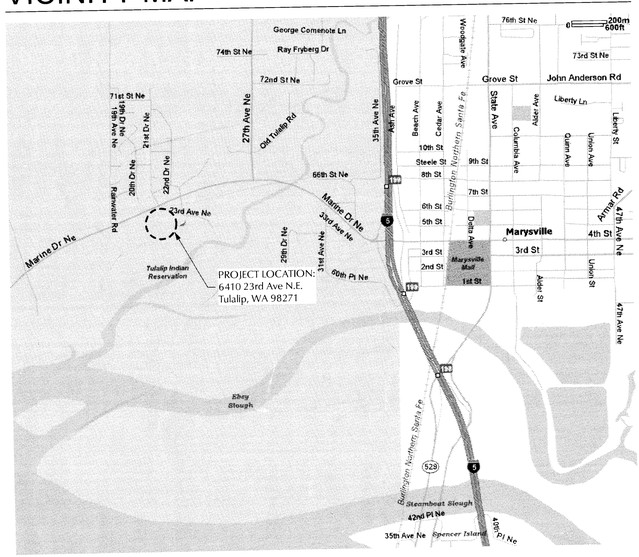
TULALIP, WASHINGTON



ARCHITECTURAL ABBREVIATIONS

ACOUS	acoustic	JAN	janitor
ADJ	adjustable	LAM	laminate
A.F.F.	above finished floor	LAV	lavatory
AL.	aluminum	MANUF	manufacturer
APPROX	approximately	MAX	maximum
B.O.	bottom of	MECH	mechanical
BRG	bearing	MTD	mounted
CLR	clear	MTL	metal
CONC	concrete	MIN	minimum
COND	condition	NIC	not in contract
CONT	continuous	O.C.	on center
COORD	coordinate	OPNG	opening
CJ	control joint	PERF	perforated
CMU	concrete masonry unit	PL	plate
CPT	carpet	P.T	pressure treated
C.T.	ceramic tile	RB	rubber base
DWG	drawing	R.D.	roof drain
DIA	diameter	RECOM	recommendation
D.S.	downspout	REQD	required
EA	each	RM	room
ELEV	elevation	R.S.	rough sawn
EXP	expansion	SIM	similar
EXIST	existing	S.F.	square foot
EXT	exterior	SHT. MTL	sheet metal
F.D.	floor drain	S.S.	stainless steel
F.E.	fire extinguisher	STL	steel
FG	fiberglass	STRUCT	structural
FIN	finished	T&B	top & bottom
FLR	floor	TELE	telephone
F.O.	face of	T	tempered
FRMG	framing	TEMP	temporary
FTG	footing	T.O.S.	top of slab
GA	gage	T.S.	tube steel
GALV	galvanized	TYP	typical
GWB	gypsum wall board	U.N.O.	unless noted otherwise
H.C.	handicapped	W/	with
INSUL	insulation	WD	wood
		W.P.	waterproof
		WRGWB	water resistant gypsum wall board

VICINITY MAP



PROJECT DIRECTORY

PROJECT ADDRESS:
The Hibulb Museum
6410 23rd Ave. NE
Tulalip, WA 98271

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F: 360-651-4026
Contact: Mike Alva

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F: 503-227-5019
Contact: Erika Price

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Contact: Rem Wilson

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Contact: Judi Ebmeyer

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Lapwai, ID 83540
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F: 208-798-3249
CONTACT: Brian McCormack

COST CONSULTANT:
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F: 541-791-3686
Contact: Harvey Childers

THE TULALIP TRIBES' GEOTECHNICAL CONSULTANT:
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741 Marine Drive
Bellingham, WA 98225
T: 360-733-7318
F: 360-733-7418
Contact: Sean Cool

SHEET INDEX

A0.0	GENERAL INFORMATION	M0.1	COVER SHEET - MECHANICAL
A1.0	LIFE SAFETY + SLAB PLAN	M0.2	SCHEDULES - MECHANICAL
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A1.2	FLOOR PLAN	M3.1	PIPING FLOOR PLAN - MECHANICAL
A1.3	MEZZANINE + ENLARGED FLOOR PLANS	M4.1	MEZZANINE PLANS - MECHANICAL
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A1.5	REFLECTED CEILING PLAN	M6.1	DIAGRAMS - MECHANICAL
A2.0	EXTERIOR ELEVATIONS	M7.1	DETAILS - MECHANICAL
A2.1	EXTERIOR ELEVATIONS	P0.1	LEGEND, ABBREVIATIONS AND SCHEDULES - PLUMBING
A3.0	BUILDING SECTIONS	P2.0	UNDERGROUND PLAN - PLUMBING
A3.1	BUILDING SECTIONS	P2.1	GROUND FLOOR PLAN - PLUMBING
A3.2	BUILDING SECTIONS	P3.1	ENLARGED PLAN - PLUMBING
A3.3	BUILDING SECTIONS	P4.1	ENLARGED PLANS AND DETAILS - PLUMBING
A4.0	INTERIOR ELEVATIONS		
A4.1	INTERIOR ELEVATIONS	E0.0	ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
A4.2	INTERIOR ELEVATIONS	E0.2	ELECTRICAL SCHEDULES
A5.0	WALL SECTIONS	E0.3	PANEL SCHEDULES
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A6.1	ROOF + FLOOR TYPES	E3.1	FLOOR PLAN - LIGHTING
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A7.1	DOOR + WINDOW DETAILS	E6.1	ONE-LINE DIAGRAM
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A8.2	ROOM SCHEDULE		
S1.0	STRUCTURAL NOTES		
S2.0	FOUNDATION PLAN		
S3.0	ROOF FRAMING PLAN		
S4.0	FOUNDATION DETAILS		

GENERAL NOTES

1. Reference project manual for details.

Attachment F.1

GRAPHIC LEGEND

- REFERENCE ELEVATION
- DETAIL MARKER
- BUILDING SECTION
- EXTERIOR ELEVATION
- INTERIOR ELEVATION
- WINDOW TYPE
- DOOR TYPE
- WALL/ROOF ASSEMBLY TYPE
- KEY NOTE
- NORTH ARROW SYMBOL
- REVISION NUMBER

DATE 5/14/2007
SCALE N.T.S.
DRAWN BY ELP
APPROVED BY DJS

PROJECT NUMBER 2128
DRAWING FILE 2128 CD COVER.mcd

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98271

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ARCHITECTURE URBAN DESIGN INTERIORS COMMUNITY DEVELOPMENT PLANNING
STASTNYBRUN ARCHITECTS, INC. 813 SW ALDER STREET SUITE 200 PORTLAND, OREGON 97205 TEL 503.222.5533 FAX 503.227.5019

THE HIBULB MUSEUM

GENERAL INFORMATION

A0.0



1 Code Diagram Plan
Scale: 1/16" = 1'-0"

0 10 20 30 FT

CODE DIAGRAM KEY

- INCIDENTAL USE AREAS NOT INCLUDED IN OCCUPANT LOAD CALCULATIONS
- EXIT — ILLUMINATED EXIT SIGN
- PANIC — PANIC HARDWARE
- EXIT DIRECTION
- SMOKE PARTITION
- 1 HOUR FIRE SEPARATION

BUILDING INFORMATION

PROJECT ADDRESS: 6410 23rd AVE NE
TULALIP, WA 98271

ZONE: NA

PROPOSED USE: ONE STORY W/ MEZZANINE MUSEUM FACILITY INCLUDING EXHIBIT, OFFICE, RETAIL AND ASSEMBLY AREAS.

OCCUPANCY TYPE: Occupancy - Non Separated
'A-3' Primary Occupancy
'S-1' Accessory Use
'B' Accessory Use
'M' Accessory Use

CONSTRUCTION TYPE: V(B)
SPRINKLERED

BUILDING AREA: 24,012 SF GROUND FLOOR
1,022 SF MEZZANINE/MECH
25,034 TOTAL

OCCUPANT LOADS

'A-3'		
Entry/Exhibit/Hall	11,708 SF/15 Net =	759
Classroom 1	830 SF/20 Net =	42
Classroom 2	830 SF/20 Net =	42
Lunch	358 SF/15 Net =	26
Kitchen	265 SF/200 Gross =	2
Longhouse	1,627 SF/15 Net =	108
Research Library	791 SF/20 Net =	16
Total 'A-3' Occupant Load		995
'B' (Accessory Use)		
Administration	1,234 SF/100 Gross =	13
Office	172 SF/100 Gross =	2
Total 'B' Occupant Load		15
'M' (Accessory Use)		
Retail	866 SF/30 Gross =	29
'S-1' (Accessory Use)		
Exhibit Prep	1,043 SF/300 Gross =	4
Receiving	177 SF/300 Gross =	1
Storage	371 SF/300 Gross =	2
Mezzanine	353 SF/300 Gross =	1
Total 'S-1' Occupant Load		8
Total Building Occupant Load		1,047

CODE INFORMATION

CODE: 2003 IBC

CH. 3
USE + OCCUPANCY:

CH. 5
HEIGHTS & AREAS:

CH. 6
CONSTRUCTION TYPE:

CH. 9
FIRE PROTECTION:

CH. 10
MEANS OF EGRESS:

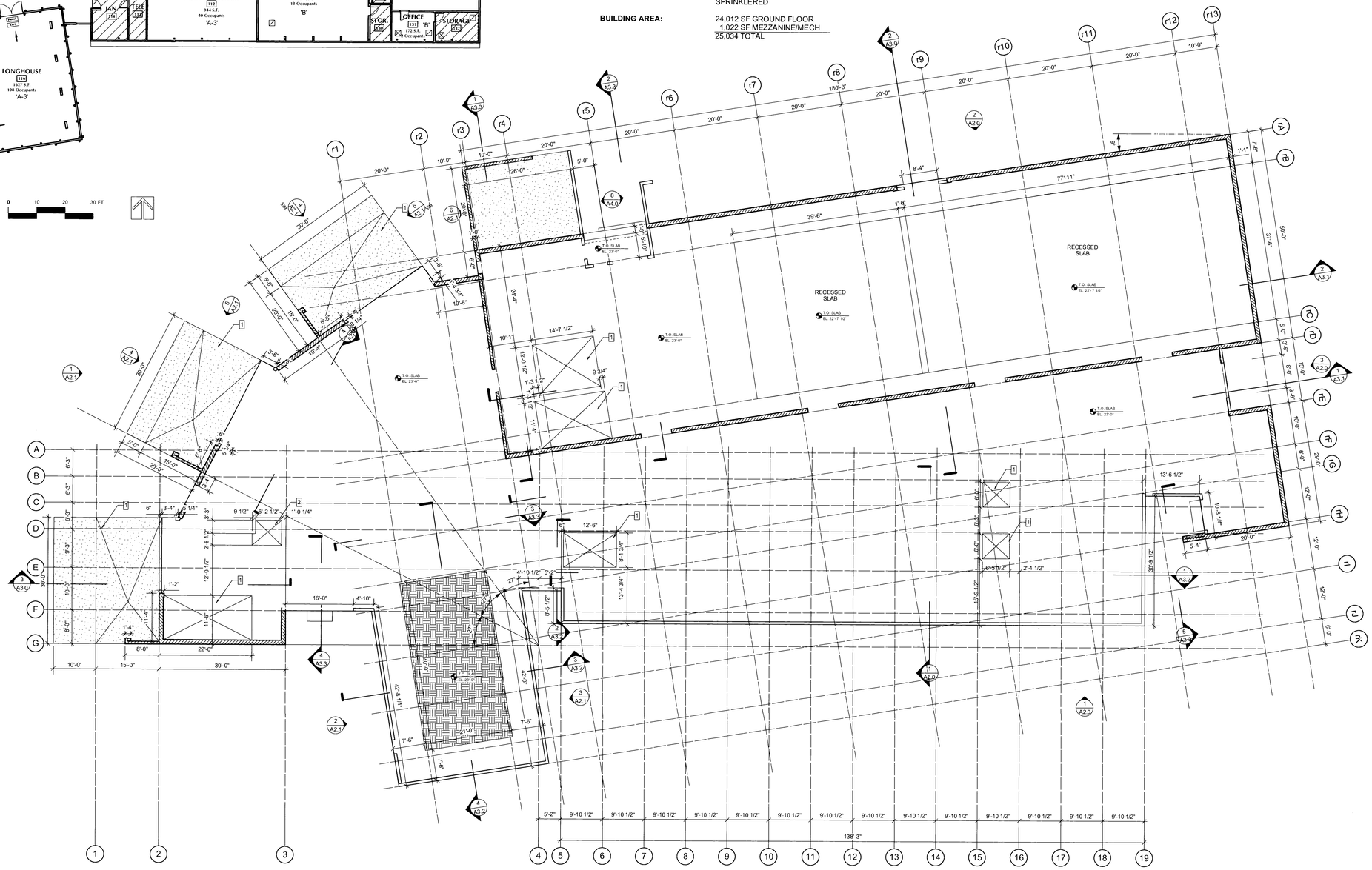
CH. 11
ACCESSIBILITY:

Slab Plan Key

- CONCRETE FOUNDATION WALL
- CMU FOUNDATION WALL
- EXTERIOR CONCRETE PATIO SLAB
- EARTHEN FLOOR

Notes
1. SLOPE SLAB TO DRAIN @ 1/8" PER FT MIN

General Notes
1. SEE S-2.0 FOR FOOTING & COLUMN SCHEDULE & LOCATIONS
2. SEE S-1.0 & S-2.0 FOR CONC. SLAB SPECIFICATION



2 Foundation Plan
Scale: 3/32" = 1'-0"

0 5 10 15 20 FT

Date: 5/11/07
Time: 2:11:19 PM
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DATE	5/14/2007
SCALE	VARIES
DRAWN BY	ELP
APPROVED BY	DJS
PROJECT NUMBER	2128
DRAWING FILE	2128 CD Current.mcd

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THE HIBULB MUSEUM

LIFE SAFETY + SLAB PLANS

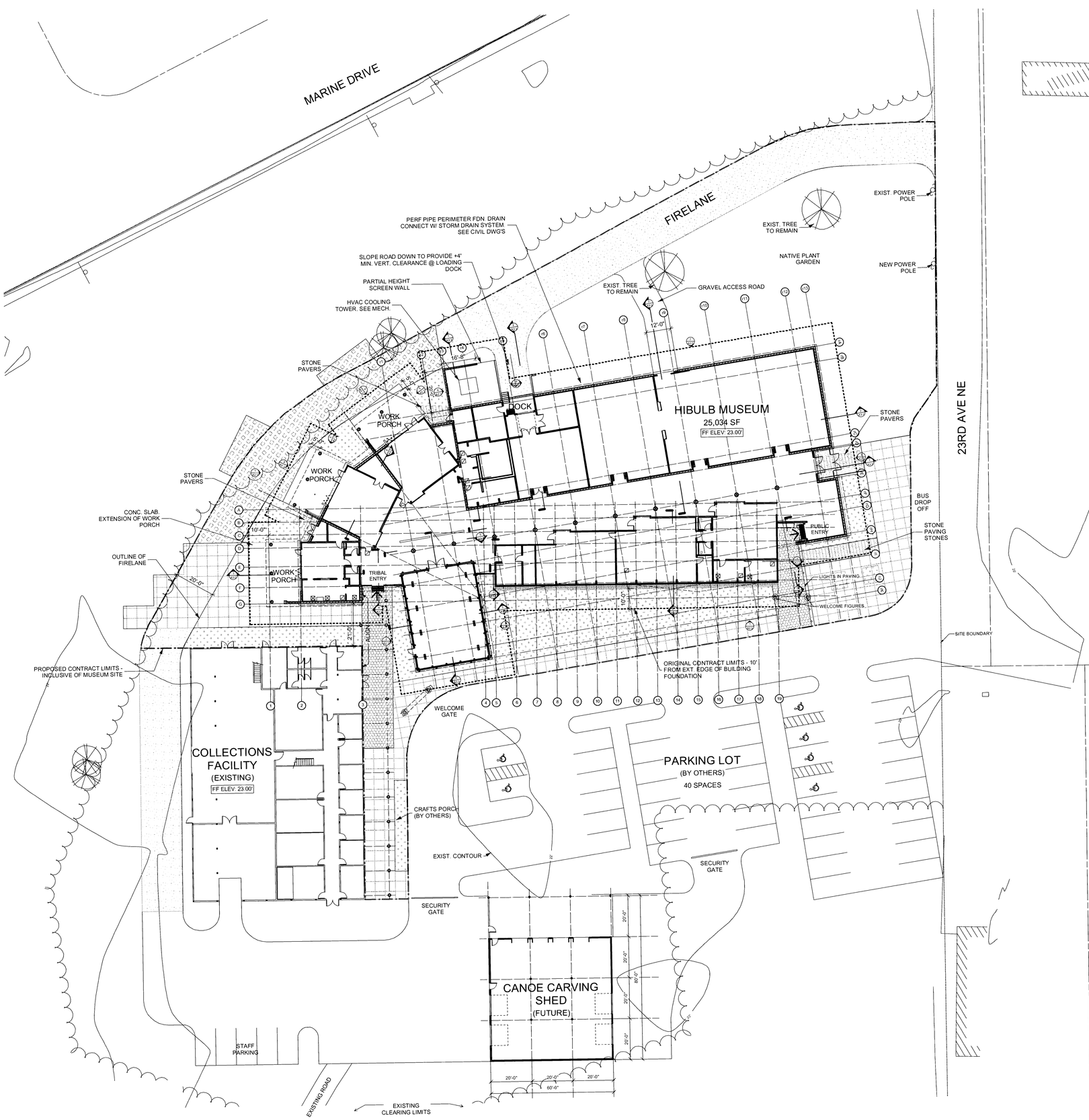
A1.0

General Notes

1. The contract limits for the scope of work included in these documents includes site work to ten feet from the exterior face of the building foundation. Site work beyond this contract limit line is not included in these documents, please refer to "Tulalip Museum - Phase 1 Collection Building" drawings dated August 1, 2006 prepared by Springline Design LLC.
2. See civil drawings for complete site plan information, including but not limited to: Grading, Paving, Storm Drainage and Site Utilities.
3. All contours shown are existing contours. See civil drawings for new finish grade contours.
4. Field verify existing grades and coordinate fine grading with Architect.
5. Irrigation Plan and Layout by The Tulalip Tribes.
6. Landscaping Plan to be provided by The Tulalip Tribes. Final planting selection and layout by The Tulalip Tribes in accordance with concept shown.
7. Landscaping shall use low maintenance plants which are tolerant of site's existing soils and climate without supplemental irrigation or fertilization once established.
8. Landscaping shall use plants that are native to the northwest region.
9. Seeded turf areas consist of commercially supplied native grasses.
10. Underplant all shrub areas with ground cover plantings.

Site Plan Key

- CONCRETE SLAB ON GRADE/WALKWAY
- STONE PAVERS
- PAVERS WITH LAWN INSERTS
- NATIVE PLANTINGS
- ASPHALT
- COLORED & TEXTURED CONCRETE PAVING
- EXISTING TREE



1 Site Plan
Scale: 1" = 20 ft

0 15 30 45 60 FT

DATE	5/14/2007
SCALE	1"=20'-0"
DRAWN BY	ELP
APPROVED BY	DJS
PROJECT NUMBER	2128
DRAWING FILE	2128 CD Current.mcd

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THE HIBULB MUSEUM

SITE PLAN

A1.1

Date: 5/11/07
Time: 2:11:10 PM
File name: 2128 CD Current.mcd

Wall Key

2x LIGHT GAUGE MTL. FRAMED WALL

CMU WALL

General Notes

1. All dimensions are to face of stud or face of concrete.
2. All windows and doors are dimensioned to the center of the unit.
3. See Site Plan, 1/A1.0 for exterior site concrete.
4. Contractor shall co-ordinate with all trades to provide complete working systems.
5. Slope grade away from building.
6. All penetrations in the building envelope shall be caulked, gasketed, weatherstripped or otherwise sealed to limit infiltration and exfiltration.
7. Provide R-19 minimum insulation in exterior walls of enclosed spaces. Provide R-38 minimum insulation at roofs over enclosed spaces.
8. See enlarged plans sheet A1.3 for complete information on kitchen and restrooms.

Notes

1. SOFFIT ABOVE
2. FLOOR DRAIN. SLOPE SLAB TO DRAIN 1/8"/1' MIN.
3. WORK COUNTER W/ UTILITY SINK
4. ETCHED ART GLASS RELITE
5. CLERESTORY BOX (WALL OVERHANG) ABOVE
6. UTILITY SINK. SEE MECH.
7. MOP SINK. SEE MECH.
8. 6" Ø MTL. POLE
9. 16" Ø ROUGH HEWN DOUG FIR COLUMN
10. 20" Ø ROUGH HEWN CEDAR LOG COLUMN
11. ROOF OVERHANG ABOVE
12. WOOD GLASS STOREFRONT SYSTEM
13. SLIDING WD SERVICE WINDOW
14. RECEPTION CASEWORK, SEE DETAIL X/AX.X
15. PARTIAL HEIGHT SCREEN WALL
16. HVAC COOLING TOWERS, SEE MECH.
17. EXT. CONC SLAB ON GRADE
18. FLOOR DRAIN W/ SEDIMENT TRAP. SEE MECH.
19. SECURITY ROLL DOWN DOOR
20. DOWNSPOUT
21. SKYLIGHT ABOVE, SEE WINDOW SCHEDULE
22. 8"x28" ROUGH HEWN CEDAR COLUMN
23. OPERABLE FOLDING GLASS PANEL SYSTEM
24. CEDAR BENCH SEE DTL X/AX.X
25. RECESSED SLAB FOR WALK-OFF MAT
26. MTL. STAIR & RAILING X/AX.X
27. CONCRETE RETAINING WALL
28. CEDAR BENCH
29. 6"Ø CAST IRON ROOF DRAIN
30. SLIDING PANEL ON BARN DOOR HARDWARE TO HIDE OH COILING DOOR
31. TRENCH DRAIN. SEE CIVIL.
32. 6" Ø CEDAR POLE

CLASS PORCH concrete
CLASSROOM 1 118 cork
CLASSROOM 2 117 cork
STOR. 123 conc
STOR. 124 conc
ELEC. 133 concrete
MECH. 108 concrete
DOCK
RECEIVING 107 concrete
STORAGE 132 concrete
WOMEN'S 109 slate
HALL 135 slate
MEN'S 110 slate
EXHIBIT PREP 106 concrete
TEMPORARY EXHIBIT 105 carpet
MAIN EXHIBIT 104 carpet
CANOE HALL 103 slate
RETAIL 102 carpet
ENTRY 101 slate
TRIBAL/GROUP ENTRY 115 slate
STOR. 131 conc
STOR. 136 conc
LUNCH 120 cork
M/W 121 slate
WORK PORCH concrete
COATS 134 conc
KITCHEN 119 tile
PANTRY 125 tile
LONGHOUSE 116 earthen
JANITOR 114 conc
TELE. 113 conc
RESEARCH LIBRARY 112 carpet
ADMINISTRATION 111 carpet
M/W 126 tile
M/W 127 tile
STOR. 130 conc
OFFICE 129 carpet
STOR. 128 concrete

FIN FLOOR EL. 23'-0"
FIN. BENCH ELEV. EL. 26'-3 1/2"
FIN. BENCH ELEV. EL. 23'-11"
CONCRETE BLOCK WALL
PLANE CHANGE IN CEILING ABOVE
OPERABLE SLIDING PANEL SYSTEM
ROLL DOWN SECURITY CURTAIN
DONOR WALL
LOCATION FOR BUILDING SIGNAGE, ROOF OVERHANG ABOVE
CANTED WALL
BASE OF CANTED WALL BELOW
WALL OVERHANG ABOVE
ALIGN GRID LINE #3 W/ EAST FACE OF COLLECTIONS FACILITY

1 Floor Plan
Scale: 1/8" = 1'-0"

0 5 10 15 20 FT

DATE	5/14/2007
SCALE	1/8"=1'-0"
DRAWN BY	ELP
APPROVED BY	DJS
PROJECT NUMBER	2128
DRAWING FILE	2128 CD Current.mcd

DATE	REV. #	REVISION

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THE HIBULB MUSEUM

FLOOR PLAN

A1.2

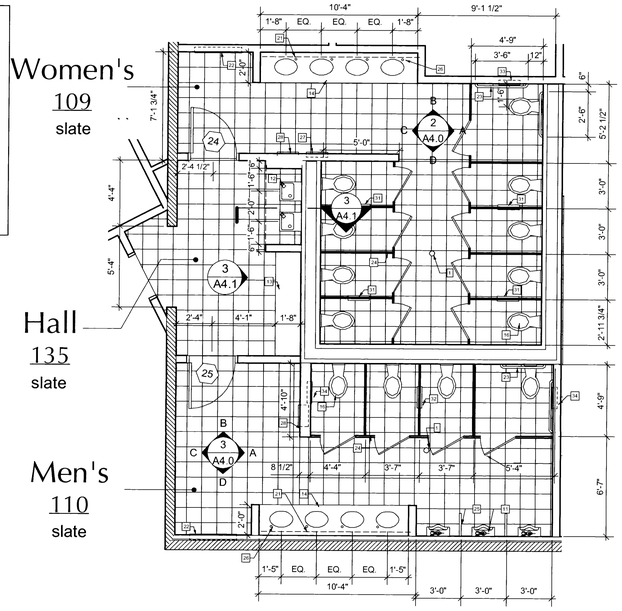
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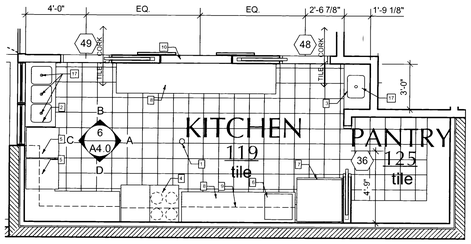
1. FLOOR DRAIN. SLOPE SLAB TO DRAIN 1/8"/1' MIN.
2. STAINLESS STEEL 3 COMPARTMENT KITCHEN SINK
3. STAINLESS STEEL HAND WASH SINK
4. COMMERCIAL GAS RANGE W/ STAINLESS STEEL EXHAUST HOOD ABOVE. SEE MECH FOR HOOD DETAILS.
5. COMMERCIAL DISHWASHER BELOW COUNTER
6. COMMERICAL COUNTERTOP MICROWAVE
7. STAINLESS STEEL REFRIDGERATOR
8. STAINLESS STEEL COUNTERTOP
9. STAINLESS STEEL SHELF ABOVE
10. SERVICE WINDOW W/ DROP DOWN CURTAIN
11. URINAL, SEE MECH.
12. DRINKING FOUNTAIN, SEE MECH.
13. CEDAR BENCH SEE DTL X/AX.X
14. PLASTIC LAMINATE COUNTERTOP W/ UNDERCOUNTER LAVATORIES
15. ROOF ACCESS LADDER
16. WALL HUNG TOILET, SEE MECH.
17. GARBAGE DISPOSAL @ EA. KITCHEN SINK, SEE MECH.
18. DOWNSPOUT
19. ROOF BELOW
20. ROOF LINE BELOW
21. RECESSED LIGHT COVE ABOVE
22. DIAPER CHANGING STATION (TBA1)
23. 1.1/2" Ø GRAB BARS (TBA 2)
24. FLOOR MTD OH BRACED TOILET PARTITION (TBA 3)
25. WALL MTD. URINAL SCREEN (TBA 4)
26. SOAP DISPENSER - TYP. AT EA. SINK (TBA 5)
27. SANITARY NAPKIN VENDOR (TBA 6)
28. PAPER TOWEL DISPENSER + DISPOSAL (TBA 7)
29. PAPER TOWEL DISPENSER + DISPOSAL (TBA 8)
30. SOAP DISPENSER (TBA 9)
31. TOILET PAPER + SEAT COVER DISPENSER W/ NAPKIN DIPOSAL (TBA 10)
32. TOILET PAPER + SEAT COVER DISPENSER (TBA 11)
33. TOILET PAPER + SEAT COVER DISPENSER W/ NAPKIN DIPOSAL (TBA 12)
34. TOILET PAPER + SEAT COVER DISPENSER (TBA 13)
35. 5/8" GWB OVER 3/4" PWD AT LIGHT SHELF SILL

General Notes

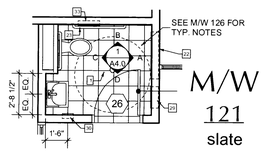
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5. Provide R-19 minimum insulation in exterior walls of enclosed spaces. Provide R-38 minimum insulation at roofs over enclosed spaces.
6. See Floor Plan 1/A1.2 for areas not shown on Enlarged Floor Plans.



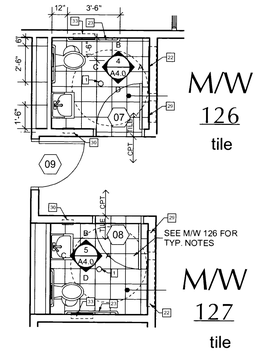
2 Restroom Plan
Scale: 1/4" = 1'-0"



1 Kitchen Plan
Scale: 1/4" = 1'-0"



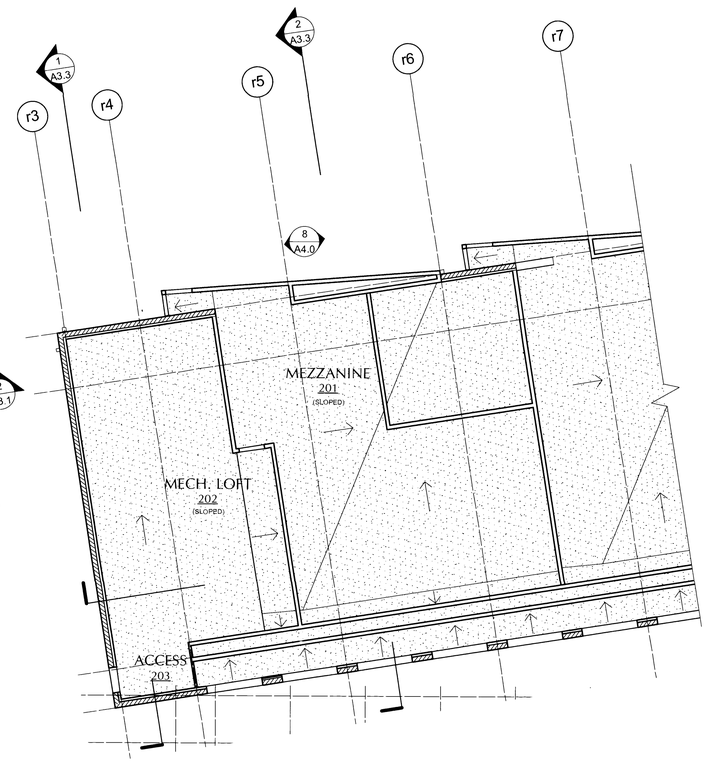
3 M/W 121 Plan
Scale: 1/4" = 1'-0"



4 M/W 126 +127 Plan
Scale: 1/4" = 1'-0"

5 Mezzanine Plan
Scale: 1/8" = 1'-0"

0 5 10 15 20 FT



6 Mezzanine Reflected Ceiling Plan
Scale: 1/8" = 1'-0"

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SCALE	VARIES
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APPROVED BY	DJS
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THE HIBULB MUSEUM

MEZZANINE + ENLARGED PLANS

A1.3

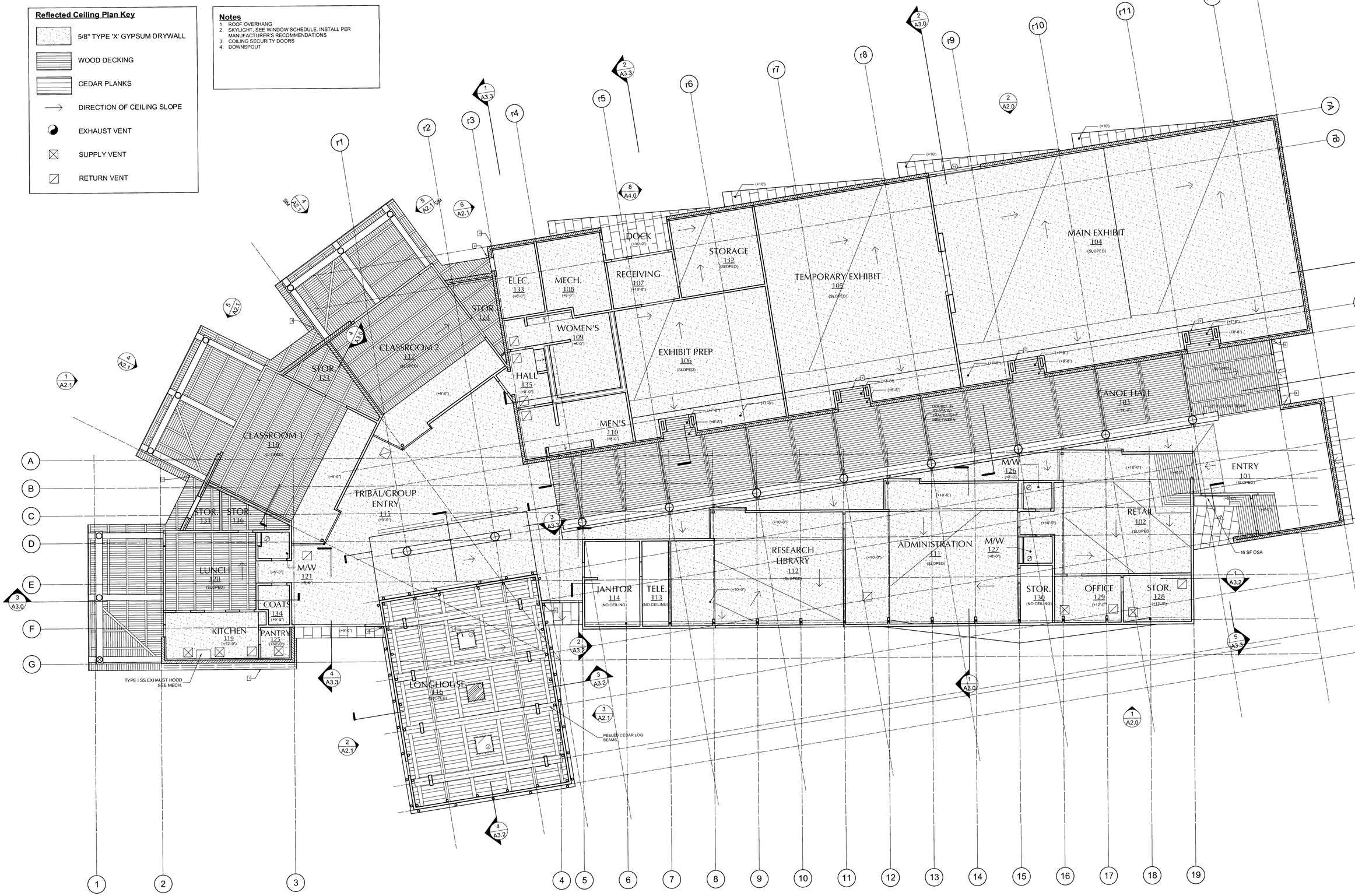
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Reflected Ceiling Plan Key

- 5/8" TYPE 'X' GYPSUM DRYWALL
- WOOD DECKING
- CEDAR PLANKS
- DIRECTION OF CEILING SLOPE
- EXHAUST VENT
- SUPPLY VENT
- RETURN VENT

Notes

1. ROOF OVERHANG
2. SKYLIGHT, SEE WINDOW SCHEDULE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS
3. COILING SECURITY DOORS
4. DOWNSPOUT



1 Reflected Ceiling Plan
Scale: 1/8" = 1'-0"

0 5 10 15 20 FT

DATE	5/14/2007
SCALE	1/8"=1'-0"
DRAWN BY	ELP
APPROVED BY	DJS
PROJECT NUMBER	2128
DRAWING FILE	2128 CD Current.mcd

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STASTNY BRUN ARCHITECTS, INC.
811 1ST AVENUE, SUITE 630
SEATTLE, WASHINGTON 98104
TEL 206 223 0223
FAX 206 223 0979

THE HIBULB MUSEUM

REFLECTED CEILING PLAN

A1.4

Date: 5/11/07
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General Notes

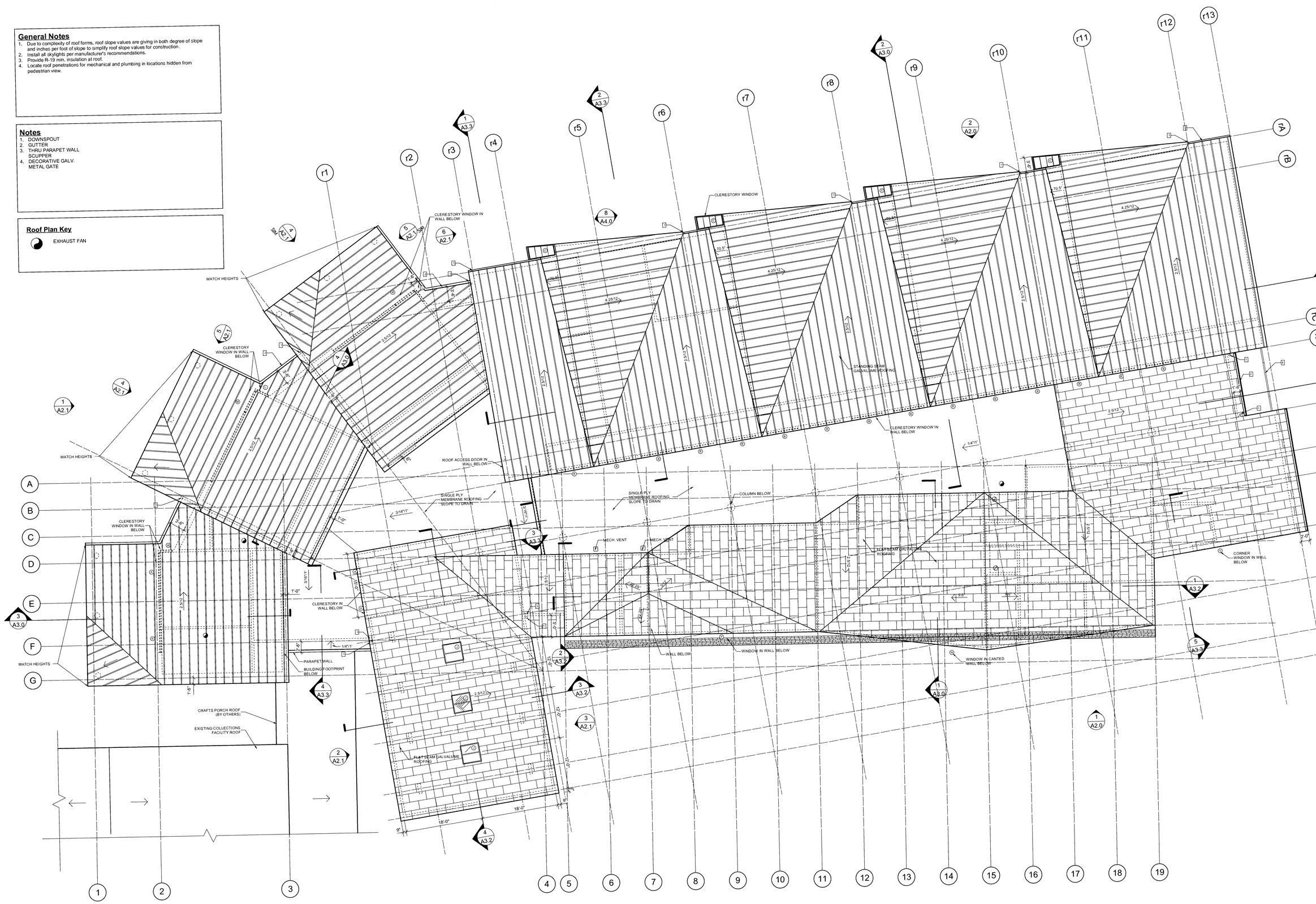
1. Due to complexity of roof forms, roof slope values are giving in both degree of slope and inches per foot of slope to simplify roof slope values for construction.
2. Install all skylights per manufacturer's recommendations.
3. Provide R-19 min. insulation at roof.
4. Locate roof penetrations for mechanical and plumbing in locations hidden from pedestrian view.

Notes

1. DOWNSPOUT
2. GUTTER
3. THRU PARAPET WALL SCUPPER
4. DECORATIVE GALV. METAL GATE

Roof Plan Key

EXHAUST FAN



1 Roof Plan
Scale: 1/8" = 1'-0"

date 5/11/07
time 2:11:10 PM
file name 2128 CD Current.mcd

DATE 5/14/2007
SCALE 1/8"=1'-0"
DRAWN BY ELI
APPROVED BY DJ

PROJECT NUMBER 2128
DRAWING FILE 2128 CD Current.mcd

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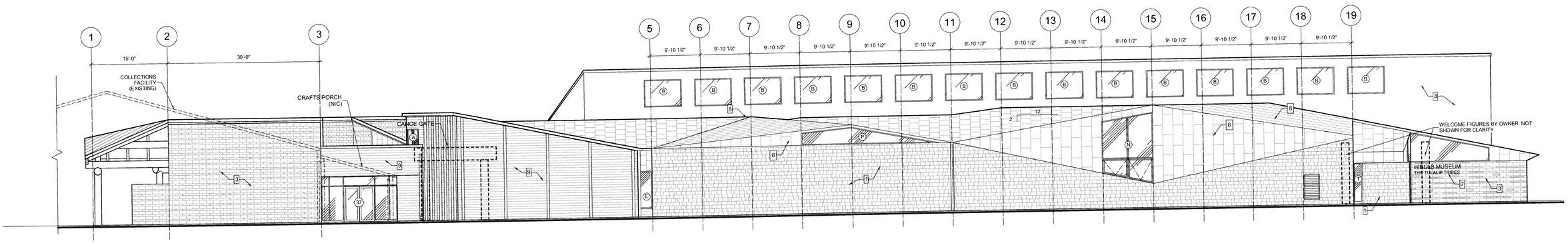
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URBAN DESIGN
COMMUNITY DESIGN PROCESS
COMPETITION MANAGEMENT
STASTNY BRUN ARCHITECTS, INC
PACIFIC BUILDING
TEL 360.220.0323
813 SW ALDER STREET SUITE 630
PORTLAND, OR 97205
FAX 360.220.9519

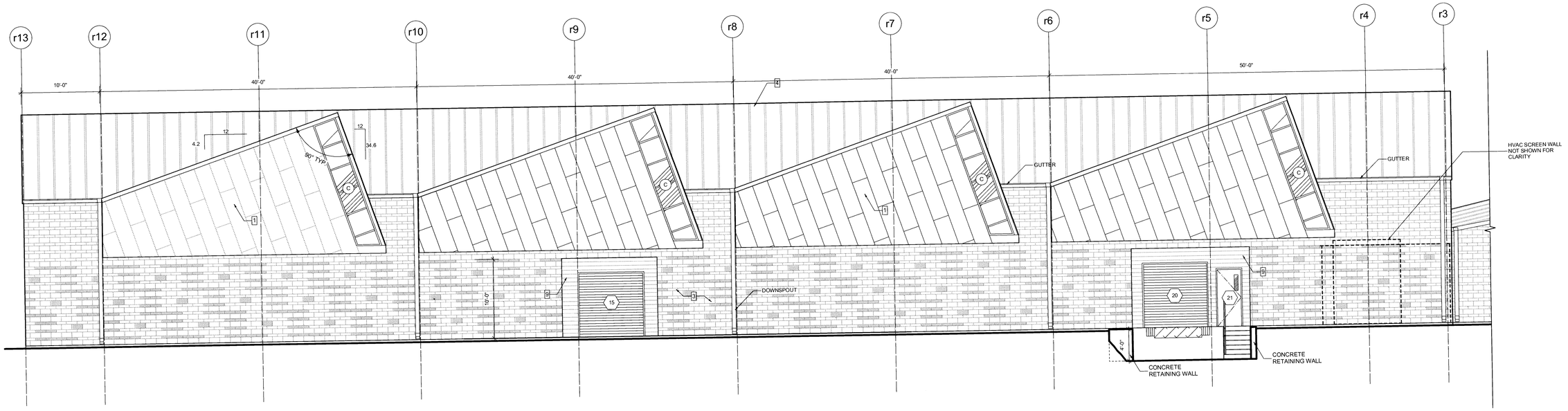
THE HIBULB MUSEUM

ROOF PLAN

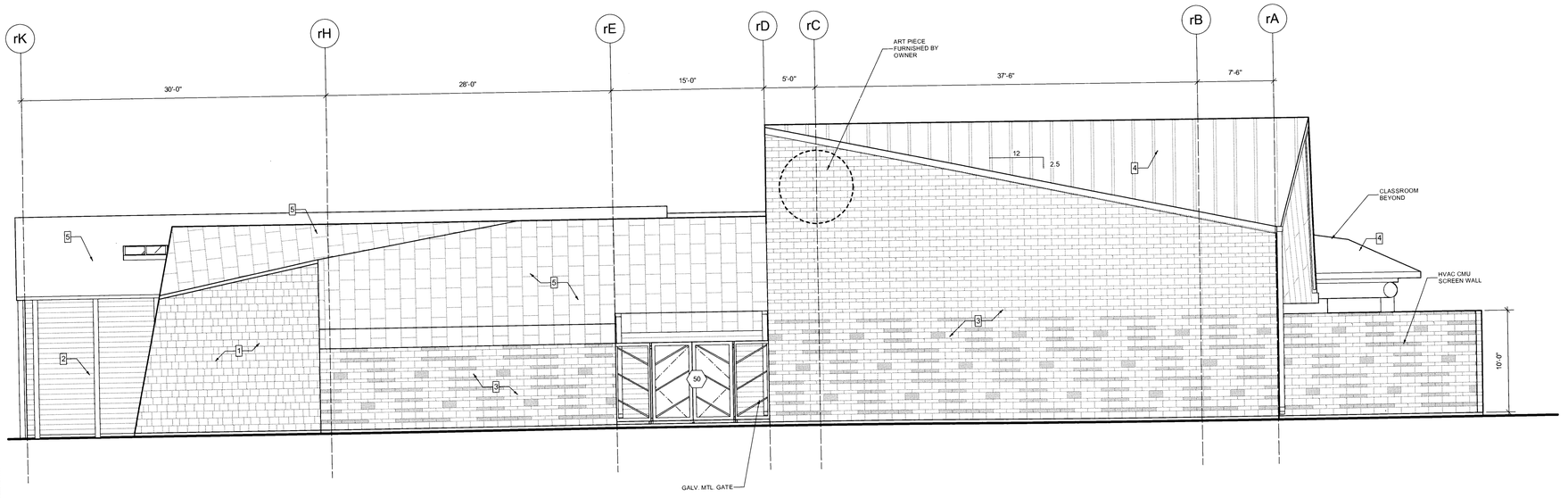
A1.5



1 South Elevation
Scale: 1/8" = 1'-0"



2 North Elevation
Scale: 3/16" = 1'-0"



3 East Elevation
Scale: 3/16" = 1'-0"

General Notes
1. SLOPE GRADE AWAY FROM BUILDING.

Notes
1. CEDAR SHINGLE SIDING
2. CEDAR PLANK SIDING
3. CMU CONCRETE WALL
4. STANDING SEAM METAL ROOFING
5. FLAT SEAM METAL ROOFING
6. FLAT SEAM METAL SIDING
7. CUT ALUMINUM LETTER SIGNAGE
8. FLAT SEAM GALVALUME METAL ROOFING
9. 1x6 T&G CEDAR SIDING

DATE 5/14/2007
SCALE 1/8"=1'-0"
DRAWN BY
APPROVED BY
ELEVATIONS
DJS

PROJECT NUMBER 2128

DRAWING FILE 2128 CD Elevations.mcd

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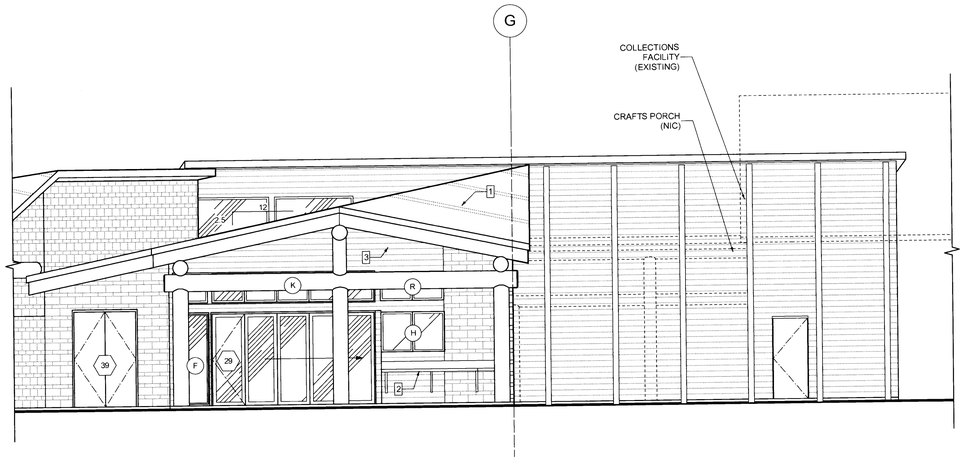
STASTNY BRUN
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COMMUNITY DESIGN
PLANNING
URBAN DESIGN
INTERIORS
601 UNION STREET SUITE 2800
SEATTLE, WASHINGTON
98101-2352
TEL 206.223.1313
FAX 206.223.2979

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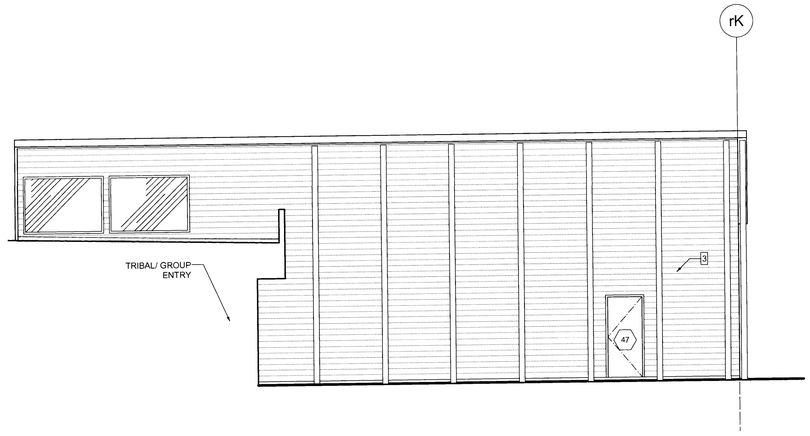
EXTERIOR ELEVATIONS

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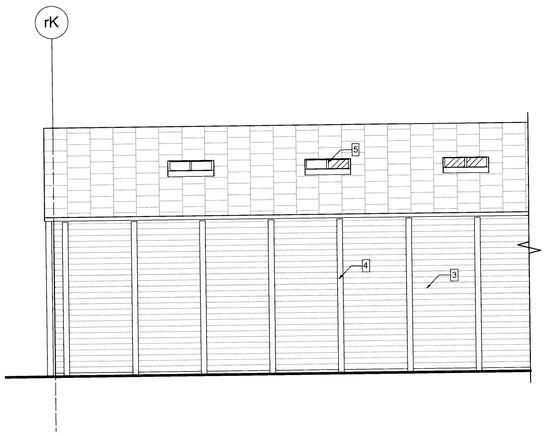
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1 West Elevation
Scale: 3/16" = 1'-0"



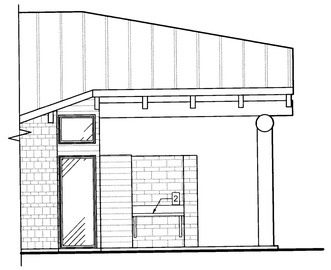
2 West Longhouse Elevation
Scale: 3/16" = 1'-0"



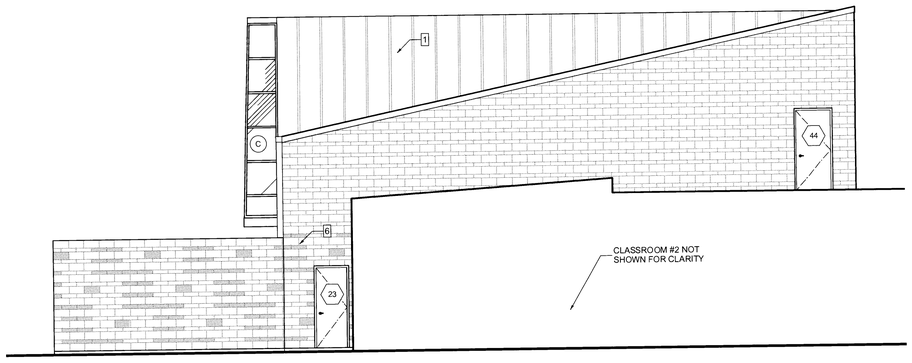
3 East Longhouse Elevation
Scale: 3/16" = 1'-0"



4 Front Classroom Elevation
Scale: 3/16" = 1'-0"



5 Side Classroom Elevation
Scale: 3/16" = 1'-0"



6 West Exhibit Elevation
Scale: 3/16" = 1'-0"

General Notes
1. SLOPE GRADE AWAY FROM BUILDING.

Notes
1. STANDING SEAM METAL ROOFING
2. STAINLESS STEEL WORK COUNTER W/ UTILITY SINK
3. 1x6 T&G CEDAR SIDING
4. 6" STL. POLE
5. SKYLIGHT, SEE WINDOW SCHEDULE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS
6. CMU CONCRETE WALL

DATE 5/14/2007
SCALE 1/8"=1'-0"
DRAWN BY ELP
APPROVED BY DJS

PROJECT NUMBER 2128
DRAWING FILE 2128 CD Elevations.mcd

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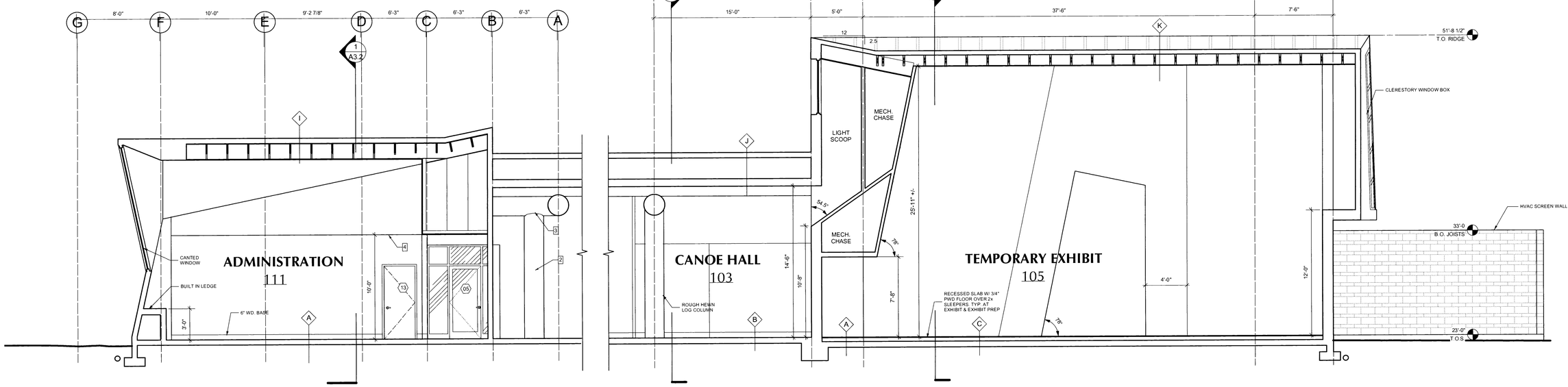
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ARCHITECTS
COMMUNITY DESIGN ASSOCIATES
LEAH S. BRUN
PRINCIPAL
SUSAN WEBER, AIA, LEED BD+C
PRINCIPAL
811 FIRST AVENUE, SUITE 200
SEATTLE, WA 98104
TEL 206.223.5222
FAX 206.223.2819

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EXTERIOR ELEVATIONS

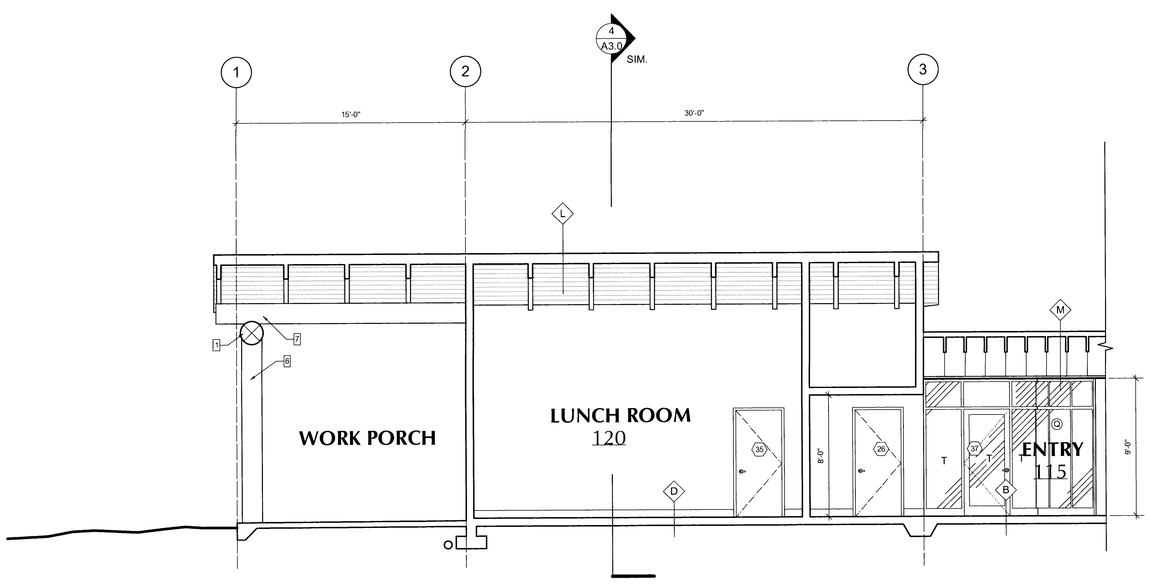
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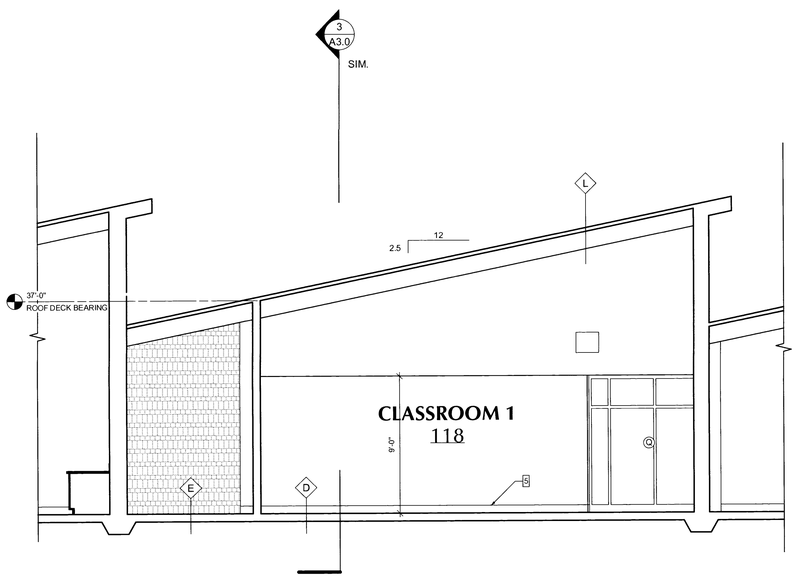


1 Administration Section
Scale: 1/4" = 1'-0"

2 Exhibit Section
Scale: 1/4" = 1'-0"



3 Lunch Room Section
Scale: 1/4" = 1'-0"



4 Classroom Section
Scale: 1/4" = 1'-0"

Notes
1. 18" Ø ROUGH HEWN LOG BEAM
2. 22" Ø ROUGH HEWN LOG COLUMN
3. 24" Ø CEDAR BEAM
4. ACOUSTICAL DROP CEILING
5. 6" WD. BASE
6. 16" Ø ROUGH HEWN DOUG FIR COLUMN
7. 16" Ø ROUGH HEWN DOUG FIR BEAM

DATE 5/14/2007
SCALE 1/8" = 1'-0"
DRAWN BY ELP
APPROVED BY DJS

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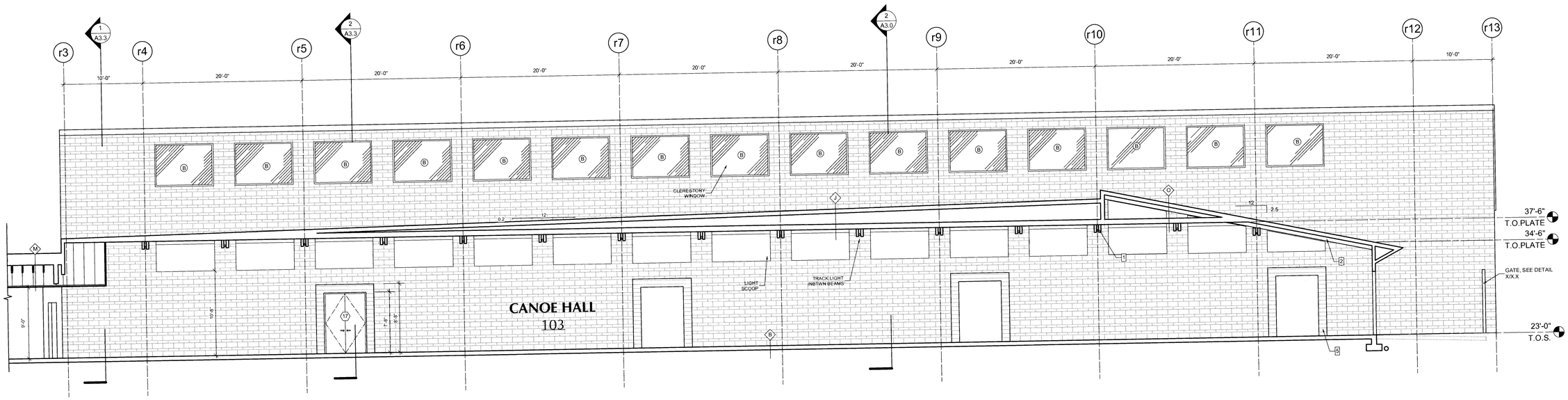
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COMMUNITY DEVELOPMENT (MANAGEMENT)
STASTNY BRUN ARCHITECTS, INC. ● 15206 AURORA CIRCLE ● SUITE 200
EDMONDS, WASHINGTON 98026
PHONE: 425.778.1277 ● FAX: 425.778.1279

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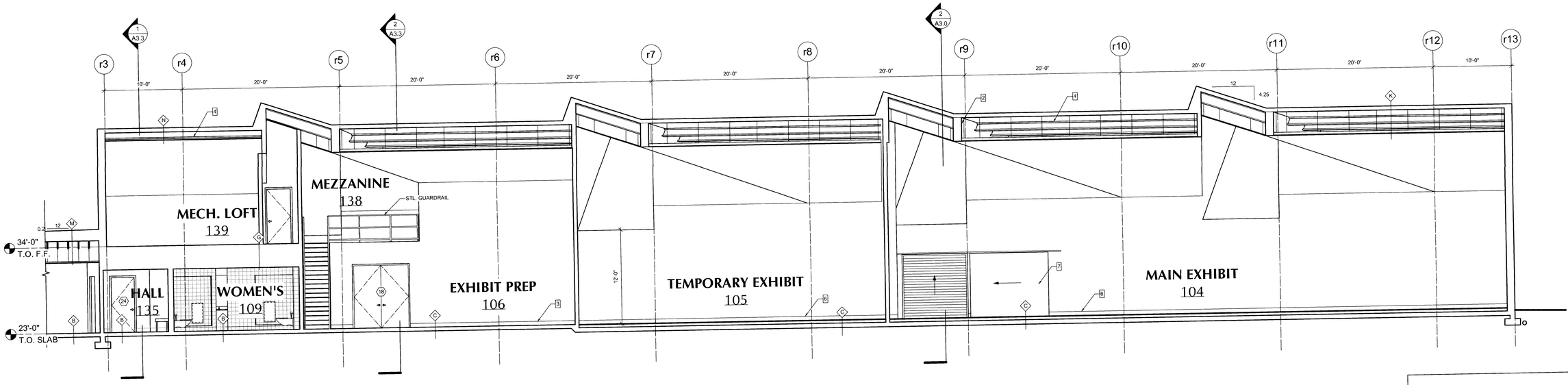
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A3.0

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1 Building Section 2
Scale: 3/16" = 1'-0"



2 Exhibit Section
Scale: 3/16" = 1'-0"

Notes
1. DOUBLE BEAM PER STRUCTURAL W/ LIGHT IN BETWEEN. SEE ELEC.
2. BEAM PER STRUCTURAL
3. 6" RUBBER BASE
4. TJI'S PER STRUCTURAL
5. 1x6 T&G CEDAR SIDING
6. RECESSED BASE
7. SLIDING PANEL ON BARN DOOR HARDWARE TO HIDE O/H COILING DOOR

DATE 5/14/2007
SCALE 3/16"=1'-0"
DRAWN BY
APPROVED BY
ELEVATIONS
DJS

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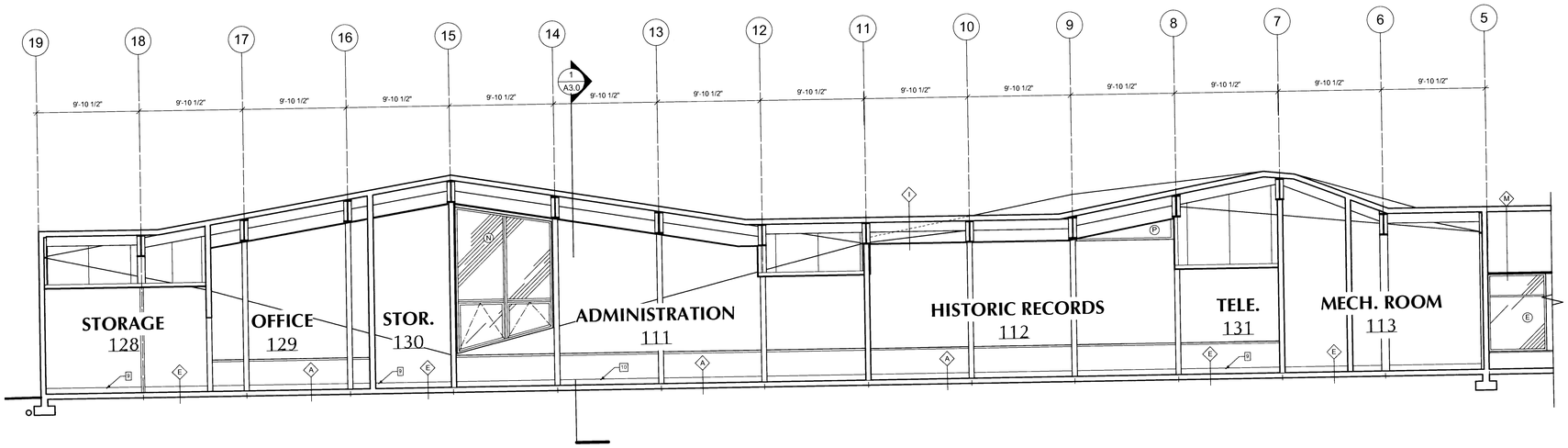
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COMMUNITY PLANNING
STASTNY BRUN ARCHITECTS, INC.
2815 2nd AVENUE, SUITE 300
SEATTLE, WA 98121
PH 206.443.8484 FAX 206.443.8485

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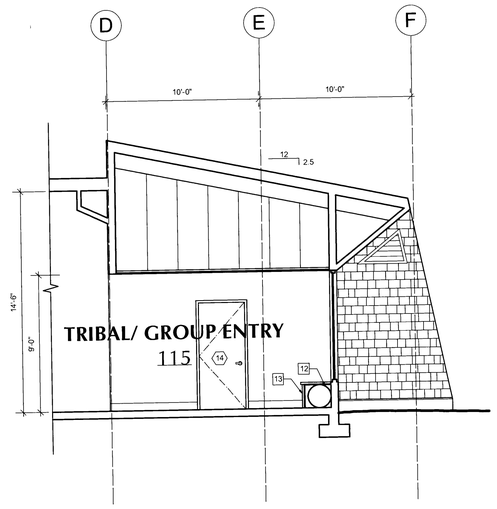
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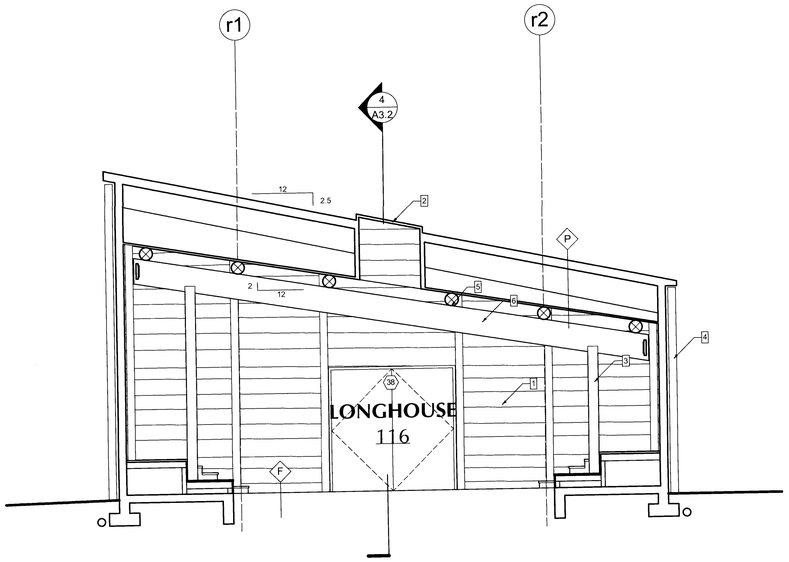
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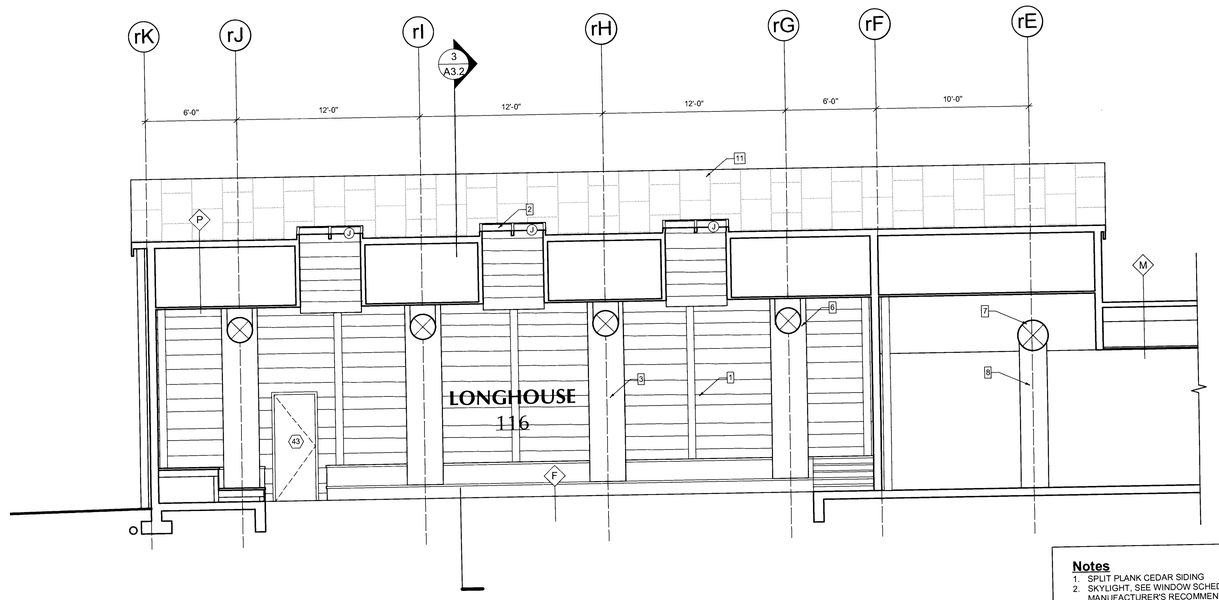
1 Administration Section
Scale: 3/16" = 1'-0"



2 Section
Scale: 1/4" = 1'-0"



3 Longhouse Section
Scale: 1/4" = 1'-0"



4 Longhouse Section
Scale: 1/4" = 1'-0"

Notes
1. SPLIT PLANK CEDAR SIDING
2. SKYLIGHT, SEE WINDOW SCHEDULE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS
3. 8"x28" CEDAR COLUMN
4. 6" Ø CEDAR POLE
5. 10" Ø CEDAR LOG BEAM
6. 20" Ø CEDAR LOG BEAM
7. 24" Ø CEDAR LOG BEAM
8. 22" Ø CEDAR LOG COLUMN
9. 6" RUBBER BASE
10. 6" WD. BASE
11. FLAT SEAM GALVALUME METAL ROOFING
12. DUCT, SEE MECH.
13. CEDAR BENCH

DATE 5/14/2007
SCALE VARIES
DRAWN BY ELP
APPROVED BY DJS

PROJECT NUMBER 2128

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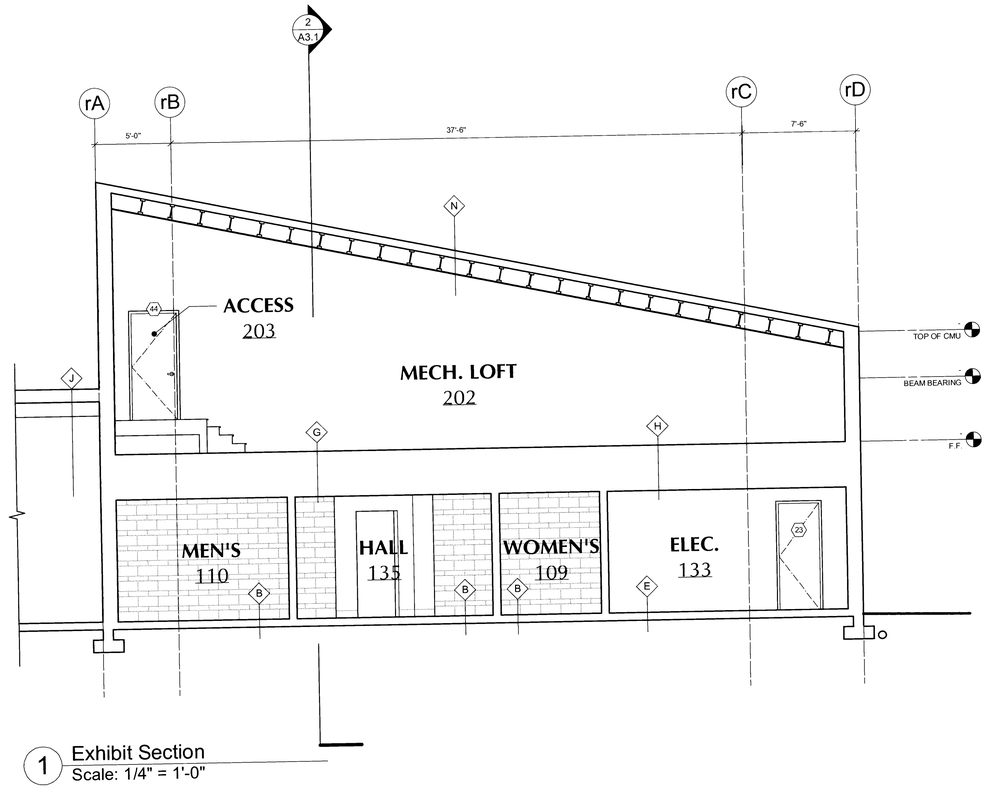
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fax: 425.259.1989
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PLANNING
2100 HEWITT AVE SUITE 300
EVERETT, WA 98201
tel: 425.252.3333
fax: 425.252.3099

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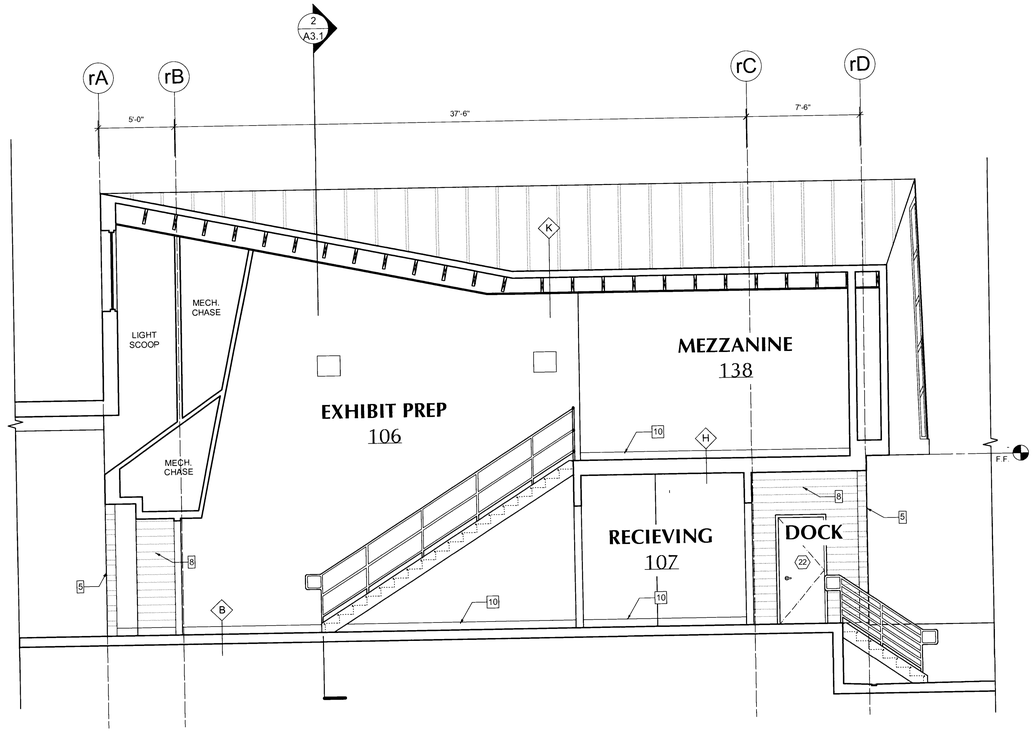
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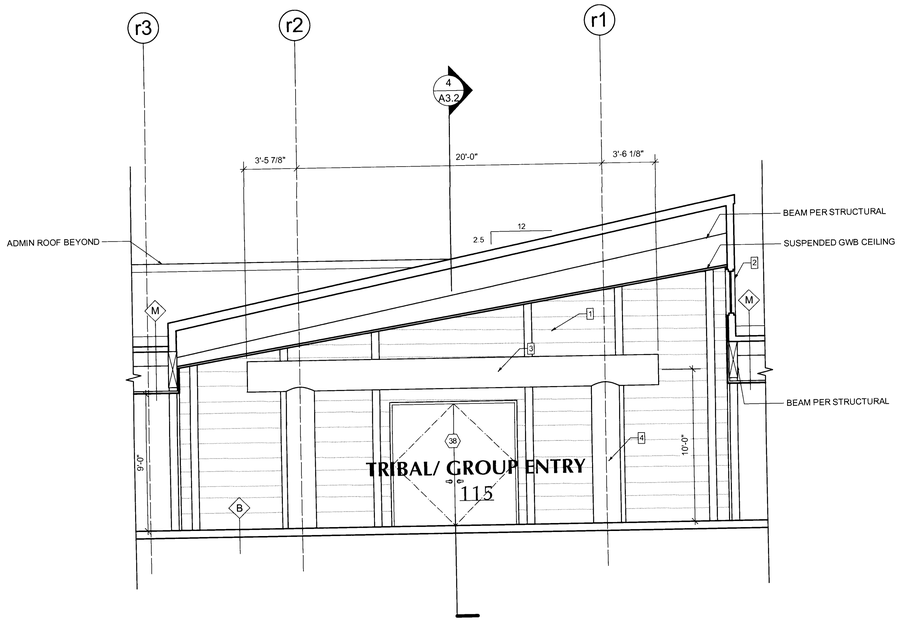
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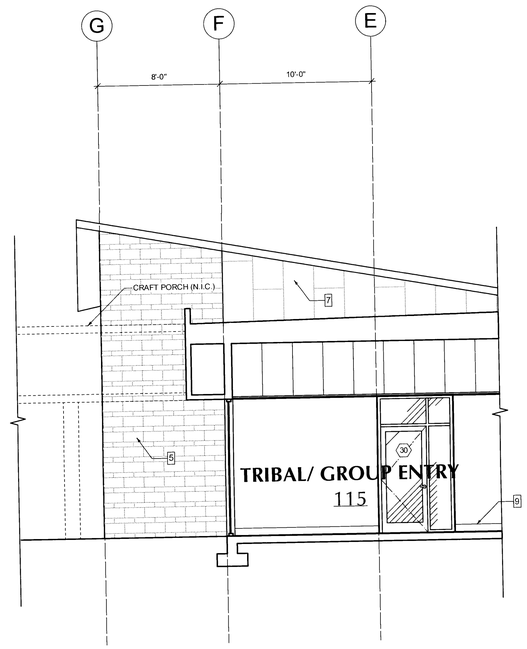
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Scale: 1/4" = 1'-0"



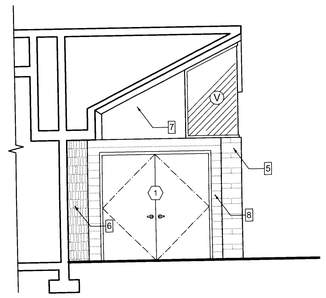
2 Exhibit Prep Section
Scale: 1/4" = 1'-0"



3 Longhouse Skylight Section
Scale: 1/4" = 1'-0"



4 Tribal/Group Entry Section
Scale: 1/4" = 1'-0"



5 Entry Door Elevation
Scale: 1/4" = 1'-0"

Notes
1. SPLIT PLANK CEDAR SIDING
2. CLERESTORY WINDOW, SEE WINDOW SCHEDULE
3. 24" Ø CEDAR BEAM
4. 22" Ø ROUGH HEWN LOG COLUMN
5. CMU CONCRETE WALL
6. CEDAR SHINGLE SIDING
7. FLAT SEAM METAL SIDING
8. 1x6 T&G CEDAR SIDING
9. 6" WD. BASE
10. 6" RUBBER BASE

DATE	5/14/2007
SCALE	VARIES
DRAWN BY	ELP
APPROVED BY	DJS
PROJECT NUMBER	2128
DRAWING FILE	2128 CD Sections.mcd

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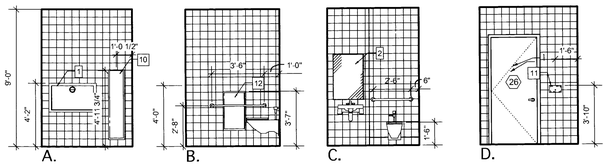
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COMMUNITY DESIGN + PLANNING
DESIGN CENTER
CONSTRUCTION MANAGEMENT
STASTNY BRUN ARCHITECTS, INC
2811 FAIRVIEW AVE E SUITE 2000
SEATTLE, WA 98102
TEL 206 322 3233
FAX 206 322 3019

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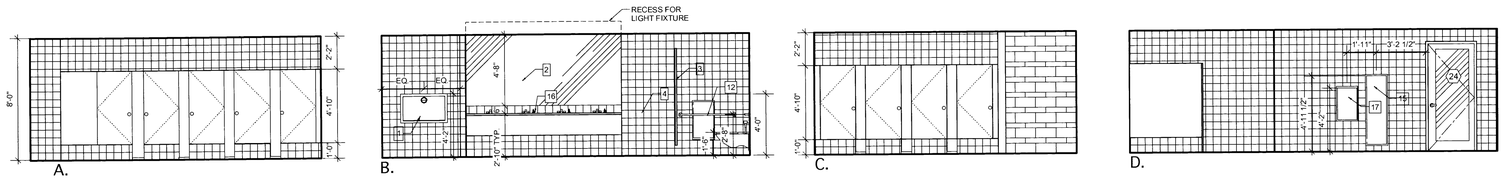
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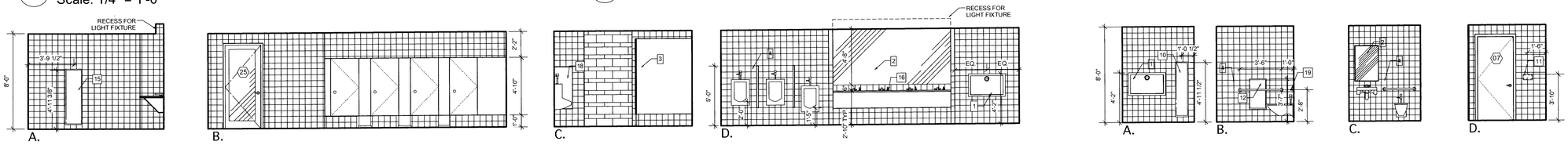
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1 M/W #121
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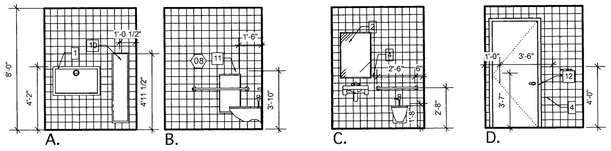


2 Women's #109
Scale: 1/4" = 1'-0"

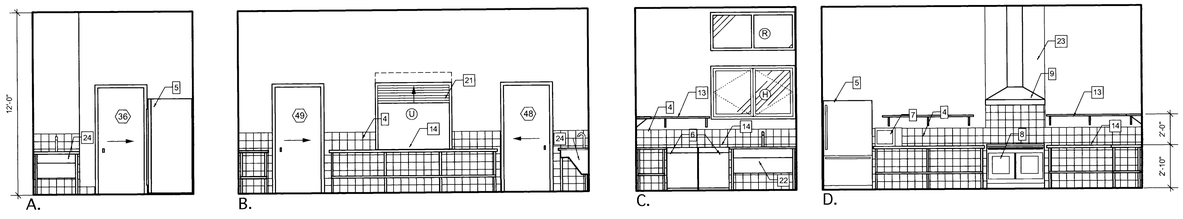


3 Men's #110
Scale: 1/4" = 1'-0"

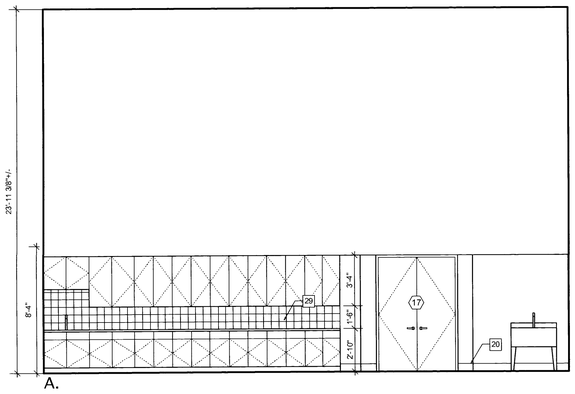
4 M/W #126
Scale: 1/4" = 1'-0"



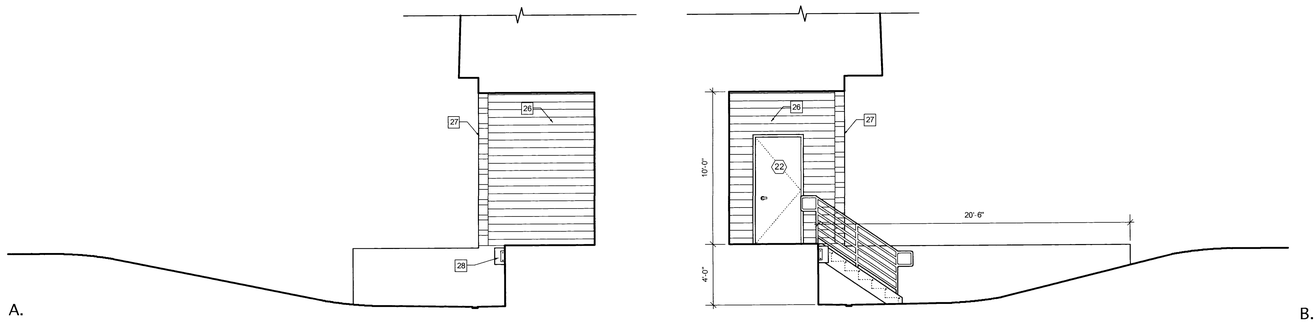
5 M/W #127
Scale: 1/4" = 1'-0"



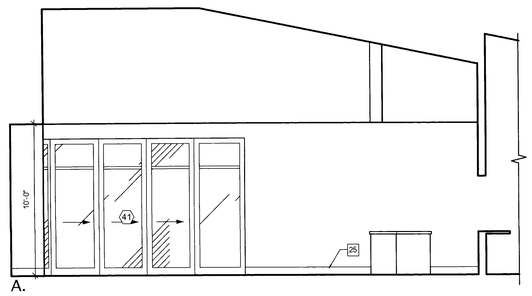
6 Kitchen #119
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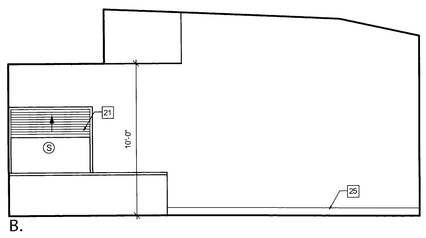
7 Exhibit Prep #106
Scale: 1/4" = 1'-0"

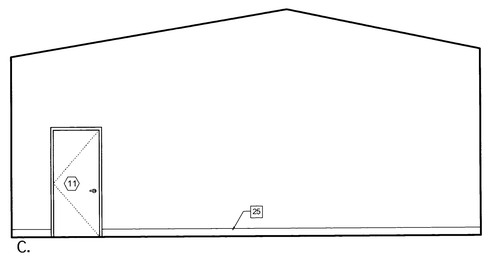


8 Loading Dock
Scale: 1/4" = 1'-0"



9 Retail #102
Scale: 1/4" = 1'-0"





Key Notes

1. DIAPER CHANGING STATION (TBA1)
2. MIRROR W/ J TRIM TOP AND BOTTOM
3. TOILET PARTITION (TBA 3)
4. TILE WAINSCOT
5. REFRIDGERATOR
6. DISHWASHER
7. MICROWAVE
8. RANGE
9. STAINLESS STEEL EXHAUST HOOD
10. PAPER TOWEL DISPENSER + DISPOSAL (TBA 8)
11. SOAP DISPENSER (TBA 9)
12. TOILET PAPER + SEAT COVER DISPENSER W/ NAPKIN DIPOSAL (TBA 12)
13. STAINLESS STEEL SHELF
14. STAINLESS STEEL COUNTER W/ SHELF BELOW
15. PAPER TOWEL DISPENSER + DISPOSAL (TBA 7)
16. SOAP DISPENSER - TYP. AT EA. SINK (TBA 5)
17. SANITARY NAPKIN VENDOR (TBA 6)
18. URINAL SCREEN (TBA 4)
19. 1 1/2" Ø GRAB BARS (TBA 2)
20. 6" RUBBER BASE
21. ROLL DOWN CURTAIN
22. THREE COMPARTMENT SINK W/ S.S. UNDER LAV. GUARD
23. S.S. SHT MTL SKIRT -SEE MECH.
24. SINK W/ S.S. UNDERLAVATORY GUARD
25. 6" WD. BASE
26. 1x6 T&G CEDAR SIDING
27. CMU CONCRETE WALL
28. DOCK BUMPER
29. TILE BACKSPLASH

DATE	5/14/2007
SCALE	1/4"=1'
DRAWN BY	BA
APPROVED BY	DJS
PROJECT NUMBER	2128
DRAWING FILE	2128 CD Details.mcd

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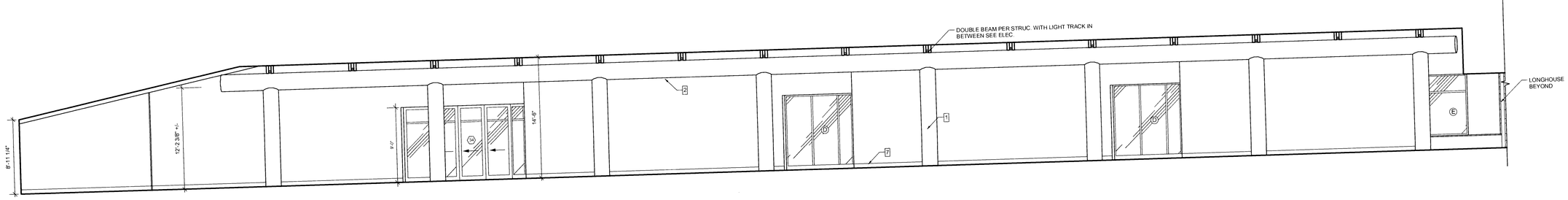
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COMMUNITY PLANNING CONSTRUCTION MANAGEMENT
STASTNY/BRUN ARCHITECTURE, INC. ● 81 YESLER WAY SUITE 300 SEATTLE, WA 98104
TEL 206.777.7333 FAX 206.777.7679

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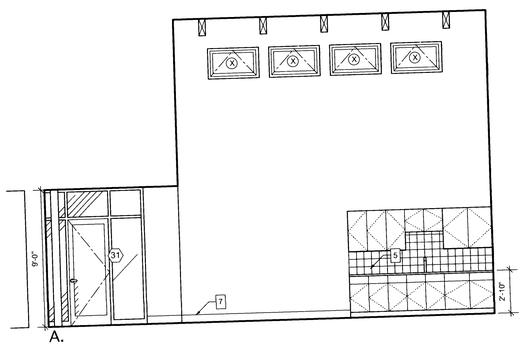
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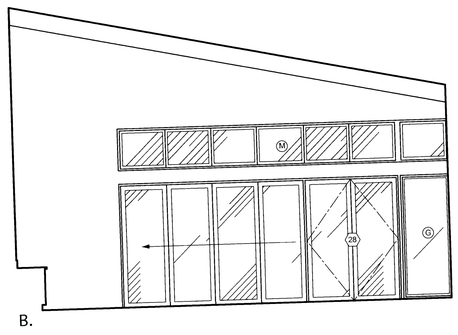
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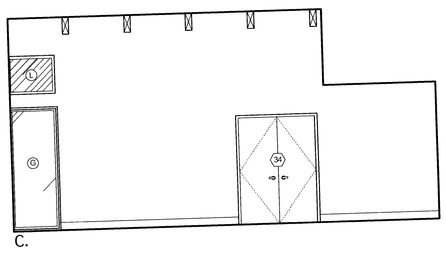
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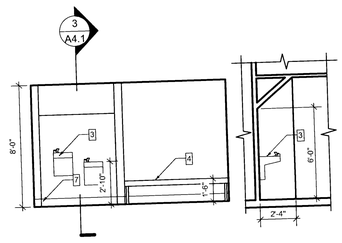
1 Canoe Hall #103
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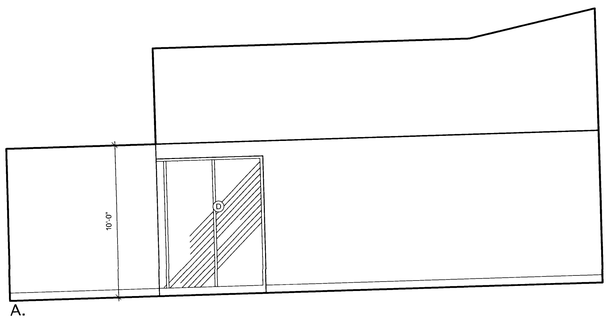


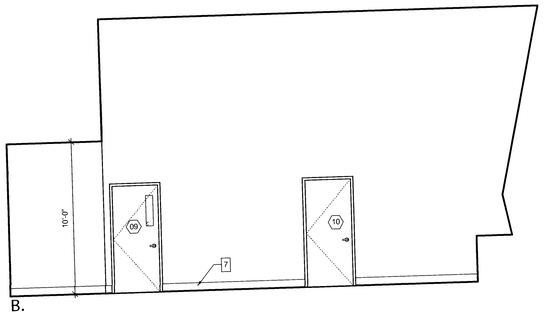


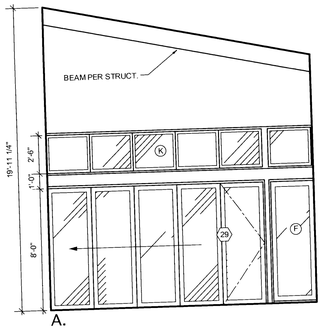
2 Classroom #118
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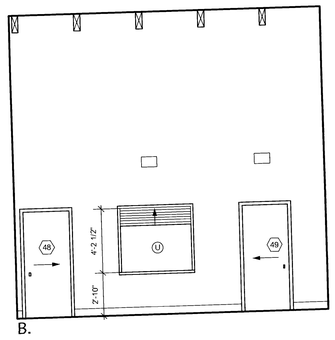


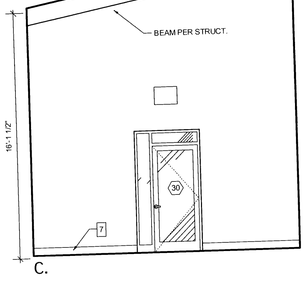
3 Hall #135
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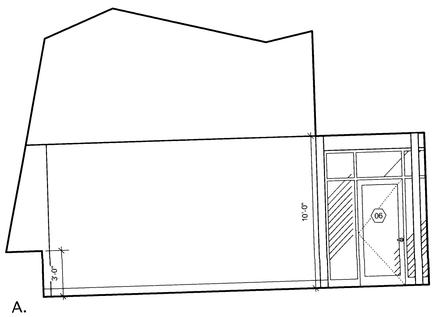


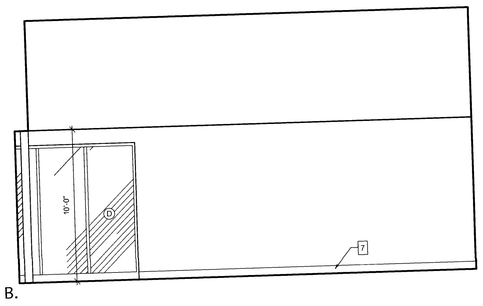


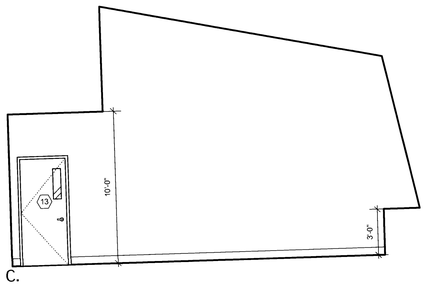




4 Administration #111
Scale: 1/4" = 1'-0"







5 Lunch #120
Scale: 1/4" = 1'-0"

6 Research Library #112
Scale: 1/4" = 1'-0"

Key Notes
1. 22" Ø CEDAR COLUMN
2. 24" Ø CEDAR BEAM
3. DRINKING FOUNTAIN, SEE MECH.
4. CEDAR BENCH
5. CERAMIC TILE BACKSPLASH
6. 6" RUBBER BASE
7. 6" WD. BASE

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SCALE
DRAWN BY
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PROJECT NUMBER 2128
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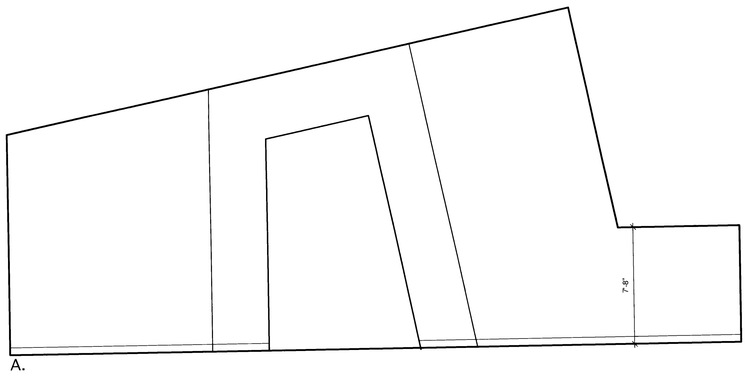
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COMMUNITY DESIGN PROJECTS
STASTNY BRUN ARCHITECTS, INC.
811 FIRST AVENUE, SUITE 300
SEATTLE, WA 98104
TEL 206 223 1333
FAX 206 223 2699

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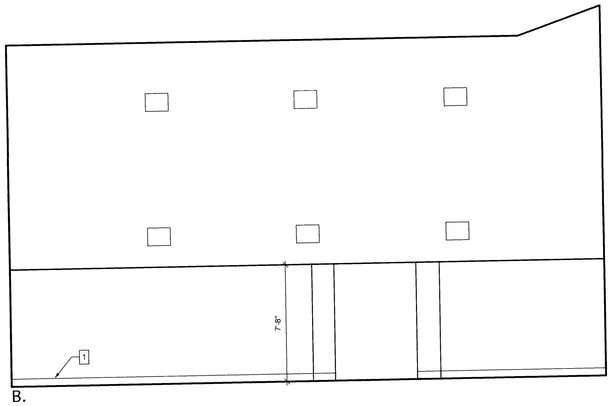
INTERIOR ELEVATIONS

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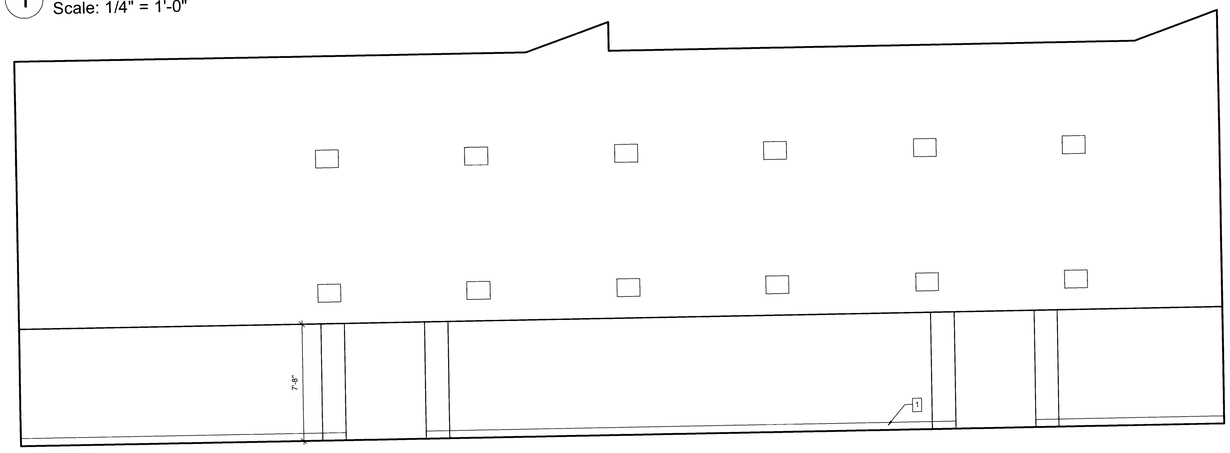


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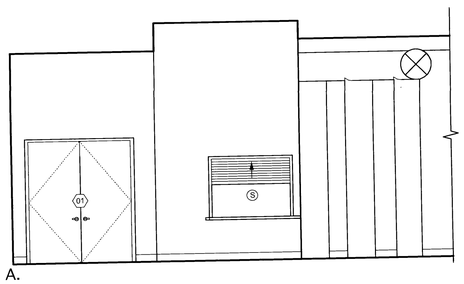


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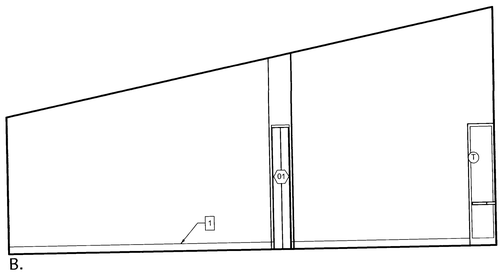
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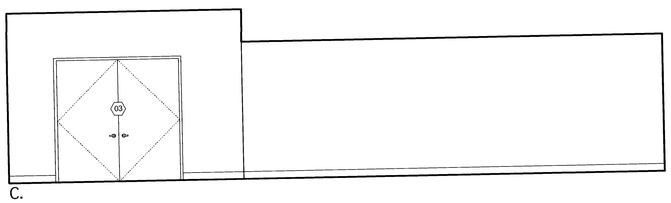
2 Main Exhibit #104
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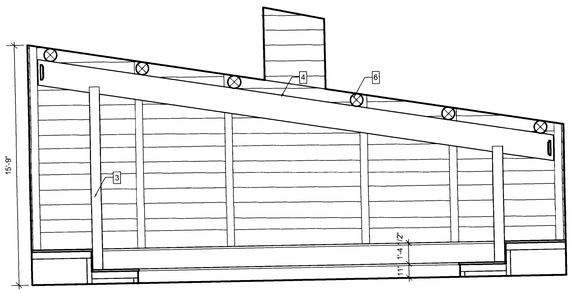


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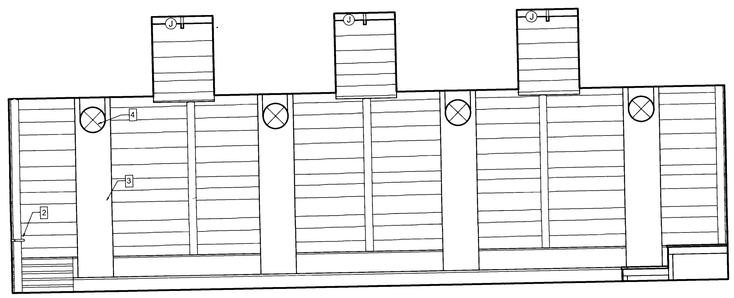


C.

3 Entry #101
Scale: 1/4" = 1'-0"



A.



B.

4 Longhouse #116
Scale: 1/4" = 1'-0"

Notes
1. 6" WD. BASE
2. HANDRAIL
3. 8"x28" CEDAR COLUMN
4. 20" Ø CEDAR LOG BEAM
5. 18" Ø ROUGH HEWN CEDAR LOG BEAM
6. 10" Ø CEDAR LOG BEAM

DATE	5/14/2007
SCALE	1/4"-1'-0"
DRAWN BY	BA
APPROVED BY	DJ
PROJECT NUMBER	2128
DRAWING FILE	2128 CD Details.mcd

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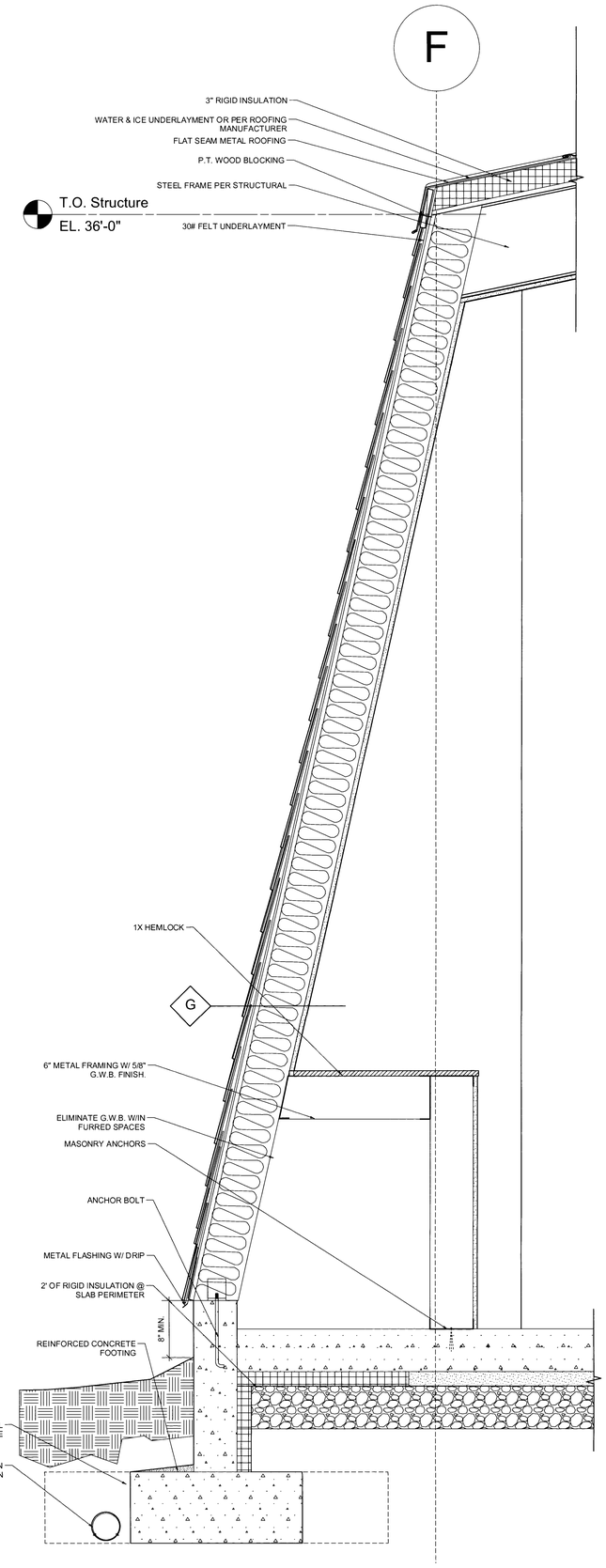
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98121
TEL 206.727.7313 FAX 206.727.7870

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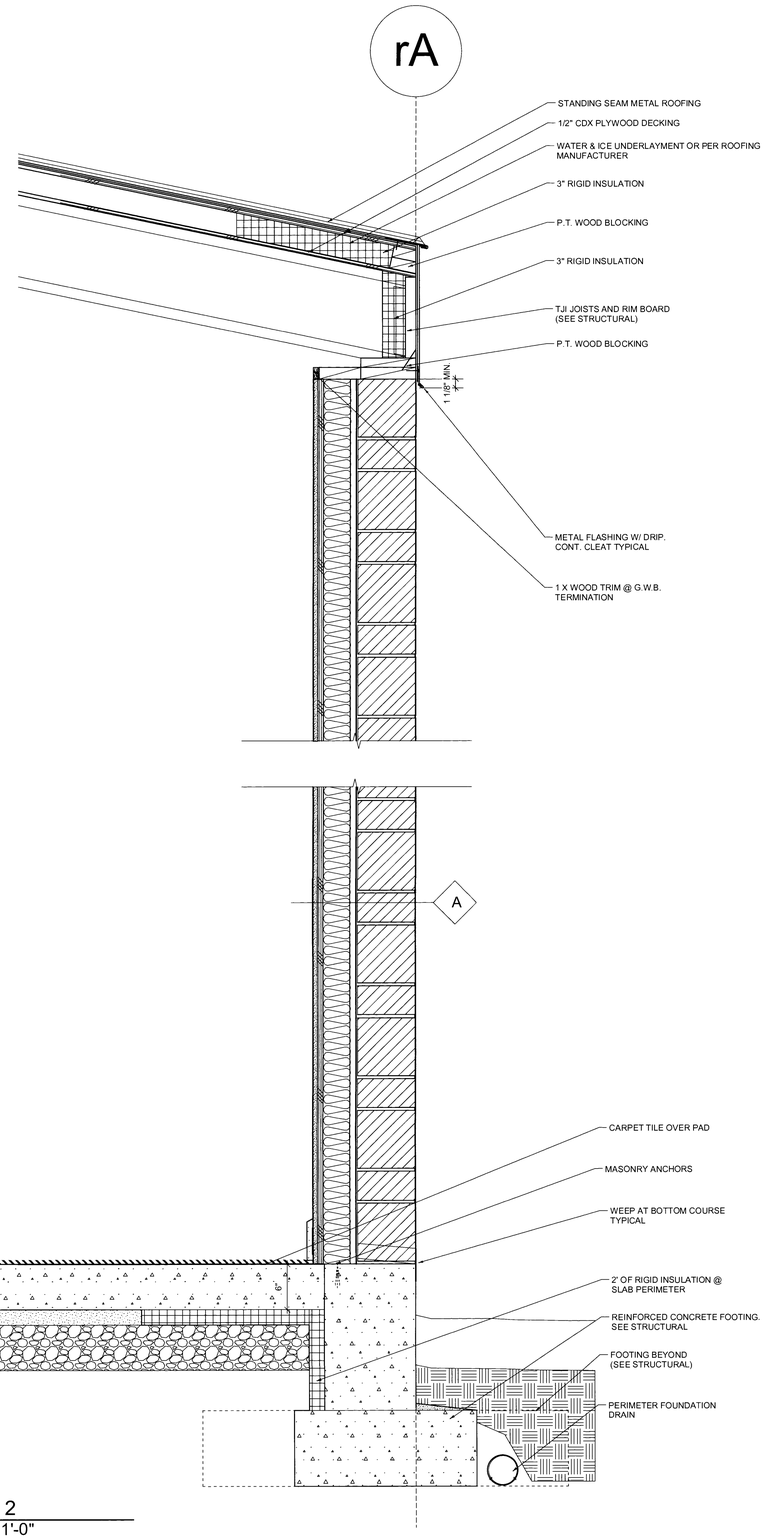
INTERIOR ELEVATIONS

A4.2

Date: 5/14/07
Time: 4:56:00 PM
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1 Wall Section 1
Scale: 1 1/2" = 1'-0"



2 Wall Section 2
Scale: 1 1/2" = 1'-0"

DATE	5/14/2007
SCALE	1 1/2" = 1'-0"
DRAWN BY	JMH
APPROVED BY	DJS
PROJECT NUMBER	2128
DRAWING FILE	2128 CD Details.mcd

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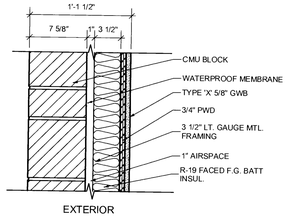
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STASTNY/BRUN ARCHITECTS, P.S.
2505 FIRST AVENUE, SUITE 200
SEATTLE, WA 98121
TEL 206.223.1313
FAX 206.727.3079
DEBRA J. DRAPA
PRINCIPAL

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WALL SECTIONS

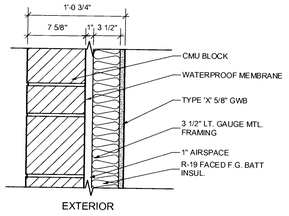
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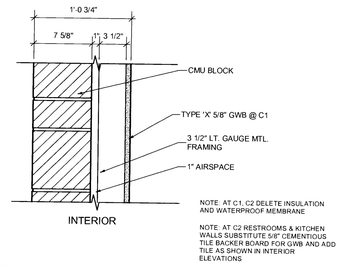
1 **Wall Type A, A'**
Scale: 1 1/2" = 1'-0"

NOTE: AT TYPE A INTERIOR WALL DELETE INSULATION AND WATERPROOF MEMBRANE



2 **Wall Type B**
Scale: 1 1/2" = 1'-0"

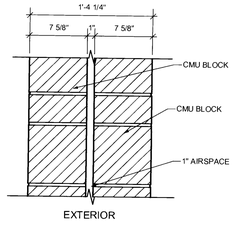
NOTE: AT KITCHEN PROVIDE WRGWB IN LIEU OF GWB



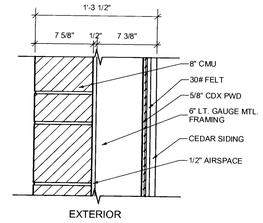
3 **Wall Type C1, C2, C1',C2'**
Scale: 1 1/2" = 1'-0"

NOTE: AT C1, C2 DELETE INSULATION AND WATERPROOF MEMBRANE

NOTE: AT C2 RESTROOMS & KITCHEN WALLS SUBSTITUTE 5/8" CEMENTIOUS TILE BACKER BOARD FOR GWB AND ADD TILE AS SHOWN IN INTERIOR ELEVATIONS

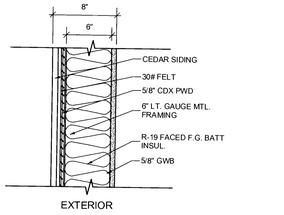


4 **Wall Type D**
Scale: 1 1/2" = 1'-0"

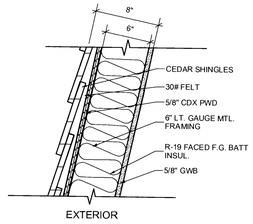


5 **Wall Type E, E'**
Scale: 1 1/2" = 1'-0"

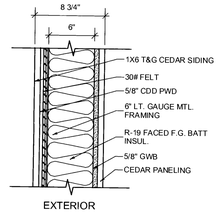
NOTE: PROVIDE PARTIAL HEIGHT FURR WALL AT E'



6 **Wall Type F**
Scale: 1 1/2" = 1'-0"

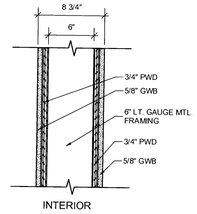


7 **Wall Type G**
Scale: 1 1/2" = 1'-0"



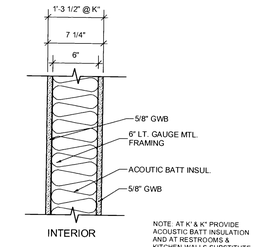
8 **Wall Type H,H'**
Scale: 1 1/2" = 1'-0"

NOTE: AT H' DELETE INSULATION AND BUILDING FELT AND USE ACOUSTICAL INSULATION



9 **Wall Type J, J'**
Scale: 1 1/2" = 1'-0"

NOTE: AT RESTROOMS & KITCHEN WALLS SUBSTITUTE 1/2" TILE BACKER BOARD FOR G.W.B. AT J' PROVIDE ACOUSTICAL INSULATION



NOTE: AT K' & K" PROVIDE ACOUSTIC BATT INSULATION AND AT RESTROOMS & KITCHEN WALLS SUBSTITUTE 1/2" TILE BACKER BOARD FOR G.W.B.

10 **Wall Type K, K', K"**
Scale: 1 1/2" = 1'-0"

DATE	5/14/2007
SCALE	VARIES
DRAWN BY	ELP
APPROVED BY	DJS

PROJECT NUMBER: 2128

DRAWING FILE: 2128 CD Details.mcd

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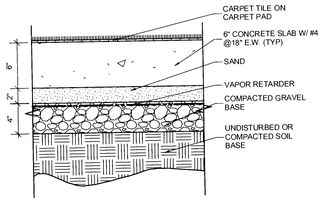
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STASTNY/BRUN ARCHITECTS, INC.
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TEL 360.717.2333
853 SEATTLE BANK BUILDING
1001 FOURTH AVENUE
SEATTLE, WA 98154
TEL 206.624.3000
FAX 206.227.3619

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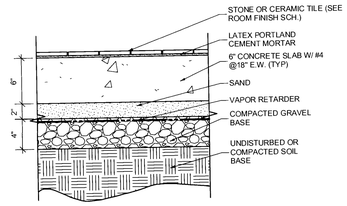
WALL TYPES

A6.0

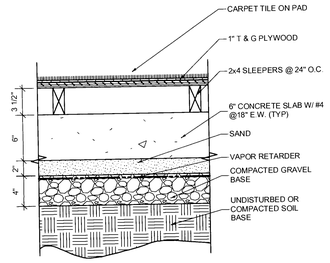
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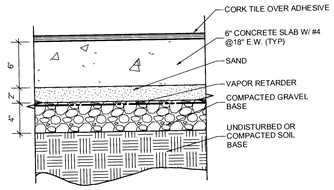
1 Floor Slab Type A
Scale: 1 1/2" = 1'-0"



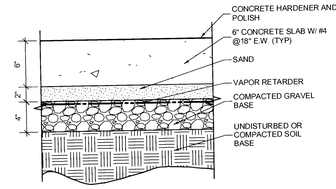
2 Floor Slab Type B
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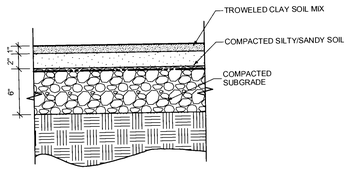
3 Floor Slab Type C
Scale: 1 1/2" = 1'-0"



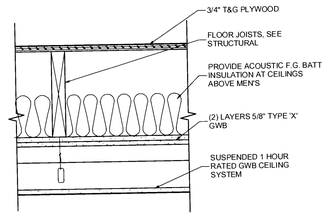
4 Floor Slab Type D
Scale: 1 1/2" = 1'-0"



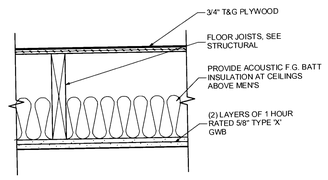
5 Floor Slab Type E
Scale: 1 1/2" = 1'-0"



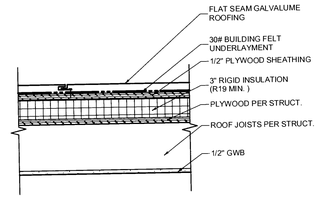
6 Floor Slab Type F
Scale: 1 1/2" = 1'-0"



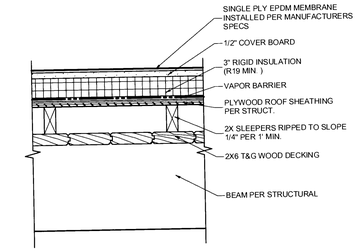
7 Floor/Ceiling Assembly G
Scale: 1 1/2" = 1'-0"



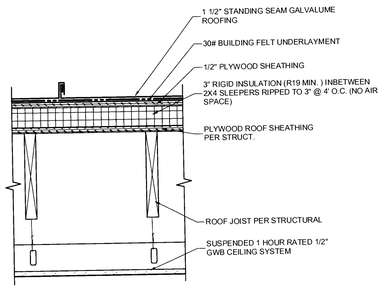
8 Floor/Ceiling Assembly H
Scale: 1 1/2" = 1'-0"



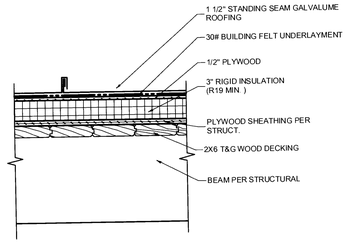
9 Roof/Ceiling Assembly I
Scale: 1 1/2" = 1'-0"



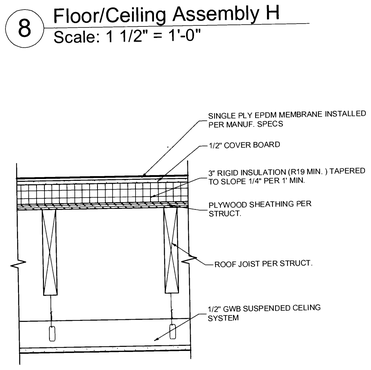
10 Roof/Ceiling Assembly J
Scale: 1 1/2" = 1'-0"



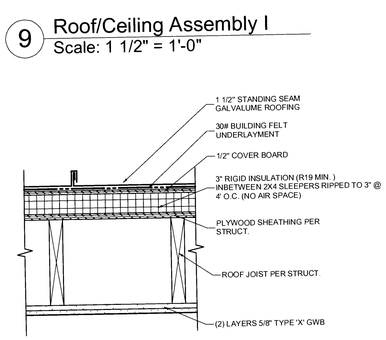
11 Roof/Ceiling Assembly K
Scale: 1 1/2" = 1'-0"



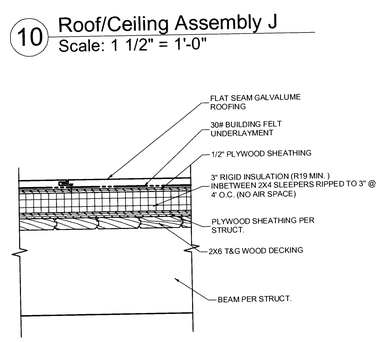
12 Roof/Ceiling Assembly L
Scale: 1 1/2" = 1'-0"



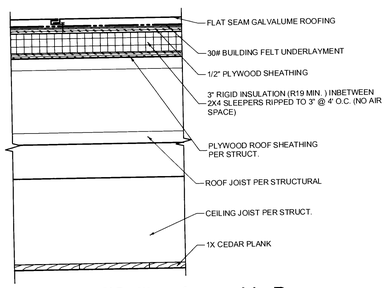
13 Roof/Ceiling Assembly M
Scale: 1 1/2" = 1'-0"



14 Roof/Ceiling Assembly N
Scale: 1 1/2" = 1'-0"



15 Roof/Ceiling Assembly O
Scale: 1 1/2" = 1'-0"



16 Roof/Ceiling Assembly P
Scale: 1 1/2" = 1'-0"

DATE	5/14/2007
SCALE	VARIES
DRAWN BY	ELF
APPROVED BY	DJS

PROJECT NUMBER: 2128

DRAWING FILE: 2128 CD Details.mcd

REV. #	DATE	REVISION

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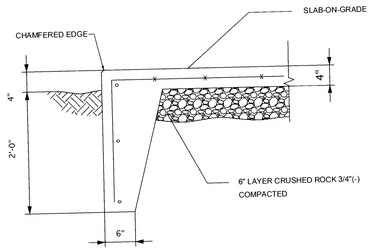
STASTNY BRUN
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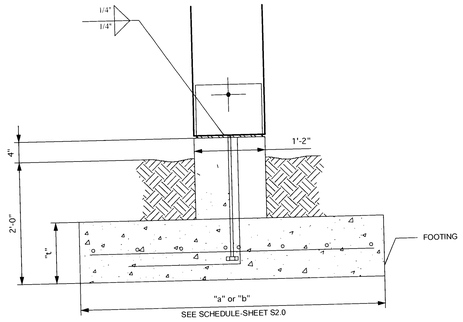
ROOF + FLOOR TYPES

A6.1

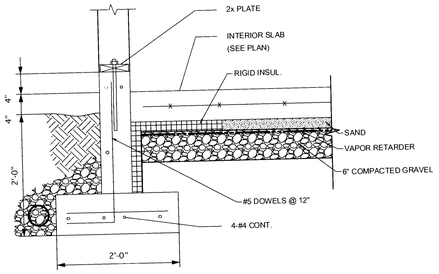
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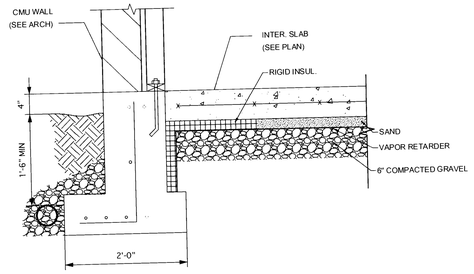
1 Porch Slab
Scale: 1" = 1'-0"



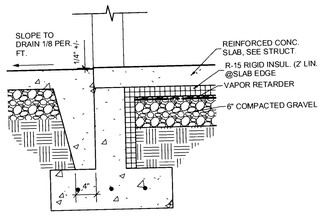
2 Typical Column/Post Footing
Scale: 1" = 1'-0"



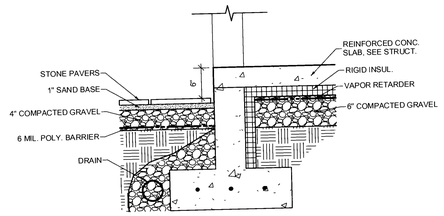
3 Continuous Footing Section
Scale: 1" = 1'-0"



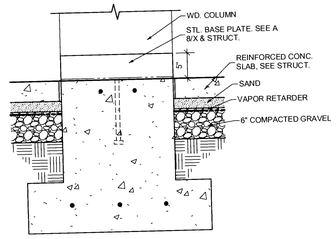
4 Typical Continuous Footing Section
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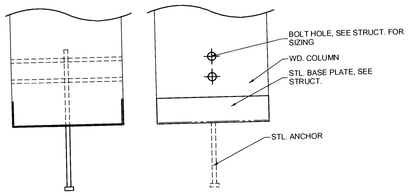
5 Porch Slab @ Classroom
Scale: 1" = 1'-0"



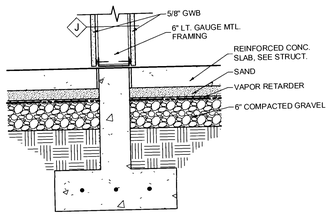
6 Footing @ Elec. Room
Scale: 1" = 1'-0"



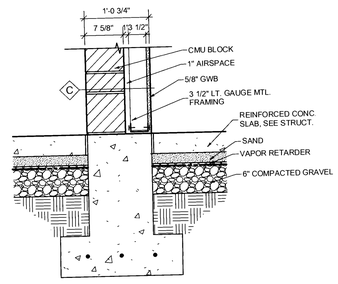
7 Footing @ Hall Columns
Scale: 1" = 1'-0"



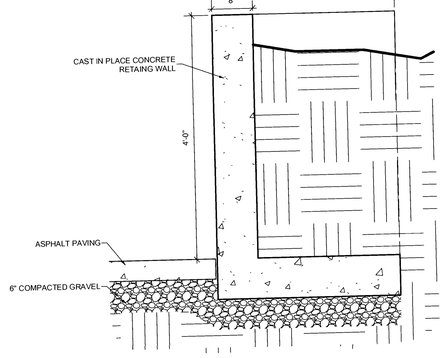
8 Column Base Plate
Scale: 1" = 1'-0"



8 Interior framed Walls
Scale: 1" = 1'-0"



9 CMU @ Gallery Wall
Scale: 1" = 1'-0"



10 Typical Retaining Wall
Scale: 1" = 1'-0"

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DATE	REVISION

DATE 5/14/2025
SCALE N.T.S.
DRAWN BY
APPROVED BY

PROJECT NUMBER 2128

DRAWING FILE 2128 CD Details.mcd

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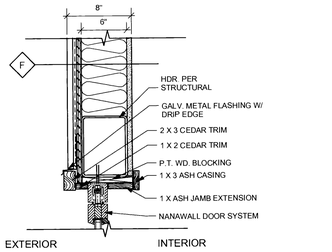
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THE HIBULB MUSEUM

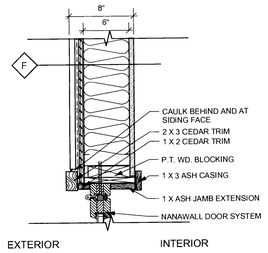
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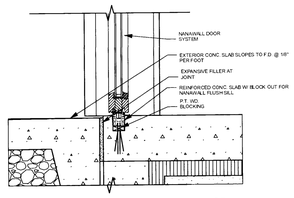
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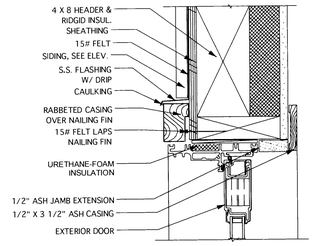
1 DOOR HEAD @ CLASSROOM
Scale: 1 1/2" = 1'-0"



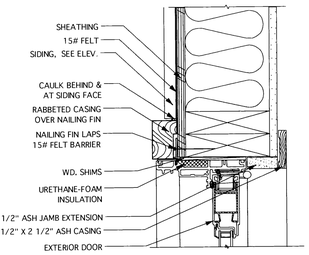
2 DOOR JAMB @ CLASSROOM
Scale: 1 1/2" = 1'-0"



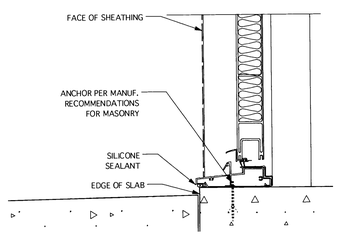
3 DOOR THRESHOLD @ CLASSROOM
Scale: 1 1/2" = 1'-0"



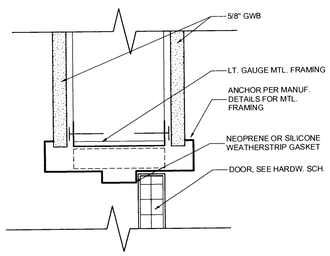
4 DOOR HEAD
Scale: 3" = 1'-0"



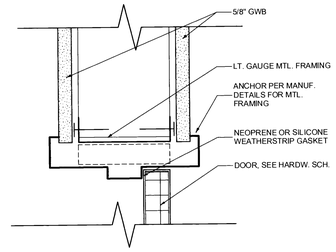
5 DOOR JAMB
Scale: 3" = 1'-0"



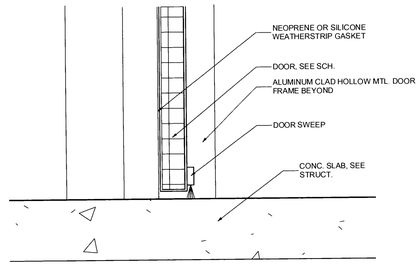
6 DOOR SILL
Scale: 3" = 1'-0"



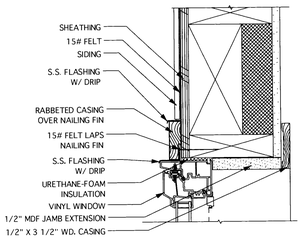
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Scale: 3" = 1'-0"



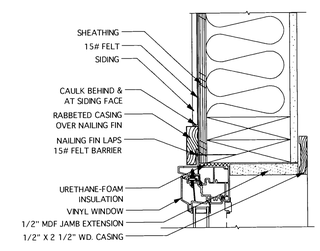
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Scale: 3" = 1'-0"



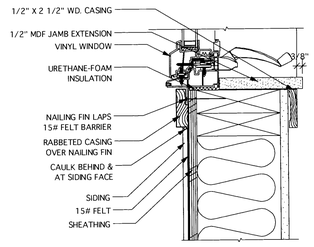
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Scale: 3" = 1'-0"



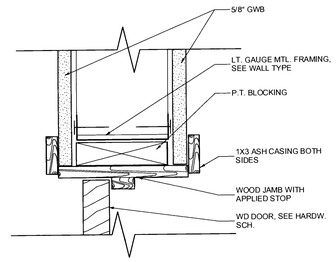
10 WINDOW HEAD
Scale: 3" = 1'-0"



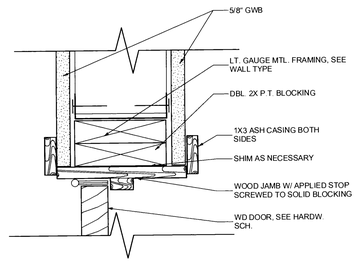
11 WINDOW JAMB
Scale: 3" = 1'-0"



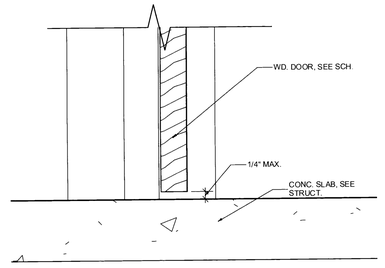
12 WINDOW SILL
Scale: 3" = 1'-0"



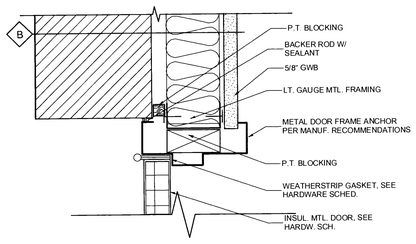
13 WD. DOOR HDR. @ MTL. WALL
Scale: 3" = 1'-0"



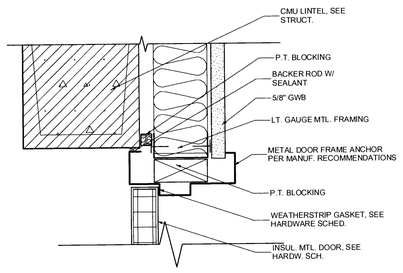
14 WD. DOOR JAMB @ MTL. WALL
Scale: 3" = 1'-0"



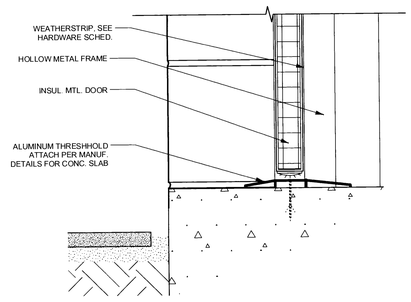
15 WD. DOOR THRESHOLD @ MTL. WALL
Scale: 3" = 1'-0"



16 MTL. DOOR JAMB @CMU WALL
Scale: 3" = 1'-0"



17 MTL. DOOR HEAD @ CMU WALL
Scale: 3" = 1'-0"



18 MTL. DOOR THRESHOLD @ CMU WALL
Scale: 3" = 1'-0"

date: 5.14.07
drawn by: elp
file name: 2128 CD Details.mcd

DATE	5/14/2007
SCALE	VARIES
DRAWN BY	ELP
APPROVED BY	DJS

PROJECT NUMBER: 2128

DRAWING FILE: 2128 CD Details.mcd

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THE HIBULB MUSEUM

DOOR + WINDOW DETAILS

A7.1

DOOR SCHEDULE

Door #	Type	DOOR Material	Nominal Size Width	Height	Thick	Sill Detail	Jamb Detail	Head Detail	Glass	Finish	FRAME Material	Depth	Finish	Fire Rating	Hardware Group	NOTES
01	a	EXT. SCWD	7'-0"	8'-0"	1 3/4"					ST	WD	2"	ST	-		PAIR
02	n	INT. AL	7'-0"	7'-8"	1 3/4"					CLR	STL	2"	P	-		OVERHEAD
03	b	EXT. SCWD	8'-0"	8'-0"	1 3/4"					ST	AL	2"	CLR	-		PAIR, 1.
04	r	INT. SCWD	3'-0"	7'-0"	1 3/4"				C	ST	WD	2"	ST	-		1., 2.
05	r	INT. SCWD	3'-0"	7'-0"	1 3/4"				C	ST	WD	2"	ST	-		1.
06	r	INT. SCWD	3'-0"	7'-0"	1 3/4"				C	ST	WD	2"	ST	-		1.
07	e	INT. SCWD	3'-0"	7'-0"	1 3/4"					ST	HM	2"	P	-		-
08	e	INT. SCWD	3'-0"	7'-0"	1 3/4"					ST	HM	2"	P	-		-
09	m	INT. SCWD	3'-0"	7'-0"	1 3/4"				A	ST	HM	2"	P	-		-
10	e	INT. SCWD	3'-0"	7'-0"	1 3/4"					ST	HM	2"	P	-		-
11	m	INT. SCWD	3'-0"	7'-0"	1 3/4"				A	ST	HM	2"	P	-		-
12	e	INT. HM	3'-0"	7'-0"	1 3/4"					P	HM	2"	P	-		5.
13	m	INT. SCWD	3'-0"	7'-0"	1 3/4"				A	ST	HM	2"	P	-		-
14	e	INT. SCWD	3'-0"	7'-0"	1 3/4"					ST	HM	2"	P	-		-
15	u	EXT. AL	8'-0"	8'-0"	1 3/4"					CLR	AL	2"	CLR	-		OVERHEAD COILING
16	e	INT. HM	3'-0"	7'-0"	1 3/4"					P	HM	2"	P	-		-
17	k	INT. SCWD	5'-0"	7'-6"	1 3/4"					ST	HM	2"	P	-		PAIR
18	k	INT. HM	7'-0"	8'-0"	1 3/4"					P	HM	2"	P	-		PAIR
19	k	INT. HM	6'-0"	8'-0"	1 3/4"					P	HM	2"	P	-		PAIR
20	j	EXT. STL	8'-0"	8'-0"	1 3/4"					P	STL	2"	P	-		OVERHEAD
21	m	EXT. HM	3'-0"	7'-0"	1 3/4"				B	P	HM	2"	P	-		-
22	e	EXT. HM	3'-0"	7'-0"	1 3/4"					P	HM	2"	P	-		-
23	e	EXT. HM	3'-0"	7'-0"	1 3/4"					P	HM	2"	P	-		-
24	p	INT. SCWD	3'-0"	7'-0"	1 3/4"				FRST A	ST	HM	2"	P	-		-
25	p	INT. SCWD	3'-0"	7'-0"	1 3/4"				FRST A	ST	HM	2"	P	-		-
26	e	INT. SCWD	3'-0"	7'-0"	1 3/4"					ST	HM	2"	P	-		-
27	f	EXT. WD	18'-1 1/2"	8'-0"	1 3/4"				B	ST	WD	2"	ST	-		FOLDING DOOR SYSTEM
28	f	EXT. WD	18'-1 1/2"	8'-0"	1 3/4"				B	ST	WD	2"	ST	-		FOLDING DOOR SYSTEM
29	h	EXT. WD	14'-3 1/2"	8'-0"	1 3/4"				B	ST	WD	2"	ST	-		FOLDING DOOR SYSTEM
30	d	INT. SCWD	3'-0"	7'-0"	1 3/4"				A	ST	WD	2"	ST	-		4.
31	q	INT. SCWD	3'-0"	7'-0"	1 3/4"				A	ST	WD	2"	ST	-		4.
32	q	INT. SCWD	3'-0"	7'-0"	1 3/4"				A	ST	WD	2"	ST	-		4.
33	k	INT. SCWD	5'-0"	7'-0"	1 3/4"					ST	STL	2"	P	-		POCKET PAIR
34	k	INT. SCWD	5'-0"	7'-0"	1 3/4"					ST	STL	2"	P	-		POCKET PAIR, 5.
35	e	INT. SCWD	3'-0"	7'-0"	1 3/4"					ST	HM	2"	P	-		-
36	g	INT. SCWD	3'-0"	7'-0"	1 3/4"					ST	STL	2"	P	-		-
37	s	EXT. SCWD	6'-0"	7'-0"	1 3/4"					ST	WD	2"	ST	-		PAIR, 4.
38	k	INT. SCWD	8'-0"	8'-0"	1 3/4"					ST	WD	2"	ST	-		PAIR
39	k	EXT. HM	5'-0"	7'-0"	1 3/4"					P	HM	2"	P	-		PAIR
40	e	INT. SCWD	3'-0"	7'-0"	1 3/4"					ST	HM	2"	ST	-		-
41	c	INT. SCWD	12'-10"	9'-0"	1 3/4"				A	ST	WD	2"	ST	-		FOLDING DOOR SYSTEM
43	e	EX. SCWD	3'-0"	7'-0"	1 3/4"					ST	WD	2"	ST	-		2.
44	e	EXT. HM	3'-0"	7'-0"	1 3/4"					P	HM	2"	P	-		3.
45	n	INT. AL	7'-0"	7'-8"	1 3/4"					CLR	STL	2"	P	-		OVERHEAD
46	n	INT. AL	7'-0"	7'-8"	1 3/4"					CLR	STL	2"	P	-		OVERHEAD
47	e	INT. HM	3'-0"	7'-0"	1 3/4"					P	HM	2"	P	-		-
48	g	INT. SCWD	3'-0"	7'-0"	1 3/4"					ST	STL	2"	P	-		-
49	g	INT. SCWD	3'-0"	7'-0"	1 3/4"					ST	STL	2"	P	-		-
50	t	GALV. STL. GATE	8'-0"	8'-0"	1 3/4"					CLR	STL	2"	CLR	-		PAIR, 1.

GENERAL NOTES:

1. Field verify all opening dimensions.
2. See floor plan for direction of door swing.
3. See specifications manual for Door Hardware Schedule.
4. All exterior doors to be insulated.

GLAZING LEGEND:

A. 1/4" Heat Treated Float Glass

B. 1" Insulated (ppg Industries)
Outdoor Lite: 1/4" Heat Strengthened Clear Glass W/ Solarban
60 Low-e Coating On Second Surface
Indoor Lite: 1/4" Clear Annealed Glass

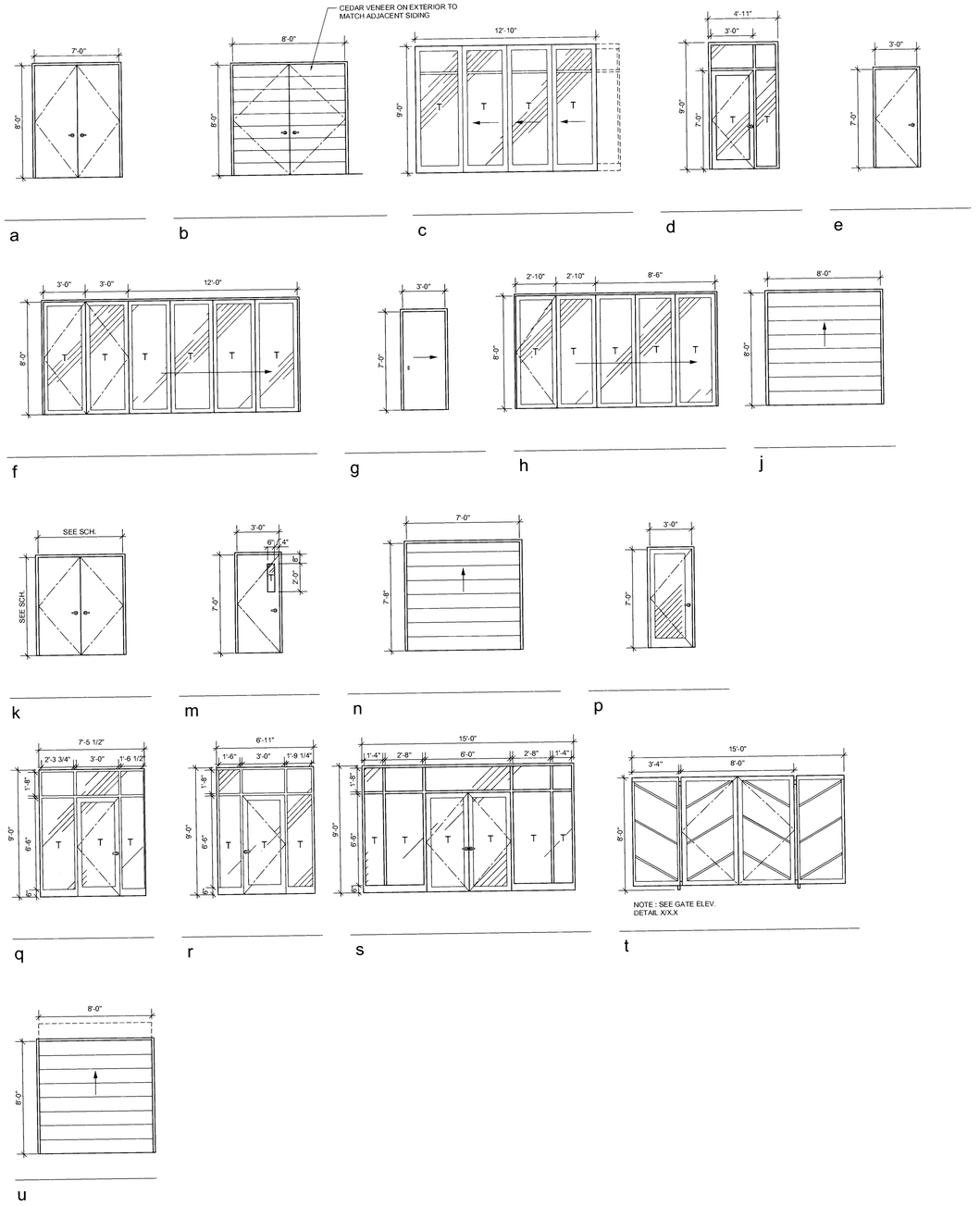
C. 1/4" Heat Treated Float Glass With Custom Etching.

KEY NOTES:

1. Decorative door to be designed with Tulalip Art Committee.
2. Emergency egress door only
3. Roof access door
4. Wood storefront system including sidelights and transoms.
5. Door in smoke partition must be self closing with artificial bottom seal

LEGEND

AL	ALUMINUM
CLR	CLEAR
EXT	EXTERIOR
FIN	FINISH
FRST	FROSTED
GALV	GALVANIZED
HM	HOLLOW METAL
INT	INTERIOR
MAT	MATERIAL
P	PAINT
SC	SOLID CORE
ST	STAIN
STL	STEEL
T	TEMPERED
WD	WOOD



1 Door Types
Scale: 1/4" = 1'-0"

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1" ORIGINAL DRAWING SIZE

DATE	REVISION	REV. #

DATE	SCALE	DRAWN BY	APPROVED BY
5/14/2007	N.T.S.	ELP	DJS

PROJECT NUMBER: 2128

DRAWING FILE: 2128 CD Details.mcd

THE TULALIP TRIBES
6410 23rd Ave NE
Tulalip, Washington
98271

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THE HIBULB MUSEUM

DOOR SCHEDULE

A8.0

Date: 5/14/07
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File name: 2128 CD Detail-Head2.mcd

WINDOW SCHEDULE

Window #	WINDOW Type	Material	Nominal Size Width	Height	Sill Ht.	Sill Detail	Jamb Detail	Head Detail	Glass	Finish	NOTES
A	FIXED	AL	7'-0"	3'-0"	13'-6"	X/A5.2	X/A5.2	X/A5.2	B	CLR	
B	FIXED	AL	7'-4"	5'-4"	21'-4"	X/A5.2	X/A5.2	X/A5.2	B	ST	
C	FIXED	AL	SEE TYPES	SEE TYPES	10'-6"	X/A5.2	X/A5.2	X/A5.2	B	ST	
D	FIXED	WD	8'-1 1/2"	9'-0"	0'-0"	X/A5.2	X/A5.2	X/A5.2	A	ST	1
E	FIXED	AL	5'-2"	7'-4"	1'-8"	X/A5.2	X/A5.2	X/A5.2	B	CLR	
F	FIXED	WD	2'-10"	8'-0"	0'-0"	X/A5.2	X/A5.2	X/A5.2	B	ST	
G	FIXED	WD	3'-0"	8'-0"	0'-0"	X/A5.2	X/A5.2	X/A5.2	B	ST	
H	CASEMENT	WD	5'-6"	3'-6"	4'-8"	X/A5.2	X/A5.2	X/A5.2	B	ST	
J	SKYLIGHT	AL	4'-0"	4'-0"	-	X/A5.2	X/A5.2	X/A5.2	B	CLR	
K	FIXED	WD	17'-5 1/2"	2'-6"	9'-0"	X/A5.2	X/A5.2	X/A5.2	B	ST	
L	FIXED	WD	3'-0"	2'-6"	9'-0"	X/A5.2	X/A5.2	X/A5.2	B	ST	
M	FIXED	WD	21'-5 1/2"	2'-6"	9'-0"	X/A5.2	X/A5.2	X/A5.2	B	ST	
N	AWNING	AL	SEE TYPES	SEE TYPES	4'-0"	X/A5.2	X/A5.2	X/A5.2	B	CLR	
P	FIXED	AL	SEE TYPES	SEE TYPES	14'-0"	X/A5.2	X/A5.2	X/A5.2	B	CLR	
Q	FIXED	AL	8'-1 1/2"	9'-0"	0'-0"	X/A5.2	X/A5.2	X/A5.2	B	CLR	
R	FIXED	WD	5'-6"	2'-6"	9'-0"	X/A5.2	X/A5.2	X/A5.2	B	ST	
S	O.H. CURTAIN	AL	5'-6"	4'-2"	2'-10"	X/A5.2	X/A5.2	X/A5.2	-	CLR	
T	FIXED	AL	1'-9"	8'-0"	0'-0"	X/A5.2	X/A5.2	X/A5.2	B	CLR	
U	O.H. CURTAIN	AL	5'-0"	4'-2"	2'-10"	X/A5.2	X/A5.2	X/A5.2	-	CLR	
V	FIXED	AL	SEE TYPES	SEE TYPES	8'-0"	X/A5.2	X/A5.2	X/A5.2	B	CLR	
W	FIXED	WD	2'-10"	2'-6"	9'-0"	X/A5.2	X/A5.2	X/A5.2	B	ST	
X	AWNING	AL	3'-4"	2'-0"	15'-8"	X/A5.2	X/A5.2	X/A5.2	B	CLR	2

GENERAL NOTES:

1. Field verify all opening dimensions.
2. Provide tempered safety glass where indicated.

KEY NOTES:

1. Etched art glass to be coordinated with owner.
2. Provide electric window operators for ea. window
3. -

LEGEND

AL	ALUMINUM
CLR	CLEAR
EXT	EXTERIOR
FIN	FINISH
FRST	FROSTED
INT	INTERIOR
MAT	MATERIAL
O.H.	OVERHEAD
P	PAINT
SH	SILL HEIGHT
ST	STAIN
STL	STEEL
T	TEMPERED
WD	WOOD

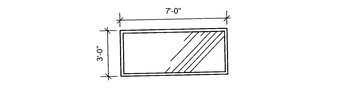
GLAZING LEGEND:

A. 1/4" Heat Treated Float Glass

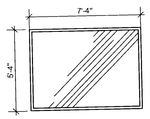
B. 1" Insulated (ppg Industries)
outdoor Lite: 1/4" Heat Strengthened Clear Glass W/ Solarban
60 Low-e Coating On Second Surface
indoor Lite: 1/4" Clear Annealed Glass

C. 1/4" Heat Treated Float Glass With Custom Etching.

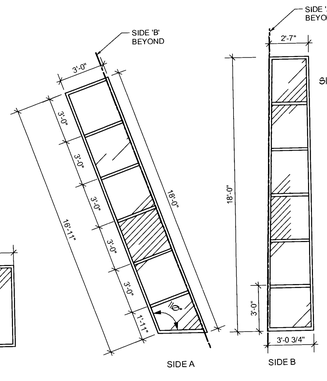
D. 1" Min. Insulated/ Laminated Outdoor Lite: 1/4" Fully Tempered Solar Grey Tinted Glass W/ Vista Cool Coating On Second Surface.
Indoor Lite: 1/4" Heat Strengthened Clear Annealed Glass W/ Low E Solarban 70XL Coating On Third Surface W/ .060" Clear Interlayer By PPG Or Approved Equal.



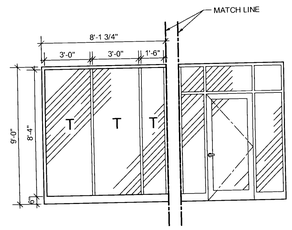
A



B

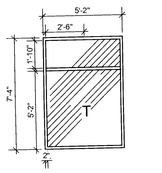


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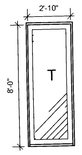


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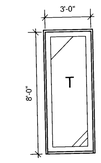
NOTE : SEE DOOR TYPE R FOR DOOR INFORMATION



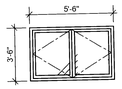
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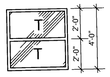
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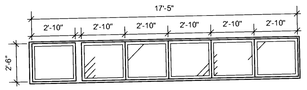
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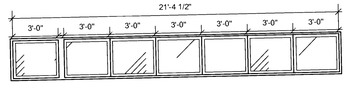
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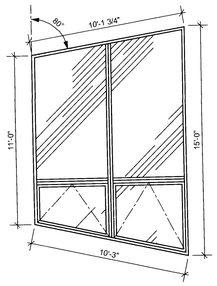
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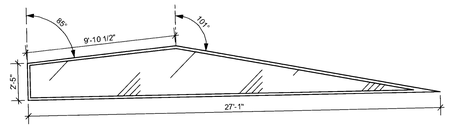
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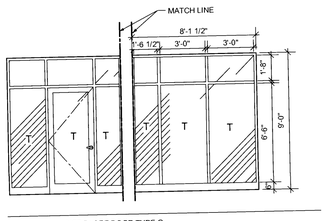
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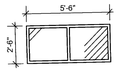


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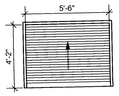


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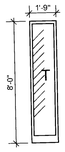
NOTE : SEE DOOR TYPE Q FOR DOOR INFORMATION



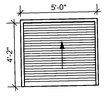
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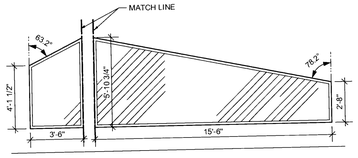
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T



U



V



W



X

1 Window Types
Scale: 1/4" = 1'-0"

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THE TULALIP TRIBES
6410 23rd Ave NE
Tulalip, Washington
98271

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DATE 5/14/2009
SCALE N.T.S.
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APPROVED BY DS

PROJECT NUMBER 2128

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1" ORIGINAL DRAWING SIZE

REVISION
REV.# DATE

THE HIBULB MUSEUM

WINDOW SCHEDULE

A8.1

FINISH SCHEDULE

Room #	Room Name	Floor Material / Color	Base Material / Color	North Wall Material / Color	West Wall Material / Color	South Wall Material / Color	East Wall Material / Color	Ceiling Material / Color	Notes
101	Entry	SLATE	WOOD	STONE	STONE	STONE	STONE	?	
102	Retail	CARPET	WOOD	GWB	GWB	GWB	GWB	ACT	
103	Canoe Hall	SLATE	WOOD	GWB	GWB	GWB	GWB	WOOD	
104	Main Exhibit	CARPET	WOOD	GWB	GWB	GWB	GWB	GWB	
105	Temp Exhibit	CARPET	WOOD	GWB	GWB	GWB	GWB	GWB	
106	Exhibit Prep	CONCRETE	WOOD	GWB	GWB	GWB	GWB	NONE	
107	Receiving	CONCRETE	RB	GWB	GWB	GWB	GWB	NONE	
108	Mechanical	CONCRETE	RB	GWB	GWB	GWB	GWB	GWB	
109	Women's	TILE	TILE	GWB	CMU	GWB	GWB	GWB	
110	Men's	TILE	TILE	GWB	CMU	GWB	GWB	GWB	
111	Administration	CARPET	WOOD	GWB	GWB	GWB	GWB	ACT	
112	Research Library	CARPET	WOOD	GWB	GWB	GWB	GWB	ACT	
113	Telephone/Data	CONCRETE	RB	GWB	GWB	GWB	GWB	NONE	
114	Janitor	CONCRETE	RB	GWB	GWB	GWB	GWB	GWB	
115	Tribal Entry	SLATE	WOOD	GWB	GWB	GWB	GWB	GWB	
116	Longhouse Entry	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	
117	Classroom 2	CORK	WOOD	GWB	GWB	GWB	GWB	WOOD	
118	Classroom 1	CORK	WOOD	GWB	GWB	GWB	GWB	WOOD	
119	Kitchen	TILE	RB	GWB	GWB	GWB	GWB	WOOD	
120	Lunch	CORK	WOOD	GWB	GWB	GWB	GWB	WOOD	
121	M/W Restroom	STONE	TILE	GWB	GWB	GWB	GWB	GWB	
122	Storage	CONCRETE	RB	GWB	GWB	GWB	GWB	NONE	
123	Storage	CONCRETE	RB	GWB	GWB	GWB	GWB	NONE	
124	Storage	CONCRETE	RB	GWB	GWB	GWB	GWB	NONE	
125	Pantry	TILE	RB	GWB	GWB	GWB	GWB	GWB	
126	M/W Restroom	TILE	TILE	GWB	GWB	GWB	GWB	GWB	
127	M/W Restroom	TILE	TILE	GWB	GWB	GWB	GWB	GWB	
128	Storage	CONCRETE	RB	GWB	GWB	GWB	GWB	GWB	
129	Office	CARPET	WOOD	GWB	GWB	GWB	GWB	ACT	
130	Storage	CONCRETE	RB	GWB	GWB	GWB	GWB	GWB	
131	Storage	CONCRETE	RB	GWB	GWB	GWB	GWB	NONE	
132	Storage	CONCRETE	RB	GWB	GWB	GWB	GWB	NONE	
133	Electrical	CONCRETE	RB	GWB	GWB	GWB	GWB	GWB	
134	Coats	CONCRETE	RB	GWB	GWB	GWB	GWB	GWB	
135	Hall	TILE	TILE	GWB	CMU	GWB	GWB	GWB	
201	Mezzanine	PWD	RB	GWB	GWB	GWB	GWB	GWB	
202	Mech. Loft	PWD	RB	GWB	GWB	GWB	GWB	GWB	
203	Access Closet	PWD	RB	GWB	GWB	-	-	GWB	

NOTES:
1. All wood base trim to be 1" X 6" hemlock.

GENERAL NOTES:

1. Paint all exposed fire sprinkler piping to match adjacent finish.
2. -
3. -

KEY NOTES:

1. 5/8" GWB on walls over 3/4" plywood on exhibit walls
2. -
3. -

LEGEND

ACT	ACOUSTIC CEILING TILE
AL	ALUMINUM
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLOR
CONC	CONCRETE
CT	CERAMIC TILE
EXP	EXPOSED
FIN	FINISH
FRP	FIBERGLASS REINFORCED PANELS
GL	GLAZING
GWB	GYPSUM WALL BOARD
LIN	LINOLEUM
MAT	MATERIAL
MTL	METAL
P	PAINT
PWD	PLYWOOD
RB	RESILIENT BASE
SL	SEAL
ST	STAIN
WD	WOOD
WRGWB	WATER RESISTANT GYPSUM WALL BOARD

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ALL ORIGINAL DRAWING SIZE

DATE	REV #	REVISION

DATE	5/14/2007
SCALE	N.T.S.
DRAWN BY	ELP
APPROVED BY	DJS
PROJECT NUMBER	2128
DRAWING FILE	2128 CD Details.mcd

THE TULALIP TRIBES
6410 23rd Ave NE
Tulalip, Washington
98271

60% CONSTRUCTION DOCUMENTS

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THE HIBULB MUSEUM

ROOM SCHEDULE

A8.2

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STRUCTURAL NOTES

GENERAL

1. THESE NOTES ARE GENERAL IN NATURE. REFER TO THE SPECIFICATION FOR FURTHER REQUIREMENTS AND CLARIFICATION. IN CASE OF CONFLICT, THE SPECIFICATIONS SHALL GOVERN.

2. ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE (IBC) 2003 EDITION, (AS AMENDED BY THE STATE OF OREGON IN THE 2004 OSSC) AS WELL AS LOCAL CODES AND REGULATIONS.

3. DESIGN CRITERIA:

WIND SPEED	90 MPH EXPOSURE B
SEISMIC ZONE	S (1-SEC)= 0.15g,
	S (0.25 SEC) =0.45
SNOW LOADS(GROUND)	25 PSF
SOIL BEARING CAPACITY	2,000 PSF

4. PRE-MANUFACTURED ITEMS-FOR THESE ITEMS (ROOFTRUSSES, ETC.), IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL SPANS AND DIMENSIONS PRIOR TO ORDERING THE ITEMS.

5. THIS STRUCTURE AND ALL OF ITS PARTS MUST BE ADEQUATELY BRACED AGAINST WIND,LATERAL EARTH AND SEISMIC FORCES UNTIL THE PERMANENT LATERAL-FORCE RESISTING SYSTEMS HAVE BEEN CONSTRUCTED AND ALL ATTACHMENTS AND CONNECTIONS NECESSARY FOR THE STABILITY OF THE STRUCTURE AND ITS PARTS HAVE BEEN MADE.

6. ALL FEATURES OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME TYPE AND CHARACTER AS SHOWN FOR SIMILAR CONDITIONS, SUBJECT TO REVIEW BY THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD.

7. ALL PRODUCTS AND MATERIALS USED BY THE CONTRACTOR SHALL BE APPLIED, PLACED, ERECTED OR INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

8. SPECIAL INSPECTION AND REPORTING AND COMPLIANCE PROCEDURES, IN ACCORDANCE WITH CHAPTER 17 OF THE I.B.C., SHALL BE PROVIDED FOR THIS STRUCTURE, AND SHALL INCLUDE SPECIAL INSPECTION.

   A. REINFORCING STEEL:
      PERIODIC SPECIAL INSPECTION IS REQUIRED DURING PLACING OF STEEL IN STRUCTURAL REINFORCED CONCRETE AND REINFORCED MASONRY.

   B. STRUCTURAL CONCRETE:
      CONTINUOUS SPECIAL INSPECTION IS REQUIRED DURING THE PLACING OF CONCRETE AT STRUCTURALLY REINFORCED CONCRETE AREAS.

   C. CAST-IN-PLACE ANCHOR BOLTS:
      CONTINUOUS SPECIAL INSPECTION IS REQUIRED DURING THE INSTALLATION OF ALL BOLTS.

   D. EXPANSION AND/OR EPOXY BOLTS INSTALLED INTO CONCRETE
      CONTINUOUS SPECIAL INSPECTION IS REQUIRED DURING INSTALLATION OF ALL BOLTS.

FOUNDATIONS:

1. EXCAVATIONS FOR FOOTINGS SHALL BE CLEAN AND FREE OF DELETERIOUS MATTER SUCH AS ROOTS, ORGANICS AND OTHER DEBRIS.

2. ALL FOOTINGS SHALL BEAR ON UNDISTURBED NATIVE MATERIAL OR CLEAN, WELL-GRADED AND COMPACTED CRUSHED ROCK.

3. MINIMUM FOOTING DEPTH SHALL BE 18 INCHES.

4. REFER TO GEOTECHNICAL REPORT BY SHANNON & WILSON, DATED 4/17/06 FOR ADD'L INFORMATION

CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, LATEST EDITION, AND AMERICAN CONCRETE INSTITUTE (ACI). ("WORK" IS DEFINED AS INCLUDING BUT NOT LIMITED TO FORMING, MIXING, TRANSPORTING, PLACING AND CURING OF THE CONCRETE.)

2. CONCRETE SHALL BE READY-MIX CONFORMING TO ASTM C-94 WITH 1 INCH MAXIMUM AGGREGATE, 3- TO 5-INCH SLUMP, 5% MINIMUM AIR ENTRAINMENT AND A COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.

3. CHAMFER ALL EXPOSED CORNERS 3/4".

CONCRETE REINFORCEMENT:

1. REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60. DETAIL AND PLACE PER CODE ACI 315 AND MANUAL ACI 318.

2. UNLESS OTHERWISE SHOWN, REINFORCE ALL WALLS AND SLABS WITH 0.25% EACH WAY AND TWO ADDITIONAL NO. 5 BARS ADDITIONAL AT TOP, BOTTOM, AND SIDES OF ALL OPENINGS EXCEEDING 12 INCHES IN EITHER DIRECTION. PROVIDE 2'-6"x2'-6" CORNER BARS OR TERMINATE HORIZONTAL WALL STEEL WITH 90-DEGREE HOOK AT CORNERS AND INTERSECTIONS EXCEPT AS OTHERWISE NOTED.

3. UNLESS NOTED OTHERWISE, LAP CONTINUOUS BARS IN:
   CONCRETE: 36 DIAMETERS HORIZONTAL AND VERTICAL. MINIMUM LAP 1'-6".
   MASONRY: 36 DIAMETERS HORIZONTAL AND 30 DIAMETERS VERTICAL.

4. CONCRETE REINFORCING SHALL HAVE MINIMUM COVER OF CONCRETE AS FOLLOWS:

1"	STRUCTURAL SLABS NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND.
1-½"	BEAMS AND SLABS EXPOSED TO WEATHER.
2"	WALLS, SLABS IN CONTACT WITH LIQUID CONTENTS.
3"	BOTTOM BARS IN FOOTINGS AND BASE SLABS, AND WHERE CAST AGAINST OR PERMANENT CONTACT w/SOIL.

CONCRETE MASONRY:

1. MATERIALS:
   CMU GRADE N1, ASTM C-90, LOAD BEARING.
   MORTAR TYPE S, GROUT 2,000 PSI.
   DESIGN BASED ON ULTIMATE COMPRESSIVE STRENGTH OF f'm=1,350 PSI, NO SPECIAL INSPECTION REQUIRED.

2. UNLESS OTHERWISE SHOWN, PROVIDE TWO NO. 4 HORIZONTAL IN GROUTED BOND BEAM UNITS AT 32" O.C., NO. 5 VERTICAL AT 16" O.C., AND ADDITIONAL NO. 5 BARS AT TOP, BOTTOM, AND EACH SIDE OF ALL OPENINGS, EXTEND BARS 2'-0" BEYOND OPENING. VERTICAL BARS SHALL BE PLACED IN SAME CELL AS DOWELS.

MISCELLANEOUS STEEL:

1. STRUCTURAL STEEL SHALL BE ASTM A-36. DETAIL, FABRICATE AND ERECT PER LATEST AISC.

2. WELDING SHALL BE DONE BY CERTIFIED WELDERS AND PER AISC AND AWS STANDARDS.

3. BOLTS, ANCHOR BOLTS AND OTHER THREADED FASTENERS PER ASTM A-307.

4. PIPE PER ASTM A-53.

5. GALVANIZE ALL MISCELLANEOUS STEEL UNLESS NOTED OTHERWISE.

WOOD:

1. ALL SOLID SAWN LUMBER SHALL BE DOUGLAS FIR/LARCH (DF/L), NO. 2 OR BETTER.

2. WOOD IN CONTACT WITH GROUND OR CONCRETE, OR TO BE LEFT UNPAINTED OR UNSEALED SHALL BE PRESERVATIVE TREATED w/ CHROMATED COPPER ARSENATE (CCA) OR ALKALINE COPPER QUATERNARY (ACQ), TYPE B, WITH INCISIONS, IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVER'S ASSOCIATION (AWPA).

3. PRE-ENGINEERED ROOF TRUSSES SHALL BE FURNISHED BY THE CONTRACTOR AND SHALL BE DESIGNED AND FABRICATED BY A QUALIFIED MANUFACTURER. TRUSS CALCULATIONS SHALL BE FURNISHED FOR REVIEW AND APPROVAL BY THE ENGINEER, PRIOR TO TRUSS FABRICATION. CALCULATIONS SHALL BEAR THE STAMP OF AN ENGINEER REGISTERED IN THE STATE OF OREGON. LOAD CRITERIA SHALL BE AS NOTED ABOVE.

4. ALL FRAME NAILING SHALL CONFORM TO THE REQUIREMENTS OF TABLE 23-11-B-1 OF THE UBC, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

5. SIDING SHALL BE APA-RATED-303 (T1-11 FINISH) FOR EXTERIOR APPLICATION.

6. METAL FASTENERS AND ANCHORS SHALL BE AS MANUFACTURED BY "SIMPSON" COMPANY, OF DUBLIN, CALIFORNIA, TYPE AS INDICATED ON THE PLAN, OR APPROVED EQUAL.

PLYWOOD SHEATHING:

1. ALL PLYWOOD STRUCTURAL SHEATHING SHALL BE C-D GRADE, UNLESS NOTED OTHERWISE (WITH EXTERIOR GLUE) MANUFACTURED IN ACCORDANCE WITH THE UNITED STATES PRODUCT STANDARD, DOC PS 20 OR EQUIVALENT, SHALL CONFORM TO STANDARD PS1 OR PS2 AND SHALL BEAR THE A.P.A. TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION.
   A. ROOF SHEATHING ½" INDEX $^{48}/_{24}$ (EXC. @ SIPS)
   B. FLOOR ¾" INDEX $^{40}/_{20}$
   C. WALLS 15/32" INDEX $^{24}/_{0}$

2. PLYWOOD SHEATHING SHALL BE LAID WITH END JOINTS STAGGERED.

3. BLOCK ALL SHEAR WALL SHEATHING WITH 2X4 FLAT BLOCKING AT ALL EDGES, INCLUDING IN GABLE END TRUSSES.

4. NAIL IN ACCORDANCE WITH SCHEDULE AND DRAWINGS.

5. LAYOUT PLYWOOD OT ELIMINATE ANY WIDTH LESS THAN 1'-0", EXCEPT AT PLYWOOD FLOORS WHERE MINIMUM DIMENSION SHALL BE 2'-0", UNLESS ALL EDGES OF THE UNDERSIZED SHEETS ARE SUPPORTED BY BLOCKING.

6. WAFER BOARD OR ORIENTED STRAND BOARD CONFORMING WITH NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY PS1 OR PS2, MANUFACTURED WITH EXTERIOR GLUE, MAY BE SUBSTITUTED FOR PLYWOOD, PROVIDED IT HAS EQUAL LOAD/SPAN RATING INDEX AND BEARS THE A.P.A. TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION.

7. CONTRACTOR IS TO PROTECT FLOOR AND ROOF SHEATHING FROM EXTREME WET CONDITIONS TO LIMIT MOVEMENTS DUE TO EXPANSION CAUSED BY MOISTURE. ADDITIONALLY, PROVIDE PROPER PANEL SPACINGS PER THE AMERICAN PLYWOOD ASSOCIATION RECOMMENDATIONS.

GLUE LAMINATED MEMBERS

1. GLUE LAMINATED MEMBERS SHALL BE WESTERN SPECIES, APPEARANCE GRADE CONFORMING WITH A.I.T.C. 117, AND SHALL BE MANUFACTURED AND FABRICATED IN ACCORDANCE WITH A.N.S.I./A.I.T.C. A190. MEMBERS SHALL BE 24F-V4, EXCEPT CONTINUOUS OR CANTILEVERED BEAMS, AS NOTED BELOW.

2. ALL GLUE LAMINATED MEMBERS SHALL BE NOTCHED, SHAPED AND FINISHED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS, AND SHALL BE FABRICATED WITH WATERPROOF GLUES APPROPRIATE FOR EXTERIOR EXPOSURE.

3. ERECTION OF MEMBERS SHALL CONFORM WITH A.I.T.C. SPECIFICATIONS.

4. PROVIDE STANDARD 2000 FOOT RADIUM CAMBER FOR ROOF MEMBERS, 3000 FOOT RADIUS CAMBER FOR FLOORS, UNLESS NOTED OTHERWISE.

5. GLUE LAMINATED MEMBERS SHALL BEAR THE A.P.A.-E.W.S. MARK OF AMERICAN WOOD SYSTEMS OR INSPECTION BY AN INDEPENDENT TESTING LABORATORY WILL BE REQUIRED.

6. SHAPE THE TOP OF ALL GLUE LAMINATED MEMBERS TO THE SLOPE OF ROOF. ADD LAMINATIONS AS REQUIRED FOR SHAPING

STRUCTURAL INSULATED PANELS (SIPS)

1. STRUCTURAL INSULATED PANELS (SIPS) FOR ROOF STYSTEM SHALL CONSIST OF EXPANDED POLYSTYRENE (EPS) CORES WITH WOOD STRUCTURAL SHEATHING.

2. PANEL THICKNESS OF EPS SHALL BE 8-1/2 INCHES.

3. FACING SHALL BE MINIMUM 1/2-INCH STRUCTURAL 1, EXPOSURE 1 WOOD SHEATHING COMPLYING WITH DOC PS-2.

4. PANELS SHALL BE "STRUCTURAL SANDWICH PANELS" AS MANUFACTURED BY PREMIER INDUSTRIES, INC., OF FIFE, WASHINGTON, AS DESCRIBED IN ICC-ES LEGACY REPORT NER-633, OR APPROVED EQUAL.

DATE 4/6/07
SCALE NTS
DRAWN BY JM
APPROVED BY PEK

PROJECT NUMBER 2128

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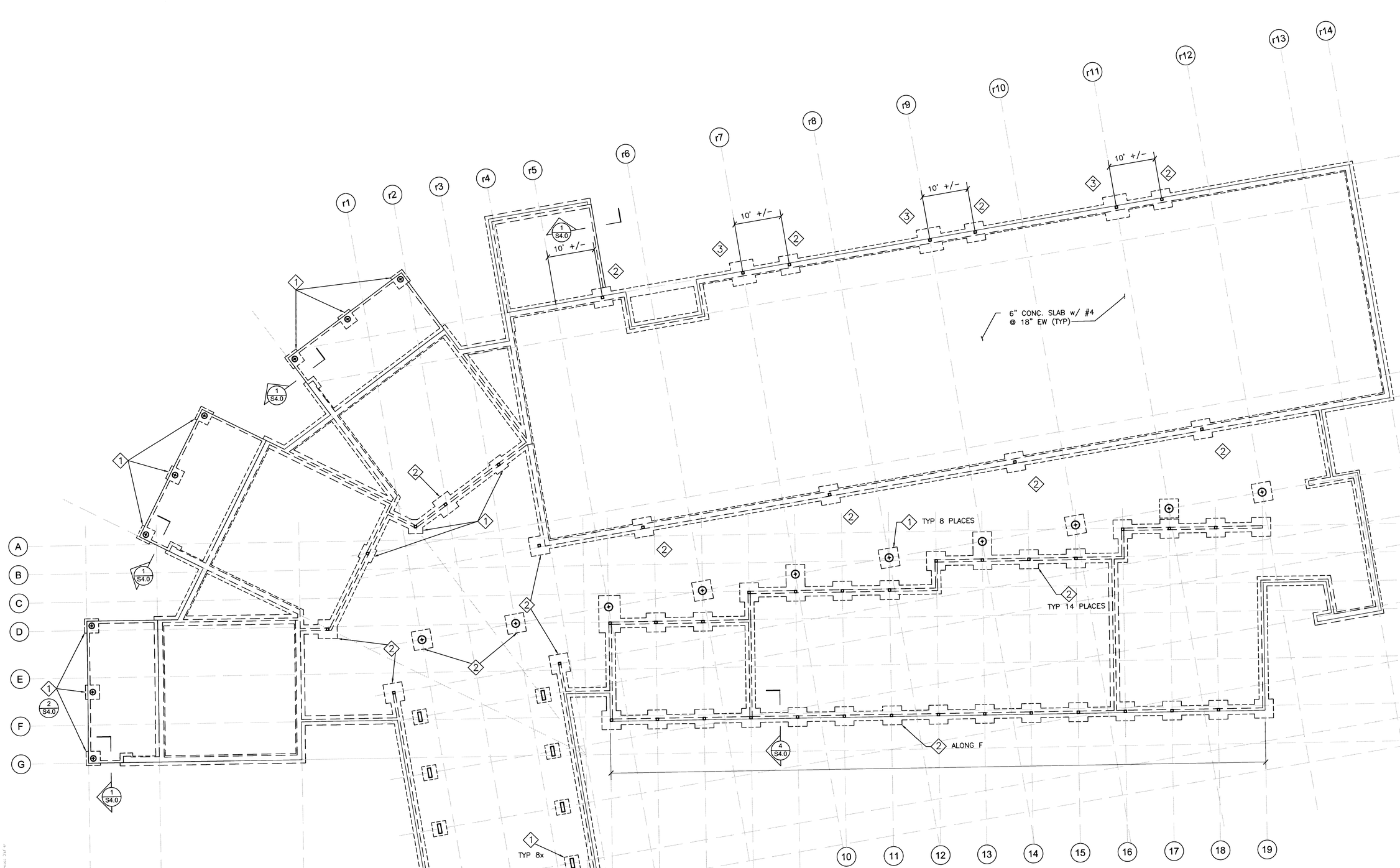
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CASCADE DESIGN

THE HIBULB MUSEUM

STRUCTURAL NOTES

S1.0



FOOTING & COLUMN SCHEDULE

MARK	SIZE a	SIZE b	SIZE t	REINFORCING	BASE PLATE a	BASE PLATE b	COLUMN
1	3'	3'	10"				
2	4'	4'	10"				
3	5'	5'	12"				

NOTES:
1. SEE ARCHITECTURAL DWGS FOR DIMENSIONS

   ALL INTERIOR FOOTINGS TO BE MARK ◇1
2. UNLESS NOTED OTHERWISE

   FLOOR SLAB TO BE 6" THICK w/#4 @ 18" O.C. CENTERED IN SLAB. OVER 6" LAYER COMPACTED AGGREGATE BASE. SEE ARCH FOR
3. MOISTURE BARRIER

1 Foundation Plan
Scale: 1/8" = 1'-0"

0 5 10 15 20 FT

DATE 4/16/07
SCALE 1/8"=1'-0"
DRAWN BY JM
APPROVED BY PEA

PROJECT NUMBER 2128

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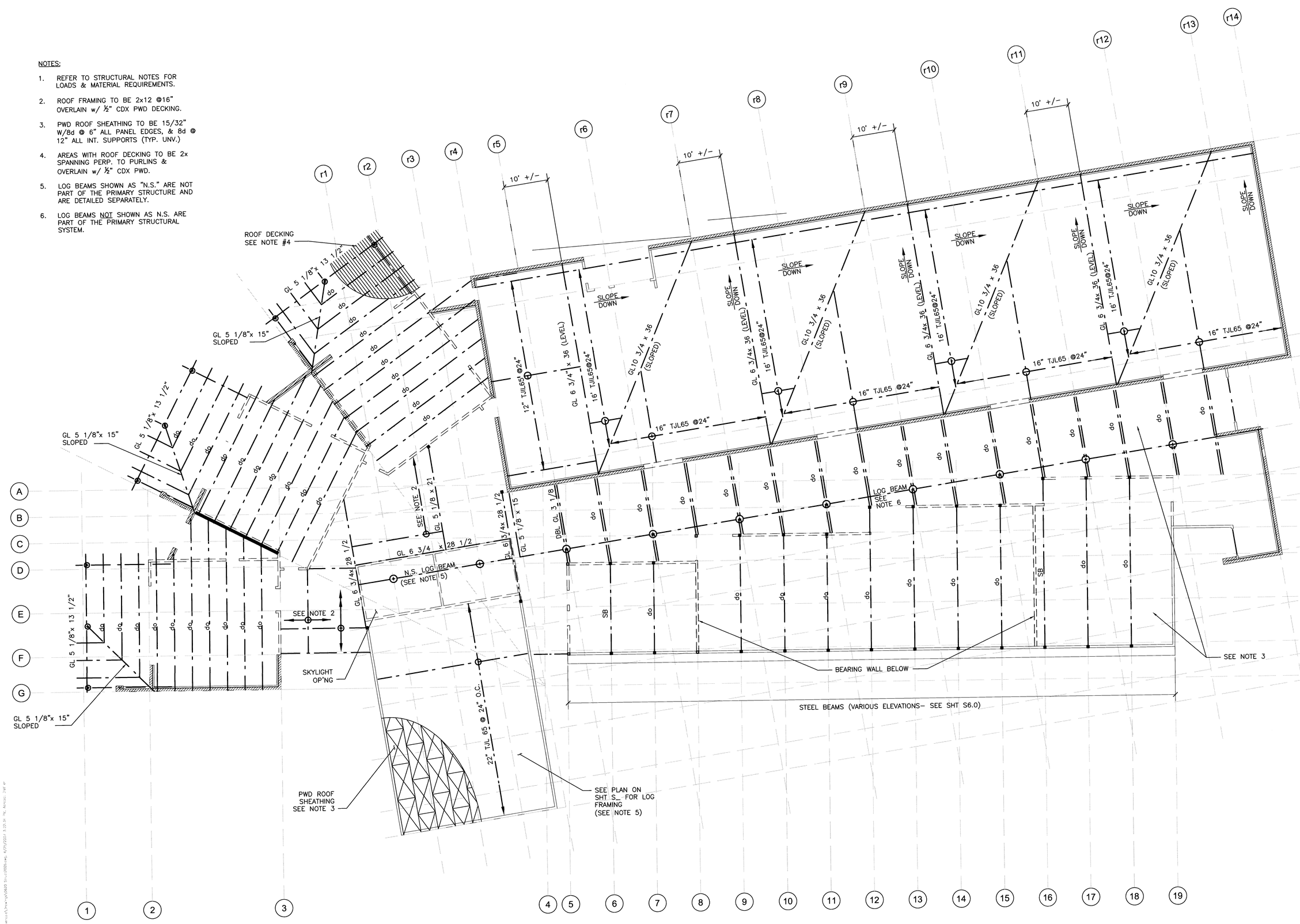
THE HIBULB MUSEUM

FOUNDATION PLAN

S2.0

NOTES:

1. REFER TO STRUCTURAL NOTES FOR LOADS & MATERIAL REQUIREMENTS.
2. ROOF FRAMING TO BE 2x12 @16" OVERLAIN w/ ½" CDX PWD DECKING.
3. PWD ROOF SHEATHING TO BE 15/32" W/8d @ 6" ALL PANEL EDGES, & 8d @ 12" ALL INT. SUPPORTS (TYP. UNV.)
4. AREAS WITH ROOF DECKING TO BE 2x SPANNING PERP. TO PURLINS & OVERLAIN w/ ½" CDX PWD.
5. LOG BEAMS SHOWN AS "N.S." ARE NOT PART OF THE PRIMARY STRUCTURE AND ARE DETAILED SEPARATELY.
6. LOG BEAMS NOT SHOWN AS N.S. ARE PART OF THE PRIMARY STRUCTURAL SYSTEM.



1 Roof Framing Plan
Scale: 1/8" = 1'-0"

0 5 10 15 20 FT

DATE	4/16/07
SCALE	1/8"=1'-0"
DRAWN BY	JM
APPROVED BY	PEK

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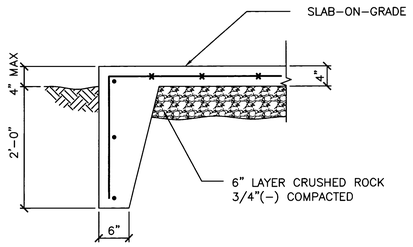
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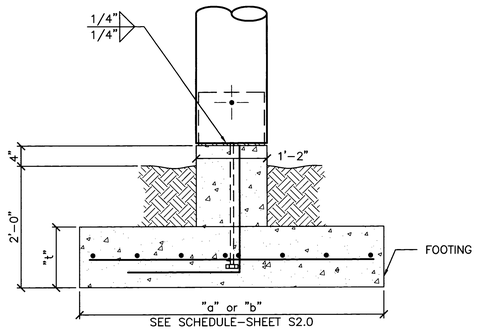
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ROOF FRAMING PLAN

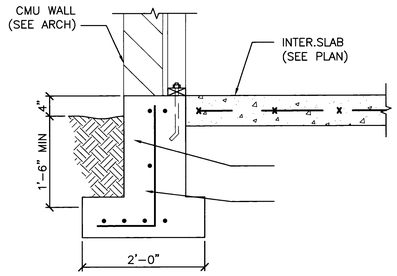
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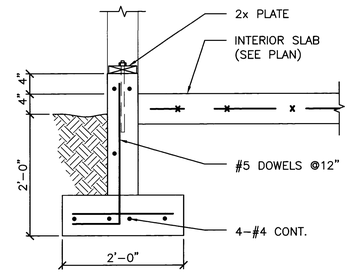
1 Porch Slab Section
Scale: 1" = 1'-0"



2 Typical Column/Post Footing
Scale: 1" = 1'-0"



3 Continuous Footing Section @ CMU Walls
Scale: 1" = 1'-0"



4 Typical Continuous Footing Section
Scale: 1" = 1'-0"

DATE	4/16/07
SCALE	1/8"=1'-0"
DRAWN BY	JM
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PROJECT NUMBER: 2128

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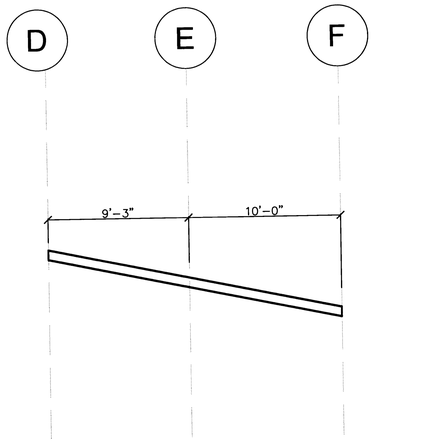
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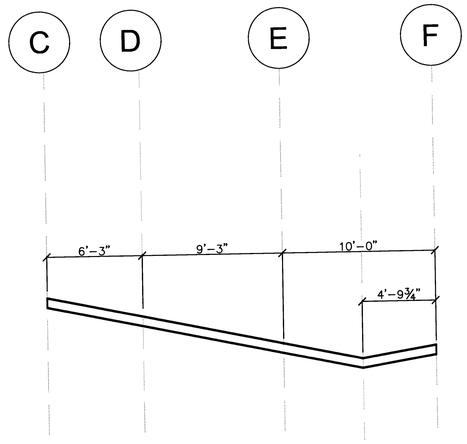
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FOUNDATION DETAILS

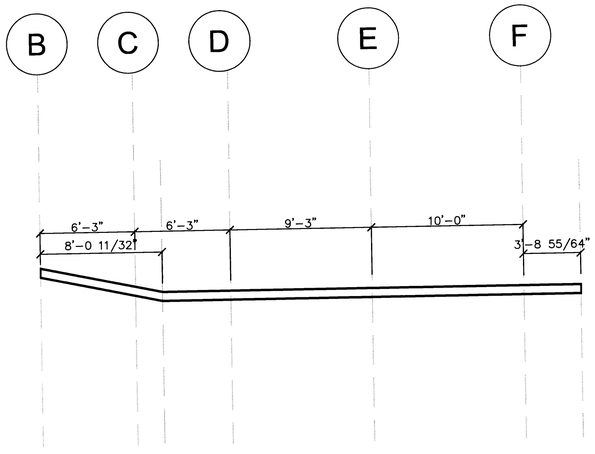
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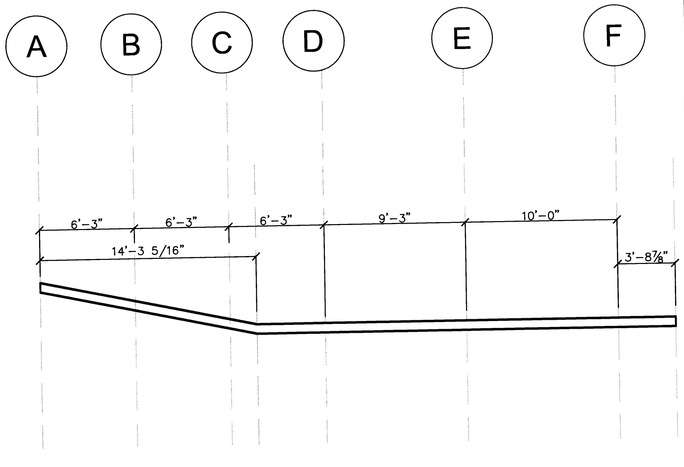
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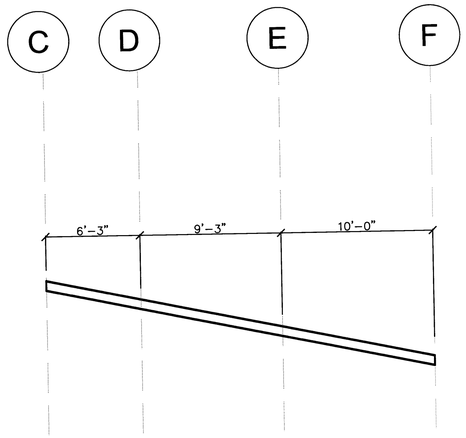
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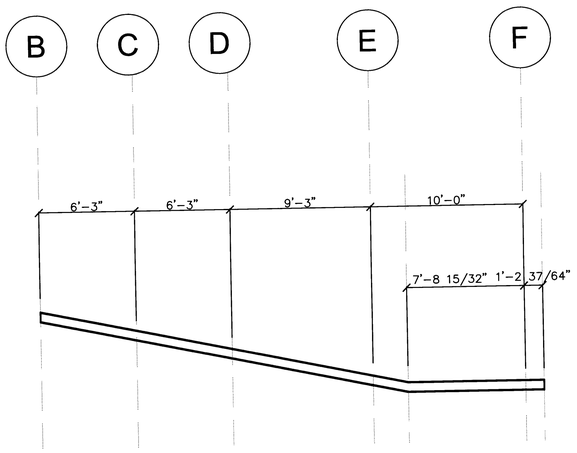
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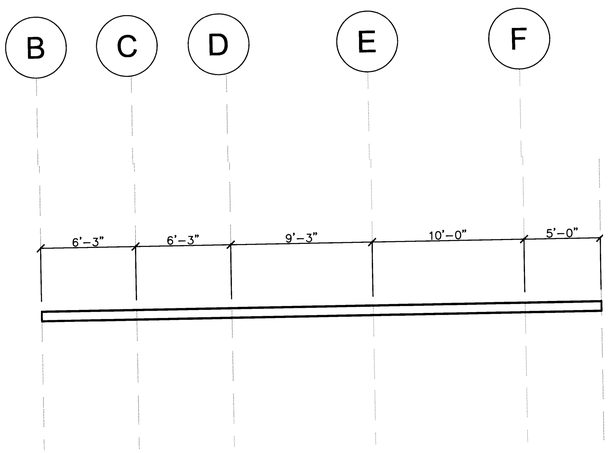
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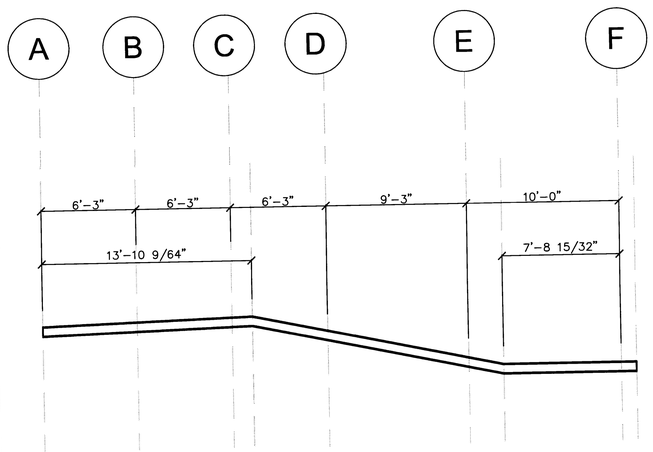
BEAM ELEVATION - GRIDS 8,11
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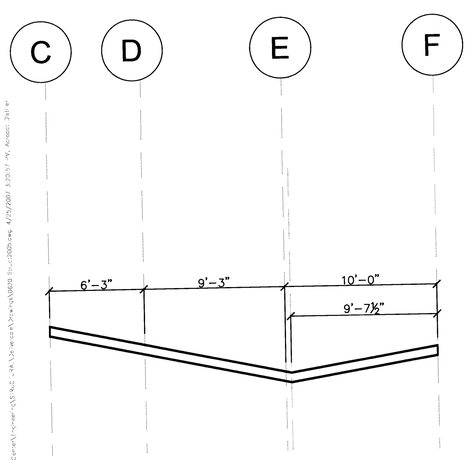
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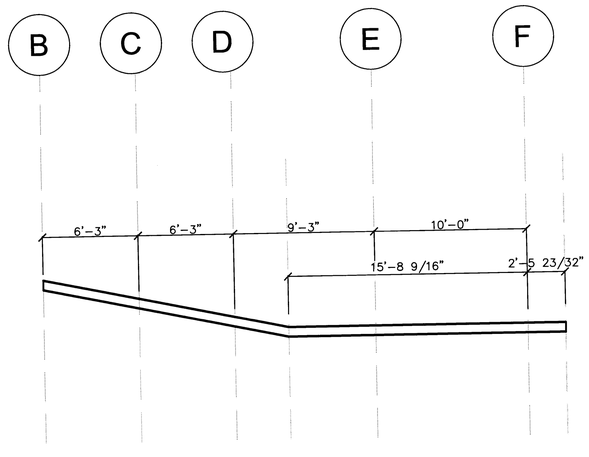
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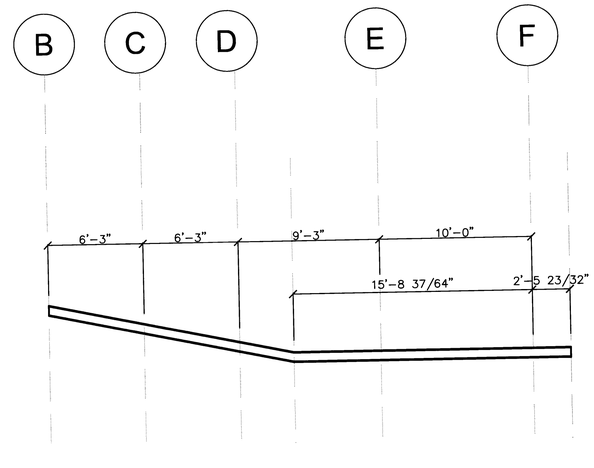
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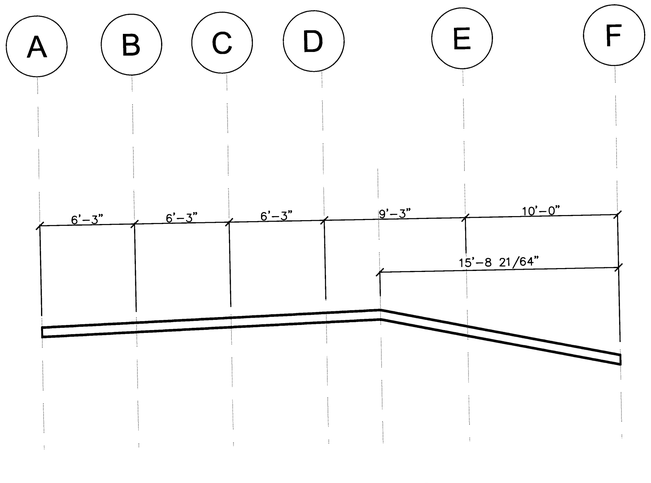
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BEAM ELEVATION - GRID 13
Scale: 1/4" = 1'-0"



BEAM ELEVATION - GRID 17
Scale: 1/4" = 1'-0"



BEAM ELEVATION - GRID 19
Scale: 1/4" = 1'-0"

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PROJECT NUMBER 2128
DRAWING FILE 0620S.dwg

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1" ORIGINAL DRAWING SIZE
DESIGN
REV # DATE

THE TULALIP TRIBES
6410 23rd Ave NE
Tulalip, Washington
98271

100% DESIGN DEVELOPMENT NOT FOR CONSTRUCTION

THE HIBULB MUSEUM

ROOF DETAILS

S6.0

SW 1/4 OF THE SW 1/4 OF SECTION 29,
TWP. 30 N., RNG 5 E., W.M.

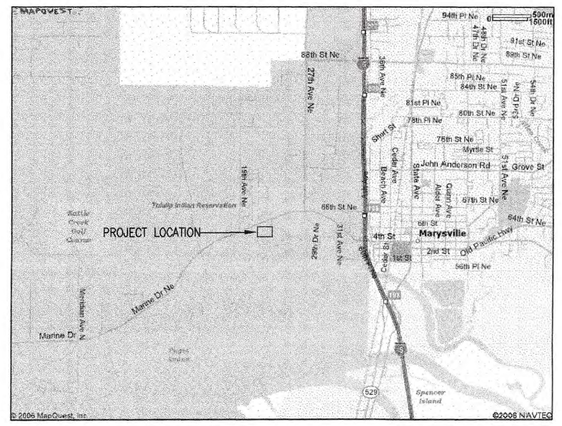
HIBULB MUSEUM - PHASE 2

MUSUEM BUILDING

TULALIP, WASHINGTON

SHEET INDEX

C1.0	CIVIL COVER SHEET AND NOTES
C2.0	TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN
C3.0	GRADING AND DRAINAGE PLAN
C4.0	UTILITY PLAN
C5.0	PAVING AND LAYOUT
C6.0	23RD AVE PLAN AND PROFILE
C7.0	DETAILS
C8.0	DETAILS
C9.0	DETAILS



VICINITY MAP

NTS

SURVEY DATA

HORIZONTAL DATUM:
WASHINGTON STATE PLANE COORDINATE SYSTEM BASED ON WASHINGTON STATE SURVEY CONTROL POINT 3719 AS NOTED ON PAGE 1 OF FIELD BOOK 105

VERTICAL DATUM:
NAVD 88 BASED ON GPS OBSERVATIONS

TBM: NAVD 88 = 20.73'
REBAR WITH RED CAP STAMPED 17068, LYING EAST OF 23RD AVE, 19' FROM THE EAST EDGE OF THE ASPHALT, ACCROSS FROM THIS PROJECTS EXISTING GRAVEL DRIVEWAY, DOWNING AND ASSOC.'S CONTROL POINT #45

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE 2006 WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, THE CITY OF MARYSVILLE STANDARDS, AND SNOHOMISH COUNTY FOR STREET AND SIDEWALK PAVEMENT OPENING AND RESTORATION. A COPY OF THESE DOCUMENTS SHALL BE ON SITE DURING CONSTRUCTION.
2. A COPY OF THE APPROVED PLAN, MUST BE ON SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
3. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
4. PRIOR TO ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL SCHEDULE AND ATTEND A PRE-CONSTRUCTION CONFERENCE WITH THE TULALIP TRIBE REPRESENTATIVE. THE CONTRACTOR SHALL NOTIFY THE OWNER'S PROFESSIONAL ENGINEERING CONSULTANT OF THE PRE-CONSTRUCTION MEETING TIME AND LOCATION.
5. PAVED SURFACES INCLUDING ROADWAYS, SIDEWALKS, AND CURBS THAT ARE DAMAGED BY NEW CONSTRUCTION SHALL BE REPAIRED
6. THE CONTRACTOR SHALL COORDINATE ALL SURVEYING AND STAKING OF IMPROVEMENTS.
7. ALL LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN HEREON WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN.
8. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL CASTINGS AND UTILITIES DURING CONSTRUCTION AND SHALL CONTACT THE UNDERGROUND UTILITIES LOCATOR SERVICE (1-800-424-5555) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
9. THE CONTRACTOR SHALL ADJUST ALL EXISTING MANHOLE RIMS, DRAINAGE STRUCTURE LIDS, VALVE BOXES, AND UTILITY ACCESS STRUCTURES TO FINISH GRADE WITHIN AREAS AFFECTED BY THE PROPOSED IMPROVEMENTS.
10. THE CONTRACTOR SHALL PROVIDE FOR ALL COMPACTION TESTS REQUIRED BY THE COUNTY AND CITY INSPECTORS.
11. BACKFILL MATERIAL USED IN PUBLIC RIGHT-OF-WAY SHALL MEET SNOHOMISH COUNTY SPECIFICATIONS AND STANDARDS.
12. INSPECTION AND ACCEPTANCE OF ALL RESTORATION WORK IN STREET RIGHT-OF-WAY WILL BE ACCOMPLISHED BY REPRESENTATIVES OF SNOHOMISH COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND SCHEDULE APPROPRIATE INSPECTIONS, ALLOWING PROPER ADVANCE NOTICE. THE INSPECTOR MAY REQUIRE RECONSTRUCTION OF ITEMS THAT DO NOT MEET COUNTY STANDARDS OR THAT WERE CONSTRUCTED WITHOUT INSPECTION.
13. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY SEDIMENTATION COLLECTION FACILITIES TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE NATURAL OR PUBLIC DRAINAGE SYSTEM. AS CONSTRUCTION PROGRESSES AND UNEXPECTED (SEASONAL) CONDITIONS DICTATE, MORE SILTATION CONTROL FACILITIES MAY BE REQUIRED TO INSURE COMPLETE SILTATION CONTROL OF THE PROJECT. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS AND NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES THAT MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES.
14. THE CONTRACTOR SHALL KEEP OFF-SITE STREETS CLEAN AT ALL TIMES BY SWEEPING. WASHING OF THESE STREETS WILL NOT BE ALLOWED WITHOUT PRIOR SEATRAN APPROVAL.
15. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LOCAL GOVERNING AGENCIES.
16. CARE SHALL BE EXERCISED WHEN EXCAVATING NEAR EXISTING CHARGED WATER MAINS.

CITY OF MARYSVILLE GENERAL NOTES FOR SANITARY SEWER MAIN INSTALLATIONS

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF MARYSVILLE STANDARDS AND THE MOST RECENT COPY OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (WSDOT/APWA).
2. CITY OF MARYSVILLE DATUM (NGVD, 1960 SUPPLEMENTAL ADJUSTMENT) SHALL BE USED FOR ALL VERTICAL CONTROL. A LIST OF BENCHMARKS IS AVAILABLE AT THE PUBLIC WORKS DEPARTMENT.
3. ALL APPROVALS AND PERMITS REQUIRED BY THE CITY OF MARYSVILLE SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
4. IF CONSTRUCTION IS TO TAKE PLACE IN THE COUNTY RIGHT-OF-WAY, THE CONTRACTOR SHALL CONTACT THE CITY PUBLIC WORKS DEPARTMENT TO OBTAIN ALL THE REQUIRED APPROVALS AND PERMITS.
5. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE CITY OF MARYSVILLE DEPARTMENT OF PUBLIC WORKS PRIOR TO THE START OF CONSTRUCTION.
6. THE CITY OF MARYSVILLE DEPARTMENT OF PUBLIC WORKS SHALL BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE OF A TAP OR CONNECTION TO AN EXISTING SANITARY SEWER MAIN. THE INSPECTOR SHALL BE PRESENT AT THE TIME OF THE TAP OR CONNECTION.
7. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.
8. GRAVITY SEWER MAIN SHALL BE PVC, ASTM D 3034 SDR 35 OR ASTM F 789 WITH JOINTS AND RUBBER GASKETS CONFORMING TO ASTM D 3212 AND ASTM F 477.
9. PRECAST MANHOLES SHALL MEET THE REQUIREMENTS OF ASTM C 478. MANHOLES SHALL BE TYPE 1-48" MANHOLE UNLESS OTHERWISE SPECIFIED ON THE PLANS. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO ASTM C 443 AND SHALL BE GROUTED FROM THE INSIDE. LIFT HOLES SHALL BE GROUTED FROM THE OUTSIDE AND INSIDE OF THE MANHOLE.
10. SIDE SEWER SERVICES SHALL BE PVC, ASTM D 3034 SDR 35 WITH FLEXIBLE GASKETED JOINTS. SIDE SEWER CONNECTIONS SHALL BE MADE BY A TAP TO AN EXISTING MAIN OR A TEE FROM A NEW MAIN CONNECTED ABOVE THE SPRINGLINE OF THE PIPE.
11. ALL SEWER MAINS SHALL BE FIELD STAKED FOR GRADES AND ALIGNMENT PRIOR TO CONSTRUCTION BY A LICENSED ENGINEER OR SURVEYING FIRM QUALIFIED TO PERFORM SUCH WORK. PRIOR TO CONSTRUCTING ANY SEWER, THE LOT CORNERS SHALL BE STAKED AND SEWER LINE LOCATION ESTABLISHED BY SURVEY, COST OF WHICH SHALL BE BORNE BY THE DEVELOPER.
12. ALL PLASTIC PIPE AND SERVICES SHALL BE INSTALLED WITH CONTINUOUS TRACER TAPE INSTALLED 12" TO 18" UNDER THE PROPOSED FINISHED SUBGRADE. THE MARKER SHALL BE PLASTIC NON-BIODEGRADABLE, METAL CORE OR BACKING MARKED SEWER WHICH CAN BE DETECTED BY A STANDARD METAL DETECTOR.
13. EACH SIDE SEWER LATERAL SHALL HAVE A 2" X 4" WOOD "MARKER" AT THE TERMINATION OF THE STUB. THE "MARKER" SHALL EXTEND FROM THE TRENCH TO ABOVE FINISHED GRADE. ABOVE THE GROUND SURFACE, IT SHALL BE PAINTED "GREEN" WITH "S/S" AND THE DEPTH, IN FEET, STENCILED IN BLACK LETTERS 2" HIGH.
14. SIDE SEWERS SHALL BE INSTALLED BY THE DEVELOPER AND COORDINATED FOR CLEARANCE WITH POWER, TELEPHONE, AND OTHER UTILITIES.

    ALL SIDE SEWERS TO BE INSTALLED 10 FEET INTO LOT SERVED AND STAKED AND MARKED AS SHOWN ON THESE PLANS.
15. PIPE BEDDING SHALL BE IN ACCORDANCE WITH WSDOT STANDARD PLAN B-18C CLASS F. PEA GRAVEL IS AN ACCEPTABLE BEDDING MATERIAL. ALL PIPE SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION ACCORDING TO STANDARD SPECIFICATION 7-02.3(1). THIS SHALL INCLUDE NECESSARY LEVELING OF THE TRENCH BOTTOM OR THE TOP OF THE FOUNDATION MATERIALS AS WELL AS PLACEMENT AND COMPACTION OF REQUIRED BEDDING MATERIAL TO UNIFORM GRADE SO THAT THE ENTIRE LENGTH OF THE PIPE WILL BE SUPPORTED AN A UNIFORMLY DENSE UNYIELDING BASE.
16. A 3-FOOT SQUARE X 4-INCH THICK ASPHALT OR CONCRETE PAD SHALL BE INSTALLED AROUND ALL CLEANOUTS THAT ARE NOT IN A PAVEMENT AREA.
17. TEMPORARY STREET PATCHING SHALL BE ALLOWED FOR AS APPROVED BY THE CITY ENGINEER. TEMPORARY STREET PATCHING SHALL BE PROVIDED BY PLACEMENT AND COMPACTION OF 1-INCH MAXIMUM ASPHALT CONCRETE COLD MIX. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AS REQUIRED.
18. EROSION CONTROL MEASURE SHALL BE TAKEN BY THE CONTRACTOR DURING CONSTRUCTION TO PREVENT INFILTRATION AND INFLOW INTO EXISTING AND PROPOSED SANITARY SEWER FACILITIES.
19. PROVIDE TRAFFIC CONTROL PLAN(S) IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS REQUIRED.
20. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE A COPY OF THESE APPROVED PLANS ON CONSTRUCTION SITE AT ALL TIMES.
21. ANY CHANGES TO THE DESIGN SHALL FIRST BE REVIEWED AND APPROVED BY THE PROJECT ENGINEER AND THE CITY OF MARYSVILLE.
22. ALL LINES SHALL BE CLEANED AND PRESSURE TESTED PRIOR TO PAVING IN CONFORMANCE WITH THE ABOVE REFERENCED SPECIFICATIONS. (SEE NOTE 1.) TESTING OF THE SANITARY SEWER MAIN SHALL INCLUDE TV-ING OF THE MAIN BY THE CONTRACTOR. IMMEDIATELY PRIOR TO TV-ING, ENOUGH WATER SHALL BE RUN DOWN THE LINE SO IT COMES OUT THE LOWER MANHOLE. A COPY OF THE VIDEO TAPE SHALL BE SUBMITTED TO THE CITY OF MARYSVILLE. ACCEPTANCE OF THE LINE WILL BE MADE AFTER THE TAPE HAS BEEN REVIEWED AND APPROVED BY PUBLIC WORKS. A WATER TEST OF ALL MANHOLES IN ACCORDANCE WITH MARYSVILLE STANDARD MAY ALSO BE REQUIRED. TESTING SHALL TAKE PLACE AFTER ALL UNDERGROUND UTILITIES ARE INSTALLED AND COMPACTION OF THE ROADWAY SUBGRADE IS COMPLETED.
23. PRIOR TO BACKFILL ALL MAINS AND APPURTENANCES SHALL BE INSPECTED AND APPROVED BY THE CITY OF MARYSVILLE DEPARTMENT OF PUBLIC WORKS. APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FOR CORRECTION OF ANY DEFICIENCIES AND/OR FAILURES AS DETERMINED BY SUBSEQUENT TESTING AND INSPECTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF MARYSVILLE FOR THE REQUIRED INSPECTIONS.

CITY OF MARYSVILLE GENERAL NOTES FOR WATER MAIN INSTALLATION

1. ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH CITY OF MARYSVILLE STANDARDS AND THE MOST CURRENT COPY OF THE STATE OF WASHINGTON/APWA STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE CITY PRIOR TO THE START OF CONSTRUCTION.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE OR HAVE LOCATED BY THE APPROPRIATE COMPANIES ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.

   CALL UNDERGROUND LOCATE AT 1-800-553-4344 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATIONS.
4. WATER PIPE SHALL BE DUCTILE IRON PIPE STANDARD THICKNESS CLASS 52 CEMENT-LINED UNLESS OTHERWISE SPECIFIED AND SHALL CONFORM TO ANSI/AWWA C151 /A21 .51.
5. GATE VALVES SHALL BE RESILIENT WEDGE, NRS (NON RISING STEM) WITH O-RINGS SEALS. VALVE ENDS SHALL BE MECHANICAL JOINT OR ANSI FLANGES. VALVES SHALL CONFORM TO AWWA 509-80. VALVES SHALL BE MUELLER, M & H, CLOW R/W OR WATEROUS SERIES 500.
6. FITTINGS SHALL BE DUCTILE IRON SHORT BODY COMPACT CONFORMING TO AWWA C110, C11 AND C153 AND SHALL BE CEMENT-MORTAR LINED CONFORMING TO AWWA C104. THE CITY WILL BE GIVEN 72 HOURS NOTICE PRIOR TO SCHEDULING A SHUTDOWN. WHERE CONNECTIONS REQUIRE "FIELD VERIFICATION", CONNECTION POINTS WILL BE EXPOSED BY CONTRACTOR AND FITTINGS VERIFIED 48 HOURS PRIOR TO DISTRIBUTING SHUT-DOWN NOTICES.
7. FIRE HYDRANTS SHALL CONFORM TO AWWA C501 AND SHALL BE OF STANDARD MANUFACTURE AND OF A PATTERN APPROVED BY MARYSVILLE, WITH STORZ 4" QUARTER TURN FITTING. HYDRANTS SHALL BE M & H RELIANT STYLE 929 OR MUELLER A-423 (MJ). HYDRANTS SHALL BE BAGGED UNTIL SYSTEM IS APPROVED.
8. ALL LINES SHALL BE DISINFECTED, FLUSHED, AND PRESSURE TESTED IN CONFORMANCE WITH WSDOT/APWA STANDARDS AND SPECIFICATIONS. ALL PIPE SHALL BE TESTED AT 240 PSI. THE CONTRACTOR SHALL FURNISH ALL TEMPORARY PLUGS, TESTING DEVICES, ETC. THE CITY SHALL BE PRESENT FOR ALL TESTING. THE CITY WILL TAKE PURITY TESTS, AND CONNECTION WILL BE AUTHORIZED FOLLOWING PASSING OF THE TESTS. THE CONTRACTOR SHALL NOT OPERATE ANY VALVE OR PART OF THE CITY WATER SYSTEM WITHOUT NOTIFICATION AND SPECIFIC SUPERVISION OF THE CITY UTILITY SUPERINTENDENT. THE CONTRACTOR SHALL MAKE ALL CONNECTIONS TO THE SYSTEM REQUIRED AFTER MAKING ARRANGEMENTS WITH THE CITY IN ADVANCE. WORK AND PROCEDURES SHALL CONFORM TO APWA SEC. 7-1 1.3(9).
9. INSTALLATION OF PIPE, FITTINGS AND VALVES, HYDRANTS, AND APPURTENANCES SHALL CONFORM TO WSDOT/APWA STANDARD SPECIFICATIONS. COVER SHALL BE 42 INCHES OVER THE TOP OF PIPE UNLESS OTHERWISE NOTED ON PLANS. IN THE EVENT GRADE REVISION FOLLOWING WATER MAIN CONSTRUCTION RESULTS IN COVER OVER THE WATER MAIN OF LESS THAN 3 FEET OR IN EXCESS OF 5 FEET, THE WATER MAIN SHALL BE RECONSTRUCTED BY THE OWNER TO CONFORM TO THE SPECIFICATIONS OF THE CITY OF MARYSVILLE UNLESS DEPTH HAS BEEN PRE-APPROVED BY THE CITY. ALL ADDED COSTS OF INSPECTING SUCH WATER MAIN RECONSTRUCTION SHALL BE CHARGED TO THE DEVELOPER.
10. PRIOR TO CONSTRUCTION OF ANY WATER MAINS, THE LOT CORNERS SHALL BE STAKED AND WATER MAIN LOCATIONS ESTABLISHED BY SURVEY, COST OF WHICH IS TO BE BORNE BY THE DEVELOPER.
11. TO MAINTAIN THE REQUIRED ALIGNMENT, USE SHORT LENGTHS AND DEFLECT THE JOINTS OR USE NECESSARY BENDS.
12. BEDDING MATERIAL MEETING THE REQUIREMENTS FOR RIGID PIPE SHALL BE PLACED TO A DEPTH OF 6" UNDER AND AROUND THE PIPE AND TO A DEPTH OF AT LEAST 12 INCHES OVER THE TOP OF THE PIPE. THE BEDDING MATERIALS SHALL BE RAMMED AND TAMPED AROUND THE PIPE BY THE USE OF SHOVELS OR OTHER APPROVED HAND-HELD TOOLS SO AS TO PROVIDE FIRM AND UNIFORM SUPPORT OVER THE FULL LENGTH OF ALL PIPE, VALVES, AND FITTINGS. CARE SHALL BE TAKEN TO PREVENT ANY DAMAGE TO THE PIPE OR ITS PROTECTIVE COATING.
13. SEPARATION OF WATER AND SEWER MAINS SHALL CONFORM TO W.D.O.E. STANDARDS OR SPECIAL CONSTRUCTION REQUIREMENTS.
14. SERVICES, BLOW-OFFS, AND MISCELLANEOUS DETAILS SHALL BE SHOWN ON THE DRAWINGS OR STANDARD PLANS.

Attachment F.2

CALL 48 HOURS
BEFORE YOU DIG!
1-800-424-5555

DATE	10/22/07
SCALE	1" = 20'
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APPROVED BY	CMA
PROJECT NUMBER	2128.00
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DATE	REV #	REVISION

100% CONSTRUCTION DOCUMENTS

STASTNYRUN ARCHITECTS
ARCHITECTURE URBAN DESIGN
COMMUNITY DESIGN PROCESS CONSTRUCTION MANAGEMENT
STASTNYRUN ARCHITECTS, INC. ● 813 3W ALDER STREET SUITE 200
MARYSVILLE, WA 98270
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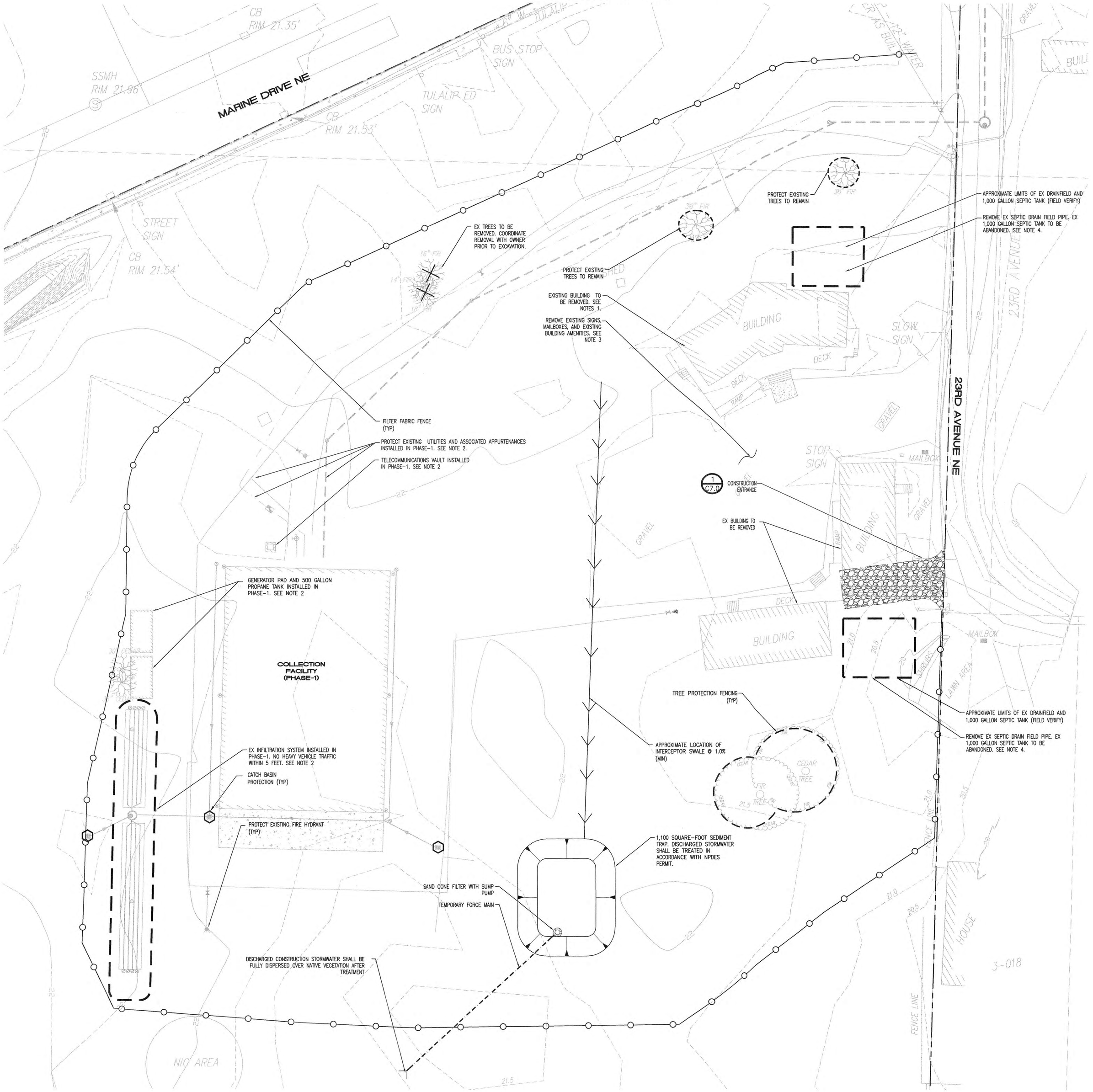
HIBULB MUSEUM

CIVIL COVER SHEET AND NOTES

C1.0

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SW 1/4 OF THE SW 1/4 OF SECTION 29,
TWP. 30 N., RNG 5 E., W.M.



30 0 30
SCALE: 1" = 30'

DATUM

NAVD88

LEGEND

- INTERCEPTOR SWALE — 5 / C7.0
- CATCH BASIN PROTECTION — 3 / C7.0
- SAND CONE OUTLET — 4 / C7.0
- FILTER FABRIC FENCE — 2 / C7.0
- TREE PROTECTION FENCING — 6 / C7.0

NOTES

1. COORDINATE UTILITY SHUTOFFS AND EX METER RETIREMENT FOR EX BUILDINGS TO BE REMOVED WITH PURVEYORS.
2. EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
3. COORDINATE EXTENTS OF DEMOLITION WORK WITH OWNER'S REPRESENTATIVE PRIOR CONSTRUCTION.
4. OWNER WILL PUMP OUT EXISTING 1,000 GALLON SEPTIC TANKS PRIOR TO SITE DEMOLITION WORK. CONTRACTOR SHALL REMOVE PIPING, TANK LID, AND BREAK UP BOTTOM OF TANK. TANK SHALL BE BACKFILLED WITH FREE-DRAINING STRUCTURAL FILL MATERIAL. TANK, OR A PORTION OF THE TANK SHALL BE REMOVED IF IT INTERFERES WITH NEW CONSTRUCTION.

EROSION/SEDIMENTATION CONTROL (ESC) NOTES

1. THE IMPLEMENTATION OF THE CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN (CSWPPP) AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
2. THE ESC FACILITIES MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE, ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.
3. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. CONTRACTOR SHALL DEVELOP A CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN (CSWPPP) IN ACCORDANCE WITH NPDES PERMIT AND WASHINGTON STATE DEPARTMENT OF ECOLOGY REQUIREMENTS.
4. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G. ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS.
5. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY OR AS DIRECTED BY THE TULALIP TRIBE TO ENSURE THEIR CONTINUED FUNCTIONING.
6. ANY AREA STRIPPED OF VEGETATION, WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 15 DAYS SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G. SEEDING, MULCHING, NETTING, EROSION BLANKETS, ETC.)
7. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED DAILY.
8. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

CONSTRUCTION SEQUENCE

1. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE. ADJUST AS REQUIRED TO ACCOMODATE CONSTRUCTION CONDITIONS.
2. INSTALL SEDIMENT TRAP AS REQUIRED.
3. MAINTAIN EXISTING AND INSTALL NEW FILTER FABRIC FENCING AS REQUIRED.
4. CLEAR AREAS NECESSARY TO ACCOMODATE NEW CONSTRUCTION. PROTECT ANY CLEARING DEBRIS STOCKPILED ON THE SITE WITH PLASTIC COVERING OR APPROVED COVER.
5. EXCAVATE AND GRADE AREAS NECESSARY FOR NEW CONSTRUCTION. PROTECT ANY EXCAVATION SPOILS STOCKPILED ON THE SITE WITH PLASTIC COVERING.
6. CONSTRUCT UTILITIES AND NEW IMPROVEMENTS AND UPGRADE TESC FACILITIES AS NEEDED.
7. IMMEDIATELY STABILIZE EXPOSED BACKFILLED AREAS WITH MULCH OR APPROVED HYDROSEED MIX.
8. UPON COMPLETION OF CONSTRUCTING IMPROVEMENTS AND PLANTING REMOVE EROSION CONTROL BMPS.

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DATE	10/22/07
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PROJECT NUMBER	2128.00
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STASTNY BRUN ARCHITECTS
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MASTER PLANNING
COMMUNITY DESIGN PROCESS
COMPETITION MANAGEMENT
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PROFESSIONAL ENGINEER
EXPIRES: 01/16/09

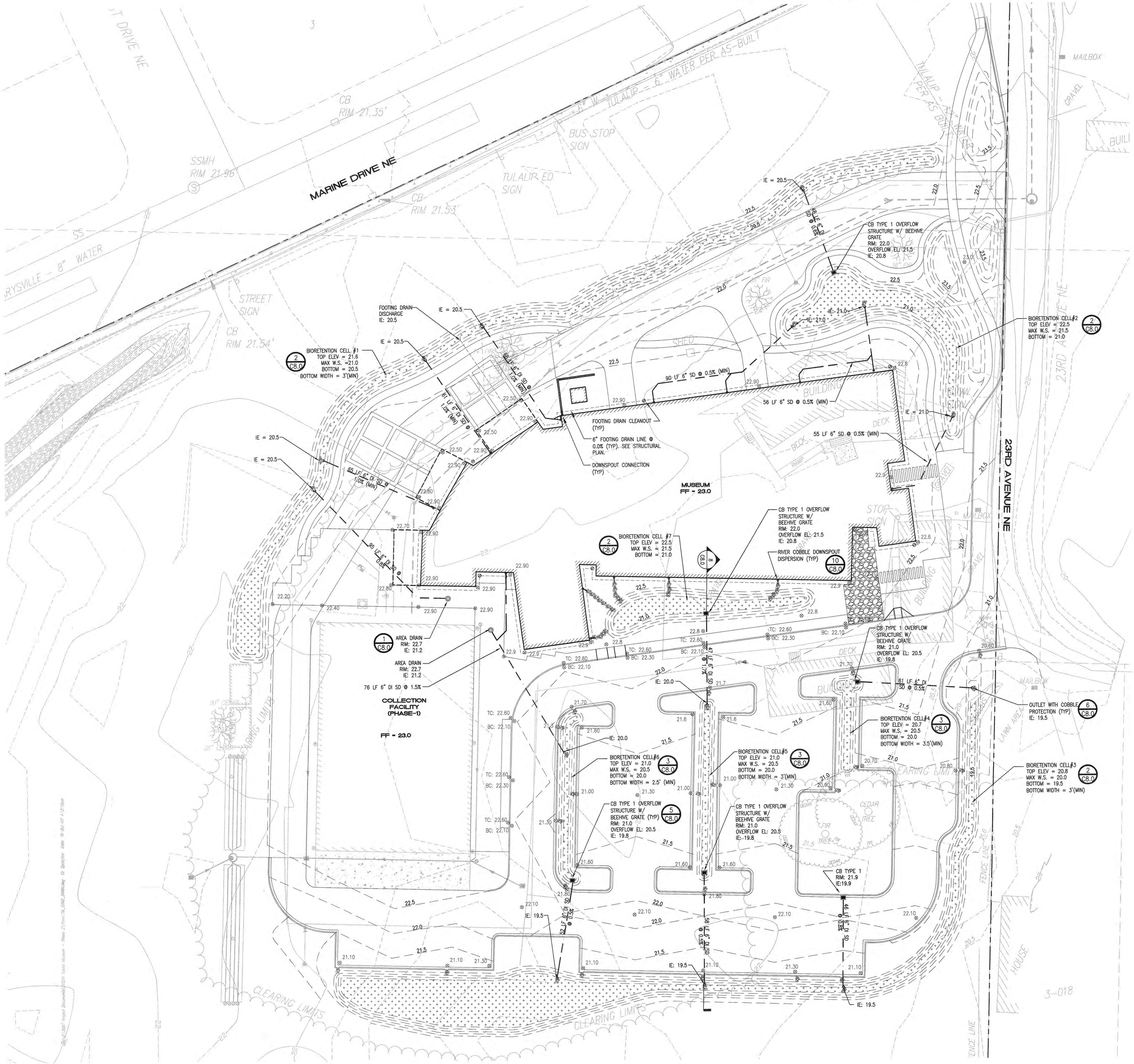
HIBULB MUSEUM

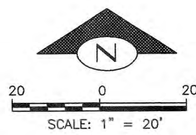
TESC PLAN

C2.0

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SW 1/4 OF THE SW 1/4 OF SECTION 29,
TWP. 30 N., RNG 5 E., W.M.





DATUM

NAVD88

LEGEND

- DOWNSPOUT CONNECTION (11 / C7.0)
- RAINGARDEN PLANTING
- STORM DRAIN (9 / C7.0)
- CB TYPE 1 (7 / C8.0)

NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO WSDOT/APWA STDS.
2. SEE SHEET C1.0 FOR GENERAL NOTES.
3. FOR TYPICAL TRENCH SECTION, SEE DETAIL 9 SHEET C7.0.
4. ALL STORM DRAIN PIPE SHALL BE PVC SDR 35, ASTM D3034 UNLESS OTHERWISE NOTED.
5. REFER TO LANDSCAPE PLAN FOR RAINGARDEN PLANTING AND RESTORATION.

GRADING NOTES

1. ALL EARTHWORK AND SUBGRADE PREPARATION SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS AND RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT.
2. FINISH GRADE INDICATED IS FINAL SURFACE ELEVATION FOLLOWING PLACEMENT OF ALL SURFACING MATERIALS.
3. GRADE ALL AREAS TO PROVIDE DRAINAGE AWAY FROM THE BUILDING. FINE GRADE AREAS TO DIRECT DRAINAGE TO DRAINAGE STRUCTURES.
4. COORDINATE GRADING AROUND BUILDING WITH ARCHITECTURAL DWGS. NOTIFY ENGINEER OF ANY DISCREPANCIES.
5. NO SEDIMENT SHALL BE TRACKED ONTO PAVED STREETS OR ROADWAYS. SEDIMENT SHALL BE REMOVED FROM TRUCKS AND EQUIPMENT PRIOR TO LEAVING THE CONSTRUCTION SITE. IN THE EVENT OF FAILURE OF THE TESC SYSTEM RESULTING IN SEDIMENT TRACKING ONTO PAVEMENT, THE CONTRACTOR SHALL IMPLEMENT MEASURES IMMEDIATELY TO CORRECT THE SITUATION. THE CONTRACTOR SHALL EMPLOY EMERGENCY MEASURES TO REMOVED SEDIMENT FROM PAVED SURFACES, AS NEEDED. STREET SWEEPING SHALL BE CONSIDERED AN EMERGENCY MEASURE AND NOT A BASIC COMPONENT OF THE TESC SYSTEM. SEDIMENT TRACKED ONTO PAVED SURFACES SHALL NOT BE WASHED INTO STORM DRAINS OR OTHER UTILITY INLETS.
6. ALL EXPOSED EARTH SURFACES SHALL BE LANDSCAPED WITH SUITABLE VEGETATION TO PREVENT EROSION.

For Planning Survey, 360-658-9053

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DATE	10/22/07
SCALE	1" = 20'
DRAWN BY	EPE
APPROVED BY	PMA
PROJECT NUMBER	2128.00
DRAWING FILE	

REV #	DATE	REVISION

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COMMUNITY DESIGN PROCESS CONSTRUCTION MANAGEMENT
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PORTLAND, OREGON 97205
TEL: 503.222.5053 FAX: 503.227.5919

springline design LLC
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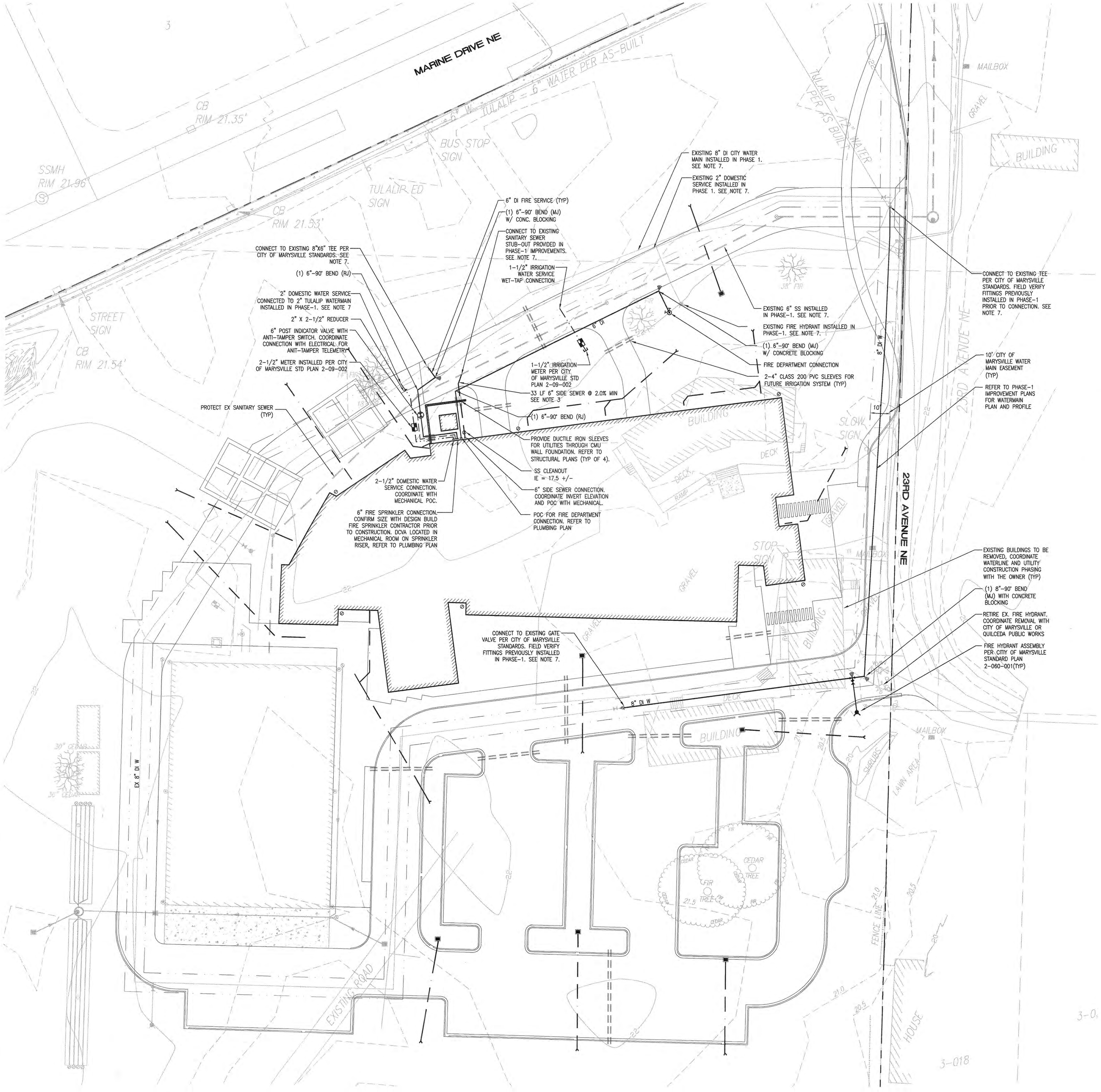
PETER M. APOSTOL — STATE OF WASHINGTON — 35163 — REGISTERED PROFESSIONAL ENGINEER — 12-24-07
EXPIRES: 01/15/09

HIBULB MUSEUM

GRADING AND DRAINAGE PLAN

C 3.0

TWP. 30 N., RNG 5 E., W.M.
SW 1/4 OF THE SW 1/4 OF SECTION 29,



20 0 20
SCALE: 1" = 20'

DATUM

NAVD88

LEGEND

- VALVE
- DOMESTIC WATER METER
- CLEANOUT (10 / C7.0)
- CONCRETE THURST BLOCK (8 / C7.0)
- WATER SERVICE LINE
- SANITARY SEWER
- WATER MAIN (9 / C7.0)

NOTES

1. SEE SHEET C1.0 FOR CITY OF MARYSVILLE GENERAL WATER AND SEWER NOTES..
2. FOR TYPICAL TRENCH SECTION, SEE DETAIL 9 SHEET C7.0.
3. ALL SANITARY SIDE SEWER PIPE SHALL BE 6" MIN. AND SLOPE AT A MINIMUM OF 2.0%, UNLESS NOTED OTHERWISE. PIPE SHALL BE PVC SDR 35, ASTM D3034.
4. PROVIDE 42" MIN. COVER OVER WATER LINES.
5. COORDINATE BLDG. SYSTEM CONNECTION LOCATIONS AND INVERT ELEVATIONS WITH PLUMBING CONTRACTOR. VERIFY THAT THERE ARE NO CONFLICTS WITH PROPOSED SYSTEMS AND OTHER UTILITIES.
6. WATER SUPPLIED FOR FIRE PROTECTION PROVIDED BY CITY OF MARYSVILLE WATER SUPPLY. WATER SUPPLIED FOR DOMESTIC USE SUPPLIED BY TULALIP TRIBES WATER SUPPLY.
7. FIELD VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONNECTION.
8. ADJUST ALL EXISTING UTILITY RIM COVERS TO FINISHED GRADE.
9. FDC CONNECTION PER CITY OF MARYSVILLE REQUIREMENTS.
10. PROVIDE 24" MINIMUM COVER OVER IRRIGATION SERVICES.
11. A STATE OF WASHINGTON LEVEL III FIRE PROTECTION SPRINKLER CONTRACTOR SHALL DESIGN AND PREPARE THE UNDERGROUND SUBMITTAL DRAWINGS PER THE STATE OF WASHINGTON WAC 212-80-043(9). A STATE OF WASHINGTON LEVEL U UNDERGROUND CONTRACTOR SHALL PERFORM THE INSTALLATION OF THE UNDERGROUND PIPING PER THE STATE OF WASHINGTON WAC 212-80-043(2).

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DATE 10/22/07 | SCALE 1" = 20' | DRAWN BY EFE | APPROVED BY PMA
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KAREN M. AGOSTON
STATE OF WASHINGTON
35183
REGISTERED PROFESSIONAL ENGINEER
10.22.07
EXPIRES: 01/15/09

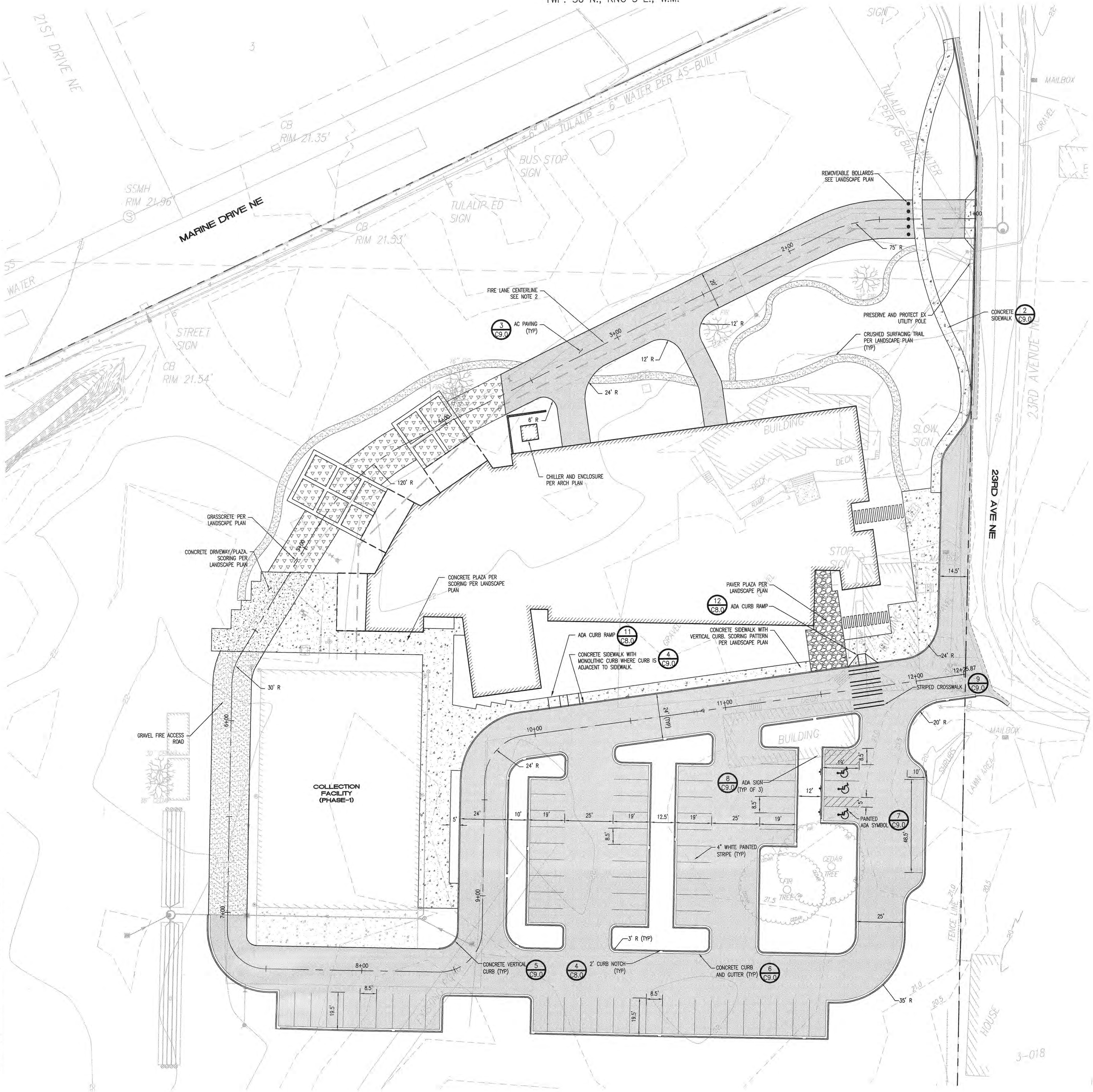
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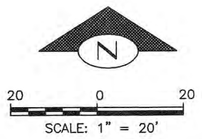
UTILITY PLAN

C4.0

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SW 1/4 OF THE SW 1/4 OF SECTION 29,
TWP. 30 N., RNG 5 E., W.M.





DATUM

NAVD88

LEGEND

- AC PAVING — 3 C9.0
- CONCRETE SIDEWALK — 2 C9.0
- CONCRETE DRIVEWAY
- GRAVEL PAVING — 1 C9.0
- GRASSCRETE PAVING

NOTES

1. SEE SHEET C1.0 FOR GENERAL NOTES.
2. SITE PLAN WILL BE PROVIDED TO CONTRACTOR IN AUTOCAD DRAWING FORMAT FOR LAYOUT OF IMPROVEMENTS.
3. REFER TO LANDSCAPE PLAN FOR CONCRETE SIDEWALK SCORING PATTERN, AND BUILDING PLAZA SURFACING MATERIALS.
4. REFER TO SHEET C6.0 FOR 23RD AVE PLAN AND PROFILE

PARKING STALL COUNT

ADA STALLS = 3 (1 VAN ACCESIBLE)
STANDARD STALLS = 63
TOTAL = 66

DATE	10/22/07
SCALE	1" = 20'
DRAWN BY	EFE
APPROVED BY	PMA

PROJECT NUMBER 2128.00

DRAWING FILE

DATE	REV #	REVISION

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Civil Engineering | Site Development | Planning
3131 Western Avenue, Suite 501 tel 206.667.6313
Seattle, WA 98121 fax 206.667.6313

TERRY M. APOSTOL STATE OF WASHINGTON 35163 REGISTERED PROFESSIONAL ENGINEER

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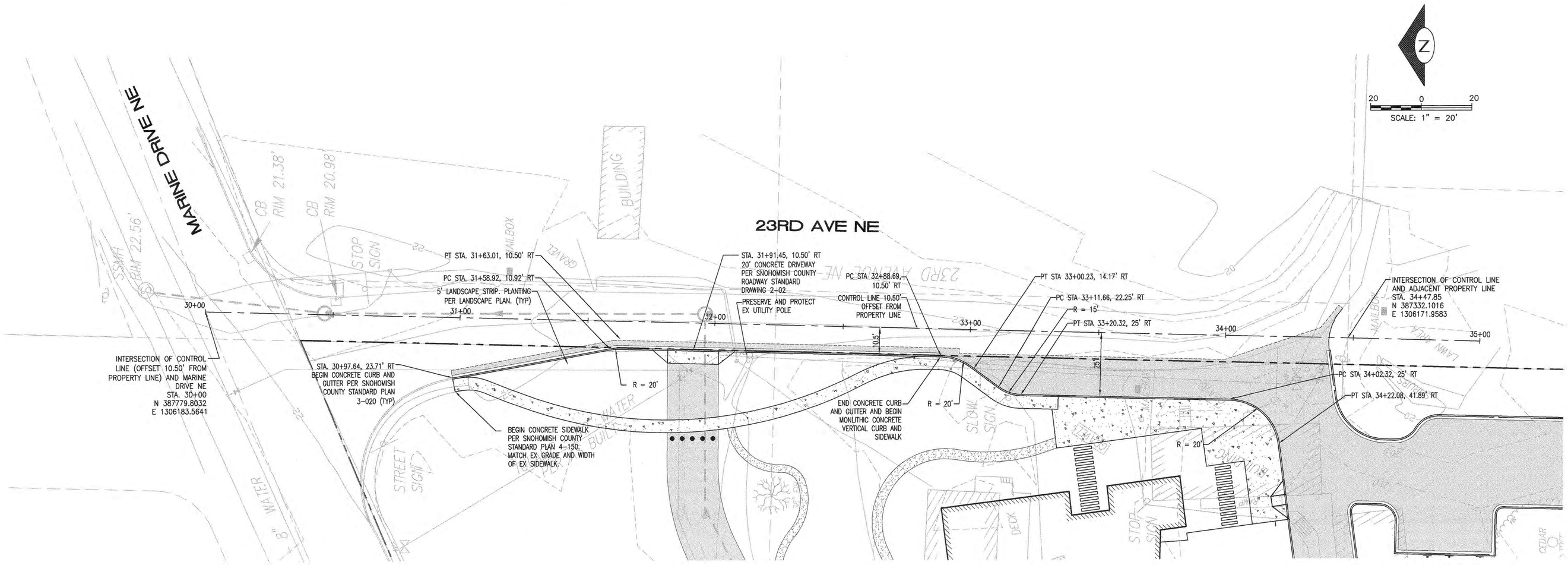
PAVING AND LAYOUT PLAN

C5.0

CALL 48 HOURS BEFORE YOU DIG! 1-800-424-5555

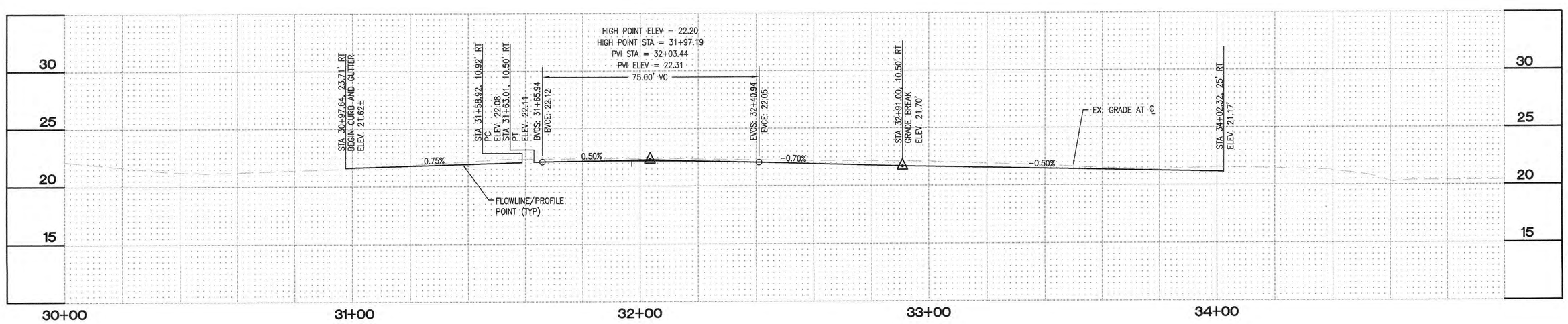
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SW 1/4 OF THE SW 1/4 OF SECTION 29,
TWP. 30 N., RNG 5 E., W.M.



20 0 20
SCALE: 1" = 20'

PLAN

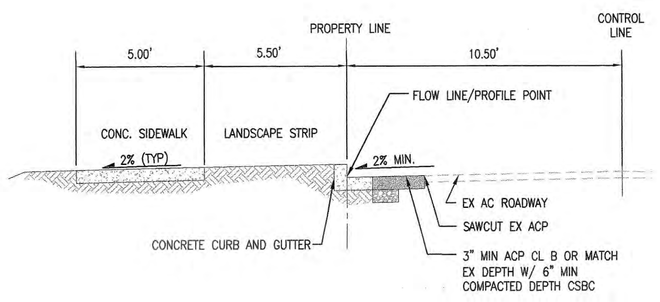


PROFILE

H: 1" = 20' V: 1" = 5'

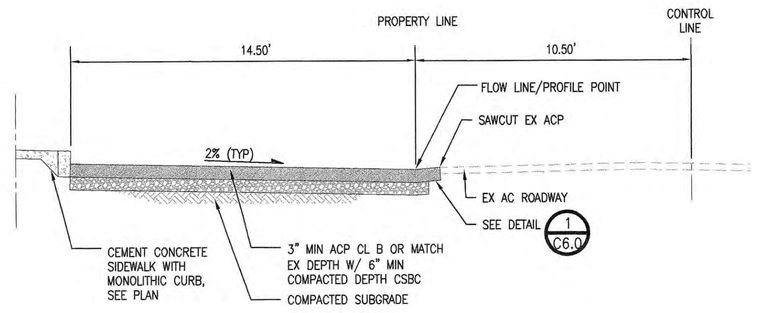
NOTES

1. COORDINATE WORK WITH ON-SITE IMPROVEMENTS.
2. AN AUTOCAD FILE WILL BE PROVIDED TO THE CONTRACTOR FOR LAYOUT.
3. COORDINATE EXTENTS OF DEMOLITION WORK WITH OWNER'S REPRESENTATIVE PRIOR CONSTRUCTION.



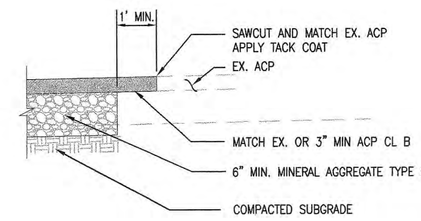
TYPICAL SECTION STA 31+59 – 32+89

NTS



TYPICAL SECTION STA 33+20 – 34+03

NTS



1 C6.0 ASPHALT PATCH DETAIL

NTS

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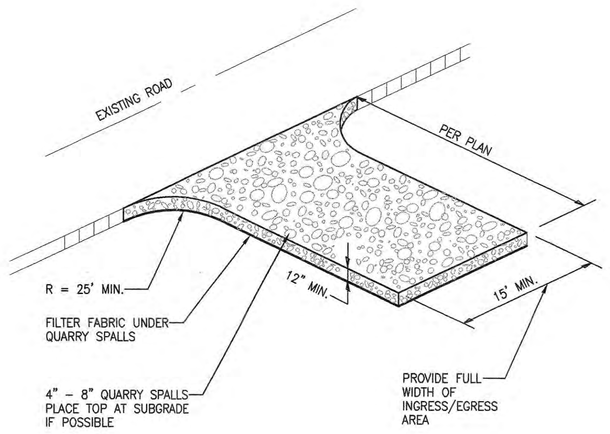
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Seattle, WA 98121 fax 206 957 8313

PETER M. ADOMOTIS
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
16267
EXPIRES: 01/15/09

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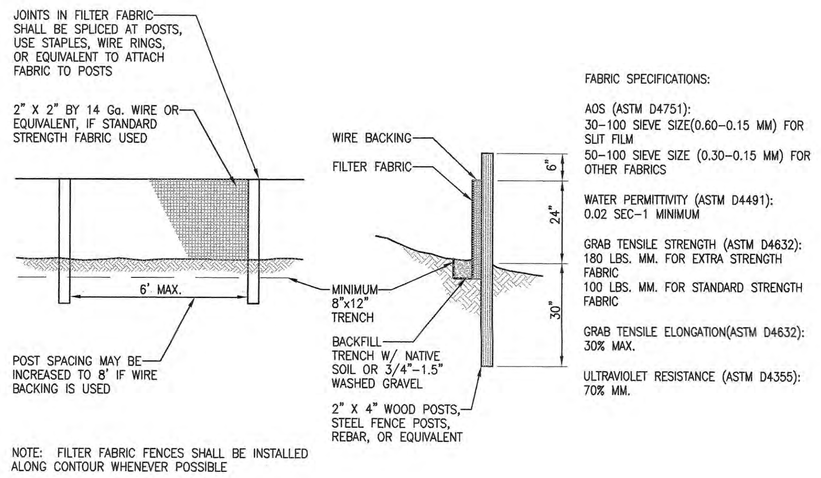
C6.0

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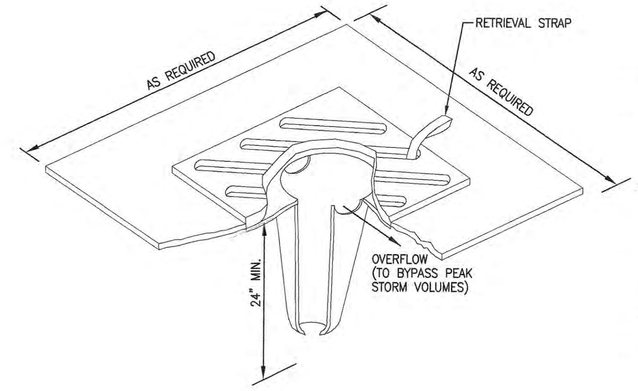
1 C7.0 CONSTRUCTION ENTRANCE

NTS



2 C7.0 FILTER FABRIC FENCE

NTS



DIRECTIONS FOR USE

- REMOVE DRAIN GRATE
- INSERT FILTER
- REPLACE GRATE TO HOLD IN POSITION

SPECIFICATIONS

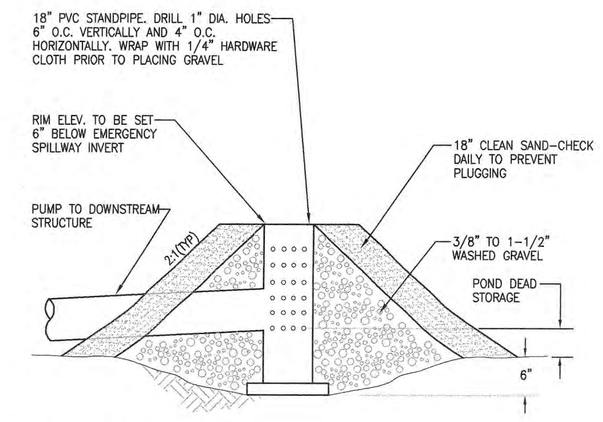
- FILTERS MINIMUM 24" DEEP
- CONSTRUCTED OF POLYPROPYLENE
- ALL SEAMS DOUBLE-STITCHED
- WATER FLOW RATE – 100 GALLONS PER MINUTE PER SQUARE FOOT

MAINTENANCE

- REMOVE WHEN FILLED TO HALF-WAY MARK (USE FRONT LOADER OR OTHER EQUIPMENT FOR REMOVAL)
- CLEAN AND RE-USE, OR REPLACE

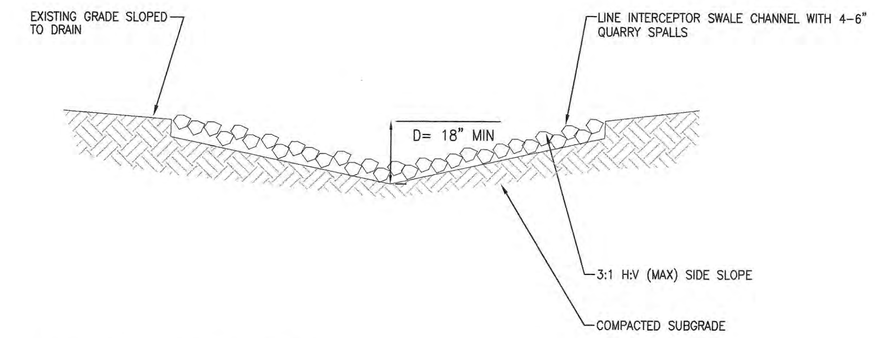
3 C7.0 CATCH BASIN PROTECTION

NTS



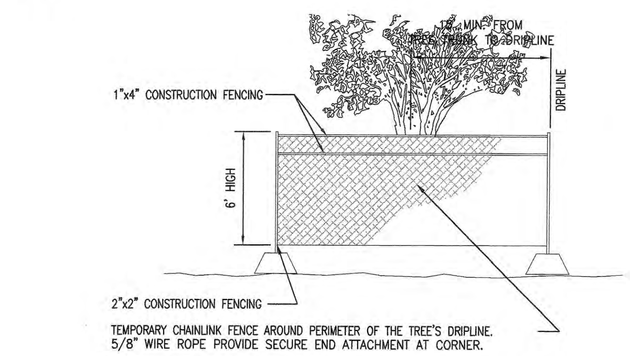
4 C7.0 SAND CONE FILTER

NTS



5 C7.0 INTERCEPTOR SWALE

NTS



TEMPORARY CHAINLINK FENCE AROUND PERIMETER OF THE TREE'S DRIPLINE. 5/8" WIRE ROPE PROVIDE SECURE END ATTACHMENT AT CORNER.

TREE PROTECTION DURING CONSTRUCTION

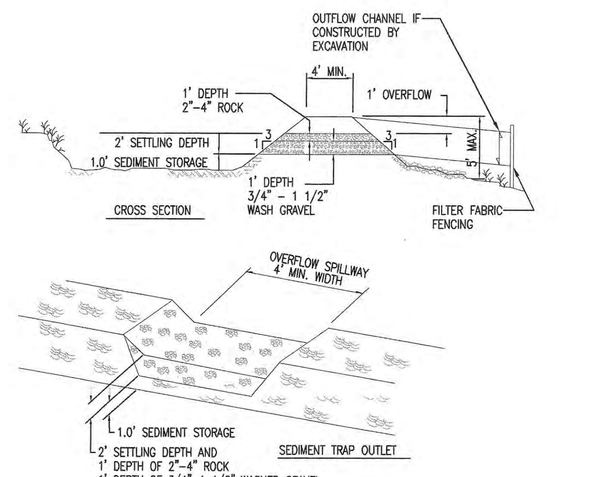
SIX FOOT HIGH TEMPORARY CHAINLINK FENCE SHALL BE PLACED AT DRIPLINE OF TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE TREE(S). INSTALL FENCE POSTS USING PIER BLOCKS ONLY AVOID DRIVING POSTS OR STAKES INTO ROOTS.

TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER 1" IN DIAMETER DAMAGED DURING CONSTRUCTION; MAKE A CLEAN, STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.

WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING.

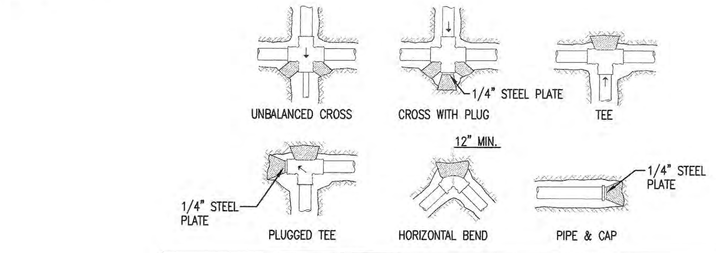
6 C7.0 TREE PROTECTION FENCING

NTS



7 C7.0 SEDIMENT TRAP

NTS



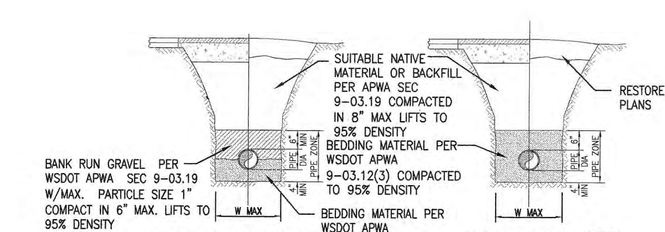
THRUST BLOCK AREA IN SQUARE FEET									
SOIL	FIRM SILT OR FIRM SILTY SAND			COMPACT SAND			COMPACT SAND & GRAVEL		
FITTINGS → / PIPE SIZE ↓	90° BEND	TEE, 45°BEND, CAP OR PLUG	11 1/4° AND 22 1/2° BEND	90° BEND	TEE, 45°BEND, CAP OR PLUG	11 1/4° AND 22 1/2° BEND	90° BEND	TEE, 45°BEND, CAP OR PLUG	11 1/4° AND 22 1/2° BEND
	7.0	4" 4.2	1.7	2.9	2.1	1.0	2.2	1.6	1.0
6"	13.3	9.4	3.8	6.7	4.7	1.9	5.0	3.5	1.4
8"	23.3	16.7	6.7	11.7	8.4	3.4	8.8	6.3	2.5
12"	53.0	37.5	15.0	26.5	18.8	7.5	20.0	14.0	5.6

AREAS CALCULATED ON 300PSI TEST PRESSURE AND 36" MIN. COVER OVER WATER MAIN

NOTE: ALL BLOCKING SHALL BE POURED AGAINST FIRM UNDISTURBED SOIL.

8 C7.0 CONCRETE THRUST BLOCKING

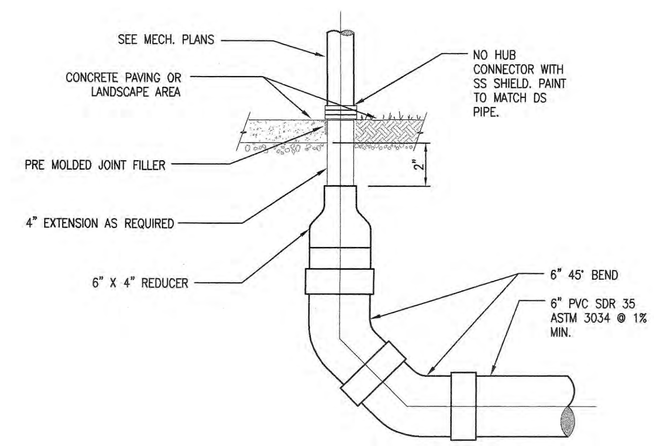
NTS



RIGID PIPE FLEXIBLE PIPE

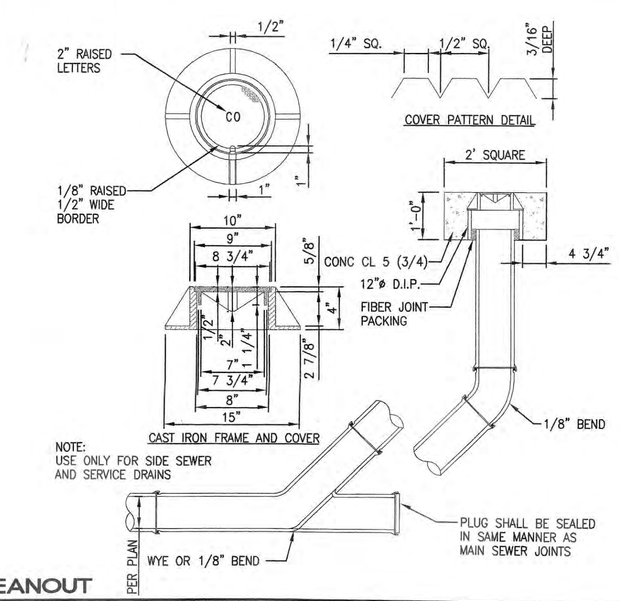
9 C7.0 TYPICAL TRENCH SECTION

NTS



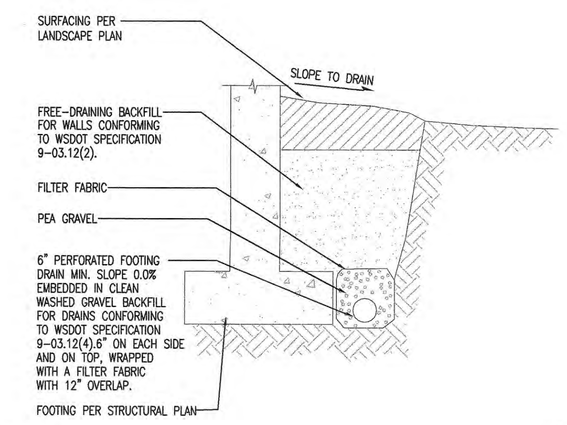
11 C7.0 DOWNSPOUT CONNECTION

NTS



10 C7.0 CLEANOUT

NTS



12 C7.0 FOOTING DRAIN

NTS

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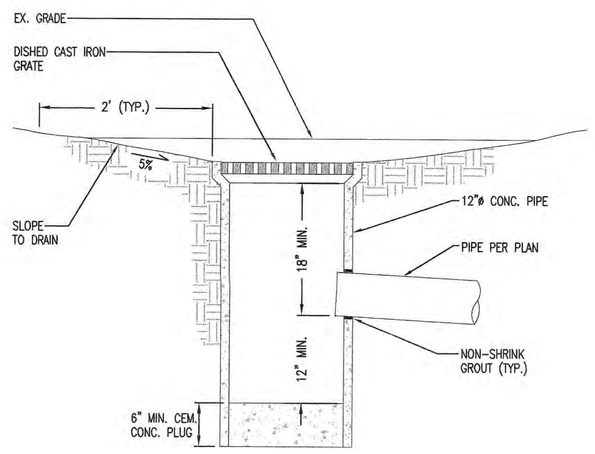
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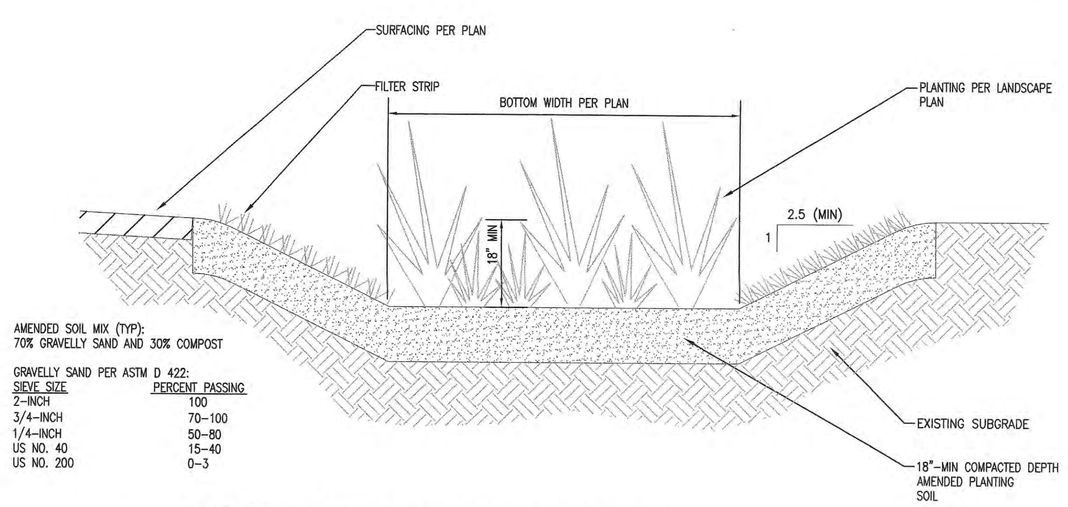
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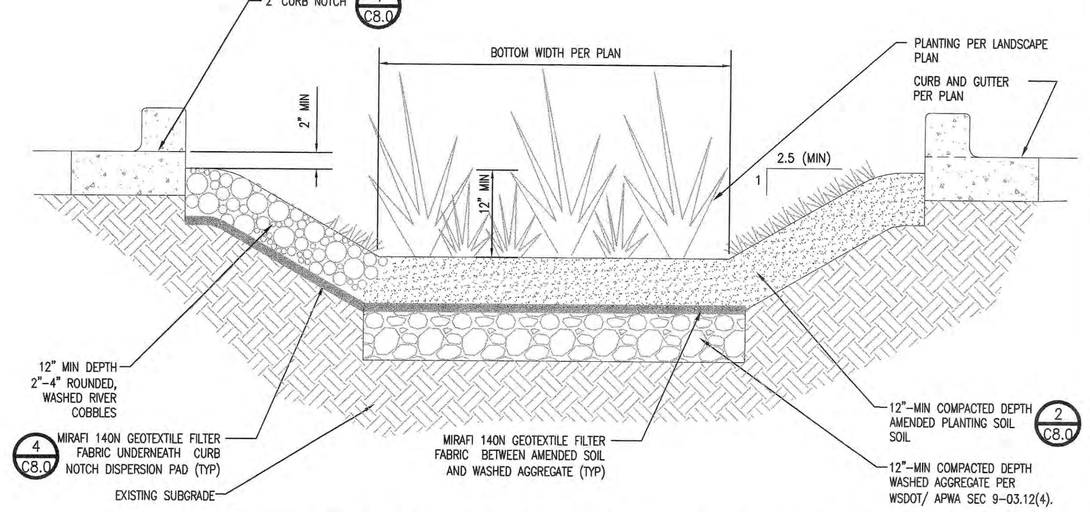
1 C8.0 AREA DRAIN

NTS



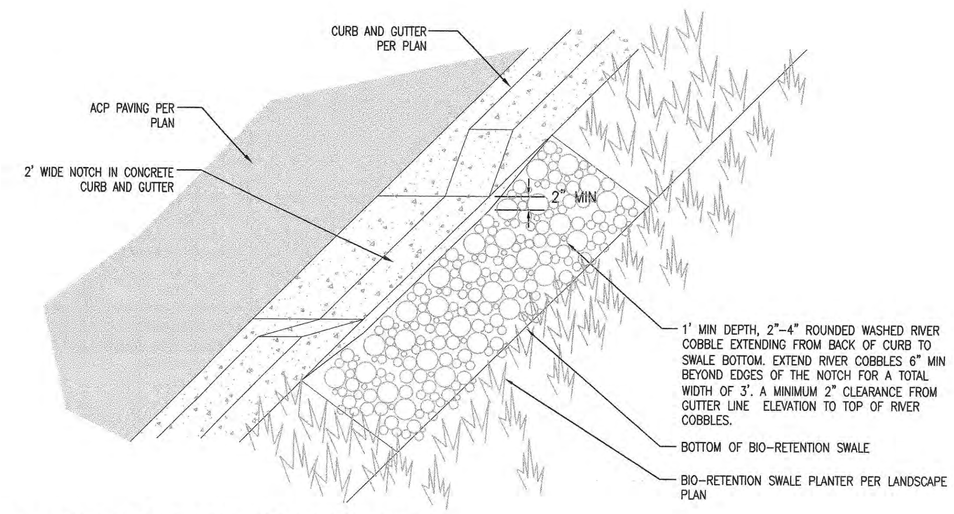
2 C8.0 TYPICAL BIORETENTION CELL SECTION

NTS



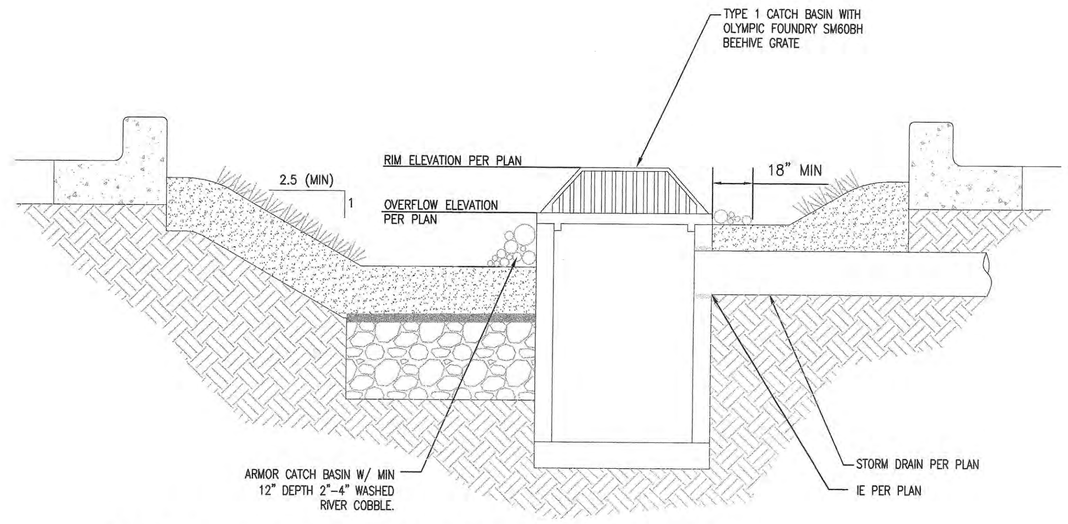
3 C8.0 PARKING ISLAND BIORETENTION CELL SECTION (CELLS 4, 5, AND 6)

NTS



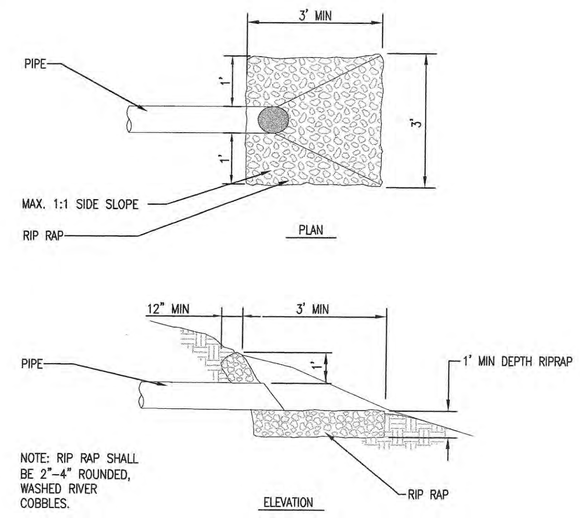
4 C8.0 CURB NOTCH DISPERSION PAD

NTS



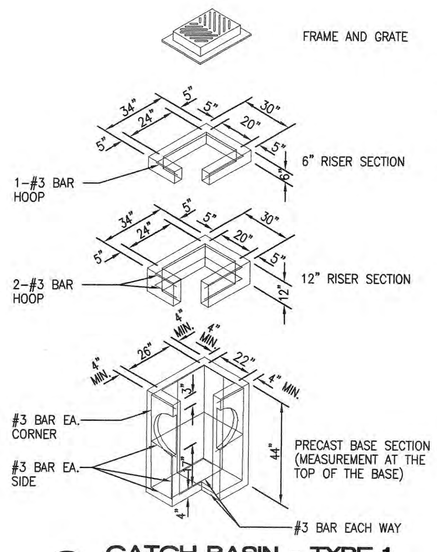
5 C8.0 BIO-RETENTION SWALE OVERFLOW STRUCTURE

NTS



6 C8.0 OUTLET PROTECTION

NTS



NOTES:

CATCH BASIN TO BE IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) & ASTM C 890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE STANDARD SPECIFICATIONS.

AS AN ACCEPTABLE ALTERNATE TO REBAR, WELDED WIRE FABRIC HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A 497 (AASHTO M 221). WIRE FABRIC SHALL NOT BE PLACED IN THE KNOCKOUTS.

THE BOTTOM OF THE PRECAST BASE MAY BE ROUNDED.

PRECAST BASES SHALL BE FURNISHED W/ CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM.

KNOCKOUTS MAY BE ON ALL 4 SIDES W/ MAXIMUM DIAMETER OF 20". KNOCKOUTS MAY BE EITHER ROUND OR "D" SHAPE. PIPE TO BE INSTALLED IN FACTORY SUPPLIED KNOCKOUTS.

KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS CATCH BASIN WALL THICKNESS.

THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".

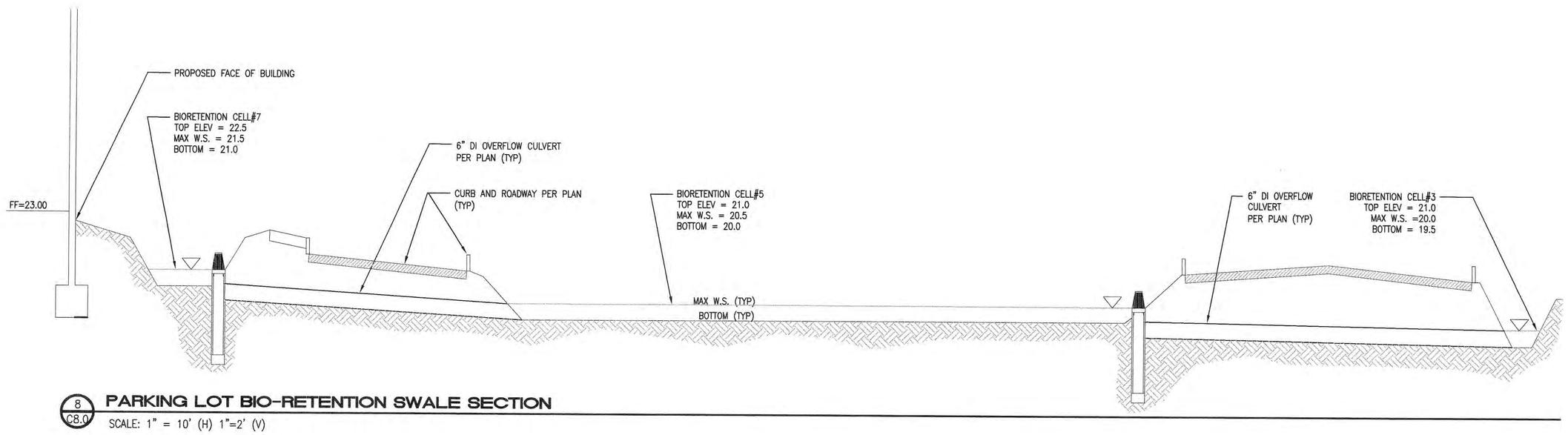
THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION & RISER SECTION SHALL NOT EXCEED 1/2"/FT.

CATCH BASIN FRAME & GRATE SHALL BE IN ACCORDANCE W/ STANDARD SPECIFICATIONS & MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-621D. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT.

FRAME & GRATE MAY BE INSTALLED W/ FLANGE DOWN OR CAST INTO RISER.

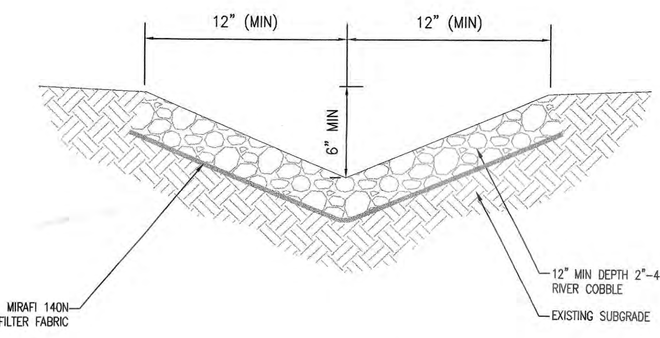
7 C8.0 CATCH BASIN - TYPE 1

NTS



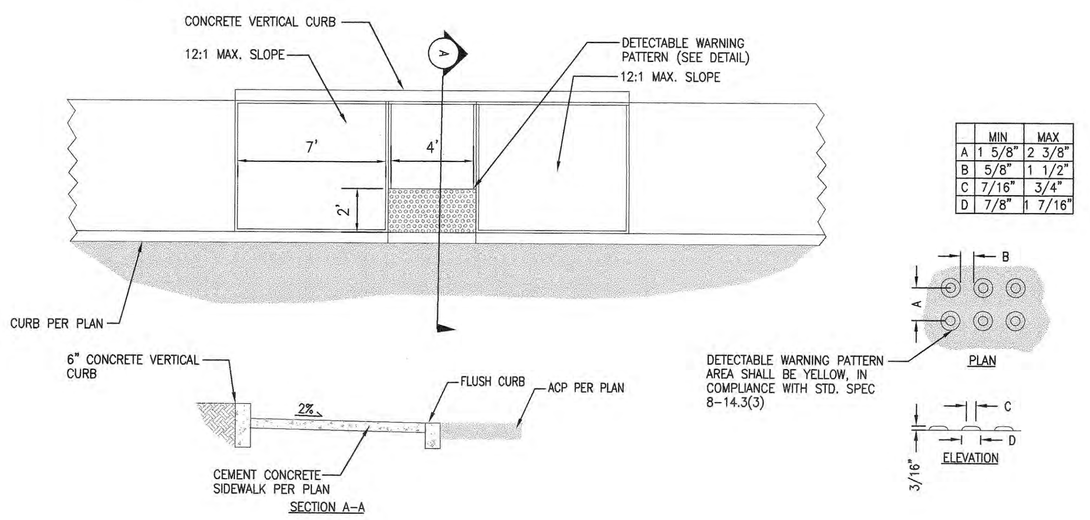
8 C8.0 PARKING LOT BIO-RETENTION SWALE SECTION

SCALE: 1" = 10' (H) 1"=2' (V)



10 C8.0 DOWNSPOUT DISPERSION PAD

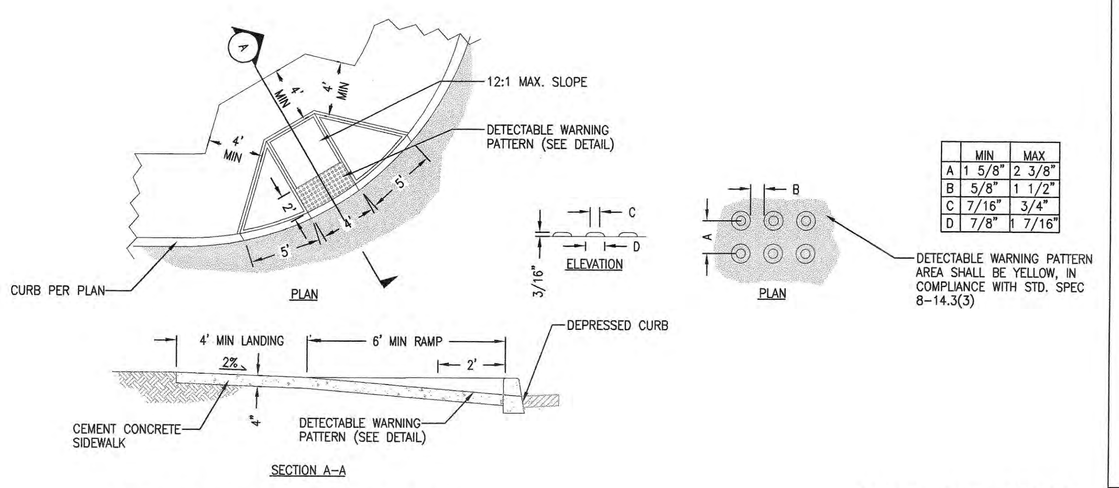
NTS



	MIN	MAX
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"

11 C8.0 ADA CURB RAMP TYPE 2

NTS



	MIN	MAX
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"

12 C8.0 ADA CURB RAMP TYPE 1

NTS

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DATE 10/22/07
SCALE 1" = 10'
DRAWN BY
APPROVED BY
PROJECT NUMBER 2128.00
DRAWING FILE

DATE	REV. #	REVISION

100% CONSTRUCTION DOCUMENTS

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STASTNYBRUN ARCHITECTS, INC. ● 813 SW ALDER STREET SUITE 200
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springline design LLC
Civil Engineering | Site Development | Planning
3131 Western Avenue, Suite 501 ph. 206.957.8311
Seattle, WA 98121 fax. 206.957.8313

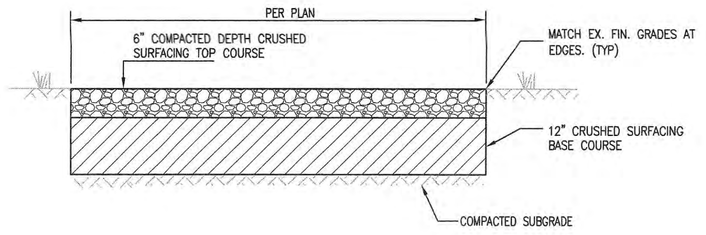
PETER M. APPLETON — STATE OF WASHINGTON — 35143 — REGISTERED PROFESSIONAL ENGINEER — 12-22-07
EXPIRES: 01/16/09

HIBULB MUSEUM

CIVIL DETAILS

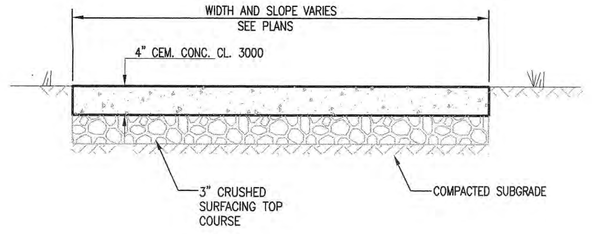
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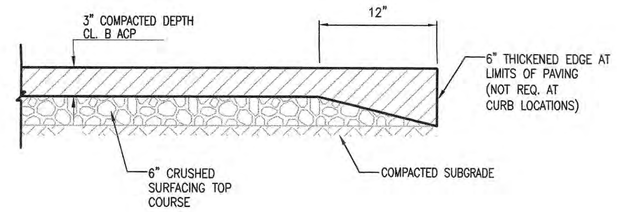
1 C9.0 GRAVEL FIRE ACCESS ROAD

NTS



2 C9.0 CEM. CONC. SIDEWALK

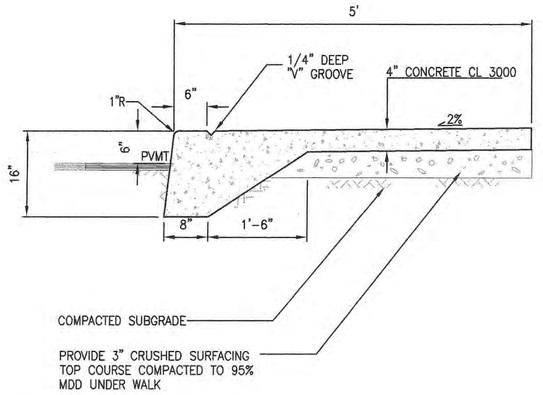
NTS



NOTE: ALL DEPTHS SHOWN ARE COMPACTED DEPTHS. ACP TO BE CONSTRUCTED IN TWO EQUAL LIFTS.

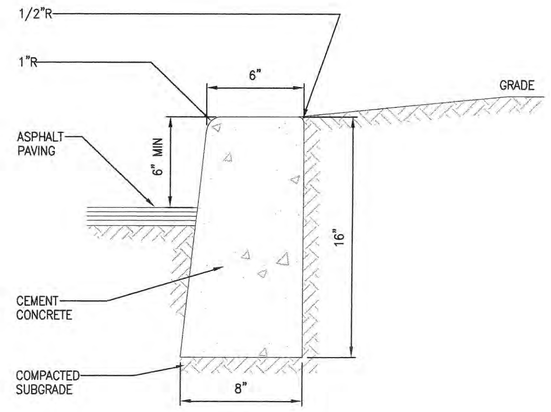
3 C9.0 ASPHALT CONCRETE PAVING

NTS



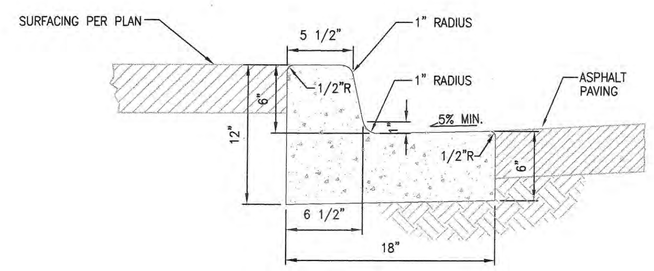
4 C9.0 MONOLITHIC CURB AND WALK

NTS



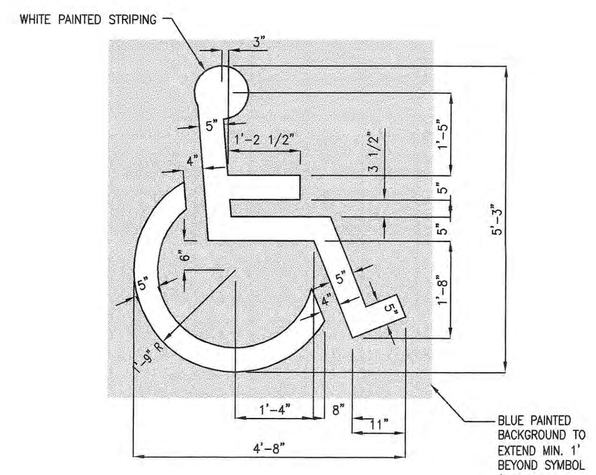
5 C9.0 CONCRETE VERTICAL CURB

NTS



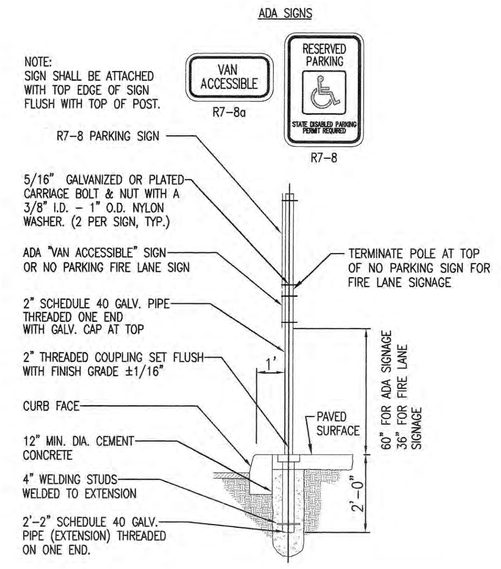
6 C9.0 CONCRETE CURB AND GUTTER

NTS



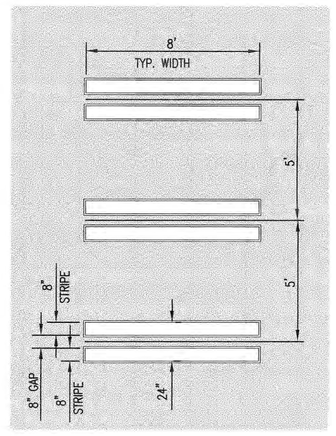
7 C9.0 ADA SYMBOL STRIPING

NTS



8 C9.0 ADA SIGN

NTS



9 C9.0 CROSSWALK STRIPING

NTS

10 C9.0 NOT USED

NTS

11 C9.0 NOT USED

NTS

12 C9.0 NOT USED

NTS

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DATE	10/22/07
SCALE	1" = 20'
DRAWN BY	EFE
APPROVED BY	PMA
PROJECT NUMBER	2128.00
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DATE	REV. #	REVISION

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tel 206 957 8311 fax 206 957 8313

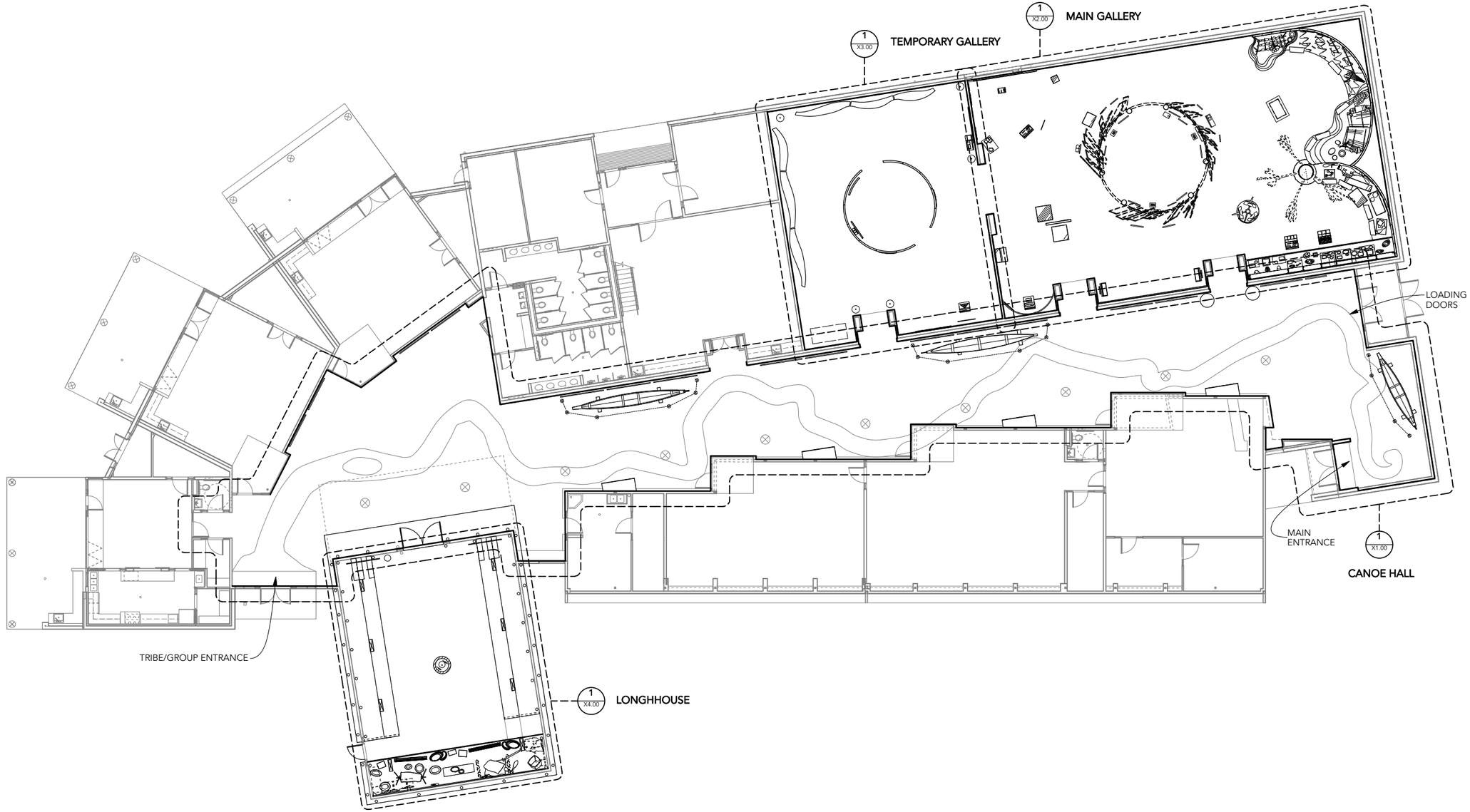
PETER M. APOSTOL STATE OF WASHINGTON 35163 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 01/15/09

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CIVIL DETAILS

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DRAWING LIST

N/A COVER PAGE / SYMBOLS LEGEND
X0.00 DRAWING LIST / REFERENCE PLAN

CANOE HALL
X1.00 EXHIBIT PLAN
X1.01 NORTH & WEST HALL ELEVATIONS
X1.02 SOUTH ELEVATION / WALL CASES DETAILS
X1.03 BANNER & CANOE MOUNT DETAILS

MAIN GALLERY
X2.00 EXHIBIT PLAN
X2.01 POWER & SIGNAL PLAN
X2.02 FINISHES PLAN
X2.03 ARTIFACTS / OBJECTS I.D. PLAN
X2.04 LAYOUT PLAN
X2.05 NORTH & EAST GALLERY ELEVATIONS
X2.06 SOUTH & WEST GALLERY ELEVATIONS
X2.07 (2.1) INTRODUCTION POLES DETAILS
X2.08 (2.2) CEDAR DETAIL PLAN
X2.09 (2.2) CEDAR LAYOUT PLAN

MAIN GALLERY CONTINUED
X2.10 (2.2) CEDAR NORTH & EAST ELEVATIONS
X2.11 (2.2) CEDAR DETAILS (CEDAR TREE REPLICA)
X2.12 (2.2) CEDAR BARK DOOR DETAILS
X2.13 (2.2) CEDAR ARTIFACT CASE ELEVATION
X2.14 (2.2) CEDAR ARTIFACT CASE SECTIONS
X2.15 (2.2) CEDAR ARTIFACT CASE I.D
X2.16 (2.2) CEDAR DECK & INTERACTIVES DETAILS
X2.17 (2.2) CEDAR DECK CASE DETAILS
X2.18 (2.3) SALMON DETAIL PLAN
X2.19 (2.3) SALMON LAYOUT PLAN
X2.20 (2.3) SALMON ELEVATIONS
X2.21 (2.3) SALMON DECK DETAILS
X2.22 (2.3) SALMON RIVER TABLE DETAILS
X2.23 (2.2/2.3) MURAL LAYOUT
X2.24 (2.2/2.3) GRAPHIC TYPICALS
X2.25 (2.4) LIFEWAYS PLAN & ELEVATION
X2.26 (2.4.4) AUTUMN DETAILS
X2.27 (2.4.3) SUMMER DETAILS
X2.28 (2.4.2) SPRING DETAILS
X2.29 (2.4.1) WINTER DETAILS

MAIN GALLERY CONTINUED
X2.30 (2.5) TEACHINGS DETAIL PLAN & ELEVATIONS
X2.31 (2.5) TEACHINGS ELEVATIONS & DETAILS
X2.32 (2.5) TEACHINGS ARTIFACT CASE DETAILS
X2.33 (2.6) SPORTS / CELEB. COMM. DETAIL PLAN & ELEVATIONS
X2.34 (2.6) SPORTS / CELEB. COMM. CASE DETAILS
X2.35 (2.7) LEADERSHIP DETAIL PLAN & ELEVATIONS
X2.36 TYPICAL CASE DETAILS
X2.37 TYPICAL DISPLAY STAND DETAILS
X2.38 (2.8/2.9/2.10/2.11) CENTRAL RING DETAIL PLAN
X2.39 (2.8/2.9/2.10/2.11) CENTRAL RING FLATTENED ELEVATIONS
X2.40 CENTRAL RING TYPICAL DETAILS & SECTION
X2.41 (2.11) CENTRAL RING MONITOR MOUNT DETAILS
X2.42 CENTRAL RING PANEL TYPICALS
X2.43 (2.11) CENTRAL RING CONTROL BLADES & OTOLITH DETAILS
X2.44 CENTRAL RING TYPICAL PANEL DETAILS
X2.45 CENTRAL RING CASE DETAILS

TEMPORARY GALLERY (WARRIORS: WE REMEMBER)
X3.00 EXHIBIT FLOOR PLAN
X3.01 POWER & SIGNAL PLAN
X3.02 FINISHES PLAN
X3.03 LAYOUT PLAN
X3.04 GALLERY ELEVAATIONS
X3.05 (3.1) THEATRE PLAN
X3.06 (3.1) THEATRE ELEVATIONS
X3.07 (3.1) THEATRE DETAILS
X3.08 (3.2) NORTH HONOR WALL DETAIL PLAN & ELEVATION
X3.09 (3.2) WEST HONOR WALL DETAIL PLAN & ELEVATION
X3.10 (3.2) HONOR WALL & RAIL TYPICAL DETAILS
X3.11 (3.2) HONOR WALL RAIL LAYOUT PLANS
X3.12 (3.4) GOLDSTAR DETAIL PLAN & ELEVATION
X3.13 (3.5) PENDLETON BLANKET DETAIL PLAN & ELEVATION

DRAWINGS FOR TEMPORARY GALLERY WERE ISSUED SEPARATELY OCTOBER 27TH 2009 SUBMISSION

LONGHOUSE
X4.00 EXHIBIT PLAN
X4.01 POWER & SIGNAL PLAN
X4.02 DETAIL PLAN & ELEVATION
X4.03 SECTION FACING WEST & DETAILS

LIGHTING PLANS
XL 2.00 MAIN GALLERY PLAN
XL 2.01 MAIN GALLERY TRACK LAYOUT
XL 2.00 MAIN GALLERY TRACK SIZE
XL 3.00 TEMPORARY GALLERY PLAN
XL 3.01 TEMPORARY GALLERY TRACK PLAN
XL 4.00 LONGHOUSE PLAN
XL 4.01 LONGHOUSE TRACK/CIRCUIT PLAN

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03		
02		
01		

PROJECT: NUMBER: 0213

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DRAWING TITLE:
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ORIENTATION PLAN / DRAWING LIST

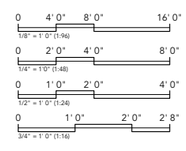
DATE OF ISSUE: NOVEMBER 2009

DRAWN BY: FA | CHECKED BY: RL

SHEET SIZE: ANSI D (34" X 22")

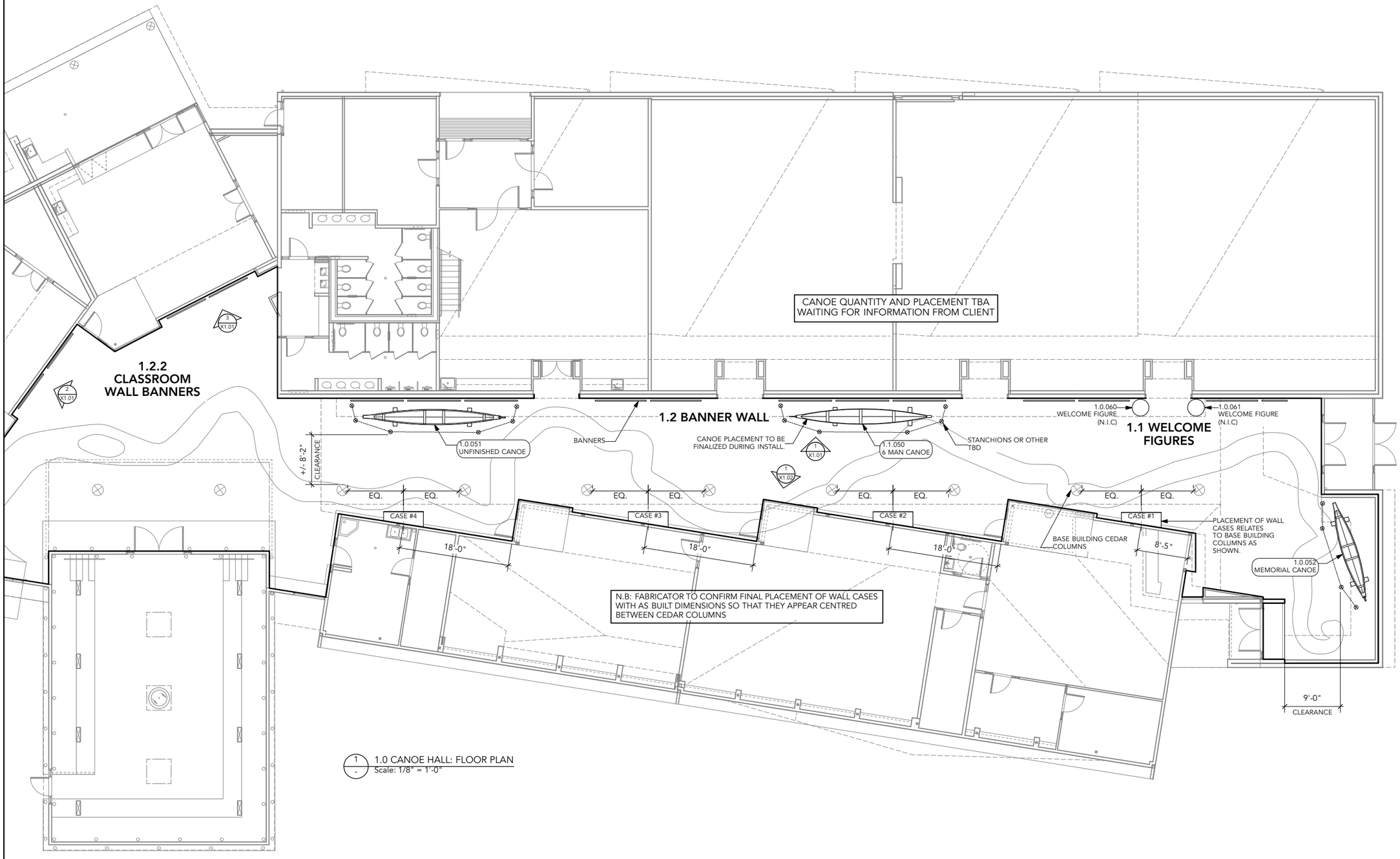
SCALE: 3/32" = 1'-0"

VERIFY SCALE:



SHEET:

X0.00



1 / - 1.0 CANOE HALL: FLOOR PLAN
Scale: 1/8" = 1'-0"

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PROJECT: NUMBER: 0213

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CANOE HALL
EXHIBIT PLAN

DATE OF ISSUE: NOVEMBER 2009

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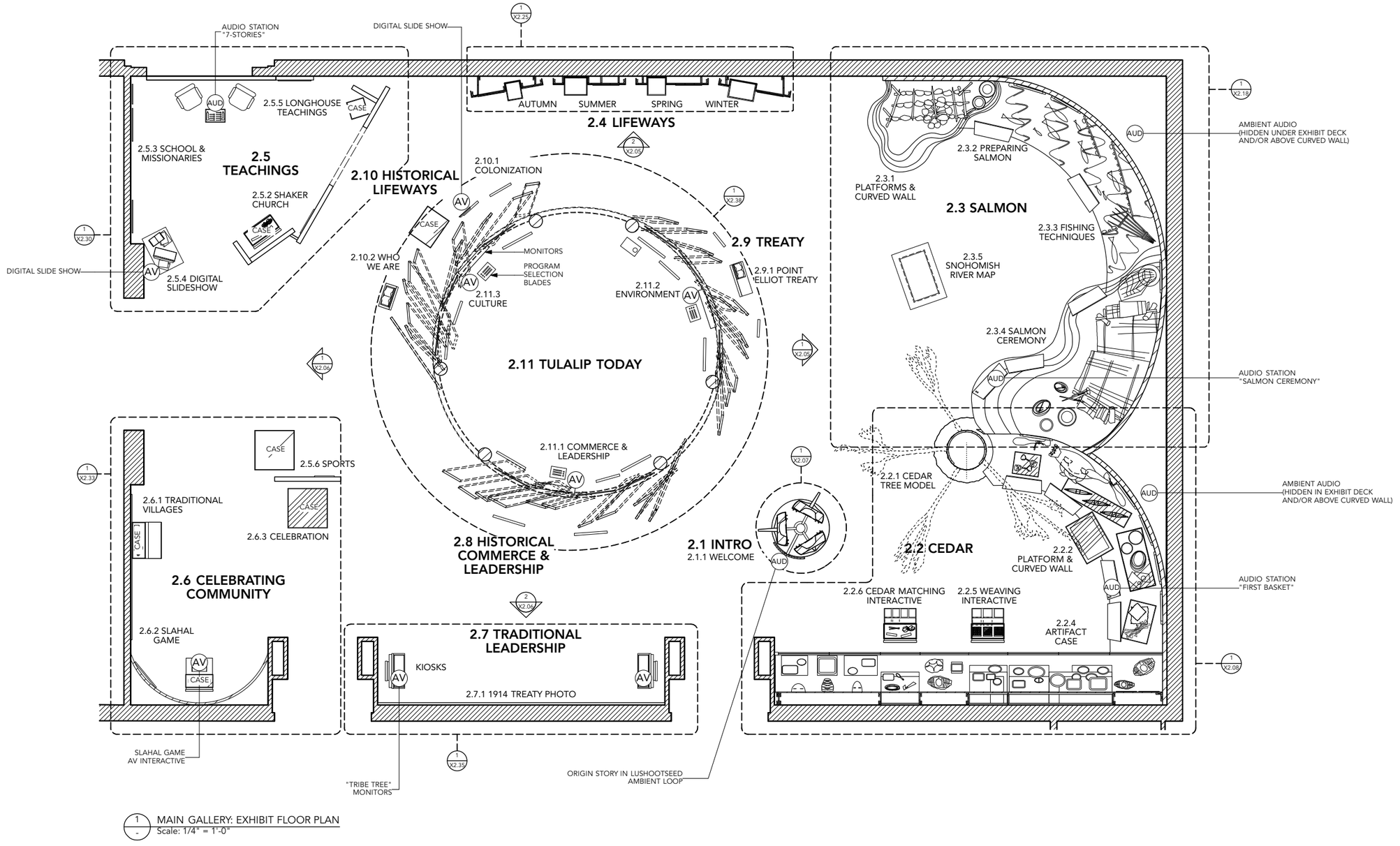
SCALE: 1/8" = 1'-0"

VERIFY SCALE:

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1/8" = 1'-0" (1:96)
0 2' 0" 4' 0" 8' 0"
1/4" = 1'0" (1:48)
0 1' 0" 2' 0" 4' 0"
1/2" = 1'-0" (1:24)
0 1' 0" 2' 0" 2' 8"
3/4" = 1'-0" (1:16)

SHEET:

X1.00



1 / - MAIN GALLERY: EXHIBIT FLOOR PLAN
Scale: 1/4" = 1'-0"

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PROJECT: NUMBER: 0213

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MAIN GALLERY
EXHIBIT PLAN

DATE OF ISSUE: NOVEMBER 2009

DRAWN BY: FA CHECKED BY: RL

SHEET SIZE: ANSI D (34" X 22")

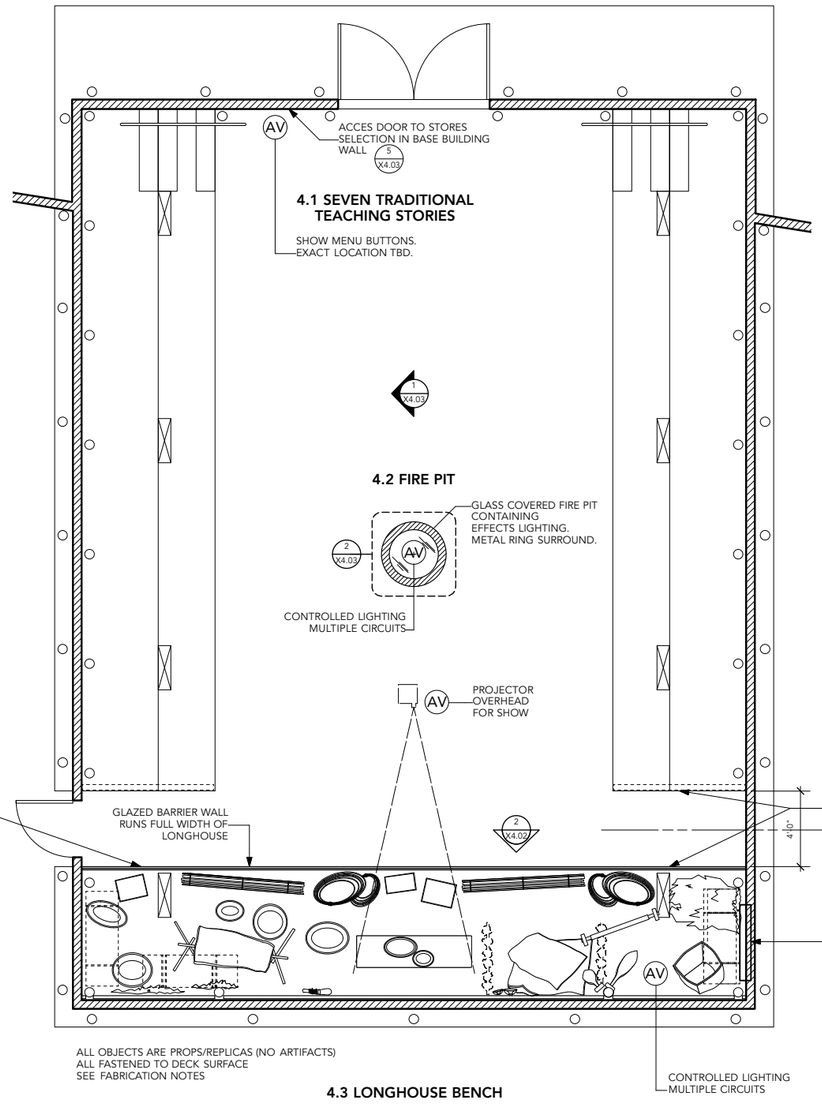
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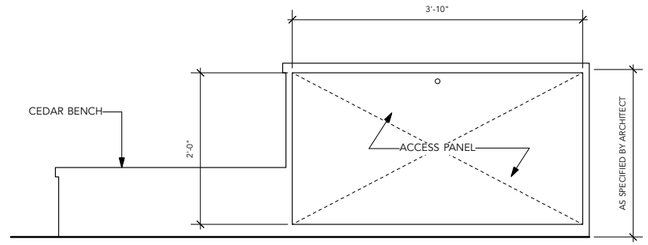
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1/8" = 1'-0" (1:96)
0 2' 0" 4' 0" 8' 0"
1/4" = 1'-0" (1:48)
0 1' 0" 2' 0" 4' 0"
1/2" = 1'-0" (1:24)
0 1' 0" 2' 0" 2' 8"
3/4" = 1'-0" (1:16)

SHEET:

X2.00



1 / - LONGHOUSE: EXHIBIT FLOOR PLAN
Scale: 1/4" = 1'-0"
X0.00



2 / - LONGHOUSE ACCESS PANEL: ELEVATION
Scale: 1" = 1'-0"

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PROJECT: NUMBER: 0213

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DRAWING TITLE:
LONGHOUSE
EXHIBIT FLOOR PLAN

DATE OF ISSUE: NOVEMBER 2009

DRAWN BY: FA | CHECKED BY: TL

SHEET SIZE: ANSI D (34" X 22")

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

VERIFY SCALE:

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1/8" = 1' 0" (1:96)
0 2' 0" 4' 0" 8' 0"
1/4" = 1'0" (1:48)
0 1' 0" 2' 0" 4' 0"
1/2" = 1' 0" (1:24)
0 1' 0" 2' 0" 2' 8"
3/4" = 1' 0" (1:16)

SHEET:
X4.00

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL (DOUBLE LINE)	DESCRIPTION	SYMBOL (SINGLE LINE)
(N)	NEW WORK	FC	FLEXIBLE CONNECTION	FC
(E)	EXISTING WORK TO REMAIN		FLEXIBLE DUCT RUNOUT TO DIFFUSER	
X X X X X X	EXISTING WORK TO BE REMOVED	12x6	DUCT SIZE (WIDTH X DEPTH)	12x6
HWS	HEATING WATER SUPPLY		DUCT THROUGH BEAM PENETRATION	
HWR	HEATING WATER RETURN	R D	DUCT OFFSET (RISE OR DROP)	R D
CHWS	CHILLED WATER SUPPLY	VD	VOLUME DAMPER	VD
CHWR	CHILLED WATER RETURN	SPD	SPLITTER DAMPER	SD
CDWS	CONDENSER WATER SUPPLY	ED	EXTRACTOR DAMPER	ED
CDWR	CONDENSER WATER RETURN	FD FSD	FIRE, OR FIRE–SMOKE DAMPER	FD FSD
HPS	HIGH PRESSURE STEAM		SUPPLY DUCT UP	
MPS	MEDIUM PRESSURE STEAM		SUPPLY DUCT DOWN	
LPS	LOW PRESSURE STEAM		EXHAUST DUCT UP	
HPC	HIGH PRESSURE CONDENSATE		EXHAUST DUCT DOWN	
MPC	MEDIUM PRESSURE CONDENSATE		RETURN DUCT UP	
LPC	LOW PRESSURE CONDENSATE		RETURN DUCT DOWN	
PC	PUMPED CONDENSATE		CROSS SECTION OF SUPPLY DUCT	
CR	CONDENSATE RETURN		CROSS SECTION OF EXHAUST AIR DUCT	
RD	REFRIGERANT DISCHARGE		CROSS SECTION OF RETURN AIR DUCT	
RS	REFRIGERANT SUCTION		CROSS SECTION OF ROUND DUCT	
BBD	BOILER BLOW DOWN		DUCT ELBOW WITH TURNING VANES	
	DIRECTION OF SLOPE		DUCT ELBOW WITHOUT TURNING VANES	
	DIRECTION OF FLOW	12x6	ACOUSTICAL LINING DUCT DIMENSION IS ID	12x6
SV	STEAM VENT PIPE	M	MOTORIZED DAMPER	M
	BALL VALVE	SIZE CFM TD	TRANSFER DUCT (WITH LINER)	SIZE CFM TD
	SOLENOID CONTROL VALVE	8'–11" BOD	INDICATES 8'11" TO BOTTOM OF DUCT	8'–11"BOD
	RELIEF VALVE, P&T RELIEF VALVE	NECK SIZE–TAG–CFM	ROUND OR SQUARE CEILING SUPPLY DIFFUSER (SEE SCHEDULE) 4–WAY THROW UNLESS INDICATED OTHERWISE.	NECK SIZE–TAG–CFM
	BUTTERFLY VALVE	NECK SIZE–TAG–CFM	ROUND OR SQUARE CEILING EXHAUST REGISTER (SEE SCHEDULE)	NECK SIZE–TAG–CFM
	MOTORIZED BUTTERFLY VALVE	NECK SIZE–TAG–CFM	ROUND OR SQUARE CEILING RETURN REGISTER (SEE SCHEDULE)	NECK SIZE–TAG–CFM
	GATE VALVE	NECK SIZE–TAG–CFM	ROUND OR SQUARE CEILING RETURN GRILLE (SEE SCHEDULE)	NECK SIZE–TAG–CFM
	ANGLE GATE VALVE	NECK SIZE–TAG–CFM	ROUND OR SQUARE CEILING RETURN GRILLE (SEE SCHEDULE)	NECK SIZE–TAG–CFM
	GLOBE VALVE	NECK SIZE–TAG–CFM	WALL SUPPLY REGISTER (SEE SCHEDULE)	NECK SIZE–TAG–CFM
	ANGLE GLOBE VALVE	NECK SIZE–TAG–CFM	WALL RETURN REGISTER (SEE SCHEDULE)	NECK SIZE–TAG–CFM
	CHECK VALVE	A	LINEAR SLOT DIFFUSER, "A" INDICATES SIZE	A
A	PNEUMATIC CONTROL VALVE		SUPPLY AIR LIGHT TROFFER DIFFUSER (TOP CONNECTION, SIDE CONNECTION)	
	2–WAY CONTROL VALVE	RHT	RADIANT HEATER	
	3–WAY CONTROL VALVE	BHT	BASEBOARD HEATER	
	NON–SLAM WAFER CHECK VALVE	CC	COOLING COIL	
PRV	PRESSURE REDUCING VALVE (PRV)	HC	HEATING COIL	
	DIAPHRAM VALVE		VARIABLE AIR VOLUME BOX	
	LOCK SHIELD VALVE		VARIABLE AIR VOLUME BOX W/REHEAT	
	NEEDLE VALVE	ST	SOUND TRAP	
	QUICK OPENING VALVE	SD	DUCT SMOKE DETECTOR	
	QUICK CLOSING VALVE, FUSIBLE LINK	AD/AP	ACCESS DOOR / ACCESS PANEL	
	SQUARE HEAD COCK	T	TEMPERATURE SENSING ELEMENT	
	STRAINER	H	HUMIDITY SENSING ELEMENT	
	STRAINER WITH BLOW OFF	1 / M–1	DETAIL 1, DRAWING M–1	
	STEAM TRAP	A / M–1	SECTION A, DRAWING M–1	
A	AIR LINE	HP / 1	EQUIPMENT IDENTIFICATION HEAT PUMP UNIT #1	
S	AIR SEPARATOR	EHX / 1	RISER IDENTIFICATION EXHAUST #1	
OFM–1	ORIFACE FLOW METER		DELTA	
VFM–1	VENTURE FLOW METER			
PG	PRESSURE GAGE			
PG	PRESSURE GAUGE WITH COCK AND SNUBBER			
T	THERMOMETER			
	PUMP			
TT	TEST TEE			
TT	TEST TAP (PETE'S PLUG)			
MV	MANUAL AIR VENT			
AAV	AUTOMATIC AIR VENT			
VB	VACUUM BREAKER			
VTR	VENT THRU ROOF			
PG	PIPE GUIDE			
EJ	EXPANSION JOINT			
FC	FLEXIBLE CONNECTOR			
	UNION			
	CAPPED OR PLUGGED TEE			
	BLIND FLANGE, CAP			
	CONCENTRIC REDUCER			
	ECCENTRIC REDUCER			
	EXPANSION LOOP			
	VALVE ON RISE			
	PIPE UP			
	PIPE DOWN			
D R	PIPE DROP/PIPE RISE			
	TOP CONNECTION – BRANCH LINE			
	BOTTOM CONNECTION – BRANCH LINE			
	PIPE ANCHOR			
	TEE UP			
	TEE DOWN			
	PIPE SEISMIC BRACE			
LP HP	GAS, LOW PRESSURE/HIGH PRESSURE			
HB HB	HOSE BIBB			
	GAS COCK			
	CIRCUIT SETTER			
	CENTER LINE			

ABBREVIATIONS

A	AIR	KW	KILOWATT
AAV	AUTOMATIC AIR VENT	KWH	KILOWATT HOUR
AC	AIR CONDITIONING OR AC UNIT		
AD	ACCESS DOOR	L	LENGTH
AF	AFTER FILTER	LAT	LEAVING AIR TEMPERATURE
AFF	ABOVE FINISHED FLOOR	LBS	POUNDS
AFMS	AIR FLOW MEASURING STATION	LDB	LEAVING DRY BULB TEMPERATURE
AG	AIR GAP	LF	LINEAR FEET
AHU	AIR HANDLING UNIT	LPC	LOW PRESSURE CONDENSATE
AMP	AMPERE	LPS	LOW PRESSURE STEAM
AP	ACCESS PANEL	LWBT	LEAVING WET BULB TEMPERATURE
APPROX	APPROXIMATELY	LWT	LEAVING WATER TEMPERATURE
ARCH	ARCHITECT		
AS	AIR SEPARATOR	M	MOTOR
AUTO	AUTOMATIC	MA	MIXED AIR
		MAD	MIXED AIR DAMPER
B	BOILER	MAX	MAXIMUM
BBD	BOILER BLOW DOWN	MBH	THOUSAND BTU PER HOUR
BHP	BRAKE HORSEPOWER	MCC	MOTOR CONTROL CENTER
BHT	BASEBOARD HEATER	MD	MOTORIZED DAMPER
BMCS	BUILDING MONITORING & CONTROL SYSTEM	MECH	MECHANICAL
		MER	MECHANICAL EQUIPMENT ROOM
BOD	BOTTOM OF DUCT	MFR	MANUFACTURER
BOP	BOTTOM OF PIPE	MIN	MINIMUM
BP	BACKFLOW PREVENTER	MPC	MEDIUM PRESSURE CONDENSATE
BSMT	BASEMENT	MPS	MEDIUM PRESSURE STEAM
BTU	BRITISH THERMAL UNIT	MV	MANUAL VENT
BTUH	BTU PER HOUR	MVD	MOTORIZED VOLUME DAMPER
BV	BALL VALVE OR BALANCING VALVE		
BYV	BUTTERFLY VALVE	(N)	NEW
		N/A	NOT APPLICABLE
C	COMMON OR CONDUIT	NC	NORMALLY CLOSED
CA	CONTROL AIR	NIC	NOT IN CONTRACT
CAP	CAPACITY	NO OR #	NUMBER OR NORMALLY OPEN
CAV	CONSTANT AIR VOLUME	NPSH	NET POSITIVE SUCTION HEAD
CC	COOLING COIL	NTS	NOT TO SCALE
CEG	CEILING EXHAUST GRILLE		
CER	CEILING EXHAUST REGISTER	OA	OUTSIDE AIR
CFM	CUBIC FEET PER MINUTE	OAD	OUTSIDE AIR DAMPER
CFS	CUBIC FEET PER SECOND	OAT	OUTSIDE AIR TEMPERATURE
CH	CHILLER	OBD	OPPOSED BLADE DAMPER
CHV	CHECK VALVE	OC	ON CENTER
CL	CENTERLINE	OD	OUTSIDE DIAMETER
CLG	CEILING	OFM	ORIFICE FLOW METER
CO	CLEANOUT	OSA	OUTSIDE AIR
COL	COLUMN	OV	OUTLET VELOCITY
CONC	CONCRETE		
COND	CONDENSATE	P	PUMP OR PRESSURE OR POLE
CONN	CONNECTION	PC	PUMPED CONDENSATE
CP	CONTROL PANEL OR CONDENSATE PUMP	PD	PRESSURE DROP
CPF	CHEMICAL POT FEEDER	PF	PREFILTER
CR	CONDENSATE RETURN	PFF	PLUG FOR FUTURE
CRR	CEILING RETURN REGISTER	PG	PIPE GUIDE OR PRESSURE GAUGE
CS	CIRCUIT SETTER	PH	PHASE (ELECTRICAL)
CSD	CEILING SUPPLY DIFFUSER	PHC	PREHEAT COIL
CTE	CONNECT TO EXISTING	PLBG	PLUMBING
CU FT	CUBIC FEET	POC	POINT OF CONNECTION
CU IN	CUBIC INCH	PRESS	PRESSURE
CV	CONSTANT VOLUME OR CONTROL VALVE	PRV	PRESSURE REDUCING VALVE
CW	COLD WATER	PS	PRESSURE SENSOR
		PSI	POUNDS PER SQUARE INCH
D	DROP OR DRAIN	PSIA	PSI ABSOLUTE
DBT	DRY BULB TEMPERATURE	PSIG	PSI GAUGE
DDC	DIRECT DIGITAL CONTROL	PV	PLUG VALVE
DEFL	DEFLECTION		
DGP	DATA GATHERING PANEL	QTY	QUANTITY
DIA	DIAMETER		
DIFF	DIFFERENCE	R	RISERS OR RELOCATE OR RISE
DN	DOWN	RA	RETURN AIR
DP	DIFFERENTIAL PRESSURE	RAD	RETURN AIR DAMPER
DPT	DEW POINT TEMPERATURE	RD	REFRIGERANT DISCHARGE OR ROOF DRAIN
DSD	DUCT SMOKE DETECTOR		
DV	DIAPHRAGM VALVE	REQ'D	REQUIRED
DWG	DRAWING(S)	REV.	REVISE OR REVISION OR REVOLUTIONS
DX	DIRECT EXPANSION		
		RF	RETURN FAN
(E)	EXISTING	RH	RELATIVE HUMIDITY
EA	EXHAUST AIR OR EACH	RHC	REHEAT COIL
EAD	EXHAUST AIR DAMPER	RHT	RADIANT HEATER
EAT	ENTERING AIR TEMPERATURE	RM	ROOM
ECON	ECONOMIZER		
ED	EXTRACTOR DAMPER	RPM	REVOLUTIONS PER MINUTE
EDB	ENTERING DRY BULB TEMPERATURE	RS	REFRIGERANT SUCTION
EF	EXHAUST FAN		
EFF	EFFICIENCY	S	SUPPLY OR SLOPE
EJ	EXPANSION JOINT	SA	SHOCK ABSORBER
EL	ELEVATION	SAD	SEE ARCHITECTURAL DRAWINGS
ELEC	ELECTRICAL	SCFM	CFM, STANDARD CONDITIONS
EMS	ENERGY MANAGEMENT SYSTEM	SD	SMOKE DAMPER
EQUIP	EQUIPMENT	SF	SUPPLY FAN
ESP	EXTERNAL STATIC PRESSURE	SHC	SQUARE HEAD COCK
EWBT	ENTERING WET BULB TEMPERATURE	SN	SHEET NOTE
EWT	ENTERING WATER TEMPERATURE	SP	STATIC PRESSURE
EX	EXISTING	SPEC	SPECIFICATIONS
EXH	EXHAUST	SQ IN	SQUARE INCH
EXPT	EXPANSION TANK	ST	STRAINER OR SOUND TRAP
EXT	EXTERNAL	STD	SPLITTER DAMPER OR STANDARD
		STRUCT	STRUCTURAL
F	FAHRENHEIT OR FILTER	SV	STEAM VENT
FC	FLEXIBLE CONNECTION		
FCU	FAN COIL UNIT	T	THERMOMETER OR THERMOSTAT
FD	FIRE DAMPER	TCP	TEMPERATURE CONTROL PANEL
FF	FINAL FILTER OR FINISHED FLOOR	TD	TRANSFER DUCT
FLR	FLOOR	TDH	TOTAL DYNAMIC HEAD
FPM	FEET PER MINUTE	TEMP	TEMPERATURE
FPS	FEET PER SECOND	TI	TENANT IMPROVEMENT
FSD	FIRE/SMOKE DAMPER	TRG	TRANSFER GRILLE
FT	FOOT OR FEET	TS	TEMPERATURE SENSOR
		TT	TEST TAP OR TEST TEE
G	GAS	TX	TOILET EXHAUST
GA	GAUGE, GAGE	TXV	THERMAL EXPANSION VALVE
GAL	GALLONS	TYP	TYPICAL
GALV	GALVANIZED		
GC	GAS COCK	U	HEAT TRANSFER COEFFICIENT
GLV	GLOBE VALVE	UG	UNDERGROUND
GN	GENERAL NOTE	UON	UNLESS OTHERWISE NOTED
GPM	GALLONS PER MINUTE		
GRD	GROUND	V	VENT OR VOLT OR VELOCITY
GV	GATE VALVE	VAV	VARIABLE AIR VOLUME
GX	GENERAL EXHAUST	VB	VACUUM BREAKER
		VD	VOLUME DAMPER
H	HEIGHT	VEL	VELOCITY
HB	HOSE BIB	VERT	VERTICAL
HC	HEATING COIL	VFD	VARIABLE FREQUENCY DRIVE
HD	HEAD	VFM	VENTURI FLOW METER
HOR	HORIZONTAL	VOL	VOLUME
HP	HORSEPOWER OR HEAT PUMP	VTR	VENT THROUGH ROOF
HPC	HIGH PRESSURE CONDENSATE		
HPS	HIGH PRESSURE STEAM		
HR	HOUR(S)	W	WASTE OR WIDTH OR WATTS
HS	HUMIDITY SENSOR	W/	WITH
HV	HOSE VALVE	W/O	WITHOUT
HVAC	HEATING, VENTILATING & AIR COND.	WBT	WET BULB TEMPERATURE
HW	HOT WATER	WEG	WALL EXHAUST GRILLE
HWR	HOT WATER RETURN	WG	WATER GAUGE
HWS	HOT WATER SUPPLY	WP	WORKING PRESSURE
HX	HEAT EXCHANGER	WRR	WALL RETURN REGISTER
HZ	FREQUENCY (HERTZ)	WSR	WALL SUPPLY REGISTER
		WT	WEIGHT
ID	INSIDE DIAMETER		
IN	INCH(ES)	XFMR	TRANSFORMER
JB	JUNCTION BOX	Z	ZONE

HVAC DESIGN CRITERIA

HVAC DESIGN CRITERIA

I. OUTDOOR DESIGN TEMPERATURE
- A. SUMMER: 81.2°DB / 63.7° WB (ASHRAE 1% SEATTLE)
- B. WINTER: 28.4° F (ASHRAE 1% SEATTLE)

II. INDOOR DESIGN TEMPERATURE
- A. OFFICES / WORK AREAS / RETAIL / AUDITORIUM
  - COOLING: 72° F ± 2° F
  - HEATING: 68° F ± 2° F
- B. CLASSROOMS / ENTRY AREAS / CORRIDORS
  - COOLING: 72° F ± 2° F
  - HEATING: 68° F ± 2° F
- C. TOILET ROOMS
  - COOLING: 72° F ± 2° F
  - HEATING: 68° F ± 2° F
- D. EXHIBIT SPACES
  - COOLING: 68° F ± 2° F
  - HEATING: 65° F ± 2° F
- D. HUMIDITY CONTROL – EXHIBIT SPACES AND CANOE HALL: 45% RH
- E. ELECTRICAL ROOMS: 10° F ABOVE PLENUM TEMPERATURE

III. VENTILATION
- A. OFFICE: 20 CFM/PERSON
- B. CLASSROOMS: 15 CFM/PERSON
- C. EXHIBIT AREAS: 15 CFM/PERSON
- D. RETAIL: 0.30 CFM/SQ.FT.
- E. RECORDS: 15 CFM/PERSON
- F. LOBBIES: 15 CFM/PERSON
- G. CORRIDORS: 0.05 CFM/SQ.FT.
- H. AUDITORIUM: 15 CFM/PERSON

IV. EXHAUST TO OUTDOORS
- A. TOILET ROOMS: 75 CFM PER WATERCLOSET/URINAL

V. BUILDING ENVELOPE
- A. GLAZING:
  1. VERTICAL (ALL FLOORS): U = .55 / SHGC = .45
  2. OVERHEAD: U = .70 / SHGC = .45
- B. WALL CONSTRUCTION:
  1. R–19 INSULATION
- C. ROOF: R–21 INSULATION

VI. INTERNAL HEAT GAIN INFORMATION
- A. LIGHTING: 1 W / SQ.FT.
- B. 30% OF LIGHTING HEAT TO RETURN PLENUM
- C. RECEPTACLE POWER: 1.5 W/SQ.FT.
- D. OCCUPANTS: 245 BTUH SENSIBLE / 205 LATENT

VII. OCCUPANCY (VENTILATION & HEAT GAIN)
- A. OFFICE: 7 PEOPLE / 1000 SQ.FT.
- B. CLASSROOMS: 50 PEOPLE / 1000 SQ.FT.
- C. EXHIBIT AREAS: 20 PEOPLE / 1000 SQ.FT.
- D. RETAIL: 100 SQ.FT. / PERSON
- E. RECORDS: 20 PEOPLE / 1000 SQ.FT.
- F. LOBBIES: 30 PEOPLE / 1000 SQ.FT.
- G. CORRIDORS: 100 SQ.FT. / PERSON
- H. AUDITORIUM: 120 PEOPLE / 1000 SQ.FT.

VIII. DUCTWORK DESIGN CRITERIA
- A. ALL DUCTWORK: 0.08" WG LOSS / 100 FT.
- B. EXHAUST VELOCITY: 1500 FPM MAX.

MECHANICAL DRAWING LIST

M0.1	COVER SHEET – MECHANICAL
M0.2	SCHEDULES – MECHANICAL
M0.3	NREC FORMS – MECHANICAL
M1.1	ZONING DIAGRAM – MECHANICAL
M2.1	HVAC FLOOR PLAN – MECHANICAL
M2.2	HVAC ROOF PLAN – MECHANICAL
M3.1	PIPING FLOOR PLAN – MECHANICAL
M4.1	MEZZANINE PLANS – MECHANICAL
M5.1	SECTIONS – MECHANICAL
M5.2	SECTIONS – MECHANICAL
M6.1	DIAGRAMS – MECHANICAL
M7.1	DETAILS – MECHANICAL
M7.2	DETAILS – MECHANICAL

Attachment F.3

DATE	SCALE	DRAWN BY	APPROVED BY
07/13/07	AS SHOWN	MLS	JFT

PROJECT NUMBER 2128

DRAWING FILE 2128 CD

REVISION	REV. #	DATE
UPDATED FOR PERMIT	01	10/26/07

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TULALIP MUSEUM

COVER SHEET - MECHANICAL

M0.1

Production Dept	Project Manager	Project Engineer

FAN COIL UNIT SCHEDULE (ELECTRIC)

TAG	DESIGN BASIS	AREA SERVED	FAN			COOLING COIL						HEATING COIL				MOTOR							CONTROL VALVE	OPERATING WEIGHT	NOMINAL UNIT SIZE LxWxH	NOTES
			CFM	ESP (IN WG)	HP	TOTAL (MBH)	SENS (MBH)	EAT (DB/WB)	LAT (DB/WB)	EWT/LWT (°F)	WATER PD	GPM	TOTAL MBH	EAT (DB)	LAT (DB)	KW	VOLT/ PHASE	LOAD (MCA)	STARTER DIV 15	STARTER DIV 16	DISCONNECT DIV 15	DISCONNECT DIV 16	POWER SOURCE	SINGLE PT CONN		(LBS)	(IN)	
FCU-1	TRANE BCXC	RETAIL	1150	1.25	0.75	35.8	29.0	75/61	51.41/50.29	45/55	16.84	7.62	24.2	56	75.79	6.5	460/3	12.08	X	–	–	X	STANDBY	Y	3-WAY	220	48x45x18.5	1,2,3,4,5,7
FCU-2	TRANE BCXC	CANOE HALL	1600	1.40	1.50	34.4	30.8	70/58	51.67/50.29	45/55	15.77	7.34	16.7	60	70.14	4.0	460/3	9.28	X	–	–	X	STANDBY	Y	3-WAY	220	48x45x18.5	1,2,3,4,5,7
FCU-3	TRANE BCXC	MAIN EXHIBIT	2775	2.00	3.00	61.6	52.5	72/59	52.25/50.63	45/55	5.52	14.20	55.6	53	71.73	14.0	460/3	27.37	X	–	–	X	STANDBY	Y	3-WAY	350	54x53x28.5	1,2,3,4,6,7
FCU-4	TRANE BCXC	TEMPORARY EXHIBIT	2730	2.00	3.00	60.5	51.6	72/59	52.21/50.60	45/55	5.38	14.01	55.5	54	72.99	14.0	460/3	27.37	X	–	–	X	STANDBY	Y	2-WAY	350	54x53x28.5	1,2,3,4,6,7
FCU-5	TRANE BCXC	MAIN EXHIBIT	2820	2.00	3.00	62.9	52.0	72/59	52.31/50.67	45/55	5.65	14.39	59.2	54	73.63	15.0	460/3	28.94	X	–	–	X	STANDBY	Y	2-WAY	350	54x53x28.5	1,2,3,4,6,7
FCU-6	TRANE BCXC	EXHIBIT PREP	1450	1.35	0.75	25.7	21.4	72/61	56.07/54.78	45/55	1.06	5.67	37.1	54	79.55	11.0	460/3	19.15	X	–	–	X	STANDBY	Y	3-WAY	250	51x45x22.5	1,2,3,4,5,7
FCU-7	TRANE BCXC	TRIBAL/GROUP ENTRY	2450	2.00	3.00	60.6	57.0	74/61	52.68/51.09	45/55	6.03	14.93	75.0	51	81.19	22.0	460/3	39.93	X	–	–	X	STANDBY	Y	2-WAY	350	54x53x28.5	1,2,3,4,6,7
FCU-8	TRANE BCXC	TRIBAL/GROUP ENTRY	1810	1.85	1.50	41.2	37.5	73/61	53.60/52.27	45/55	3.89	9.73	23.2	62	73.81	5.5	460/3	11.64	X	–	–	X	STANDBY	Y	3-WAY	250	51x45x22.5	1,2,3,4,5,7
FCU-9	TRANE BCXC	CLASSROOM 2	1130	1.80	1.00	28.7	25.3	75/61	52.54/51.11	45/55	4.29	6.80	21.3	56	76.65	6.5	460/3	12.46	X	–	–	X	STANDBY	Y	3-WAY	220	48x45x18.5	1,2,3,4,5,7
FCU-10	TRANE BCXC	CLASSROOM 1	1150	1.80	1.00	29.2	25.8	75/61	52.58/51.14	45/55	4.40	6.90	21.5	56	76.33	6.5	460/3	12.46	X	–	–	X	STANDBY	Y	2-WAY	220	48x45x18.5	1,2,3,4,5,7
FCU-11	TRANE BCXC	KITCHEN/LUNCH	1750	1.25	1.00	45.1	39.0	72/60	51.56/50.64	45/55	4.33	9.54	64.9	35	70.85	19.0	460/3	32.09	X	–	–	X	STANDBY	Y	3-WAY	300	51x53x22.5	1,2,3,4,5,7
FCU-12	TRANE BCXC	LONGHOUSE	1340	0.95	0.75	40.6	33.9	78/63	51.93/51.11	45/55	3.68	9.43	49.8	44	78.37	14.0	460/3	23.87	X	–	–	X	STANDBY	Y	2-WAY	250	51x45x22.5	1,2,3,4,5,7
FCU-13	TRANE BCXC	JANITOR/TELE	785	0.75	0.50	18.0	17.7	72/60	51.24/50.43	45/55	1.90	4.33	6.3	67	74.38	1.5	460/3	3.86	X	–	–	X	STANDBY	Y	2-WAY	220	48x45x18.5	1,2,3,4,5,7
FCU-14	TRANE BCXC	ADMINISTRATION	1830	1.85	1.50	38.2	35.2	73/61	53.61/52.28	45/55	3.92	9.78	22.8	63	74.76	5.5	460/3	11.64	X	–	–	X	STANDBY	Y	2-WAY	250	51x45x22.5	1,2,3,4,5,7
FCU-15	TRANE BCXC	A/V	750	0.40	0.5	21.7	19.4	75/62	52.87/51.91	45/55	4.06	4.56	–	–	–	–	460/3	1.50	X	–	–	X	STANDBY	Y	2-WAY	170	44x28x18.5	1,3,4

NOTES:
1–SEE DETAIL 4/M7.2.
2–PROVIDE 100% AIR ECONOMIZER CAPABILITY.
3–SEE DETAILS 7/M7.1 AND 7/M7.1.
4–PROVIDE CONDENSATE OVERFLOW SWITCH.
5–PROVIDE FILTER BOX.
6–PROVIDE FILTER/MIXING BOX.
7–PROVIDE 2–STAGE HEATING.

AIR COOLED CHILLER SCHEDULE

TAG	DESIGN BASIS	LOCATION	AREA SERVED	CAPACITY	EVAPORATOR				ELECTRICAL CHARACTERISTICS											NOTES
					WATER FLOW (GPM)	EWT (°F)	LWT (°F)	WATER PD (FEET)	VOLT/ PHASE	CIRCUIT #1 LOAD MCA	CIRCUIT #2 LOAD MCA	STARTER DIV 15	STARTER DIV 16	DISCONNECT DIV 15	DISCONNECT DIV 16	VFD	POWER SOURCE	SINGLE POINT CONN	IPLV	OPERATING WEIGHT (LBS)	NOMINAL UNIT SIZE LxWxH (IN)	
CH-1	MCQUAY AGZ 055B	GROUND	–	52.2	130	45	55	8	460/3	55	65	X	–	–	X	N	STANDBY	N	14.1	5,000	95x88x101	1,2,3

NOTES:
1–PROVIDE VIBRATION ISOLATION.
2–REFRIGERANT TO BE R–22.
3–SEE DETAIL 1/M7.1.

PUMP SCHEDULE

TAG	DESIGN BASIS	LOCATION	SYSTEM SERVED	TYPE	SUCTION DIAMETER	DISCHARGE DIAMETER	IMPELLER DIAMETER	GPM	HEAD	EFFICIENCY	MOTOR RPM	MOTOR VOLT/ PHASE	MOTOR HP	STARTER DIV 15	STARTER DIV 16	DISCONNECT DIV 15	DISCONNECT DIV 16	VFD	POWER SOURCE	SINGLE PT CONN	OPERATING WEIGHT	NOMINAL UNIT SIZE LxWxH	NOTES
					(IN)	(IN)	(IN)		(FEET)	(%)											(LBS)	(IN)	
CHWP-1	BELL & GOSSETT 2½x2½x9½	MECHANICAL ROOM	COOLING	IN-LINE	2.5	2.5	9.125	130	80	65	1750	460/3	5	–	–	X	–	Y	STANDBY	Y	310	21.5x30.5x13.5	1,2

NOTES:
1–SEE DETAIL 2/M7/1.
2–PROVIDE VIBRATION ISOLATION.

FAN SCHEDULE

TAG	DESIGN BASIS	LOCATION	SYSTEM SERVED	DISCHARGE	FAN CFM	FAN TSP	FAN TYPE	FAN SIZE	FAN RPM	FAN BHP	MOTOR HP	MOTOR VOLT/ PHASE	STARTER DIV 15	STARTER DIV 16	DISCONNECT DIV 15	DISCONNECT DIV 16	VFD	POWER SOURCE	OPERATING WEIGHT (LBS)	NOTES
EF-1	GREENHECK CUBE-141HP-7	ROOF	KITCHEN	UPBLAST	1250	0.80	UPBLAST	–	1725	0.45	3/4	208/3	X	–	–	X	N	NORMAL	120	2,3,4,5,6
EF-2	GREENHECK GB-071-6	ROOF	M/W	CENTRIFUGAL	75	0.25	CENT.	–	1725	0.01	1/6	115/1	X	–	X	–	N	NORMAL	75	1,3,4,5,6
EF-3	GREENHECK GB-101-3	ROOF	MEN'S/WOMEN'S	CENTRIFUGAL	1050	1	CENT.	–	1725	0.33	0.5	208/3	X	–	–	X	N	NORMAL	90	1,3,4,5,6
EF-4	GREENHECK GB-131-7	ROOF	EXHIBIT PREP	CENTRIFUGAL	500	0.75	CENT.	–	1725	0.14	1/6	115/1	X	–	–	X	N	STANDBY	75	1,3,4,5,6
EF-5	GREENHECK GB-101HP-4	ROOF	M/W-JANITOR	CENTRIFUGAL	415	1.5	CENT.	–	1725	0.14	1/4	115/1	X	–	–	X	N	NORMAL	90	1,3,4,5,6
RF-1	GREENHECK BSQ-180-20	CEILING	RELIEF	CENTRIFUGAL	4500	0.6	CENT.	–	1725	1.31	2	208/3	–	–	–	X	Y	STANDBY	300	3,5,6,7

NOTES:
1–SEE DETAIL 8/M7.2.
2–SEE DETAIL 9/M7.2.
3–INSTALL IN COMPLIANCE WITH MECHANICAL AND ELECTRICAL CODE REQUIRED WORKING CLEARANCES.
4–PROVIDE ROOF CURB.
5–PROVIDE BACKDRAFT DAMPERS.
6–PROVIDE STANDARD INSULATED HOUSING.
7–SEE DETAIL 4/M7.2.

DIFFUSER SCHEDULE

TAG	DESIGN BASIS	DESCRIPTION	MODULE SIZE	FACE	MATERIAL	NOTES
B	TITUS PMC	CEILING DIFFUSER	24x24	PERFORATED	STEEL	1,2,3,4
D	TITUS PMC	CEILING DIFFUSER	12x12	PERFORATED	STEEL	1,2,3,4
M	TITUS ML–38 W/ MPI–38	LINEAR SLOT DIFFUSER	4' LONG W/ INSULATED PLENUM	2–SLOT, 3/4" WIDTH	STEEL	1,2,3,4
N	TITUS ML–38 W/ MPI–38	LINEAR SLOT DIFFUSER	4' LONG W/ INSULATED PLENUM	2–SLOT, 3/4" WIDTH	STEEL	1,2,3,4
Q	TITUS 272RS	SIDEWALL SUPPLY GRILLE	SEE DRAWING	3/4" SPACING, DOUBLE DEFLECTION	STEEL	1,2,3,4
T	TITUS PAR	RETURN/EXHAUST/TRANSFER GRILLE	24x24	PERFORATED	STEEL	1,2,3,4
U	TITUS PAR	RETURN/EXHAUST/TRANSFER GRILLE	12x12	PERFORATED	STEEL	1,2,3,4
V	TITUS 25RL	SIDEWALL RETURN/EXHAUST/TRANSFER GRILLE	SEE DRAWING	1/2" SPACING, 30 DEG DEFLECTION	STEEL	1,2,3,4
CC	TITUS CT–480	RETURN GRILLE	3' LONG x 6" HIGH W/ PLENUM	1/4" SPACING, 0 DEG DEFLECTION	ALUM CORE, ALUM BORDER	1,2,3,4
DD	TITUS PAR	RETURN/EXHAUST/TRANSFER GRILLE	16x16	PERFORATED	STEEL	1,2,3,4
EE	TITUS ML–39 W/ MPI–39	LINEAR SLOT DIFFUSER	4' LONG W/ INSULATED PLENUM	2–SLOT, 1" WIDTH	STEEL	1,2,3,4

NOTES:
1–MAX TOTAL PRESSURE TO BE 0.1" WG.
2–MAX NC TO BE 35.
3–COORDINATE COLOR WITH ARCHITECT.
4–REVIEW ARCHITECTURAL REFLECTED CEILING PLANS FOR BORDER TYPES.

AIR SEPARATOR SCHEDULE

TAG	DESIGN BASIS	LOCATION	SYSTEM SERVED	GPM	WATER PD (FEET)	INLET SIZE (IN)	OUTLET SIZE (IN)	OPERATING WEIGHT (LBS)	NOMINAL UNIT SIZE LxWxH (IN)	NOTES
AS-1	B&G R-4	MECH 108	COOLING	130	5	3	3	250	–	1,2,3,4

NOTES:
1–HANG FROM STRUCTURE ABOVE
2–PROVIDE DIRT LEG.
3–PROVIDE STRAINER.
4–SEE DETAIL 5/M7.1.

EXPANSION TANK SCHEDULE

TAG	DESIGN BASIS	LOCATION	SYSTEM SERVED	TYPE	TOTAL VOLUME (GAL)	ACCEPT-ANCE VOLUME (GAL)	FILL PRESSURE (PSIG)	RELIEF VALVE SETTING (PSIG)	SYSTEM VOLUME (GAL)	AVERAGE WATER TEMP (°F)	OPERATING WEIGHT (LBS)	NOMINAL UNIT SIZE DIAxL (IN)	NOTES
ET-1	B&G HFT-30	MECH 108	COOLING	DIAPHRAGM	2.5	1.4	12	45	368	50	20	11x16	1,2,3

NOTES:
1–ANCHOR TO HOUSEKEEPING PAD.
2–SEE DETAIL 5/M7.1.
3–ASME RATED FOR 125 PSIG, UNLESS NOTED OTHERWISE.

HUMIDIFIERS

SYMBOL	DESIGN BASIS	SYSTEM SERVED	CAPACITY LBS/HR	KW	POWER SOURCE	LVG. CONDITIONS °F DB	LVG. CONDITIONS % RH	NOTES
H-1	NEPTRONIC SK302M	CANOE HALL	4.5	2	STANDBY	55	82.0	1,2,3,4
H-2	NEPTRONIC SK310M	TEMPORARY EXHIBIT	24.2	10	STANDBY	55	80.9	1,2,3,4
H-3	NEPTRONIC SK310M	MAIN EXHIBIT	23.4	10	STANDBY	55	81.0	1,2,3,4
H-4	NEPTRONIC SK310M	MAIN EXHIBIT	24.6	10	STANDBY	55	80.9	1,2,3,4
H-5	NEPTRONIC SK310M	LONGHOUSE	22.7	10	STANDBY	55	79.4	1,2,3,4
H-6	NEPTRONIC SK302M	EXHIBIT PREP	2.8	2	STANDBY	55	82.3	1,2,3,4

NOTES:
1–SEE DETAIL 9/M7.1.
2–COORDINATE MANIFOLD LENGTH WITH FCU MANUFACTURER.
3–PROVIDE PERMANENT STAINLESS STEEL CONTAINER.
4–PROVIDE OPTIONAL INTERNAL DRAIN COOLER.

WALL HEATER SCHEDULE

TAG	DESIGN BASIS	LOCATION	AREA SERVED	CFM	COIL CAPACITY KW	COIL NUMBER OF STAGES	ELECTRICAL CHARACTERISTICS AMPS	ELECTRICAL CHARACTERISTICS VOLT/ PHASE	ELECTRICAL CHARACTERISTICS POWER SOURCE	ELECTRICAL CHARACTERISTICS SINGLE PT CONN	OPERATING WEIGHT (LBS)	NOTES
WH-1	QMARK AWH4404	RECEIVING	RECEIVING	–	3	1	14.4	208/1	NORMAL	Y	–	1,2

NOTES:
1–PROVIDE FACTORY COVER. COORDINATE COLOR WITH ARCHITECT.
2–UNIT MOUNTED THERMOSTATIC CONTROL. SET THERMOSTAT AT 45° F.

DATE	SCALE	DRAWN BY	APPROVED BY
07/13/07	AS SHOWN	MLS	JFT

PROJECT NUMBER 2128
DRAWING FILE 2128 CD

REVISION	REV. #	DATE
UPDATED FOR PERMIT ASI #10	01	10/26/07 05/16/08

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TULALIP MUSEUM

SCHEDULES - MECHANICAL

M0.2

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WASHINGTON NONRESIDENTIAL ENERGY CODE COMPLIANCE SCHEDULE

COMPONENT	INFORMATION
THERMOSTAT DEADBAND CONTROL	5° FAHRENHEIT
THERMOSTAT AUTOMATIC SETBACK	NIGHT SETBACK AND 7 DIFFERENT DAY TYPES
SEALING DUCTWORK	COMPLY WITH STANDARD RS-18, EXTENT OF SEALING REQUIRED IS:
	STATIC PRESSURE: 1/2" TO 3" ; SEAL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS
	STATIC PRESSURE: ABOVE 3" ; SEAL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS
DUCT INSULATION	
SUPPLY AND RETURN	NOT WITHIN CONDITIONED SPACE: R-7
OUTSIDE AIR INTAKE	WITHIN CONDITIONED SPACE: R-7
SUPPLY AND RETURN, OUTSIDE AIR INTAKE	NOT WITHIN CONDITIONED SPACE; IN CONCRETE, IN GROUND: R-5.3
SUPPLY WITH SUPPLY AIR TEMP. <55° F. OR >105° F.	WITHIN CONDITIONED SPACE: R-3.3
PIPE INSULATION	PIPING SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH WASHINGTON STATE ENERGY CODE, 2004 EDITION, TABLE 14-6
	2/13/2007 7:43

GENERAL NOTES

1. WHERE APPLICABLE, THERMOSTATS SHALL BE ABLE TO:
   A. MAINTAIN SPACE TEMPERATURE SET POINTS FROM 55 DEGREES TO 85 DEGREES.
   B. SEQUENCE HEATING AND COOLING AND PROVIDE A 5 DEGREE DEADBAND IN WHICH NO HEATING OR COOLING IS PROVIDED TO THE SPACE.
2. INTERLOCK THERMOSTATS TO PREVENT SIMULTANEOUS HEATING/COOLING.
3. OUTSIDE AIR AND BUILDING RELIEF DAMPERS SHALL CLOSE AUTOMATICALLY WHEN THE SYSTEM IS OFF OR UPON POWER FAILURE.
4. ALL PIPE AND DUCT INSULATION SHALL MEET THE REQUIREMENTS OF THE WASHINGTON STATE ENERGY CODE.
5. MECHANICAL SYSTEM CONTROLS SHALL MEET THE REQUIREMENTS OF THE WASHINGTON STATE ENERGY CODE.
6. COMPLETION AND COMMISSIONING FOR MECHANICAL SYSTEMS.
   A. RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER WITHIN 90 DAYS OF THE DATE OF SYSTEM ACCEPTANCE PER WASHINGTON STATE ENERGY CODE (WSEC) SECTION 1416.1.
   B. AN OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OWNER PER WSEC SECTION 1416.2.
   C. ALL HVAC SYSTEMS SHALL BE BALANCED BY AN INDEPENDENT NEBB OR AABC CERTIFIED TAB AGENCY. A WRITTEN BALANCE REPORT SHALL BE PROVIDED TO THE OWNER PER WSEC SECTION 1416.3.
   D. HVAC CONTROL SYSTEMS SHALL BE TESTED, CALIBRATED AND ADJUSTED. SEQUENCES OF OPERATION SHALL BE TESTED TO ENSURE THAT THEY OPERATED IN ACCORD WITH SPECIFICATIONS AND APPROVED PLANS PER WSEC SECTION 1416.4.2. NECESSARY TESTS SHALL BE IDENTIFIED PER WSEC SECTION 1416.4.2.1. A PRELIMINARY COMMISSIONING REPORT OF TEST PROCEDURE AND RESULTS SHALL BE PREPARED PRIOR TO ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY PER WSEC SECTION 1416.4.2.2.1 AND 1416.4.2.3. A COMPLETE AND FINAL COMMISSIONING REPORT OF TEST PROCEDURES AND RESULTS SHALL BE FILED WITH THE OWNER PER WSEC SECTION 1416.4.2.2.2.
   E. CONTRACTOR TO SATISFY ANY ADDITIONAL REQUIREMENTS FOUND IN SECTION 1416 OF THE WASHINGTON STATE ENERGY CODE.

Mechanical Summary — MECH-SUM

Project Info

Project Address	THE TULALIP TRIBES 6410 23RD AVE NE TULALIP, WA 98271	Date 07/13/2007 For Building Dept. Use
Applicant Name:	JUDI EBMEYER	
Applicant Address:	320 SW WASHINGTON ST., SUITE 200	
Applicant Phone:	PORTLAND, OR 97204 503-227-5280	

Project Description
Briefly describe mechanical system type and features.

☑ Includes Plans

NEW MECHANICAL SYSTEM WITH FAN COIL UNITS, ELECTRIC REHEAT AND HYDRONIC COOLING PROVIDED BY AND AIR-COOLED CHILLER.

Drawings must contain notes requireing compliance with commissioning requirements - Section 1416

Compliance Option

○ Simple System ◉ Complex System ○ Systems Analysis ○ Clear
(See Decision Flow chart (over) for qualifications. Use separate MECH-SUM for simple & complex systems.)

Equipment Schedules

The follow ing information is required to be incorporated w ith the mechanical equipment schedules on the plans. For projects w ithout plans, fill in the required information below .

Mechanical - Complex Systems Checklist — MECH-COMP

Project Address | Date 07/13/2007

The follow ing additional information is necessary to check a mechanical permit application for a complex mechanical system for compliance w ith the mechanical requirements in the Washington State Nonresidential Energy Code. Use the checklist as a reference for notes added to the mechanical draw ings (see the MECH-CHK checklist for additional system requirements). This information must be on the plans since this is the official record of the permit. Having this information in separate specifications alone is NOT an acceptable

For Building Department Use

Applicability (yes, no, n.a.)	Code Section	Component	Information Required	Location on Plans	Building Department Notes
ADDITIONAL CHECKLIST ITEMS FOR COMPLEX SYSTEMS ONLY					
N.A.	1431.1	Field assem. sys.	Provide calculations		
N.A.	1432.1	Setback & shut-off	Indicate separate systems or show isolation devices on plans		
N.A.	1432.2.1	Air system reset	Indicate automatic reset		
N.A.	1432.2.2	Hydr. system reset	Indicate automatic reset		
YES	1433	Air Economizer	Indicate economizer on equipment schedule or provide calculations to justify exemption and demostrate 10% higher efficiency for equipment w ith out economizer.	M0.2	
N.A.	1433	Water Economizer	Indicate w ater economizer and provide calculations if 1433 Exception 2 is utilized		
N.A.	1434	Separate air sys.	Indicate separate systems on plans		
YES	1435	Simul. htg. & clg.	Indicate that simultaneous heating and cooling is prohibited, unless use of exception is justified	M0.3	
N.A.	1436	Heat recovery	Indicate heat recovery on plans; complete and attach heat recovery calculations		
N.A.	1437	Elec. motor effic.	MECH-MOT or Equip. Schedule w ith hp, rpm, efficiency		
N.A.	1438	Variable flow sys.	Indicate variable flow on fan and pump schedules		
N.A.	1439.1	Kitchen Hoods	Indicate uncooled and unheated make-up air		
N.A.	1439.2	Fume Hoods	Indicate VAV, unheated/uncooled or heat rec. makeup		

If "no" is circled for any question, provide explanation:

Mechanical Permit Plans Checklist — MECH-CHK

Project Address 6410 23RD AVE NE, TULALIP, WA 98271 | Date 07/13/2007

The follow ing information is necessary to check a mechanical permit application for compliance w ith the mechanical requirements in the Washington State Nonresidential Energy Code.

Applicability (yes, no, n.a.)	Code Section	Component	Information Required	Location on Plans	Building Department Notes
HVAC REQUIREMENTS (Sections 1401-1424)					
	1411	**Equipment performance**			
N.A.	1411.4	Pkg. elec. htg.& clg.	List heat pumps on schedule		
YES	1411.1	Minimum efficiency	Equipment schedule w ith type, capacity, efficiency	M0.2	
N.A.	1411.1	Combustion htg.	Indicate intermittent ignition, flue/draft damper & jacket loss		
	1412	**HVAC controls**			
YES	1412.1	Temperature zones	Indicate locations on plans	M1.1	
YES	1412.2	Deadband control	Indicate 5 degree deadband minimum	M0.3	
YES	1412.3	Humidity control	Indicate humidistat	M1.1	
YES	1412.4	Automatic setback	Indicate thermostat w ith night setback and 7 diff. day types	M0.3	
YES	1412.4.1	Dampers	Indicate damper location and auto. controls & max. leakage	M0.3	
N.A.	1412.4.2	Optimum Start	Indicate optimum start controls		
N.A.	1412.5	Heat pump control	Indicate microprocessor on thermostat schedule		
N.A.	1412.6	Combustion htg.	Indicate modulating or staged control		
YES	1412.7	Balancing	Indicate balancing features on plans	M2.1	
YES	1422	Thermostat interlock	Indicate thermostat interlock on plans	M0.3	
YES	1423	Economizers	Equipment schedule	M0.2	
	1413	**Air economizers**			
YES	1413.1	Air Econo Operation	Indicate 100% capability on schedule	M0.2	
N.A.	1413.1	Wtr Econo Operation	Indicate 100% capacity at 45 degF db & 40 deg F w b		
N.A.	1413.2	Water Econo Doc	Indicate clg load & w ater econoe & clg tow er performance		
YES	1413.3	Integrated operation	Indicate capability for partial cooling	M0.3	
NO	1413.4	Humidification	Indicate direct evap or fog atomization w / air economizer	M0.2	EXCEPTION #4
	1414	**Ducting systems**			
YES	1414.1	Duct sealing	Indicate sealing necessary	M0.3	
YES	1414.2	Duct insulation	Indicate R-value of insulation on duct	M0.3	
YES	1415.1	Piping insulation	Indicate R-value of insulation on piping	M0.3	
	1416	**Completion Requirements**			
YES	1416.1&2	Draw ings & Manuals	Indicate requirement for record draw ings and operation docs	M0.3	
YES	1416.3.2	Air Balancing	Indicate air system balance requirements	M0.3	
YES	1416.3.3	Hydronic Balancing	Indicate hydronic system balance requirements	M0.3	
YES	1416.4	Commissioning	Indicate requirements for commissioning and prelim. Report	M0.3	
YES	1424	Separate air sys.	Indicate separate systems on plans	M2.1	
YES		**Mechanical Summary Form**	Completed and attached. Equipment schedule w ith types, input/output, efficiency, cfm, hp, economizer	M0.3	
SERVICE WATER HEATING AND HEATED POOLS (Sections 1440-1454)					
	1440	**Service water htg.**			
N.A.	1441	Elec. w ater heater	Indicate R-10 insulation under tank		
N.A.	1442	Shut-off controls	Indicate automatic shut-off		
N.A.	1443	Pipe Insulation	Indicate R-value of insulation on piping		
N.A.	1452	Heat Pump COP	Indicate minimum COP of 4.0		
N.A.	1452	Heater Efficiency	Indicate pool heater efficiency		
N.A.	1453	Pool heater controls	Indicate sw itch and 65 degree control		
N.A.	1454	Pool covers	Indicate vapor retardant cover		
N.A.	1454	Pools 90+ degrees	Indicate R-12 pool cover		

If "no" is circled for any question, provide explanation:

DATE	07/13/07
SCALE	AS SHOWN
DRAWN BY	MLS
APPROVED BY	JFT

PROJECT NUMBER 2128

DRAWING FILE 2128 CD

REVISION	REV. #	DATE
UPDATED FOR PERMIT	01	10/26/07

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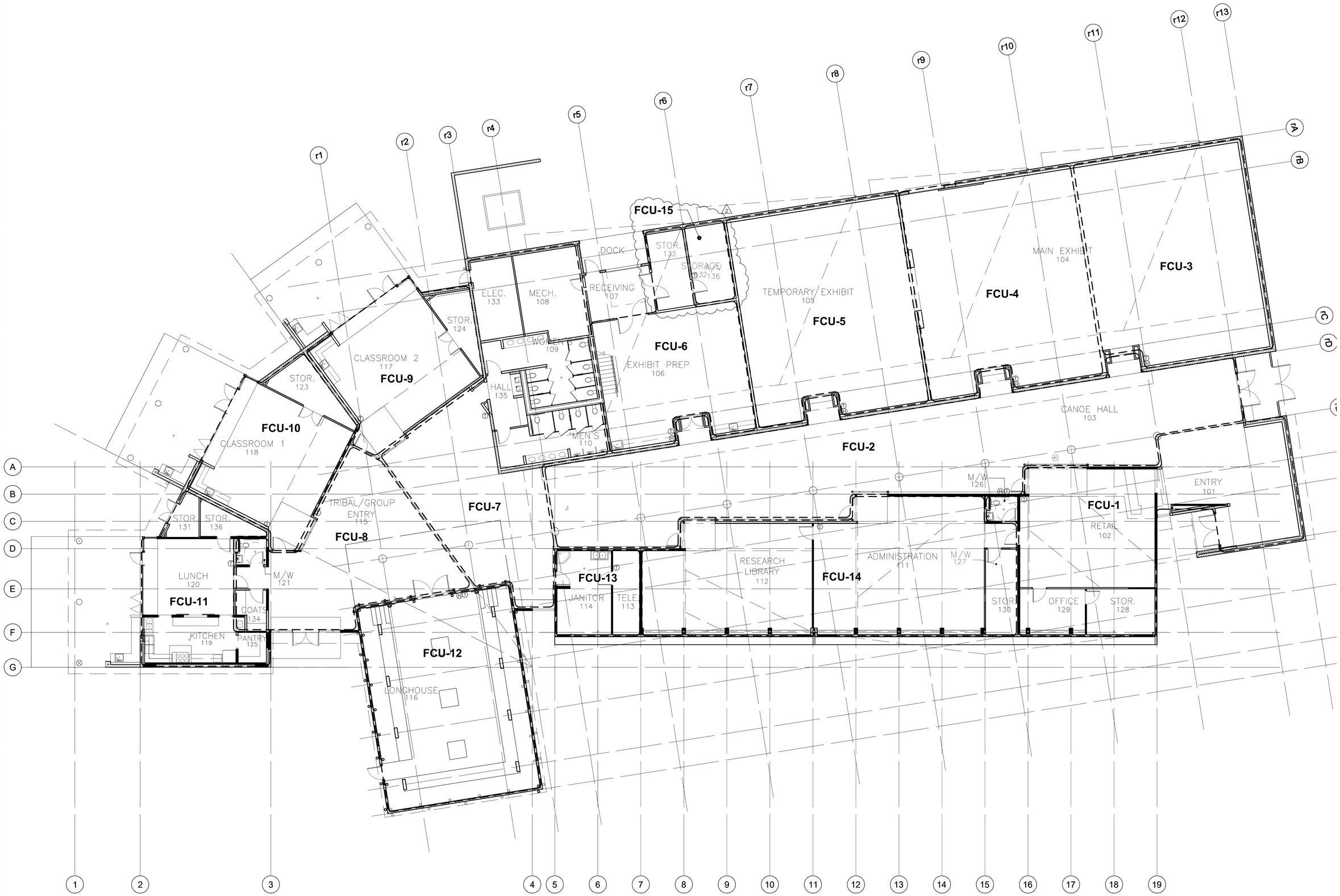
TULALIP MUSEUM

NREC FORMS - MECHANICAL

M0.3

SEAL OF ENGINEERING QUALITY
Production Dept. | Project Manager | Project Engineer

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1 **ZONING DIAGRAM - MECHANICAL**
SCALE: 1/8"=1'-0"

0 4' 8' 16'

PROJECT NORTH

	DATE	SCALE	DRAWN BY	APPROVED BY
	07/13/07	AS SHOWN	MLS	JFT

PROJECT NUMBER: 2128

DRAWING FILE: 2128 CD

DATE	REV. #	REVISION
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05/16/08		ASI #10

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ZONING DIAGRAM - MECHANICAL

M1.1

Production Dept. | Project Manager | Project Engineer

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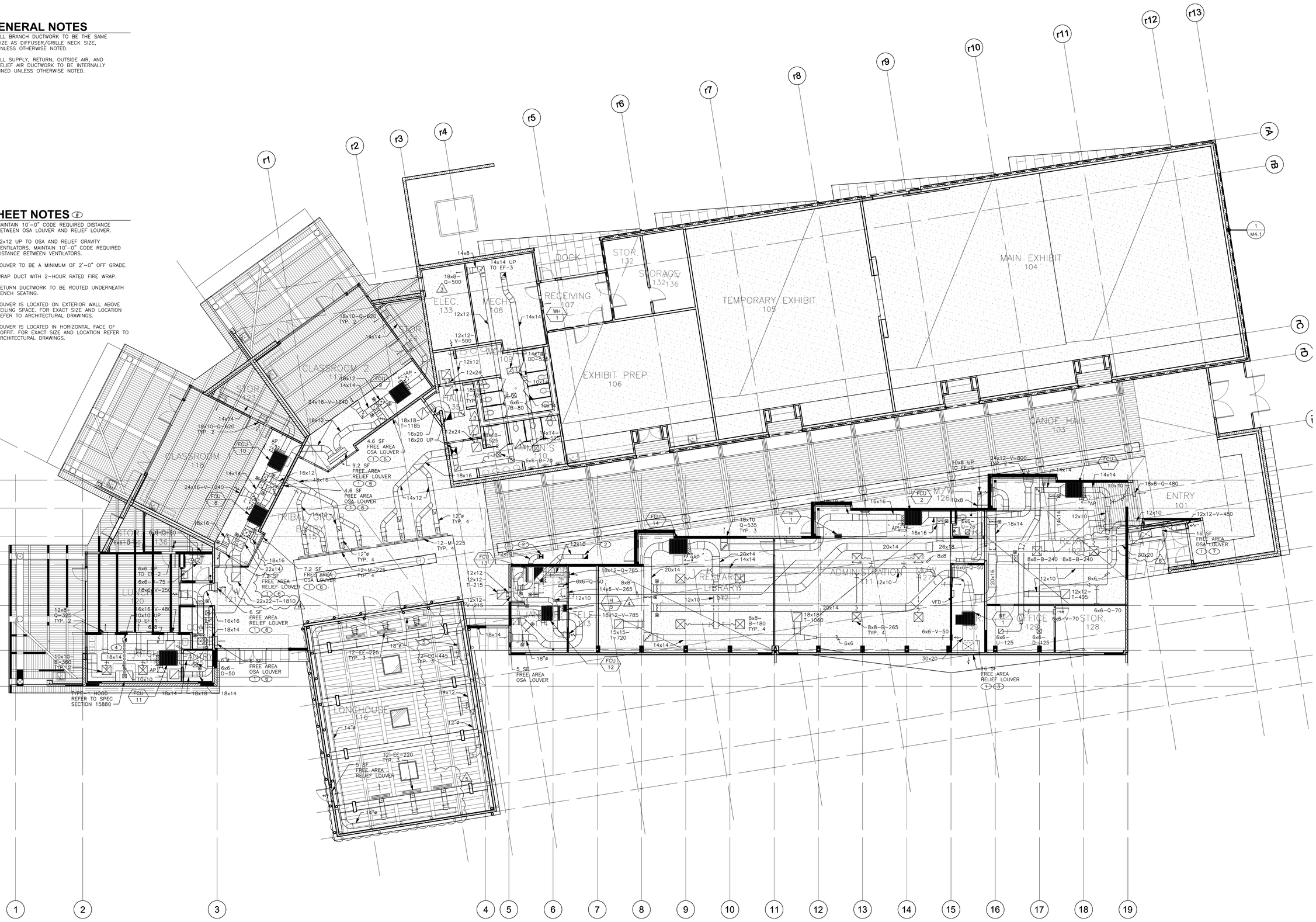
GENERAL NOTES

A. ALL BRANCH DUCTWORK TO BE THE SAME SIZE AS DIFFUSER/GRILLE NECK SIZE, UNLESS OTHERWISE NOTED.

B. ALL SUPPLY, RETURN, OUTSIDE AIR, AND RELIEF AIR DUCTWORK TO BE INTERNALLY LINED UNLESS OTHERWISE NOTED.

SHEET NOTES (#)

1. MAINTAIN 10'-0" CODE REQUIRED DISTANCE BETWEEN OSA LOUVER AND RELIEF LOUVER.
2. 12x12 UP TO OSA AND RELIEF GRAVITY VENTILATORS. MAINTAIN 10'-0" CODE REQUIRED DISTANCE BETWEEN VENTILATORS.
3. LOUVER TO BE A MINIMUM OF 2'-0" OFF GRADE.
4. WRAP DUCT WITH 2-HOUR RATED FIRE WRAP.
5. RETURN DUCTWORK TO BE ROUTED UNDERNEATH BENCH SEATING.
6. LOUVER IS LOCATED ON EXTERIOR WALL ABOVE CEILING SPACE. FOR EXACT SIZE AND LOCATION REFER TO ARCHITECTURAL DRAWINGS.
7. LOUVER IS LOCATED IN HORIZONTAL FACE OF SOFFIT. FOR EXACT SIZE AND LOCATION REFER TO ARCHITECTURAL DRAWINGS.



1 **HVAC FLOOR PLAN - MECHANICAL**
SCALE: 1/8"=1'-0"

0 4' 8' 16'

PROJECT NORTH

DATE	07/13/07
SCALE	AS SHOWN
DRAWN BY	MLS
APPROVED BY	JFT
PROJECT NUMBER	2128
DRAWING FILE	2128 CD

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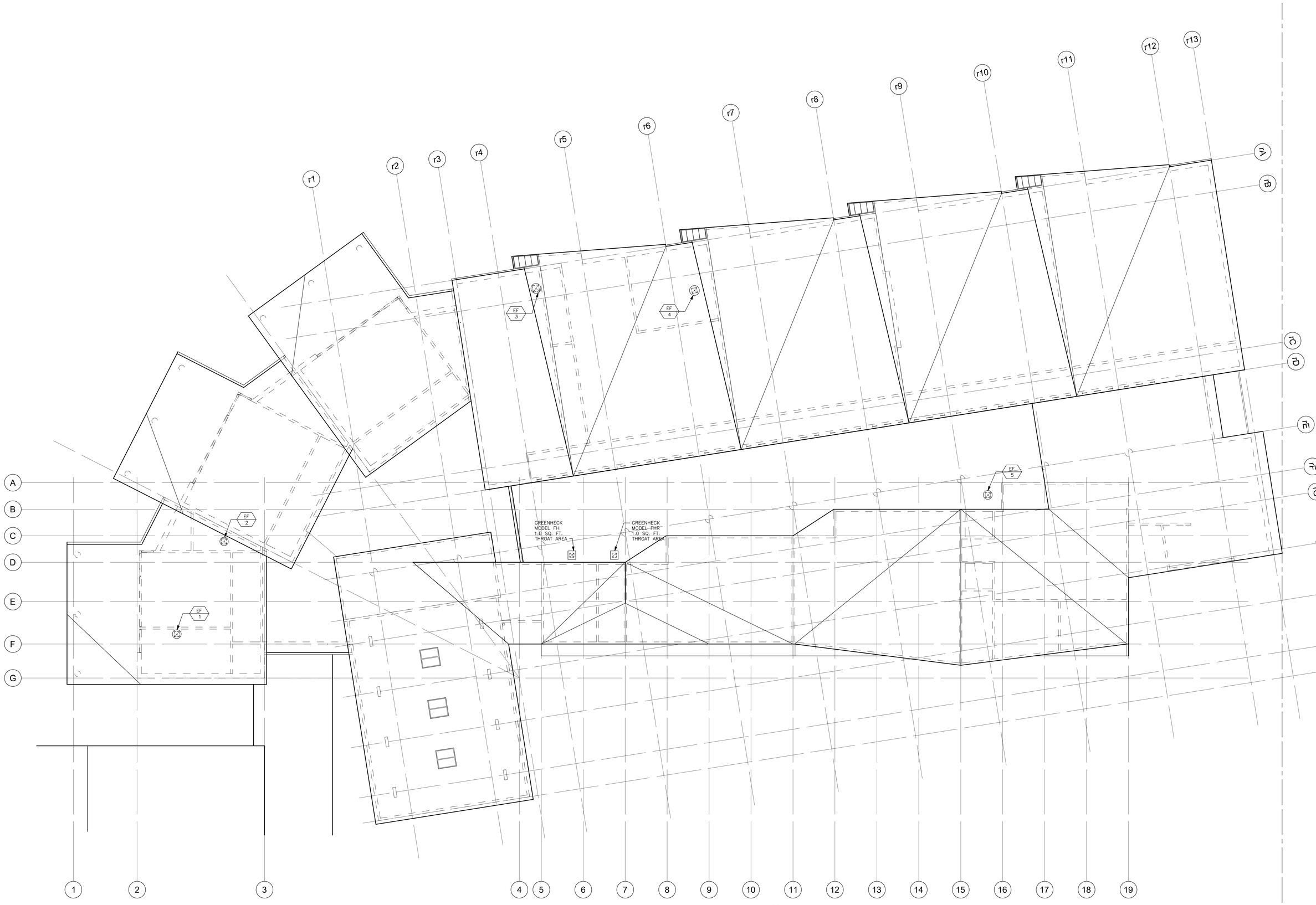
HVAC FLOOR PLAN - MECHANICAL

M2.1

SEALS EVALUATING DATE

Production Dept.	Project Manager	Project Engineer

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1 HVAC ROOF PLAN - MECHANICAL

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

0 4' 8' 16'

PROJECT NORTH

DATE	07/13/07
SCALE	AS SHOWN
DRAWN BY	MLS
APPROVED BY	JFT
PROJECT NUMBER	2128
DRAWING FILE	2128 CD

DATE	REV. #	REVISION
10/26/07	01	UPDATED FOR PERMIT

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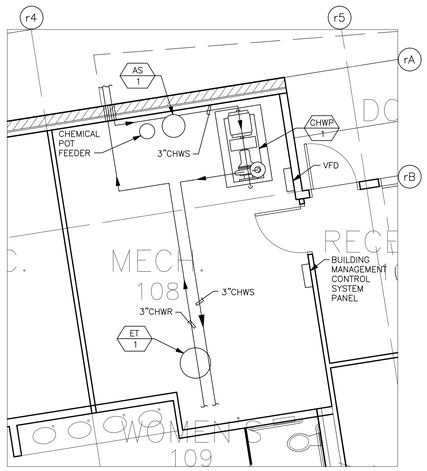
HVAC ROOF PLAN - MECHANICAL

M2.2

Production Dept.	Project Manager	Project Engineer

SEAL OF ENGINEERING FIRM

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2 ENLARGED PLAN - MECHANICAL

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

0 2' 4' 8'

1 PIPING FLOOR PLAN - MECHANICAL

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

0 4' 8' 16'

PROJECT NORTH

DATE	07/13/07
SCALE	AS SHOWN
DRAWN BY	MLS
APPROVED BY	JFT

PROJECT NUMBER 2128

DRAWING FILE 2128 CD

DATE	REV. #	REVISION
10/29/07	1	VERATED FOR PERMIT ADDENDUM #1
07/13/07		

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PIPING FLOOR PLAN - MECHANICAL

M3.1

SEAL OF ENGINEERING SURETY

Production Dept.	Project Manager	Project Engineer

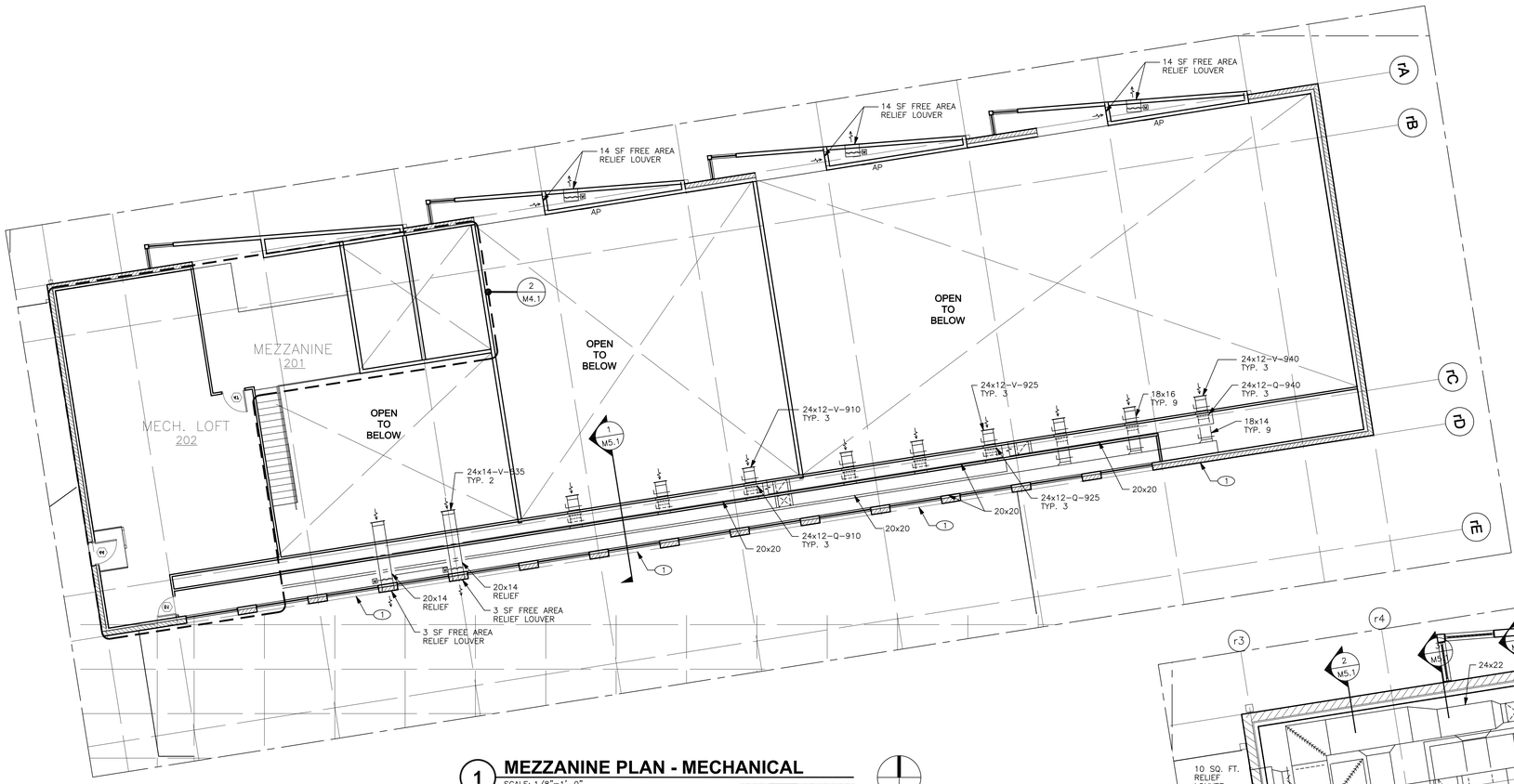
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GENERAL NOTES

A. ALL SUPPLY, RETURN, OUTSIDE AIR, AND RELIEF AIR DUCTWORK TO BE INTERNALLY LINED UNLESS OTHERWISE NOTED.

SHEET NOTES (1)

1. SHIFT DUCTWORK AS REQUIRED TO ACCOMMODATE LIGHTING AND COILING SECURITY DOOR. COORDINATE WITH ARCHITECTURAL AND ELECTRICAL.
2. FOR EXACT SIZE AND LOCATION OF LOUVER, REFER TO ARCHITECTURAL DRAWINGS.

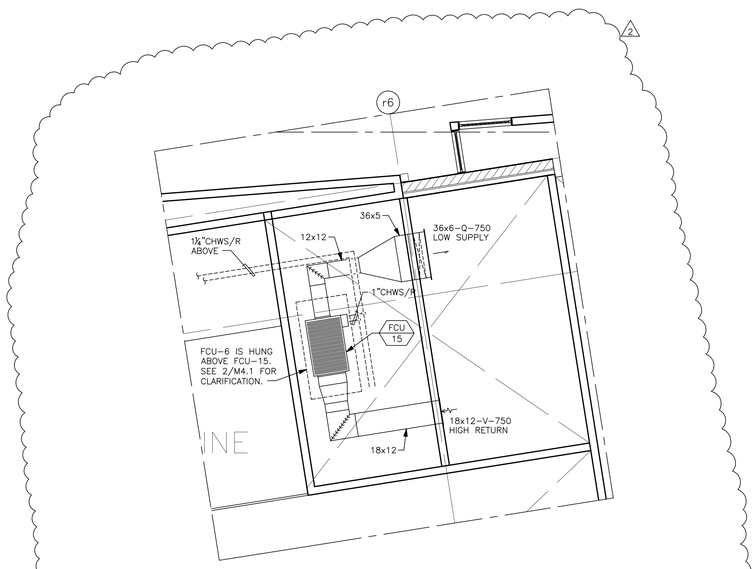


1 MEZZANINE PLAN - MECHANICAL

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

0 2' 4' 8'

PROJECT NORTH

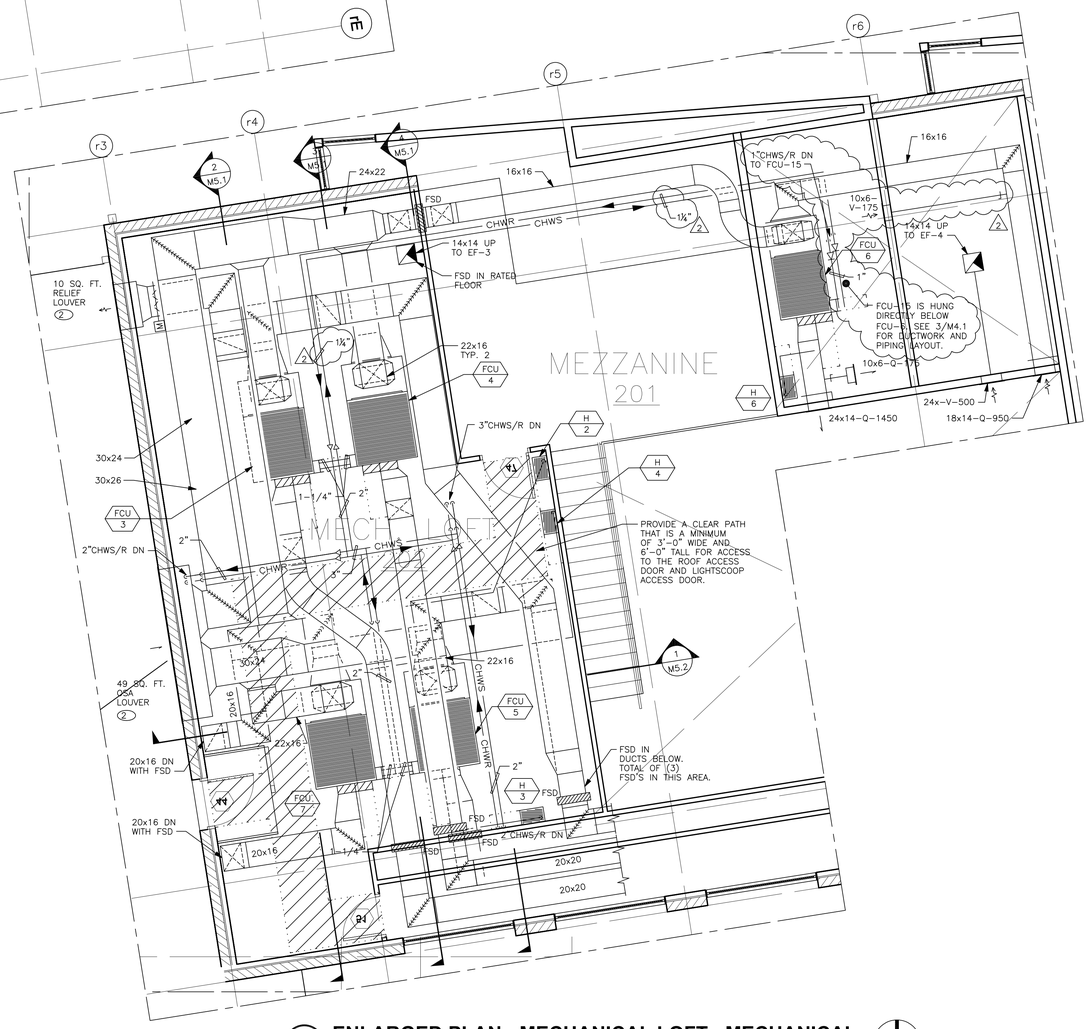


3 ENLARGED PLAN - FCU-15 LAYOUT - MECHANICAL

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

0 2' 4' 8'

PROJECT NORTH



2 ENLARGED PLAN - MECHANICAL LOFT - MECHANICAL

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

0 2' 4' 8'

PROJECT NORTH

DATE	07/13/07
SCALE	AS SHOWN
DRAWN BY	MLS
APPROVED BY	JFT
PROJECT NUMBER	2128
DRAWING FILE	2128 CD

DATE	REV. #	REVISION
10/26/07	01	UPDATED FOR PERMIT ASI #10
05/16/08		

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SEAL OF ENGINEERING QUALITY

Production Dept.	Project Manager	Project Engineer

TULALIP MUSEUM

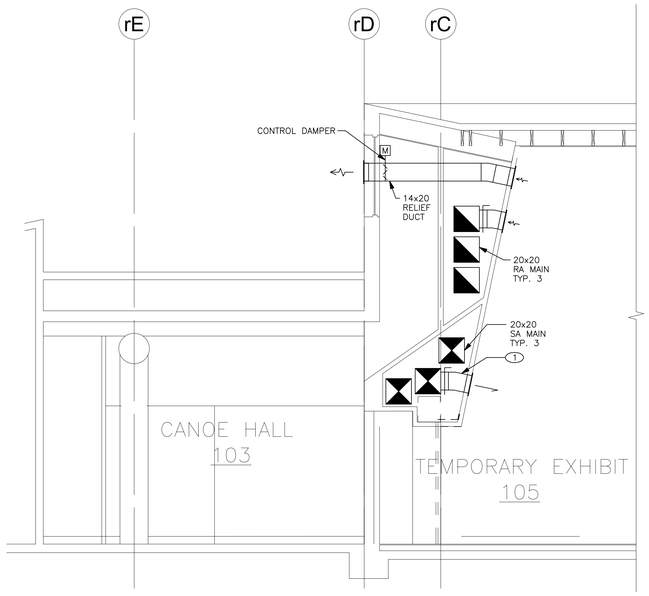
MEZZANIE PLANS - MECHANICAL

M4.1

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SHEET NOTES

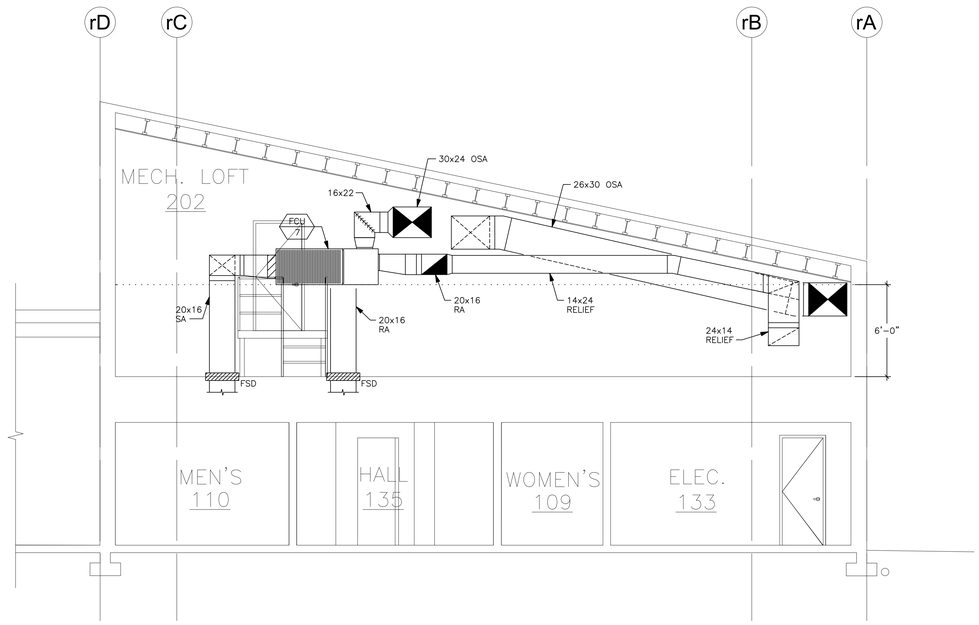
1. ALL SUPPLY AIR MAINS WITH BRANCHES INTO THE EXHIBIT SPACES, ARE TO MAINTAIN THIS ELEVATION IN THE CHASE, IN ORDER TO MAINTAIN A CONSTANT ELEVATION WITHIN THE ROOM. PROVIDE TRANSITIONS AND OFFSETS AS REQUIRED.



1 EXHIBIT SECTION

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

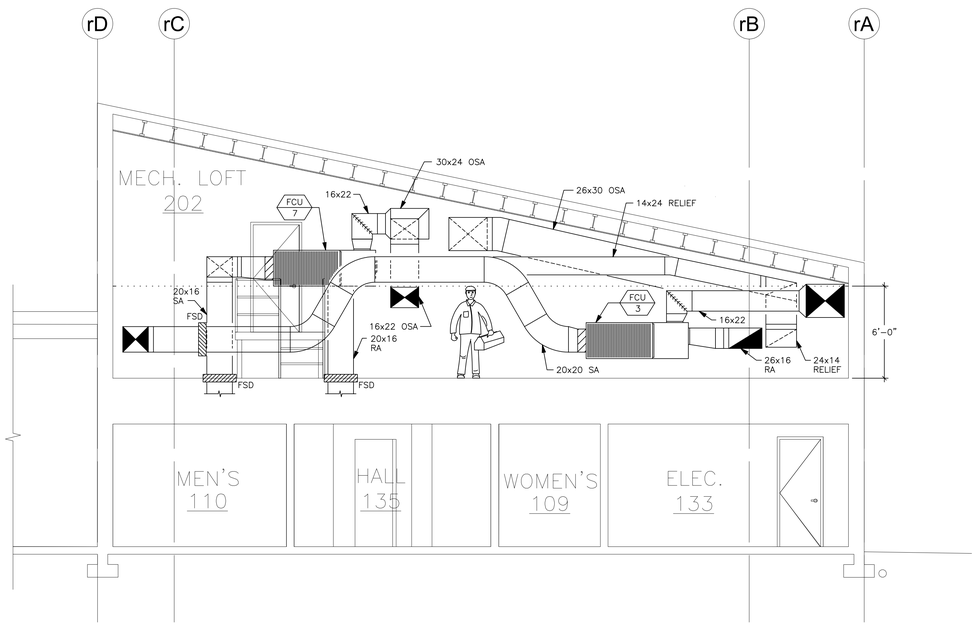
0 2' 4' 8'



2 MECHANICAL LOFT SECTION

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

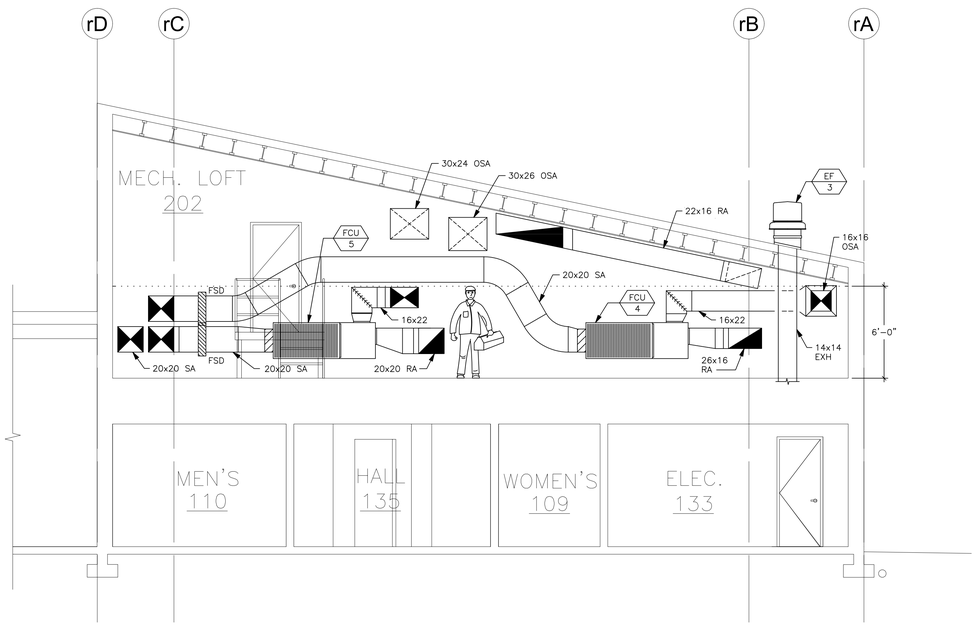
0 2' 4' 8'



3 MECHANICAL LOFT SECTION

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

0 2' 4' 8'



4 MECHANICAL LOFT SECTION

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

0 2' 4' 8'

DATE	07/13/07
SCALE	AS SHOWN
DRAWN BY	MLS
APPROVED BY	JFT
PROJECT NUMBER	2128
DRAWING FILE	2128 CD

DATE	REV. #	REVISION
10/26/07	01	UPDATED FOR PERMIT

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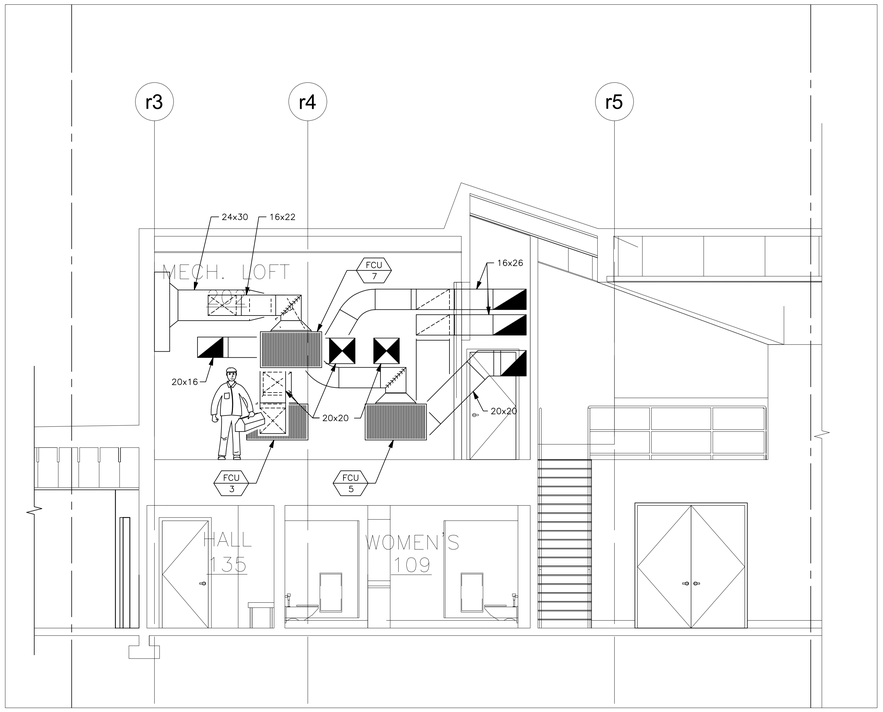
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SECTIONS - MECHANICAL

M5.1

Production Dept. | Project Manager | Project Engineer

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1 EXHIBIT SECTION

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

0 2' 4' 8'

DATE	07/13/07
SCALE	AS SHOWN
DRAWN BY	MLS
APPROVED BY	JFT
PROJECT NUMBER	2128
DRAWING FILE	2128 CD

DATE	REV. #	REVISION
10/26/07	01	UPDATED FOR PERMIT

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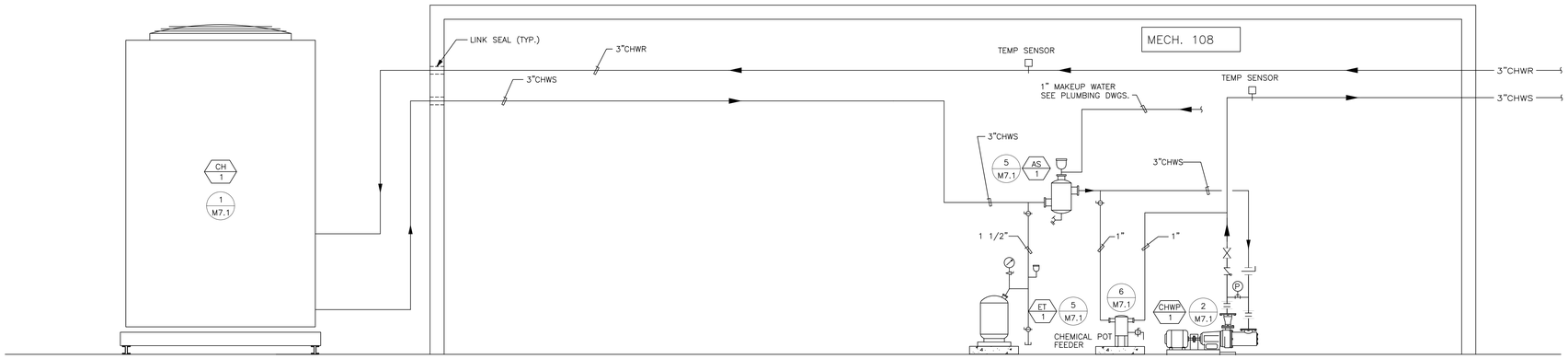
SECTIONS - MECHANICAL

M5.2

SEAL OF ENGINEER AVAILABLE

Production Dept.	Project Manager	Project Engineer

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1 CHILLED WATER FLOW DIAGRAM

SCALE: NONE

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APPROVED BY	JFT

PROJECT NUMBER: 2128

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10/26/07	01	UPDATED FOR PERMIT

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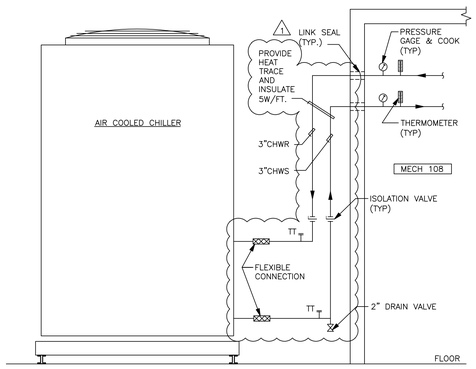
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Job No. 20657301A
Contact: PETER BERG
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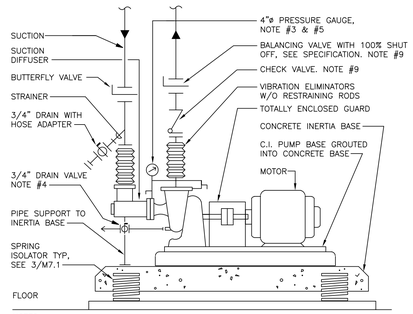
DIAGRAMS - MECHANICAL

M6.1



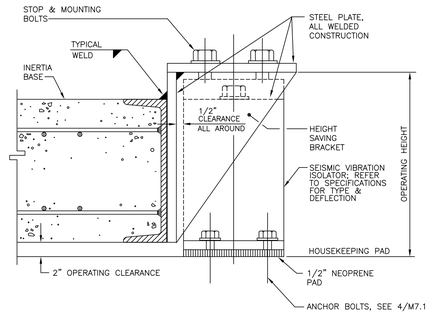
NOTES:
1. LOCATE EVAPORATOR PIPE DROPS TO ALLOW FOR TUBE MAINTENANCE.
2. MOUNT UNIT ON NEOPRENE/CORK PADS AS SPECIFIED.
3. COORDINATE PIPE WELL REQUIREMENTS FOR FLOW SWITCHES WITH CONTROL CONTRACTOR.
4. SUPPORT VERTICAL PIPE DROPS FROM ADJACENT BLOCK WALL. SUPPORT HORIZONTAL PIPING FROM GRADE. SUBMIT DETAILS OF PROPOSED INSTALLATION FOR APPROVAL.

1 CHILLER PIPING
SCALE: NONE



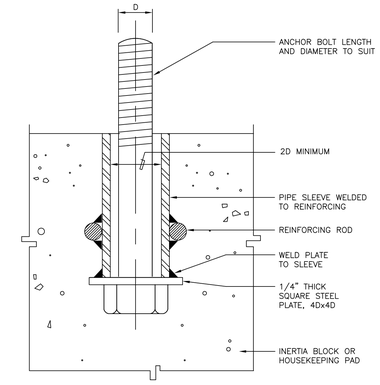
NOTES:
1. PUMP CASING SHALL HAVE AIR VENT WITH PET COCK.
2. PROVIDE UNIONS FOR PUMPS WITHOUT FLANGED CONNECTIONS.
3. PRESSURE GAUGES MAY BE LOCATED IN PIPE WITH TAPPINGS.
4. PUMP CASING DRAIN SHALL BE EXTENDED TO NEAREST F.D. OR F.S.
5. PRESSURE GAGE RANGE SHALL BE AS REQUIRED BY THE SYSTEM.
6. FOR PIPE SIZES & CONTINUATION SEE DRAWINGS.
7. INSULATE PIPING & PUMP PER SPECIFICATIONS.
8. ALL ANCHORING & SUPPORTS SHALL BE REVIEWED BY STRUCTURAL ENGINEER.
9. SHUT-OFF VALVE, BALANCE VALVE, AND CHECK VALVE MAY BE REPLACED WITH A TRIPLE DUTY VALVE.
10. ALL VALVES & FLEX CONNECTIONS TO LINE SIZE. PROVIDE REDUCER/INCREASE AT PUMP DISCHARGE OR AT INLET TO SUCTION DIFFUSER IF REQUIRED.

2 VERTICAL BASE MOUNTED PUMP CONNECTION
SCALE: NONE



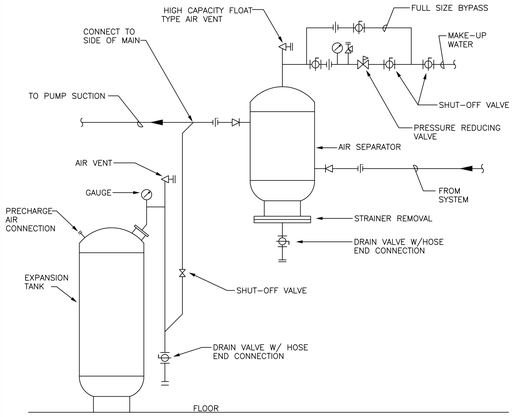
NOTES:
1. HEIGHT SAVING BRACKETS SHOWN. EXACT CONFIGURATION DEPENDS ON VIBRATION ISOLATOR SELECTION AND INERTIA BASE THICKNESS.

3 INERTIA BASE SPRING MOUNT
SCALE: NONE



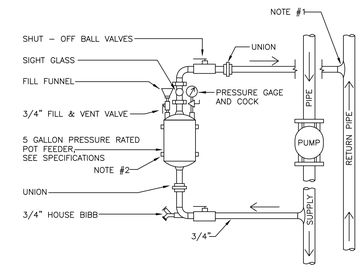
NOTES:
1. CONTRACTOR TO VERIFY SIZE AND DEPTH OF IMBED WITH STRUCTURAL.

4 ADJUSTABLE EQUIPMENT ANCHOR BOLT
SCALE: NONE



NOTES:
1. PROVIDE SEISMIC BRACING OF EXPANSION TANKS.
2. SEE PLUMBING & MECHANICAL PLANS FOR LINE SIZING.
3. PROVIDE SHOP DRAWING OF SUPPORT FOR REVIEW.

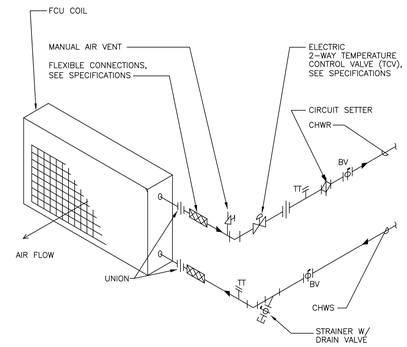
5 EXPANSION TANK AND AIR SEPARATOR PIPING CONNECTIONS
SCALE: NONE



NOTES:

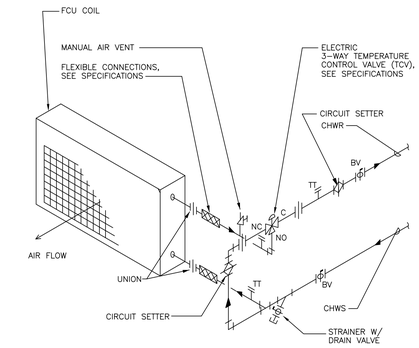
1. INSTALL CHEMICAL FEED DISCHARGE IN RETURN PIPING.
2. PROVIDE SUPPORT RACK OR SUPPORT FROM WALL.
3. FOR PIPE SIZES & CONTINUATION SEE DRAWINGS.
4. INSULATE PIPING PER SPECIFICATIONS.
5. MOUNT POT FEEDER ON WALL OR STAND AT 5'-0" AFF.

6 CHEMICAL POT FEEDER
SCALE: NONE



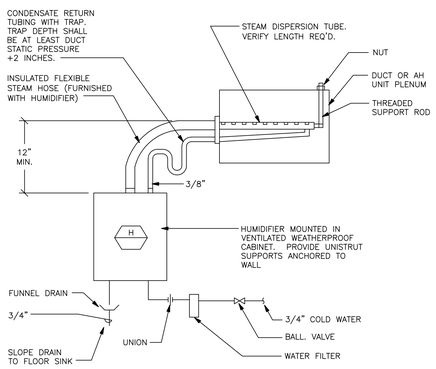
NOTES:
1. BRANCH PIPING SHALL BE FULL SIZE, VENT HIGH POINTS AS REQUIRED.
2. WATER SHALL BE PIPED COUNTER FLOW TO AIRFLOW, SUPPLY AT BOTTOM.
3. LOCATE PIPING TO CLEAR ACCESS DOORS.
4. FOR PIPE SIZES & CONTINUATION SEE DRAWINGS.
5. INSULATE PIPING PER SPECIFICATIONS.
6. DRAIN LOW POINTS AS REQUIRED.
7. 2-WAY VALVE TO FAIL CLOSED IN COOLING APPLICATIONS.

7 COIL CONNECTIONS (2-WAY)
SCALE: NONE



NOTES:
1. BRANCH PIPING SHALL BE FULL SIZE, VENT HIGH POINTS AS REQUIRED.
2. WATER SHALL BE PIPED COUNTER FLOW TO AIRFLOW, SUPPLY AT BOTTOM.
3. LOCATE PIPING TO CLEAR ACCESS DOORS.
4. FOR PIPE SIZES & CONTINUATION SEE DRAWINGS.
5. INSULATE PIPING PER SPECIFICATIONS.
6. DRAIN LOW POINTS AS REQUIRED.
7. HEATING COIL ARRANGEMENT SHOWN, PIPE COOLING COIL TO FAIL TO BYPASS COIL.

8 COIL CONNECTIONS (3-WAY)
SCALE: NONE



NOTE:

INSTALL PER MANUFACTURES INSTRUCTIONS.

9 HUMIDIFIER DETAIL
SCALE: NONE

DATE	07/13/07
SCALE	AS SHOWN
DRAWN BY	MLS
APPROVED BY	JFT

PROJECT NUMBER: 2128

DRAWING FILE: 2128 CD

DATE	REV. #	REVISION
10/29/07	1	VERIFIED FOR PERMIT ADDENDUM #1

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DETAILS - MECHANICAL

M7.1

SEATTLE ENGINEERING QUALITY
Production Dept. | Project Manager | Project Engineer

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PLUMBING LEGEND

SYMBOL	DESCRIPTION
	BALL VALVE
	BUTTERFLY VALVE
	GATE VALVE
	ANGLE GATE VALVE
	OS & Y GATE VALVE
	SOLENOID VALVE
	LUBRICATED PLUG VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	RELIEF VALVE
	VACUUM RELIEF VALVE
	AUTOMATIC AIR VENT
	CIRCUIT SETTER
DDCV	DOUBLE DETECTOR CHECK VALVE ASSEMBLY
DCV	DOUBLE CHECK VALVE ASSEMBLY
RPBFP	REDUCED PRESSURE BACKFLOW PREVENTER
PS	PRESSURE SWITCH
	UNION
	STRAINER
	STRAINER WITH BLOW OFF
	PIPE ANCHOR
	PIPE ALIGNMENT GUIDE
	EXPANSION JOINT
	FLEXIBLE CONNECTOR
	CAP OR PLUG
	BLIND FLANGE
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	AQUASTAT
WHA	WATER HAMMER ARRESTOR
CO	CLEANOUT PLUG
FCO	FLOOR CLEANOUT
YCO	YARD CLEANOUT
WH	WALL HYDRANT
HB	HOSE BIBB
FDC	FIRE DEPARTMENT CONNECTION
	FIRE RISER
FDV	FIRE DEPARTMENT VALVE
	FIRE DEPARTMENT VALVE CABINET
	FIRE ALARM BELL
FD	FLOOR DRAIN
FS	FLOOR SINK
	HUB DRAIN

SYMBOL	DESCRIPTION
	DIRECTION OF SLOPE
	DIRECTION OF FLOW
	PIPE UP
	PIPE DOWN
	PIPE DROP
	TOP CONNECTION – BRANCH LINE
	BOTTOM CONNECTION – BRANCH LINE
F	FIRE MAIN
AS	AUTOMATIC WET SPRINKLER
	COLD WATER
	HOT WATER (120°F)
	HOT WATER CIRC (120°F)
SAN	SANITARY SEWER
SD	STORM DRAIN
	PIPING BELOW GRADE
	WASTE
	VENT
RD	ROOF DRAIN PIPING
OD	OVERFLOW DRAIN PIPING
D	INDIRECT DRAIN LINE
IW	INDUSTRIAL WASTE
	PLUMBING EQUIPMENT
	MISCELLANEOUS EQUIPMENT
#	SHEET NOTE

FIRE PROTECTION HAZARD OCCUPANCY	
LIGHT HAZARD	MEETING ROOMS, TOILET ROOMS
ORDINARY I	KITCHEN
ORDINARY II	RETAIL, MECHANICAL ROOMS

ABBREVIATIONS

	POINT OF CONNECTION
&	AND
@	AT
#	POUNDS
#	NUMBER
/	PER
ABV	ABOVE
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AP	ACCESS PANEL
ARCH	ARCHITECT
BEL	BELOW
BEH	BEHIND
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CLG	CEILING
CO	CLEANOUT
CONC	CONCRETE
CONTR	CONTRACTOR
CONT	CONTINUATION
CS	CIRCUIT SETTER
CV	CHECK VALVE
CW	COLD WATER
CWFU	COLD WATER FIXTURE UNIT
DN	DOWN
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DDCVA	DOUBLE DETECTOR CHECK VALVE ASSEMBLY
DFU	DRAINAGE FIXTURE UNIT
D	DRAIN
DWG	DRAWING
DWV	DRAINAGE WASTE AND VENT
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FDV	FIRE DEPARTMENT VALVE
FL	FLOOR
FPS	FEET PER SECOND
FT	FEET
G	GAS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HD	HUB DRAIN
HP	HORSEPOWER
HW	HOT WATER
HWC	HOT WATER CIRC
HWFU	HOT WATER FIXTURE UNIT
I.E.	INVERT ELEVATION
LBS	POUNDS (UNIT OF FORCE)
MECH	MECHANICAL
MFG	MANUFACTURER
MIN	MINIMUM
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
POC	POINT OF CONNECTION
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PV	PLUG VALVE
R,I,&C	ROUGH IN AND CONNECT
RPBFP	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
SF	SQUARE FEET
SOV	SHUT–OFF VALVE
SPKR	SPRINKLER
TP	TRAP PRIMER
TT	TEST TEE
TYP	TYPICAL
V	VENT
V	VOLTS
VTR	VENT THROUGH ROOF
W	WASTE
WCO	WALL CLEANOUT
W/	WITH
WGT	WEIGHT

PLUMBING DESIGN CRITERIA

I. DOMESTIC WATER SYSTEM

A. PIPE SIZING CRITERIA BASED ON THE REQUIREMENTS OF THE STATE OF (WASHINGTON PLUMBING SPECIALTY CODE,) 2003 EDITION OF THE UNIFORM PLUMBING CODE, WITH AMENDMENTS.

B. PIPE SIZES ARE BASED ON A MAXIMUM 3 PSI FRICTION LOSS FOR COPPER PIPE AT A MAXIMUM VELOCITY OF 8 FPS, AND, A PREDOMINANTLY VALVE TYPE OF SYSTEM REQUIRING A MINIMUM RESIDUAL PRESSURE OF 20 PSI.

C. AVERAGE MINIMUM STREET PRESSURE AVAILABLE AT MAIN IS XX PSI.

II. SANITARY WASTE AND VENT SYSTEM

A. ALL PIPING SHALL BE SLOPED AT ¼ INCH PER FOOT, EXCEPT WHERE NOTED AT ⅛ INCH PER FOOT TO CONFORM WITH THE STRUCTURE.

III. RAINWATER AND STORM DRAINAGE SYSTEM

A. PIPE SIZES ARE BASED ON A MAXIMUM RAINFALL RATE OF 2 INCHES PER HOUR.

GENERAL NOTES

1. ALL WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH DIVISION 15 SPECIFICATIONS.
2. AS–BUILT RECORD DOCUMENTS: AT PROJECT CLOSEOUT, CONTRACTOR SHALL SUBMIT DETAILED INSTALLATION DRAWINGS, CHANGE ORDERS AND SPECIFICATION CHANGES TO ARCHITECT FOR APPROVAL. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS.
3. DETAILED INVESTIGATION OF EXISTING CONDITIONS ARE PART OF THE CONTRACT WORK. VISIT THE JOB SITE PRIOR TO BID. REVIEW AVAILABLE EQUIPMENT LAYOUTS, ASSEMBLY DRAWINGS AND INSTALLATION SCHEDULES.
4. DOMESTIC WATER HAS BEEN ENGINEERED. CONTRACTOR SHALL NOT USE APPENDIX "A" OF UPC TO RESIZE ANY LINES. RESIZING OF ANY LINES SHALL BE SUBMITTED FOR WRITTEN APPROVAL BY ENGINEER ONLY PRIOR TO COMMENCING OF ANY CONSTRUCTION.
5. CONTRACTOR SHALL COORDINATE ALL UTILITY LINES EXITING OR ENTERING BUILDING WITH DIVISION 2 SPECIFICATIONS AND CIVIL ENGINEER'S UTILITY PLAN DRAWINGS AND OTHER TRADES.
6. BARRIER FREE REQUIREMENTS: PROVISIONS HAVE BEEN DESIGNED TO PROVIDE FIXTURES IN ACCORDANCE WITH A.D.A., ANSI AND STATE OF WASHINGTON REGULATIONS. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS AND REPORT TO ARCHITECT OR OWNER'S REPRESENTATIVE WHEN FIELD CONDITIONS PREVENT CORRECT INSTALLATION.
7. WATER PIPES OUTSIDE THE CONDITIONED SPACE SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH WASHINGTON STATE PLUMBING CODE (WAC 51–26).
8. PLANS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW ALL FITTINGS AND OFFSETS. CONTRACTOR SHALL COODINATE ALL WORK WITH STRUCTUAL AND ARCHITECTURAL PLANS AND OTHER TRADES.
9. ROUTE CONDENSATE DRAINS TO NEAREST RECEIVER. CONTRACTOR TO COORDINATE WITH MECH. DRAWINGS.

PLUMBING DRAWING LIST

P0.1	LEGEND AND ABBREVIATIONS & SCHEDULES – PLUMBING
P2.0	UNDERGROUND PLAN – PLUMBING
P2.1	GROUND FLOOR PLAN – PLUMBING
P3.1	ENLARGED PLAN – PLUMBING
P4.1	ENLARGED PLANS AND DETAILS – PLUMBING

ELECTRIC WATER HEATER SCHEDULE

FIXTURE	SYSTEM SERVED	TANK SIZE	RECOVERY	WATTS	VOLTS	PHASE	TEMP.	MANUFACTURER	MODEL NUMBER	REMARKS
EWH 1	MECH. 108	119	50 GPH @ 100°ΔT	12 KW	480	3	140	BRADFORD WHITE	120A–KW–3	ROUTE RELEIF TO FLOOR SINK

PLUMBING EQUIPMENT SCHEDULE

PUMP SCHEDULE

ITEM	LOCATION	MANUFACTURER AND MODEL	TYPE	CAPACITY GPM	CAPACITY HEAD, FT	HP	RPM	VOLTS	PHASE	REMARKS
CP 1	MECH. 108	BELL & GOSSET	INLINE	5	10'	½	1750	120	1	

PLUMBING FIXTURES AND DRAIN SCHEDULE

ITEM	DESCRIPTION	TRAP ARM	WASTE	VENT	CW	HW	REMARKS
WC–1	WATER CLOSET	INTEGRAL	4"	2"	1¼"	---	VITREOUS CHINA
WC–2	WATER CLOSET	INTEGRAL	4"	2"	1¼"	---	VITREOUS CHINA – ADA
UR–1	URINAL	INTEGRAL	2"	1½"	½"	---	WALL HUNG
UR–2	URINAL	INTEGRAL	2"	1½"	½"	---	WALL HUNG – ADA
L–1	LAVATORY	1½"	2"	1½"	½"	½"	COUNTERTOP
L–2	LAVATORY	1½"	2"	1½"	½"	½"	WALL HUNG – ADA
S–1	SINK	1½"	2"	1½"	½"	½"	COUNTERTOP – SINGLE BOWL W/ CLAY TRAP
S–2	SINK	1½"	2"	1½"	½"	½"	COUNTERTOP – SINGLE BOWL W/ DISPOSAL
S–3	SINK	(2) 1½"	2"	1½"	½"	½"	COUNTERTOP – 2 COMPARTMENT
S–4	SINK	(3) 1½"	2"	1½"	(2) ½"	(2) ½"	COUNTERTOP – 3 COMPARTMENT
S–5	SINK	1½"	2"	1½"	½"	½"	COUNTERTOP – SINGLE BOWL
S–6	SINK	1½"	2"	1½"	½"	½"	WALL HUNG – SINGLE BOWL
MS–1	MOP SINK	3"	3"	1½"	¾"	¾"	
WH–1	WALL HYDRANT	---	---	---	¾"	---	FREEZE PROOF WITH VACUUM BREAKER
FD–1	FLOOR DRAIN	*	*	*	---	---	W/ TRAP PRIMER CONN.
FD–2	FLOOR DRAIN	*	*	*	---	---	W/ SEDIMENT TRAP & TRAP PRIMER CONN.
FS–1	FLOOR SINK	*	*	*	---	---	W/ TRAP PRIMER CONN.
HD–1	HUB DRAIN	4"	4"	2"	---	---	
MX–1	MIXING VALVE	---	---	---	1 1/2"	1 1/2"	HIGH/LOW TYPE
TP–1	PRESSURE DROP TRAP PRIMER	---	---	---	½"	---	
TP–2	ELECTRONIC TRAP PRIMER	---	---	---	1"	---	WALL MOUNTED, WITH TIMER

* SEE PLAN FOR SIZES

Attachment F.3

DATE	SCALE	DRAWN BY	APPROVED BY
12.04.06	AS SHOWN	TK	GW

PROJECT NUMBER: 2128.00

DRAWING FILE: 2128 SD

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COVER SHEET - PLUMBING

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P0.1

DATE	12/04/06
SCALE	AS SHOWN
DRAWN BY	TEK
APPROVED BY	GMW
PROJECT NUMBER	2128.00
DRAWING FILE	2128 SD

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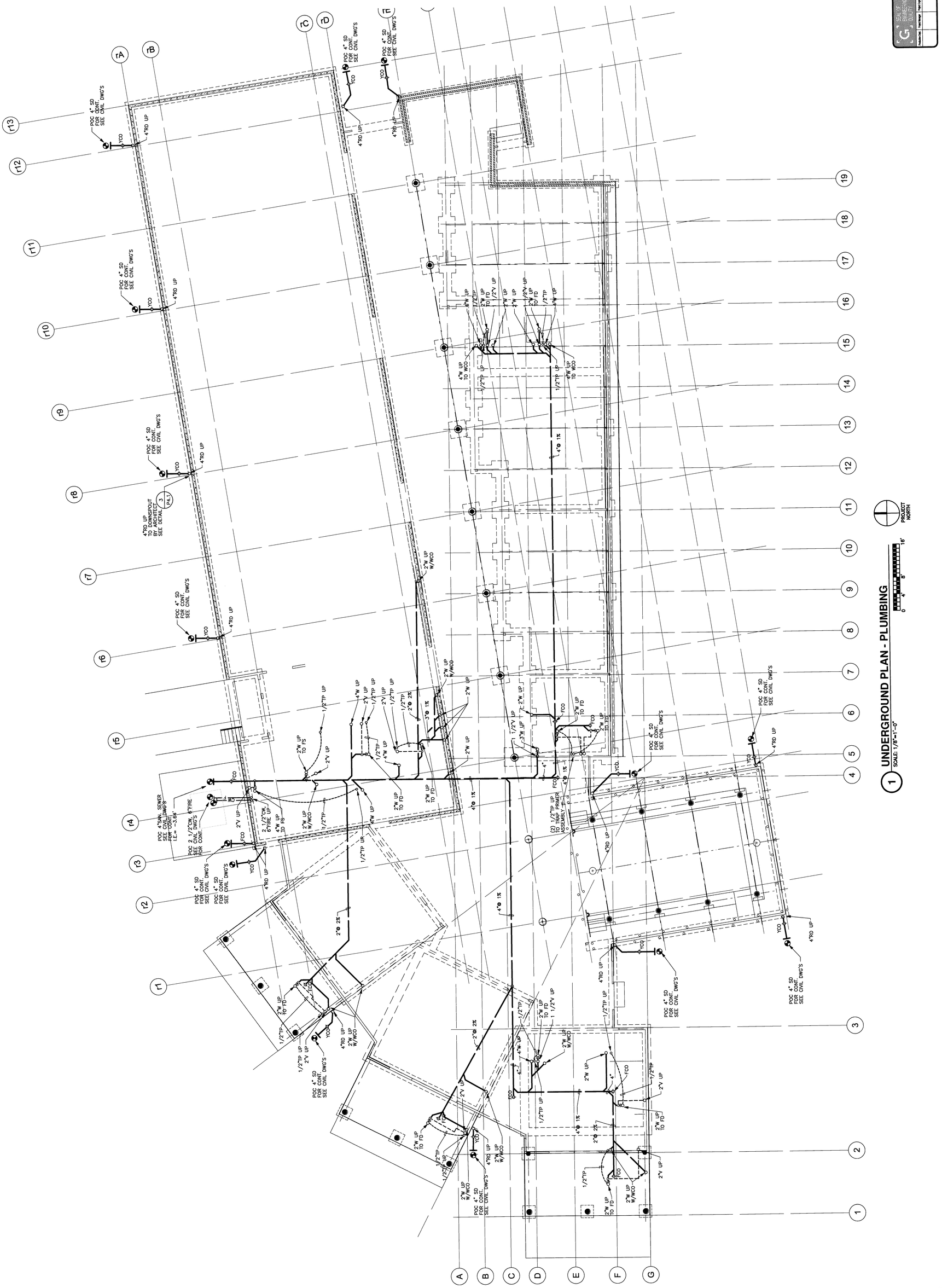
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P2.0

UNDERGROUND PLAN - PLUMBING

SEAL OF ENGINEERING QUALITY

Plumber Del. | Proj. Manager | Right Owner



1 UNDERGROUND PLAN - PLUMBING
SCALE: 1/8"=1'-0"

CLASS PORCH
CLASSROOM 2 117
CLASS PORCH
CLASSROOM 1 118
STOR. 123
STOR. 122
STOR. 131
TRIBAL/GROUP ENTRY 115
LUNCH 120
M/W 121
WORK PORCH
COATS 134
KITCHEN 125
PANTRY 126
LONGHOUSE 116
STOR 124
ELEC. 133
MECH. 108
DOCK
RECEIVING 107
STORAGE 132
WOMEN'S 109
HALL 135
EXHIBIT PREP 106
MEN'S 110
TEMPORARY EXHIBIT 105
MAIN EXHIBIT 104
CANOE HALL 103
ENTRY 101
RETAIL 102
RESEARCH LIBRARY 112
ADMINISTRATION 111
PLAN 114
TELE. 113
M/W 127
STOR. 130
OFFICE 129
STOR. 128

3/4"CONDENSATE SEE MECH. DWG'S FOR EXACT LOCATION TYPICAL
1½"V, ½"CW, ½"HW DN IN WALL & ROUTED IN WALL BELOW COUNTER TO SINK
3/4"CONDENSATE CONN. TO SINK TAILPEICE SEE 4/P4.1
2"W, ½"HW, ½"CW DN & 1½"V UP
2"W DN
2"FD-2
WH-1
S-2
2"V UP TO 2"VTR
½"HWC, 1"HW & 2"CW
1"HW
4"W DN
2"CW DN
1½"V DN
WC-2
2"FD-1
2"W DN, 2"V UP TO ABOVE CEILING ½"HW DN
3"V UP TO 3"VTR
2"W, ½"HW, ½"CW DN & 1½"V UP
1½"G, ¾"CW, ½"HWC & ½"HW
2"V UP TO 2"VTR
S-4
S-5
2"FD-
1½"V, ¾"HW & ¾"CW DN
2"W DN 1/2"HW & 1/2"CW 1 1/2"V ROUTED BELOW COUNTER ON WALL
EXTEND 1/2"HW TO DISHWASHER W/SOV (TYP. OF 2)
2"V DN 1 1/2"V
2"CW, 1 ¾"HW, ½"HWC
4"FIRE 1"HW 2"CW
¾"HW, ¾"CW
MS-1
S-3
SPILL 1 1/2" CONDESATE TO MS-1
1½"V DN
1 1/2" TP-2
(2)2"V DN
FDC
FIRE ALARM BELL ABOVE FDC
CD
2"V UP TO 2"VTR 4"W DN
2"W DN 2"V UP TO ABOVE CEILING
1½"V DN
2"CW, ¾"HW, ¾"HWC
1 1/2"CW, 1/2"HW
S-6
2"V S-6 1½"V 1"HW
2"W, ½"HW, ½"CW DN & 1½"V UP
¾"
1 1/2"CW, 1/2"HW
4"W DN
1½"V DN
S-1

1 FLOOR PLAN - PLUMBING
SCALE: 1/8"=1'-0"
0 4' 8' 16'
PROJECT NORTH

DATE	12/04/06
SCALE	AS SHOWN
DRAWN BY	TEK
APPROVED BY	GMW
PROJECT NUMBER	2128.00
DRAWING FILE	2128 SD

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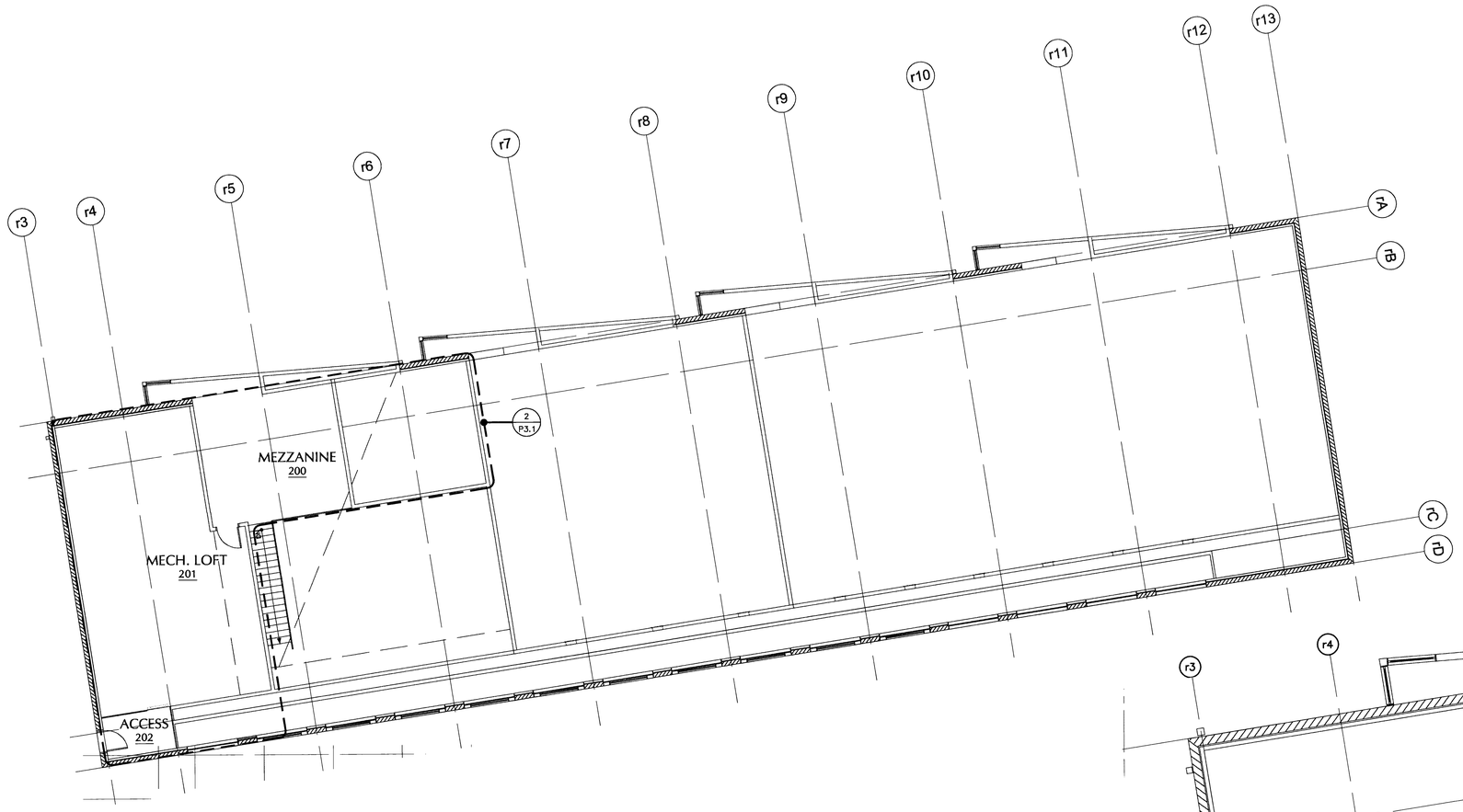
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FLOOR PLAN - PLUMBING

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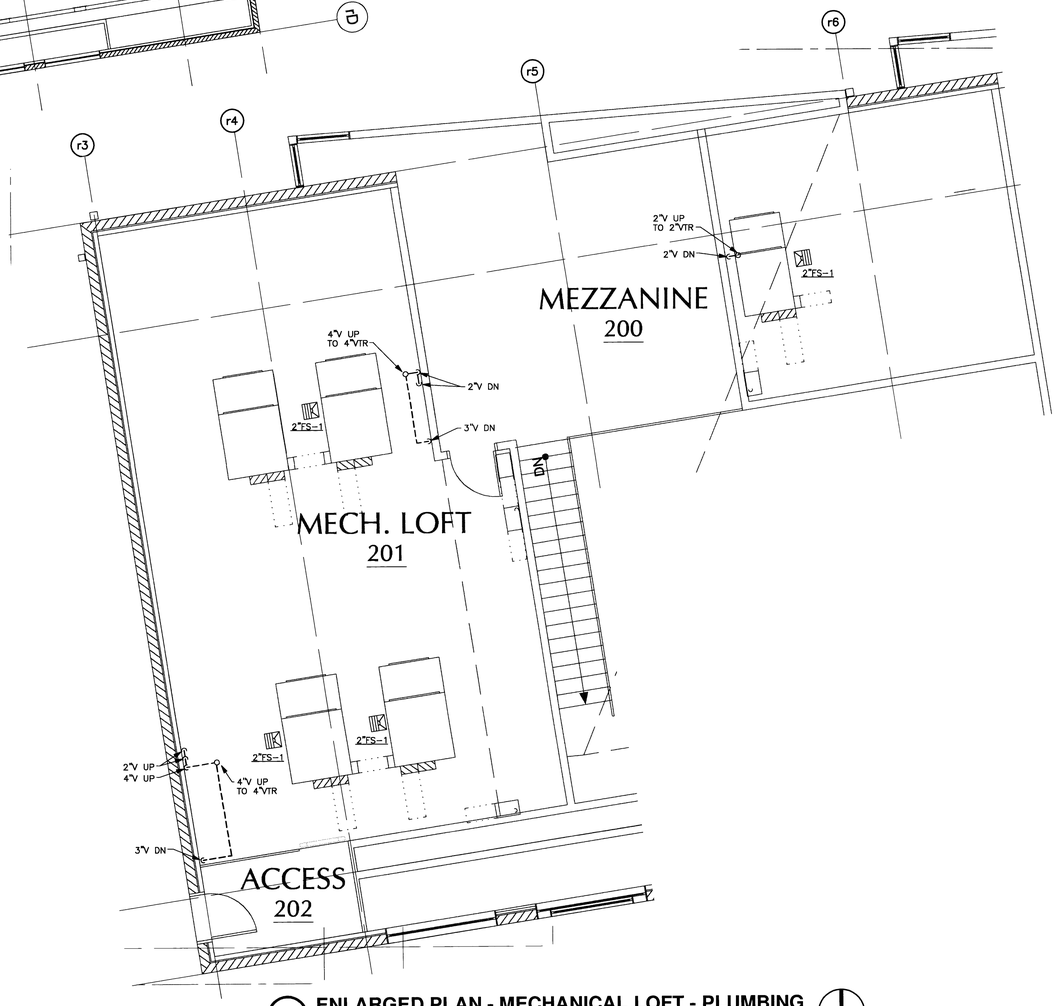
P2.1



1 **MEZZANINE PLAN - PLUMBING**
SCALE: 1/8"=1'-0"

0 2' 4' 8'

PROJECT NORTH



2 **ENLARGED PLAN - MECHANICAL LOFT - PLUMBING**
SCALE: 1/4"=1'-0"

0 2' 4' 8'

PROJECT NORTH

DATE	12/04/06
SCALE	AS SHOWN
DRAWN BY	MS
APPROVED BY	JT

PROJECT NUMBER: 2128.00

DRAWING FILE: 2128 SD

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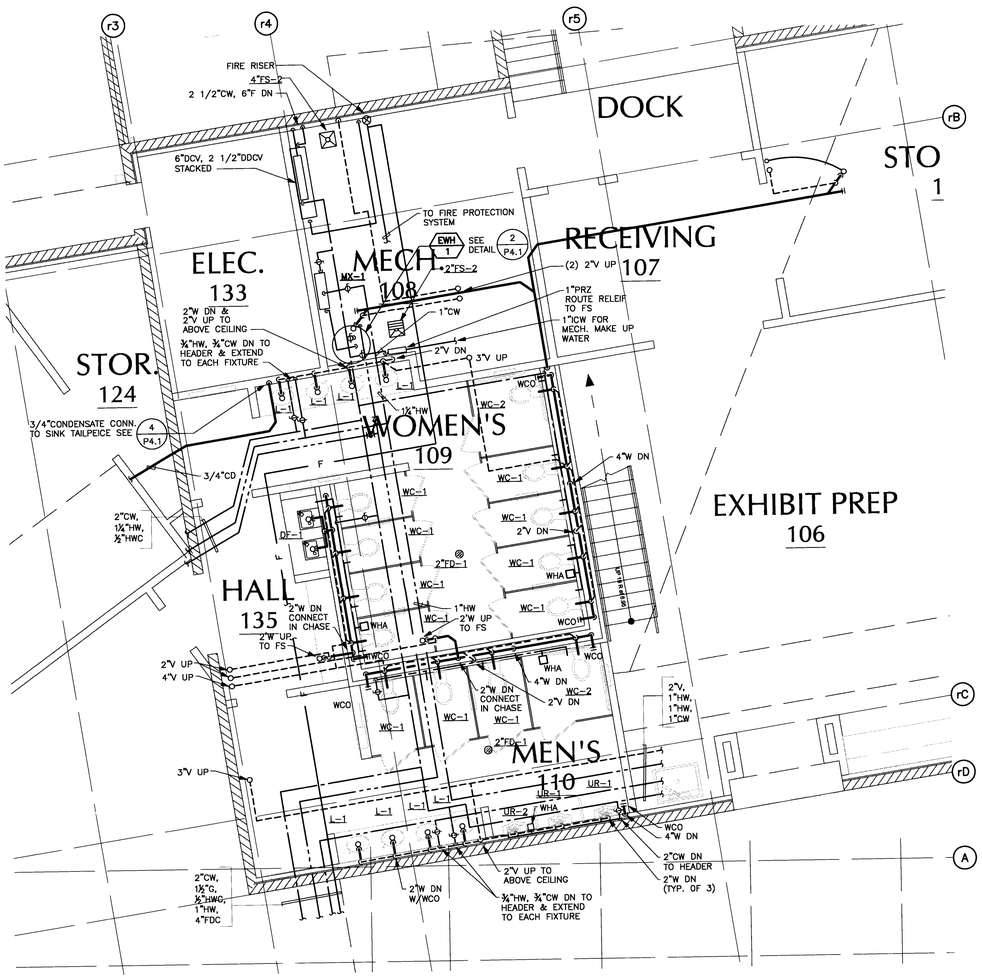
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ENLARGED PLANS - PLUMBING

P3.1

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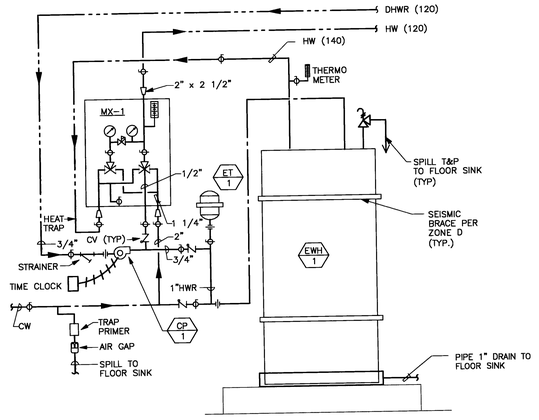


1 ENLARGED PLAN - PLUMBING

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

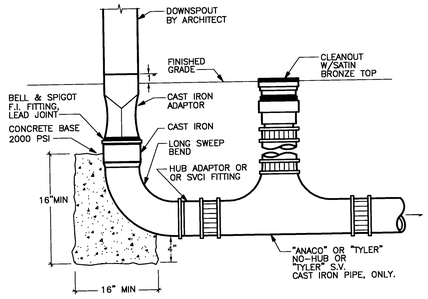
0 2' 4' 8'

PROJECT NORTH



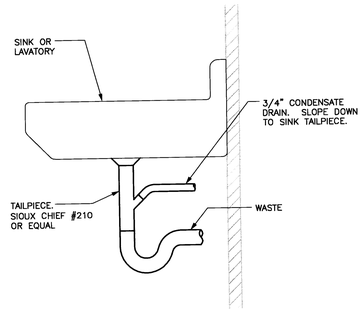
2 WATER HEATER

SCALE: NONE



3 DOWNSPOUT SHOE DETAIL

SCALE: NONE



4 CONDENSATE CONNECTION TO SINK TAILPIECE

SCALE: NONE

DATE	12/04/06
SCALE	AS SHOWN
DRAWN BY	TEK
APPROVED BY	GMW

PROJECT NUMBER: 2128.00

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ENLARGED PLANS - PLUMBING

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Production Dept.	Project Manager	Project Engineer

P4.1

ELECTRICAL LEGEND

REFER TO DETAILS FOR MOUNTING HEIGHTS OF DEVICES
NOT ALL SYMBOLS, ABBREV., ETC. ARE NECESSARILY USED ON THIS PROJECT

LIGHTING

SYMBOL	DESCRIPTION
	RECESSED LENSED LUMINAIRE (SIZE/SHAPE VARIES)
	RECESSED PARABOLIC LUMINAIRE (SIZE/SHAPE VARIES)
	SHADING OF ANY LUMINAIRE INDICATES CONNECTION TO ALTERNATE POWER SOURCE (EMERGENCY, UPS, STANDBY, ETC.) PER CIRCUITING INDICATED
	SUSPENDED LUMINAIRE (SIZE/SHAPE VARIES)
	POINT SOURCE – SURFACE, RECESSED CEILING MTD.
	FLOOR OR GRADE MOUNTED BOLLARD
	WALLWASH – SURFACE, RECESSED CEILING MTD.
	RECESSED WALL POINT SOURCE
	WRAP–AROUND TYPE FLUORESCENT
	TRACK LIGHTING WITH HEADS AS INDICATED.
	ADJUSTABLE POINT SOURCE – SURFACE CEILING, RECESSED CEILING MOUNTED.
	WALL WASH – SURFACE, RECESSED CEILING MTD.
	BATTERY POWER EMERGENCY UNIT EQUIPMENT (SEE LUMINARE SCHEDULE FOR QUANTITY OF HEADS) – WALL, CEILING MOUNTED.
	WALL SCONCE
	WALL MOUNTED FLOOD, POSSIBLY AIMABLE
	ILLUMINATED EXIT SIGN, SHADED QUADRANT INDICATES FACES, ARROWS AS SHOWN
	POLE MOUNTED LUMINAIRE– SINGLE OR DUAL HEAD
	POLE TOP MOUNTED LUMINAIRE
	DARK ROOM SAFE LIGHT (TWO COMPARTMENT SHOWN)
	"FOOT" INDICATES WALL MOUNTED LUMINAIRE
	FLUORESCENT STRIPLIGHT – POWER FEED SECTION, FEED THROUGH SECTION. LENGTH AS SHOWN.
	UNDERCABINET FLUORESCENT STRIPLIGHT
	FLUSH GRADE POINT SOURCE
	GARAGE LIGHTING LUMINAIRE WITH CUTOFF LOUVERS
PTA 3c	LUMINAIRE MARKING CONVENTION LEGEND: PTA = LUMINAIRE TYPE IDENTIFICATION. SEE LUMINAIRE SCHEDULE. 3c = CIRCUIT NUMBER VIA LOCAL SWITCH (LOWERCASE LETTER) THAT SERVES THE LUMINIARE. 3A = CIRCUIT NUMBER/UPPERCASE LETTER COMBINATION INDICATES LOW VOLTAGE RELAY OR LIGHTING CONTACTOR THAT SERVES THE LUMINAIRE
PTA 3A	
F1	LUMINAIRE TYPE IDENTIFICATION WHICH APPLIES TO ALL OTHER IDENTICAL LUMINAIRE SYMBOLS, UON.

DISTRIBUTION & EQUIPMENT

SYMBOL	DESCRIPTION
	BRANCH CIRCUIT PANELBOARDS, SURFACE AND RECESS MOUNTED, SOLID= 120/280V, HATCHED= 277/480V, DASHED EQUIP. = FUTURE
	MOTOR CONTROL CENTER W/ CODE CLEARANCES SHOWN, DASHED EQUIP. = FUTURE
	TRANSFORMER WITH CODE CLEARANCES SHOWN
	SERVICE AND/OR DISTRIBUTION EQUIPMENT WITH CODE CLEARANCES SHOWN
	CONNECTION TO MOTOR PROVIDED BY OTHERS
VFD	CONNECTION TO DIV. 15 FURNISHED VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT DIV. 16 TO INSTALL VFD EQUIPMENT
	DISCONNECT SWITCH, SIZE AS NOTED OR IF NOT SHOWN SIZE PER CONNECTED MOTOR SIZE AND MOTOR DISCONNECT SCHEDULE
F	FUSED DISCONNECT SWITCH, SIZE AS NOTED. SIZE FUSE PER MANUFACTURER'S RECOMMENDATIONS
C	ENCLOSED CIRCUIT BREAKER DISCONNECT SWITCH, TRIP SIZE AS NOTED.
	DISCONNECT W/ MAGNETIC MOTOR STARTER (CONTROLLER) OR CONTACTOR. SIZE PER LOAD SERVED. NEMA SIZE #1 MINIMUM.
	MAGNETIC MOTOR STARTER (CONTROLLER) OR CONTACTOR. SIZE PER LOAD SERVED. NEMA SIZE #1 MINIMUM.
	DIV. 16 CONNECTION TO EQUIPMENT PROVIDED BY OTHERS. SHADED = ON ALT. POWER SOURCE NOTED
	DIV. 16 CONNECTION TO EQUIPMENT WITH INTEGRAL DISCONNECT THAT IS PROVIDED BY OTHERS. SHADED = ON ALT. POWER SOURCE NOTED
	EQUIPMENT OR TERMINAL ENCLOSURE AS NOTED, SURFACE AND RECESS MOUNTED
	BUILDING GROUND BUS, SEE DETAILS
DM	DAMPER MOTOR
	BUSWAY RISER
C F	BUSWAY STAB–IN TYPE CIRCUIT BREAKER OR FUSE DISCONNECT. SIZE AS NOTED.

SWITCHING CONTROLS

SYMBOL	DESCRIPTION
S^a	SINGLE POLE SWITCH (SUPERSCRIPT DENOTES SIMILARLY MARKED LUMINAIRES CONTROLLED TOGETHER)
S_2	TWO POLE SWITCH
S_3	THREE WAY SWITCH
S_4	FOUR WAY SWITCH
S_K	KEY OPERATED SWITCH
D	DIMMER SWITCH. NUMBER INDICATES WATTAGE RATING. IF NOT SHOWN THEN EQUAL TO LOAD.
D	DIMMER SWITCH UNDER SEPARATE COVERPLATE
S_P	SWITCH WITH PILOT LIGHT (PILOT IS "ON WHEN SWITCH IS "ON").
S_{PL}	SWITCH WITH PILOT LIGHT (PILOT IS "ON WHEN SWITCH IS "OFF").
S_{TD}	TIMER SWITCH
S^{LA} S^{LB} S^{LC}	LOW VOLTAGE MOMENTARY CONTACT SWITCH, UPPER CASE LETTER SUPERSCRIPT INDICATES CONNECTION TO LOW VOLTAGE RELAY CONTROLLING SIMILARLY MARKED LUMINAIRES.
S_{EP}	EXPLOSION PROOF SWITCH
S_{WP}	WEATHERPROOF SWITCH
S_V	LINE VOLTAGE, VARIABLE SPEED FAN CONTROL SWITCH, PROVIDED BY DIV. 15, INSTALLED BY DIV. 16. LOCATE ADJACENT TO ADJACENT TO LIGHT SWITCHES.
S_T	MOTOR–RATED THERMAL OVERLOAD SWITCH
S_{OR1}	LIGHTING CONTROL OVERIDE SWITCH, SEQ. NUMBER
PC	PHOTOCELL
	EQUIPMENT OPERATOR PUSH BUTTON STATION. PROVIDED WITH EQUIPMENT, INSTALLED AND CONNECTED BY DIV. 16, UON.
	PUSHBUTTON OR PUSHBUTTONS, BY DIV. 16
TC	TIME CLOCK
OS	OCCUPANCY SENSOR – WALL MOUNTED
OS	360 DEGREE OCCUPANCY SENSOR – CEILING MTD.
OS	180 DEGREE OCCUPANCY SENSOR – CEILING MTD.
OS	CORRIDOR/AISLE OCCUPANCY SENSOR – CEILING MOUNTED
OSS	COMBINATION OCCUPANCY SENSOR & SWITCH GANGED UNDER A COMMON COVER PLATE. OCCUPANY SENSOR TO CONTROL ALL LUMINAIRES IN ROOM WITH 1/2 LIGHT REDUCTION CONTROLLED BY SWITCH, DESIGNATED BY LETTER. 2–GANG BOX WITH SINGLE–GANG MUDRING, UON SPECIFIED
T	THERMOSTAT – WALL, CEILING. PROVIDED BY DIV. 15, INSTALLED AND WIRED BY DIV. 16
EPO	EMERGENCY POWER OFF, HEAVY–DUTY, OIL–TIGHT RED MUSHROOM–HEAD PUSHBUTTON W/ GUARD.
LCP ?	LIGHTING CONTROL PANEL AND ASSOCIATED COMPONENTS. PROVIDE 120V OR 277V CONTROL POWER AS REQUIRED OR AS INDICATED.
TX	REMOTE MOUNTED LINE TO LOW–VOLTAGE FUSED TRANSFORMER. CONCEAL FROM VIEW.

POWER DEVICES

SYMBOL	DESCRIPTION
	SIMPLEX RECEPTACLE – WALL, CEILING, ON ALT.
	DUPLEX RECEPTACLE – WALL, CEILING, ON ALT.
	DOUBLE DUPLEX RECEPTACLE – WALL, CLG, ON ALT.
L5–15R	SPECIAL PURPOSE RECEPTACLE –WALL, CEILING ON ALT. POWER; NEMA CONFIGURATION AS NOTED
AB	RECEPTACLE TYPE SHOWN –WALL –ABOVE COUNTER BACKSPLASH. SEE ARCHITECTURAL DRAWINGS.
"ON ALT."	SHADED RECEPTACLES NOTED "ON ALT." ABOVE ARE CONNECTED TO ALTERNATE POWER SOURCE (EMERG., STANDBY, UPS, ETC.) PER CIRCUITING INDICATED
	DUPLEX RECEPTACLE – WALL – HALF SWITCHED
	COMBINATION SWITCH/DUPLEX RECEPTACLE
GFI	DUPLEX RECEPTACLE – WALL – WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER
WP	RECEPT. TYPE SHOWN W/ WEATHERPROOF COVER AND INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER
+42"	RECEPT. TYPE SHOWN AT SPECIAL HEIGHT
	WALL MOUNTED ELECTRICAL CONNECTION TO ELECTRIFIED FURNITURE. PROVIDE 8 WIRES (4 HOTS, 1 DEDICATED NEUTRAL, 1 COMMON NEUTRAL, 1 ISOLATED GROUND) NEUTRALS TO BE #10 AWG. USE LIQUID–TIGHT FLEX.
	CLOCK HANGER RECEPTACLE
	FLUSH FLOOR BOX DEVICE – DEVICE TYPE PER SYMBOLS ABOVE
	PEDESTAL FLOOR DEVICE – DEVICE TYPE PER SYMBOLS ABOVE
	POKE THRU UNIT WITH DUPLEX RECEPTACLE – FLUSH, PEDESTAL MOUNTED.
	POKE THRU UNIT WITH DOUBLE DUPLEX RECEPTACLE – FLUSH, PEDESTAL MOUNTED.
	COMBO POKE THRU UNIT WITH DUPLEX RECEPTACLE AND TELEPHONE OUTLET – FLUSH, PEDESTAL MOUNTED.
	MULTI–SERVICE FLOOR BOX CAST IN CONC. OR IN RAISED FLOOR – SEE ARCH. DWGS; WITH RECEPTACLES & SIGNAL OUTLETS AS NOTED.
	POKE THRU UNIT WITH JUNCTION BOX. RACEWAY COMPONENTS RC–700 SERIES.
	TELE/POWER POLE, POWER POLE
	TELE/POWER POLE WITH WHIP CONNECTION TO ELECTRIFIED FURNITURE
	TWO–PIECE SURFACE METAL RACEWAY WITH RECEPTACLES AS NOTED, LENGTH AS INDICATED ON THE DRAWINGS AND WITH ALL FITTINGS AS REQUIRED.
	TWO OR THREE COMPARTMENT SURFACE METAL RACEWAY WITH RECEPTACLES AND OUTLETS AS INDICATED, LENGTH AS INDICATED ON THE DRAWINGS. PROVIDE ALL FITTINGS AS REQUIRED.

SIGNAL DEVICES

SYMBOL	DESCRIPTION
	TERMINAL/MOUNTING BOARD, 8' HIGH X WIDTH AS SHOWN, FIRE TREATED.
	SIGNAL SYSTEM EQUIPMENT ENCLOSURES AS NOTED– SURFACE, RECESSED MOUNTED
W	COMBO TELEPHONE/DATA OUTLET – WALL
W	TELEPHONE OUTLET – WALL, W = USE HIGHER MOUNTING HEIGHT PER MOUNTING HT. DETAIL
	DATA OUTLET – WALL
S S	SPEAKER – WALL, CEILING
V	VOLUME CONTROL – WALL
B	BELL
	BUZZER
	CHIME
C C	SYSTEM CLOCK – WALL , CEILING
I I M	INTERCOM STATION – WALL, DESK M = MASTER STATION
M M	MICROPHONE JACK – WALL, FLOOR
	PUSHBUTTON OR PUSHBUTTONS
	RF COAX CABLE OUTLET (TV, VCR, ETC.)
	COMBINATION RF COAX CABLE AND DATA OUTLET
	RF COAX CABLE SIGNAL SPLITTER
	RF COAX CABLE DISTRIBUTION AMPLIFIER. PROVIDE 120V POWER AS REQUIRED OR AS INDICATED. SEE RISER DIAGRAM.
	FLUSH FLOOR DEVICE – DEVICE TYPE PER SYMBOLS ABOVE
	PEDESTAL FLOOR DEVICE – DEVICE TYPE PER SYMBOLS ABOVE
S PA	PAGING SYSTEM HORN (OUTDOOR)
S_D S_D	DUAL COIL SPEAKER – SURFACE CEILING, RECESSED CEILING.
S	PAGING OR PAGING/SOUND MASKING SPEAKER, MOUNTED ABOVE ACOUSTIC TILE CEILING.
AV	AV INPUT OUTLET, 1"C WITH 3–GANG BOX. CONDUIT STUBBED ABOVE ACCESSIBLE TILE CEILING.
IR	ASSISTIVE LISTENING INFRARED TRANSMITTER PANEL, 1"C WITH 2–GANG BOX. CONDUIT STUBBED ABOVE ACCESSIBLE TILE CEILING.

REFERENCE SYMBOLS

SYMBOL	DESCRIPTION
12	SHEET NOTE REFERENCE
125.4	BRANCH CIRCUIT OR FEEDER NOMINAL AMPACITY & TYPE; REFER TO BRANCH CIRCUIT AND FEEDER SCHEDULES FOR WIRE AND CONDUIT SIZES & QTY.
1 E4.1	REFER TO DETAIL NO. ON DRAWING INDICATED NOT ALL DETAIL REFERENCES ARE SHOWN. ALL DETAILS APPLY TO ALL APPLICABLE SITUATIONS, UON.
2 E4.1	ELEVATION TAG: REFER TO ELEVATION NUMBER ON DRAWING INDICATED
2 E4.1	SECTION TAG: REFER TO SECTION NUMBER ON DRAWING INDICATED
K112	KITCHEN EQUIPMENT REFERENCE, REFER TO KITCHEN EQUIPMENT SCHEDULE
CH 1	MECHANICAL EQUIPMENT IDENTIFICATION TAG
EQUIP. NAME	EQUIPMENT BY OTHERS IDENTIFICATION TAG

WIRING

SYMBOL	DESCRIPTION
	WIRING CONCEALED IN CEILING OR WALL. LINE WEIGHT TOP TO BOTTOM= NEW, EXISTING TO REMAIN, FUTURE
	WIRING CONCEALED IN FLOOR OR UNDER GRADE OR ROUTED IN CEILING SPACE OF FLOOR BELOW. LINE WEIGHT TOP TO BOTTOM= NEW, EXISTING TO REMAIN, FUTURE
	WIRING EXPOSED. LINE WEIGHT TOP TO BOTTOM= NEW, EXISTING TO REMAIN, FUTURE
	EXISTING WIRING TO BE REMOVED
T	TELEPHONE SYSTEM CONDUIT
MV	MEDIUM VOLTAGE CONDUIT
C	BARE GROUNDING GRID OR CONDUCTORS, UON.
GC	GROUNDING CONDUCTOR(S) ROUTED IN CODE SIZED CONDUIT, UON.
	STROKES INDICATE QUANTITY OF #12 AWG. CONDUCTORS, UON. NOTE: WIRING STROKES FOR 20A BRANCH CIRCUITS ARE NOT SHOWN ON DRAWINGS. CONTRACTOR SHALL USE INFORMATION IN PANEL AND BRANCH CIRCUIT SCHEDULES TO PROVIDE REQUIRED CIRCUITING.
	GROUND
	HOT NEUTRAL
L1A–1,3 HD1A	HOME RUN WIRING TO INDICATED DESTINATION, 3/4"C. MIN. OR AS OTHERWISE NOTED. CONTRACTOR SHALL USE CIRCUIT SIZES NOTED IN RESPECTIVE SCHEDULES AND INFORMATION IN THE FEEDER AND BRANCH CIRCUIT SCHEDULES.
	CONDUIT RUN TURNED UP THROUGH FLOOR OR CEILING. CORE & FIREPROOF AS REQUIRED.
	CONDUIT RUN TURNED DOWN THROUGH FLOOR OR CEILING. CORE & FIREPROOF AS REQUIRED.
	CONDUIT STUBBED OUT AT LOCATION SHOWN. PROVIDE INSULATED BUSHING & PULLROPE.
	TELEPHONE/DATA SLEEVE THROUGH WALL, ABOVE CEILING. EXTEND TO ACCESSIBLE TILE CLG. BOTH SIDES. TERMINATE WITH BUSHINGS. (1) 1.25" CO UON. COORDINATE LOCATIONS WITH CABLE INSTALLER(S) PRIOR TO ROUGH–IN.
	BASKET TYPE CABLE TRAY WITH 90 DEGREE ELBOW SHOWN
	LADDER TYPE CABLE TRAY WITH 90 DEGREE ELBOW SHOWN
J J J	JUNCTION BOXES, WALL, CEILING AND FLUSH FLOOR MOUNTED. 4" SQ. BOX MIN., LARGER IF REQUIRED
	WIRING EXTENSION POINT – CONDUIT TO MC CABLE OR MANUFACTURED WIRING SYSTEM J–BOX ABOVE ACCESSIBLE CEILINGS AREAS, OR EXTEND CONDUIT & WIRE IN EXPOSED OR "HARD" CEILING AREAS. SHADED= ON ALT. POWER SOURCE (EMERG,UPS,ETC.)
PB	PULL BOX, MIN. SIZE PER NEC., UON.
	UNDERFLOOR RACEWAY
	FLEXIBLE CONDUIT CONNECTION
	POWER CONNECTION TO DIV 15 FIRE/SMOKE DAMPER. REFER TO FSD CONNECTION DETAIL IF NOT SHOWN
	GROUND ROD CONNECTION
	GROUND ROD CONNECTION WITH TEST WELL BOX
	LIGHTNING SYSTEM AIR TERMINAL

ELECTRICAL EQUIPMENT NAMING CONVENTION LEGEND

EXAMPLES / LEGEND

MCC–	H	M	1	A		
DP–	U	L	D	1	A	
XFR–		H	L	1	A	
SWBD–	M	H	SN	1	A	
PNL–	E	H	K	2	B	
	EQUIP. TYPE	POWER SYSTEM DESIG.	SYSTEM VOLTAGE	ADDN'L DESIG.	FLOOR	SEQ. LETTERS

EQUIPMENT TYPE
- SUB – UNIT SUBSTATION
- SWBD – SWITCHBOARD
- SWGR – SWITCHGEAR
- DP – DISTRIBUTION PANEL
- PNL – BRANCH PANEL
- ATS – AUTOMATIC TRANSFER SWITCH
- BIATS – BYPASS ISOLATION ATS
- MTS – MANUAL TRANSFER SWITCH
- XFR – TRANSFORMER
- UTX – UTILITY MAIN TRANSFORMER
- MCC – MOTOR CONTROL CENTER
- CB – ENCLOSED CIRCUIT BREAKER
- FSW – FUSED DISCONNECT SWITCH
- DSW – NON–FUSED DISCONNECT SW.

POWER SYSTEM
- BLANK – NORMAL LOADS
- M – MAIN UTILITY SERVICE
- E – EMERGENCY POWER (Life Safety)
- S – STANDBY POWER
- U – UNINTERRUPTIBLE POWER (UPS)
- C – CRITICAL POWER (Hospital)
- Q – EQUIPMENT POWER (Hospital)
- S – LIFE SAFETY POWER (Hospital)

VOLTAGE
- H – 480/277 VOLT
- L – 208/120 VOLT
- MV – MEDIUM VOLTAGE

ADDITIONAL DESIG. (1st letter)
- BLANK – PANEL
- D – DISTRIBUTION PNL
- S – SWITCHBOARD
- M – MCC

(2nd letter)
- BLANK – NOT USED
- N – NORTH WING
- S – SOUTH WING
- K – KITCHEN
- P – PROCESS EQUIP.

FLOOR DESIG.
- B – BASEMENT/PIT
- 1 – FIRST FLOOR
- M – MEZZANINE
- R – ROOF

ABBREVIATIONS

(E)	EXISTING TO REMAIN
(F)	FUTURE
(R)	EXISTING TO BE REMOVED
(RL)	EXISTING TO BE RELOCATED
AB	ABOVE COUNTER BACKSPLASH
ACU	AIR CONDITIONING UNIT
AC	ALTERNATING CURRENT
A, AMP	AMPERES
AF	AMPERE (RATED) FUSE OR CB FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	EQUIPMENT SHORT CIRCUIT INTERRUPT RATING (RMS SYM. AMPS)
AL	ALUMINUM (ALLOY)
ALC	AUTOMATIC LIGHTING CONTROL
AS	AMPERE (RATED) SWITCH
AT	CIRCUIT BRKR TRIP SETTING (AMPS)
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BAT	BATTERY
BG	BELOW GRADE
BRKR	CIRCUIT BREAKER
C	CONDUIT (CIRCULAR RACEWAY)
CAB	CABINET
CB	CIRCUIT BREAKER
CFM	CUBIC FEET PER MINUTE
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT ONLY
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DISC	DISCONNECT
DIA	DIAMETER
DIV	DIVISION
DP	DISTRIBUTION PANEL
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DWG	DRAWING
E,EMERG	EMERGENCY
EF	EXHAUST FAN
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EO	ELECTRICALLY OPERATED
EOL	END OF LINE
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FA	FIRE ALARM
FAA	FIRE ALARM ANNUNCIATOR
FBO	FURNISHED BY OTHERS
FC	FOOT CANDLES
FF	FLUSH FLOOR MOUNTED
FLA	FULL LOAD AMPERES
FLEX	FLEXIBLE
FPB	FAN POWERED BOX
FSD	FIRE/SMOKE DAMPER
FW	FLUSH WALL MOUNTED
FU	FUSE
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRAP	GENERATOR REMOTE ANNUNCIATOR PNL
GRC	GALVANIZED RIGID STEEL CONDUIT
HLO	HANDLE LOCK–ON(OFF)
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HTR	HEATER
HZ	HERTZ (CYCLES PER SECOND)
IES	ILLUMINATING ENGINEERING SOCIETY
IBC	INDIVIDUAL BRANCH CIRCUIT
ID	INSIDE DIAMETER
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
KCMIL	THOUSAND CIRCULAR MILS
KO	KNOCK OUT
KW	KILOWATTS
KVA	KILOVOLT–AMPERES
LTG	LIGHTING
LCP	LIGHTING CONTROL PANEL
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERES
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MO	MANUAL OPERATOR
MTD	MOUNTED
MTR	MOTOR
–N–	NEUTRAL (GROUNDED CONDUCTOR)
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
–NEG	NEGATIVE
NEMA	NATIONAL ELECTRICAL MFGR'S ASSOC.
NL	NIGHT LIGHT (UNSWITCHED)
NO	NORMALLY OPEN
NTS	NOT TO SCALE
NP	NAMEPLATE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OS	OCCUPANCY SENSOR
P	POLE
PB	PUSHBUTTON
PH, ø	PHASE
PNL	PANEL
+,POS	POSITIVE
PRI	PRIMARY
REQD	REQUIRED
RNC	RIGID NON–METALLIC CONDUIT (PVC)
RS	RAPID START
RST	REMOTE STATION TRANSMITTER
S.A.D.	SEE ARCHITECTURAL DRAWINGS
SEC	SECONDARY
SN	SHEET NOTE
SOL	SOLENOID
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SUB	SUBSTATION
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TB	TERMINAL BOARD
TDC	TIME DELAY CLOSING
TDO	TIME DELAY OPENING
TEL	TELEPHONE
TYP	TYPICAL
UL	UNDERWRITERS LAB
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTX	UTILITY TRANSFORMER
V	VOLTS
VA	VOLT–AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF, SEE RECEPT. SYMBOL
XFR	TRANSFORMER
XP	EXPLOSION PROOF
Z	ZONE
", IN	INCHES
', FT	FEET
ø	PHASE
>	GREATER THAN
<	LESS THAN
≥	GREATER THAN OR EQUAL TO

ELECTRICAL DESIGN CRITERIA

1. CODES AND STANDARDS
   A. AMERICANS WITH DISABILITIES ACT, (ADA)
   B. NFPA 101, LIFE SAFETY CODE: 2005
   C. BUILDING CODES ENFORCED BY THE AUTHORITY HAVING JURISDICTION IN WASHINGTON:
      1. 2002 NATIONAL ELECTRICAL CODE (NEC)
      2. 2005 WASHINGTON STATE ENERGY CODE, (WAC 51–11, WSEC)
2. LIGHTING DESIGN
   A. LIGHTING CRITERIA USED, BASED ON RECOMMENDED LEVELS BY ILLUMINATING ENGINEERING SOCIETY (IES)
      1. CORRIDORS – 15 FC
      2. OFFICES – 35 FC
      3. RESTROOMS – 20 FC
   B. LIGHTING CONTROLS:
      1. LOW VOLTAGE CONTROLS FOR SWEEP–OFF FUNCTION.
      2. OCCUPANCY SENSORS IN CLASSROOMS, STORAGE ROOMS AND RESTROOMS.
      3. PHOTOCELL ON & OFF– EXTERIOR LIGHTING
      4. DAYLIGHT HARVESTING CONTROLS
   C. LIGHTING DESIGN AND LUMINAIRE SELECTION WAS PERFORMED BY THE ARCHITECT
3. POWER DESIGN
   A. MAX. NUMBER OF WORKSTATIONS PER 20A CIRCUIT: 4
   B. FLOOR OUTLETS/ BOXES ARE TO BE INSTALLED PER DIMENSIONS SHOWN ON THE ARCHITECTURAL FLOOR PLANS

ELECTRICAL DRAWING LIST

E0.0	ELECTRICAL LEGEND, ABBREVIATIONS, AND DRAWING LIST
E0.2	ELECTRICAL SCHEDULES
E0.3	PANEL SCHEDULES
E2.1	FLOOR PLAN – POWER & SIGNAL
E3.1	FLOOR PLAN – LIGHTING
E4.1	ELECTRICAL ENLARGED PLANS
E6.1	ONE–LINE DIAGRAM
E7.0	ELECTRICAL DETAILS

DATE 12/04/06 | SCALE NONE | DRAWN BY PL | APPROVED BY JE
PROJECT NUMBER 2128.00
DRAWING FILE 2128 SD

REVISION	DATE
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TULALIP MUSEUM

ELECTRICAL LEGEND, ABBREVIATIONS, AND DRAWING LIST

SEAL OF ENGINEERING QUALITY
Production Dept. | Project Manager | Project Engineer

E0.0

COPPER FEEDER SCHEDULE

FEEDER TAG	CONDUITS MET	SETS	RNC	CONDUCTORS PER SET PHASE/NEUTRAL	GROUND	NOTES
4000.4	3.50"	11	4.00"	(4) 500 KCMIL	500 KCMIL	–
4000.3	3.00"	11	4.00"	(3) 500 KCMIL	500 KCMIL	–
3500.4	3.50"	10	4.00"	(4) 500 KCMIL	500 KCMIL	–
3500.3	3.00"	10	4.00"	(3) 500 KCMIL	500 KCMIL	–
3000.4	3.50"	8	4.00"	(4) 500 KCMIL	400 KCMIL	–
3000.3	3.00"	8	4.00"	(3) 500 KCMIL	400 KCMIL	–
2500.4	3.50"	7	4.00"	(4) 500 KCMIL	350 KCMIL	–
2500.3	3.00"	7	4.00"	(3) 500 KCMIL	350 KCMIL	–
2000.4	3.00"	6	4.00"	(4) 400 KCMIL	250 KCMIL	–
2000.3	3.00"	6	4.00"	(3) 400 KCMIL	250 KCMIL	–
600.4R	3.50"	5	4.00"	(3) 500 KCMIL, (2) 400 KCMIL–N	#4/0	7
1600.4	3.00"	5	4.00"	(4) 400 KCMIL	#4/0	–
1600.3	3.00"	5	4.00"	(3) 400 KCMIL	#4/0	–
1200.4	3.00"	4	4.00"	(4) 350 KCMIL	#3/0	–
1200.3	3.00"	4	3.00"	(3) 350 KCMIL	#3/0	–
1000.4R	3.50"	3	4.00"	(3) 500 KCMIL, (2) 400 KCMIL–N	#2/0	7
1000.4	3.00"	3	4.00"	(4) 400 KCMIL	#2/0	–
1000.3	3.00"	3	4.00"	(3) 400 KCMIL	#2/0	–
800.4K	3.00"	3	4.00"	(3) 350 KCMIL, (2) 300 KCMIL–N	#1/0	7
800.4	3.00"	3	3.00"	(4) 300 KCMIL	#1/0	–
800.3	2.50"	3	3.00"	(3) 300 KCMIL	#1/0	–
700.4	3.50"	2	4.00"	(4) 500 KCMIL	#1/0	–
700.3	3.00"	2	4.00"	(3) 500 KCMIL	#1/0	–
600.4	3.00"	2	4.00"	(4) 350 KCMIL	#1	–
600.3	2.50"	2	4.00"	(3) 350 KCMIL	#1	–
500.4K	3.00"	2	4.00"	(3) 300 KCMIL, (2) 250 KCMIL–N	#2	7
500.4	2.50"	2	3.00"	(4) 250 KCMIL	#2	–
500.3	2.50"	2	2.50"	(3) 250 KCMIL	#2	–
450.4	2.50"	2	3.00"	(4) #4/0	#2	–
450.3	2.00"	2	2.50"	(3) #4/0	#2	–
400.4K	2.50"	2	2.50"	(3) #4/0, (2)#3/0–N	#2	7
400.4	2.00"	2	2.50"	(4) #3/0	#2	–
400.3	2.00"	2	2.50"	(3) 3/0	#2	–
350.4	3.50"	1	4.00"	(4) 500 KCMIL	#2	–
350.3	2.50"	1	4.00"	(3) 500 KCMIL	#2	–
300.4	3.00"	1	3.00"	(4) 350 KCMIL	#4	–
300.3	2.50"	1	3.00"	(3) 350 KCMIL	#4	–
250.4	2.50"	1	3.00"	(4) 250 KCMIL	#4	–
250.3	2.50"	1	3.00"	(3) 250 KCMIL	#4	–
225.4K	3.00"	1	3.00"	(3) 250 KCMIL, (2)#4/0–N	#4	7
225.4	2.50"	1	3.00"	(4) #4/0	#4	–
225.3	2.00"	1	2.50"	(3) #4/0	#4	–
200.4K	2.50"	1	2.50"	(3)#4/0,(2)#3/0–N	#6	–
200.4	2.00"	1	2.50"	(4) #3/0	#6	–
200.3	2.00"	1	2.50"	(3) #3/0	#6	–
175.4	2.00"	1	2.50"	(4) #2/0	#6	–
175.3	1.50"	1	2.00"	(3) #2/0	#6	–
150.4K	2.00"	1	2.00"	(3)#2/0,(2)#1/0–N	#6	–
150.4	2.00"	1	2.00"	(4) #1/0	#6	–
150.3	1.50"	1	2.00"	(3) #1/0	#6	–
125.4	1.50"	1	1.50"	(4) #1	#6	–
125.3	1.25"	1	1.50"	(3) #1	#6	–
110.4K	1.50"	1	2.00"	(3) #2,(1)#4/0–N	#6	7
110.4	1.25"	1	1.50"	(4) #2	#6	–
110.3	1.25"	1	1.50"	(3) #2	#6	–
100.4	1.25"	1	1.50"	(4) #2	#8	–
100.3	1.25"	1	1.50"	(3) #2	#8	–
90.4	1.25"	1	1.50"	(4) #2	#8	–
90.3	1.25"	1	1.50"	(3) #2	#8	–
80.4	1.25"	1	1.50"	(4) #4	#8	–
80.3	1.00"	1	1.50"	(3) #4	#8	–
70.4	1.25"	1	1.50"	(4) #4	#8	–
70.3	1.00"	1	1.50"	(3) #4	#8	–
60.4	1.00"	1	1.00"	(4) #6	#10	–
60.3	0.75"	1	1.00"	(3) #6	#10	–
50.4K	1.00"	1	1.50"	(3) #6,(1)#2–N	#10	7
50.4	1.00"	1	1.00"	(4) #6	#10	–
50.3	0.75"	1	1.00"	(3) #6	#10	–
40.4	0.75"	1	1.00"	(4) #8	#10	–
40.3	0.75"	1	1.00"	(3) #8	#10	–
30.4	0.75"	1	1.00"	(4) #10	#10	–
30.3	0.75"	1	1.00"	(3) #10	#10	–
20.4	0.75"	1	1.00"	(4) #12	#12	–
20.3	0.75"	1	1.00"	(3) #12	#12	–
XFR						8
SCHD						9

NOTES:

1. CONDUCTORS AND CONDUITS SHOWN IN THIS SCHEDULE ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION.
2. THIS SCHEDULE SHALL BE USED ON ALL FEEDERS SERVING LOADS WHERE THE CIRCUIT BREAKER SIZE MATCHES THE AMPACITY OF ITS FEEDER. USE THE "MOTOR CIRCUIT SCHEDULE" FOR LOADS, SUCH AS MOTORS, PUMPS, FANS, CHILLERS, ETC., WHERE THE CIRCUIT BREAKER SIZE IS LARGER THAN THE AMPACITY OF ITS FEEDER.
3. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS AND BRANCH CIRCUITS. WHERE MULTIPLE CONDUITS ARE INDICATED PROVIDE NOTED GROUND WIRE IN EACH CONDUIT.
4. NOT ALL FEEDERS ARE NECESSARILY USED ON THIS PROJECT.
5. NOMINAL AMPACITIES GREATER THAN 100 AMPS ARE FOR 75 DEG..C TERMINALS.
6. "MET"= EMT, IMC, GRC, RAC, OR PVC COATED GRC TYPE CONDUITS. "RNC"= PVC 40, PVC 80 OR FIBERGLASS TYPE CONDUITS ROUTED UNDERGROUND. REFER TO SIZING ON DRAWINGS IF "RNC" CONDUITS ARE ROUTED ABOVEGROUND. CONDUIT SIZES NOTED ON SINGLE–LINE DIAGRAM OR ON PLANS SUPERSEDE SIZES NOTED ABOVE IF LARGER.
7. OVERSIZED (173% MIN.) NEUTRAL FOR FEEDERS CONNECTED TO A K–4 OR HIGHER RATED TRANSFORMER.
8. REFER TO TRANSFORMER SCHEDULE FOR STANDARD PRIMARY AND SECONDARY FEEDER SIZES.
9. REFER TO MCC OR PANEL SCHEDULES FOR FEEDER SIZES TO EQUIPMENT NOTED WITH THIS TAG.

MOTOR CIRCUIT SCHEDULE

FEEDER TAG	CONDUITS ① MET	SETS	RNC	CONDUCTORS PER SET PHASE/NEUTRAL	GROUND ②	REMARKS
600.3M	3.00"	5	4.00"	(3) 400 KCMIL	400 KCMIL	–
400.3M	3.50"	4	4.00"	(3) 500 KCMIL	400 KCMIL	–
1200.3M	3.00"	4	4.00"	(3) 350 KCMIL	350 KCMIL	–
1000.3M	3.00"	3	4.00"	(3) 400 KCMIL	250 KCMIL	–
800.3M	3.00"	2	4.00"	(3) 500 KCMIL	#4/0	–
700.3M	3.00"	2	4.00"	(3) 400 KCMIL	#4/0	–
600.3M	3.00"	2	4.00"	(3) 350 KCMIL	#3/0	–
500.3M	2.50"	2	3.00"	(3) 250 KCMIL	#2/0	–
450.3M	2.50"	2	3.00"	(3) #4/0	#2/0	–
400.3M	3.00"	1	4.00"	(3) 500 KCMIL	#1/0	–
350.3M	3.00"	1	4.00"	(3) 400 KCMIL	#1/0	–
300.3M	2.50"	1	3.00"	(3) 350 KCMIL	#1	–
275.3M	2.50"	1	3.00"	(3) 300 KCMIL	#1	–
250.3M	2.50"	1	3.00"	(3) 250 KCMIL	#2	–
225.3M	2.00"	1	3.00"	(3) #4/0	#2	–
200.3M	2.00"	1	2.50"	(3) #3/0	#3	–
175.3M	2.00"	1	2.50"	(3) #2/0	#3	–
150.3M	1.50"	1	2.00"	(3) #1/0	#4	–
125.3M	1.50"	1	2.00"	(3) #1	#4	–
110.3M	1.25"	1	2.00"	(3) #2	#6	–
100.3M	1.25"	1	2.00"	(3) #2	#6	–
90.3M	1.25"	1	1.50"	(3) #4	#6	–
80.3M	1.25"	1	1.50"	(3) #4	#6	–
70.3M	1.25"	1	1.50"	(3) #4	#6	–
60.3M	1.00"	1	1.50"	(3) #6	#8	–
50.3M	0.75"	1	1.50"	(3) #6	#6	–
40.3M	0.75"	1	1.00"	(3) #8	#8	–
30.3M	0.75"	1	1.00"	(3) #10	#10	–
20.3M	0.50"	1	1.00"	(3) #12	#12	–

GENERAL NOTES

A. CONDUCTORS AND CONDUITS SHOWN IN THIS SCHEDULE ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION.
B. THIS MOTOR BRANCH CIRCUIT SCHEDULE SHALL BE USED FOR ALL CIRCUITS WHERE THE CIRCUIT BREAKER SIZE PROTECTING THE LOAD IS LARGER THAN THE AMPACITY OF THE CIRCUIT CONDUCTORS. EXAMPLES ARE: MOTORS, CHILLERS, ELEVATORS, FANS, PUMPS, ETC.
C. PROVIDE NOTED SIZE GROUND CONDUCTOR IN EACH CONDUIT OF CIRCUITS CONSISTING OF MULTIPLE SETS OF PARALLEL CONDUCTORS.
D. NOT ALL CIRCUITS ARE NECESSARILY USED ON THIS PROJECT.
E. NOMINAL AMPACITIES GREATER THAN 100 AMPS ARE FOR 75°C TERMINATIONS.
F. ON CIRCUITS SHOWN WITH A ".6M" SUFFIX, PROVIDE SIX PHASE CONDUCTORS AND ONE GROUND WIRE IN CODE SIZED CONDUIT. INCLUDE 80% DERATING FACTOR ON PHASE CONDUCTOR SIZE.

SCHEDULE REMARKS

① "MET"= EMT, GRC (RIGID), RAC, OR PVC COATED GRC TYPE CONDUITS. "RNC"= PVC 40, PVC 80 OR FIBERGLASS TYPE CONDUITS ROUTED UNDERGROUND. REFER TO SIZING ON DRAWINGS IF "RNC" CONDUITS ARE ROUTED ABOVEGROUND. CONDUIT SIZES NOTED ON SINGLE–LINE DIAGRAM OR ON PLANS SUPERSEDE SIZES NOTED ABOVE IF LARGER.

② PROVIDE GROUND WIRE NOTED IN ALL MOTOR BRANCH CIRCUITS.

BRANCH CIRCUIT SCHEDULE

CIRCUIT TAG	CONDUITS MET	SETS	RNC	CONDUCTORS PER SET PHASE/NEUTRAL	GROUND	WIRING CONFIG.	NOTES
60.2N	0.75"	1	1.00"	(2) #6, (1) #6N	#10	1ø,2W,N	–
60.2	0.75"	1	1.00"	(2) #6	#10	1ø,2W	–
60.1	0.75"	1	1.00"	(1) #6, (1) #6N	#10	1ø,1W,N	–
50.2N	0.75"	1	1.00"	(2) #6, (1) #6N	#10	1ø,2W,N	–
50.2	0.75"	1	1.00"	(2) #6	#10	1ø,2W	–
50.1	0.75"	1	1.00"	(1) #6, (1) #6N	#10	1ø,1W,N	–
40.2N	0.75"	1	1.00"	(2) #8, (1) #8N	#10	1ø,2W,N	–
40.2	0.75"	1	1.00"	(2) #8	#10	1ø,2W	–
40.1	0.75"	1	1.00"	(1) #8, (1) #8N	#10	1ø,1W,N	–
30.2N	0.75"	1	1.00"	(2) #10, (1) #10N	#10	1ø,2W,N	–
30.2	0.75"	1	1.00"	(2) #10	#10	1ø,2W	–
30.1	0.75"	1	1.00"	(1) #10, (1) #10N	#10	1ø,1W,N	–
20.2N	0.50"	1	1.00"	(2) #12, (1) #12N	#12	1ø,2W,N	7,8
20.2	0.50"	1	1.00"	(2) #12	#12	1ø,2W	7,8
20.1	0.50"	1	1.00"	(1) #12, (1) #12N	#12	1ø,1W,N	7,8

NOTES:

1. CONDUCTORS AND CONDUITS SHOWN IN THIS SCHEDULE ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION.
2. THIS SCHEDULE SHALL BE USED ON ALL BRANCH CIRCUITS SERVING LOADS WHERE THE CIRCUIT BREAKER SIZE MATCHES THE AMPACITY OF ITS FEEDER. USE THE "MOTOR CIRCUIT SCHEDULE" FOR LOADS, SUCH AS MOTORS, PUMPS, FANS, CHILLERS, ETC., WHERE THE CIRCUIT BREAKER SIZE IS LARGER THAN THE AMPACITY OF ITS FEEDER.
3. PROVIDE GROUND WIRE NOTED ABOVE IN ALL BRANCH CIRCUITS.
4. NOT ALL BRANCH CIRCUITS SHOWN ABOVE ARE NECESSARILY USED ON THIS PROJECT.
5. "MET"= EMT, IMC, GRC, RAC, OR PVC COATED GRC TYPE CONDUITS. "RNC"= PVC 40, PVC 80 OR FIBERGLASS TYPE CONDUITS ROUTED UNDERGROUND. REFER TO SIZING ON DRAWINGS IF "RNC" CONDUITS ARE ROUTED ABOVEGROUND. CONDUIT SIZES NOTED ON SINGLE–LINE DIAGRAM OR ON PLANS SUPERSEDE SIZES NOTED ABOVE IF LARGER THAN THE AMPACITY OF ITS FEEDER.
6. THIS SCHEDULE APPLIES TO STANDARD LENGTH CIRCUITS ONLY. CONTRACTOR TO UPSIZE WIRING AS REQUIRED TO MEET MINIMUM VOLTAGE DROP REQUIREMENTS INDICATED IN SPECIFICATIONS. GROUND CONDUCTOR WILL ALSO NEED TO BE INCREASED PROPORTIONATELY AS REQUIRED BY NEC.
7. THESE BRANCH CIRCUITS TAGS ARE TYPICALLY NOT SHOWN ON PLANS FOR CLARITY REASONS. CONTRACTOR SHALL USE THIS INFORMATION AS IT APPLIES FOR ALL CONDUITS CONTAINING ONE OR MORE 20A/1P CIRCUITS.
8. CONTRACTOR MAY COMBINE 20A 1 AND 2–POLE CIRCUITS, UP TO A MAXIMUM OF 4 PHASE CONDUCTORS, IN ONE CONDUIT. ALL 3–PHASE AND CIRCUITS LARGER THAN 20A SHALL BE IN DEDICATED CONDUITS, UON. WHERE NEUTRALS FOR 20A CIRCUITS ARE SHARED, THE MINIMUM NEUTRAL WIRE SIZE SHALL BE #10 AWG., ONE PER "ROUNDHOUSE."
9. ALL HOMERUNS SHALL USE 0.75" CONDUIT SIZE MINIMUM.

3-PHASE MOTOR DISCONNECT SWITCH SCHEDULE

MOTOR HP.	480V MOTOR DISCONNECT SWITCH RATING	208V MOTOR DISCONNECT SWITCH RATING	NOTES
1/2	30	30	
3/4	30	30	
1	30	30	
1–1/2	30	30	
2	30	30	
3	30	30	
5	30	30	
7–1/2	30	60	
10	30	60	
15	30	100	
20	60	100	
25	60	100	
30	60	200	
40	100	200	
50	100	200	
60	100	400	
75	200	400	
100	200	400	
125	200	600	
150	400	600	
200	400	NA	

NOTES:

1. THIS SCHEDULE APPLIES TO ALL 600V AND LOWER, DISCONNECT SWITCHES THAT SERVE MOTORS ONLY. DISCONNECT SWITCHES THAT SERVE PACKAGE SYSTEMS SUCH AS A/C UNITS, HEAT PUMPS, ETC. SHALL BE HEAVY–DUTY FUSED TYPE AND SIZED PER MANUFACTURER'S RECOMMENDATIONS.
2. ALL DISCONNECT SWITCHES SHALL BE HEAVY–DUTY TYPE. NEMA 1 FOR INDOORS, NEMA 3R FOR OUTDOORS, UNLESS OTHERWISE NOTED.
3. USE THIS SCHEDULE IN CONCERT WITH MECHANICAL EQUIPMENT SCHEDULES, PANEL, AND MCC SCHEDULES TO DETERMINE CORRECT SIZE DISCONNECT SWITCHES TO PROVIDE. SIZES SHOWN ON DRAWINGS SUPERSEDES SIZES SHOWN ABOVE IF THEY ARE LARGER.
4. ON DISCONNECT SWITCHES ON THE LOAD SIDE OF VFD'S PROVIDE AUXILIARY SET OF CONTACTS AND CONTROL WIRING TO STOP VFD PRIOR TO OPENING POWER CONTACTS. REFER TO DETAIL.
5. FOR MOTORS THAT REQUIRE 6 LEADS, SUCH AS WHEN USING 2S2W AND DELTA–WYE TYPE STARTERS, PROVIDE 6–POLE MOTOR DISCONNECT SWITCHES.

TRANSFORMER SCHEDULE

KVA	480V PRIMARY C.B.	480V PRIMARY FEEDER	208Y/120V SECONDARY C.B.	208Y/120V SECONDARY FEEDER	GROUND AWG	WT.
15	30/3	30.3	50/3	50.4K	#8	275
30	50/3	50.3	100/3	110.4K	#8	340
45	70/3	70.3	150/3	150.4K	#6	475
75	125/3	125.3	225/3	225.4K	#2	1060
112.5	175/3	175.3	400/3	400.4K	#1/0	1250
150	225/3	225.3	500/3	500.4K	#2/0	2130
225	350/3	350.3	800/3	800.4K	#3/0	2665
300	450/3	450.3	1000/3	1000.4R	#3/0	4190
500	800/3	800.3	1600/3	1600.4R	#4/0	3480

NOTES:

1. THIS SCHEDULE APPLIES TO 480V TO 208Y/120V DRY TYPE STEP–DOWN TRANSFORMERS ONLY.
2. ON ONE–LINE DIAGRAMS AND SCHEDULES WHERE FEEDERS AND CIRCUIT BREAKERS ARE SHOWN AS "XFR", PROVIDE RESPECTIVE FEEDERS, GROUND CONDUCTORS AND BREAKERS NOTED ABOVE. PROVIDE SECONDARY BREAKER NOTED ABOVE AS MAIN CIRCUIT BREAKER INTERGRAL IN DISTRIBUTION, PANEL AND SWITCH BOARDS, UON.
3. DELETE "K" SUFFIX IN FEEDER DESIGNATION IF TRANSFORMER IS K–1 RATED. (STANDARD UNLESS "K" RATING IS SHOWN ON ONE–LINE DIAGRAM).
4. GROUND CONDUCTOR SIZES INDICATED ABOVE SUPERSEED GROUND CONDUCTORS SHOWN ON FEEDER SCHEDULE. ROUTE COPPER GROUNDING CONDUCTOR TO GROUNDING ELECTRODE PER NEC. PROVIDE BONDING ALSO PER NEC. COMMON LEAD OF LARGEST REQUIRED SIZE MAY BE EMPLOYED TO SERVE MULTIPLE TRANSFORMERS.
5. NOT ALL TRANSFORMER SIZES INDICATED IN THIS SCHEDULE ARE NECESSARILY USED ON THIS PROJECT.
6. WEIGHTS INDICATED ABOVE ARE APPROXIMATE, ACTUAL VALUES MAY VARY. CONFIRM WITH SUBMITTAL INFO.

DATE 12/04/06 | SCALE NONE | DRAWN BY PL | APPROVED BY JE

PROJECT NUMBER 2128.00

DRAWING FILE 2128 SD

DATE	REV #	REVISION
03/16/07		

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TULALIP MUSEUM

ELECTRICAL LEGEND, ABBREVIATIONS, AND DRAWING LIST

SEAL OF ENGINEERING QUALITY

Production Dept.	Project Manager	Project Engineer

E0.2

PANEL EH1A

LOCATION: **ELECTRICAL ROOM 133** — EMERGENCY POWER

POLE NO.	LOAD SERVED	CKT SIZE	LOAD TYPE	LOAD HP	LOAD KVA	C.B. AMP	C.B. POL	PH	C.B. AMP	C.B. POL	LOAD TYPE	LOAD HP	LOAD KVA	CKT SIZE	LOAD SERVED	POLE NO.
1	**SPARE BREAKER**	-	-	-	-	20	1	A	20	1	-	-	-	-	**SPARE BREAKER**	2
3	**SPARE BREAKER**	-	-	-	-	20	1	B	20	1	-	-	-	-	**SPARE BREAKER**	4
5	**SPARE BREAKER**	-	-	-	-	20	1	C	20	1	-	-	-	-	**SPARE BREAKER**	6

VOLTAGE: **277Y/480V 3Ø, 4W**
MOUNTING: **SURFACE**
MAIN: **30A MCB**
BUS RATING **30A**
AIC RATING: **SEE ONE LINE**
ADDITIONAL PANEL FEATURES: **HINGED DOOR TRIM**

LOAD TYPE	CONN. KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
(L) LIGHTING ---------->	0	NEC 220-11	0	0
(R) RECEPTACLES ---------->	0	NEC 220-13	0	0
(M) MOTOR LOADS ---------->	0	1.0	0	0
LARGEST MOTOR ---->	0	0.25	0	0
(C) CONTINUOUS ---------->	0	1.25	0	0
(N) NON-CONTINUOUS ---->	0	1.0	0	0
(K) KITCHEN EQUIP. ---------->	0	1.0	0	0
(.#) SPECIAL DEMAND ---->	0	1.0	0	0
TOTAL ----------->	**0**		**0**	**0**
WITH 25% SPARE -->	**0**		**0**	**0**

CONN LOAD SUMMARY

PH	AMPS
A	0.0
B	0.0
C	0.0

80% RATED PNL DMND FACTORS

CIRCUIT NOTES:

PROJECT: **enter project name/phase??**
ISSUED FOR: **NOT FOR CONSTRUCTION**
DATE ISSUED: **23-APR-2007**

FED FROM: **DISTRIBUTION PANEL MSB-H1A**

SF = LOADS FROM SUBFED PANEL/MCC XFR = SIZE PER XFR SCHD

PANEL H1A

LOCATION: **ELECTRICAL 133** — NORMAL POWER

POLE NO.	LOAD SERVED	CKT SIZE	LOAD TYPE	LOAD HP	LOAD KVA	C.B. AMP	C.B. POL	PH	C.B. AMP	C.B. POL	LOAD TYPE	LOAD HP	LOAD KVA	CKT SIZE	LOAD SERVED	POLE NO.
1	**SPARE BREAKER**	-	-	-	-	20	1	A	20	1	-	-	-	-	**SPARE BREAKER**	2
3	**SPARE BREAKER**	-	-	-	-	20	1	B	20	1	-	-	-	-	**SPARE BREAKER**	4
5	**SPARE BREAKER**	-	-	-	-	20	1	C	20	1	-	-	-	-	**SPARE BREAKER**	6
7	**SPARE BREAKER**	-	-	-	-	20	1	A	20	1	-	-	-	-	**SPARE BREAKER**	8
9	**SPARE BREAKER**	-	-	-	-	20	1	B	20	1	-	-	-	-	**SPARE BREAKER**	10
11	**SPARE BREAKER**	-	-	-	-	20	1	C	20	1	-	-	-	-	**SPARE BREAKER**	12
13	**EWH**	20.4	C	-	4	20	3	A	20	1	-	-	-	-	**SPARE BREAKER**	14
15	" "		C		4			B	20	1	-	-	-	-	**SPARE BREAKER**	16
17	" "		C		4			C	20	1	-	-	-	-	**SPARE BREAKER**	18

VOLTAGE: **277Y/480V 3Ø, 4W**
MOUNTING: **SURFACE**
MAIN: **60A MLO**
BUS RATING **100A**
AIC RATING: **SEE ONE LINE**
ADDITIONAL PANEL FEATURES: **HINGED DOOR TRIM**

LOAD TYPE	CONN. KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
(L) LIGHTING ---------->	0	NEC 220-11	0	0
(R) RECEPTACLES ---------->	0	NEC 220-13	0	0
(M) MOTOR LOADS ---------->	0	1.0	0	0
LARGEST MOTOR ---->	0	0.25	0	0
(C) CONTINUOUS ---------->	12	1.25	15	18.1
(N) NON-CONTINUOUS ---->	0	1.0	0	0
(K) KITCHEN EQUIP. ---------->	0	1.0	0	0
(.#) SPECIAL DEMAND ---->	0	1.0	0	0
TOTAL ----------->	**12**		**15**	**18**
WITH 25% SPARE -->	**15**		**19**	**23**

CONN LOAD SUMMARY

PH	AMPS
A	14.4
B	14.4
C	14.4

80% RATED PNL DMND FACTORS

CIRCUIT NOTES:

PROJECT: **THE HIBULB MUSEUM**
ISSUED FOR: **NOT FOR CONSTRUCTION**
DATE ISSUED: **4/24/07**

FED FROM: **DISTRIBUTION PANEL MSB-H1A**

SF = LOADS FROM SUBFED PANEL/MCC XFR = SIZE PER XFR SCHD

PANEL L1A (SECTION 1)

LOCATION: **ELECTRICAL ROOM 133** — NORMAL POWER

POLE NO.	LOAD SERVED	CKT SIZE	LOAD TYPE	LOAD HP	LOAD KVA	C.B. AMP	C.B. POL	PH	C.B. AMP	C.B. POL	LOAD TYPE	LOAD HP	LOAD KVA	CKT SIZE	LOAD SERVED	POLE NO.
1	**MAIN EXHIBIT 104**	20.1	R	-	.7	20	1	A	20	1	R	-	.9	20.1	**MAIN EXHIBIT 104**	2
3	**MAIN EXHIBIT 104**	20.1	R	-	.7	20	1	B	20	1	R	-	.7	20.1	**MAIN EXHIBIT 104**	4
5	**MAIN EXHIBIT 104**	20.1	R	-	.7	20	1	C	20	1	R	-	.9	20.1	**MAIN EXHIBIT**	6
7	**MAIN EXHIBIT 104**	20.1	R	-	.7	20	1	A	20	1	R	-	.7	20.1	**TEMPORARY EXHIBIT**	8
9	**TIMPORARY EXHIBIT 105**	20.1	R	-	.7	20	1	B	20	1	R	-	1.1	20.1	**EXHIBIT PREP 106**	10
11	**TEMPORARY EXHIBIT 105**	20.1	R	-	.7	20	1	C	20	1	R	-	.7	20.1	**CLASSTOOM 2**	12
13	**STORAGE 132, DOCK**	20.1	R	-	.4	20	1	A	20	1	R	-	.7	20.1	**CLASSROOM 2**	14
15	**RECEIVING 107**	20.1	R	-	.4	20	1	B	20	1	R	-	.4	20.1	**CLASSROOM 2 PORCH**	16
17	**MECHANICAL, CHILLER ENCLOSURE**	20.1	R	-	.5	20	1	C	20	1	R	-	.7	20.1	**CLASSROOM 1**	18
19	**ELECTRICAL 133**	20.1	R	-	.4	20	1	A	20	1	R	-	.7	20.1	**CLASSROOM 1**	20
21	**RESTROOMS**	20.1	R	-	.5	20	1	B	20	1	R	-	.4	20.1	**CLASSROOM 1 PORCH**	22
23	**TRIBAL/GROUP ENTRY, LONGHOUSE**	20.1	R	-	1.1	20	1	C	20	1	R	-	.5	20.1	**LUNCH WORK PORCH, MAIN ENTRY**	24
25	**CANOE HALL 103, ENTRY 101**	20.1	R	-	.9	20	1	A	20	1	R	-	.5	20.1	**LUNCH 120**	26
27	**RETAIL 102**	20.1	R	-	.4	20	1	B	20	1	R	-	.4	20.1	**STORAGE 128, 130**	28
29	**RETAIL 102**	20.1	R	-	.2	20	1	C	20	1	R	-	.9	20.1	**ADMINISTRATION 111**	30
31	**RETAIL 102**	20.1	R	-	.9	20	1	A	20	1	R	-	.7	20.1	**ADMINISTRATION 111**	32
33	**OFFICE 129**	20.1	R	-	.9	20	1	B	20	1	R	-	.9	20.1	**ADMINISTRATION 111**	34
35	**RESEARCH LIBRARY**	20.1	R	-	.5	20	1	C	20	1	R	-	.7	20.1	**ADMINISTRATION 111**	36
37	**TELE 113**	20.1	R	-	.4	20	1	A	20	1	R	-	.4	20.1	**RESTROOMS 126, 127**	38
39	**TELE 113**	20.1	R	-	.4	20	1	B	20	1	-	-	-	-	**SPARE BREAKER**	40
41	**TELE 113**	20.1	R	-	.4	20	1	C	20	1	-	-	-	-	**SPARE BREAKER**	42

VOLTAGE: **120Y/208V 3Ø, 4W**
MOUNTING: **SURFACE**
MAIN: **150A MCB**
BUS RATING **200A**
AIC RATING: **SEE ONE LINE**
ADDITIONAL PANEL FEATURES: **HINGED DOOR TRIM**

LOAD TYPE	CONN. KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
(L) LIGHTING ---------->	0	NEC 220-11	0	0
(R) RECEPTACLES ---------->	26.3	NEC 220-13	18.2	50.4
(M) MOTOR LOADS ---------->	4.5	1.0	4.5	12.5
LARGEST MOTOR ---->	1.3	0.25	.3	.9
(C) CONTINUOUS ---------->	0	1.25	0	0
(N) NON-CONTINUOUS ---->	0	1.0	0	0
(K) KITCHEN EQUIP. ---------->	0	1.0	0	0
(.#) SPECIAL DEMAND ---->	0	1.0	0	0
TOTAL ----------->	**31**		**23**	**64**
WITH 25% SPARE -->	**39**		**29**	**80**

CONN LOAD SUMMARY

PH	AMPS
A	75.0
B	65.8
C	70.8

80% RATED PNL DMND FACTORS

CIRCUIT NOTES:

PROJECT: **THE HIBULB MUSEUM**
ISSUED FOR: **NOT FOR CONSTRUCTION**
DATE ISSUED: **4/24/07**

FED FROM: **DISTRIBUTION PANEL MSB-H1A/ VIA 45 KVA XFR**

SF = LOADS FROM SUBFED PANEL/MCC XFR = SIZE PER XFR SCHD

PANEL L1A (SECTION 2)

LOCATION: **ELECTRICAL ROOM 133** — NORMAL POWER

POLE NO.	LOAD SERVED	CKT SIZE	LOAD TYPE	LOAD HP	LOAD KVA	C.B. AMP	C.B. POL	PH	C.B. AMP	C.B. POL	LOAD TYPE	LOAD HP	LOAD KVA	CKT SIZE	LOAD SERVED	POLE NO.
43	**TELE 113**	20.1	R	-	.4	20	1	A	20	1	M	.3	.7	20.1	**EF-1**	44
45	**ROOFTOP**	20.1	R	-	.5	20	1	B	20	1	M	.2	.5	20.1	**EF-2**	46
47	**CP-1**	20.1	M	-	.3	20	1	C	20	1	M	.3	.9	20.1	**EF-5**	48
49	**DISHWASHER**	20.2N	K	-	1.4	20	2	A	20	3	M	.5	.3	20.3M	**EF-3**	50
51	" "		K		1.4		B				M		.3		" "	52
53	**MICROWAVE**	20.1	K	-	1.5	20	1	C			M		.3		" "	54
55	**REFRIGERATOR**	20.1	K	-	1.4	20	1	A	20	3	M	.8	.4	20.3M	**EF-4**	56
57	**KITCHEN 110**	20.1	R	-	.4	20	1	B			M		.4	"	"	58
59	**KITCHEN 110**	20.1	R	-	.4	20	1	C			M		.4	"	"	60
61	**KITCHEN 110**	20.1	R	-	.5	20	1	A	20	1	-	-	-	-	**SPARE BREAKER**	62
63	**SPARE BREAKER**	-	-	-	-	20	1	B	20	1	-	-	-	-	**SPARE BREAKER**	64
65	**SPARE BREAKER**	-	-	-	-	20	1	C	20	1	-	-	-	-	**SPARE BREAKER**	66
67	**SPARE BREAKER**	-	-	-	-	20	1	A	20	1	-	-	-	-	**SPARE BREAKER**	68
69	**SPARE BREAKER**	-	-	-	-	20	1	B	20	1	-	-	-	-	**SPARE BREAKER**	70
71	**SPARE BREAKER**	-	-	-	-	20	1	C	20	1	-	-	-	-	**SPARE BREAKER**	72
73	**SPARE BREAKER**	-	-	-	-	20	1	A	20	1	-	-	-	-	**SPARE BREAKER**	74
75	**SPARE BREAKER**	-	-	-	-	20	1	B	20	1	-	-	-	-	**SPARE BREAKER**	76
77	**SPARE BREAKER**	-	-	-	-	20	1	C	20	1	-	-	-	-	**SPARE BREAKER**	78
79	**SPARE BREAKER**	-	-	-	-	20	1	A	20	1	-	-	-	-	**SPARE BREAKER**	80
81	**SPARE BREAKER**	-	-	-	-	20	1	B	20	1	-	-	-	-	**SPARE BREAKER**	82
83	**SPARE BREAKER**	-	-	-	-	20	1	C	20	1	-	-	-	-	**SPARE BREAKER**	84

VOLTAGE: **120Y/208V 3Ø, 4W**
MOUNTING: **SURFACE**
MAIN: **150A MLO**
BUS RATING **200A**
AIC RATING: **SEE ONE LINE**
ADDITIONAL PANEL FEATURES: **HINGED DOOR TRIM**

LOAD TYPE	CONN. KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
(L) LIGHTING ---------->	0	NEC 220-11	0	0
(R) RECEPTACLES ---------->	27.6	NEC 220-13	18.8	52.2
(M) MOTOR LOADS ---------->	4.5	1.0	4.5	12.5
LARGEST MOTOR ---->	1.3	0.25	.3	.9
(C) CONTINUOUS ---------->	0	1.25	0	0
(N) NON-CONTINUOUS ---->	0	1.0	0	0
(K) KITCHEN EQUIP. ---------->	5.7	0.8	4.6	12.7
(.#) SPECIAL DEMAND ---->	0	1.0	0	0
TOTAL ----------->	**38**		**28**	**78**
WITH 25% SPARE -->	**47**		**35**	**98**

CONN LOAD SUMMARY

PH	AMPS
A	42.5
B	29.2
C	31.7

80% RATED PNL DMND FACTORS

CIRCUIT NOTES:

PROJECT: **THE HIBULB MUSEUM**
ISSUED FOR: **NOT FOR CONSTRUCTION**
DATE ISSUED: **4/24/07**

FED FROM: **PANEL L1A (SECTION 1)**

SF = LOADS FROM SUBFED PANEL/MCC XFR = SIZE PER XFR SCHD

DISTRIBUTION PANEL MSB-H1A

LOCATION: **ELECTRICAL ROOM 133** — NORMAL POWER

POLE NO.	LOAD SERVED	CKT SIZE	LOAD TYPE	LOAD HP	LOAD KVA	C.B. AMP	C.B. POL	PH	C.B. AMP	C.B. POL	LOAD TYPE	LOAD HP	LOAD KVA	CKT SIZE	LOAD SERVED	POLE NO.
1	**PANEL EH1A**	1.1NE	SF	-	0	30	3	A	70	3	SF	-	10.8	XFR	**PANEL L1A (SECTION 1)**	2
3	" "		SF		0			B			SF	-	9.6		**VIA 45 KVA XFR**	4
5	" "		SF		0			C			SF	-	10.4		" "	6
7	**PANEL SBH1A (SECTION 1)**	1.1NE	SF	-	122.6	600	3	A	-	1	-	-	-	-	**BUSED SPACE**	8
9	" "		SF		122.6			B	-	1	-	-	-	-	**BUSED SPACE**	10
11	" "		SF		120.6			C	-	1	-	-	-	-	**BUSED SPACE**	12
13	**PANEL H1A**	1.1NE	SF	-	4	60	3	A	-	1	-	-	-	-	**BUSED SPACE**	14
15	" "		SF		4			B	-	1	-	-	-	-	**BUSED SPACE**	16
17	" "		SF		4			C	-	1	-	-	-	-	**BUSED SPACE**	18

VOLTAGE: **277Y/480V 3Ø, 4W**
MOUNTING: **SURFACE**
MAIN: **800A MCB**
BUS RATING **800A**
AIC RATING: **SEE ONE LINE**
ADDITIONAL PANEL FEATURES: **HINGED DOOR TRIM**

LOAD TYPE	CONN. KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
(L) LIGHTING ---------->	0	NEC 220-11	0	0
(R) RECEPTACLES ---------->	26.3	NEC 220-13	18.2	21.8
(M) MOTOR LOADS ---------->	13.5	1.0	13.5	16.2
LARGEST MOTOR ---->	9.1	0.25	2.3	2.7
(C) CONTINUOUS ---------->	368.8	1.25	461	554.8
(N) NON-CONTINUOUS ---->	0	1.0	0	0
(K) KITCHEN EQUIP. ---------->	0	1.0	0	0
(.#) SPECIAL DEMAND ---->	0	1.0	0	0
TOTAL ----------->	**365**		**441**	**530**
WITH 25% SPARE -->	**456**		**551**	**663**

CONN LOAD SUMMARY

PH	AMPS
A	496.0
B	491.7
C	487.4

80% RATED PNL DMND FACTORS

CIRCUIT NOTES:

PROJECT: **enter project name/phase??**
ISSUED FOR: **NOT FOR CONSTRUCTION**
DATE ISSUED: **23-APR-2007**

FED FROM: **- KVA BUILDING XFR**

SF = LOADS FROM SUBFED PANEL/MCC XFR = SIZE PER XFR SCHD

PANEL SBH1A (SECTION 1)

LOCATION: **ELECTRICAL ROOM 133** — STANDBY POWER

POLE NO.	LOAD SERVED	CKT SIZE	LOAD TYPE	LOAD HP	LOAD KVA	C.B. AMP	C.B. POL	PH	C.B. AMP	C.B. POL	LOAD TYPE	LOAD HP	LOAD KVA	CKT SIZE	LOAD SERVED	POLE NO.
1	**FCU-1**	20.3	C	-	3.3	20	3	A	20	3	C	-	3.2	20.4	**FCU-8**	2
3	" "		C		3.3			B			C		3.2		" "	4
5	" "		C		3.3			C			C		3.2		" "	6
7	**FCU-2**	20.4	C	-	2.4	20	3	A	20	3	C	-	3.2	20.4	**FCU-9**	8
9	" "		C		2.4			B			C		3.2		" "	10
11	" "		C		2.4			C			C		3.2		" "	12
13	**FCU-3**	40.4	C	-	8	40	3	A	20	3	C	-	3.2	20.4	**FCU-10**	14
15	" "		C		8			B			C		3.2		" "	16
17	" "		C		8			C			C		3.2		" "	18
19	**FCU-4**	40.4	C	-	7.6	35	3	A	20	3	C	-	1.9	20.4	**FCU-11**	20
21	" "		C		7.6			B			C		1.9		" "	22
23	" "		C		7.6			C			C		1.9		" "	24
25	**FCU-5**	40.4	C	-	7.6	35	3	A	30	3	C	-	6.6	30.4	**FCU-12**	26
27	" "		C		7.6			B			C		6.6		" "	28
29	" "		C		7.6			C			C		6.6		" "	30
31	**FCU-6**	20.4	C	-	2	20	3	A	20	3	C	-	1.1	20.4	**FCU-13**	32
33	" "		C		2			B			C		1.1		" "	34
35	" "		C		2			C			C		1.1		" "	36
37	**FCU-7**	30.4	C	-	5.4	25	3	A	20	3	C	-	3.2	20.4	**FCU-14**	38
39	" "		C		5.4			B			C		3.2		" "	40
41	" "		C		5.4			C			C		3.2		" "	42

VOLTAGE: **277Y/480V 3Ø, 4W**
MOUNTING: **SURFACE**
MAIN: **600A MLO**
BUS RATING **600A**
AIC RATING: **SEE ONE LINE**
ADDITIONAL PANEL FEATURES: **HINGED DOOR TRIM**

LOAD TYPE	CONN. KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
(L) LIGHTING ---------->	0	NEC 220-11	0	0
(R) RECEPTACLES ---------->	0	NEC 220-13	0	0
(M) MOTOR LOADS ---------->	9	1.0	9	10.8
LARGEST MOTOR ---->	9.1	0.25	2.3	2.7
(C) CONTINUOUS ---------->	356.8	1.25	446	536.7
(N) NON-CONTINUOUS ---->	0	1.0	0	0
(K) KITCHEN EQUIP. ---------->	0	1.0	0	0
(.#) SPECIAL DEMAND ---->	0	1.0	0	0
TOTAL ----------->	**366**		**457**	**550**
WITH 8% SPARE -->	**395**		**494**	**594**

CONN LOAD SUMMARY

PH	AMPS
A	211.9
B	211.9
C	211.9

80% RATED PNL DMND FACTORS

CIRCUIT NOTES:

PROJECT: **THE HIBULB MUSEUM**
ISSUED FOR: **NOT FOR CONSTRUCTION**
DATE ISSUED: **4/24/07**

FED FROM: **DISTRIBUTION PANEL MSB-H1A**

SF = LOADS FROM SUBFED PANEL/MCC XFR = SIZE PER XFR SCHD

PANEL SBH1A (SECTION 2)

LOCATION: **ELECTRICAL ROOM 133** — STANDBY POWER

POLE NO.	LOAD SERVED	CKT SIZE	LOAD TYPE	LOAD HP	LOAD KVA	C.B. AMP	C.B. POL	PH	C.B. AMP	C.B. POL	LOAD TYPE	LOAD HP	LOAD KVA	CKT SIZE	LOAD SERVED	POLE NO.
43	**FCU-15 (FUTURE)**	40.3	C	-	8	40	3	A	25	3	M	7.5	3	20.3M	**P-1**	44
45	" "	"	C	-	8	"	-	B	-	"	M	-	3	-	" "	46
47	" "	"	C	-	8	"	-	C	-	"	M	-	3	-	" "	48
49	**CH-1**	175.4	C	-	37.7	175	3	A	20	1	-	-	-	-	**SPARE BREAKER**	50
51	" "	"	C	-	37.7	"	-	B	20	1	-	-	-	-	**SPARE BREAKER**	52
53	" "	"	C	-	37.7	"	-	C	20	1	-	-	-	-	**SPARE BREAKER**	54
55	**SPARE BREAKER**	"	-	-	-	20	1	A	125	3	SF	-	15.2	XFR	**PANEL SBL1A**	56
57	**SPARE BREAKER**	-	-	-	-	20	1	B			SF	-	15.2	-	**VIA 75 KVA XFR**	58
59	**SPARE BREAKER**	-	-	-	-	20	1	C			SF	-	13.2	-	" "	60

VOLTAGE: **277Y/480V 3Ø, 4W**
MOUNTING: **SURFACE**
MAIN: **600A MLO**
BUS RATING **600A**
AIC RATING: **SEE ONE LINE**
ADDITIONAL PANEL FEATURES: **HINGED DOOR TRIM**

LOAD TYPE	CONN. KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
(L) LIGHTING ---------->	0	NEC 220-11	0	0
(R) RECEPTACLES ---------->	0	NEC 220-13	0	0
(M) MOTOR LOADS ---------->	9	1.0	9	10.8
LARGEST MOTOR ---->	9.1	0.25	2.3	2.8
(C) CONTINUOUS ---------->	356.8	1.25	446	536.7
(N) NON-CONTINUOUS ---->	0	1.0	0	0
(K) KITCHEN EQUIP. ---------->	0	1.0	0	0
(.#) SPECIAL DEMAND ---->	0	1.0	0	0
TOTAL ----------->	**366**		**457**	**550**
WITH 8% SPARE -->	**395**		**494**	**594**

CONN LOAD SUMMARY

PH	AMPS
A	230.7
B	230.7
C	223.5

80% RATED PNL DMND FACTORS

CIRCUIT NOTES:

PROJECT: **THE HIBULB MUSEUM**
ISSUED FOR: **NOT FOR CONSTRUCTION**
DATE ISSUED: **4/24/07**

FED FROM: **PANEL SBH1A (SECTION 1)**

SF = LOADS FROM SUBFED PANEL/MCC XFR = SIZE PER XFR SCHD

PANEL SBL1A

LOCATION: **ELECTRICAL ROOM 133** — STANDBY POWER

POLE NO.	LOAD SERVED	CKT SIZE	LOAD TYPE	LOAD HP	LOAD KVA	C.B. AMP	C.B. POL	PH	C.B. AMP	C.B. POL	LOAD TYPE	LOAD HP	LOAD KVA	CKT SIZE	LOAD SERVED	POLE NO.
1	**H-2**	40.4	C	-	3.3	35	3	A	35	3	C	-	3.3	40.4	**H-4**	2
3	" "		C		3.3			B			C		3.3		" "	4
5	" "		C		3.3			C			C		3.3		" "	6
7	**H-3**	40.4	C	-	3.3	35	3	A	35	3	C	-	3.3	40.4	**H-5**	8
9	" "		C		3.3			B			C		3.3		" "	10
11	" "		C		3.3			C			C		3.3		" "	12
13	**H-1**	20.2N	C	-	1	20	2	A	20	2	C	-	1	20.2N	**H-6**	14
15	" "		C		1			B			C		1		" "	16
17	**SPARE BREAKER**	-	-	-	-	20	1	C	20	1	-	-	-	-	**SPARE BREAKER**	18
19	**SPARE BREAKER**	-	-	-	-	20	1	A	-	1	-	-	-	-	**BUSED SPACE**	20
21	**BUSED SPACE**	-	-	-	-	-	1	B	-	1	-	-	-	-	**BUSED SPACE**	22
23	**BUSED SPACE**	-	-	-	-	-	1	C	-	1	-	-	-	-	**BUSED SPACE**	24
25	**BUSED SPACE**	-	-	-	-	-	1	A	-	1	-	-	-	-	**BUSED SPACE**	26
27	**BUSED SPACE**	-	-	-	-	-	1	B	-	1	-	-	-	-	**BUSED SPACE**	28
29	**BUSED SPACE**	-	-	-	-	-	1	C	-	1	-	-	-	-	**BUSED SPACE**	30

VOLTAGE: **120Y/208V 3Ø, 4W**
MOUNTING: **SURFACE**
MAIN: **225A MCB**
BUS RATING **225A**
AIC RATING: **SEE ONE LINE**
ADDITIONAL PANEL FEATURES: **HINGED DOOR TRIM**

LOAD TYPE	CONN. KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
(L) LIGHTING ---------->	0	NEC 220-11	0	0
(R) RECEPTACLES ---------->	0	NEC 220-13	0	0
(M) MOTOR LOADS ---------->	0	1.0	0	0
LARGEST MOTOR ---->	0	0.25	0	0
(C) CONTINUOUS ---------->	43.6	1.25	54.5	151.4
(N) NON-CONTINUOUS ---->	0	1.0	0	0
(K) KITCHEN EQUIP. ---------->	0	1.0	0	0
(.#) SPECIAL DEMAND ---->	0	1.0	0	0
TOTAL ----------->	**44**		**55**	**151**
WITH 25% SPARE -->	**55**		**68**	**189**

CONN LOAD SUMMARY

PH	AMPS
A	126.7
B	126.7
C	110.0

80% RATED PNL DMND FACTORS

CIRCUIT NOTES:

PROJECT: **THE HIBULB MUSEUM**
ISSUED FOR: **NOT FOR CONSTRUCTION**
DATE ISSUED: **4/24/07**

FED FROM: **PANEL SBH1A (SECTION 2)/ VIA 75 KVA XFR**

SF = LOADS FROM SUBFED PANEL/MCC XFR = SIZE PER XFR SCHD

DATE 12/04/06 | SCALE NONE | DRAWN BY PL | APPROVED BY JE

PROJECT NUMBER 2128.00

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TULALIP MUSEUM

ELECTRICAL LEGEND, ABBREVIATIONS, AND DRAWING LIST

SEAL OF ENGINEERING QUALITY

Production Dept.	Project Manager	Project Engineer

E0.3

GENERAL NOTES

A. REFER TO DETAIL DRAWINGS FOR ADDITIONAL INFORMATION. ALL DETAILS APPLY FOR ALL APPLICABLE SITUATIONS WHETHER REFERENCED OR NOT, UON.

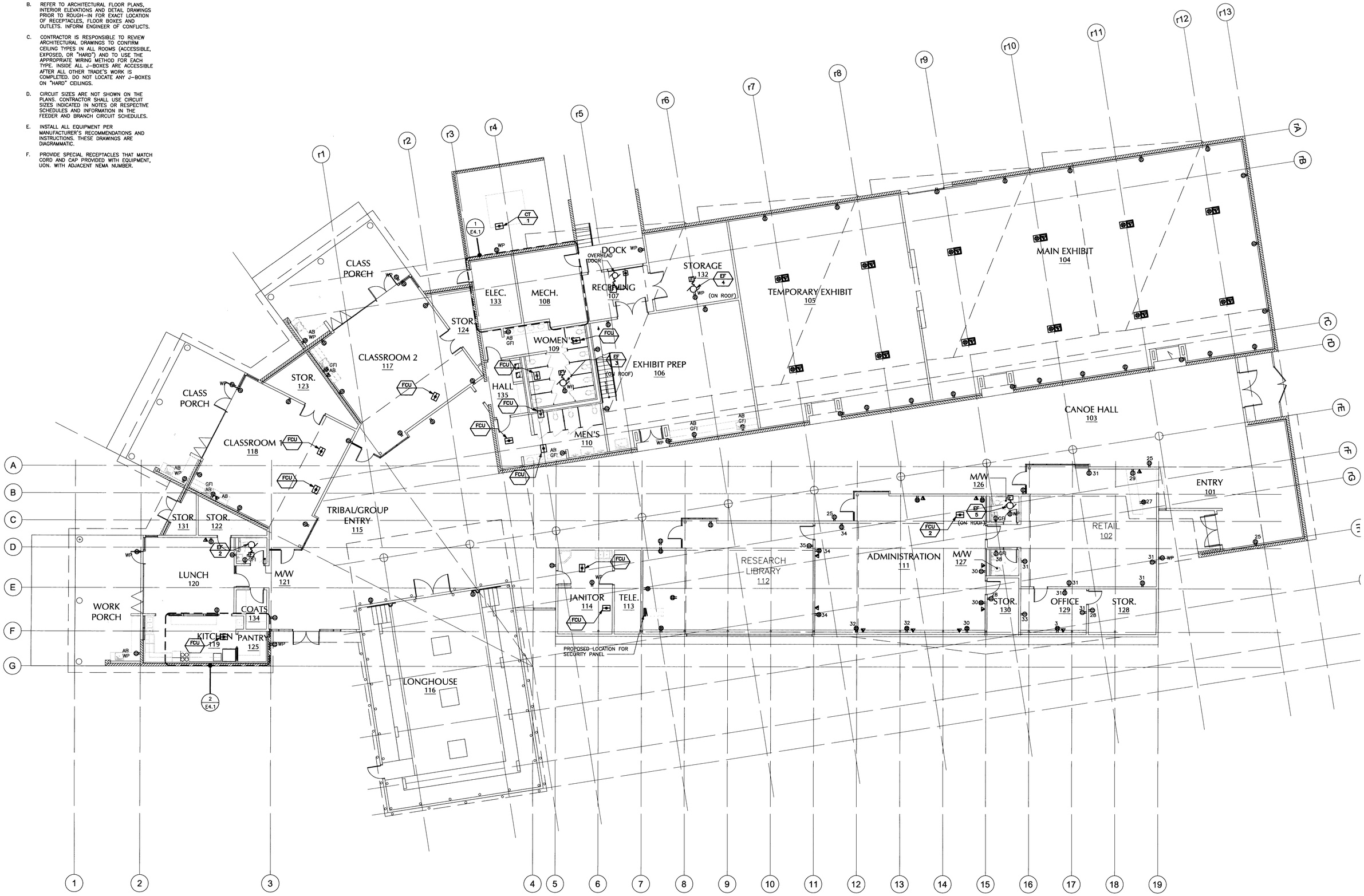
B. REFER TO ARCHITECTURAL FLOOR PLANS, INTERIOR ELEVATIONS AND DETAIL DRAWINGS PRIOR TO ROUGH-IN FOR EXACT LOCATION OF RECEPTACLES, FLOOR BOXES AND OUTLETS. INFORM ENGINEER OF CONFLICTS.

C. CONTRACTOR IS RESPONSIBLE TO REVIEW ARCHITECTURAL DRAWINGS TO CONFIRM CEILING TYPES IN ALL ROOMS (ACCESSIBLE, EXPOSED, OR "HARD") AND TO USE THE APPROPRIATE WIRING METHOD FOR EACH TYPE. INSIDE ALL J-BOXES ARE ACCESSIBLE AFTER ALL OTHER TRADE'S WORK IS COMPLETED. DO NOT LOCATE ANY J-BOXES ON "HARD" CEILINGS.

D. CIRCUIT SIZES ARE NOT SHOWN ON THE PLANS. CONTRACTOR SHALL USE CIRCUIT SIZES INDICATED IN NOTES OR RESPECTIVE SCHEDULES AND INFORMATION IN THE FEEDER AND BRANCH CIRCUIT SCHEDULES.

E. INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS. THESE DRAWINGS ARE DIAGRAMMATIC.

F. PROVIDE SPECIAL RECEPTACLES THAT MATCH CORD AND CAP PROVIDED WITH EQUIPMENT, UON. WITH ADJACENT NEMA NUMBER.



1 **FLOOR PLAN - POWER & SIGNAL**
SCALE: 1/8"=1'-0"

0 4' 8' 16'

PROJECT NORTH

DATE	12/04/06
SCALE	
DRAWN BY	PL
APPROVED BY	JE
PROJECT NUMBER	2128.00
DRAWING FILE	2128 SD

REV. #	DATE	REVISION
	03/16/07	

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PROJECT MANAGER

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TULALIP MUSEUM

FLOOR PLAN - POWER & SIGNAL

SEAL OF ENGINEERING QUALITY
Production Dept. | Project Manager | Project Engineer

E2.1

GENERAL NOTES

A. REFER TO DETAIL DRAWINGS FOR ADDITIONAL INFORMATION. ALL DETAILS APPLY FOR ALL APPLICABLE SITUATIONS WHETHER REFERENCED OR NOT, UON.

B. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL LUMINAIRES. INFORM ENGINEER OF CONFLICTS.

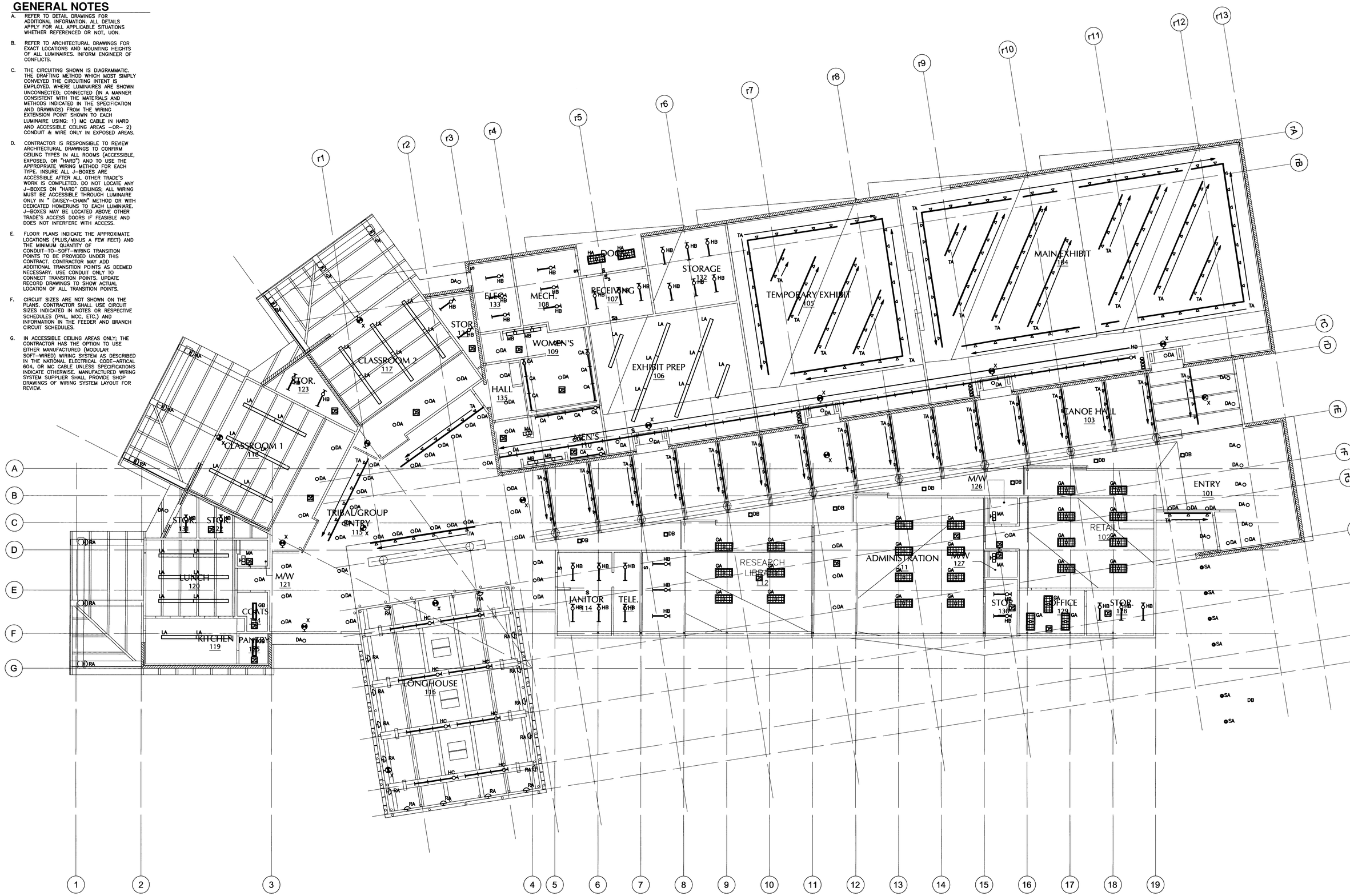
C. THE CIRCUITING SHOWN IS DIAGRAMMATIC. THE DRAFTING METHOD WHICH MOST SIMPLY CONVEYED THE CIRCUITING INTENT IS EMPLOYED. WHERE LUMINAIRES ARE SHOWN UNCONNECTED; CONNECTED (IN A MANNER CONSISTENT WITH THE MATERIALS AND METHODS INDICATED IN THE SPECIFICATION AND DRAWINGS) FROM THE WIRING EXTENSION POINT SHOWN TO EACH LUMINAIRE USING: 1) MC CABLE IN HARD AND ACCESSIBLE CEILING AREAS –OR– 2) CONDUIT & WIRE ONLY IN EXPOSED AREAS.

D. CONTRACTOR IS RESPONSIBLE TO REVIEW ARCHITECTURAL DRAWINGS TO CONFIRM CEILING TYPES IN ALL ROOMS (ACCESSIBLE, EXPOSED, OR "HARD") AND TO USE THE APPROPRIATE WIRING METHOD FOR EACH TYPE. INSURE ALL J-BOXES ARE ACCESSIBLE AFTER ALL OTHER TRADE'S WORK IS COMPLETED. DO NOT LOCATE ANY J-BOXES ON "HARD" CEILINGS; ALL WIRING MUST BE ACCESSIBLE THROUGH LUMINAIRE ONLY IN " DAISEY-CHAIN" METHOD OR WITH DEDICATED HOMERUNS TO EACH LUMINIARE. J-BOXES MAY BE LOCATED ABOVE OTHER TRADE'S ACCESS DOORS IF FEASIBLE AND DOES NOT INTERFERE WITH ACCESS.

E. FLOOR PLANS INDICATE THE APPROXIMATE LOCATIONS (PLUS/MINUS A FEW FEET) AND THE MINIMUM QUANTITY OF CONDUIT-TO-SOFT-WIRING TRANSITION POINTS TO BE PROVIDED UNDER THIS CONTRACT. CONTRACTOR MAY ADD ADDITIONAL TRANSITION POINTS AS DEEMED NECESSARY. USE CONDUIT ONLY TO CONNECT TRANSITION POINTS. UPDATE RECORD DRAWINGS TO SHOW ACTUAL LOCATION OF ALL TRANSITION POINTS.

F. CIRCUIT SIZES ARE NOT SHOWN ON THE PLANS. CONTRACTOR SHALL USE CIRCUIT SIZES INDICATED IN NOTES OR RESPECTIVE SCHEDULES (PNL, MCC, ETC.) AND INFORMATION IN THE FEEDER AND BRANCH CIRCUIT SCHEDULES.

G. IN ACCESSIBLE CEILING AREAS ONLY, THE CONTRACTOR HAS THE OPTION TO USE EITHER MANUFACTURED (MODULAR SOFT-WIRED) WIRING SYSTEM AS DESCRIBED IN THE NATIONAL ELECTRICAL CODE-ARTICAL 604, OR MC CABLE UNLESS SPECIFICATIONS INDICATE OTHERWISE. MANUFACTURED WIRING SYSTEM SUPPLIER SHALL PROVIDE SHOP DRAWINGS OF WIRING SYSTEM LAYOUT FOR REVIEW.



1 **FLOOR PLAN - LIGHTING**
SCALE: 1/8"=1'-0"

0 4' 8' 16'

12/04/06 — DATE
AS SHOWN — SCALE
EP — DRAWN BY
JH — APPROVED BY

PROJECT NUMBER: 2128.00
DRAWING FILE: 2128 SD

REV. #	DATE	REVISION
	03/16/07	

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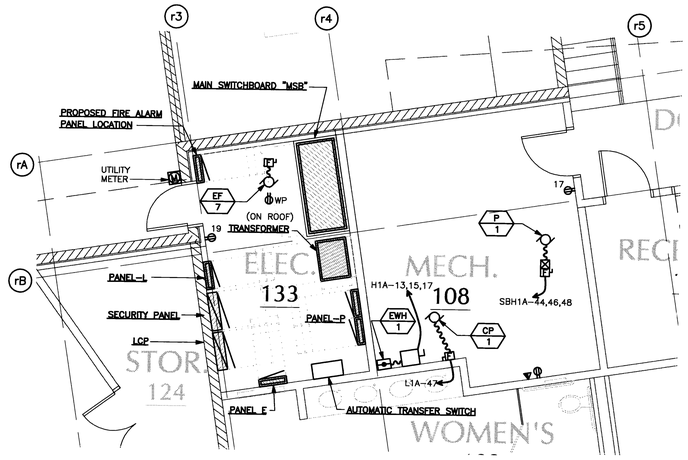
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FLOOR PLAN - LIGHTING

SEALS OF ENGINEERING QUALITY
Production Dept. | Project Manager | Project Engineer

E3.1

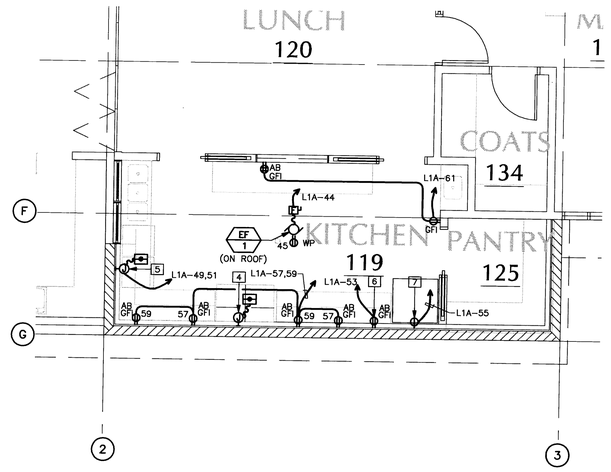


1 ENLARGED PLAN - ELECTRICAL ROOM 133 & MECHANICAL ROOM 108 - POWER & SIGNAL

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

0 2' 4' 8'

PROJECT NORTH

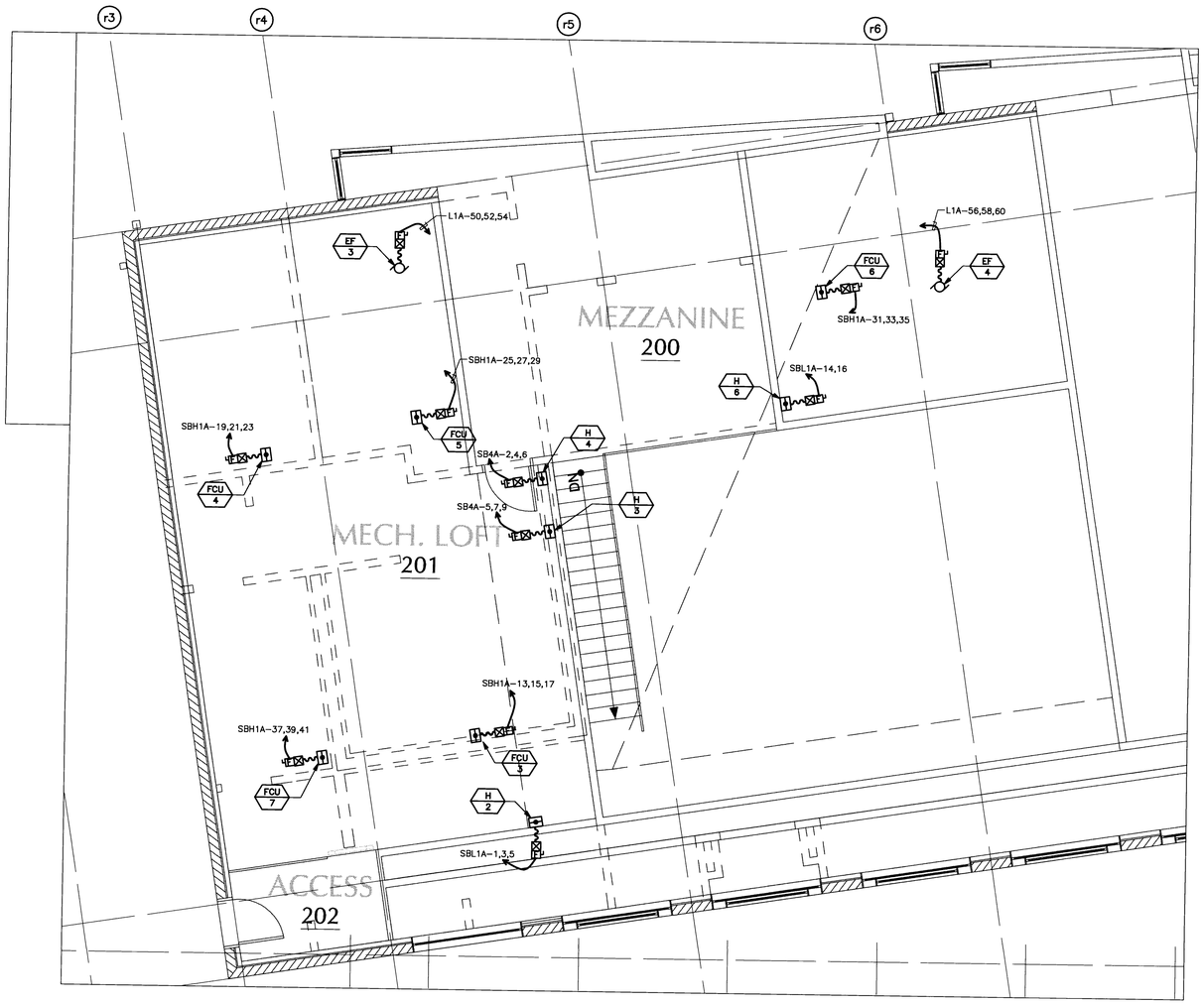


2 ENLARGED PLAN - KITCHEN - POWER & SIGNAL

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

0 2' 4' 8'

PROJECT NORTH



3 ENLARGED MEZZANINE PLAN - ELECTRICAL

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

0 2' 4' 8'

PROJECT NORTH

KITCHEN EQUIPMENT SCHEDULE

4/24/07 3:01 PM

GLUMAC TAG	DESCRIPTION	ELECTRICAL VOLTAGE	PHASE	KW	AMPS	H.P.	LOAD (KVA)	TYPE OF CONN.	EMERG. POWER	REMARKS
4	GAS RANGE EXHAUST HOOD									
5	DISHWASHER	208	1		13.6			JUNCTION BOX		
6	COUNTERTOP MICROWAVE	120	1	1.5				SIMPLEX RECEPT.		NEMA 5-15P
7	REFRIGERATOR	120	1							

DATE	12/04/06
SCALE	
DRAWN BY	PL
APPROVED BY	JE
PROJECT NUMBER	2128.00
DRAWING FILE	2128 SD

REVISION	REV. #	DATE
		03/16/07

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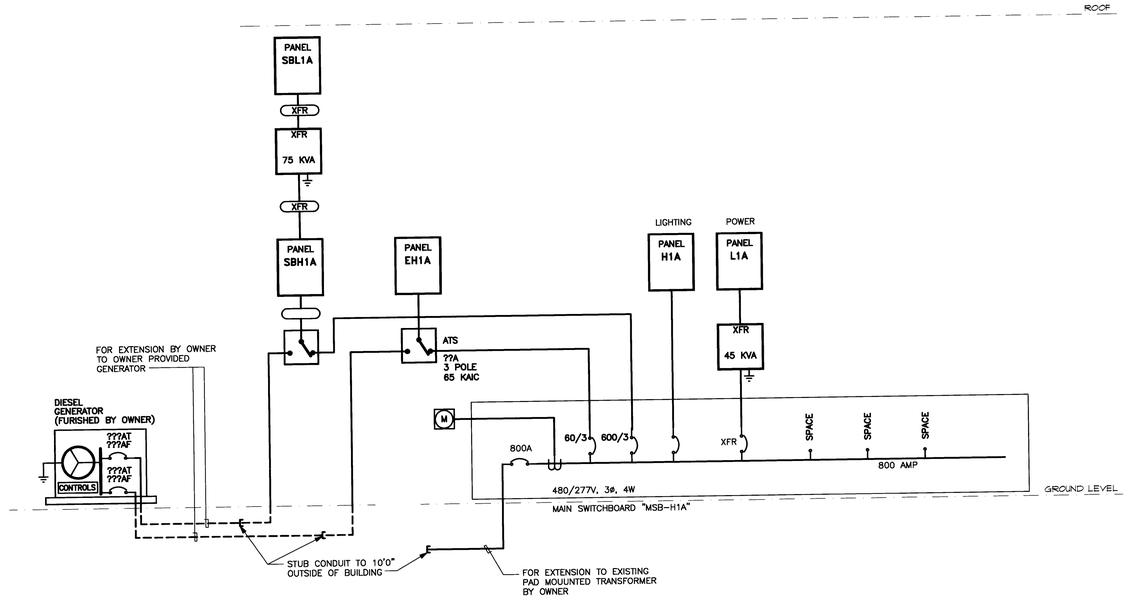
TULALIP MUSEUM

ELECTRICAL ENLARGED PLANS

SEAL OF EMMERGING QUALITY

Production Dept.	Project Manager	Project Engineer

E4.1



1 ONE-LINE DIAGRAM

SCALE: NONE

DATE	12/04/06
SCALE	AS SHOWN
DRAWN BY	PL
APPROVED BY	JE

PROJECT NUMBER: 2128.00

DRAWING FILE: 2128 SD

DATE	REV #	REVISION
03/16/07		

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TULALIP MUSEUM

ONE-LINE DIAGRAM

E6.1

SEAL OF ENGINEERING QUALITY
Production Dept. | Project Manager | Project Engineer

HIBULB CULTURAL CENTER

DEHUMIDIFICATION SYSTEM

SYMBOL LIST

SYMBOL	ABBV.	DESCRIPTION
CWS	CWS	CONDENSER WATER SUPPLY
CWR	CWR	CONDENSER WATER RETURN
C	C	CONDENSATE
		DUCT SECTION - SUPPLY
		DUCT SECTION - RETURN
20x12		RECTANGULAR DUCT (INSIDE DIMENSION)
12"ø		ROUND DUCT
20x12	SL	SOUND LINED DUCT (INSIDE DIMENSION)
		FLEXIBLE DUCT
		ADJUSTABLE AIR EXTRACTOR
		TURNING VANE
	VD	VOLUME DAMPER
M	MD	MOTORIZED DAMPER
	BDD	BACKDRAFT DAMPER
	SFD	COMBINATION SMOKE/FIRE DAMPER
	FD	FIRE DAMPER
	RAD	CEILING RADIATION DAMPER
SD	SD	DUCT SMOKE DETECTOR
EF 1		EQUIPMENT TAG
1		FLAG NOTE
		CONNECTION (NECK) SIZE
10"ø CDL		TYPE (CEILING DIFF. LAY-IN)
300 CFM		FLOW RATE (CUBIC FEET PER MINUTE)
3" (125)		FIXTURE UNITS or BTUH
		PIPE SIZE
		DETAIL NUMBER
1 M1.0		SHEET ON WHICH DETAIL IS DRAWN
		SECTION INDICATOR
1 M1.0		SHEET ON WHICH SECTION IS DRAWN
1		REVISION TAG

SYMBOL	ABBV.	DESCRIPTION
T	T'STAT	THERMOSTAT
S	S	SWITCH
C	COS	CARBON MONOXIDE SENSOR
	AFF	ABOVE FINISHED FLOOR
	ARCH.	ARCHITECT/ARCHITECTURAL
	CDS	CEILING DIFFUSER-SURFACE MOUNTED
	CDL	CEILING DIFFUSER-LAY IN
	CGS	CEILING GRILLE-SURFACE MOUNTED
	CGL	CEILING GRILLE-LAY IN
	COP	COEFFICIENT OF PERFORMANCE
	X	DEMOLISH
	DWG	DRAWING
	E, EXIST.	EXISTING ITEMS
	ELECT.	ELECTRICAL
	EC	ELECTRICAL CONTRACTOR
	EER	ENERGY EFFICIENCY RATING
	EFF	EFFICIENCY/EFFICIENT
	FR	FLOOR REGISTER
	GC	GENERAL CONTRACTOR
	HSPF	HEATING SEASONAL PERFORMANCE FACTOR
	HWR	HIGH WALL REGISTER
	HWG	HIGH WALL GRILLE
	I.E.	INVERT ELEVATION
	IPLV	INTEGRATED PART LOAD VALUE
	LWR	LOW WALL REGISTER
	LWG	LOW WALL GRILLE
	MC	MECHANICAL CONTRACTOR
	MECH.	MECHANICAL
	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
	POC	POINT OF CONNECTION
	TYP.	TYPICAL
	U.O.N.	UNLESS OTHERWISE NOTED

GENERAL NOTES

INSTALL SEISMIC BRACING FOR ALL DUCTWORK, EQUIPMENT AND PIPING PER I.B.C. REQUIREMENTS. PROVIDE ENGINEERED AND STAMPED DESIGN DRAWINGS IF REQUIRED BY IBC. CONTRACTOR TO CONTACT OR HIRE A STRUCTURAL ENGINEER TO DETERMINE BUILDING AND SYSTEM IMPORTANCE FACTORS. UTILIZE ISAT OR OTHER SEISMIC BRACING COMPANY.

MECHANICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE, AND DO NOT NECESSARILY REFLECT EVERY REQUIRED OFF-SET, FITTING OR ACCESSORY.

COORDINATE INSTALLATION OF MECHANICAL SYSTEMS WITH BUILDING STRUCTURE AND ALL OTHER TRADES.

THE MECHANICAL CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BEGINNING WORK IN ORDER TO OBSERVE EXISTING CONDITIONS. VERIFY EXACT SIZE, LOCATION AND CONDITION OF ALL EXISTING SYSTEMS, DUCTS, PIPES, UTILITIES AND BUILDING STRUCTURE.

VERIFY VOLTAGES AT THE SITE PRIOR TO ORDERING ANY EQUIPMENT.

MAJOR APPLICABLE CODES:

2012 INTERNATIONAL BUILDING CODE WITH WASHINGTON STATE AMENDMENTS
2012 INTERNATIONAL MECHANICAL CODE WITH WASHINGTON STATE AMENDMENTS
2012 UNIFORM PLUMBING CODE WITH WASHINGTON STATE AMENDMENTS
2012 INTERNATIONAL FIRE CODE WITH WASHINGTON STATE AMENDMENTS
2012 INTERNATIONAL FUEL GAS CODE WITH WASHINGTON STATE AMENDMENTS
2012 WASHINGTON STATE ENERGY CODE

GENERAL MATERIAL NOTES

ALL DUCTWORK SHALL BE GALVANIZED SHEET METAL PER SMACNA STANDARDS, IMC 603-4.

ALL FLEXIBLE DUCTWORK SHALL BE PER NFPA 90A, UL 181, CLASS 1, 2-PLY VINYL FILM SUPPORTED BY HELICALLY WOUND, SPRING-STEEL WIRE; FIBROUS-GLASS INSULATION; POLYETHYLENE VAPOR-BARRIER FILM WITH MAXIMUM 6 FEET LENGTH.

SOUND LINED DUCT SHALL BE FIBERGLASS, 1-1/2# DENSITY, 1" THICK WITH A MINIMUM NOISE REDUCTION COEFFICIENT OF 0.8.

CONDENSATE PIPING SHALL BE TYPE "L" COPPER WITH PROPRESS FITTINGS.

NOISE CALCS

NO NOISE CALCULATIONS PROVIDED. NO NEW EQUIPMENT PROVIDED TO THE EXTERIOR OF THE BUILDING.

ELEVATIONS

NO ELEVATIONS ELEVATIONS PROVIDED. NO NEW EQUIPMENT PROVIDED TO THE EXTERIOR OF THE BUILDING.

SCOPE OF WORK

INSTALL (6) DEHUMIDIFIERS TO EXISTING FAN COIL UNITS TO DEHUMIDIFY AREAS TO MAINTAIN HUMIDITY LEVELS BETWEEN 40% AND 50%.

DRAWING INDEX

SHEET	DESCRIPTION
M1.0	COVER SHEET
M1.1	SCHEDULES
M2.0	MEZZANINE HVAC PLAN
M2.1	PARTIAL FIRST FLOOR HVAC PLAN

2012 WASHINGTON STATE ENERGY CODE NOTES

C403.1 GENERAL. MECHANICAL SYSTEMS AND EQUIPMENT SERVING HEATING, COOLING, VENTILATING, AND OTHER NEEDS SHALL COMPLY WITH SECTION C403.2 (REFERRED TO AS THE MANDATORY PROVISIONS) AND EITHER:
1. SECTION C403.3 (SIMPLE SYSTEMS); OR
2. SECTION C403.4 (COMPLEX SYSTEMS).

EXCEPTION: ENERGY USING EQUIPMENT USED BY A MANUFACTURING, INDUSTRIAL OR COMMERCIAL PROCESS OTHER THAN FOR CONDITIONING SPACES OR MAINTAINING COMFORT AND AMENITIES FOR THE OCCUPANTS AND NOT OTHERWISE REGULATED BY C403.2.3, TABLES C403.2.1 (1) THROUGH (9) INCLUSIVE, C403.2.4.5, C403.2.5.4, C403.2.8, C403.2.13, C403.4.6, C403.5, C403.6, C404.2, OR TABLE C404.2. DATA CENTER HVAC EQUIPMENT IS NOT COVERED BY THIS EXCEPTION.

C403.2 PROVISIONS APPLICABLE TO ALL MECHANICAL SYSTEMS (MANDATORY). MECHANICAL SYSTEMS AND EQUIPMENT SERVING THE BUILDING HEATING, COOLING OR VENTILATING NEEDS SHALL COMPLY WITH SECTIONS C403.2.1 THROUGH C403.2.11.

C403.2.2 EQUIPMENT AND SYSTEM SIZING. THE OUTPUT CAPACITY OF HEATING AND COOLING EQUIPMENT AND SYSTEMS SHALL NOT EXCEED THE LOADS CALCULATED IN ACCORDANCE WITH SECTION C403.2.1. A SINGLE PIECE OF EQUIPMENT PROVIDING BOTH HEATING AND COOLING SHALL SATISFY THIS PROVISION FOR ONE FUNCTION WITH THE CAPACITY FOR THE OTHER FUNCTION AS SMALL AS POSSIBLE, WITHIN AVAILABLE EQUIPMENT OPTIONS.

C403.2.4 HVAC SYSTEM CONTROLS. EACH HEATING AND COOLING SYSTEM SHALL BE PROVIDED WITH THERMOSTATIC CONTROLS AS SPECIFIED IN SECTION C403.2.4.1, C403.2.4.2, C403.2.4.3, C403.2.4.4, C403.4.1, C403.4.2, C403.4.3, C403.4.4, C403.4.5, C403.4.6, C403.4.7, C403.4.8, C403.4.9, OR C403.4.10.

C403.2.3 HVAC EQUIPMENT PERFORMANCE REQUIREMENTS. EQUIPMENT SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLES C403.2.3(1), C403.2.3(2), C403.2.3(3), C403.2.3(4), C403.2.3(5), C403.2.3(6), C403.2.3(7) AND C403.2.3(8) WHEN TESTED AND RATED IN ACCORDANCE WITH THE APPLICABLE TEST PROCEDURE. PLATE-TYPE LIQUID-TO-LIQUID HEAT EXCHANGERS SHALL MEET THE MINIMUM REQUIREMENTS OF TABLE C403.2.3(9). THE EFFICIENCY SHALL BE VERIFIED THROUGH CERTIFICATION AND LISTED UNDER AN APPROVED CERTIFICATION PROGRAM OR, IF NO CERTIFICATION PROGRAM EXISTS, THE EQUIPMENT EFFICIENCY RATINGS SHALL BE SUPPORTED BY DATA FURNISHED BY THE MANUFACTURER. WHERE MULTIPLE RATING CONDITIONS OR PERFORMANCE REQUIREMENTS ARE PROVIDED, THE EQUIPMENT SHALL SATISFY ALL STATED REQUIREMENTS. WHERE COMPONENTS, SUCH AS INDOOR OR OUTDOOR COILS, FROM DIFFERENT MANUFACTURERS ARE USED, CALCULATIONS AND SUPPORTING DATA SHALL BE FURNISHED BY THE DESIGNER THAT DEMONSTRATES THAT THE COMBINED EFFICIENCY OF THE SPECIFIED COMPONENTS MEETS THE REQUIREMENTS HEREIN. GAS-FIRED AND OIL-FIRED FORCED AIR FURNACES WITH INPUT SHALL ALSO HAVE AN INTERMITTENT IGNITION OR INTERRUPTED DEVICE (IID), AND HAVE EITHER MECHANICAL DRAFT (INCLUDING POWER VENTING) OR A FLUE DAMPER. A VENT DAMPER IS AN ACCEPTABLE ALTERNATIVE TO A FLUE DAMPER FOR FURNACES WHERE COMBUSTION AIR IS DRAWN FROM THE CONDITIONED SPACE. ALL FURNAC225,000 BTU/H (65 KW), INCLUDING ELECTRIC FURNACES, THAT ARE NOT LOCATED WITHIN THE CONDITIONED SPACE SHALL HAVE JACKET LOSSES NOT EXCEEDING 0.75 PERCENT OF THE INPUT RATING. CHILLED WATER PLANTS AND BUILDINGS WITH MORE THAN 500 TONS TOTAL CAPACITY SHALL NOT HAVE MORE THAN 100 TONS PROVIDED BY AIR-COOLED CHILLERS.

EXCEPTIONS:
1. WHERE THE DESIGNER DEMONSTRATES THAT THE WATER QUALITY AT THE BUILDING SITE FAILS TO MEET MANUFACTURER'S SPECIFICATIONS FOR THE USE OF WATER-COOLED EQUIPMENT.
2. AIR-COOLED CHILLERS WITH MINIMUM EFFICIENCIES AT LEAST 10 PERCENT HIGHER THAN THOSE LISTED IN TABLE C403.2.3(7).
3. REPLACEMENT OF EXISTING EQUIPMENT.

C403.2.4.1 THERMOSTATIC CONTROLS. THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE. AT A MINIMUM, EACH FLOOR OF A BUILDING SHALL BE CONSIDERED AS A SEPARATE ZONE. CONTROLS ON SYSTEMS REQUIRED TO HAVE ECONOMIZERS AND SERVING SINGLE ZONES SHALL HAVE MULTIPLE COOLING STAGE CAPABILITY AND ACTIVATE THE ECONOMIZER WHEN APPROPRIATE AS THE FIRST STAGE OF COOLING. SEE SECTION C403.3.1 OR C403.4.1 FOR FURTHER ECONOMIZER REQUIREMENTS. WHERE HUMIDIFICATION OR DEHUMIDIFICATION OR BOTH IS PROVIDED, AT LEAST ONE HUMIDITY CONTROL DEVICE SHALL BE PROVIDED FOR EACH HUMIDITY CONTROL SYSTEM.
EXCEPTION: INDEPENDENT PERIMETER SYSTEMS THAT ARE DESIGNED TO OFFSET ONLY BUILDING ENVELOPE HEAT LOSSES OR GAINS OR BOTH SERVING ONE OR MORE PERIMETER ZONES ALSO SERVED BY AN INTERIOR SYSTEM PROVIDED:
1. THE PERIMETER SYSTEM INCLUDES AT LEAST ONE THERMOSTATIC CONTROL ZONE FOR EACH BUILDING EXPOSURE HAVING EXTERIOR WALLS FACING ONLY ONE ORIENTATION (WITHIN +/-45 DEGREES) (0.8 RAD) FOR MORE THAN 50 CONTIGUOUS FEET (15,240 MM); AND
2. THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY A THERMOSTAT LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

C403.2.4.3.2 AUTOMATIC SETBACK AND SHUTDOWN CAPABILITIES. AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.

C403.2.4.3.3 AUTOMATIC START CAPABILITIES. AUTOMATIC START CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM. THE CONTROLS SHALL BE CAPABLE OF AUTOMATICALLY ADJUSTING THE DAILY START TIME OF THE HVAC SYSTEM IN ORDER TO BRING EACH SPACE TO THE DESIRED OCCUPIED TEMPERATURE IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY.

C403.2.4.4 SHUTOFF DAMPER CONTROLS. BOTH OUTDOOR AIR SUPPLY AND EXHAUST DUCTS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE OR DURING BUILDING WARM-UP, COOLDOWN, AND SETBACK.
EXCEPTIONS:
1. GRAVITY RELIEF DAMPERS SERVING SYSTEMS LESS THAN 5,000 CFM TOTAL SUPPLY SHALL BE PERMITTED IN BUILDINGS LESS THAN THREE STORIES IN HEIGHT.
2. GRAVITY DAMPERS SHALL BE PERMITTED FOR BUILDINGS OF ANY HEIGHT LOCATED IN CLIMATE ZONES 1, 2 AND 3.
3. GRAVITY (NONMOTORIZED) DAMPERS IN GROUP R OCCUPANCIES WHERE THE DESIGN OUTDOOR AIR INTAKE OR EXHAUST CAPACITY DOES NOT EXCEED 400 CFM (189 L/S).
4. SYSTEMS SERVING AREAS WHICH REQUIRE CONTINUOUS OPERATION.
5. COMBUSTION AIR INTAKES.
6. OPERATION OF DAMPERS SHALL BE ALLOWED DURING VENTILATION PREPURGE ONE HOUR BEFORE EXPECTED OCCUPANCY AND FOR UNOCCUPIED PERIOD PRECOOLING DURING THE COOLING SEASON.
7. DAMPERS ARE NOT REQUIRED IN SYSTEMS WHERE SPECIFICALLY PROHIBITED BY THE INTERNATIONAL MECHANICAL CODE.

C403.2.4.10 DIRECT DIGITAL CONTROL SYSTEM CAPABILITIES. ALL COMPLEX SYSTEMS EQUIPPED WITH DIRECT DIGITAL CONTROL (DDC) SYSTEMS AND ALL BUILDINGS WITH TOTAL COOLING CAPACITY EXCEEDING 780,000 BTU/H (2,662 KW) SHALL HAVE THE FOLLOWING CAPABILITY:
1. TRENDING: ALL CONTROL SYSTEM INPUT AND OUTPUT POINTS SHALL BE ACCESSIBLE AND PROGRAMMED FOR TRENDING, AND A GRAPHIC TRENDING PACKAGE SHALL BE PROVIDED WITH THE CONTROL SYSTEM.
2. DEMAND RESPONSE SETPOINT ADJUSTMENT: CONTROL LOGIC SHALL INCREASE THE COOLING ZONE SET POINTS BY AT LEAST 2°F (1°C) AND REDUCE THE HEATING ZONE SET POINTS BY AT LEAST 2°F (1°C) WHEN ACTIVATED BY A DEMAND RESPONSE SIGNAL. THE DEMAND RESPONSE SIGNAL SHALL BE A BINARY INPUT TO THE CONTROL SYSTEM OR OTHER INTERFACE APPROVED BY THE SERVING ELECTRIC UTILITY.

C403.2.5 VENTILATION. VENTILATION, EITHER NATURAL OR MECHANICAL, SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 4 OF THE INTERNATIONAL MECHANICAL CODE. WHERE MECHANICAL VENTILATION IS PROVIDED, THE SYSTEM SHALL PROVIDE THE CAPABILITY TO REDUCE THE OUTDOOR AIR SUPPLY TO THE MINIMUM REQUIRED BY CHAPTER 4 OF THE INTERNATIONAL MECHANICAL CODE.

C403.2.7.1 DUCTS, SHAFTS AND PLENUMS CONVEYING OUTSIDE AIR FROM THE EXTERIOR OF THE BUILDING TO THE MECHANICAL SYSTEM SHALL MEET ALL AIR LEAKAGE AND BUILDING ENVELOPE INSULATION REQUIREMENTS OF SECTION C402, PLUS BUILDING ENVELOPE VAPOR CONTROL REQUIREMENTS FROM THE INTERNATIONAL BUILDING CODE, EXTENDING CONTINUOUSLY FROM THE BUILDING EXTERIOR TO AN AUTOMATIC SHUTOFF DAMPER OR HEATING OR COOLING EQUIPMENT. FOR THE PURPOSES OF BUILDING ENVELOPE INSULATION REQUIREMENTS, DUCT SURFACES SHALL MEET THE REQUIREMENTS FOR METAL FRAMED WALLS PER TABLE C402.1.2. DUCT SURFACES INCLUDED AS PART OF THE BUILDING ENVELOPE SHALL NOT BE USED IN THE CALCULATION OF MAXIMUM GLAZING AREA AS DESCRIBED IN SECTION 402.3.1.
EXCEPTIONS:
1. OUTSIDE AIR DUCTS SERVING INDIVIDUAL SUPPLY AIR UNITS WITH LESS THAN 2,800 CFM OF TOTAL SUPPLY AIR CAPACITY, PROVIDED THESE ARE INSULATED TO R-7.
2. UNHEATED EQUIPMENT ROOMS WITH COMBUSTION AIR LOUVERS, PROVIDED THEY ARE ISOLATED FROM CONDITIONED SPACE AT SIDES, TOP AND BOTTOM OF THE ROOM WITH R-11 NOMINAL INSULATION.

C403.2.7.2 ALL OTHER SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES AND A MINIMUM OF R-8 INSULATION WHERE LOCATED OUTSIDE THE BUILDING. WHERE LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY MINIMUM INSULATION VALUE AS REQUIRED FOR EXTERIOR WALLS BY SECTION C402.2.3.
EXCEPTIONS:
1. WHERE LOCATED WITHIN EQUIPMENT.
2. WHERE THE DESIGN TEMPERATURE DIFFERENCE BETWEEN THE INTERIOR AND EXTERIOR OF THE DUCT OR PLENUM DOES NOT EXCEED 15°F (8°C).

C403.2.7.3.1 LOW-PRESSURE DUCT SYSTEMS. ALL LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS AND CONNECTIONS OF SUPPLY AND RETURN DUCTS OPERATING AT A STATIC PRESSURE LESS THAN OR EQUAL TO 2 INCHES WATER GAUGE (W.G.) (500 PA) SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), MASTIC-PLUS EMBEDDED-FABRIC SYSTEMS OR TAPES INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. PRESSURE CLASSIFICATIONS SPECIFIC TO THE DUCT SYSTEM SHALL BE CLEARLY INDICATED ON THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE.

C403.2.9 MECHANICAL SYSTEMS COMMISSIONING AND COMPLETION REQUIREMENTS. MECHANICAL SYSTEMS SHALL BE COMMISSIONED AND COMPLETED IN ACCORDANCE WITH SECTION C408.2.

C403.3.1.1.4 RELIEF OF EXCESS OUTDOOR AIR. SYSTEMS SHALL BE CAPABLE OF RELIEVING EXCESS OUTDOOR AIR DURING AIR ECONOMIZER OPERATION TO PREVENT OVER-PRESSURIZING THE BUILDING. THE RELIEF AIR OUTLET SHALL BE LOCATED TO AVOID RECIRCULATION INTO THE BUILDING.

C403.2.10.3 FRACTIONAL HP FAN MOTORS.
MOTORS FOR FANS THAT ARE 1/12 HP OR GREATER AND LESS THAN 1 HP SHALL BE ELECTRONICALLY COMMUTATED MOTORS OR SHALL HAVE A MINIMUM MOTOR EFFICIENCY OF 70 PERCENT WHEN RATED IN ACCORDANCE WITH DOE 10 C.F.R. 431. THESE MOTORS SHALL ALSO HAVE THE MEANS TO ADJUST MOTOR SPEED FOR EITHER BALANCING OR REMOTE CONTROL. BELT-DRIVEN FANS MAY USE SHEAVE ADJUSTMENTS FOR AIRFLOW BALANCING IN LIEU OF A VARYING MOTOR SPEED.

EXCEPTIONS:
1. MOTORS IN THE AIRSTREAM WITHIN FAN-COILS AND TERMINAL UNITS THAT OPERATE ONLY WHEN PROVIDING HEATING TO THE SPACE SERVED.
2. MOTORS INSTALLED IN SPACE CONDITIONING EQUIPMENT CERTIFIED UNDER SECTION C403.2.3.

REVISIONS

RICE GROUP, Inc.
Consulting Engineers
20201 Cedar Valley Road
Suite 120
Lynnwood, WA 98036
(425) 774-3829 (425) 672-2084 FAX

HIBULB CULTURAL CENTER
DEHUMIDIFICATION SYSTEM
6410 23RD AVENUE NE
TULALIP, WA 98271
COVERSHEET

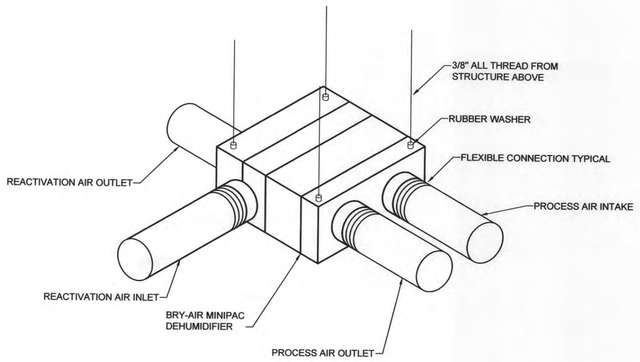
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MP-2016-022

DATE: 03/01/16
SCALE: NTS
DRAWN: PG
CHECKED: RH

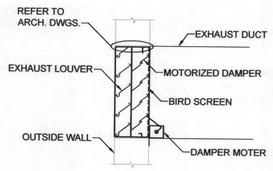
RANDALL V. HINTON
STATE OF WASHINGTON
41996
REGISTERED
PROFESSIONAL ENGINEER

M1.0

15-203



1 M1.1 DEHUMIDIFIER UNIT DETAIL
SCALE: NTS



2 M1.1 COMBINATION LOUVER/DAMPER
SCALE: NTS

LOUVER SCHEDULE

EQUIP. TAG	MFG' / MODEL NUMBER	TYPE	SERVICE	TYPE	AIR FLOW CFM	FREE AREA VELOCITY FT / MIN.	DIMENSION W X H IN. X IN.	NET FREE AREA REQUIRED SQ. FT.	PRESS. DROP IN. W.G.	NOTES
L-1	RUSKIN/ELF6375DXH	STATIONARY	DEHUMIDIFIER EXHAUST	EXHAUST	400	1000	18X12	0.40	0.10	

NOTES: 1. PROVIDE MOTORIZED DAMPER SAME SIZE AS LOUVER.

DEHUMIDIFIER EQUIPMENT SCHEDULE

TAG	LOCATION	MFG / MODEL	PROCESS CFM	REACTION CFM	MOISTURE REMOVAL (LB/HR)	STATIC (IN WC)	WEIGHT	ELECTRICAL V	PH	AMPS	REMARKS
D-1	CANOE HALL	BRY-AIR / MP-600	600	200	20	0.75	306	460	3	22.3	1, 2
D-2	LONGHOUSE	BRY-AIR / MP-600	600	200	20	0.75	306	460	3	22.3	1, 2
D-3	MAIN EXHIBIT	BRY-AIR / MP-1200	1200	400	39.6	0.75	411	460	3	36	1, 2
D-4	MAIN EXHIBIT	BRY-AIR / MP-1200	1200	400	39.6	0.75	411	460	3	36	1, 2
D-5	TEMP. EXHIBIT	BRY-AIR / MP-900	900	300	29.7	0.75	392	460	3	28.4	1, 2
D-6	EXHIBIT PREP.	BRY-AIR / MP-1200	1200	400	39.6	0.75	411	460	3	36	1, 2

NOTES: 1. PROVIDE WITH OPTIONAL HUMIDISTAT FOR HUMIDITY CONTROL
2. 24 HOUR OPERATION.

2012 Washington State Energy Code Compliance Forms for Commercial, Group R1, and > 3 story R2 and R3

Mechanical Summary — MECH-SUM

2012 Washington State Energy Code Compliance Forms for Commercial Buildings including R2 & R3 over 3 stories and all R1 — Revised May 2015

Project Info

Project Address:	**Hibulb Cultural Center** **6410 23rd Avenue NW** **Tulalip, WA 98271**
Applicant Name:	**RICE Group Inc**
Applicant Address:	**20201 Cedar Valley Rd, Ste 120. Lynnwood, WA 980036**
Applicant Phone:	**(425) 774-3829**

Date: 2/16/2016
For Building Dept. Use

Project Description
Briefly describe mechanical systems in the text box provided

☐ New Building ☐ Building Addition ☑ System Upgrade ☐ No System Changes

☐ Total Bldg Performance

Total Bldg Performance compliance includes all mandatory provisions per C401.2 Option 2. Only MECH-SUM and MECH-CHK forms required.

Install (6) dehumidifiers to existing fan coil units.

Mechanical Systems Summary

Equip ID	Type of System (Note 1)	Space(s) Served	Compliance Path	Heating and Cooling	Fan Flow Controls	Air Economizer (Note 2)	Ventilation (Note 3)	Energy Recovery
D-1	Dehumidifier	Canoe Hall	Simple single zone system	No heating or cooling	Constant volume (CV)	No cooling, NA	Not Applicable	Not Applicable
D-2	Dehumidifier	Longhouse	Simple single zone system	No heating or cooling	Constant volume (CV)	No cooling, NA	Not Applicable	Not Applicable
D-3	Dehumidifier	Main Exhibit	Simple single zone system	No heating or cooling	Constant volume (CV)	No cooling, NA	Not Applicable	Not Applicable
D-4	Dehumidifier	Main Exhibit	Simple single zone system	No heating or cooling	Constant volume (CV)	No cooling, NA	Not Applicable	Not Applicable
D-5	Dehumidifier	Temp. Exhibit	Simple single zone system	No heating or cooling	Constant volume (CV)	No cooling, NA	Not Applicable	Not Applicable
D-6	Dehumidifier	Exibit Prep	Simple single zone system	No heating or cooling	Constant volume (CV)	No cooling, NA	Not Applicable	Not Applicable

Note 1 - Provide basic description of system type, for example: unitary rooftop air handler, built-up central air handler; single-packaged, split system or packaged terminal air conditioner or heat pump; unit heater, warm-air furnace, electric resistance heater, 4-pipe fan coil, VRF system, energy recovery air handler, make-up air system, ground or water-source heat pump, etc.
Note 2 - If taking an exception to air economizer, select exception taken from drop down menu and complete MECH-ECONO form. Summary definitions of each exception are listed in MECH-ECONO.
Note 3 - If ventilation "Not applicable" is selected, provide explanation in Project Description box above.

HVAC Hydronic Systems

☐ Hydronic chilled water ☐ Water-loop heat pump ☑ No hydronic systems
☐ Hydronic heating ☐ Geothermal

Service Water Heating Systems

Equipment Type (s)
☐ Hot water heating tank(s) ☐ Instantaneous ☑ No service water systems
☐ Dedicated boiler ☐ Heat exchange from space heat boiler or central hot water/steam
Distribution Type (s)
☐ Circulation System ☐ On-demand

2012 Washington State Energy Code Compliance Forms for Commercial, Group R1, and > 3 story R2 and R3

Mechanical Schedules

☑ Mechanical Plans ☐ MECH-EQ Form

Indicate location of equipment compliance information. If provided on plans then MECH-EQ forms are not required, however, include on plans all applicable compliance information listed in MECH-EQ tables.

Design Load Calculations

☐ Load calculation summary ☐ MECH-LOAD-CALC Form ☐ Equipment retrofit or repair

Provide design load calculations for all mechanical systems and equipment serving the building heating, cooling or ventilating needs. If a load calculation summary is provided with the permit documents that includes all applicable compliance information then the MECH-LOAD-CALC form is not required.

Equipment retrofit and repair projects where design loads in space(s) served have not changed from original design conditions are not required to perform load calculations.

Mechanical Summary, pg. 2 — MECH-SUM

2012 Washington State Energy Code Compliance Forms for Commercial Buildings including R2 & R3 over 3 stories and all R1 — Revised May 2015

Fan Power

○ Air system exceeding 5hp ◉ No air system exceeds 5hp ○

Provide a MECH-FANSYS form for each HVAC system having a total fan system motor nameplate horsepower exceeding 5 horsepower. Refer to Section C403.2.10 and MECH-FANSYS-DOC for requirements and exceptions.

Commissioning Exception Summary

Describe means of eligibility for commissioning exception (capacity, etc) for all systems noted as taking exception in Mechanical Systems Summary table. Refer to Section C408.2 and C408.4 for exceptions.

☑ Commissioning will be provided for all applicable systems

Commissioning Exceptions:

☐ Mechanical system(s) _____

☐ Service water heating system(s) _____

For systems requiring commissioning, Figure C408.1.2.1 Commissioning Compliance Checklist shall be submitted to the code official upon project completion.

Low Energy and Semi-Heated Spaces (Note 6 and 7)

Space Type	Location in Plan(s)	Space(s) Served	Area Served, square feet	Heating Capacity, Btuh (Note 4)	Cooling Capacity, Btuh (Note 5)	Peak Space Conditioning Capacity, Btuh-sf	Compliance Check	Notes

Note 4 - Provide total installed heating output capacity of systems serving Low Energy or Semi-Heated space(s) in btuh.
Note 5 - Provide total installed cooling capacity of system serving Low Energy space(s) in Btuh. Not allowed for semi-heated spaces. Enter 0 if no cooling.
Note 6 - Refer to Section C101.5.2 Low Energy Building. Installed peak space conditioning capacity, heating or cooling, may not exceed 3.4 Btuh-sf.
Note 7 - Refer to Section C402.1.4 and Semi-Heated Space definition in Chapter 2. Total heating output capacity may not exceed 8 btuh/sf. Only systems without electric resistance heating and no cooling are eligible for the wall insulation exception under semi-heated.

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HIBULB CULTURAL CENTER
DEHUMIDIFICATION SYSTEM
6410 23RD AVENUE NE
TULALIP, WA 98271

EQUIPMENT SCHEDULE

DATE: 03/01/16
SCALE: XXX
DRAWN: XXX
CHECKED: RH

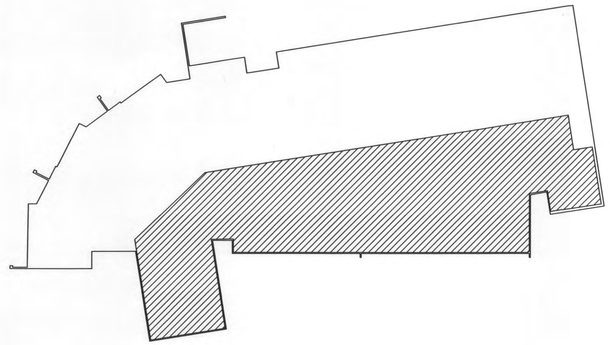


M1.1

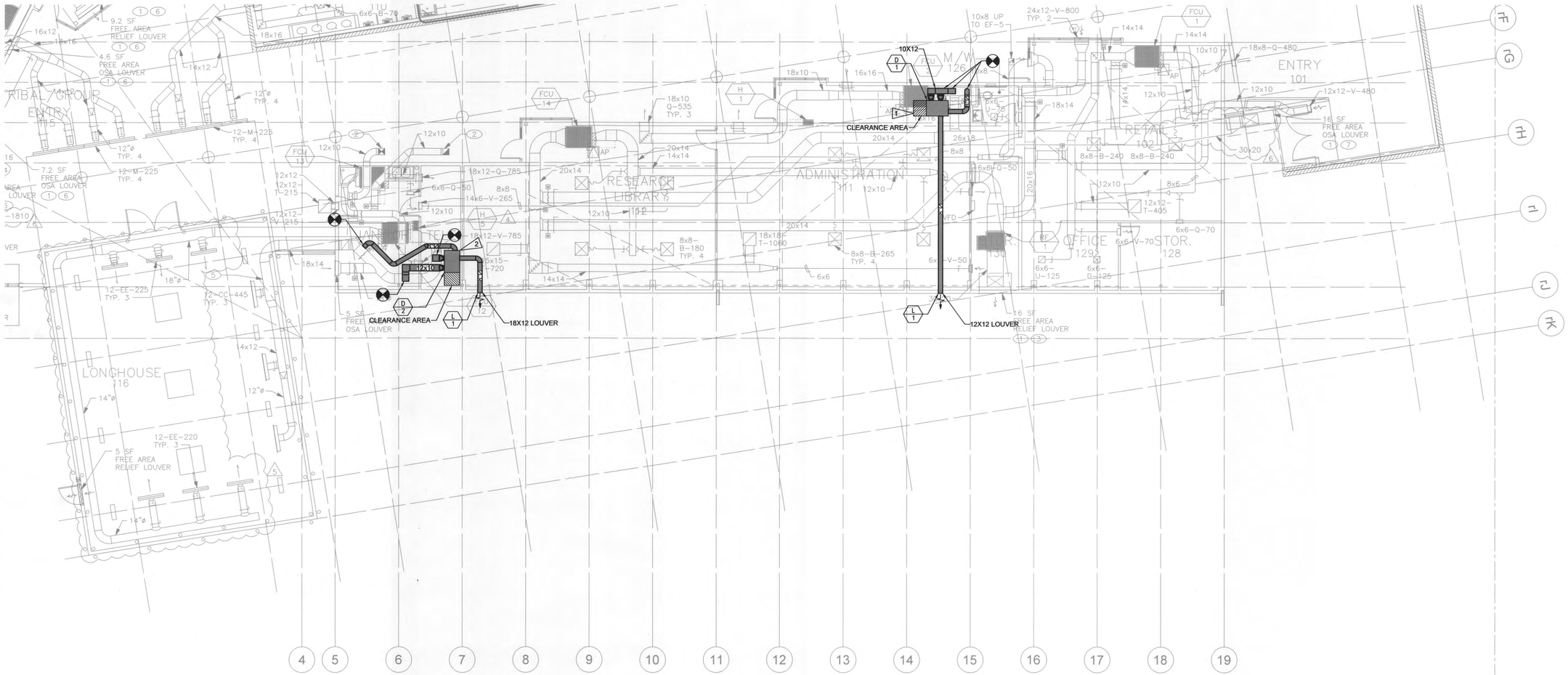
15-203

NOTES:

1. INSTALL D-1 OVER EXISTING FCU-2.
2. INSTALL D-2 OVER EXISTING TELECOM RACKS. INSTALL DRAIN PAN UNDER UNIT.



2 M2.3 KEY PLAN NTS



1 M2.3 PARTIAL FLOOR HVAC PLAN

0 4' 8' 16'

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

PLAN NORTH

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HIBULB CULTURAL CENTER

DEHUMIDIFICATION SYSTEM

6410 23RD AVENUE NE
TULALIP, WA 98271

PARTIAL FLOOR HVAC PLAN

DATE:	03/01/16
SCALE:	1/8" = 1'
DRAWN:	PG
CHECKED:	RH

RANDALL V. HINTON
STATE OF WASHINGTON
41926
REGISTERED
PROFESSIONAL ENGINEER

M2.0

15-203

1 M2.2 MEZZANINE HVAC PLAN

0 4' 8' 16'

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

2 M2.2 KEY PLAN NTS

NOTES:

1. INSTALL D-4 OVER EXISTING FCU-3.
2. INSTALL D-3 OVER EXISTING FCU-4.
3. INSTALL D-5 OVER EXISTING FCU-5.
4. INSTALL D-6 OVER EXISTING FCU-6 DUCT.

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HIBULB CULTURAL CENTER

DEHUMIDIFICATION SYSTEM

6410 23RD AVENUE NE
TULALIP, WA 98271

PARTIAL FLOOR HVAC PLAN

716 4th St

DATE:	03/01/16
SCALE:	1/8" = 1'
DRAWN:	PG
CHECKED:	RH

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15-203

ELECTRICAL SYMBOLS

EQUIPMENT

- PANELBOARD 277/480V
- PANELBOARD 120/208V OR 120/240V
- CABINET – TYPE AS INDICATED ON PLAN
- SWITCHBOARD
- T — TRANSFORMER – SIZE AND VOLTAGE AS INDICATED ON PLAN
- HORSEPOWER RATED TOGGLE SWITCH WITH OVERLOAD PROTECTION
- COMBINATION STARTER
  HP RATED, 3-POLE, NEMA 1 MINIMUM UNLESS NOTED OTHERWISE – OVERCURRENT PROTECTION AS REQUIRED
- NON-FUSED DISCONNECT SWITCH – SIZE PER CONNECTED LOAD
- FUSED DISCONNECT SWITCH – SIZE PER CONNECTED LOAD. PROVIDE FUSES PER EQUIPMENT NAMEPLATE.
- EQUIPMENT CONNECTION
- EF-1 — MECHANICAL EQUIPMENT CALLOUT. REFER TO MECHANICAL EQUIPMENT SCHEDULE.
- FLUSH FLOOR BOX

ELECTRICAL RISER

- GROUND
- 30A/3P — CIRCUIT BREAKER
  NUMBER INDICATED TRIP SETTING AND NUMBER OF POLES
- PNL — PANELBOARD
- CURRENT TRANSFORMER (CT)
- CABLE TO BUS CONNECTION
- AUTOMATIC TRANSFER SWITCH (ATS)
- XXX — FEEDER TYPE – REFER TO FEEDER SCHEDULE ON ONE-LINE
- M — UTILITY METER
- PM — POWER MONITOR
- W — WATTHOUR METER
- SURGE PROTECTIVE DEVICE (SPD)

RACEWAYS

- RACEWAY CONCEALED IN WALL OR CEILING, EXPOSED IN UNFINISHED AREAS
- RACEWAY CONCEALED BELOW FLOOR
- FLEXIBLE CONDUIT FIXTURE WHIP WITH CONDUCTORS
- A-1,3,5 — BRANCH CIRCUIT WIRING SHOWING CIRCUIT HOME RUN TO PANELBOARD. HASHMARKS SHOW QUANTITY OF CONDUCTORS WHEN MORE THAN THREE REQUIRED DOT INDICATES GROUND CONDUCTOR NEUTRAL CONDUCTOR SHOWN LARGER. PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT.
- RACEWAY TURNING UP
- RACEWAY TURNING DOWN
- CIRCUIT CONTINUATION
- LV — LOW VOLTAGE WIRING
- JUNCTION BOX
- PB — PULL BOX

ELECTRICAL ABBREVIATIONS

AF	AMPERE FRAME	MAX	MAXIMUM
AFF	ABOVE FINISHED FLOOR	MFR	MANUFACTURER
AHU	AIR HANDLING UNIT	MECH	MECHANICAL
AIC	AMPERE INTERRUPTING CURRENT	MIN	MINIMUM
AMP	AMPERE	MLO	MAIN LUGS ONLY
AS	AMPERE SWITCH	MTD	MOUNTED
AT	AMPERE TRIP	MTG	MOUNTING
ATS	AUTOMATIC TRANSFER SWITCH	NEC	NATIONAL ELECTRICAL CODE
AWG	AMERICAN WIRE GAUGE	NEUT	NEUTRAL
BAS	BUILDING AUTOMATION SYSTEM	NC	NORMALLY CLOSED
BLDG	BUILDING	NIC	NOT IN CONTRACT
C	CONDUIT	NO	NUMBER; NORMALLY OPEN
CB	CIRCUIT BREAKER	NTS	NOT TO SCALE
CKT	CIRCUIT	PF	POWER FACTOR
CLG	CEILING	PH or ø	PHASE
CO	CONDUIT ONLY	PNL	PANEL
CT	CURRENT TRANSFORMER	PWR	POWER
CU	COPPER	QTY	QUANTITY
DET	DETAIL	RECPT	RECEPTACLE
DIA	DIAMETER	REQD	REQUIRED
DISC	DISCONNECT	RMC	RIGID METAL CONDUIT
DN	DOWN	SF	SUPPLY FAN
DPST	DOUBLE POLE, SINGLE THROW	SOLV	SOLENOID VALVE
DWG	DRAWING	SPD	SURGE PROTECTIVE DEVICE
EA	EACH	SPEC	SPECIFICATION
EF	EXHAUST FAN	SPST	SINGLE POLE, SINGLE THROW
EH	ELECTRIC HEATER	ST	SHUNT TRIP
ELEC	ELECTRIC	STD	STANDARD
EMT	ELECTRICAL METALLIC TUBING	STL	STEEL
EPO	EMERGENCY POWER OFF	SW	SWITCH
EQUIP	EQUIPMENT	SWBD	SWITCHBOARD
EXIST	EXISTING	TEMP	TEMPORARY
FU or F	FUSE	TYP	TYPICAL
G	GROUND	UGND	UNDERGROUND
GALV	GALVANIZED	UL	UNDERWRITERS LABORATORIES
GEC	GROUNDING ELECTRODE CONDUCTOR	UON	UNLESS OTHERWISE NOTED
GEN	GENERATOR	V	VOLT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	VA	VOLT AMPERE
HP	HORSEPOWER	VFD	VARIABLE FREQUENCY DRIVE
HT	HEAT TRACE	W	WATT
J-BOX	JUNCTION BOX	W/	WITH
kcmil	THOUSAND CIRCULAR MILS	WAC	WASHINGTON ADMINISTRATIVE CODE
kV	KILOVOLT	W/O	WITHOUT
kVA	KILOVOLT AMPERE	WP	WEATHERPROOF; WATERPROOFING
kW	KILOWATT	XFMR	TRANSFORMER
kWh	KILOWATT HOUR	Z	IMPEDANCE

EQUIPMENT CONNECTIONS

1. VERIFY ELECTRICAL REQUIREMENTS WITH MANUFACTURER SHOP DRAWINGS PRIOR TO ROUGH-IN.
2. INSTALL AND WIRE EQUIPMENT PER MANUFACTURER SHOP DRAWINGS.
3. PROVIDE ALL RACEWAYS, WIRING AND ANCILLARY EQUIPMENT AS SHOWN ON MANUFACTURER SHOP DRAWINGS.
4. PROVIDE HARDWIRED CONNECTION, RECEPTACLE OR FUSED DISCONNECT SWITCH AS SHOWN ON MANUFACTURER SHOP DRAWINGS.

BRANCH CIRCUIT WIRING

THE FOLLOWING GENERAL NOTES APPLY TO ALL DRAWINGS

1. IN GENERAL ONLY CIRCUIT NUMBERS HAVE BEEN SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED RACEWAYS AND WIRING.
2. SHOW ALL RACEWAYS AND WIRING ON AS-BUILT DRAWINGS.
3. GENERAL:
   - 3.A. MINIMUM RACEWAY SIZE SHALL BE ¾".
   - 3.B. NO MORE THAN 7 #12 AWG CONDUCTORS SHALL BE INSTALLED IN A RACEWAY.
   - 3.C. HOMERUNS GREATER THAN 75 FEET TO THE FIRST DEVICE SHALL BE NO. 10 AWG.
   - 3.D. LIGHTING, POWER, AND MECHANICAL EQUIPMENT CONDUCTORS SHALL NOT BE COMBINED IN THE SAME RACEWAY.
   - 3.E. PROVIDE A GROUND CONDUCTOR IN ALL RACEWAYS.
   - 3.F. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.
4. MECHANICAL EQUIPMENT: PROVIDE RACEWAYS AND WIRING AS SHOWN ON THE MECHANICAL EQUIPMENT CONNECTION SCHEDULE.

ONE-LINE DIAGRAM

1. ALL FEEDERS ARE COPPER WITH THHN/THWN INSULATION.
2. PROVIDE PULL BOXES AS REQUIRED BY THE NEC.
3. SHORT CIRCUIT CURRENTS LESS THAN 10,000 ASYM FOR 208V PANELS AND 14,000 ASYM FOR 480V PANELS ARE NOT SHOWN.
4. THE ONE-LINE DIAGRAM IS DIAGRAMMATIC AND DOES NOT SHOW THE ACTUAL ROUTING OF THE RACEWAYS.

POWER PLANS

THE FOLLOWING GENERAL NOTES APPLY TO ALL POWER PLAN DRAWINGS

1. PRIOR TO ORDERING EQUIPMENT OR ROUGH-IN, COORDINATE WITH THE MECHANICAL CONTRACTOR TO ESTABLISH THE ACTUAL LOAD AND OVERCURRENT PROTECTION REQUIREMENTS FOR EACH PIECE OF EQUIPMENT.
2. REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE FOR EQUIPMENT RATINGS AND FEEDER SIZES.
3. PROVIDE DISCONNECT SWITCH OR COMBINATION STARTER FOR EACH PIECE OF EQUIPMENT AS SHOWN ON MECHANICAL EQUIPMENT CONNECTION SCHEDULE.
4. PRIOR TO ROUGH-IN OF ALL EQUIPMENT SPECIFIED BY OTHER DIVISIONS, COORDINATE WITH THE EQUIPMENT MANUFACTURER TO ESTABLISH ALL REQUIREMENTS FOR EACH PIECE OF EQUIPMENT.
5. ALL EXTERIOR DISCONNECTS/STARTERS SHALL BE NEMA 3R.
6. ALL HOMERUNS OVER 75' SHALL BE #10 AWG MINIMUM.
7. FEEDER ROUTING SHOWN IS APPROXIMATE. COORDINATE WITH MECHANICAL SYSTEMS AND BUILDING STRUCTURE. PROVIDE OFFSETS AS REQUIRED.

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY TO ALL DRAWINGS

1. ITEMS NOTED AS "TYPICAL" ON ANY DRAWING REFERS TO ALL DRAWINGS.
2. PROVIDE NYLON PULL STRING IN ALL EMPTY RACEWAYS.
3. NO STRUCTURAL MEMBERS SHALL BE CUT OR ALTERED WITHOUT PRIOR APPROVAL OF THE ARCHITECT AND STRUCTURAL ENGINEER.
4. ALL RACEWAYS WITHIN THE BUILDING SHALL BE RUN OVERHEAD U.O.N. RACEWAYS SHALL NOT BE RUN UNDER THE FLOOR SLAB UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS.
5. NO RACEWAYS SHALL BE RUN IN FLOOR SLABS.
6. ALL RACEWAYS IN FINISHED SPACES SHALL BE CONCEALED.
7. PROVIDE 2" EMT SLEEVES FOR LOW VOLTAGE WIRING RUNNING THROUGH NON-RATED WALLS, FLOORS AND CEILINGS.
8. PROVIDE STI "EZ-PATH" ASSEMBLIES AT EACH LOCATION WHERE LOW VOLTAGE WIRING PENETRATES A RATED WALL OR CEILING. ASSUME 50 ARE TO BE PROVIDED.
9. SEAL ALL PENETRATIONS IN RATED FLOORS AND CEILINGS WITH A UL APPROVED FIRE STOP SYSTEM.
10. ALL LOW VOLTAGE WIRING NOT RUN IN A METALLIC RACEWAY SHALL BE PLENUM RATED.
11. ALL EQUIPMENT, LUMINAIRES, RACEWAYS, DEVICES, ETC. SHALL BE UL LISTED.
12. WHERE A CONFLICT EXISTS THE MOST EXPENSIVE OPTION SHALL GOVERN.

DRAWING INDEX

SHEET NUMBER	DESCRIPTION
E0.1	COVER SHEET AND GENERAL INFORMATION
E3.1	PARTIAL FIRST FLOOR POWER PLAN
E3.2	MEZZANINE POWER PLAN
E5.1	ONE-LINE DIAGRAM
E6.1	PANEL SCHEDULES

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

DEHUMIDIFIER UNIT SCHEDULE

EQUIP. NO.	DESCRIPTION	LOCATION	HP	KW	FLA	MCA	MOCP	VOLTAGE	PHASE	DISCONNECT	STARTER	FEEDER	CIRCUITING	NOTES
D-1	DEHUMIDIFIER	CANOE HALL			22.3			480V	3	30AS	–	1" 3#8 & 1#10G	SBH1B-1,3,5	
D-2	DEHUMIDIFIER	LONGHOUSE			22.3			480V	3	30AS	–	1" 3#8 & 1#10G	SBH1B-7,9,11	
D-3	DEHUMIDIFIER	MAIN EXHIBIT			36			480V	3	60AS	–	1-1/4" 3#4 & 1#10G	SBH1B-13,15,17	
D-4	DEHUMIDIFIER	MAIN EXHIBIT			36			480V	3	60AS	–	1-1/4" 3#4 & 1#10G	SBH1B-2,4,6	
D-5	DEHUMIDIFIER	TEMPORARY EXHIBIT			28.4			480V	3	60AS	–	1-1/4" 3#6 & 1#10G	SBH1B-8,10,12	
D-6	DEHUMIDIFIER	EXHIBIT PREP			36			480V	3	60AS	–	1-1/4" 3#4 & 1#10G	SBH1B-14,16,18	

GENERAL NOTES:

1. PRIOR TO ORDERING EQUIPMENT OR ROUGH-IN COORDINATE WITH THE MECHANICAL CONTRACTOR TO ESTABLISH THE ACTUAL LOAD & OVERCURRENT PROTECTION REQUIREMENTS FOR EACH PIECE OF MECHANICAL EQUIPMENT.
2. LOCATE ALL DISCONNECTING MEANS PER 2002 NEC 430-102B AND AHJ REQUIREMENTS.
3. ABBREVIATIONS
   - HRS: HORSEPOWER RATED MOTOR DISCONNECT SWITCH WITH OVERLOAD PROTECTION
   - AS: AMPERE SWITCH
   - AF: AMPERE FUSE
4. ALL DISCONNECS ARE 3-POLE UNLESS OTHERWISE NOTED.
5. DISCONNECT SWITCHES LOCATED OUTSIDE SHALL BE NEMA 3R. REFER TO MECHANICAL PLANS.
6. PROVIDE FUSES PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.

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REVISIONS

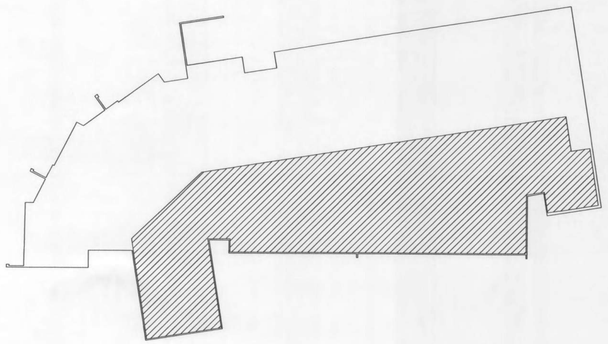
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COVER SHEET AND GENERAL INFORMATION

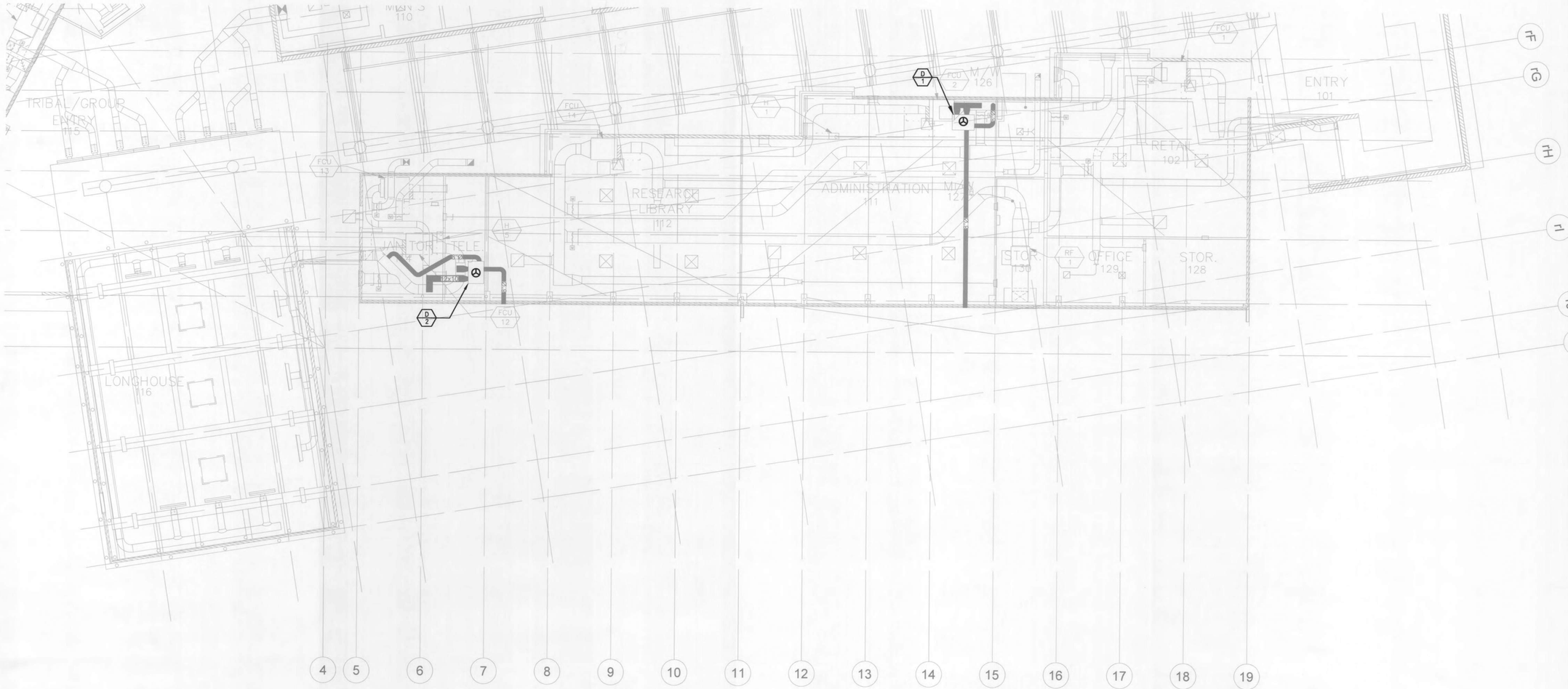
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SCALE: NONE
DRAWN: KT
CHECKED: JGJ

E0.1

151304



KEY PLAN
NOT TO SCALE



PARTIAL FIRST FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"

1/8"=1'-0" 0 2 4 6 8 16 24

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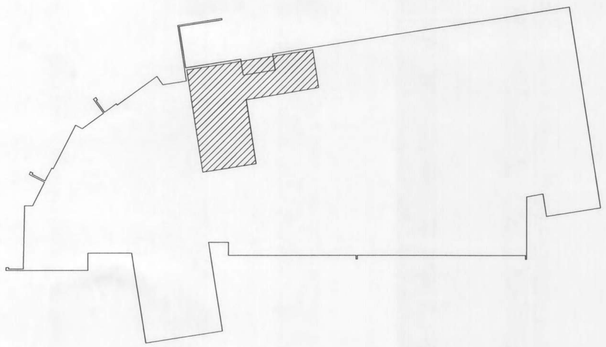
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PARTIAL FIRST FLOOR POWER PLAN

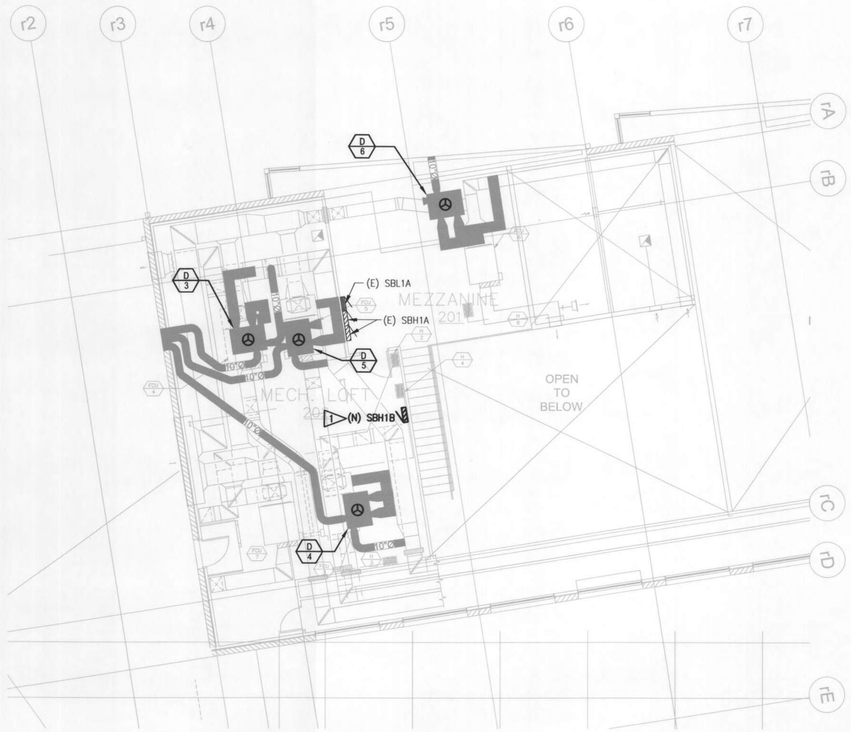
DATE:	03/01/2016
SCALE:	1/8" = 1'-0"
DRAWN:	KT
CHECKED:	JGJ

E3.1

151304



KEY PLAN
NOT TO SCALE



MEZZANINE POWER PLAN
SCALE: 1/8" = 1'-0"

FLAG NOTES

1. FIELD VERIFY FINAL PANELBOARD LOCATION AND COORDINATE WITH OWNER.

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MEZZANINE POWER PLAN

DATE:	03/01/2016
SCALE:	1/8" = 1'-0"
DRAWN:	KT
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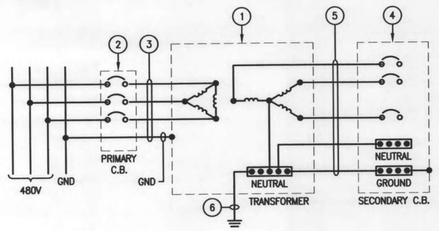
E3.2

151304

1/8"=1'-0" 0 2 4 6 8 16 24

TRANSFORMER SCHEDULE

(1) kVA	(2) PRIMARY C.B.	(3) PRIMARY FEEDER RACEWAY	(3) PRIMARY FEEDER CONDUCTORS	(4) SECONDARY C.B.	(5) SECONDARY FEEDER RACEWAY	(5) SECONDARY FEEDER CONDUCTORS	(6) GEC (NEC 250.66)
15	30	3/4"	3#10 & 1#10 G	50	1	4#6 & 1#10 G	#8
30	60	1.25"	3#4 & 1#10 G	100	1.5"	4#2 & 1#8 G	#8
45	80	1.5"	3#2 & 1#8 G	150	2"	4#1/0 & 1#6 G	#6
75	125	1.5"	3#1 & 1#6 G	225	2.5"	4#4/0 & 1#2 G	#2
112.5	175	2"	3#2/0 & 1#6 G	400	3.5"	4–600 kcmil & 1#1/0 G	#1/0
150	225	2"	3#4/0 & 1#4 G	500	(2) 3"	(2) 4–250 kcmil & 1#1/0 G	#1/0
225	400	3.5"	3–600 kcmil & 1#2 G	800	(2) 4"	(2) 4–600 kcmil & 1#2/0 G	#2/0
300	500	(2) 2.5"	(2) 3–250 kcmil & 1#1/0 G	1000	(3) 4"	(3) 4–500 kcmil & 1#3/0 G	#3/0
500	800	(2) 3.5"	(2) 3–600 kcmil & 1#1/0 G	1600	(4) 4"	(4) 4–600 kcmil & 1#4/0 G	#3/0
750	1200	(4) 3"	(4) 3–350 kcmil & 1#3/0 G	2500	(6) 4"	(6) 4–600 kcmil & 1#350 kcmil G	#3/0
1000	1600	(4) 3.5"	(4) 3–600 kcmil & 1#4/0 G	3500	(10) 4"	(10) 4–500 kcmil & 1#500 kcmil G	#3/0



COPPER FEEDER SCHEDULE

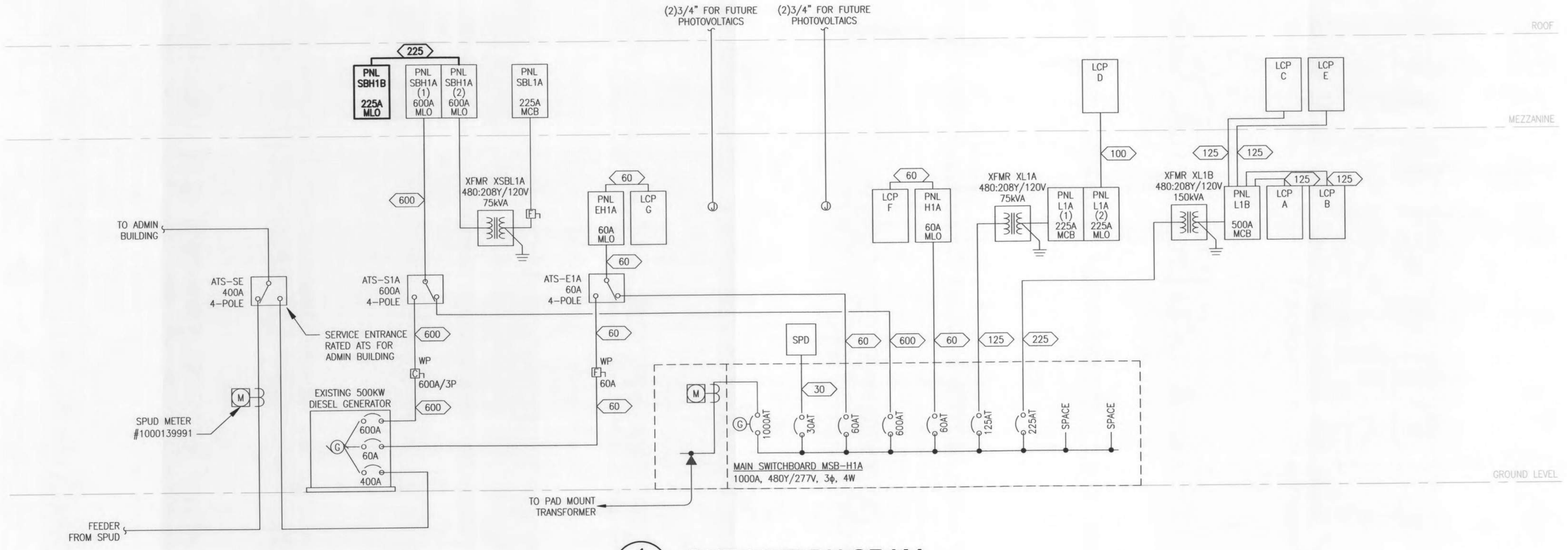
AMPACITY (AMPS)	SYMBOL ID.	FEEDER 3 PHASE, 4 WIRE	RACEWAY	SYMBOL ID.	FEEDER 3 PHASE, 3 WIRE	RACEWAY
20	20	4#12, 1#12 G	3/4"	20N	3#12, 1#12 G	3/4"
30	30	4#10, 1#10 G	3/4"	30N	3#10, 1#10 G	3/4"
40	40	4#8, 1#10 G	1"	40N	3#8, 1#10 G	1"
50	50	4#6, 1#10 G	1"	50N	3#6, 1#10 G	1"
60	60	4#4, 1#10 G	1.5"	60N	3#4, 1#10 G	1.5"
70	70	4#4, 1#8 G	1.5"	70N	3#4, 1#8 G	1.5"
100	100	4#2, 1#8 G	1.5"	100N	3#2, 1#8 G	1.5"
125	125	4#1, 1#6 G	2"	125N	3#1, 1#6 G	1.5"
150	150	4#1/0, 1#6 G	2"	150N	3#1/0, 1#6 G	1.5"
175	175	4#2/0, 1#6 G	2"	175N	3#2/0, 1#6 G	2"
200	200	4#3/0, 1#6 G	2.5"	200N	3#3/0, 1#6 G	2"
225	225	4#4/0, 1#4 G	2.5"	225N	3#4/0, 1#4 G	2"
250	250	4#250 kcmil, 1#4 G	3"	250N	3#250 kcmil, 1#4 G	2.5"
300	300	4#350 kcmil, 1#4 G	3"	300N	3#350 kcmil, 1#4 G	3"
400	400	4#600 kcmil, 1#2 G	4"	400N	3#600 kcmil, 1#2 G	3.5"
500	500	2 SETS 4#250 kcmil, 1#1/0 G	(2) 3"	500N	2 SETS 3#250 kcmil, 1#1/0 G	(2) 2.5"
600	600	2 SETS 4#350 kcmil, 1#1/0 G	(2) 3"	600N	2 SETS 3#350 kcmil, 1#1/0 G	(2) 3"
800	800	2 SETS 4#600 kcmil, 1#1/0 G	(2) 4"	800N	2 SETS 3#600 kcmil, 1#1/0 G	(2) 3.5"
1000	1000	3 SETS 4#500 kcmil, 1#2/0 G	(3) 3.5"	1000N	3 SETS 3#500 kcmil, 1#2/0 G	(3) 3"
1200	1200	4 SETS 4#350 kcmil, 1#3/0 G	(4) 3"	1200N	4 SETS 3#350 kcmil, 1#3/0 G	(4) 3"
1600	1600	4 SETS 4#600 kcmil, 1#4/0 G	(4) 4"	1600N	4 SETS 3#600 kcmil, 1#4/0 G	(4) 3.5"
2000	2000	5 SETS 4#600 kcmil, 1#250 kcmil G	(5) 4"	2000N	5 SETS 3#600 kcmil, 1#250kcmil G	(5) 3.5"
2500	2500	6 SETS 4#600 kcmil, 1#350 kcmil G	(6) 4"	2500N	6 SETS 3#600 kcmil, 1#350 kcmil G	(6) 3.5"
3000	3000	8 SETS 4#500 kcmil, 1#500 kcmil G	(8) 3.5"	3000N	8 SETS 3#500 kcmil, 1#500 kcmil G	(8) 3.5"
4000	4000	10 SETS 4#600 kcmil, 1#600 kcmil G	(10) 4"	4000N	10 SETS 3#600 kcmil, 1#600 kcmil G	(10) 3.5"

NOTES:
1. ALL FEEDERS ARE COPPER WITH THHN/THWN INSULATION.
2. FOR FEEDERS WITH AN "SL" SUFFIX, DELETE THE GROUND CONDUCTOR.

PANEL DESIGNATION

EXAMPLE DESIGNATION: PNL EL1A

- PANEL TYPE: PNL = PANEL
- GENERATOR: E = LIFE SAFETY; SB = OPTIONAL STANDBY
- VOLTAGE: H = 277Y/480V; L = 120Y/208V
- SUFFIX: A = FIRST IN SEQUENCE; B = SECOND IN SEQUENCE
- BUILDING LEVEL: 1 = FIRST LEVEL



1 E5.1 **ONE-LINE DIAGRAM**
SCALE: NONE

GENERAL NOTES

1. REFER TO SHEET E0.1.

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3/4/2016

REVISIONS

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HIBULB CULTURAL CENTER
DEHUMIDIFICATION SYSTEM
6410 23RD AVENUE NE
TULALIP, WA 98271

ONE-LINE DIAGRAM

DATE: 03/01/2016
SCALE: NONE
DRAWN: KT
CHECKED: JGJ

E5.1

151304

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REVISIONS

Tulalip Hibulb Museum HVAC — PANEL SCHEDULE — EXIST. PANEL: GENERATOR LOADS

151304

Location: EXTERIOR — Feed Through: — Source: GENERATOR

Ckt	Load Description	Phase	Amp	Poles	Notes	Rec.	Ltg.	Kit.	Mtr.	Htg.	Clg.	Cont.	Non.	Total
1	EH1A	A	60	3	1		2.30							2.30
3	–	B	–	–	1		0.40							0.40
5	–	C	–	–	1		0.50							0.50
7	SPUD METER #1000139991	A	400	3	2								15.33	15.33
9	–	B	–	–	2								15.33	15.33
11	–	C	–	–	2								15.33	15.33
13	SPARE C.B.	A	20	1										
15	SPARE C.B.	B	20	1										
17	SPARE C.B.	C	20	1										
19	SPARE C.B.	A	20	1										
21	SPARE C.B.	B	20	1										
23	SPARE C.B.	C	20	1										
25	SPARE C.B.	A	20	1										
27	SPARE C.B.	B	20	1										
29	SPARE C.B.	C	20	1										
31	SPARE C.B.	A	20	1										
33	SPARE C.B.	B	20	1										
35	SPARE C.B.	C	20	1										
37	SPARE C.B.	A	20	1										
39	SPARE C.B.	B	20	1										
41	SPARE C.B.	C	20	1										
2	SBH1A(1)	A	600	3					18.70	67.10	18.00		51.17	154.97
4	–	B	–	–					18.40	67.10	18.00		51.17	154.67
6	–	C	–	–					17.70	67.10	18.00		51.67	154.47
8	SPARE C.B.	A	20	1										
10	SPARE C.B.	B	20	1										
12	SPARE C.B.	C	20	1										
14	SPARE C.B.	A	20	1										
16	SPARE C.B.	B	20	1										
18	SPARE C.B.	C	20	1										
20	SPARE C.B.	A	20	1										
22	SPARE C.B.	B	20	1										
24	SPARE C.B.	C	20	1										
26	SPARE C.B.	A	20	1										
28	SPARE C.B.	B	20	1										
30	SPARE C.B.	C	20	1										
32	SPARE C.B.	A	20	1										
34	SPARE C.B.	B	20	1										
36	SPARE C.B.	C	20	1										
38	SPARE C.B.	A	20	1										
40	SPARE C.B.	B	20	1										
42	SPARE C.B.	C	20	1										

CATEGORY	TOTAL CONN. LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Receptacles		50%>10KVA	
Lighting	3.20	125%	4.00
Kitchen Equipment		NEC 220.56	
Motors (Largest)	9.90	125%	12.38
Motors	44.90	100%	44.90
Heating	201.30	NEC 220.60	201.30
Cooling	54.00	NEC 220.60	
Continuous Load		125%	
Non-Continuous Load	200.00	100%	200.00
TOTAL	513.30		462.58

Specifications:

Rating (Amps):	600
Voltage (L-L):	480
Phase:	3
Wire:	4
Bus Material:	Cu
Int. Rating:	
Main Lugs Only:	–
Main Ckt Brkr:	–
Surface Mtd:	–
Flush Mtd:	–
Bonded Gnd:	–
Isolated Gnd:	–
200% Neutral:	–
Feed Thru:	–
Double Lug:	–
Top Feed:	–
Bottom Feed	–

Load From This Panel:

Phase A:	172.60
Phase B:	170.40
Phase C:	170.30
Total Conn.:	513.30
Feed Thru Load:	NONE
Phase A:	
Phase B:	
Phase C:	
Total Conn.:	
Total Feeder Demand Load:	
Total:	462.58 KVA
Avg. Amps/Phase:	556 A

General Notes:
1. GENERATOR SIZE IS 500KW.

Keyed Notes:
1. LOAD CALCULATED PER RECORD SCHEDULES.
2. LOAD CALCULATED PER METER DATA.

Tulalip Hibulb Museum HVAC — PANEL SCHEDULE — EXIST. PANEL: MSB-H1A

151304

Location: ELEC RM 133 — Feed Through: — Source: SERVICE

Ckt	Load Description	Phase	Amp	Poles	Notes	Rec.	Ltg.	Kit.	Mtr.	Htg.	Clg.	Cont.	Non.	Total
1	SPD	A	30	3										
3	–	B	–	–										
5	–	C	–	–										
7		A	20	1										
9	SBH1A(1)	B	600	3					18.70	67.10	18.00		51.17	154.97
11	–	C	–	–					18.40	67.10	18.00		51.17	154.67
13	–	A	–	–					17.70	67.10	18.00		51.67	154.47
15	L1A(1)	B	125	3	1	11.80	6.00		4.20				3.00	25.00
17	–	C	–	–	1	12.30	7.00		1.20	1.50			3.80	25.80
19	–	A	–	–	1	12.30	6.30		1.70	1.50			3.90	25.70
21	SPARE C.B.	B	20	1										
23	SPARE C.B.	C	20	1										
25	SPARE C.B.	A	20	1										
27	SPARE C.B.	B	20	1										
29	SPARE C.B.	C	20	1										
31	SPARE C.B.	A	20	1										
33	SPARE C.B.	B	20	1										
35	SPARE C.B.	C	20	1										
37	SPARE C.B.	A	20	1										
39	SPARE C.B.	B	20	1										
41	SPARE C.B.	C	20	1										
2	EH1A	A	60	3	1		2.30							2.30
4	–	B	–	–	1		0.40							0.40
6	–	C	–	–	1		0.50							0.50
8	H1A	A	60	3	1		8.30					4.00		12.30
10	–	B	–	–	1		0.90					4.00		4.90
12	–	C	–	–	1		3.50					4.00		7.50
14	L1B	A	225	3	1		35.00						0.80	35.80
16	–	B	–	–	1		36.90						0.50	37.40
18	–	C	–	–	1	1.30	33.90						0.30	35.50
20	SPARE C.B.	A	20	1										
22	SPARE C.B.	B	20	1										
24	SPARE C.B.	C	20	1										
26	SPARE C.B.	A	20	1										
28	SPARE C.B.	B	20	1										
30	SPARE C.B.	C	20	1										
32	SPARE C.B.	A	20	1										
34	SPARE C.B.	B	20	1										
36	SPARE C.B.	C	20	1										
38	SPARE C.B.	A	20	1										
40	SPARE C.B.	B	20	1										
42	SPARE C.B.	C	20	1										

CATEGORY	TOTAL CONN. LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Receptacles	37.70	50%>10KVA	23.85
Lighting	141.00	125%	176.25
Kitchen Equipment		NEC 220.56	
Motors (Largest)	9.90	125%	12.38
Motors	52.00	100%	52.00
Heating	204.30	NEC 220.60	204.30
Cooling	54.00	NEC 220.60	
Continuous Load	12.00	125%	15.00
Non-Continuous Load	188.31	100%	188.31
TOTAL	677.21		650.09

Specifications:

Rating (Amps):	1000
Voltage (L-L):	480
Phase:	3
Wire:	4
Bus Material:	Cu
Int. Rating:	35,000A
Main Lugs Only:	–
Main Ckt Brkr:	–
Surface Mtd:	–
Flush Mtd:	–
Bonded Gnd:	–
Isolated Gnd:	–
200% Neutral:	–
Feed Thru:	–
Double Lug:	–
Top Feed:	–
Bottom Feed	–

Load From This Panel:

Phase A:	230.57
Phase B:	222.67
Phase C:	223.97
Total Conn.:	677.21
Feed Thru Load:	NONE
Phase A:	
Phase B:	
Phase C:	
Total Conn.:	
Total Feeder Demand Load:	
Total:	650.09 KVA
Avg. Amps/Phase:	782 A

General Notes:

Keyed Notes:
1. LOAD CALCULATED PER RECORD SCHEDULES.

Tulalip Hibulb Museum HVAC — PANEL SCHEDULE — EXIST. PANEL: SBL1A

151304

Location: MEZZANINE 201 — Feed Through: — Source: SLBH1A(2) (VIA XFMR XSBL1A)

Ckt	Load Description	Phase	Amp	Poles	Notes	Rec.	Ltg.	Kit.	Mtr.	Htg.	Clg.	Cont.	Non.	Total
1	H–1	A	35	3					3.30				3.30	6.60
3	–	B	–	–					3.30				3.30	6.60
5	–	C	–	–					3.30				3.30	6.60
7	H–3	A	35	3					3.30				3.30	6.60
9	–	B	–	–					3.30				3.30	6.60
11	–	C	–	–					3.30				3.30	6.60
13	H–1	A	20	3					1.00				1.00	2.00
15	–	B	–	–					1.00				1.00	2.00
17	–	C	–	–					1.00				1.00	2.00
19	EF–4	A	20	1					0.50				0.50	1.00
21	CDP–1	B	20	1					0.20					0.20
23	CRESTRON	C	20	1									0.50	0.50
25	SECURITY PANEL	A	20	1									0.50	0.50
27	FIRE PANEL	B	20	1									0.50	0.50
29	CP1/HEAT TAPE	C	20	1									0.50	0.50
31		A												
33		B												
35		C												
37		A												
39		B												
41		C												
2	H–4	A	35	3					3.30				3.30	6.60
4	–	B	–	–					3.30				3.30	6.60
6	–	C	–	–					3.30				3.30	6.60
8	H–5	A	35	3					3.30				3.30	6.60
10	–	B	–	–					3.30				3.30	6.60
12	–	C	–	–					3.30				3.30	6.60
14	H–6	A	20	2					1.00				1.00	2.00
16	–	B	–	–					1.00				1.00	2.00
18	EF–4	C	20	1					0.50				0.50	1.00
20	SMOKE DAMPER	A	20	1									0.50	0.50
22	SMOKE DAMPER	B	20	1									0.50	0.50
24	DDC HVAC CONTROL	C	20	1										
26	RF–1	A	20	3					0.90					0.90
28	–	B	–	–					0.90					0.90
30	–	C	–	–					0.90					0.90
32		A												
34		B												
36		C												
38		A												
40		B												
42		C												

CATEGORY	TOTAL CONN. LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Receptacles		50%>10KVA	
Lighting		125%	
Kitchen Equipment		NEC 220.56	
Motors (Largest)	9.90	125%	12.38
Motors	38.60	100%	38.60
Heating		NEC 220.60	
Cooling		NEC 220.60	
Continuous Load		125%	
Non-Continuous Load	3.50	100%	3.50
TOTAL	52.00		54.48

Specifications:

Rating (Amps):	225
Voltage (L-L):	480
Phase:	3
Wire:	4
Bus Material:	Cu
Int. Rating:	10,000A
Main Lugs Only:	–
Main Ckt Brkr:	225 A
Surface Mtd:	X
Flush Mtd:	–
Bonded Gnd:	–
Isolated Gnd:	–
200% Neutral:	–
Feed Thru:	–
Double Lug:	–
Top Feed:	–
Bottom Feed	–

Load From This Panel:

Phase A:	17.60
Phase B:	17.30
Phase C:	17.10
Total Conn.:	52.00
Feed Thru Load:	NONE
Phase A:	
Phase B:	
Phase C:	
Total Conn.:	
Total Feeder Demand Load:	
Total:	54.48 KVA
Avg. Amps/Phase:	66 A

General Notes:

Keyed Notes:

JAY G. JAO — STATE OF WASHINGTON — 23364 — REGISTERED PROFESSIONAL ENGINEER
3/4/2016

Tulalip Hibulb Museum HVAC — PANEL SCHEDULE — EXIST. PANEL: SBH1A(1)

151304

Location: MEZZANINE 201 — Feed Through: SBH1A(2) — Source: MBS–H1A

Ckt	Load Description	Phase	Amp	Poles	Notes	Rec.	Ltg.	Kit.	Mtr.	Htg.	Clg.	Cont.	Non.	Total
1	FCU–1	A	20	3	1					2.70				2.70
3	–	B	–	–	1					2.70				2.70
5	–	C	–	–	1					2.70				2.70
7	FCU–2	A	20	3	1					2.10				2.10
9	–	B	–	–	1					2.10				2.10
11	–	C	–	–	1					2.10				2.10
13	FCU–3	A	30	3	1					6.10				6.10
15	–	B	–	–	1					6.10				6.10
17	–	C	–	–	1					6.10				6.10
19	FCU–4	A	30	3	1					6.10				6.10
21	–	B	–	–	1					6.10				6.10
23	–	C	–	–	1					6.10				6.10
25	FCU–5	A	30	3	1					6.60				6.60
27	–	B	–	–	1					6.60				6.60
29	–	C	–	–	1					6.60				6.60
31	FCU–6	A	20	3	1					4.20				4.20
33	–	B	–	–	1					4.20				4.20
35	–	C	–	–	1					4.20				4.20
37	FCU–7	A	40	3	1					8.80				8.80
39	–	B	–	–	1					8.80				8.80
41	–	C	–	–	1					8.80				8.80
2	FCU–8	A	20	3	1					2.60				2.60
4	–	B	–	–	1					2.60				2.60
6	–	C	–	–	1					2.60				2.60
8	FCU–9	A	20	3	1					2.80				2.80
10	–	B	–	–	1					2.80				2.80
12	–	C	–	–	1					2.80				2.80
14	FCU–10	A	20	3	1					2.80				2.80
16	–	B	–	–	1					2.80				2.80
18	–	C	–	–	1					2.80				2.80
20	FCU–11	A	35	3	1					7.10				7.10
22	–	B	–	–	1					7.10				7.10
24	–	C	–	–	1					7.10				7.10
26	FCU–12	A	25	3	1					5.30				5.30
28	–	B	–	–	1					5.30				5.30
30	–	C	–	–	1					5.30				5.30
32	FCU–13	A	20	3	1					0.90				0.90
34	–	B	–	–	1					0.90				0.90
36	–	C	–	–	1					0.90				0.90
38	FCU–14	A	20	3	1					2.80				2.80
40	–	B	–	–	1					2.80				2.80
42	–	C	–	–	1					2.80				2.80

CATEGORY	TOTAL CONN. LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Receptacles		50%>10KVA	
Lighting		125%	
Kitchen Equipment		NEC 220.56	
Motors (Largest)	9.90	125%	12.38
Motors	44.90	100%	44.90
Heating	201.30	NEC 220.60	201.30
Cooling	54.00	NEC 220.60	
Continuous Load		125%	
Non-Continuous Load	154.01	100%	154.01
TOTAL	464.11		412.59

Specifications:

Rating (Amps):	600
Voltage (L-L):	480
Phase:	3
Wire:	4
Bus Material:	Cu
Int. Rating:	35,000A
Main Lugs Only:	X
Main Ckt Brkr:	–
Surface Mtd:	X
Flush Mtd:	–
Bonded Gnd:	–
Isolated Gnd:	–
200% Neutral:	–
Feed Thru:	X
Double Lug:	–
Top Feed:	X
Bottom Feed	X

Load From This Panel:

Phase A:	60.70
Phase B:	60.70
Phase C:	60.70
Total Conn.:	182.10
Feed Thru Load:	SBH1A(2)
Phase A:	94.27
Phase B:	93.97
Phase C:	93.77
Total Conn.:	282.01
Total Feeder Demand Load:	
Total:	412.59 KVA
Avg. Amps/Phase:	496 A

General Notes:

Keyed Notes:
1. LOAD CALCULATED PER RECORD SCHEDULES AND SITE INVESTIGATION.

Tulalip Hibulb Museum HVAC — PANEL SCHEDULE — EXIST. PANEL: SBH1A(2)

151304

Location: MEZZANINE 201 — Feed Through: — Source: SBH1A(1)

Ckt	Load Description	Phase	Amp	Poles	Notes	Rec.	Ltg.	Kit.	Mtr.	Htg.	Clg.	Cont.	Non.	Total
1	CHWP–1	A	20	3	1					2.10				2.10
3	–	B	–	–	1					2.10				2.10
5	–	C	–	–	1					2.10				2.10
7	CH–1	A	125	3	1						18.00			18.00
9	–	B	–	–	1						18.00			18.00
11	–	C	–	–	1						18.00			18.00
13	SPARE C.B.	A	90	3										
15	–	B	–	–										
17	–	C	–	–										
19		A												
21		B												
23		C												
25		A												
27		B												
29		C												
31		A												
33		B												
35		C												
37		A												
39		B												
41		C												
2	FCU–15	A	30	3	1					6.40				6.40
4	–	B	–	–	1					6.40				6.40
6	–	C	–	–	1					6.40				6.40
8	SBH1B	A	225	3	2								50.17	50.17
10	–	B	–	–	2								50.17	50.17
12	–	C	–	–	2								50.17	50.17
14	SBL1A	A	125	3					16.80				1.00	17.80
16	–	B	–	–					16.30				1.00	17.30
18	–	C	–	–					15.60				1.50	17.10
20		A												
22		B												
24		C												
26		A												
28		B												
30		C												
32		A												
34		B												
36		C												
38		A												
40		B												
42		C												

CATEGORY	TOTAL CONN. LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Receptacles		50%>10KVA	
Lighting		125%	
Kitchen Equipment		NEC 220.56	
Motors (Largest)	9.90	125%	12.38
Motors	44.90	100%	44.90
Heating	19.20	NEC 220.60	
Cooling	54.00	NEC 220.60	54.00
Continuous Load		125%	
Non-Continuous Load	154.01	100%	154.01
TOTAL	282.01		265.29

Specifications:

Rating (Amps):	600
Voltage (L-L):	480
Phase:	3
Wire:	4
Bus Material:	Cu
Int. Rating:	35,000A
Main Lugs Only:	X
Main Ckt Brkr:	–
Surface Mtd:	X
Flush Mtd:	–
Bonded Gnd:	–
Isolated Gnd:	–
200% Neutral:	–
Feed Thru:	–
Double Lug:	–
Top Feed:	–
Bottom Feed	–

Load From This Panel:

Phase A:	94.27
Phase B:	93.97
Phase C:	93.77
Total Conn.:	282.01
Feed Thru Load:	NONE
Phase A:	
Phase B:	
Phase C:	
Total Conn.:	
Total Feeder Demand Load:	
Total:	265.29 KVA
Avg. Amps/Phase:	319 A

General Notes:

Keyed Notes:
1. LOAD CALCULATED PER RECORD SCHEDULES AND SITE INVESTIGATION.
2. PROVIDE NEW EATON TYPE "FD" 35KAIC BREAKER.

Tulalip Hibulb Museum HVAC — PANEL SCHEDULE — NEW PANEL: SBH1B

151304

Location: MECH LOFT 202 — Feed Through: — Source: SBH1A(2)

Ckt	Load Description	Phase	Amp	Poles	Notes	Rec.	Ltg.	Kit.	Mtr.	Htg.	Clg.	Cont.	Non.	Total
1	D–1	A	30	3									6.18	6.18
3	–	B	–	–									6.18	6.18
5	–	C	–	–									6.18	6.18
7	D–2	A	30	3									6.18	6.18
9	–	B	–	–									6.18	6.18
11	–	C	–	–									6.18	6.18
13	D–3	A	50	3									9.98	9.98
15	–	B	–	–									9.98	9.98
17	–	C	–	–									9.98	9.98
19	SPARE C.B.	A	30	3										
21	–	B	–	–										
23	–	C	–	–										
25		A	20											
27		B	20											
29		C	20											
31		A	20											
33		B	20											
35		C	20											
37		A	20											
39		B	20											
41		C	20											
2	D–4	A	50	3									9.98	9.98
4	–	B	–	–									9.98	9.98
6	–	C	–	–									9.98	9.98
8	D–5	A	40	3									7.87	7.87
10	–	B	–	–									7.87	7.87
12	–	C	–	–									7.87	7.87
14	D–6	A	50	3									9.98	9.98
16	–	B	–	–									9.98	9.98
18	–	C	–	–									9.98	9.98
20	SPARE C.B.	A	50	3										
22	–	B	–	–										
24	–	C	–	–										
26		A	20											
28		B	20											
30		C	20											
32		A	20											
34		B	20											
36		C	20											
38		A	20											
40		B	20											
42		C	20											

CATEGORY	TOTAL CONN. LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Receptacles		50%>10KVA	
Lighting		125%	
Kitchen Equipment		NEC 220.56	
Motors (Largest)		125%	
Motors		100%	
Heating		NEC 220.60	
Cooling		NEC 220.60	
Continuous Load		125%	
Non-Continuous Load	150.51	100%	150.51
TOTAL	150.51		150.51

Specifications:

Rating (Amps):	225
Voltage (L-L):	480
Phase:	3
Wire:	4
Bus Material:	Cu
Int. Rating:	25,000A
Main Lugs Only:	X
Main Ckt Brkr:	–
Surface Mtd:	X
Flush Mtd:	–
Bonded Gnd:	–
Isolated Gnd:	–
200% Neutral:	–
Feed Thru:	–
Double Lug:	–
Top Feed:	–
Bottom Feed	–

Load From This Panel:

Phase A:	50.17
Phase B:	50.17
Phase C:	50.17
Total Conn.:	150.51
Feed Thru Load:	NONE
Phase A:	
Phase B:	
Phase C:	
Total Conn.:	
Total Feeder Demand Load:	
Total:	150.51 KVA
Avg. Amps/Phase:	181 A

General Notes:

Keyed Notes:

RICE GROUP, Inc.
Consulting Engineers
20201 Cedar Valley Road
Suite 120
Lynnwood, WA 98036
(425) 774-3829 (425) 672-2084 FAX

HIBULB CULTURAL CENTER
DEHUMIDIFICATION SYSTEM
6410 23RD AVENUE NE
TULALIP, WA 98271

PANEL SCHEDULE

DATE: 03/01/2016
SCALE: NONE
DRAWN: KT
CHECKED: JGJ

E6.1

151304

BUILDING CODE
2015 INTERNATIONAL BUILDING CODE

GENERAL
1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CONTRACT DRAWINGS.

2. DURING THE CONSTRUCTION PERIOD THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, BRACING AND GUYS IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES. ANY DEVIATION MUST BE APPROVED PRIOR TO ERECTION.

3. ALL ERECTION PROCEDURES SHALL CONFORM TO OSHA STANDARDS. ANY DEVIATION MUST BE APPROVED BY OSHA PRIOR TO ERECTION.

4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.

6. SHOP DRAWINGS FOR PREFABRICATED TRUSSES AND MANUFACTURED FLOOR JOISTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.

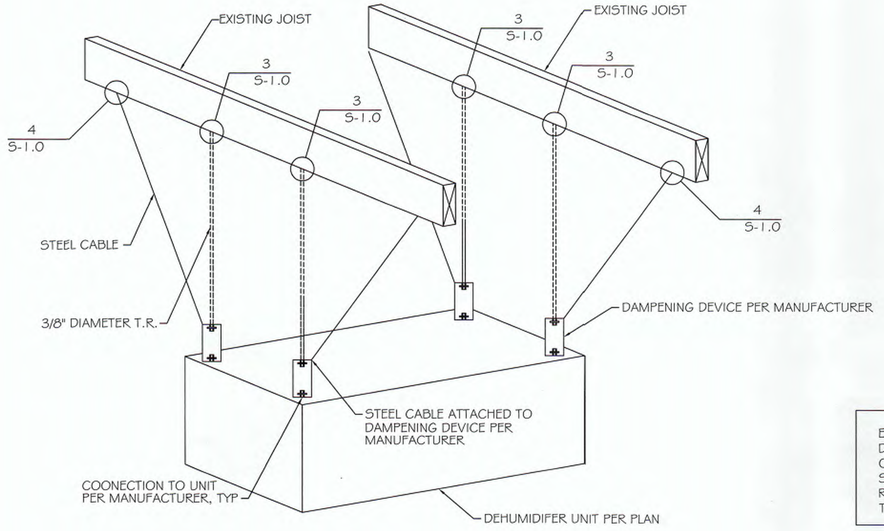
7. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED SUBJECT TO REVIEW BY THE ENGINEER.

8. ALL DETAILS DESIGNATED AS STANDARD OR TYPICAL SHALL OCCUR IN ADDITION TO ANY OTHER SPECIFIC DETAIL CALLED OUT.

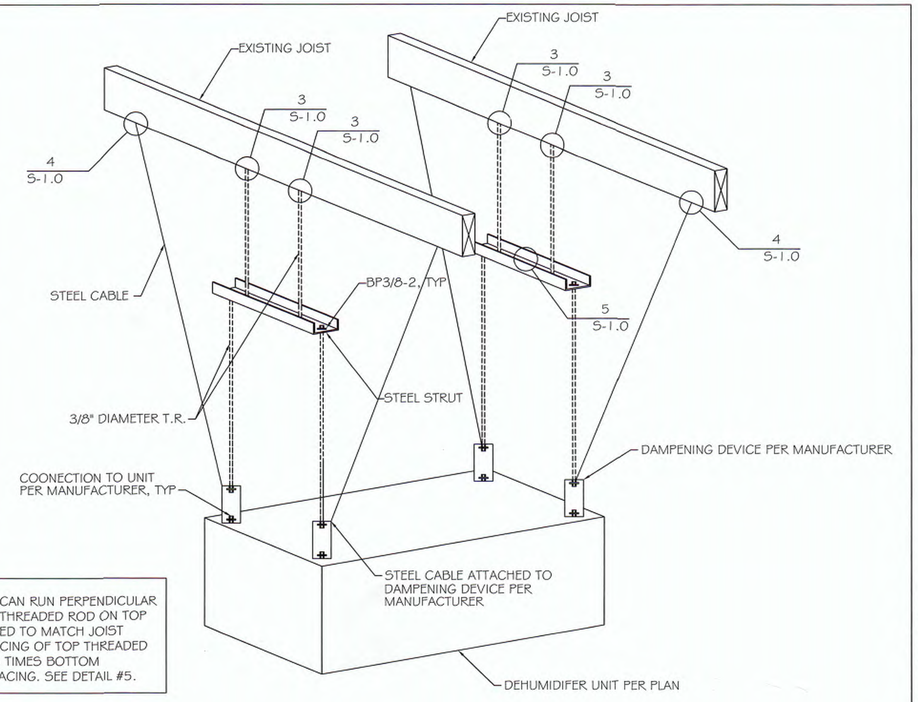
9. COORDINATE WITH MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS REQUIRED FOR DUCTS, PIPES, PIPE SLEEVES, ELECTRICAL CONDUITS, AND OTHER ITEMS TO BE EMBEDDED IN CONCRETE OR OTHERWISE INCORPORATED IN STRUCTURAL WORK.

10. PROVIDE OPENINGS AND SUPPORTS, AS REQUIRED PER STANDARD DETAILS FOR HEATERS, MECHANICAL EQUIPMENT, VENTS, DUCTS, PIPING, ETC. ALL SUSPENDED MECHANICAL EQUIPMENT SHALL BE SWAY OR LATERALLY BRACED..

11. ARCHITECTURAL AND MECHANICAL PLANS ARE CONSIDERED A PART OF THE STRUCTURAL DESIGN DRAWINGS AND ARE TO BE USED TO DEFINE DETAIL CONFIGURATIONS INCLUDING; BUT NOT LIMITED TO RELATIVE LOCATION OF MEMBERS, ELEVATIONS, DIMENSIONS AND LOCATIONS OF ALL OPENINGS, ETC

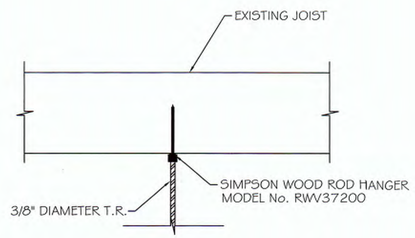


1 DEHUMIDIFIER UNIT INSTALLATION INTO JOIST
SCALE: NOT DRAWN TO SCALE

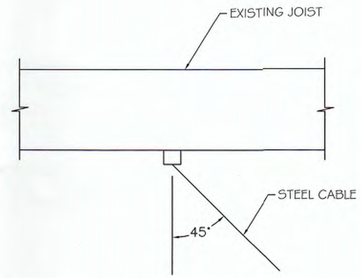


EXISTING FRAMING CAN RUN PERPENDICULAR DIRECTION. SPACE THREADED ROD ON TOP OF STRUT AS NEEDED TO MATCH JOIST SPACING. MAX SPACING OF TOP THREADED ROD EQUAL TO 1.5 TIMES BOTTOM THREADED ROD SPACING. SEE DETAIL #5.

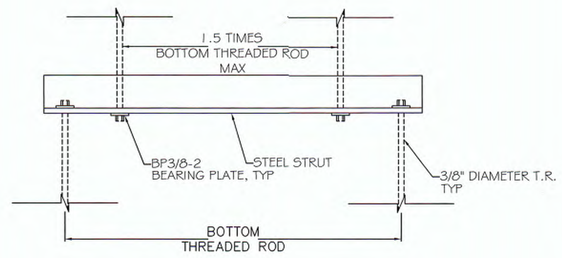
2 DEHUMIDIFIER UNIT INSTALLATION INTO STRUT
SCALE: NOT DRAWN TO SCALE



3 THREADED ROD TO JOIST CONNECTION
SCALE: NOT DRAWN TO SCALE



4 UNIT LATERAL ANCHORAGE
SCALE: NOT DRAWN TO SCALE



5 STRUT SECTION
SCALE: NOT DRAWN TO SCALE

Structural Design Associates
2802 ROCKEFELLER AVE
Everett, WA 98201-3774
PHONE: 425.339.0293 FAX: 425.252.0916
www.strucdes.com

NO. DATE BY REVISION

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6410 23RD AVE NE
TULALIP, WA 98271

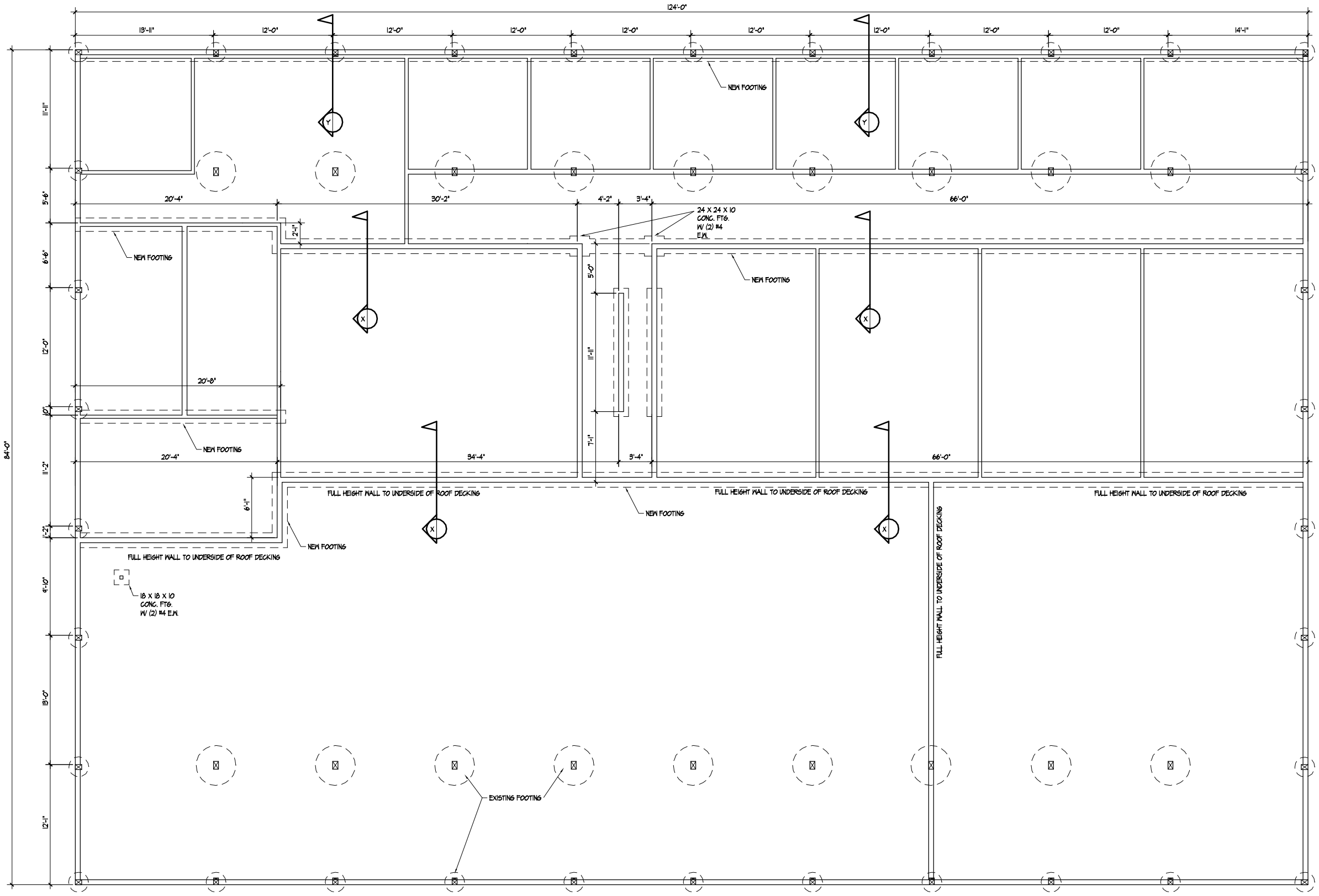
CHRIS COVINGTON
STATE OF WASHINGTON
21925
REGISTERED
PROFESSIONAL ENGINEER

JUL 13 2016

Drawn By: TG
Checked By: CCC
Date: 07-11-16

SDA JOB NO.
7794

STRUCTURAL NOTES/ DETAILS
S-1.0



LEGEND

SD	INDICATES SMOKE DETECTOR
F	INDICATES FAN, 50 CFM min.
VTOS	VENT TO OUTSIDE
SG	INDICATES SAFETY GLASS
	INDICATES STUD STACK OR COLUMN
	INDICATES OVER-FRAMING
	DOWNSPOUT TIGHT TO DRAIN

Attachment F.5
Collections Building

FOUNDATION PLAN
SCALE: 3/16"=1'-0"

NORTH

Capital Architects
WASHINGTON Corporation

1812 Hewitt Ste. A
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phone 425.317.8017
fax 425.317.8489
capitalarchitects@earthlink.net

5720 REGISTERED ARCHITECT
SANDRA J. ALDER
STATE OF WASHINGTON

REV.	DATE	DESCRIPTION
1	8/9/06	MODIFICATIONS

TULALIP TRIBES
POLE BLDG

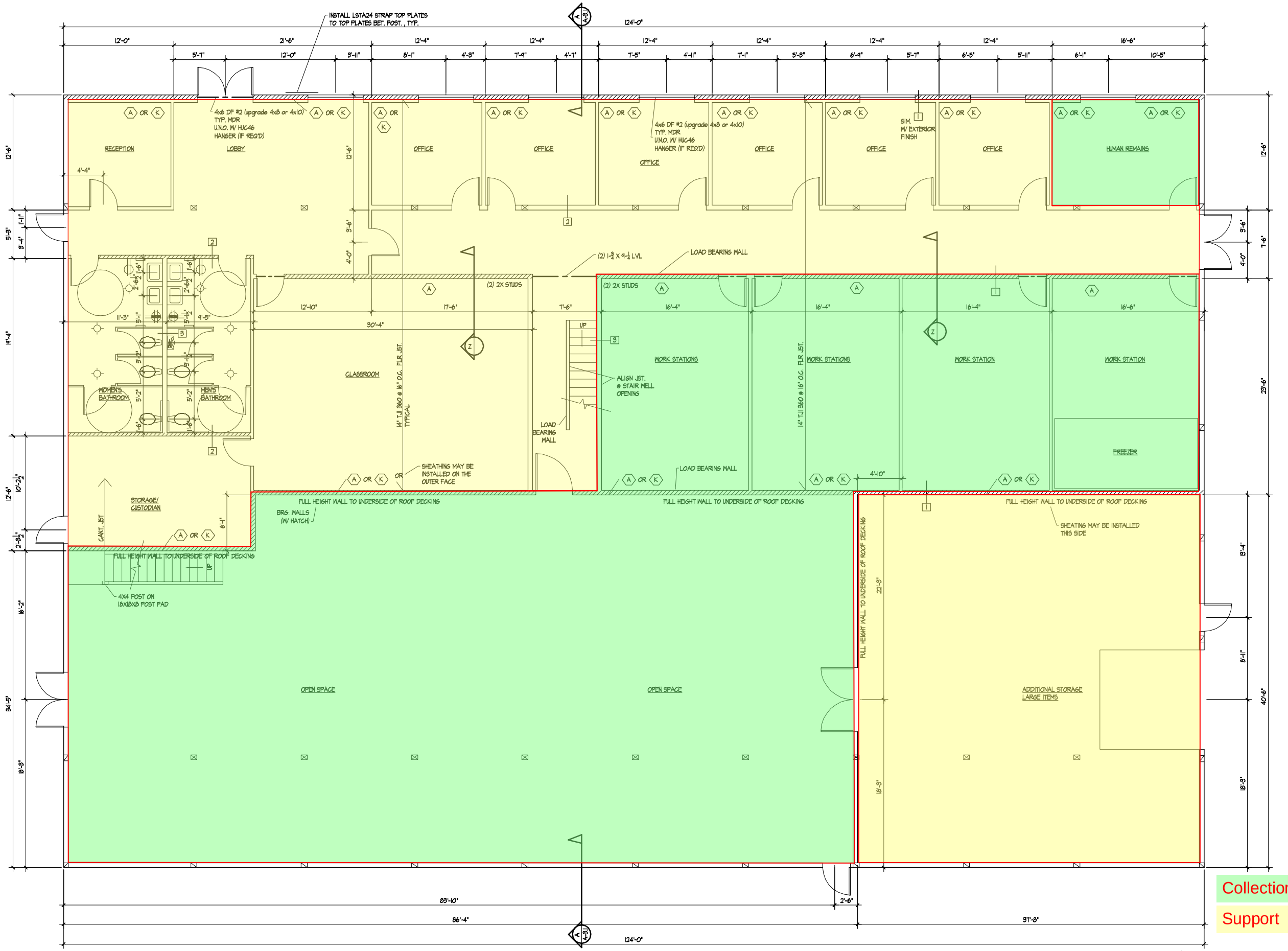
FOUNDATION PLAN

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A-2.1

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LEGEND

⊠ INDICATES STUD STACK OR COLUMN

LOWER FLOOR / UPPER FRAMING PLAN

SCALE: 3/16"=1'-0"

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WASHINGTON Corporation

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fax 425.317.8489
capitalarchitects@earthlink.net

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STATE OF WASHINGTON

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1	8/9/06	MODIFICATIONS

TULALIP TRIBES POLE BLDG

UPPER FRAMING PLAN

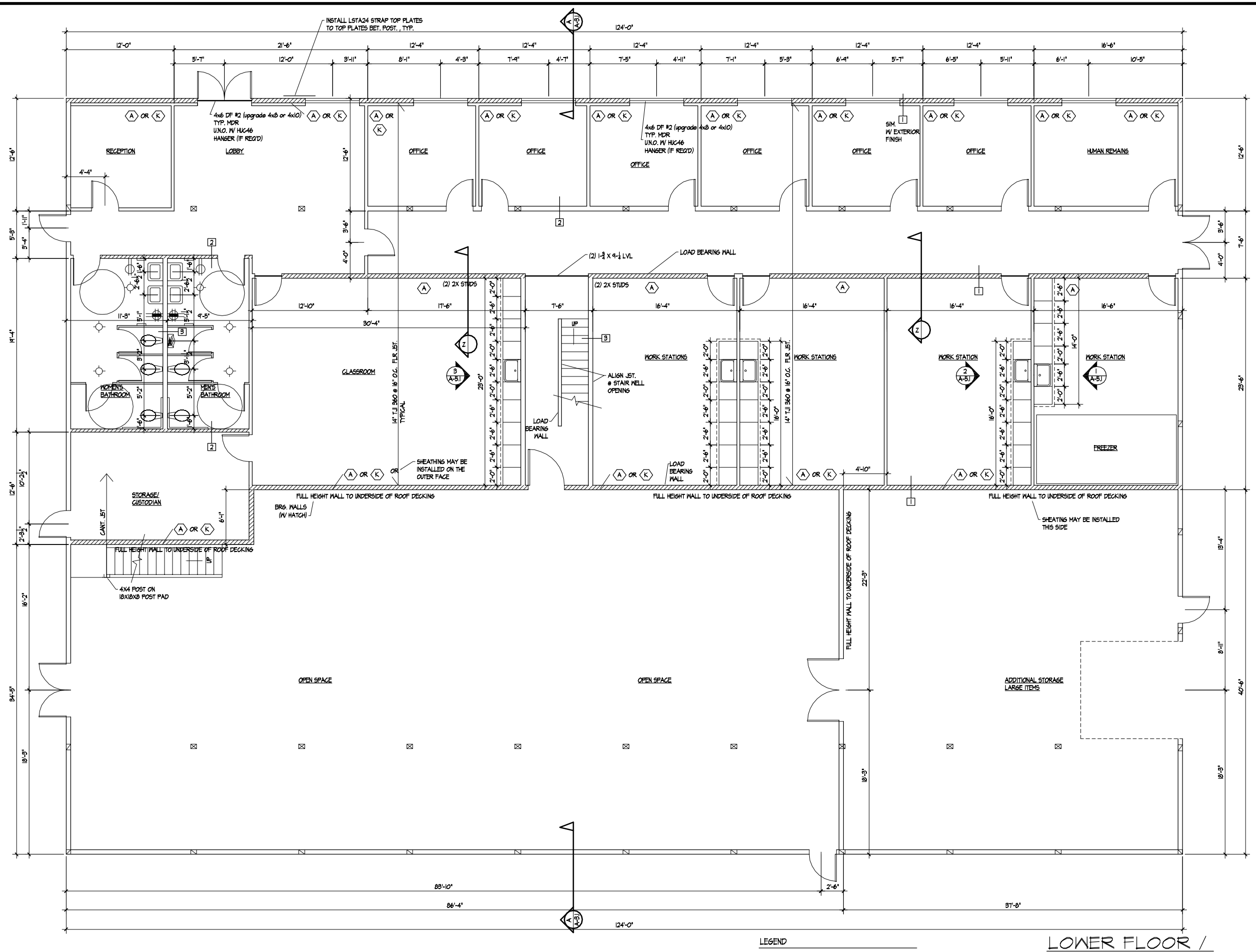
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Collections
Support

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LEGEND

⊠ INDICATES STUD STACK OR COLUMN

LOWER FLOOR / UPPER FRAMING PLAN

SCALE: 3/16"=1'-0"

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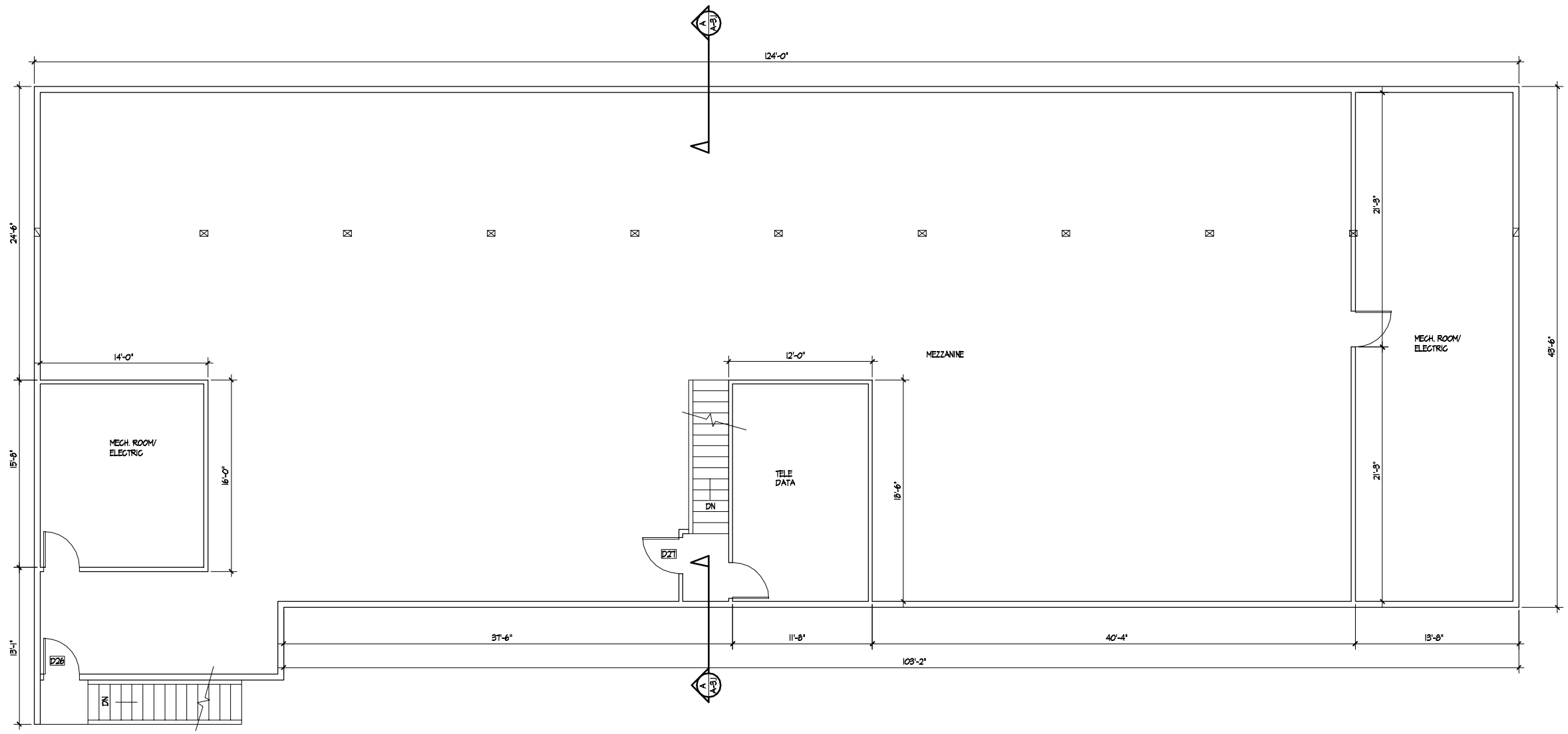
UPPER FRAMING PLAN

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LEGEND

SD	INDICATES SMOKE DETECTOR
F	INDICATES FAN, 50 CFM min.
VTOS	VENT TO OUTSIDE
SG	INDICATES SAFETY GLASS
☒	INDICATES STUD STACK OR COLUMN
▨	INDICATES OVER-FRAMING
○	DOWNSPOUT TIGHT TO DRAIN

SECOND FLOOR

SCALE: 3/16"=1'-0"

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STATE OF WASHINGTON

REV.	DATE	DESCRIPTION

TULALIP TRIBES
POLE BLDG

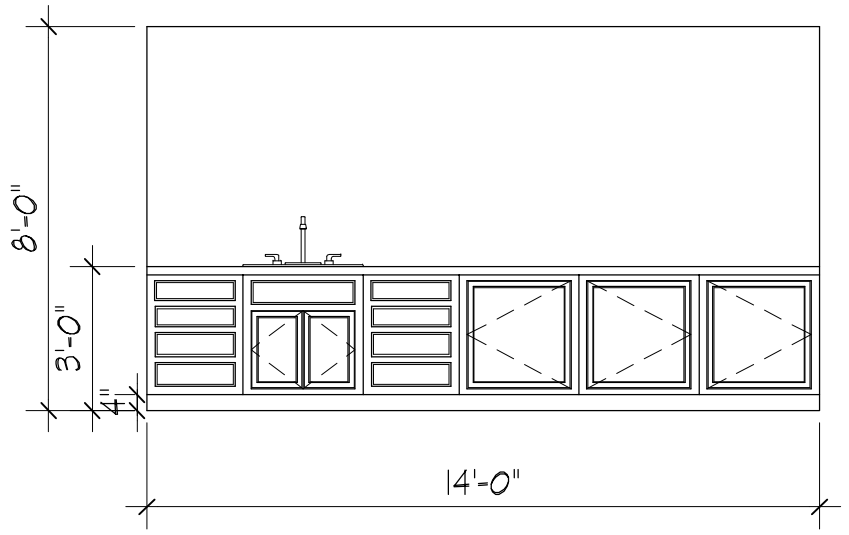
SECOND FLR

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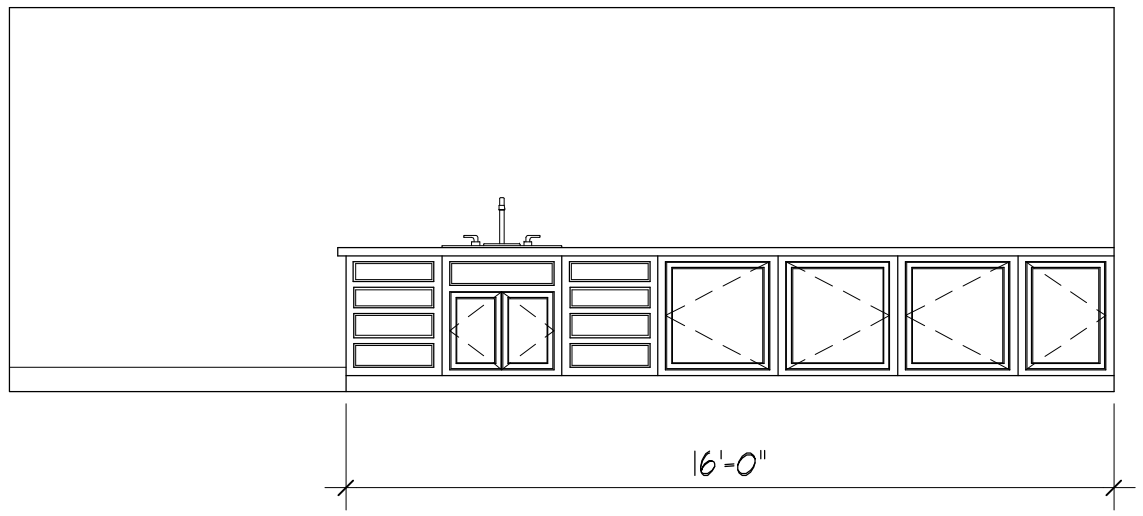
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A-2.3

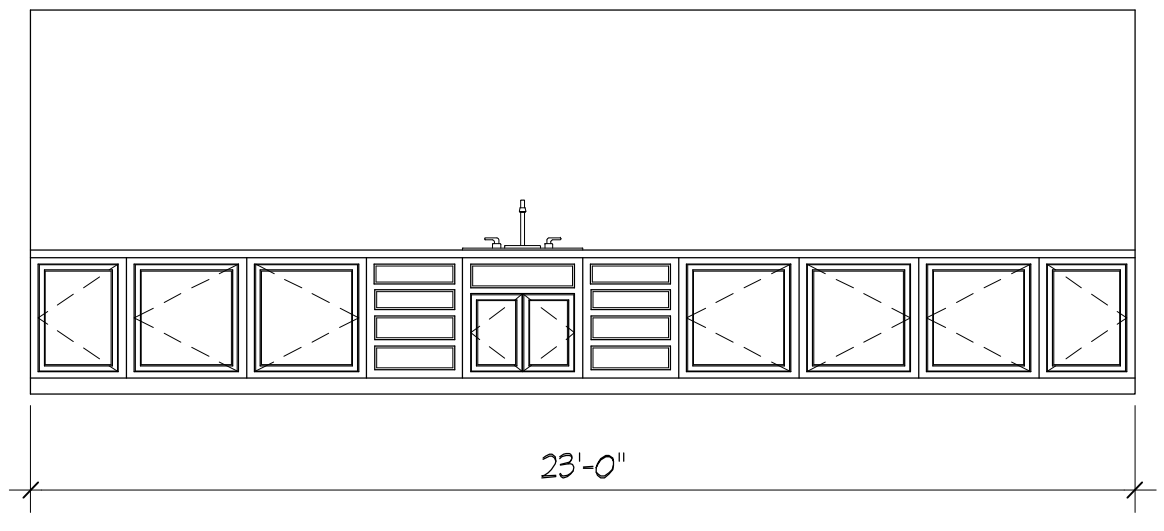
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1 A-5.1 WORK STATION KITCHEN
1/2" = 1'-0"



2 A-5.1 WORK STATION KITCHEN
1/2" = 1'-0"



3 A-5.1 WORK STATION KITCHEN
1/2" = 1'-0"

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

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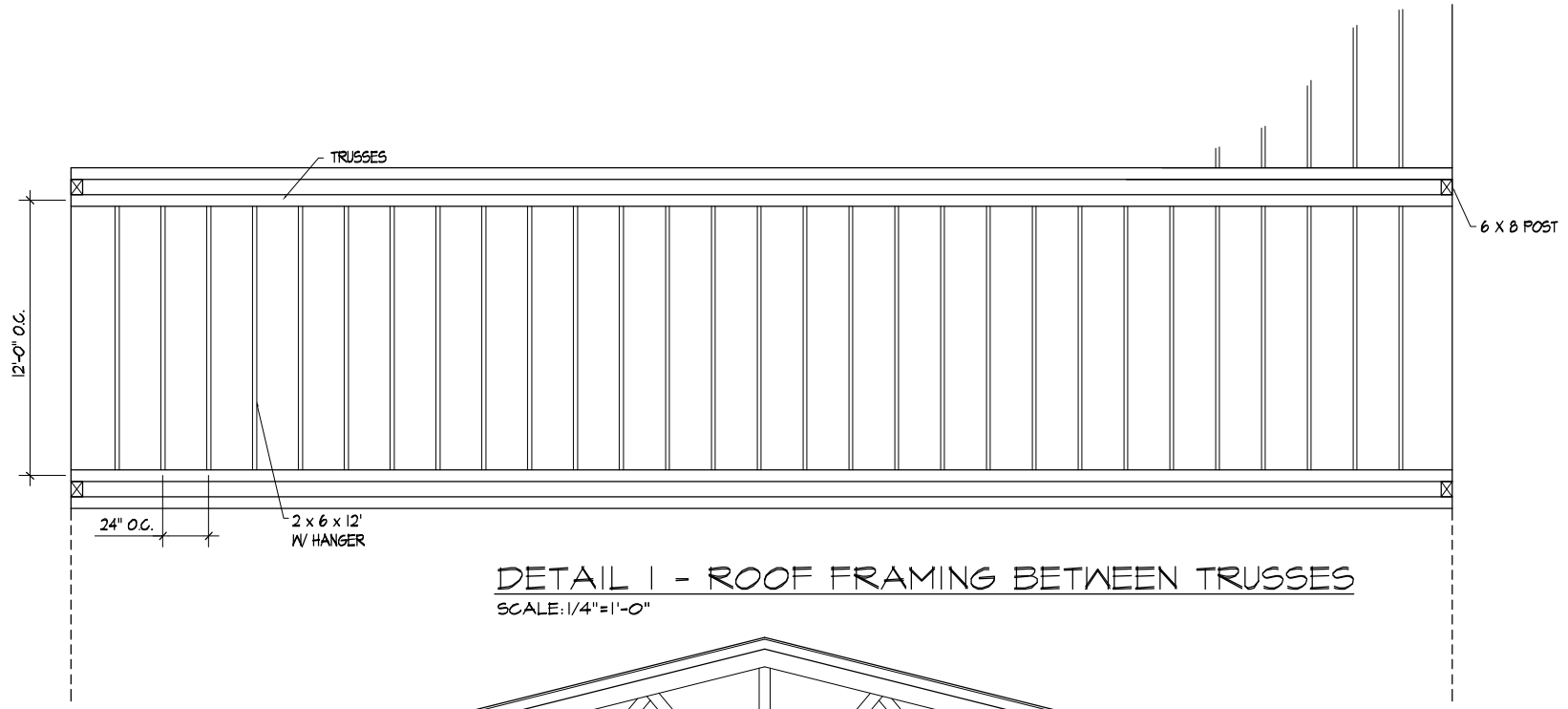
INTERIOR ELEVATIONS

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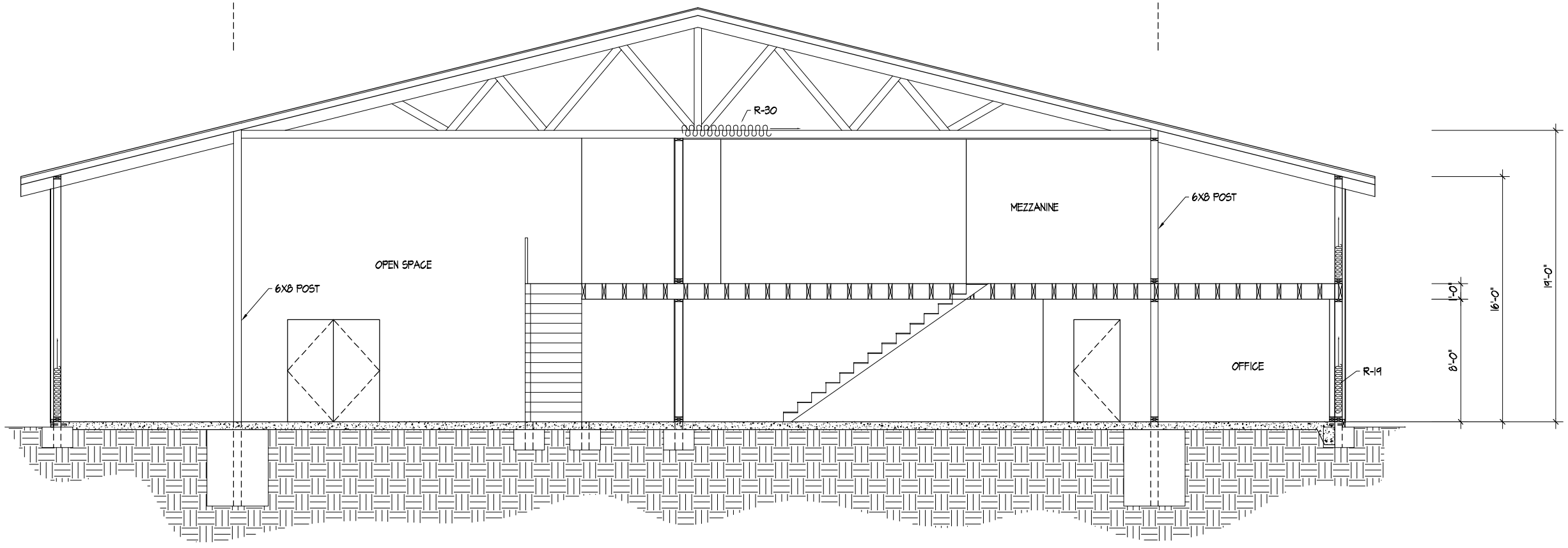
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DETAIL 1 - ROOF FRAMING BETWEEN TRUSSES

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



SECTION A

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

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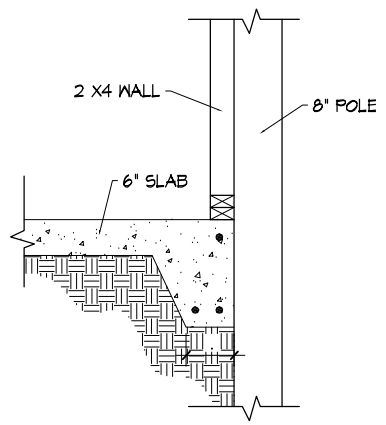
SECTION

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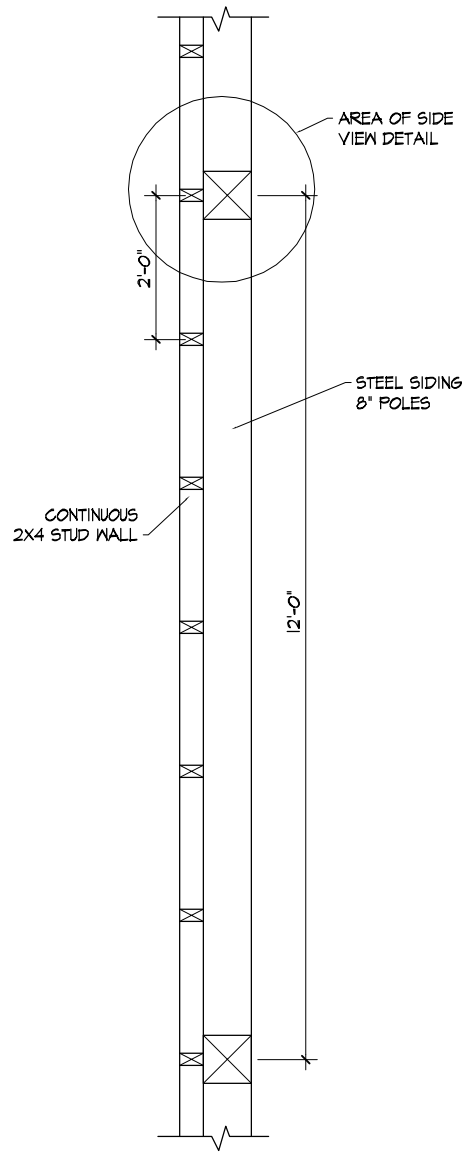
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SIDE VIEW



TOP VIEW

GENERAL RESIDENTIAL STRUCTURAL NOTES

(The following apply unless shown otherwise on the plans)

GENERAL

1. ALL CONSTRUCTION SHALL COMPLY WITH THE 2003 IBC, AGENCY REQUIREMENTS AND THESE PLANS AND SPECIFICATIONS (MOST STRINGENT SHALL CONTROL).
2. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE METHODS, TECHNIQUES, SEQUENCES AND/OR PROCEDURES REQUIRED TO PERFORM THE WORK AND SHALL VERIFY ALL CONDITIONS AND DIMENSIONS SHOWN AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
3. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED.
4. CONTRACTOR SHALL VERIFY DIMENSIONS IN THE FIELD.
5. IN THE FOLLOWING NOTES SPECIFIC ITEMS IDENTIFIED SHALL BE USED UNLESS NOTED OTHERWISE (U.N.O.).
6. THIS PLAN SHEET IS NOT INTENDED TO SHOW ALL ITEMS TO BE CONSTRUCTED. THE CONTRACTOR IS DIRECTED TO REVIEW ALL ARCHITECTURAL, CIVIL, ELECTRICAL, MECHANICAL, AND ADDITIONAL STRUCTURAL SHEETS FOR ADDITIONAL CONSTRUCTION ITEMS.

CONCRETE

1. CONCRETE SHALL HAVE 28-DAY STRENGTH OF 3000 PSI MIN.
2. CONCRETE EXPOSED TO WEATHER SHALL HAVE AIR ENTRAINMENT NOT LESS THAN 5% OR MORE THAN 7%. SPECIAL INSPECTION IS NOT REQUIRED.
3. SEE PLANS AND DETAILS BY OTHERS FOR PLUMBING LOCATIONS & DIMENSIONS AND OTHER CONCRETE CONSTRUCTION REQUIREMENTS.
4. 1/2" DIAMETER ANCHOR BOLTS @ 48" O.C. TYP. U.N.O. INSTALL A.B.'S WITHIN 12" OF SILL END & NOT LESS THAN 7 BOLT DIAMETERS FROM ENDS/SPLICES, MIN. 2 PER PANEL. 7" EMBED. INSTALL 2" x 2" x 3/16" PLATE WASHERS (TYP.).

WOOD

1. ALL SOLID LUMBER TO BE GRADED BY WCLIB OR WWSA ALL LUMBER SHALL BE HEM-FIR #2 (HF #2) OR BETTER. ALL SOLID LUMBER, 5" x 5" OR LARGER SHALL BE DOUGLAS FIR #2 (DF #2) U.N.O. ALL GLUE-LAMINATED LUMBER SHALL BE 24F-V4 DF/DF. ALL PARALLAM PSL LUMBER SHALL HAVE Fb = 2900 PSI, Fv = 290 PSI. LUMBER IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED OR HAVE NATURAL RESISTANCE TO DECAY.
2. THROUGH BOLTS AND LAG BOLTS SHALL BE ASTM A307. PROVIDE MALLEABLE IRON WASHER AT ALL BOLT AND LAG BOLT LOCATIONS. PROVIDE CUT WASHERS FOR ALL BOLTS BEARING ON WOOD.
3. ALL NAILS SHALL BE COMMON WIRE NAILS, UNLESS EXPOSED TO THE WEATHER, THEN HOT DIPPED GALVANIZED BOX NAILS.
4. SHEATHING: ROOF: 7/16" OSB OR APA RATED SHEATHING WITH 8d NAILS AT 6" O.C. EDGE, 12" O.C. FIELD U.N.O.
   FLOOR: 3/4" T&G APA RATED SHEATHING WITH 10d NAILS AT 6" O.C. EDGE, 12" O.C. FIELD U.N.O.
5. NAILING SCHEDULE SHALL COMPLY WITH IBC TABLE 2304.9.1 U.N.O.

WALL DETAILS

1 1 HR INTERIOR WOOD STUD WALL	INT. INT.	SEE STRUCTURAL FRAMING PLANS AND SHEAR WALLS SCHEDULE FOR PLACEMENT OF PLYWOOD SHEATHING, IF ANY (DIRECTLY OVER STUDS) 1 LAYER 5/8" TYPE 'X' GWB 2x4 FRAMING 16" O.C. 1 LAYER 5/8" TYPE 'X' GWB	1 HR THICKNESS	 4-3/4"	GA FILE NO. WP 3510 01010-06050-15mf
2 1 HR INTERIOR WOOD STUD WALL	INT. INT.	1 LAYER 5/8" TYPE 'X' GWB 2x4 FRAMING 16" O.C. 1 LAYER 5/8" TYPE 'X' GWB	1 HR THICKNESS	35 - 39 4-3/4"	GA FILE NO. WP 3514 WP 3520 01010-06050-15mf
3 1 HR INTERIOR WOOD STUD WALL	INT. INT.	1 LAYER 5/8" TYPE 'X' GWB 2x6 FRAMING 16" O.C. 1 LAYER 5/8" TYPE 'X' GWB	1 HR	35 - 39	 01010-06050-15mf

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5720 REGISTERED ARCHITECT
SANDRA J. ALDER
STATE OF WASHINGTON

REV.	DATE	DESCRIPTION

TULALIP TRIBES
POLE BLDG

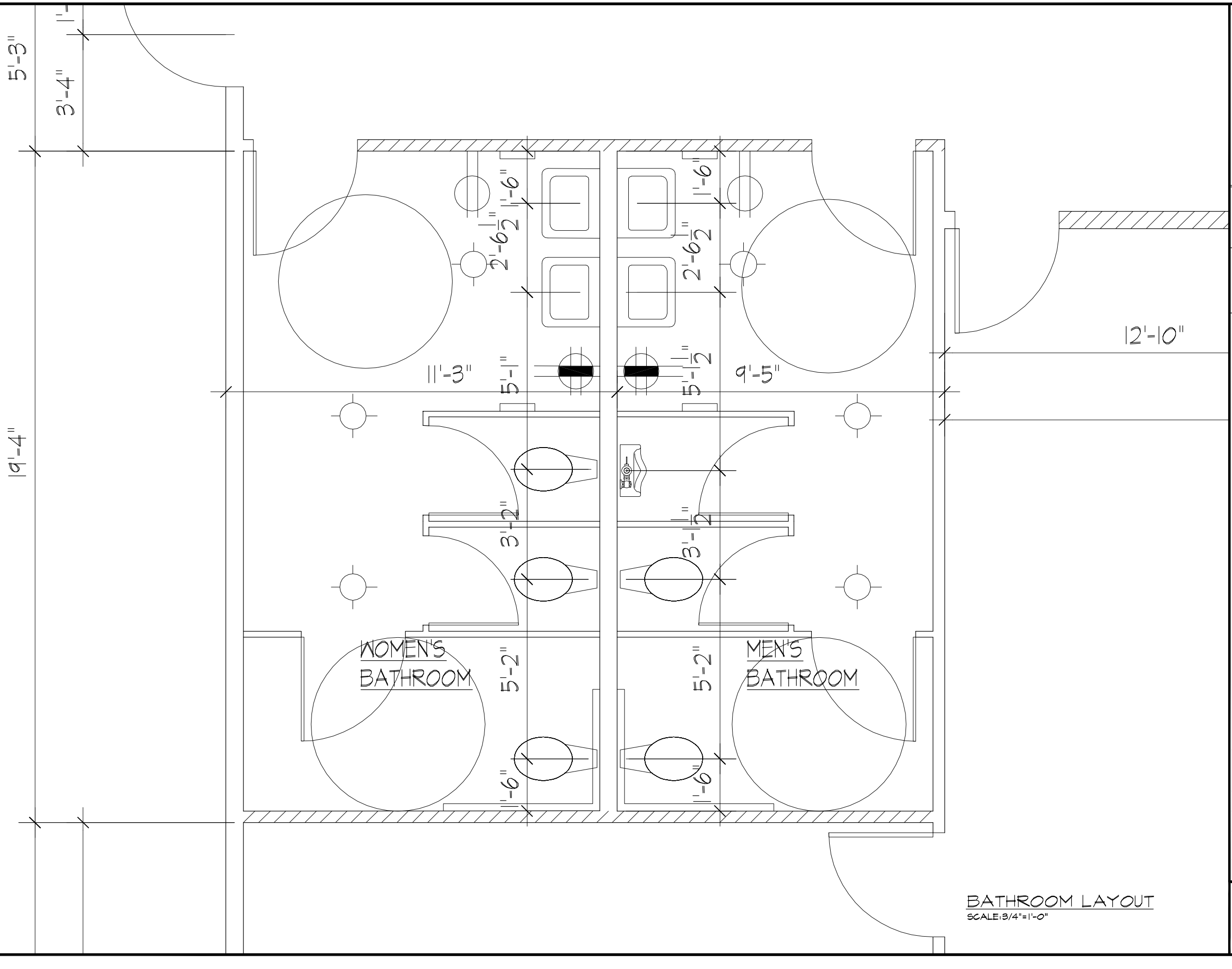
STRUCTURAL NOTES

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BATHROOM LAYOUT

SCALE:3/4"=1'-0"

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5720 REGISTERED ARCHITECT
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REV.	DATE	DESCRIPTION

TULALIP TRIBES
POLE BLDG

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SCALE	AS NOTED
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