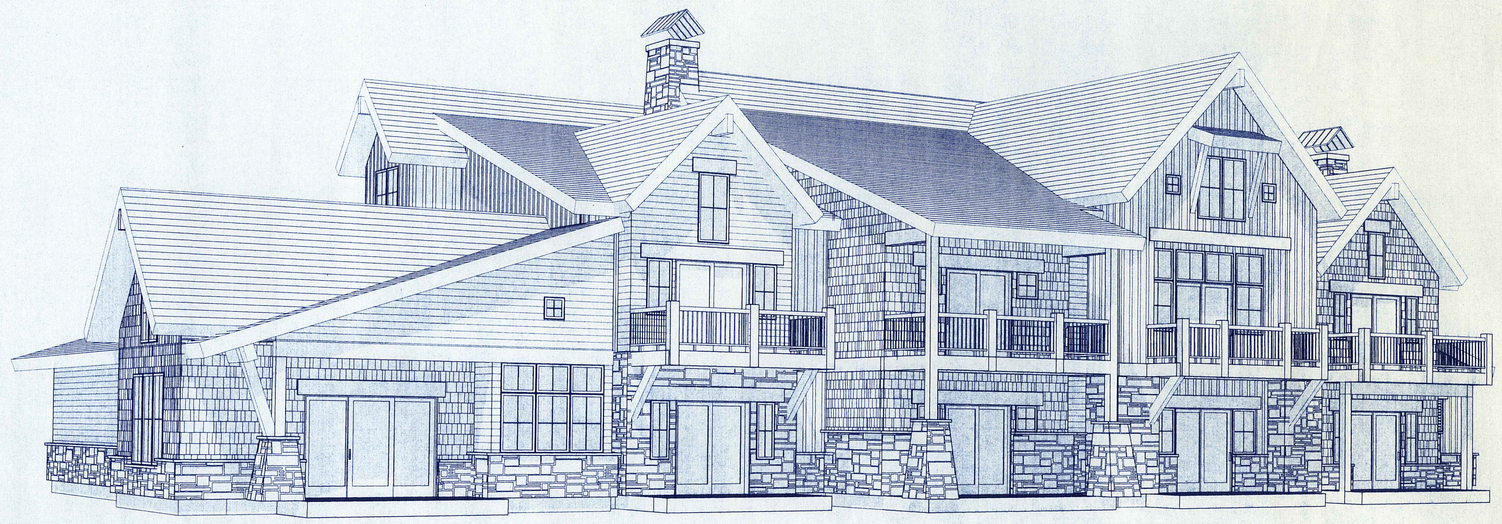
DRAKE LANDING

BUILDING C FRISCO, COLORADO

APPROVED, FOR ISSUA
OF BUILDING PERM
DATE 12-23-08
PERMIT
BY G. POLNDER

VIEW FROM COMMUNITY OPEN SPACE



VIEW FROM LAKEPOINT DRIVE

MARKETPLACE ARCHITECTS L L C
707 East Anemone Trail
PO Box 6318 Dillon, CO 80435
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architex@colorado.net

STATE OF COLORADO
GERALD W. DICKSON
80574
REGISTERED ARCHITECT

GENERAL NOTES:

1. ALL RIGHTS RESERVED. The arrangements, designs, details and concepts depicted herein are the sole property of Marketplace Architects LLC and may not be reproduced in any form without its written consent.
2. These construction documents do not purport to show all construction details. If additional guidance is necessary, the Contractor shall immediately notify the Architect. Failure to give notice shall relieve the Architect of responsibility. Do not proceed if the documents are in conflict or questions arise. Consult the Architect.
3. These drawings do not include aspects of construction safety. The Contractor shall maintain the site in an orderly and safe condition. All safety and protection for people and properties, shall be in compliance with state and federal safety regulations are the sole responsibility of the General Contractor.
4. The General Contractor and Subcontractors are responsible for satisfying all applicable codes and obtaining required permits and approvals. The Contractor shall arrange for all inspections and notify the Owner of their time. This project is governed by the Uniform Building Code, 1997 Edition, including local Amendments. The drawings and specifications shall not permit work that does not conform to these codes. These drawings require the Contractor and each Subcontractor to provide all labor, materials, transportation, supplies, equipment, etc., to complete the work within the industry or trade standards.
5. The Contractor shall be familiar and comply with the directives for the subdivision covenants.
6. The Contractor shall verify all existing conditions and notify the Architect when there is a conflict between the contract documents and the existing conditions.
7. The Contractor shall verify all dimensions, conditions, and utility locations on the job site prior to beginning any work or ordering any materials. The Contractor is responsible for notifying utilities for field locates in compliance with Colorado State Senate Bill 172, Paragraph 9-1.5-103.
8. By contractual arrangement, upon completion of the excavation the Owner shall retain a soils engineer to inspect the subsurface conditions to determine adequacy of foundation design. The Contractor shall coordinate the soils inspection before footing form work is placed.
9. Any errors, omissions, or conflicts found in the various parts of the construction documents shall be brought to the attention of the Architect and the Owner before proceeding with the Work.
10. Substitution of "equal" products is acceptable with the Architect's verbal consent, followed by his written consent. Unique specified items are intended as a quality specification and may be substituted with written consent.
11. The Contractor shall prepare and submit shop drawings or samples as may be necessary to describe completely the details and construction of the Work.
12. All materials and equipment are to be installed per manufactures printed instructions. The Subcontractors shall deliver to the Owner copies of installation and operation instructions of all devices and equipment that arrived packaged with the equipment.
13. All materials are to be new and are to be protected on the jobsite before and during installation.
14. Verify all Architectural details with the structural, mechanical and electrical drawings before the ordering of, or installation of any item of work.

STANDARD ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ACOUST	ACOUSTICAL
ADJ	ADJUSTABLE
AGG	AGGREGATE
ALT	ALTERNATE
ALUMA	ALUMINUM
AB	ANCHOR BOLT
APPROX	APPROXIMATE
ARCH	ARCHITECT (URAL)
ASPH	ASPHALT
BM	BEAM
BRG	BEARING
BLK	BLOCK
BLKG	BLOCKING
BD	BOARD
BOT	BOTTOM
BO	BOTTOM OF
BLDG	BUILDING
CANT	CANTILEVER
CAB	CABINET
CPT	CARPET
CLG	CEILING
CT	CERAMIC TILE
CIR	CIRCLE
CLR	CLEAR (ANCE)
COL	COLUMN
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACT
CJ	CONTROL JOINT
DEL	DELETE
DEMO	DEMOLITION
DTL	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DPR	DISPENSER
DR	DOOR
DBL	DOUBLE
DF	DOUGLAS FIR
DN	DOWN
DS	DOWNSPOUT
DWG	DRAWING
DW	DISHWASHER
EJ	EXPANSION JOINT
EA	EACH
EL	ELEVATION
ELECT	ELECTRICAL
ENC	ENCLOSURE
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
EXIST	EXISTING
EXP	EXPANSION
EX	EXPANSION BOLT
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
FD	FLOOR DRAIN
FP	FIREPLACE
FDN	FOUNDATION
FIN	FINISH
FLR	FLOOR
FLUOR	FLUORESCENT
FT	FOOT
FTG	FOOTING
FPHB	FROST PROOF HOSE BIB
FUR	FURRED
GA	GALVANIZED
GEN	GENERAL
GC	GENERAL CONTRACT (OR)
GL	GLASS

CODE REVIEW

Review Agency:	Frisco Bldg Department
Building Code:	UBC 1997
Construction:	Type V 1 HR Fully Sprinklered
Occupancy:	R1

MAIN FLOOR

Basic Allowable	10,500 sf
Sprinklers	10,500 sf
Yards	10,500 sf
Allowable per flr	**31,500 sf**
Total Proposed	**5,139 sf**

UPPER FLOOR

Basic Allowable	10,500 sf
Sprinklers	10,500 sf
Yards	10,500 sf
Allowable per flr	**31,500 sf**
Total Proposed	**3,704 sf**

LOFT FLOOR

Basic Allowable	10,500 sf
Sprinklers	10,500 sf
Yards	10,500 sf
Allowable per flr	**31,500 sf**
Total Proposed	**1,637 sf**

TOTAL BUILDING

Allowable per floor	31,500 sf
Multi-story	31,500 sf
Total Allowable	**72,000 sf**
Total Proposed	**10,512 sf**

SERVICES

Gas	Public Service
Electric	Public Service
Sewer	Town of Frisco
Water	Town of Frisco
Security	
Refuse	Waste Management
TV Cable	AT&T

PROGRAM INFORMATION

Project Title:	Drake Landing Building A
Building Area	
Main	5,139 sf
Upper	3,704 sf
Loft	1,637 sf
Total	10,512 sf
Type of Construction	V 1- Hour Fully Sprinklered
Occupancy	R1
Building Height	3 stories (35' max)
Site Area	3.35 Ac
Zoning	Summit Blvd Architectural Overlay Zone

LEGAL DESCRIPTION

Lot 4R, a resubdivision of Lot 2, Block 1, Lakepoint at Frisco, Town of Frisco Colorado.

BUILDING DESCRIPTION

Mixed-use residential and commercial 3- story wood and steel framed structure. One of six proposed buildings in the Drake Landing development project.

EXTERIOR FINISHES

1.	Cultured stone veneer	
2.	Wood siding	Semi-transparent stain
3.	Wood trim	Semi-transparent stain
4.	Timber framed accents	Transparent stain
5.	Vinyl windows	
6.	Composition shingle roofing	

PROJECT INDEX

Owner / Developer	Silengo Development Mike Cuthbertson 970-668-4770
Architect	Marketplace Architects Jerry Dokken / Michael Shult 970-468-8583
Structural Engineer	Boyle Engineering Inc. Tim Boyle 970-476-2170
Mech. Engineer	Design / Build
Electrical Engineer	Design / Build
Civil Engineer / Survey	Range West Dave Clement 970-668-3716
Landscape Architecture	Design Workshop Inc. Pedro Campos 970-476-8408
Geotechnical	HP Geotech

DRAWING INDEX

Note: A,C, & L sheets are part of the Master Set for Drake Landing

General Information

A-1 Site Plan

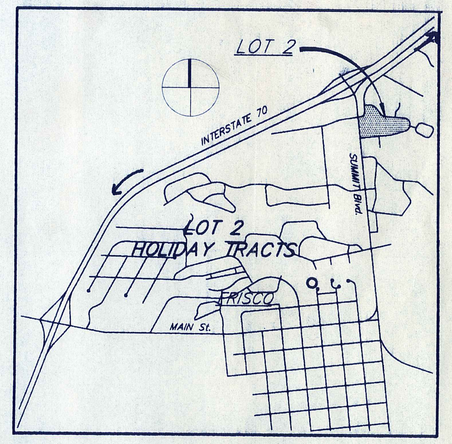
Civil
C-1 Existing Conditions
C-2 Grading and Drainage
C-3 Water Supply and Sewage Collection

Landscape
L-1 Landscape Plan
L-2 Traffic Circulation Plan
L-3 Snow Storage Plan
L-4 Lighting and Signage Plan
L-5 Construction Staging Plan

Architectural
A2.1 Main Floor Plan
A2.2 Upper Floor Plan
A2.3 Loft Floor Plan
A2.4 Roof Plan
A3.1 Building Elevations
A3.2 Building Elevations
A4.1 Building Sections
A4.1 Building Sections
AD.1 Architectural Details
AD.2 Architectural Details
AD.3 Architectural Details (Fire-Resistive)

Structural
S1 Foundation Plan
S2 Main Floor Framing Plan
S3 Upper Floor and Low Roof Framing
S4 Loft Level and Low Roof Framing
S5 High Roof Framing Plan
S6 Structural Details

VICINITY MAP



DRAKE LANDING
BUILDING C
Frisco, Colorado

DATE	10-26-00
SCALE	
DRAWN BY	MS
JOB NO.	
SHEET	T.C

RECEIVED
Town of Frisco
Building Department
Date: 11-28-00
By:
Plan Review #: BD-100

00-106

REV#	
1	Unit Quick Corrections 11-28-00

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STATE OF COLORADO
TERRY W. DOWNEN
30731
REGISTERED ARCHITECT

1 2 3 4 5 6 7
A B

Terrace
FP
Fireplace 3 AD.2 Typ
Living
Dining
Kitchen
DW
Unit C1
983.96 sq ft
Unit C3
904.91 sq ft
Unit C5
892.24 sq ft
Unit C7
918.24 sq ft
Unit C9
1,206.58 sq ft
Mech
233.17 sq ft
Owners Closet
Powder
Bath
W/D
WIC
Bedroom
Bedroom 1
Bedroom 2
nook
Glass Shower Door
Stairway 1 AD.2
Handrail 36" above nosing typ
Cobble Groundcover Below Stair Where Headroom is Less Than 80" Clear Typ
Roof Above Typ
+ 9035.85 FG
+9036.35 FG
+ 9036.6 FG
Note: Verify finish grade at stair landing prior to stair fabrication typ. all exterior stairs
Landscaping
Sidewalk

Wall Legend

Note: All Walls are 1 HR FR

- **Exterior Wall** — See wall assembly notes Section A/A4.1
- **Party Wall** — 11 AD.1
- **Interior Partition** — See wall assembly notes Section A/A4.1
- **Interior Guardrail** — 10 AD.1

MAIN FLOOR PLAN

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

DRAKE LANDING
BUILDING C
Frisco, Colorado

DATE	10-26-00
SCALE	
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SHEET	A2.1 C

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Building Department
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Plan Review #:

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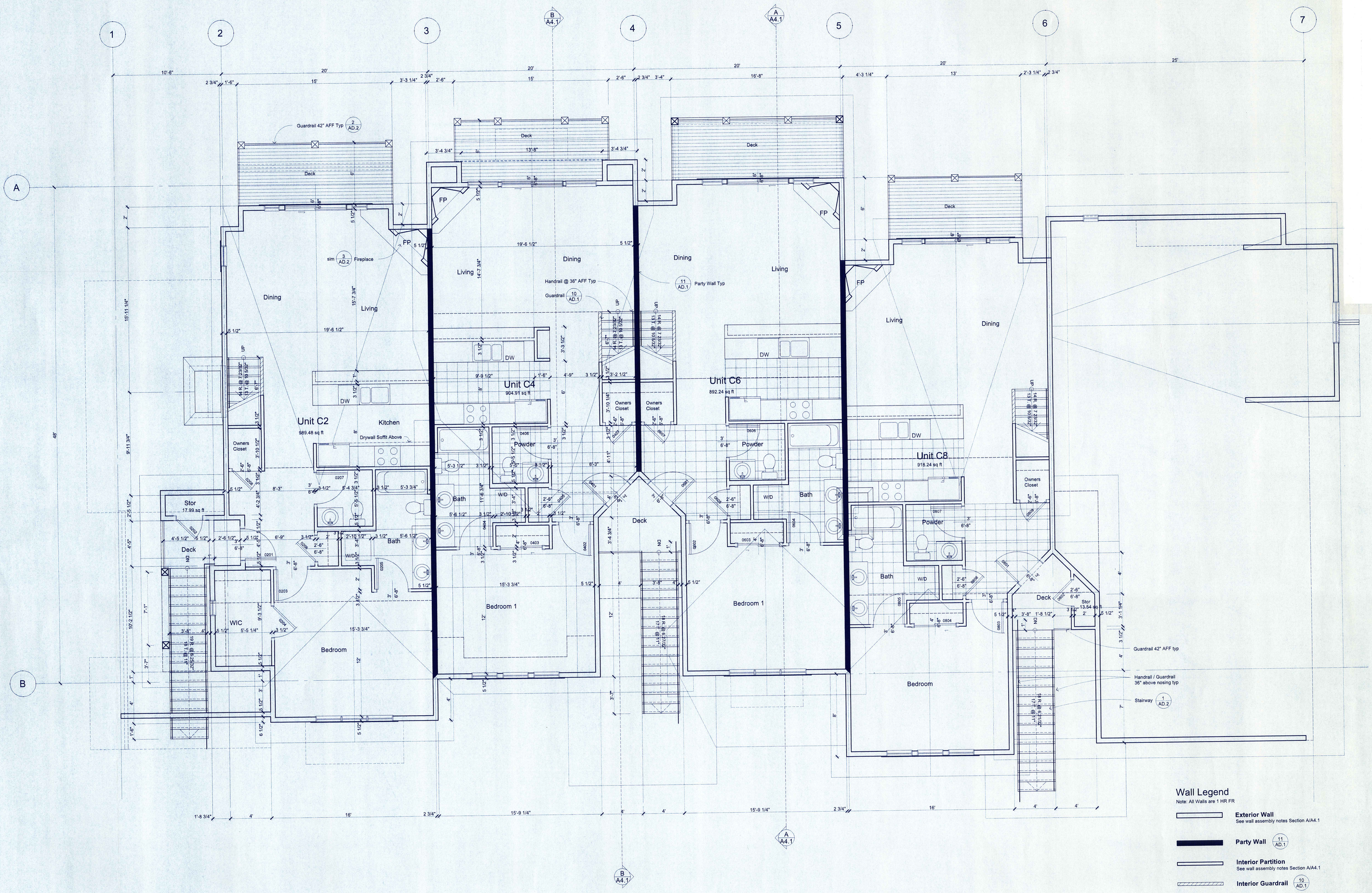

Wall Legend

Note: All Walls are 1 HR FR

- **Exterior Wall** — See wall assembly notes Section A/A4.1
- **Party Wall** — 11 AD.1
- **Interior Partition** — See wall assembly notes Section A/A4.1
- **Interior Guardrail** — 10 AD.1

UPPER FLOOR PLAN

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

DRAKE LANDING

BUILDING C

Frisco, Colorado

DATE	10-26-00
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SHEET	A2.2 C

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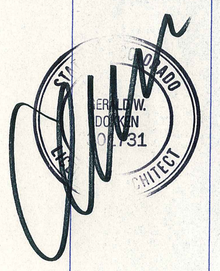

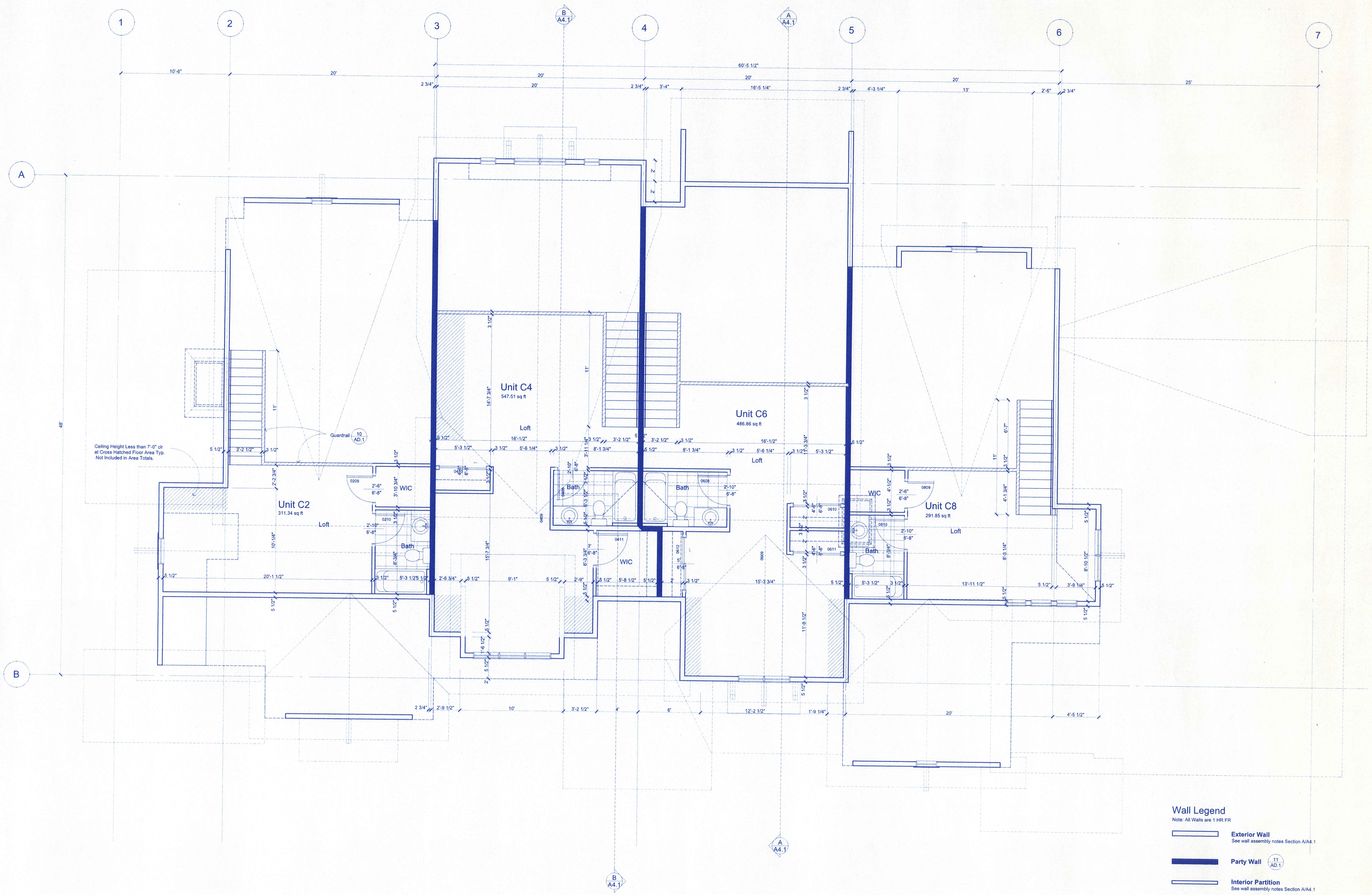

Wall Legend

Note: All Walls are 1 HR FR

- **Exterior Wall** — See wall assembly notes Section A/A4.1
- **Party Wall** — 11 AD.1
- **Interior Partition** — See wall assembly notes Section A/A4.1
- **Interior Guardrail** — 10 AD.1

LOFT FLOOR PLAN

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

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BUILDING C
Frisco, Colorado

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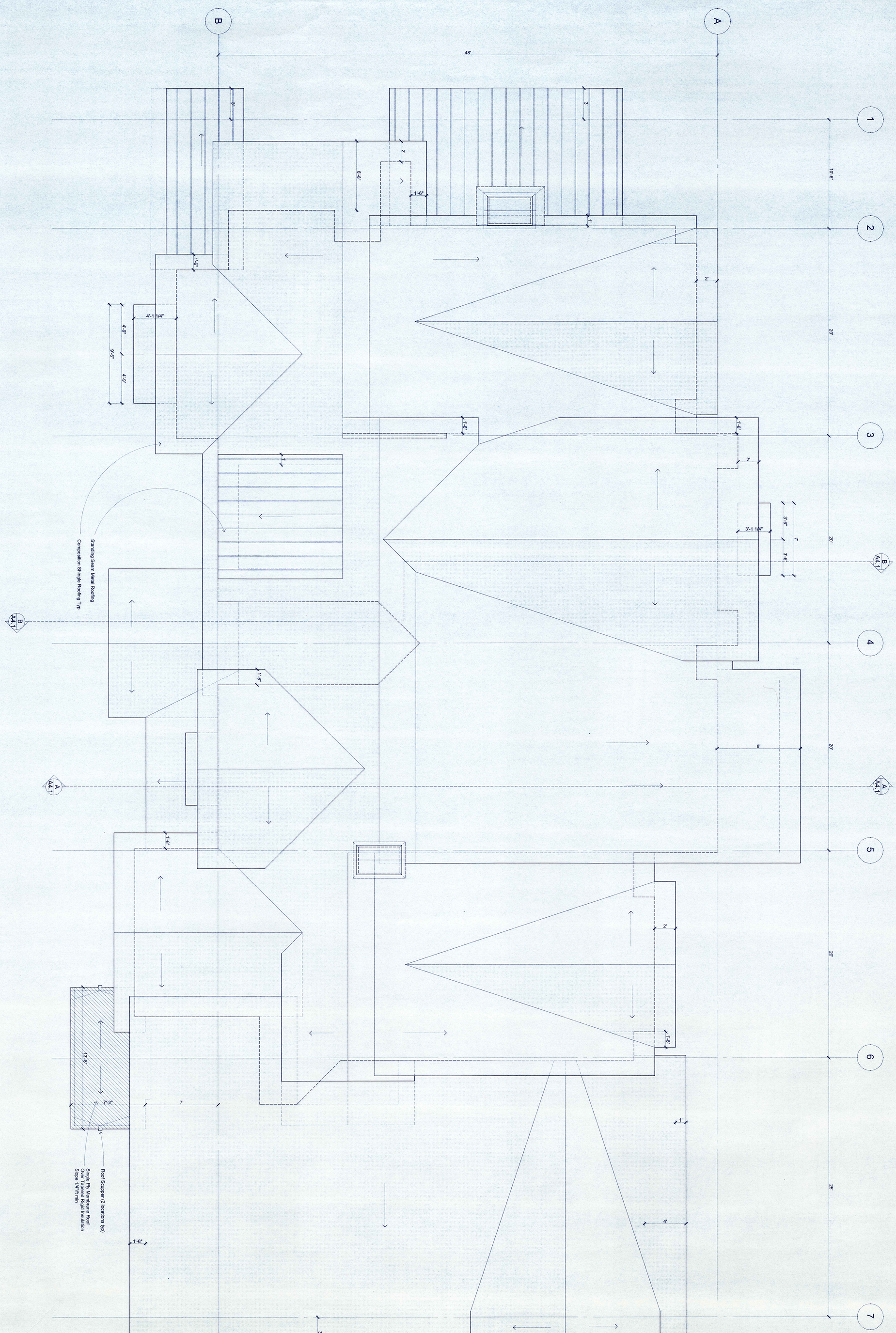
SHEET	A2.3 C

ROOF PLAN

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



DRAKE LANDING

BUILDING C

Frisco, Colorado

DATE	10-26-00
SCALE	
DRAWN BY	MS
JOB NO.	
SHEET	A2.4 C

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JOHN W. DOUGLAS
LICENSED ARCHITECT

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Building Department
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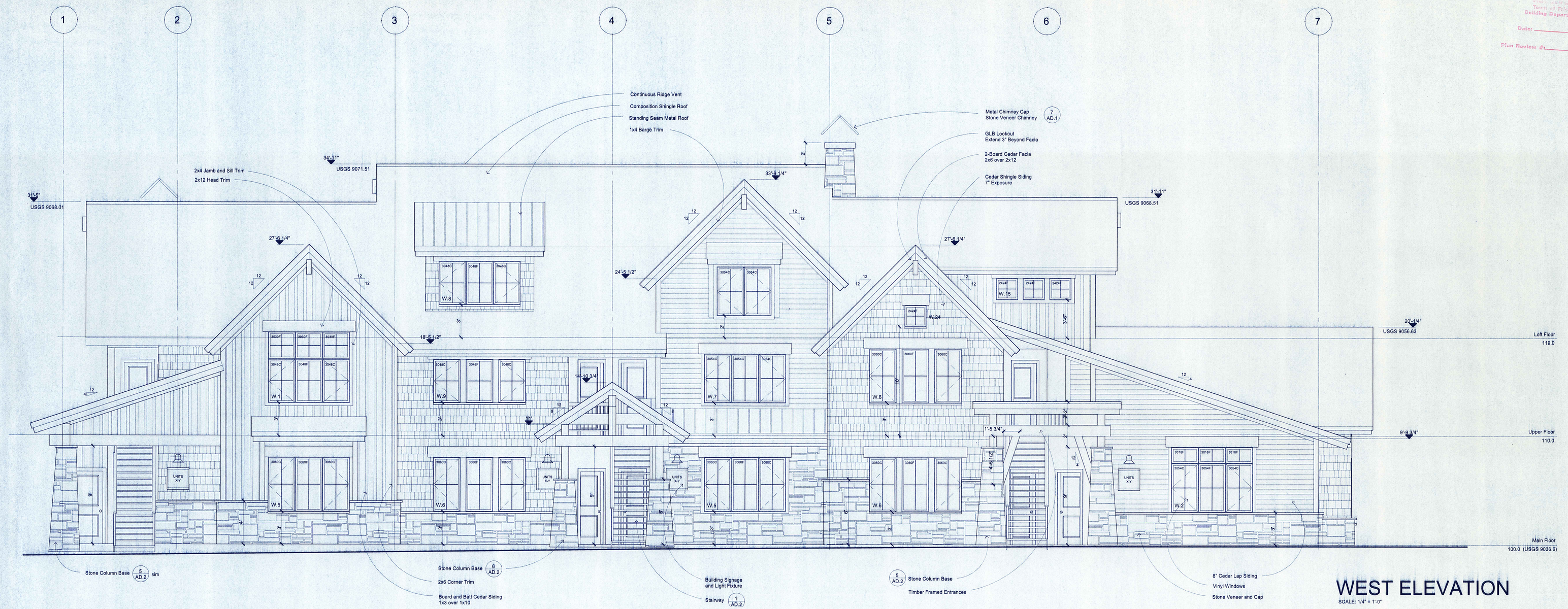
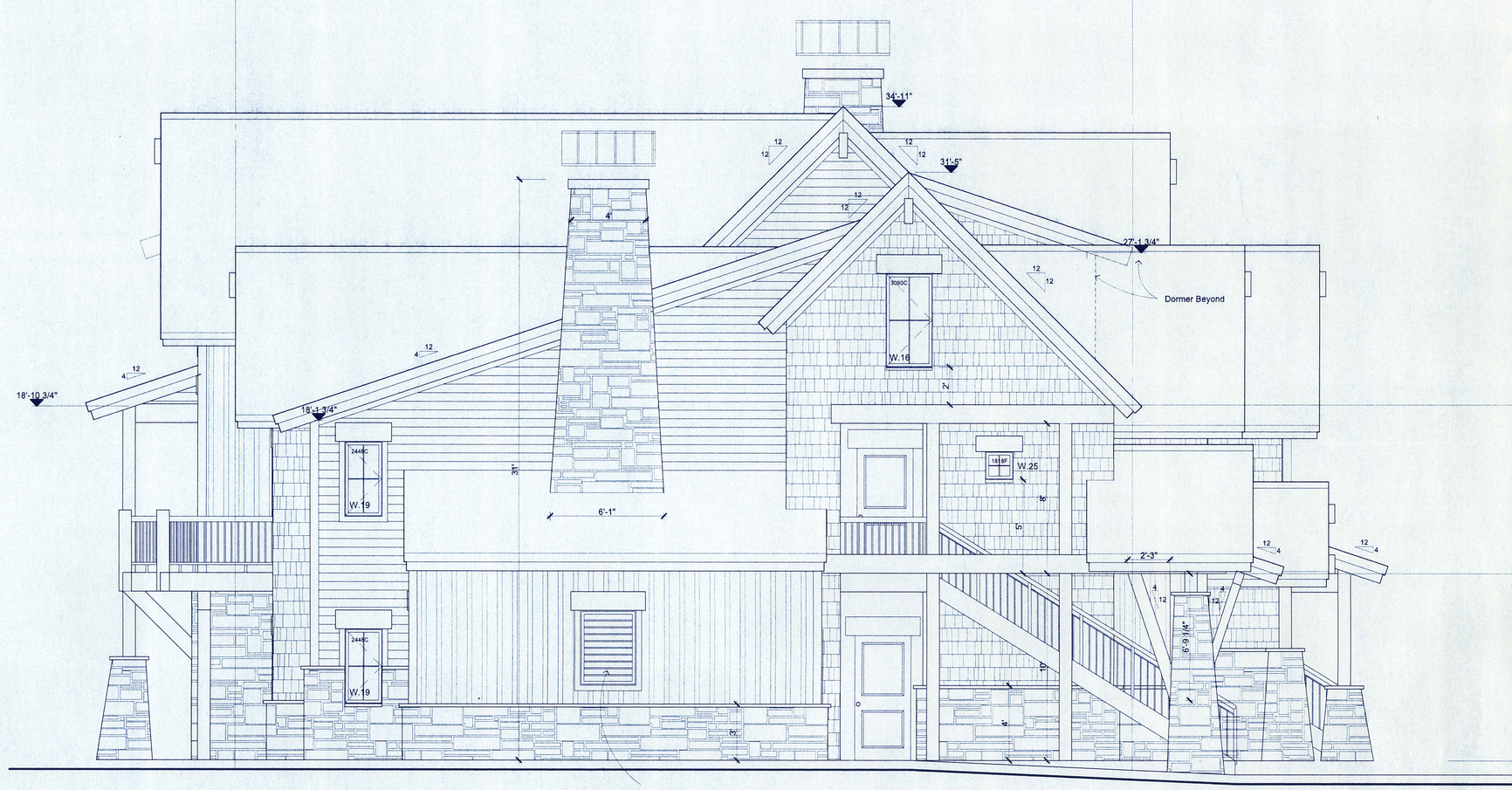


WEST ELEVATION

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



NORTH ELEVATION

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

Town of Frisco
Building Department
Date
Plan Review #

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DRAKE LANDING

BUILDING C

Frisco, Colorado

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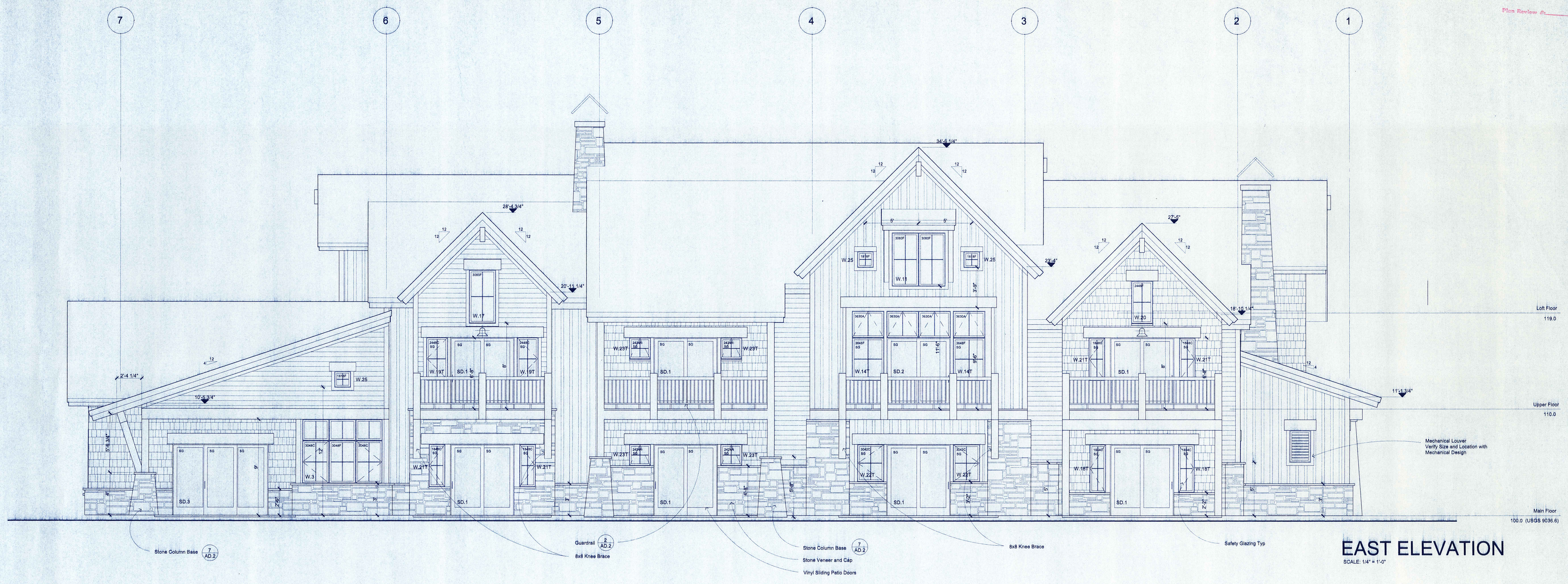
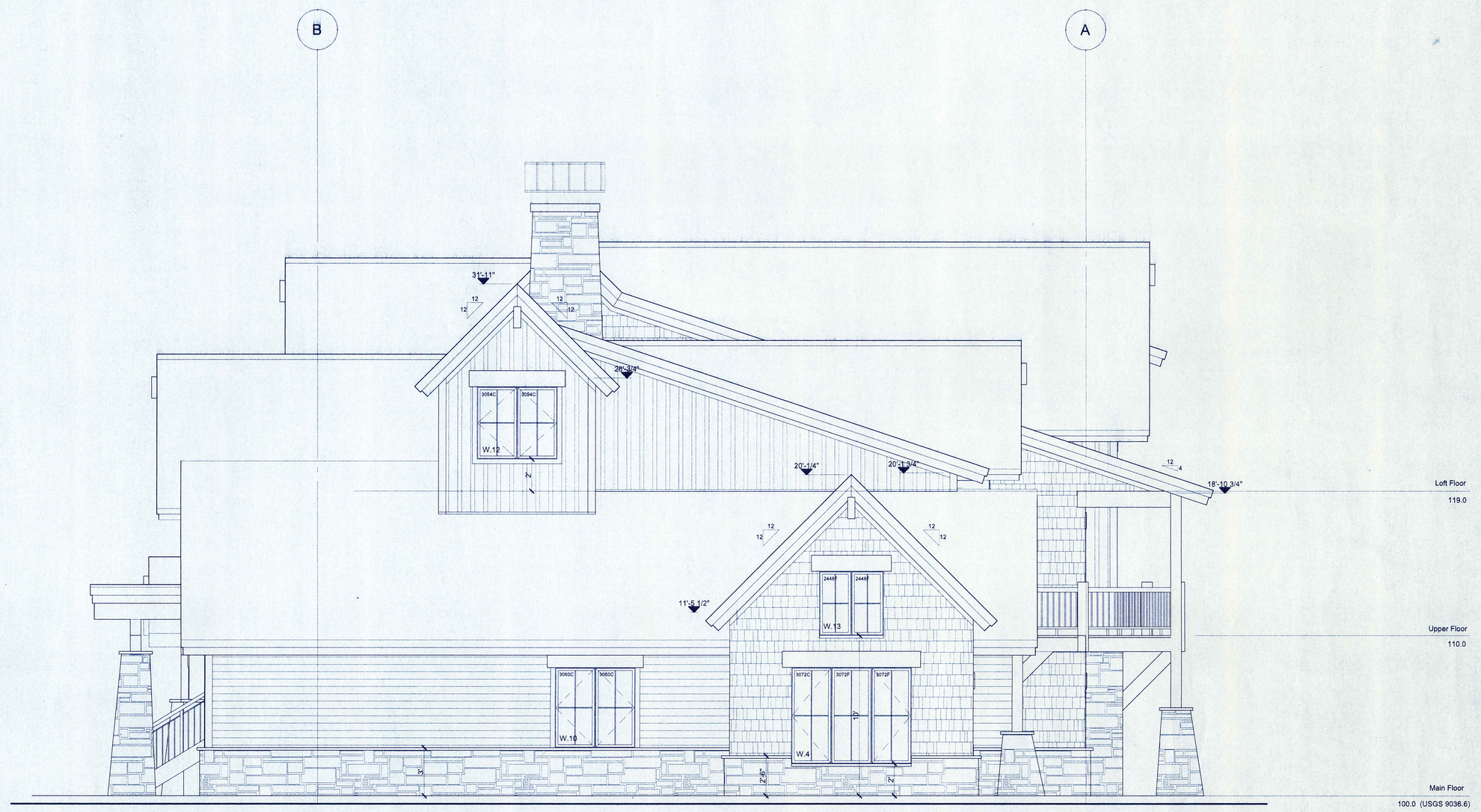
JOB NO.	
SHEET	A3.1 C

Received
Town of Frisco
Building Department
Date
Plan Review #



EAST ELEVATION

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



SOUTH ELEVATION

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

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501731
REGISTERED ARCHITECT

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DRAKE LANDING
BUILDING C
Frisco, Colorado

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SCALE	
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JOB NO.	
SHEET	A3.2 C

Approved
Town of Frisco
Building Department
Date: _____
Plan Review By: _____

Roof Clg Assembly
1 Hr Fire Rated UBC Table 7-C item 13-1.4

30 year composition roofing over
Grace Ice & Water Shield over
5/8" plywood sheathing over
structural framing w/ R-30 batt insul
1 layer 5/8" type X GWB over
4 mil poly vapor barrier on interior side

Floor Clg Assembly
Upper Floor and Loft
1 Hr Fire Rated UL Design No. L530
STC 50 Min

1 1/2" lt wt conc topping w/
hydronic heating system over
3/4" plywood sheathing over
structural framing w/ R-19 batt insul
1 layer 5/8" type X GWB over
hat channels @ underside of framing

Exterior Wall Assembly
1 Hr Fire Rated GA File No. WP 8105

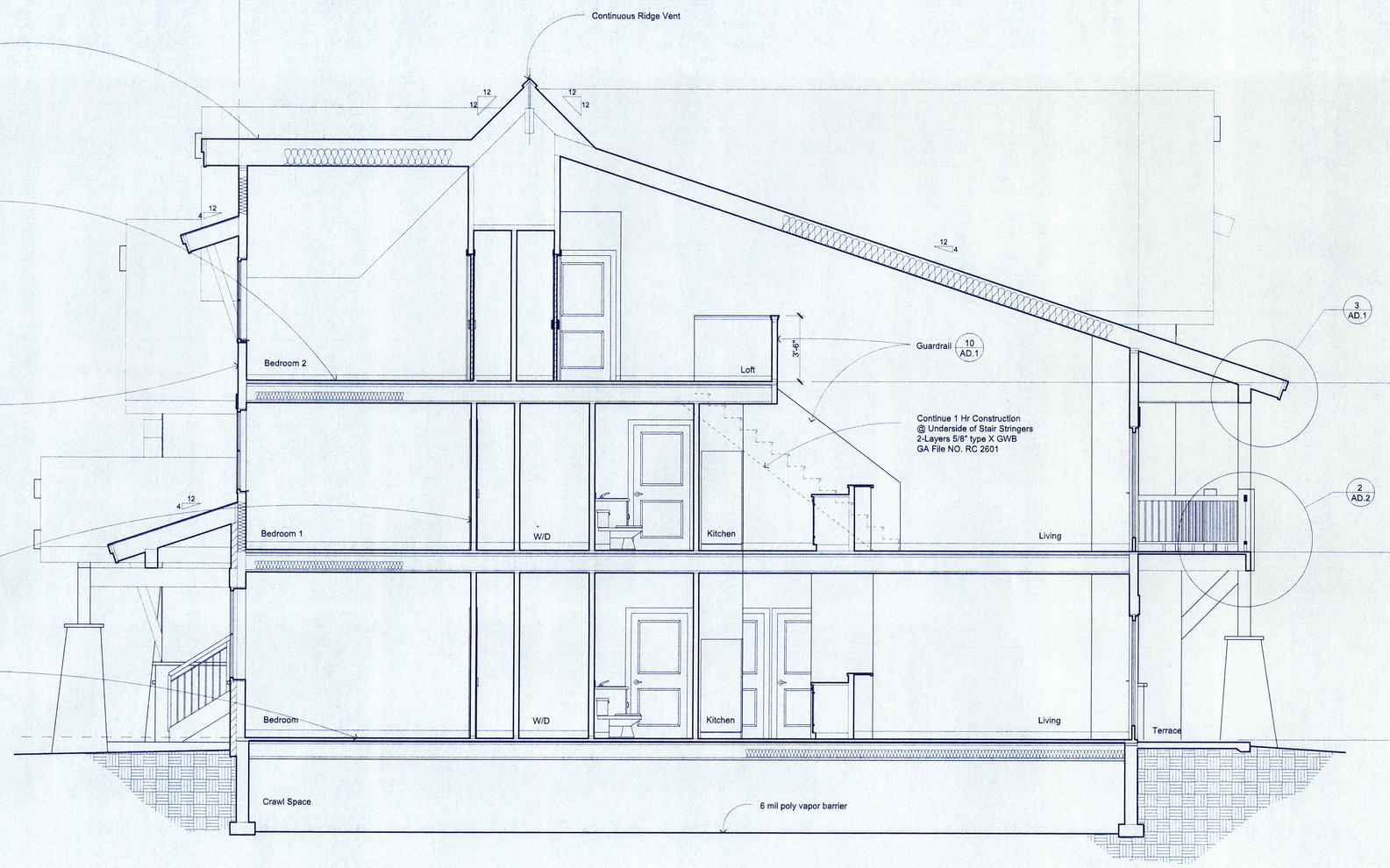
Exterior finish (reference bldg elev) over
Tyvek air infiltration barrier over
5/8" type X GWB over
1/2" OSB over
2x6 studs @ 16" w/ R-19 batt insul
5/8" type X GWB over
4 mil poly vapor barrier on interior side

Interior Wall Assembly
1 Hr Fire Rated GA File NO. WP 3514

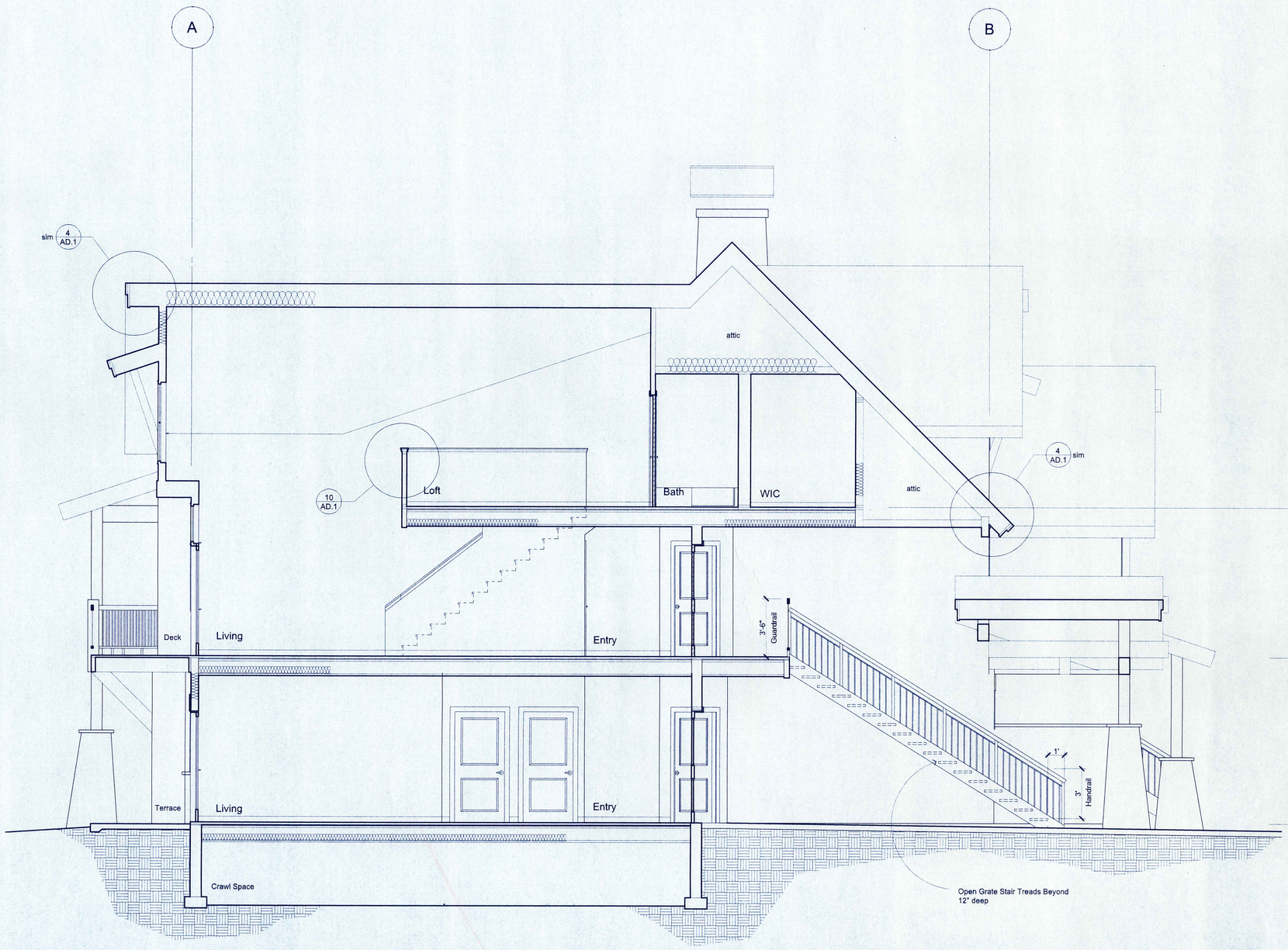
2x4 or 2x6 studs @ 16" with
5/8" type X GWB both sides
reference detail 11/AD.1 for party wall assembly

Floor Assembly
Main Floor

3/4" plywood sheathing over
structural framing w/ R-30 kraft faced batt insul



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



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

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LICENSED ARCHITECT

DRAKE LANDING
BUILDING C
Frisco, Colorado

DATE	10-26-00
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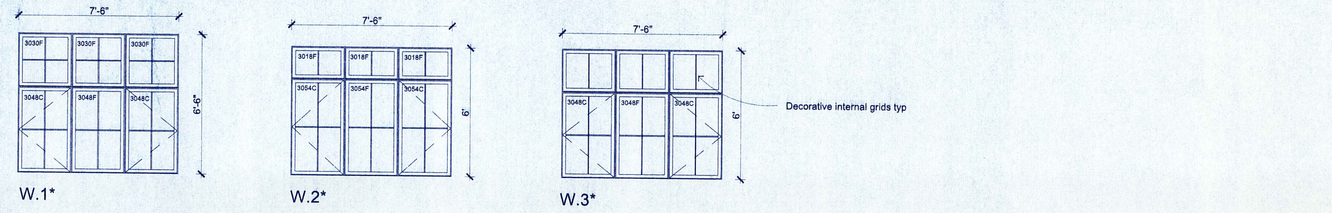
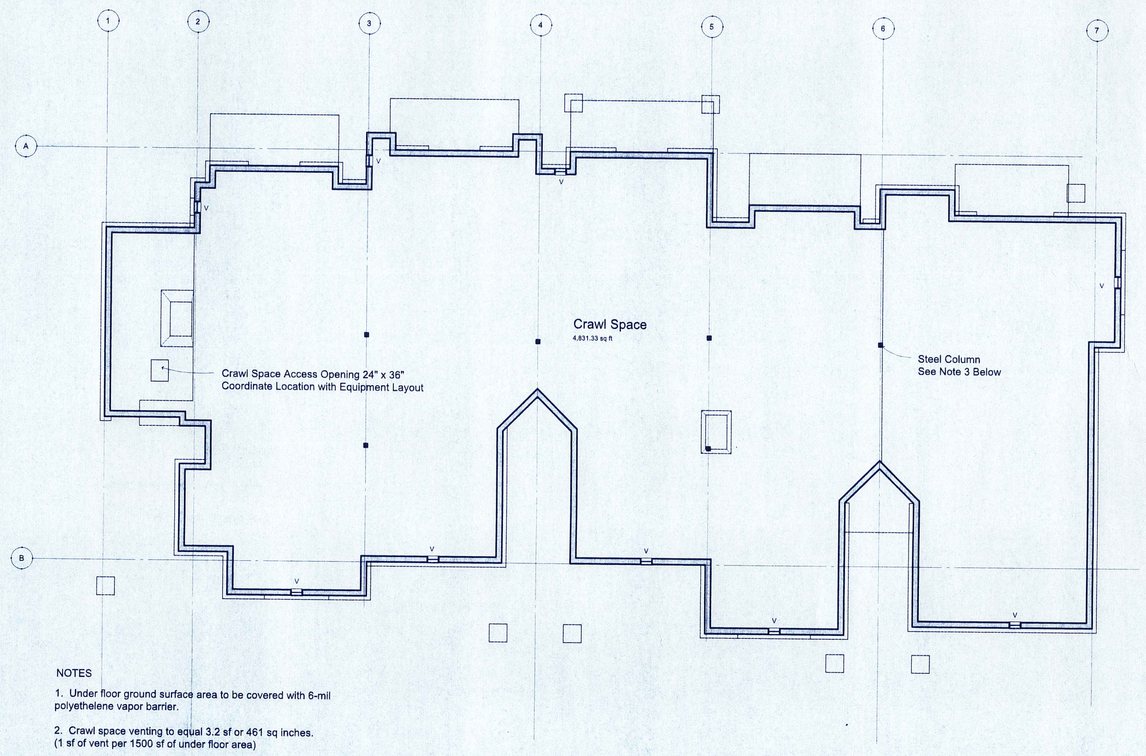
WINDOW SCHEDULE



★ Alternate horizontal sliding in lieu of casement.
Center lite to be operable on triple mulled units

Notes:

1. Windows shall be Milgard Classic 5000 Series vinyl or approved equal.
2. Color: Almond
3. Glazing: clear insulated glass with Low-E coating
4. Tempered safety glazing to be provided where indicated and as required by building codes.
5. Contractor to verify all rough opening dimensions
6. Reference bldg elevations for handing of windows and ext. trim requirements



NOTES

1. Under floor ground surface area to be covered with 6-mil polyethelene vapor barrier.

2. Crawl space venting to equal 3.2 sf or 461 sq inches. (1 sf of vent per 1500 sf of under floor area)

3. Nine vents total provided @ 75 sq inches vent area min each 675 sq inches total venting provided.

4. Steel Columns and Beams Shall be Protected by Spray Applied Fire Resistive Coating for 1 HR Fire Rating.

CRAWL SPACE PLAN

DOOR SCHEDULE

Mark	Hand	Type	W	H	Frame	Hdw	Comments
M01	LH	A	3-0	6-8	A	1	
0101	RH	D	3-0	6-8	A	1	
0102	RH	E	3-0	6-8	B	4	
0103	RHR	E	3-0	6-8	B	5	
0104	LH	E	3-0	6-8	B	4	
0105	RHR	E	2-6	6-8	B	5	
0106	LH	E	3-0	6-8	B	4	
0107	RHR	E	3-0	6-8	B	5	
0108	RHR	E	3-0	6-8	B	3	
0201	RH	D	3-0	6-8	A	1	
0202	LHR	A	3-0	6-8	A	3	
0203	RH	E	3-0	6-8	B	4	
0204	RHR	E	3-0	6-8	B	5	
0205	LH	E	3-0	6-8	B	4	
0206	RHR	E	2-6	6-8	B	5	
0207	LH	E	3-0	6-8	B	4	
0208	LHR	E	2-6	6-8	B	3	
0209	LHR	E	2-6	6-8	B	5	
0210	LH	E	2-10	6-8	B	4	
0301	LH	D	3-0	6-8	A	1	
0302	LH	E	3-0	6-8	B	4	
0303	BP	F	4-0	6-8	B	6	
0304	RH	E	3-0	6-8	B	4	
0305	LHR	E	2-6	6-8	B	5	
0306	RH	E	3-0	6-8	B	4	
0307	LHR	E	3-0	6-8	B	5	
0308	LHR	E	3-0	6-8	B	3	
0401	LH	D	3-0	6-8	A	1	
0402	LH	E	3-0	6-8	B	4	
0403	BP	F	4-0	6-8	B	6	
0404	RH	E	3-0	6-8	B	4	
0405	LHR	E	2-6	6-8	B	5	
0406	RH	E	3-0	6-8	B	4	
0407	RHR	E	2-6	6-8	B	3	
0408	RH	E	2-10	6-8	B	4	
0409	LH	E	3-0	6-8	B	4	
0410	BP	F	5-0	6-8	B	6	
0411	LH	E	3-0	6-8	B	5	
0501	RH	D	3-0	6-8	A	1	
0502	RH	E	3-0	6-8	B	4	
0503	BP	F	4-0	6-8	B	6	
0504	LH	E	3-0	6-8	B	4	
0505	RHR	E	2-6	6-8	B	5	
0506	LH	E	3-0	6-8	B	4	
0507	RHR	E	3-0	6-8	B	5	
0508	RHR	E	3-0	6-8	B	3	
0601	RH	D	3-0	6-8	A	1	
0602	RH	E	3-0	6-8	B	4	
0603	BP	F	4-0	6-8	B	6	
0604	LH	E	3-0	6-8	B	4	
0605	RHR	E	2-6	6-8	B	5	
0606	LH	E	3-0	6-8	B	4	
0607	LHR	E	2-6	6-8	B	3	
0608	RH	E	2-10	6-8	B	4	
0609	LH	E	3-0	6-8	B	4	
0610	BP	F	5-0	6-8	B	6	
0611	BP	F	5-0	6-8	B	6	
0612	BP	F	5-0	6-8	B	6	
0701	LH	D	3-0	6-8	A	1	
0702	LH	E	3-0	6-8	B	4	
0703	BP	F	4-0	6-8	B	6	
0704	RH	E	3-0	6-8	B	4	
0705	LHR	E	2-6	6-8	B	5	
0706	RH	E	3-0	6-8	B	4	
0707	LHR	E	3-0	6-8	B	5	
0708	LHR	E	3-0	6-8	B	3	
0801	LH	D	3-0	6-8	A	1	
0802	LHR	A	3-0	6-8	A	3	
0803	LH	E	3-0	6-8	B	4	
0804	BP	F	4-0	6-8	B	6	
0805	RH	E	3-0	6-8	B	4	
0806	LHR	E	2-6	6-8	B	5	
0807	RH	E	3-0	6-8	B	4	
0808	RHR	E	2-6	6-8	B	3	
0809	RHR	E	2-6	6-8	B	5	
0810	RH	E	2-10	6-8	B	4	
0901	RH	D	3-0	6-8	A	1	
0902	RH	E	3-0	6-8	B	4	
0903	RH	E	3-0	6-8	B	4	
0904	BP	F	4-6	6-8	B	6	
0905	LH	E	3-0	6-8	B	4	
0906	LH	E	3-0	6-8	B	4	
0907	RH	E	3-0	6-8	B	4	
0908	RHR	E	3-0	6-8	B	5	
0909	RHR	E	3-0	6-8	B	5	
0910	RHR	E	3-0	6-8	B	3	
0911	RHR	E	3-0	6-8	B	5	

Door Types		
A	Insulated Metal 6 Panel Exterior Door	
B	Full Lite Insulated Glazing Exterior Door	N/A
C	Storefront	N/A
D	Thermatrue Insul Fiberglass 6 Pnl Wd Grain	
E	Interior 6 Panel Fir	
F	Interior 6 Panel Fir Bi-Parting	
Frames Types		
A	Exterior wood frame with seals, threshold and sweep. 7-3/8"	
B	Interior Clear Fir jamb. 4-7/8"	
Hardware Groups		
1	3 Hinges, Deadbolt, Lockset, Spring Stop	
2	Pivots, Panic Devices, Keyed Lockset & Closers.	
	Cylinder Keyed To Master System	
3	3 Hinges, Deadbolt, Latchset, Spring Stop	
4	3 Hinges, Privacy Latchset, Spring Stop	
5	3 Hinges, Latchset, Spring Stop	
6	Bi-Pass Track & Finger Pulls	
Keying		
	All locking doors to be keyed with construction masters and	
	building master with individual unit keying.	
	Provide 2 sets keys for each unit.	
	Provide 2 sets of construction master keys.	
	Provide 2 sets of building master keys.	
Door Notes		
	Door types D to have a laboratory tested STC rating of not less than 26.	
	All doors, frames and jambs to be prepped for hardware.	
	All doors to be pre-hung.	

RECEIVED
Town of Frisco
Building Department
Date
Plan Reviewer

00-106

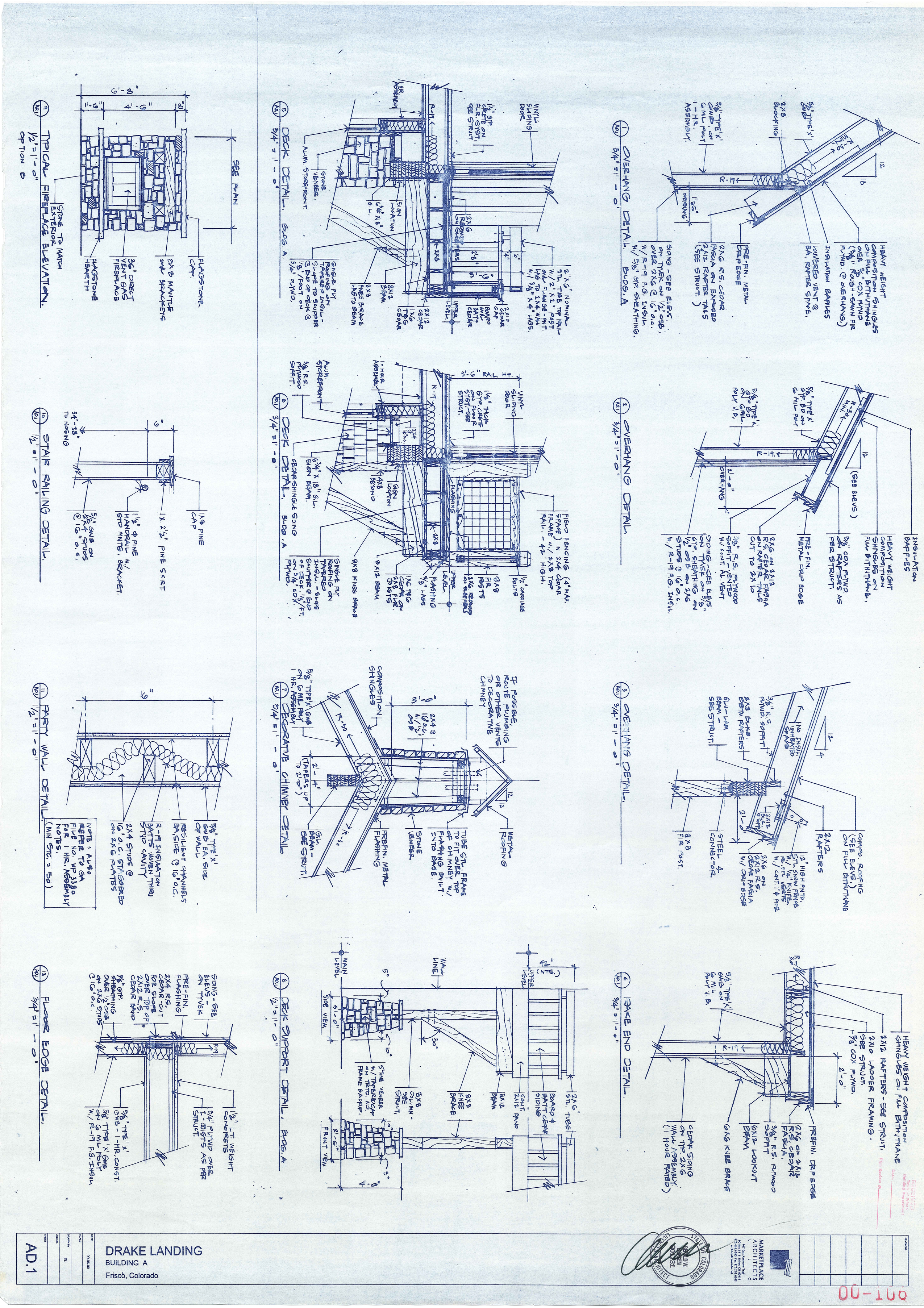
REVISIONS

MARKETPLACE ARCHITECTS L L C
707 East Anemone Trail
PO Box 6311 Dillon, CO 80435
970.468.8583 Fax 970.262.0565
archite@colorado.net

STATE OF COLORADO
GERALD W. DOKKEN
301781
LICENSED ARCHITECT

DRAKE LANDING
BUILDING C
Frisco, Colorado

DATE 10-26-00
SCALE
DRAWN BY MS
JOB NO.
SHEET A5.1 C



MARKETPLACE ARCHITECTS
707 East Anemone Trail
PO Box 6115 Dillon, CO 80435
970.468.0555 FAX 970.468.0745
architect@colorado.net

STATE OF COLORADO
REGISTERED ARCHITECT
BERNARD W. BOEHM
No. 20331

Received
Summit County
Building Department
Date: _____
Plan Review By: _____

00-106

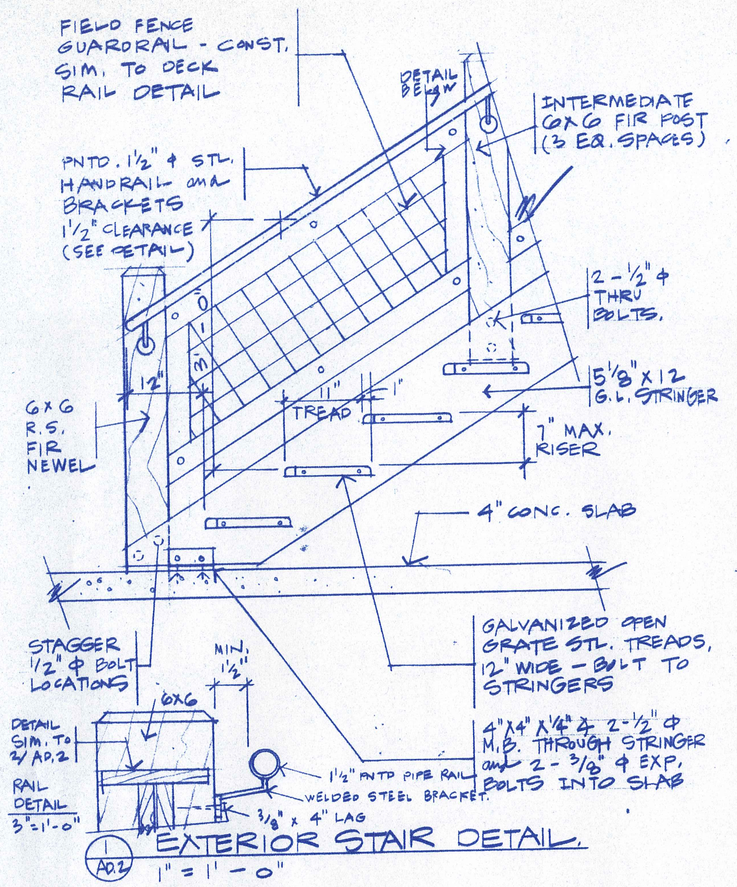
REVISIONS	

DRAKE LANDING

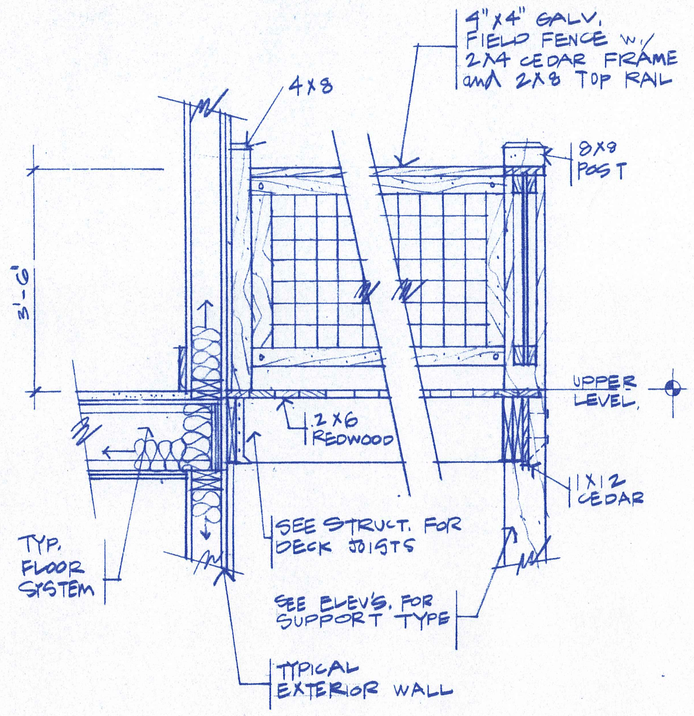
BUILDING A

Frisco, Colorado

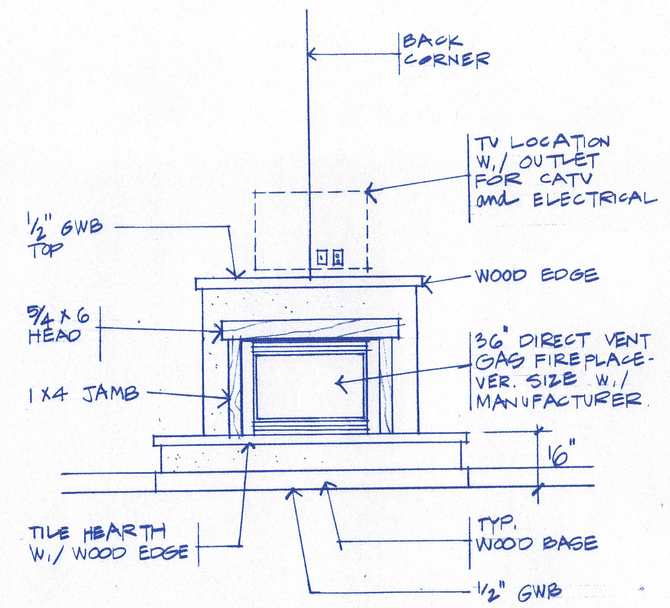
DATE	09-06-00
SCALE	
DRAWN BY	EL
JOB NO.	
SHEET	AD.1



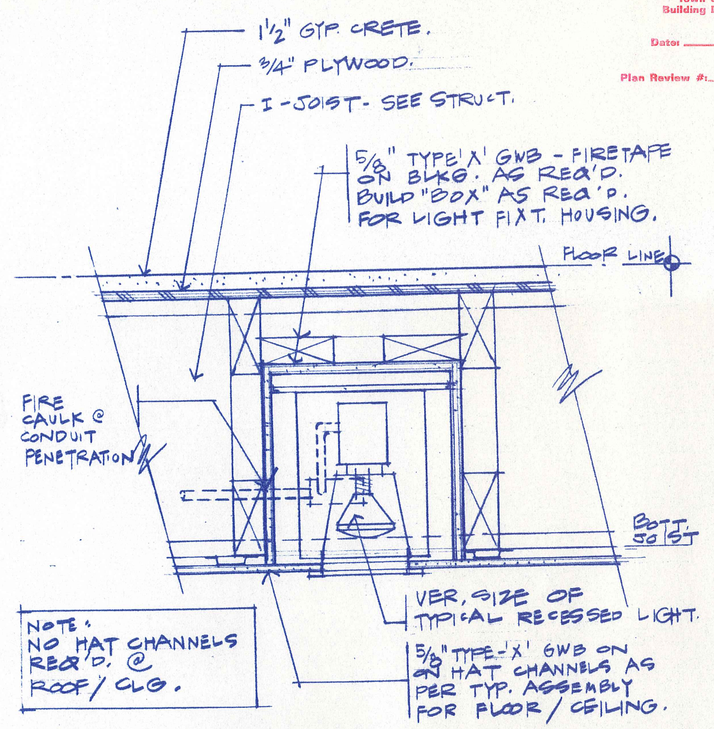
1 A0.2 EXTERIOR STAIR DETAIL.
1" = 1' - 0"



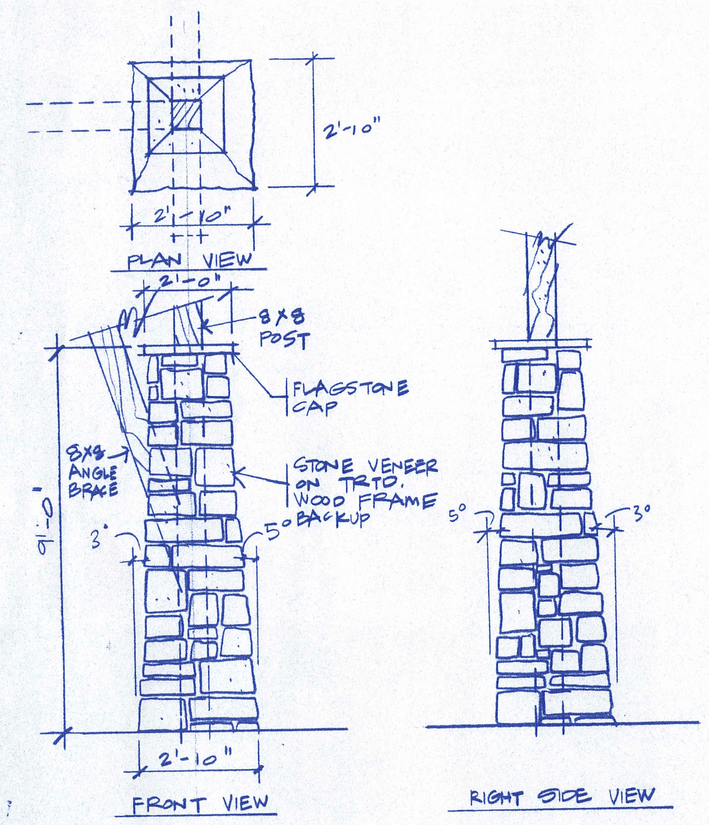
2 A0.2 DECK RAILING DETAIL.
3/4" = 1' - 0"



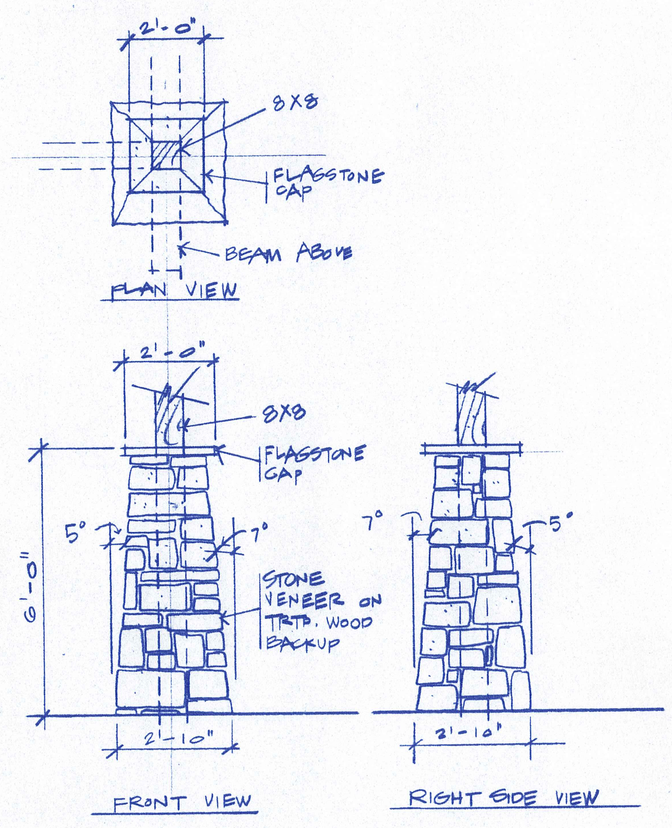
3 A0.2 FIREPLACE ELEVATION
½" = 1' - 0"
(OPTION A)



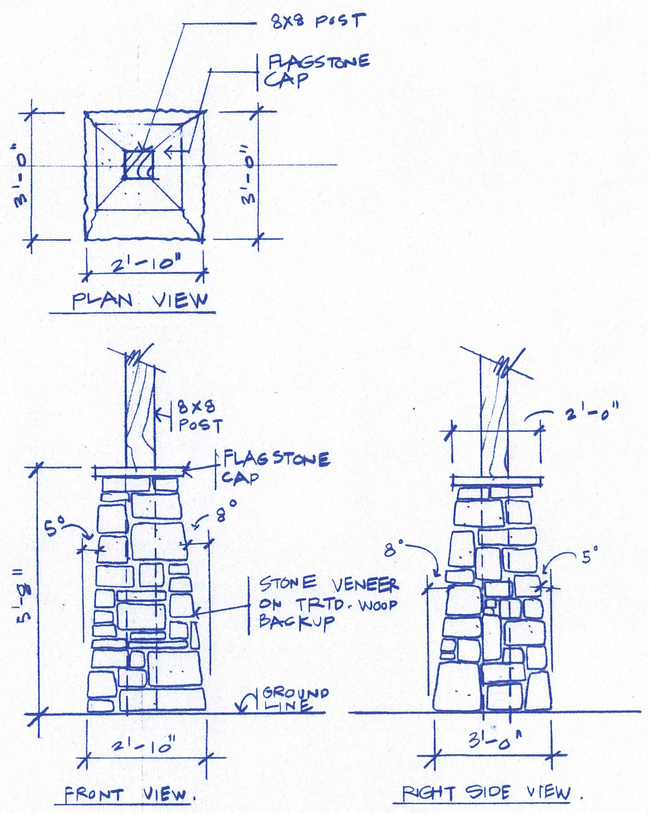
4 A0.2 LIGHT FIXTURE @ 1 HR. ASSEMBLY.
3' = 1' - 0"



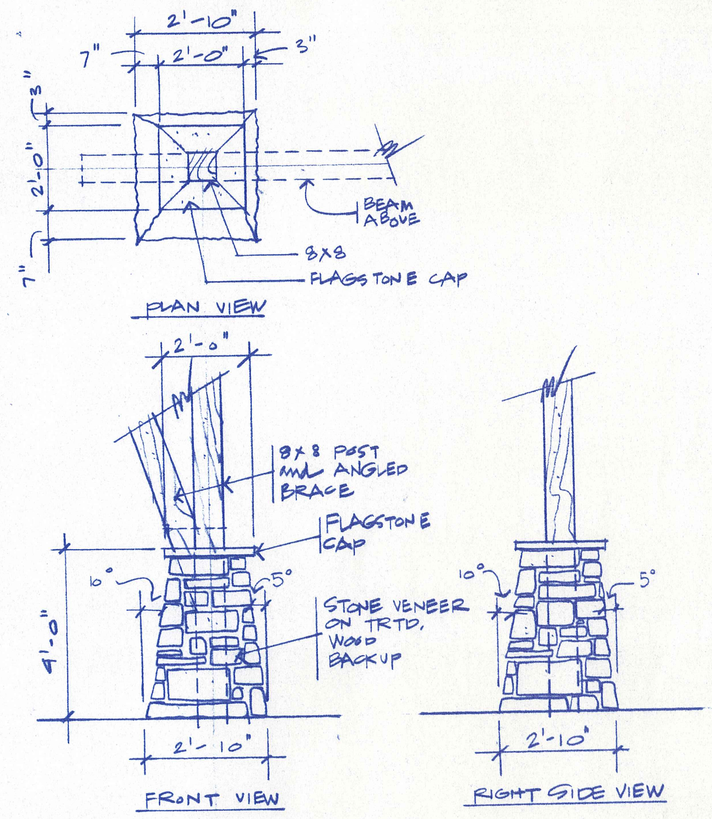
5 A0.2 STONE BASE DETAIL
½" = 1' - 0"



6 A0.2 STONE BASE DETAIL
½" = 1' - 0"



7 A0.2 STONE BASE DETAIL.
½" = 1' - 0"



8 A0.2 STONE BASE DETAIL.
½" = 1' - 0"

RECEIVED
Town of Frisco
Building Department
Date
Plan Review #:

00-106

MARKETPLACE ARCHITECTS L L C
707 East Anemone Trail
PO Box 6318 Dillon, CO 80435
970.468.8583 Fax 970.262.0565
architec@colorado.net

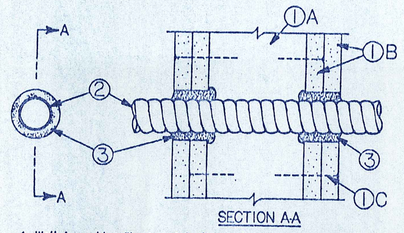
STATE OF COLORADO
DENNIS W. DOREN
20731
REGISTERED ARCHITECT

DRAKE LANDING
Frisco, Colorado

DATE 10-25-00
SCALE
DRAWN BY
JOB NO.
SHEET A D.2

WALL FIRESTOP SYSTEMS

System No. W-L-1017
(Formerly System No. 328)
F Ratings—1 and 2 Hr. (See Item 3)
T Rating—0 Hr
L Rating At Ambient—less than 1 CFM/sq ft
L Rating At 400 F—less than 1 CFM/sq ft



SECTION A-A

1. **Wall Assembly**—The 1 or 2 hr fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs**—Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-1/2 in. wide and spaced max 24 in. OC.
   B. **Wallboard, Gypsum***—Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening is 3 in.
   The hourly F and T Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Crosslinked Polyethylene (PEX) Tubing**— Nom 1 in. diam (or smaller) SDR 9 PEX tubing for use in closed (process or supply) piping systems. Max three tubes per opening, tightly packed. The annular space between tubing and periphery of opening shall be min 0 in. (point contact) to max 1 in. Tubing to be rigidly supported on both sides of wall assembly.
3. **Fill, Void or Cavity Materials* — Caulk**— Min 5/8 in. thickness of fill material applied within annulus, flush with each surface of wall. Min 5/8 in. thickness of fill material applied into interstices of tubes on both sides of wall. Min 1/2 in. diam bead of caulk applied to the tubing/wallboard interface at the point contact location on both sides of wall.

MINNESOTA MINING & MFG CO —CP 25WB+

*Bearing the UL Classification Marking

System No. W-L-2146
F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 1 and 2 Hr (See Item 1)

SECTION A-A

1. **Wall Assembly**— The 1 or 2 hr fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs**— Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-1/2 in. wide and spaced max 24 in. OC.
   B. **Wallboard, Gypsum***— Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening is 3 in.
   The hourly F and T Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrating Product**— Nom 4 in. diam (or smaller) aluminum or steel **Flexible Metal Conduit**. Max one conduit per sleeved opening. Max annular space between conduit and inside of steel sleeve not to exceed 1-3/4 in. Min annular space between conduit and inside of steel sleeve is zero in. (point contact). Flexible metal conduit to be rigidly supported on both sides of wall assembly.
   AFC Cable Systems, Inc.
3. **Fill, Void or Cavity Material*—Caulk**—Caulk fill material forced into annular space around exterior circumference of through penetrating product to completely fill opening in gypsum wallboard layers on each side of the wall assembly. A min 5/8 in. thickness of caulk is required for the 1 hr F Rating. A min 1-1/4 in. thickness of caulk is required for the 2 hr F Rating.

Minnesota Mining & Mfg. Co.—CP 25WB+

*Bearing the UL Classification Marking

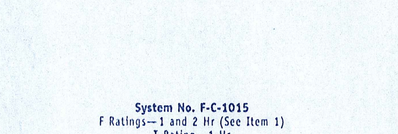
System No. W-L-2147
F Rating — 1 And 2 Hr (See Item 1)
T Rating — 1 And 2 Hr (See Item 1)

SECTION A-A

1. **Wall Assembly**— The 1 or 2 hr fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs**— Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
   B. **Wallboard, Gypsum***— Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening is 5 in.
   The hourly F and T Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrants**— One nonmetallic pipe or conduit to be centered within opening with a nom 1/4 in. annular space between pipe or conduit and periphery of opening. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
   A. **Polyvinyl Chloride (PVC) Pipe**— Nom 4 in. diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   B. **Rigid Nonmetallic Conduit+**— Nom 4 in. diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70).
   C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe**— Nom 4 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   D. **Acrylonitrile Butadiene Styrene (ABS) Pipe**— Nom 4 in. diam (or smaller) Schedule 40 solid core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   E. **Fire Retardant Polypropylene (FRPP) Pipe**— Nom 4 in. diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
3. **Firestop System**— The details of the firestop system shall be as follows:
   A. **Fill, Void or Cavity Materials* — Wrap Strip**— Nom 1/8 in. thick intumescent material supplied in 2 in. wide strips. Wrap strip tightly wrapped around nonmetallic pipe with continuous layers and butted tightly against both surfaces of the wall. The min number of layers required is dependent upon the nom diam of the pipe. For nom 2 in. diam (and smaller) pipes, two layers are required. For nom 2-1/2 in. and 3 in. diam pipes, three layers are required. For nom 3-1/2 in. and 4 in. diam pipes, four layers are required. Wrap strip layers temporarily held in position using aluminum foil tape, steel wire tie, or equivalent.

FLOOR/CEILING FIRESTOP SYSTEMS

System No. F-C-2039
F Rating — 1 Hr
T Ratings — 0 & 1 Hr (See Item 2)



SECTION A-A

1. **Floor Assembly** — The 1 hr fire rated wood truss or combination wood and steel truss Floor-Ceiling assembly shall be constructed of the materials and in the manner described in the Individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory, as summarized below:
   A. **Joists** — Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members*** with bridging as required and ends firestopped.
   B. **Flooring System** —Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor Ceiling Design. Diameter of opening shall be 5/8 in. larger than the outside diam of nonmetallic pipe or conduit (Item 2).
   C. **Wallboard, Gypsum*** — Nom 4 ft wide by 5/8 in. thick, screw-attached to furring channels. Diameter of opening shall be 5/8 in. larger than the outside diam of nonmetallic pipe or conduit (Item 2).

1.1 **Chase Wall** — (Optional, not shown) — The through penetrants (Item 2) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the Individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs**—Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
   B. **Sole Plate**—Nom 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted.
   C. **Top Plate**—The double top plate shall consist of two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Max diam of opening is 4-1/2 in.
   D. **Wallboard, Gypsum***—Thickness, type, number of layers and fasteners shall be as specified in Individual Wall and Partition Design.

2. **Through Fenetrants** — One nonmetallic pipe or conduit to be installed concentrically or eccentrically within the through system. Annular space between pipe or conduit and edge of opening to be min 0 in. (point contact) and max 5/8 in. Pipe or conduit to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
   A. **Polyvinyl Chloride (PVC) Pipe** — Nom 1-1/2 in. diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   B. **Rigid Nonmetallic Conduit+** — Nom 1-1/2 in. diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70).
   C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 1-1/2 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   D. **Cellular Core Polyvinyl Chloride (cPVC) Pipe** — Nom 1-1/2 in. diam (or smaller) Schedule 40 cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   E. **Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom 1-1/2 in. diam (or smaller) Schedule 40 solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   F. **Cellular Core Acrylonitrile Butadiene Styrene (ccABS) Pipe** — Nom 1-1/2 in. diam (or smaller) Schedule 40 cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   G. **Crosslink Polythylene (PEX) Tubing** — Nom 1 in. diam SDR 9 PEX tube for use in closed (process or supply) piping system.
   H. **Electrical Nonmetallic (ENT) Tubing**— Nom 1-1/4 in. diam (or smaller) corrugated wall electrical nonmetallic tubing constructed of polyvinyl chloride. ENT to be installed as a complete system with all terminations in junction boxes, outlet boxes or other approved enclosures as specified in the National Electrical Code. Max one ENT centered in firestop system with an annular space of 1 in. ENT rigidly supported on both sides of the floor-ceiling assembly.

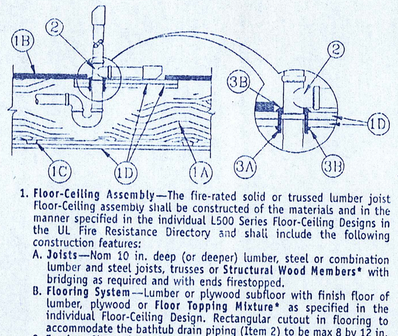
3. **Fill, Void or Cavity Materials* — Caulk or Putty** — Min 3/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. thickness of fill material applied within the annulus, flush with bottom surface of ceiling or top plate. An additional min 1/4 in. crown of fill material applied to perimeter of penetrant at its egress from the top of flooring and underside of ceiling or from top of sole plate and underside of top plate.

MINNESOTA MINING & MFG CO —CP 25WB+ Caulk, MPS-2+ Putty

*Bearing the UL Classification Marking

**Bearing the UL Listing Mark

System No. F-C-2026
F Rating—1 Hr
T Rating—1 Hr



1. **Floor-Ceiling Assembly**—The fire-rated solid or trussed lumber joist floor-Ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Joists**—Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members*** with bridging as required and ends firestopped.
   B. **Flooring System**—Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Diameter of opening shall be 5/8 in. larger than the outside diam of nonmetallic pipe or conduit (Item 2) to be max 8 by 12 in.
   C. **Furring Channels**—Rigid or resilient galv steel furring channels installed perpendicular to joists.
   D. **Wallboard, Gypsum*** —Nom 4 ft wide by 5/8 in. thick. Wallboard screw-attached to furring channels as specified in the individual Floor-Ceiling Design. Two pieces of gypsum wallboard, each min 4 in. longer and wider than the cutout in the flooring, screw-attached to bottom of flooring concentric with cutout. Diam of opening hole-sawed through both layers of the gypsum wallboard patch to be 1/2 to 5/8 in. larger than outside diam of bathtub drain piping (Item 2).
2. **Drain Piping**—Nom 1-1/2 in. diam Schedule 40 PVC pipe and drain fittings cemented together and provided with PVC bathtub waste/overflow fitting.
3. **Firestop System**—The details of the firestop system shall be as follows:
   A. **Fill, Void or Cavity Materials*—Wrap Strip**—Nom 1/4 in. thick intumescent elastomeric material faced on one side with aluminum foil, supplied in 2 in. wide strips. Nom 2 in. wide strip tightly-wrapped around PVC drain piping (foil side exposed), secured with two steel wire ties, and slid into hole-sawed opening in gypsum wallboard patch (Item 1D). Bottom edge of wrap strip to project approx 1/2 in. below bottom surface of gypsum wallboard patch.

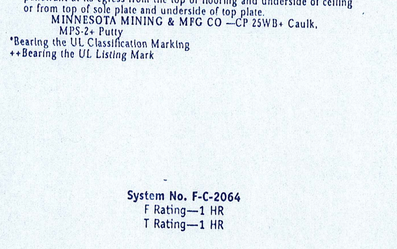
Minnesota Mining & Mfg. Co.—FS-195+

   B. **Fill, Void or Cavity Materials*—Caulk**—Nom 1/4 in. diam bead of caulk to be applied to perimeter of wrap strip at its egress from the underside of the gypsum wallboard patch. Nom 1/4 in. thickness of caulk to be applied to the exposed edge of the wrap strip layer and to fill all gaps between the wrap strip layer and the tee of the drain fitting on the top surface of the gypsum wallboard patch.

MINNESOTA MINING & MFG CO —CP 25WB+

*Bearing the UL Classification Marking

System No. F-C-2064
F Rating—1 HR
T Rating—1 HR



SECTION A-A

1. **Floor-Ceiling Assembly**—The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in Design Nos. L505, L511 or L536 in the UL Fire Resistance Directory. **The F and T Ratings of the firestop system are equal to the fire rating of the floor-ceiling assembly.** The general construction features of the floor-ceiling assembly are summarized below:
   A. **Flooring System**—Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Max diam of opening is 1 in. for lumber bridging and with ends firestopped.
   B. **Wood Joists**—Nom 2 by 10 in. lumber joists spaced 16 in. OC. with nom 1 by 3 in. lumber bridging and with ends firestopped.
   C. **Furring Channels**—(Not Shown)—Resilient galv steel furring channels installed perpendicular to wood joists between first and second layers of wallboard (Item 1D) in 2 hr fire rated assembly. Furring channels spaced max 24 in. OC.
   D. **Wallboard, Gypsum***—Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. First layer of wallboard nailed to wood joists. Second layer of wallboard (2 hr fire rated assembly only) screw-attached to furring channels. Max diam of opening is 1/2 in. larger than nom diam of nonmetallic pipe or conduit (Item 2) and branch piping (Item 3).

1.1 **Chase Wall** (Optional, not shown)—The through penetrants (Item No. 2) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs**—Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
   B. **Sole Plate**—Nom 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted.
   C. **Top Plate**—The double top plate shall consist of two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Diam of opening is 4-1/2 in.
   D. **Wallboard, Gypsum***—Thickness, type, number of layers and fasteners shall be as specified in Individual Wall and Partition Design.

2. **Through Penetrants**—One nonmetallic pipe or conduit to be installed approx midway between wood joists. Diam of openings hole-sawed through flooring system and through gypsum wallboard ceiling or top plates of optional chase wall to be 1/2 to 5/8 in. larger than the outside diam of through-penetrant. Pipe or conduit to be rigidly supported on both sides of the floor-ceiling assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
   A. **Polyvinyl Chloride (PVC) Pipe**—Nom 2 in. diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   B. **Rigid Nonmetallic Conduit+**—Nom 2 in. diam (or smaller) Schedule

40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70).
   C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe**—Nom 2 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   D. **Acrylonitrile Butadiene Styrene (ABS) Pipe**—Nom 2 in. diam (or smaller) Schedule 40 solid core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

3. **Firestop System**—The details of the firestop system shall be as follows:
   A. **Foil Tape**—Nom 4 in. wide, 3 mil thick aluminum tape wrapped around pipe prior to the installation of the wrap strip (Item 3B). Min of one wrap, flush with the ceiling and preceding downward.
   B. **Fill, Void or Cavity Material***—Nom 1/4 in. thick intumescent material supplied in 2 in. wide strips. One wrap strip tightly wrapped around perimeter of penetrant (foil side exposed) and held in position using two steel wire ties. wrap strip recessed into opening such that bottom surface extends below the bottom surface of the gypsum wallboard ceiling or top plate when optional chase wall is used.

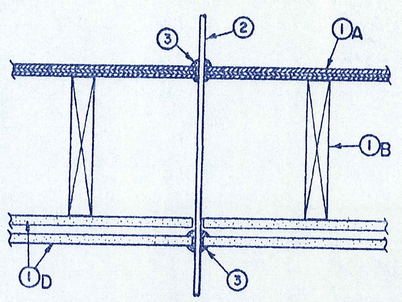
Minnesota Mining & Mfg. Co.—FS-195+

   C. **Fill, Void or Cavity Materials*—Caulk**—Min 5/8 in. thickness of caulk applied within annular space between wrap strip and periphery of opening flush with bottom surface of ceiling or top plate. Min 1/2 in. crown of caulk applied around the perimeter of the wrap strip at its interface with the gypsum wallboard ceiling or top plate. Min 1/4 in. crown of caulk applied around the perimeter of penetrant at its interface with the wrap strip. Min 3/4 in. thickness of caulk applied to completely fill annular space, flush with top surface of floor.

Minnesota Mining & Mfg. Co.—CP 25WB+.

*Bearing the UL Classification Marking.

System No. F-C-3001
(Formerly System No. 168)
F Ratings—1 and 2 Hr (See Item 1)
T Ratings—1 and 2 Hr (See Item 1)



1. **Floor-Ceiling Assembly**—The 1 or 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the UL Fire Resistance Directory. The 1 hr fire rated assembly shall be constructed as specified in Design No. L501, L512 or L537. The 2 hr fire rated assembly shall be constructed as specified in Design No. L505, L511 or L536. **The F and T Ratings of the firestop system are equal to the fire rating of the floor-ceiling assembly.** The general construction features of the floor-ceiling assembly are summarized below:
   A. **Flooring System**—Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Max diam of opening is 1/2 in.
   B. **Wood Joists**—Nom 2 by 10 in. lumber joists spaced 16 in. O.C. with nom 1 by 3 in. lumber bridging and with ends firestopped.
   C. **Furring Channels**—(Not Shown)—Resilient galv steel furring channels installed perpendicular to wood joists between first and second layers of wallboard (Item 1D) in 2 hr fire-rated assembly. Furring channels spaced max 24 in. OC.
   D. **Wallboard, Gypsum***—Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. First layer of wallboard nailed to wood joists. Second layer of wallboard (2 hr fire rated assembly only) screw-attached to furring channels. Max diam of opening is 1/2 in. larger than nom diam of nonmetallic pipe or conduit (Item 2) and branch piping (Item 3).

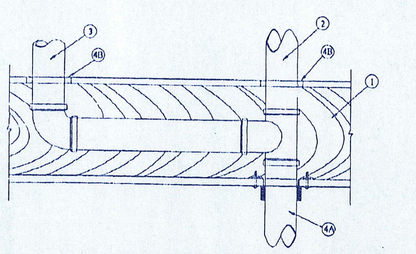
1.1 **Chase Wall** (Optional, not shown)—The through penetrants (Item No. 2) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs**—Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
   B. **Sole Plate**—Nom 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted.
   C. **Top Plate**—The double top plate shall consist of two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Diam of opening is 4-1/2 in.
   D. **Wallboard, Gypsum***—Thickness, type, number of layers and fasteners shall be as specified in Individual Wall and Partition Design.

2. **Cable**—Max 25 pair No. 24 AWG copper conductor telephone cable or max two-conductor with ground No. 12 or No. 14 AWG Type NM nonmetallic sheath copper conductor cable. Cable insulation and jacket material to be polyvinyl chloride (PVC). Max one cable to be installed in nom 1/2 in. diam opening. Cable to be rigidly supported on both sides of floor assembly.
3. **Fill, Void or Cavity Materials*—Caulk**—Min 3/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. or 1-1/4 in. thickness of fill material, for 1 and 2 hr rated assemblies, respectively, applied within the annulus, flush with bottom surface of ceiling or top plate. An additional min 1/4 in. crown of fill material applied to perimeter of penetrant at its egress from the top of flooring and underside of ceiling or from top of sole plate and underside of top plate.

Minnesota Mining & Mfg. Co.—CP 25WB+

*Bearing the UL Classification Marking

System No. F-C-2129
F Ratings—1 And 2 Hr (See Item 1)
T Ratings—1 And 2 Hr (See Item 1)



SECTION A-A

1. **Floor-Ceiling Assembly**—The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in Design Nos. L505, L511 or L536 in the UL Fire Resistance Directory. **The F and T Ratings of the firestop system are equal to the fire rating of the floor-ceiling assembly.** The general construction features of the floor-ceiling assembly are summarized below:
   A. **Flooring System**—Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Max diam of opening is 1 in. for lumber bridging and with ends firestopped.
   B. **Wood Joists**—For 1 hr fire-rated floor-ceiling assemblies, nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members*** with bridging as required and with ends firestopped. For 2 hr fire-rated floor-ceiling assemblies, nom 2 by 10 in. lumber joists spaced 16 in. OC with nom 1 by 3 in. lumber bridging and with ends firestopped.
   C. **Wallboard, Gypsum***—Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. Max diam of opening is 1-1/2 in.

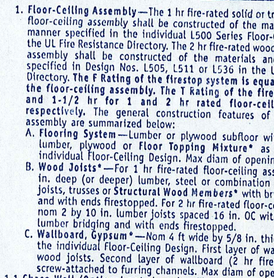
1.1 **Chase Wall** (Optional, not shown)— The through penetrants (Item No. 2) shall be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual L500 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
   B. Sole Plate — Nom 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted.
   C. Top Plate — The double top plate shall consist of two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted.
   D. Wallboard, Gypsum* — Thickness, type, number of layers and fasteners shall be as specified in Individual Wall and Partition Design.

2. **Cables**—Max three conductor with ground No. 12 AWG (or smaller) NM cables with polyvinyl chloride insulation and jacket materials. Min one cable to max seven cables tightly bundled to be installed eccentrically or concentrically in opening with annular space between the cables and the periphery of the opening of min 0 in. (point contact) to max 1-1/4 in. Cables to be rigidly supported on both sides of floor-Ceiling assembly.
3. **Fill, Void or Cavity Materials*—Caulk or Putty**—Min 3/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. or 1-1/4 in. thickness of fill material, for 1 and 2 hr rated assemblies, respectively, applied within the annulus, flush with bottom surface of ceiling or top plate. An additional min 1/4 in. crown of fill material applied to perimeter of penetrant at its egress from the top of flooring and underside of ceiling or from top of sole plate and underside of top plate.

Minnesota Mining & Mfg. Co.—CP 25WB+ Caulk, MPS-2+ Putty

*Bearing the UL Classification Marking

System No. F-C-3017
F Rating—1 and 2 Hr (See Item No. 1)
T Rating—1 and 1-1/2 Hr (See Item No. 1)



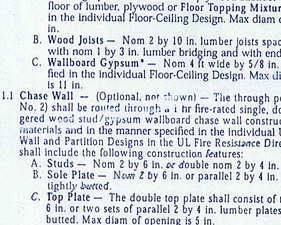
SECTION A-A

1. Floor-Ceiling Assembly — The 1 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory, as summarized below:
   A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of opening is 11 in.
   B. Wood Joists — Nom 2 by 10 in. lumber joists spaced 16 in. OC with nom 1 by 3 in. lumber bridging and with ends firestopped.
   C. Wallboard Gypsum* — Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. Max diam of opening is 11 in.

1.1 Chase Wall — (Optional, not shown) — The through penetrants (Item No. 2) shall be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
   B. Sole Plate — Nom 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted.
   C. Top Plate — The double top plate shall consist of two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Max diam of opening is 5 in.
   D. Wallboard, Gypsum* — Thickness, type, number of layers and fasteners shall be as specified in Individual Wall and Partition Design.

2. Steel Vent Duct — Nom 4 in. diam (or smaller) No. 30 gauge (or heavier) galv steel vent duct or nom 10 in. diam (or smaller) No. 28 gauge (or heavier) galv steel vent duct. Diam of openings to be max 1 in. larger than outside diam of duct. Duct to be installed approx mid-way between wood joists and installed either concentrically or eccentrically in opening. The annular space between the duct and the periphery of opening shall be min 0 in. (point contact) to max 1 in. Duct to be rigidly supported on both sides of floor-ceiling assembly.
3. Fill, Void or Cavity Materials* — Caulk — Min 3/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. thickness of fill material applied within the annulus, flush with bottom surface of ceiling or top plate. An additional min 1/4 in. crown of fill material applied to perimeter of duct at

System No. F-C-7001
(Formerly System No. 169)
F Rating — 1 Hr
T Rating — 1/2 Hr



1. **Floor-Ceiling Assembly**—The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in Design Nos. L505, L511 or L536 in the UL Fire Resistance Directory. **The F and T Ratings of the firestop system is equal to the rating of the floor-ceiling assembly.** The T Rating of the firestop system is 1 and 1-1/2 hr for 1 and 2 hr rated floor-ceiling assemblies, respectively. The general construction features of the floor-ceiling assembly are summarized below:
   A. **Flooring System**—Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Max diam of opening is 1-1/2 in.
   B. **Wood Joists***—For 1 hr fire-rated floor-ceiling assemblies, nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members*** with bridging as required and with ends firestopped. For 2 hr fire-rated floor-ceiling assemblies, nom 2 by 10 in. lumber joists spaced 16 in. OC with nom 1 by 3 in. lumber bridging and with ends firestopped.
   C. **Wallboard, Gypsum***—Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. Max diam of opening is 1-1/2 in.

1.1 **Chase Wall (Optional not shown)**— The through penetrants (Item No. 2) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall having a fire rating consistent with that of the floor-ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs**—Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
   B. **Sole Plate**—Nom 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted.
   C. **Top Plate**—The double top plate shall consist of two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Max diam of opening is 4-1/2 in.
   D. **Wallboard, Gypsum***—Thickness, type, number of layers and fasteners shall be as specified in Individual Wall and Partition Design.

2. **Cables**—Max three conductor with ground No. 12 AWG (or smaller) NM cables with polyvinyl chloride insulation and jacket materials. Min one cable to max seven cables tightly bundled to be installed eccentrically or concentrically in opening with annular space between the cables and the periphery of the opening of min 0 in. (point contact) to max 1-1/4 in. Cables to be rigidly supported on both sides of floor-Ceiling assembly.
3. **Fill, Void or Cavity Materials*—Caulk or Putty**—Min 3/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. or 1-1/4 in. thickness of fill material, for 1 and 2 hr rated assemblies, respectively, applied within the annulus, flush with bottom surface of ceiling or top plate. An additional min 1/4 in. crown of fill material applied to perimeter of penetrant at its egress from the top of flooring and underside of ceiling or from top of sole plate and underside of top plate.

Minnesota Mining & Mfg. Co.—CP 25WB+ Caulk

*Bearing the UL Classification Marking

**Bearing the UL Listing Mark

System No. F-C-7001 continued

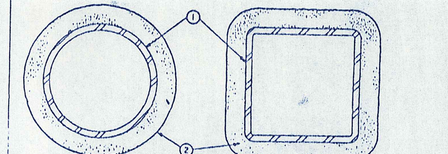
its egress from the top of flooring and underside of ceiling or from top of sole plate and underside of top plate.

MINNESOTA MINING & MFG CO —CP 25WB+

*Bearing the UL Classification Marking

FIRE RESISTIVE COLUMNS

Design No. X827
Ratings—1, 1-1/2, 2, 3 and 4 Hr.



1. **Steel Pipe or Tube Column**—Steel circular pipe (SP) with diameter (ID) ranging from a minimum of 3 in. to a maximum of 32 in. with a minimum wall thickness of 3/16 in.
   Steel square or rectangular tube (ST) with outside wall dimensions ranging from minimum 3 in. to a maximum of 36 in. and a minimum wall thickness of 3/16 in.
   The A/P ratio of the steel pipe or tube (see Item 2) shall range from 0.18 to 2.0.
2. **Spray-Applied Fire Resistive Materials***—Applied by spraying with water in one or more untamped coats at the thickness shown in the table below to steel surfaces which are free of dirt, oil or scale. Use of adhesive is optional. Minimum average untamped density is 13 pcf with minimum ind untamped density of 11 pcf for Types II and D-C/F. Minimum average untamped density is 14 pcf with minimum ind untamped density of 12 pcf for Type I. Min avg and min ind untamped densities of 22 and 19 pcf, respectively, for Type HP. Tamping is optional. For method of density determination refer to Design Information Section.
   The thickness of sprayed fire resistive materials (Item 1) required for rating periods of 1 h, 1-1/2 h, 2 h, 3 h, 4 h of contour sprayed columns may be determined by the equation:

$$h = \frac{R - 0.38}{3.58\ (A/P)}$$

   Where:
   R = the hourly rating (hrs).
   h = the thickness of protection material, min 0.35 - max 3.50 in.
   A = the cross sectional area (sq in.)
   P = the heated perimeter (in.)
   The A/P ratio of a circular pipe is determined by:

$$A/P = \frac{t(d-t)}{d}$$

   Where:
   d = the outer diameter of the pipe (in.)
   t = the wall thickness of the pipe (in.)
   The A/P ratio of a rectangular tube is determined by:

$$A/P = \frac{t\ (a+2b-2t)}{a+b}$$

   Where:
   a = the outer width of the tube (in.)
   b = the outer length of the tube (in.)
   t = the wall thickness of the tube (in.)
   As an alternative to the equation, the minimum thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings may be determined from the table below:

Column Size	A/P	1 h	1-1/2 h	2 h	3 h	4 h
SP 3x0.188	0.18	1	1-3/4	2-9/16	—	—
SP 3x0.188	0.18	1	1-3/4	2-9/16	—	—
SP 4x0.237	0.22	13/16	1-7/16	2-3/16	3-3/8	—
ST 4x4x0.188	0.18	1	1-9/16	2-3/16	4	—
ST 4x4x0.375	0.34	9/16	13/16	1-1/4	2-5/16	3-1/4
ST 36x24x0.5	0.49	3/8	7/16	11/16	1-1/8	1-5/8

   CEL Group Ltd.—Type D-C/F or Type II. Investigated for exterior use. Type EBS or Type X adhesive/sealer optional.
   Isolatek International—Type I, HP, D-C/F or II. Type D-C/F, HP or II investigated for exterior use. Type EBS or Type X adhesive/sealer optional.
3. **Metal Lath**—(Optional for contour application)—3.4 lb/sq yd galvanized painted expanded metal lath. Lath shall be lapped 1 in. and tied together with No. 13 SWG galvanized steel wire spaced vertically 6 in. O.C. or alternately, attached with No. 24 MSG spring clips, 1/2 in. wide, pressed onto column flanges, vertically spaced 6 in. O.C.
4. **Steel Column**—Min. sizes as shown above in Item 1.

*Bearing the UL Classification Marking

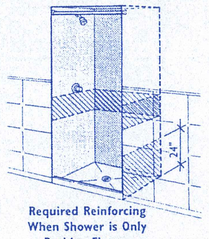
FIRE RESISTIVE BEAMS

Design No. X829
Ratings—1, 1-1/2, 2, 3, 4 h.

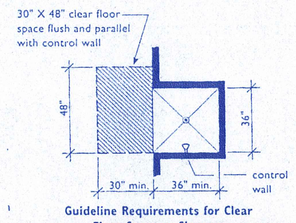
RECEIVED
Town of Frisco
Building Department
Date
Plan Review #

REVISIONS
Plan Check Corrections 11-28-00

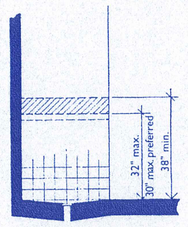
00-106



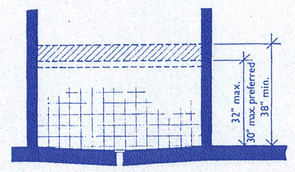
Required Reinforcing When Shower is Only Bathing Fixture



Guideline Requirements for Clear Floor Space at Showers



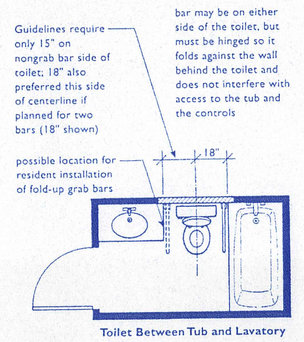
Side



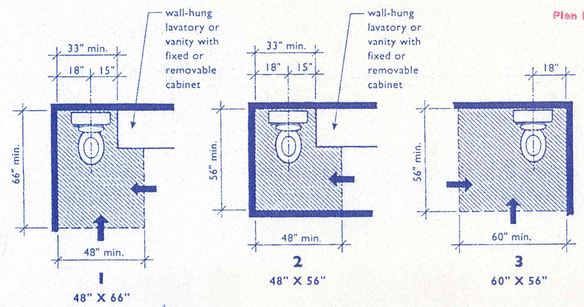
Back

Minimum Reinforcing for Grab Bars in Showers

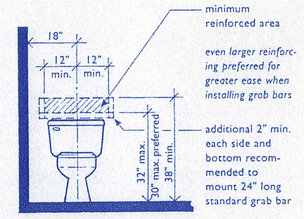
SHOWER



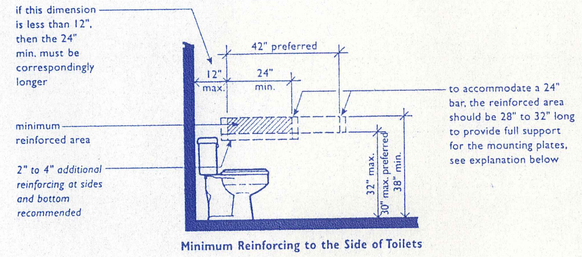
Toilet Between Tub and Lavatory



Clear Floor Space at Toilets
(One of the Three Must be Provided in "A" and "B" Bathrooms)

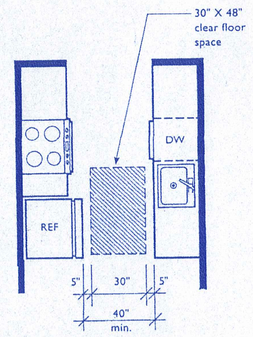


Minimum Reinforcing Behind Toilets Located Beside a Wall



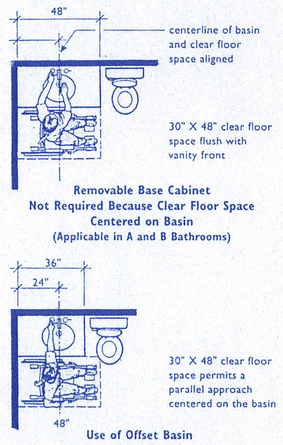
Minimum Reinforcing to the Side of Toilets

WATER CLOSET



40" Minimum Clearance Between all Counters, Base Cabinets, Appliances, and Walls

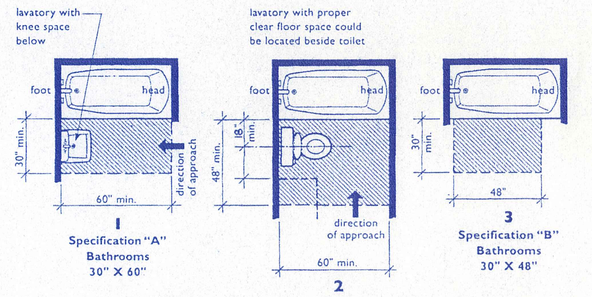
KITCHEN



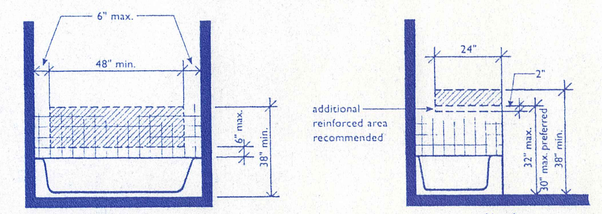
Removable Base Cabinet Not Required Because Clear Floor Space Centered on Basin (Applicable in A and B Bathrooms)

Use of Offset Basin to Reduce Lavatory Length (Applicable in A and B Bathrooms)

LAVATORY / VANITY



Clear Floor Space at Bathtubs/Showers

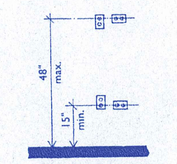


Back Wall

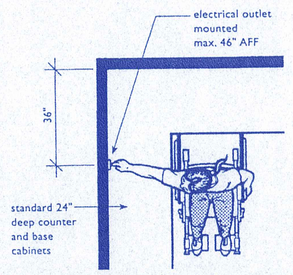
Head
Foot (Control Wall)

Reinforced Areas Required by the Guidelines at Conventional Bathtubs

BATHTUB

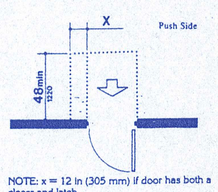


Mounting Height for Outlets



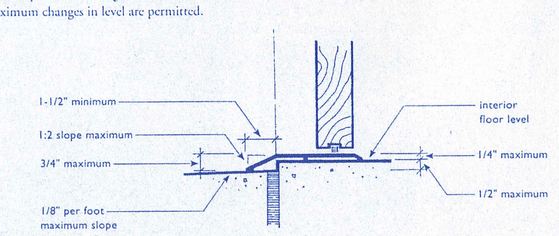
Electrical Outlets on Walls Over Cabinets Must Be a Minimum of 36" from a Corner

ELEC OUTLETS AND CONTROLS



NOTE: x = 12 in (305 mm) if door has both a closer and latch.

Swinging Primary Entry Door at Concrete Landing
showing allowable changes in level at primary entry doors with direct exterior access onto concrete or other impervious landing surface where 1/2-inch maximum changes in level are permitted.



MAIN ENTRY DOOR

TYPE B DWELLING UNIT REFERENCE DRAWINGS

MARKETPLACE ARCHITECTS L L C
707 East Anemone Trail
PO Box 6318 Dillon, CO 80435
970.468.8583 Fax 970.262.0565
architec@colorado.net

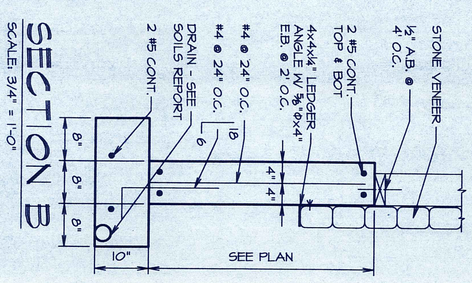
STATE OF COLORADO
GERALD W. DAVEN
26731
REGISTERED ARCHITECT

DRAKE LANDING
BUILDING C
Frisco, Colorado

DATE	10-26-00
SCALE	
DRAWN BY	MS
JOB NO	
SHEET	AD.4

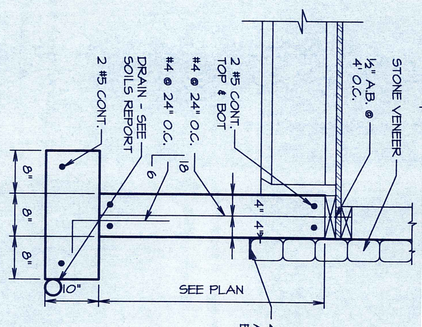
SECTION B

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



SECTION A

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



FOOTING PAD SCHEDULE

MARK	SIZE	REINFORCING
(A)	3'-0" x 3'-0" x 10"	4 #5 E.W.
(B)	3'-6" x 3'-6" x 10"	5 #5 E.W.
(C)	4'-0" x 4'-0" x 10"	6 #5 E.W.
(D)	4'-6" x 4'-6" x 10"	7 #5 E.W.
(E)	5'-0" x 5'-0" x 12"	8 #5 E.W.
(F)	5'-6" x 5'-6" x 12"	9 #5 E.W.
(G)	6'-0" x 6'-0" x 14"	9 #5 E.W.
(H)	7'-0" x 7'-0" x 14"	10 #5 E.W.

FOUNDATION PLAN

1/4" = 1'-0"

NOTE:

ELEVATION 100'-0" = U.S.G.S. DATUM 9036.6' ELEVATION

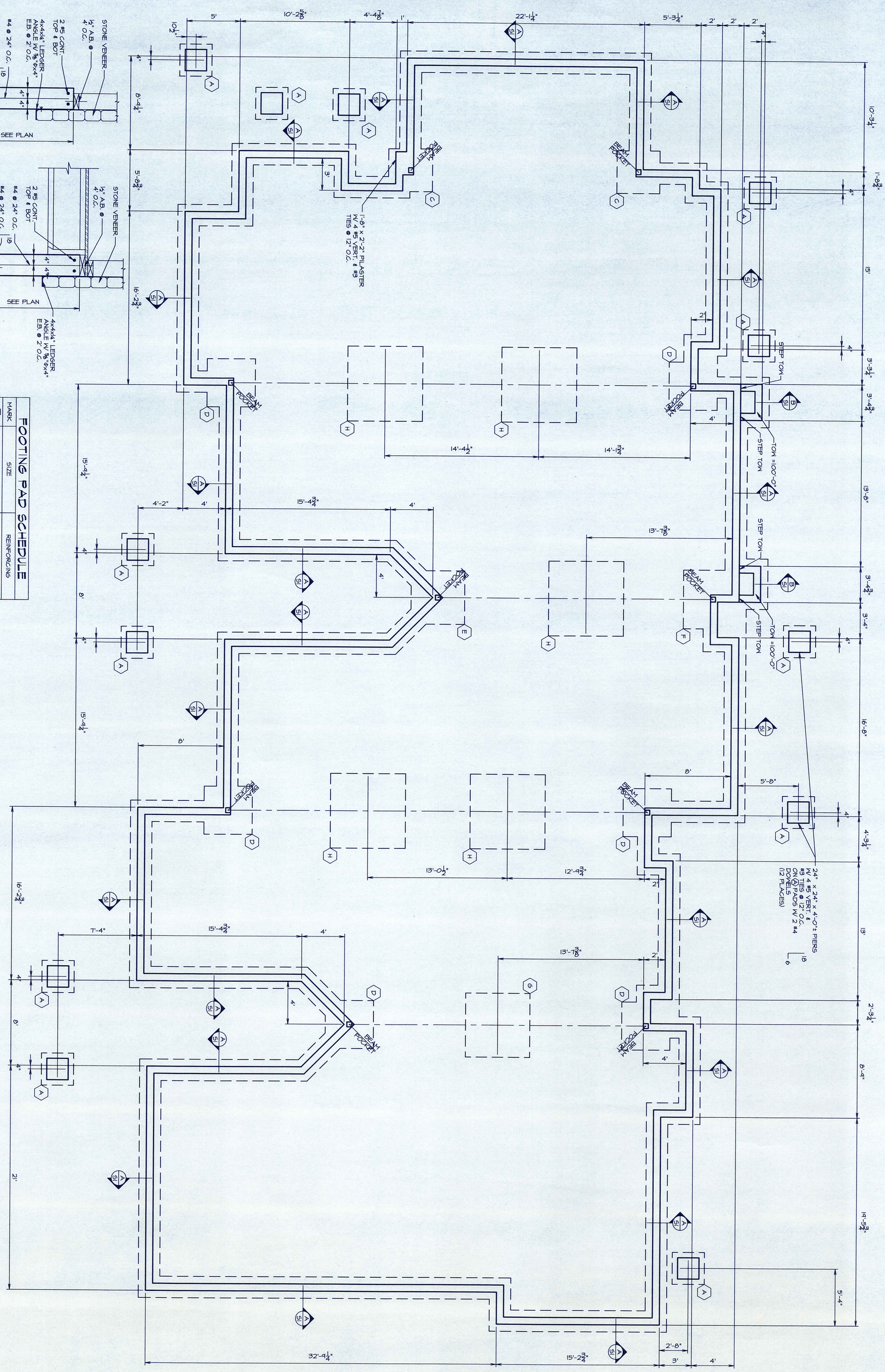
ALL EXTERIOR WALL FOOTINGS ARE 10" x 24" TYPICAL UNLESS NOTED OTHERWISE

INDICATES A STEP IN THE FOOTING

TOP OF WALL ELEVATION = 99'-4¾" TYPICAL THROUGHOUT.

TOP OF FOOTING ELEVATION = 98'-0" TYPICAL THROUGHOUT.

ALL FOOTINGS TO BEAR ON UNDISTURBED NATURAL GRANULAR SOILS.



00-106

DRAKE LANDING

BUILDING 'C'

FRISCO, COLORADO

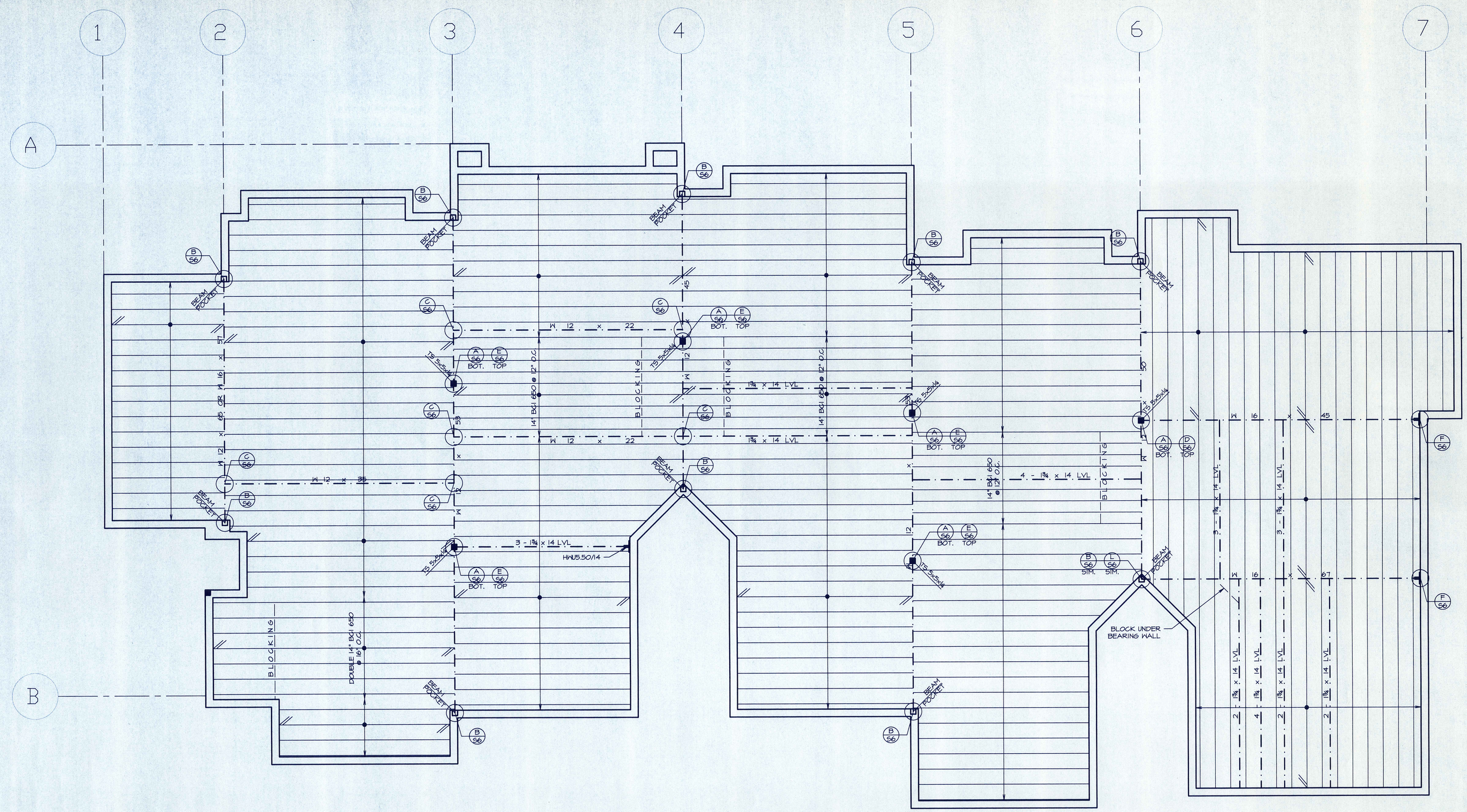
SHEET NUMBER: S1

boyle engineering, inc.
143 e. meadow dr.
crossroads shopping center
vail, colorado 81657
970/476-2170

TIMOTHY MICHAEL BOYLE REGISTERED 14965 PROFESSIONAL ENGINEER STATE OF COLORADO

Plan Review

DATE: 08/28/00
FILE: DRAKEC-S1
DRAWN: RJB
REVISED: 10/27/00
REVISED:



MAIN LEVEL FRAMING PLAN

1/4" = 1'-0"

NOTE:

INDICATES DIRECTION OF 11 7/8" BCI 90 XL JOISTS @ 16" O.C. TYPICAL UNLESS NOTED OTHERWISE.
HANG JOISTS FROM EXTERIOR WALL MUDSILLS WITH IT14 HANGERS. BEAR JOISTS ON 2x6 PLATE RAMSET TO STEEL BEAMS.

DATE: 10/27/00
FILE: drakec-s2
DRAWN: RJB
REVISED:
REVISED:

90T-00

Approved
Building Department
Date
Plan Review dr.

boyle engineering, inc.
143 s. meadow dr.
crossroads shopping center
vail, colorado 81657
970/476-2110

SHEET NUMBER
S2

DRAKE LANDING
BUILDING 'C'
FRISCO, COLORADO

DATE: 10/27/00
FILE: drake-s3
DRAWN: RJB
REVISED: 11/15/00
REVISED:

RECEIVED
Town of Frisco
Building Department
Date
Plan Review #:

00-106

boyle engineering, inc.
143 e. meadow dr.
cross-creek shopping center
vail, colorado 81657
970.476-2170

SHEET NUMBER
S3

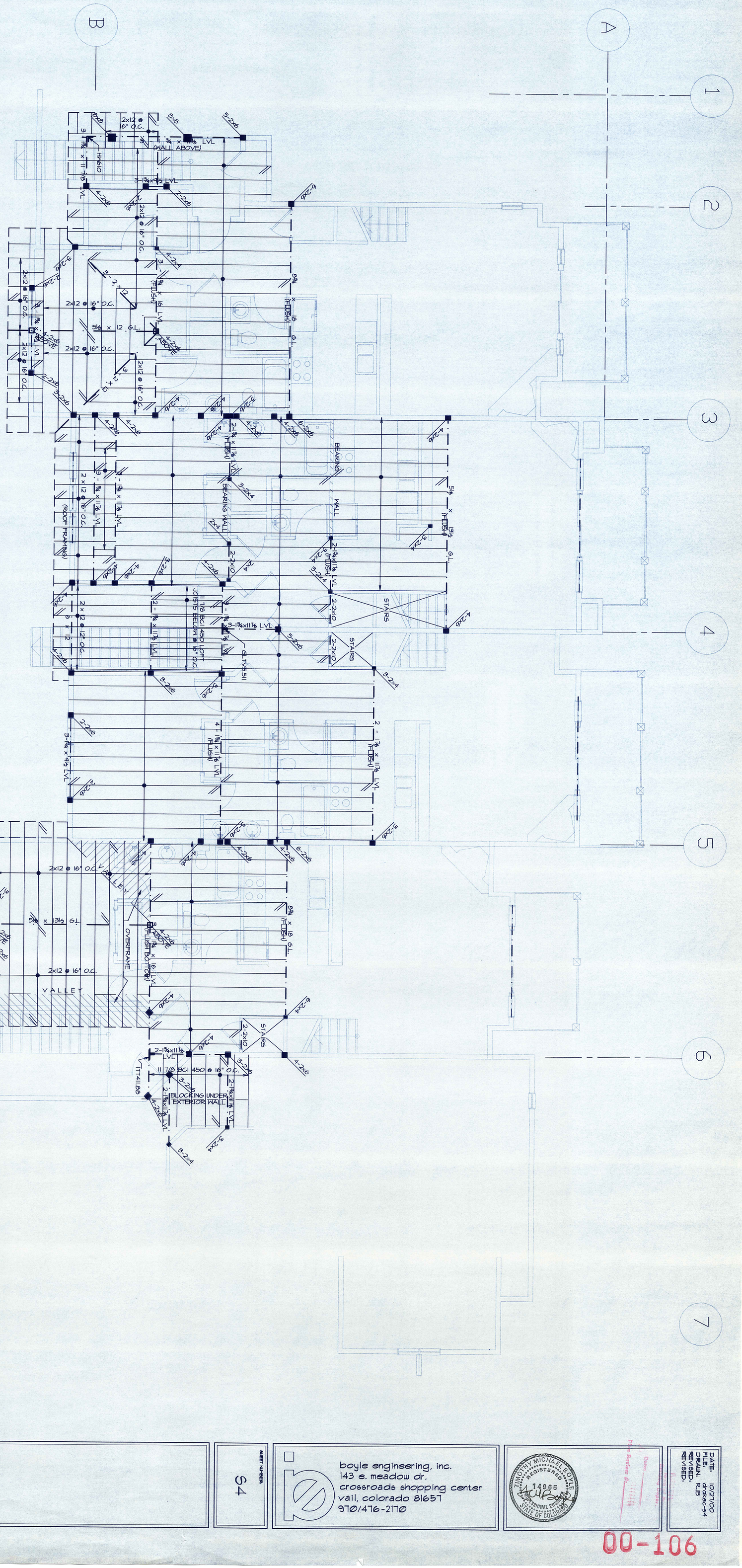
UPPER LEVEL & LOW ROOF FRAMING PLAN

1/4" = 1'-0"

NOTE:

INDICATES DIRECTION OF 2 x 12 @ 16" O.C. RAFTERS. TYPICAL UNLESS NOTED OTHERWISE.
ALL EXTERIOR WALL HEADERS ARE 3 - 2 x 10 W/ SINGLE 2x6 TRIMMERS TYPICAL UNLESS NOTED OTHERWISE

DRAKE LANDING
BUILDING 'C'
FRISCO, COLORADO



LOFT & LOW ROOF FRAMING PLAN

1/4" = 1'-0"

NOTE:

INDICATES DIRECTION OF 11⅞ BCI 450 JOISTS @ 16" O.C.. TYPICAL UNLESS NOTED OTHERWISE.
ALL EXTERIOR WALL HEADERS ARE 3 - 2 x 10 W/ SINGLE 2x6 TRIMMERS TYPICAL UNLESS NOTED OTHERWISE
HANG JOISTS FROM FLUSH BEAMS WITH IT11.88 HANGERS TYPICAL

DRAKE LANDING
BUILDING 'C'
FRISCO, COLORADO

SHEET NUMBER
S4

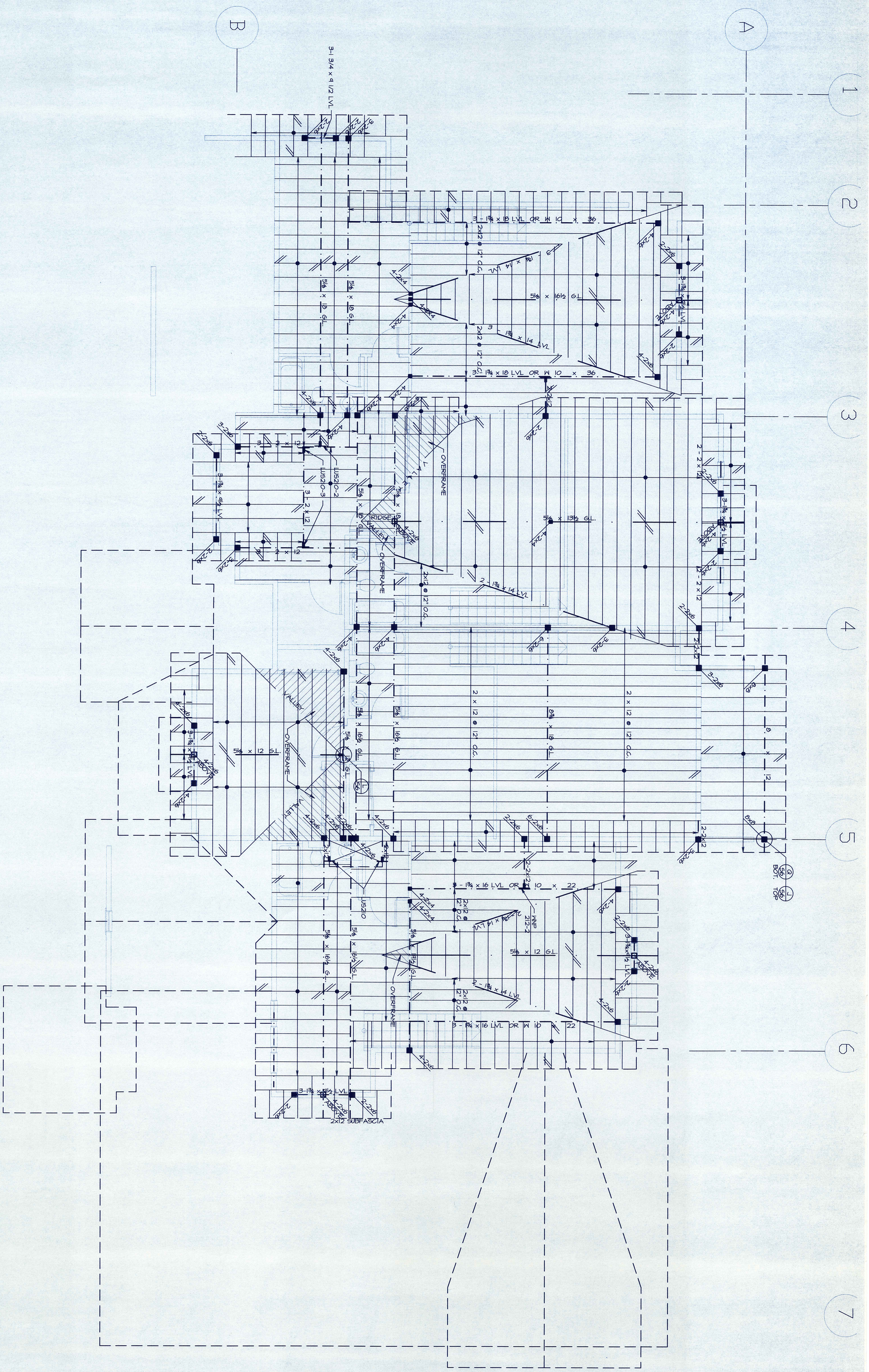
boyle engineering, inc.
143 e. meadow dr.
crossroads shopping center
vail, colorado 81657
970/476-2170

TIMOTHY MICHAEL BOYLE
REGISTERED
14965
PROFESSIONAL ENGINEER
STATE OF COLORADO

Plan Review

DATE: 10/27/00
FILE: drake-s4
DRAWN: RJB
REVISED:
REVISED:

00-106



HIGH ROOF FRAMING PLAN

1/4" = 1'-0"

NOTE:

INDICATES DIRECTION OF 2 x 12 @ 16" O.C. RAFTERS, TYPICAL UNLESS NOTED OTHERWISE.
ALL EXTERIOR WALL HEADERS ARE 3 - 2 x 10 W/ SINGLE 2x6 TRIMMERS TYPICAL UNLESS NOTED OTHERWISE

DRAKE LANDING
BUILDING 'C'
FRISCO, COLORADO

SHEET NUMBER
S5

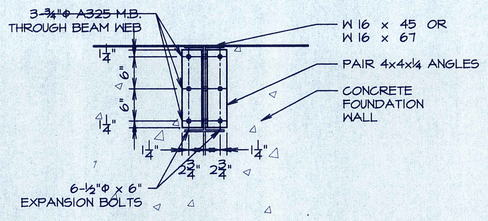
boyle engineering, inc.
143 e. meadow dr.
crossroads shopping center
vail, colorado 81657
970/476-2170

TIMOTHY MICHAEL BOYLE
REGISTERED
14965
PROFESSIONAL ENGINEER
STATE OF COLORADO

Plan Review #1
Dates
Town of Frisco
Building Department

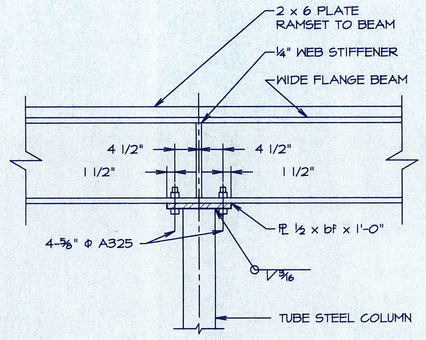
DATE: 10/27/00
FILE: drake-s5
DRAWN: RJB
REVISED:
REVISED:

00-106



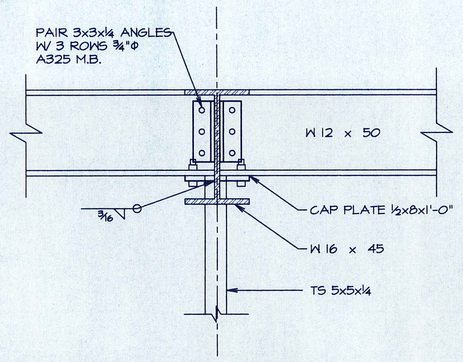
DETAIL F

SCALE 3/4"=1'-0"



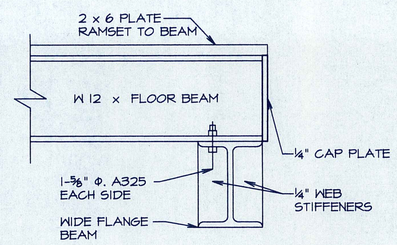
DETAIL E

SCALE ¾"=1'-0"



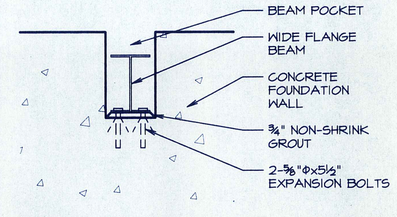
DETAIL D

SCALE 1"=1'-0"



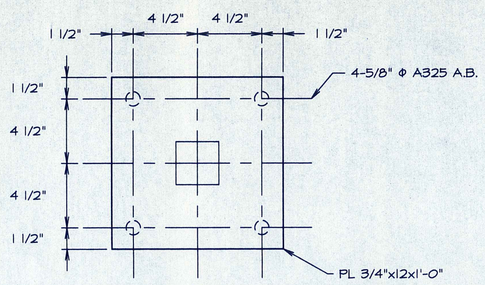
DETAIL C

SCALE 1½"=1'-0"

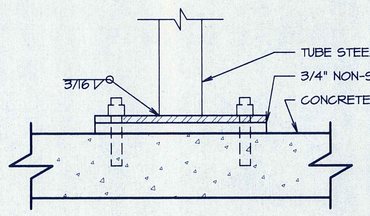


DETAIL B

SCALE 3/4"=1'-0"



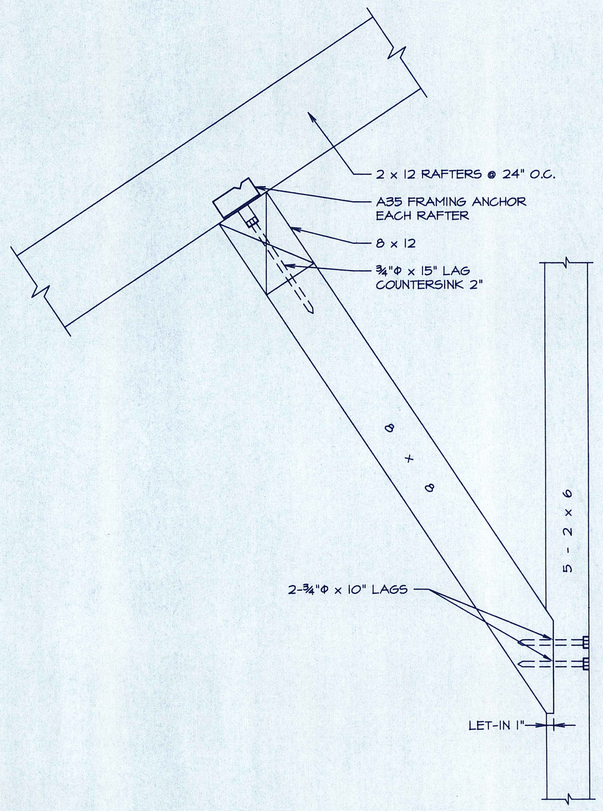
PLAN



ELEVATION

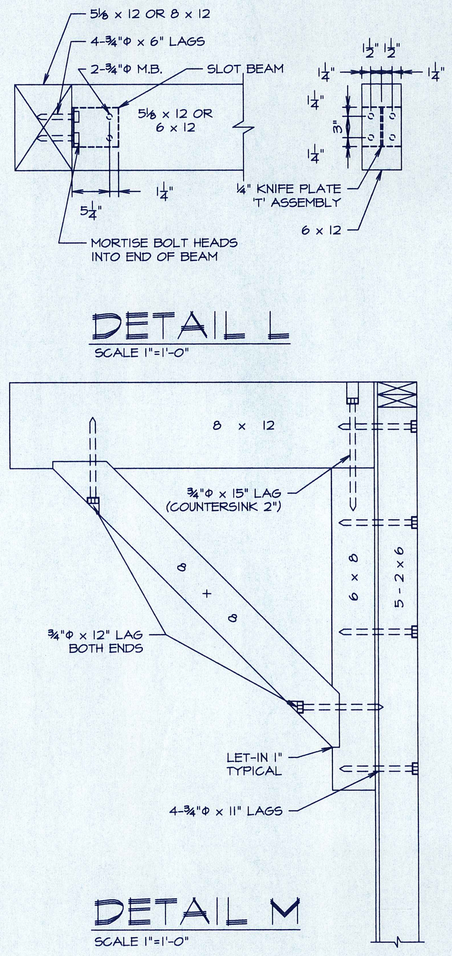
DETAIL A

SCALE 2"=1'-0"



DETAIL N

SCALE 1"=1'-0"

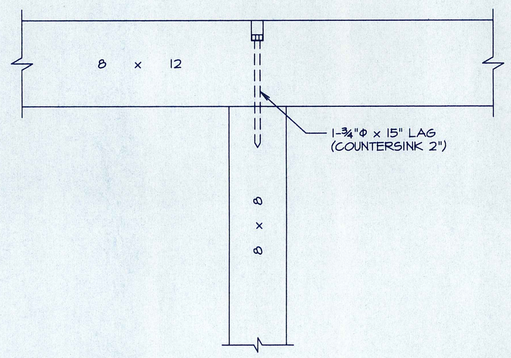


DETAIL L

SCALE 1"=1'-0"

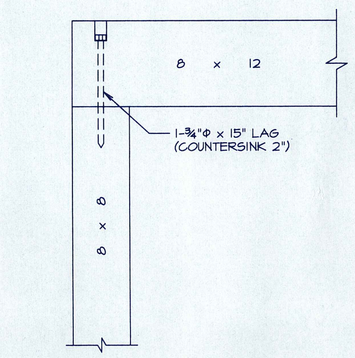
DETAIL M

SCALE 1"=1'-0"



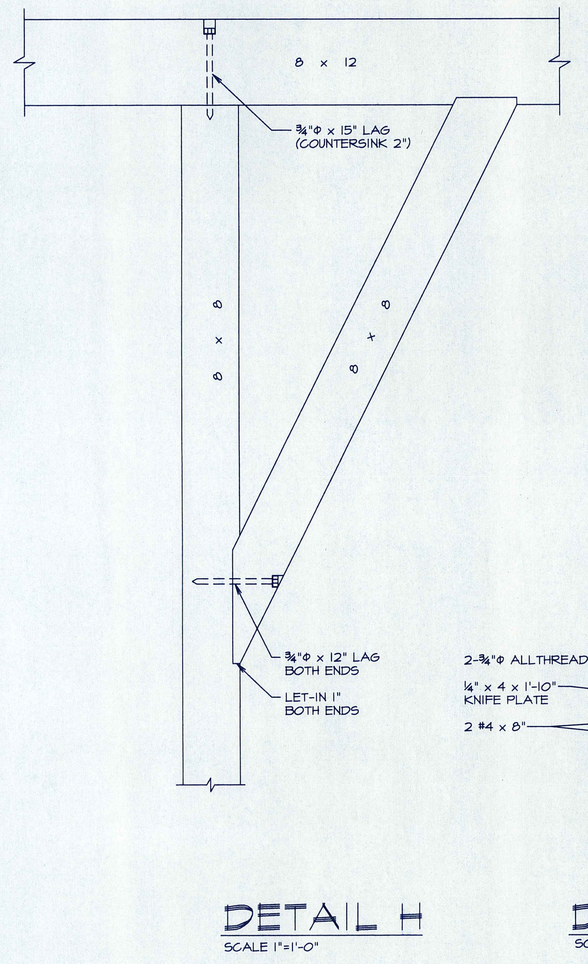
DETAIL J

SCALE 1"=1'-0"



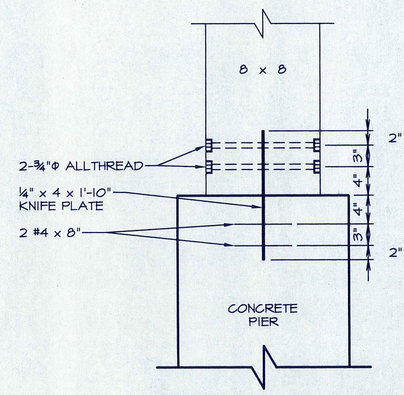
DETAIL K

SCALE 1"=1'-0"



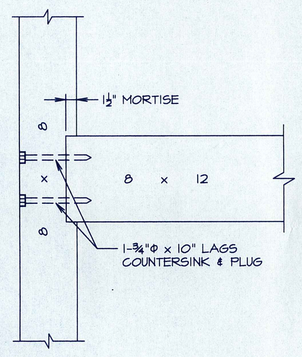
DETAIL H

SCALE 1"=1'-0"



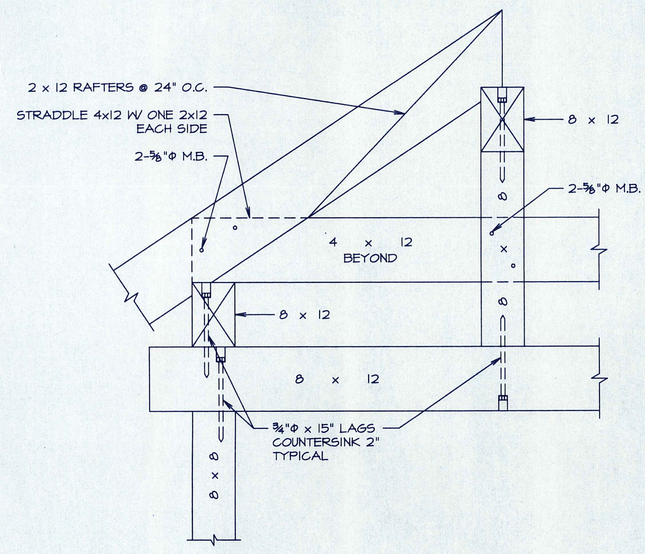
DETAIL G

SCALE 1"=1'-0"



DETAIL Q

SCALE 1"=1'-0"



DETAIL P

SCALE 3/4"=1'-0"

GENERAL NOTES

This structure has been designed to meet the requirements of the 1997 Uniform Building Code with amendments as adopted by the Town of Frisco.

All omissions or conflicts between various elements of the working drawings and/or specifications shall be brought to the attention of the Structural Engineer before proceeding with any work so involved. The General Contractor shall verify all dimensions and conditions at the job site and shall be responsible for the means, methods, techniques, sequences and procedures associated with this project. Furthermore, he shall be responsible for coordination of all work and materials including those furnished by subcontractors. The Structural Engineer shall be contacted during the construction phase to make the job site inspections necessary to confirm that the actual field conditions are consistenet with the design assumptions and that the construction is proceeding according to the plans and specifications.

Live Loads Used In Design:

Roof	30 psf
Residential Floors	40 psf
Decks	60 psf
Common Stairs	100 psf
Earthquake	Zone 1 UBC
Wind	80 mph, Exposure B

The foundation design for this residence is based upon Subsoil Study for Foundation Design No. 400 134 prepared by H-P Geotech on June 1, 2000. The Soils Engineer shall be contacted during excavation to inspect the site and confirm that conditions are consistent with this investigation. The General Contractor should review the Soils Engineer's report and follow its recommendations for excavation, backfilling, grading and drainage systems.

SPECIFICATIONS

All 2x dimensional framing lumber shall be #2 Doug-Fir or better. All bearing walls and exterior walls to be framed of 2 x 6 studs at 16" on center.

All T.J.I joists to be manufactured by TrusJoist MacMillan.

All micro-lam's to conform to the allowable stress requirements for a 1¾" 1.8 DF Micro-lam LVL.

All Glue-lam beams to conform to the allowable stress requirements for a F24-V4 combination beam.

All connection hardware to be by the Simpson Company.

All floor decking to be ¾" C-D Int. APA 48/24 t&g plywood. Glue decking to joists with PL400 and nail with 10d @ 6" o.c. at panel edges and 12" o.c. in the field.

All roof decking to be ⅞" C-C ext APA 32/16 plywood.

All exterior wall sheathing to be ½" O.S.B. Nail w/8d @ 4" o.c. at panel edges & @ 12" o.c. in the field.

All steel bolts shall conform to ASTM A325 specifications.

All tube steel columns shall conform to ASTM A500 specifications.

All steel beams, plate and angles shall conform to ASTM A36 specifications.

All concrete to attain a compressive strength of 3000 psi in 28 days.

All reinforcing bars to be Grade 60.

All masonry block units shall conform to ASTM specification C90, Grade N (minimum fm=1350 psi)

All mortar shall conform to ASTM specification C270, Type S

DATE: 10/21/00
FILE: drakec-s6
DRAWN: RJB
REVISED:
REVISED:

Building Department
Date Issued: 11-13-00
Plan Review @ ____

RICHARD E. BOYLE 14965 REGISTERED PROFESSIONAL ENGINEER STATE OF COLORADO

901-00

boyle engineering, inc.
143 e. meadow dr.
vail, colorado 81657
970/476-2170

SHEET NUMBER
S6

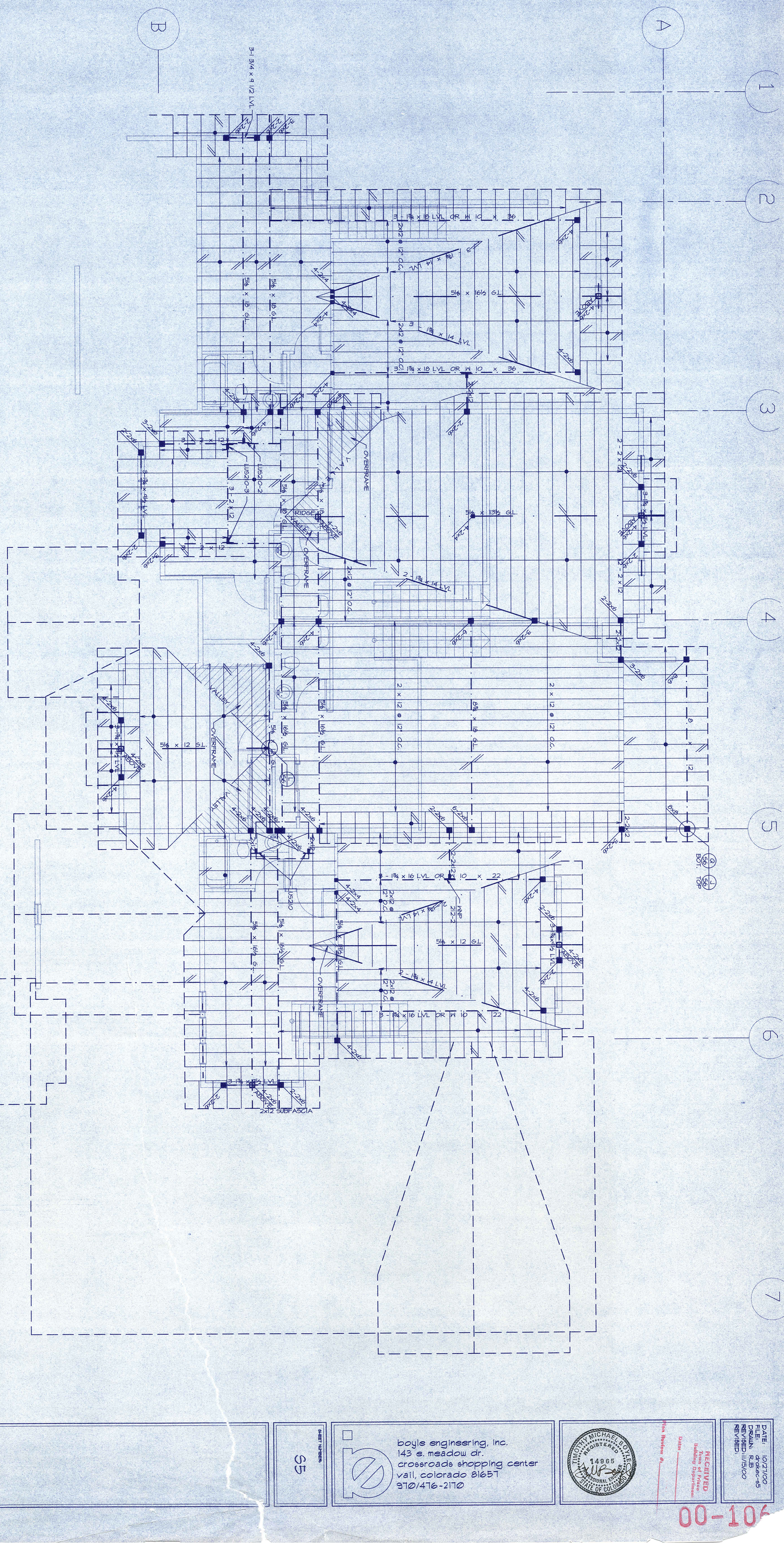
DRAKE LANDING
BUILDING 'C'
FRISCO, COLORADO

HIGH ROOF FRAMING PLAN

1/4" = 1'-0"

NOTE:

INDICATES DIRECTION OF 2 x 12 @ 16" O.C. RAFTERS. TYPICAL UNLESS NOTED OTHERWISE.
ALL EXTERIOR WALL HEADERS ARE 3 - 2 x 10 W/ SINGLE 2x6 TRIMMERS TYPICAL UNLESS NOTED OTHERWISE



DRAKE LANDING
BUILDING 'C'
FRISCO, COLORADO

SHEET NUMBER S5

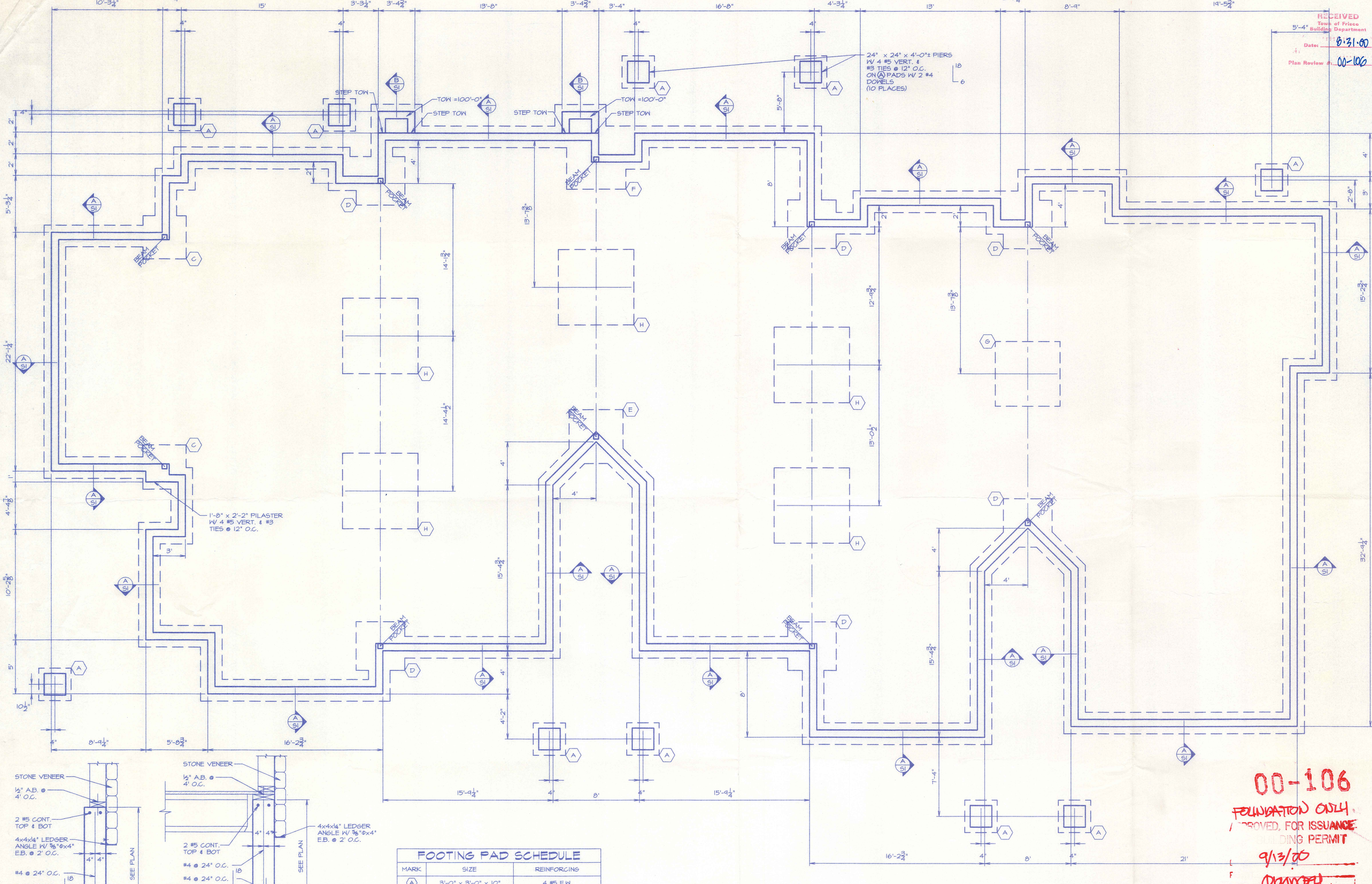
boyle engineering, inc.
143 e. meadow dr.
crossroads shopping center
vail, colorado 81657
970/476-2170

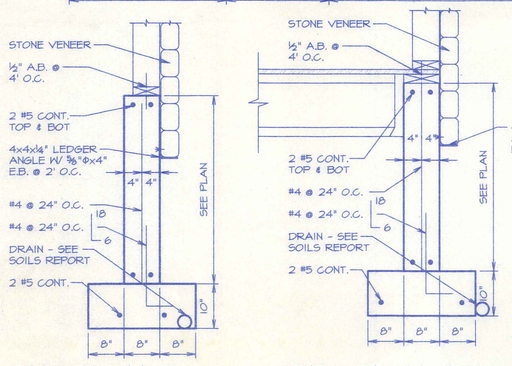
TIMOTHY MICHAEL BOYLE
REGISTERED
14965
PROFESSIONAL ENGINEER
STATE OF COLORADO

RECEIVED
Town of Frisco
Building Department
Date
Plan Review #

DATE: 10/27/00
FILE: drakec-s5
DRAWN: RJB
REVISED: 11/15/00
REVISED:

00-106





SECTION B

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

SECTION A

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

FOOTING PAD SCHEDULE		
MARK	SIZE	REINFORCING
(A)	3'-0" x 3'-0" x 10"	4 #5 E.W.
(B)	3'-6" x 3'-6" x 10"	5 #5 E.W.
(C)	4'-0" x 4'-0" x 10"	6 #5 E.W.
(D)	4'-6" x 4'-6" x 10"	7 #5 E.W.
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(F)	5'-6" x 5'-6" x 12"	9 #5 E.W.
(G)	6'-0" x 6'-0" x 14"	9 #5 E.W.
(H)	7'-0" x 7'-0" x 14"	10 #5 E.W.

FOUNDATION PLAN

1/4" = 1'-0"

NOTE:

ELEVATION 100'-0" = U.S.G.S. DATUM 9036.6' ELEVATION
ALL EXTERIOR WALL FOOTINGS ARE 10" x 24" TYPICAL UNLESS NOTED OTHERWISE
INDICATES A STEP IN THE FOOTING
TOP OF WALL ELEVATION = 99'-9¾" TYPICAL THROUGHOUT.
TOP OF FOOTING ELEVATION = 96'-0" TYPICAL THROUGHOUT.
ALL FOOTINGS TO BEAR ON UNDISTURBED NATURAL GRANULAR SOILS.

RECEIVED
Town of Frisco
Building Department
Date: 8.31.00
Plan Review #: 00-106

00-106
FOUNDATION ONLY
APPROVED, FOR ISSUANCE
OF BUILDING PERMIT
9/13/00
Approved

DATE: 08/28/00
FILE: DRAKEC-S1
DRAWN: RJB
REVISED:
REVISED:

TIMOTHY MICHAEL BOYLE
REGISTERED
14865
PROFESSIONAL ENGINEER
STATE OF COLORADO

boyle engineering, inc.
143 e. meadow dr.
crossroads shopping center
vail, colorado 81657
970/476-2110

SHEET NUMBER:
S1

DRAKE LANDING
BUILDING 'C'
FRISCO, COLORADO

PROGRAM SUMMARY

TOTAL GROSS FLOOR AREA = 83,595 SF (including Garages)

16,984 SF TOTAL COMMERCIAL FLOOR AREA
52,813 SF TOTAL RESIDENTIAL FLOOR AREA
11,858 SF GARAGE FLOOR AREA
(3) COMMON AREAS (each to include seating, a public art piece, and special seasonal plantings.)

COMMERCIAL USES

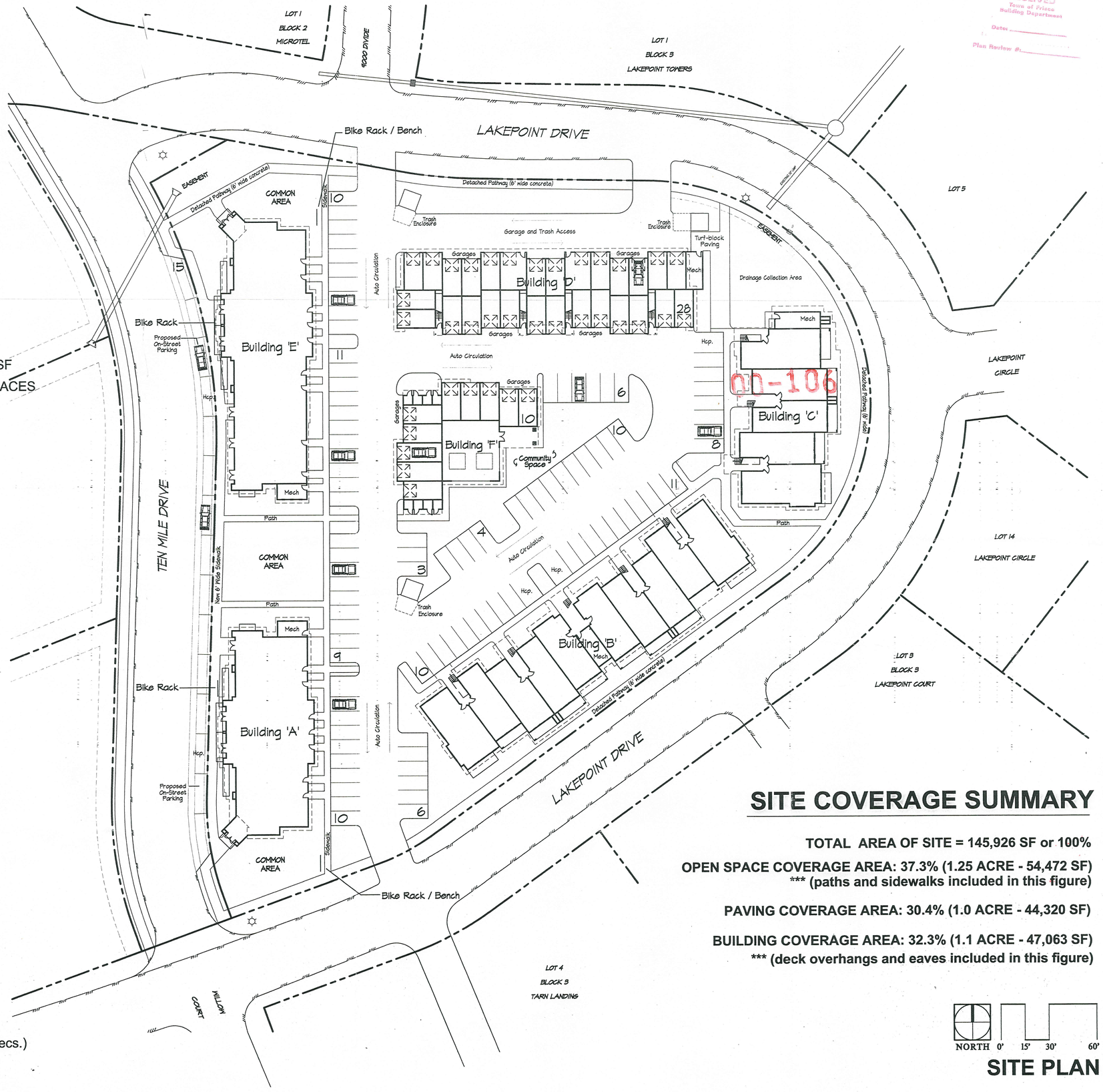
BUILDING 'A' - APPROX. 7,551 SF
(6,483 SF Ground Floor; 1068 SF Upper Level)
BUILDING 'E' - APPROX. 9,433 SF
(8,365 SF Ground Floor; 1068 SF Upper Level)
COMMERCIAL PARKING: (45) SPACES REQUIRED @ 1 PER 350SF
(30) OFF- STREET SURFACE SPACES PROVIDED + (15) ON-STREET SPACES

RESIDENTIAL USES

BUILDING 'A' - APPROX. 6,582 SF (5 UNITS) *(Upper Level - 4 Units - 1 Bedroom w/ Loft ; 1 Units - 1 Bedroom)*
BUILDING 'E' - APPROX. 9,378SF (7 UNITS) *(Upper Level - 6 Units - 1 Bedroom w/ Loft ; 1 Units - 1 Bedroom)*
BUILDING 'B' - APPROX. 19,900 (18 UNITS)
(Lower Level - 2 Units - 2 Bedroom ; 8 Units - 1 Bedroom)
(Upper Level - 8 Units - 1 Bedroom w/ Loft)
BUILDING 'C' - APPROX. 10,020 SF (9 UNITS)
(Lower Level - 1 Unit - 2 Bedroom ; 4 Units - 1 Bedroom)
(Upper Level - 4 Units - 1 Bedroom w/ Loft)
BUILDING 'D' - APPROX. 6,933 SF (7 UNITS)
(Upper Level above Garages -
5 Units - 1 Bedroom w/ Loft; 2 Units - 2 Bedroom w/ Loft)
BUILDING 'F' - APPROX. 504 SF (Spas) ; 288 SF (Storage)

RESIDENTIAL UNIT MIX: (46) UNITS TOTAL
(3) 2 Bedroom
(2) 2 Bedroom w/ Loft
(27) 1 Bedroom w/ Loft
(14) 1 Bedroom

RESIDENTIAL PARKING: (103) SPACES REQUIRED:
(38) GARAGE SPACES PROVIDED (24' X 11.5' EA. TYP.)
(65) SURFACE PARKING SPACES PROVIDED
* These calculations assume (15) on-street parking spaces supplement the total parking requirement for the project. Under this scenario, the residential parking requirement is fully met.
BIKE PARKING - (30) bike spaces provided in
(4) bike racks. (2) Combination Bike Rack Benches with (4) spaces each.
(2) Heavy Duty Winder Rack with (11) spaces each (please see pictures / specs.)



SITE COVERAGE SUMMARY

TOTAL AREA OF SITE = 145,926 SF or 100%

OPEN SPACE COVERAGE AREA: 37.3% (1.25 ACRE - 54,472 SF)
***** (paths and sidewalks included in this figure)**

PAVING COVERAGE AREA: 30.4% (1.0 ACRE - 44,320 SF)

BUILDING COVERAGE AREA: 32.3% (1.1 ACRE - 47,063 SF)
***** (deck overhangs and eaves included in this figure)**

NORTH 0' 15' 30' 60'

SITE PLAN

RECEIVED
Town of Frisco
Building Department
Date: _____
Plan Review #: _____

09-106

MARKETPLACE ARCHITECTS
115 Village Place
Post Office Box 6318
Dillon, Colorado 80435
(970) 468-8583 phone
(970) 468-2620565 fax

DESIGNWORKSHOP
Landscape Architecture • Land Planning • Urban Design
933 S. FRONTAGE RD. SUITE 102 VAIL, COLORADO 81657
PHONE: 970-476-8408 FACSIMILE: 970-476-8409

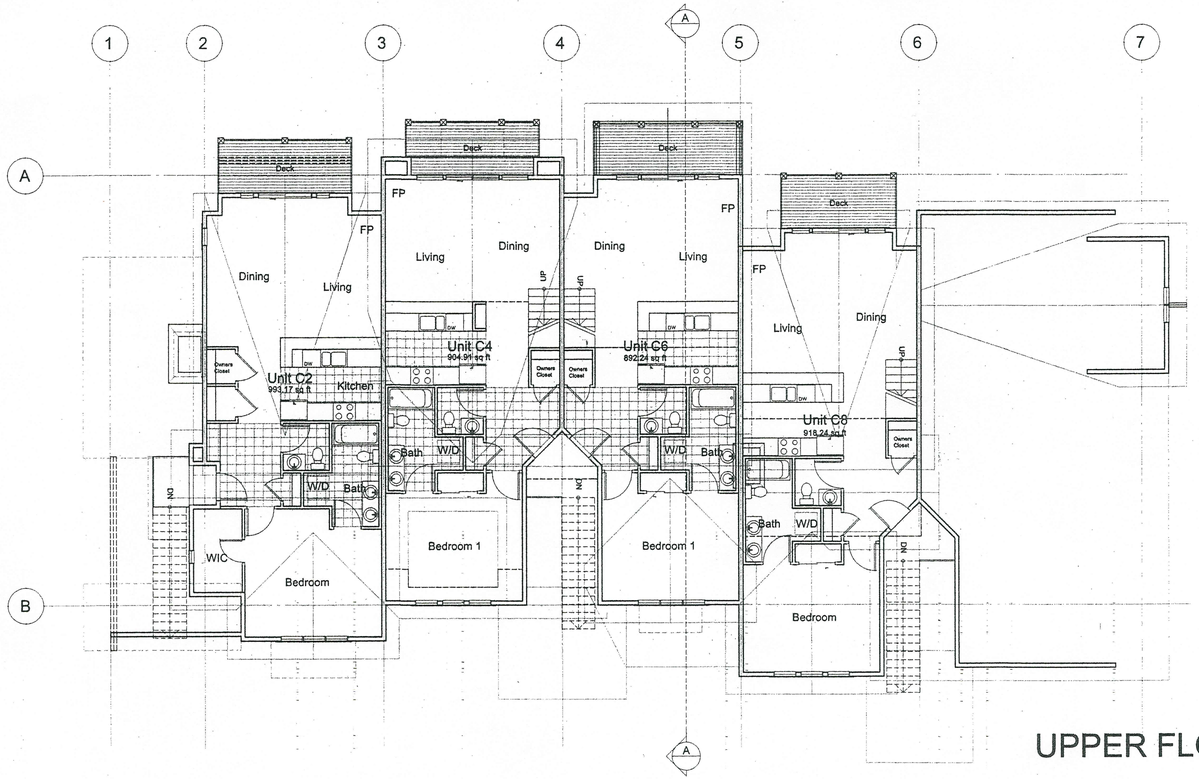
TRANSCONTINENTAL SURVEYORS INC.
ENGINEERS & SURVEYORS
P.O. Box 589
Silverthorne, CO 80498
(970) 468-6281

DRAKE LANDING
Lot 4R, Resubdivision of Lot 2, Block 1, Lakepoint at Frisco
Town of Frisco, Colorado

Drawn by: PMC / JL
Date: 6/1/00
SCALE 1" = 30' - 0"

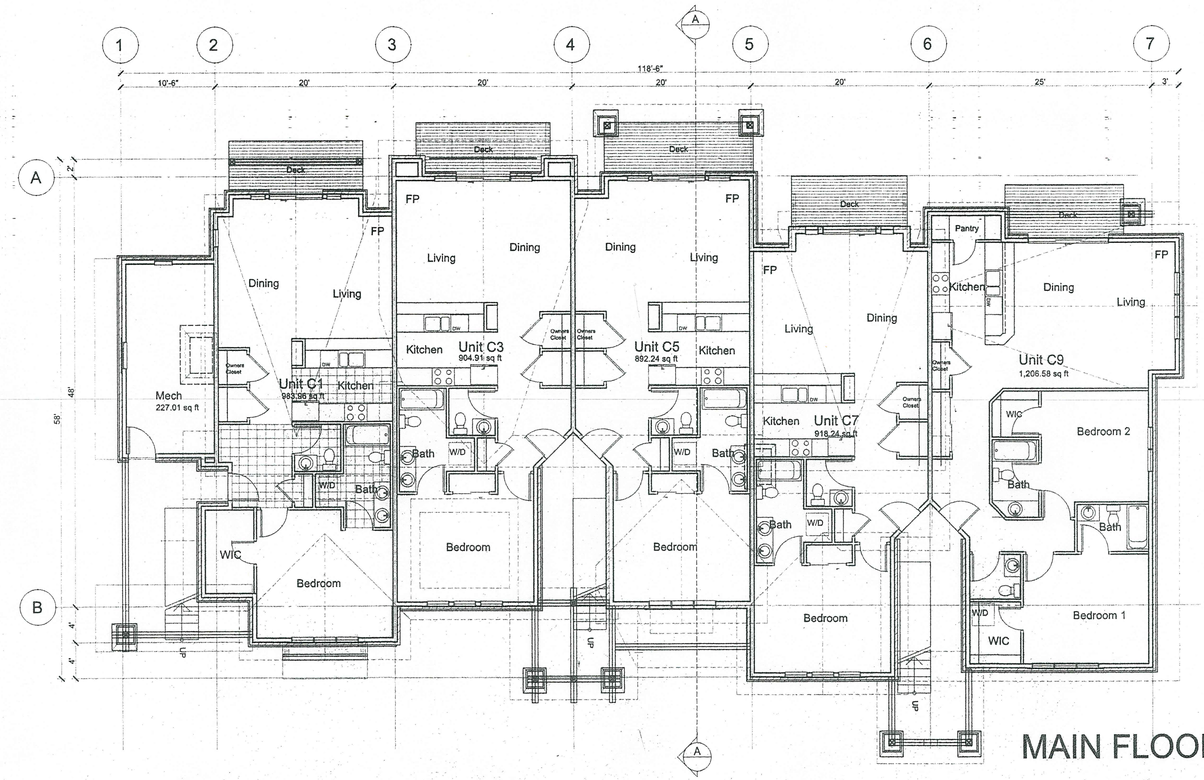
A - 1

RECEIVED
Town of Frisco
Building Department
Date _____
Plan Review # _____



UPPER FLOOR PLAN

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



MAIN FLOOR PLAN

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

REVISIONS
Progress Print
08-25-00

MARKETPLACE
ARCHITECTS
L L C
115 Village Place PO Box 6318
Dillon, Colorado 80435
970.468.8583 Fax 970.262.0565
architec@colorado.net

DRAKE LANDING

BUILDING C

Frisco, Colorado

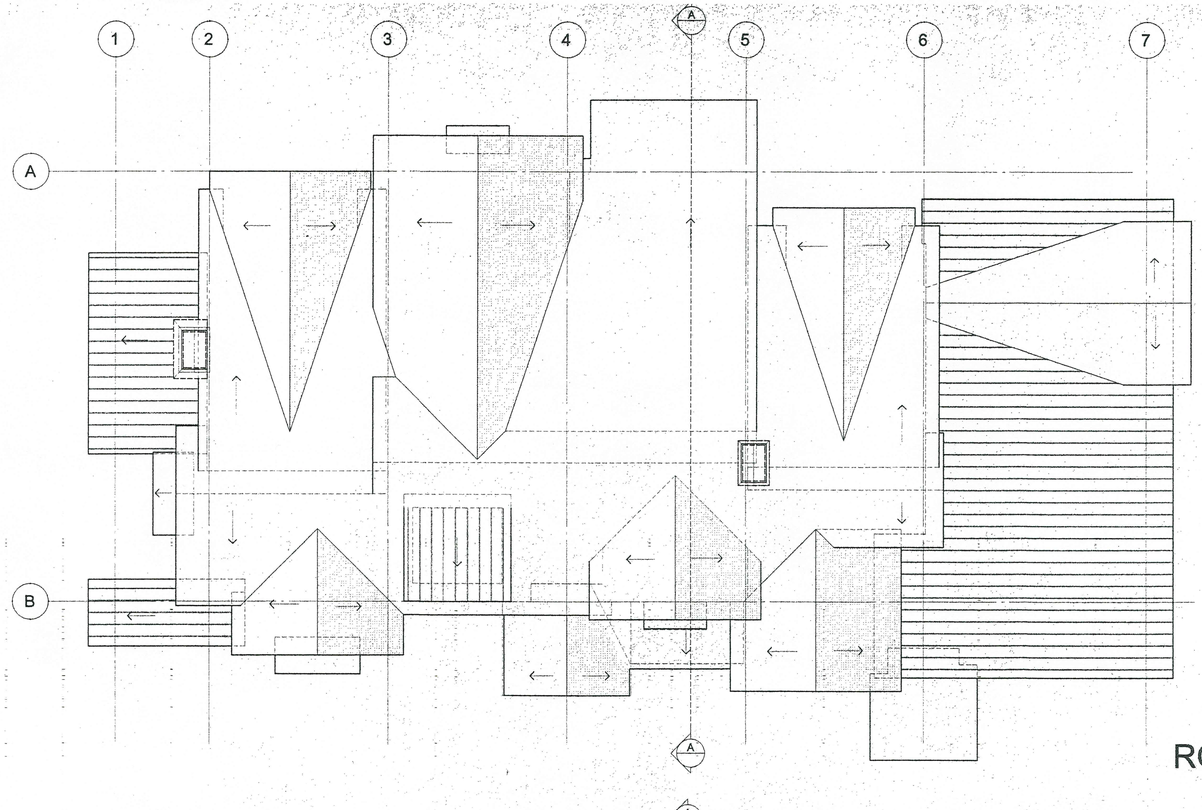
DATE

SCALE

DRAWN BY MS

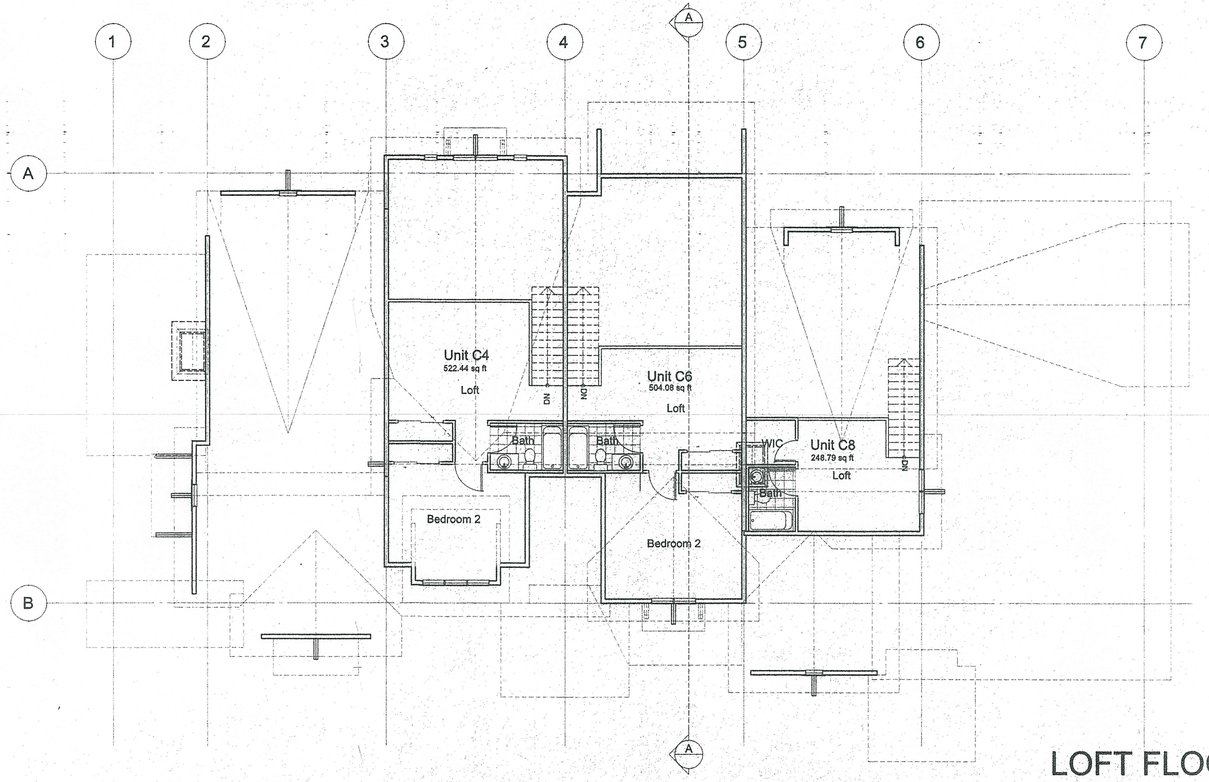
JOB NO.

SHEET A2.1c



ROOF PLAN

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



LOFT FLOOR PLAN

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

Reviewed
Town of Fri...
Building Department

Date: _____

Plan Review #: _____

REVISIONS
Progress Print 08-25-00

MARKETPLACE
ARCHITECTS
L L C

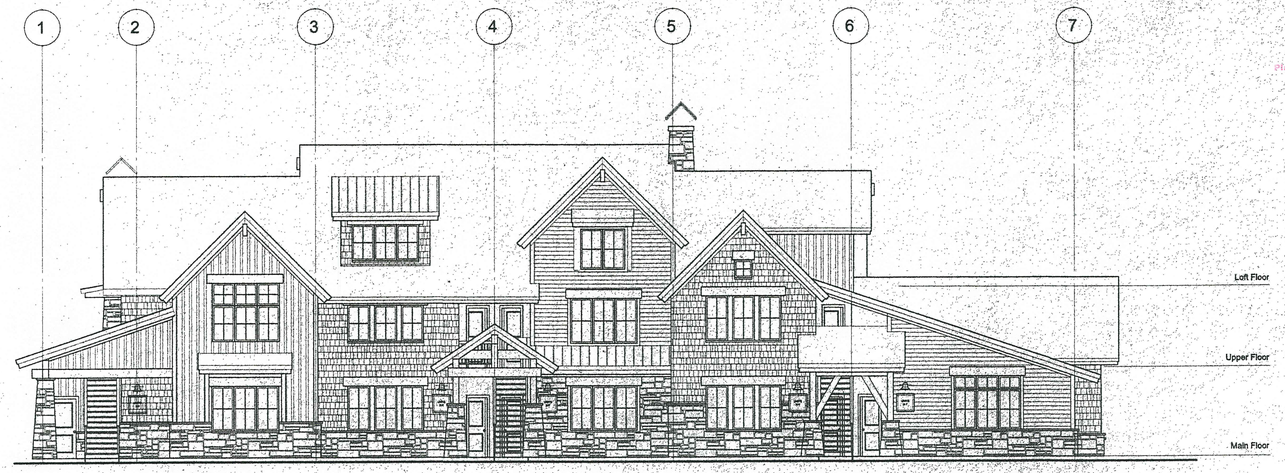
115 Village Place PO Box 6318
Dillon, Colorado 80435
970.468.8585 Fax 970.262.8565
architect@colorado.net

DRAKE LANDING

BUILDING C

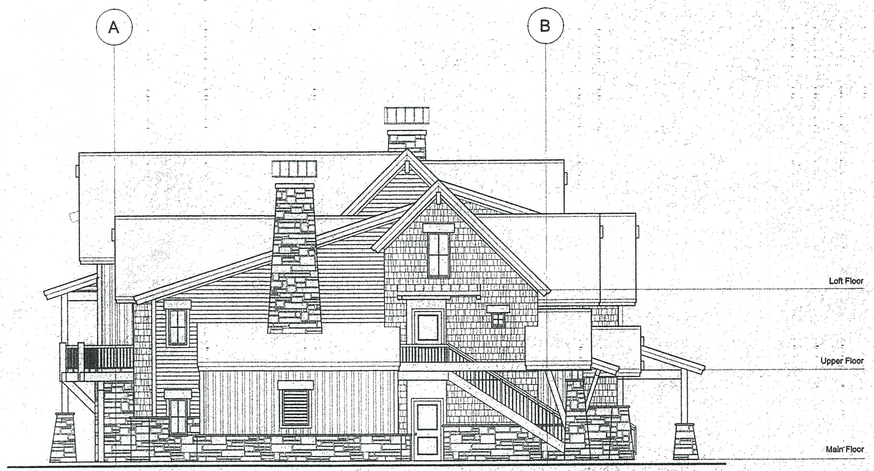
Frisco, Colorado

DATE	
SCALE	
DRAWN BY	MS
JOB NO.	
SHEET	A2.2 C



WEST ELEVATION

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

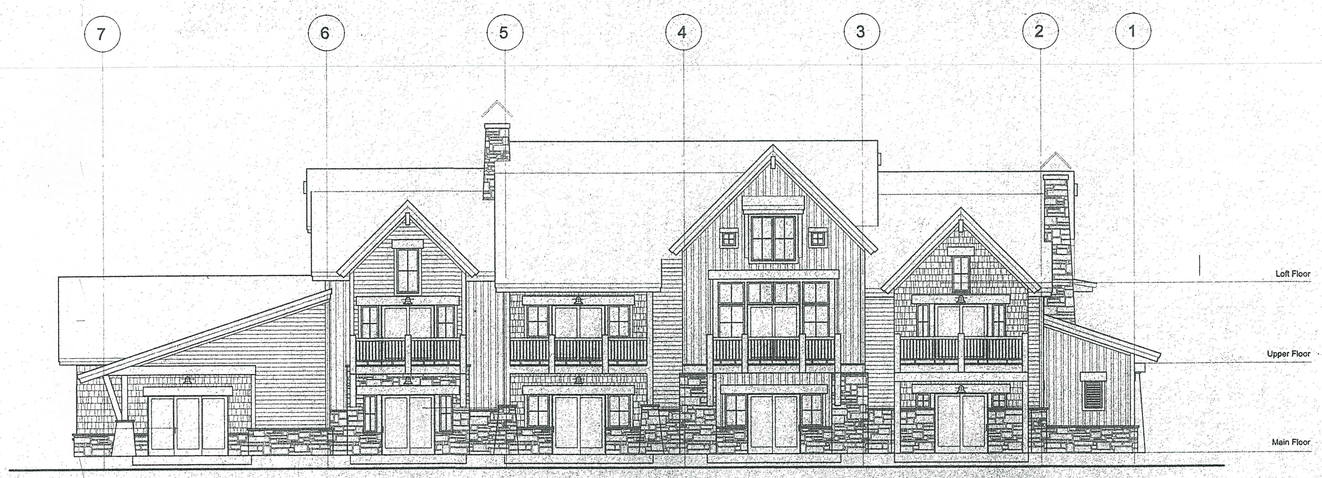


NORTH ELEVATION

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

SOUTH ELEVATION

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



EAST ELEVATION

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

REVISIONS
Progress Print
08-25-00

Permit Set
Building Department

Date: _____

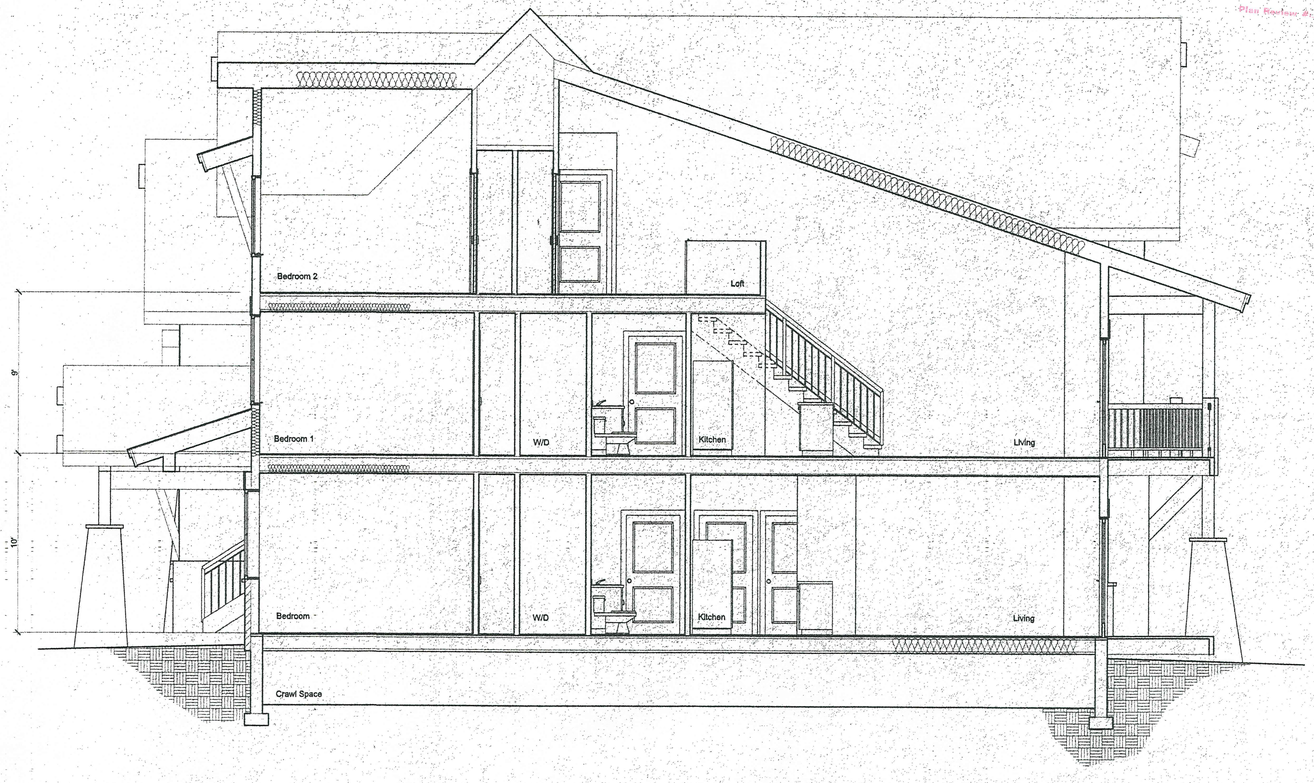
Plan Review #'s _____

MARKETPLACE
ARCHITECTS
L L C

115 Village Place PO Box 6318
Dillon, Colorado 80435
970.468.8583 Fax 970.453.0565
architec@colorado.net

DRAKE LANDING
BUILDING C
Frisco, Colorado

DATE	
SCALE	
DRAWN BY	MS
JOB NO.	
SHEET	A3.1 C



SECTION A

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

Plans as Drawn
Plans as Revised
Bidding Procedures
Date
Plan Revisions

REVISIONS
Progress Print
08-25-00

MARKETPLACE
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115 Village Place PO Box 4318
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970.468.8583 Fax 970.262.0565
architect@colorado.net

DRAKE LANDING
BUILDING C
Frisco, Colorado

DATE
SCALE
DRAWN BY MS
JOB NO.
SHEET
A4.1 C

MECHANICAL LEGEND

(NOT ALL SYMBOLS LISTED BELOW ARE BEING USED IN THIS SET OF MECHANICAL DRAWINGS)

SYMBOL	ABBR	DESCRIPTION
HVAC:		
		DIFFUSER– 4–WAY THROW
		DIFFUSER– 3–WAY THROW
		DIFFUSER– 2–WAY THROW
		DIFFUSER– LINEAR SLOT 2–WAY THROW
		RETURN OR EXHAUST AIR GRILLE
		SUPPLY GRILLE
		RETURN OR EXHAUST DUCT
		SUPPLY DUCT
		SUPPLY DUCT DOWN
		RETURN OR EXHAUST DUCT DOWN
		ROUND DUCT DOWN
		ROUND DUCT UP
—SA—	SA	SUPPLY AIR DUCT
—EA—	EA	EXHAUST AIR DUCT
—OA—	OA	OUTSIDE AIR DUCT
—RA—	RA	RETURN AIR DUCT
—TA—	TA	TRANSFER AIR DUCT
		FLEXIBLE DUCT CONNECTION
		VANED ELBOW
M	MVD	MANUAL VOLUME DAMPER WITH LOCKING QUADRANT
M	MD	MOTORIZED DAMPER
BDD	BDD	BACKDRAFT DAMPER
		EXISTING DUCTWORK NO CHANGE
		EXISTING DUCTWORK TO BE REMOVED
	FD	FIRE DAMPER (1 1/2 HOUR UNLESS OTHERWISE NOTED)
	FSD	FIRE/SMOKE DAMPER (1 1/2 HOUR UNLESS OTHERWISE NOTED
		LOW PRESSURE FLEXIBLE DUCT
		CONICAL TAP
		CONICAL SPIN–IN FITTING W/ MANUAL VOLUME DAMPER

SYMBOL	ABBR	DESCRIPTION
PIPING:		
—(E)—	(E)	EXISTING PIPING (TYPE)
—HWS—	HWS	HEATING WATER SUPPLY
— —HWR— —	HWR	HEATING WATER RETURN
—CHWS—	CHWS	CHILLED WATER SUPPLY
— —CHWR— —	CHWR	CHILLED WATER RETURN
—CWS—	CWS	CONDENSER WATER SUPPLY
— —CWR— —	CWR	CONDENSER WATER RETURN
—HTWS—	HTWS	HIGH TEMP. HOT WATER SUPPLY
— —HTWR— —	HTWR	HIGH TEMP. HOT WATER RETURN
—LPS—	LPS	LOW PRESSURE STEAM
—LPR—	LPR	LOW PRESSURE CONDENSATE
—MPS—	MPS	MEDIUM PRESSURE STEAM
—MPR—	MPR	MEDIUM PRESSURE CONDENSATE
—RS—	RS	REFRIGERANT SUCTION
—RL—	RL	REFRIGERANT LIQUID
—RHG—	RHG	REFRIGERANT HOT GAS
—140°—		TEMPERED HOT WATER: TEMP. AS INDICATED
— — — —	CW	DOMESTIC COLD WATER
— — — —	HW *	DOMESTIC HOT WATER
— — — —	HWC *	DOMESTIC HOT WATER CIRCULATING
—SW—	SW	SOIL WASTE ABOVE FLOOR
— —SWBF— —	SWBF	SOIL WASTE BELOW FLOOR
- - - V - - -	V	SANITARY VENT
— — GW — —	GW	GREASE WASTE
— — ST — —	ST	STORM
— — OF — —	OF	STORM OVERFLOW
—○—		ELBOW UP
—C—		ELBOW DOWN
—○—		TEE UP
—○—		TEE DOWN
—┤—		PIPE CAP OR PLUG
—(NAME)—		EXISTING PIPING
—(NAME)—		EXISTING PIPING TO BE REMOVED
—F—	F	FIRE
—G—	G	NATURAL GAS
—MG—	MG	MED. PRESS. NATURAL GAS
2" AV		2" ACID VENT
2" AWBF		2" ACID WASTE BELOW FLOOR
2" WS		2" WASTE STACK
4" SS		4" SOIL STACK
4" RDL		ROOF DRAIN LEADER
4" RDLN–1		ROOF DRAIN LEADER NOZZLE
4" OFRDL		OVERFLOW ROOF DRAIN LEADER

SYMBOL	ABBR	DESCRIPTION
SPECIAL PIPING		
—O—	O	OXYGEN
—○—	O	OXYGEN OUTLET
—VAC—	VAC	VACUUM
—▽—	V	VACUUM OUTLET
—A—	A	COMPRESSED AIR
—○—	A	COMP AIR OUTLET
—MA—	MA	MEDICAL AIR
—□—	MA	MED AIR OUTLET
—NO—	NO	NITROUS OXIDE
—DR—	DR	EQUIPMENT DRAIN
—CD—	CD	CONDENSATE DRAIN
PLUMBING EQUIPMENT		
	RD	ROOF DRAIN
	OD	OVERFLOW ROOF DRAIN
	DN	DOWNSPOUT NOZZLE
	HB WH	HOSE BIBB WALL HYDRANT
	SA	SHOCK ARRESTER
	FD	FLOOR DRAIN
	FS	FLOOR SINK
	FCO	CLEANOUT FLOOR
	GCO	CLEANOUT GRADE
	WCO	CLEANOUT WALL
G	M	METER: GAS (G) OR WATER (W)
	P	CIRC. PUMP
	VTR	PLUMBING VENT THRU ROOF
	STR	STRAINER W/BLOW–OFF VALVE & CAPPED HOSE–END CONNECTION
	TB	THRUST BLOCK
FIRE PREVENTION		
		EXISTING SPRINKLER HEAD TO REMAIN
		EXISTING SPRINKLER HEAD TO BE RELOCATED
		EXISTING SPRINKLER HEAD TO NEW LOCATION
A		NEW SPRINKLER HEAD TO MATCH EXISTING
SYMBOLS		
X / X	NO. SHEET	DETAIL MARKER
X / X	LETTER SHEET	SECTION MARKER
F 1	F–1	EQUIPMENT DESIGNATION
LENGTH TYP.	BB	BASEBOARD CALL OUT
1		FLAG OR SHEET NOTE
1		DEMOLITION NOTE
	POC	POINT OF CONN. BETWEEN NEW AND EXISTING
INV. ELEV. 6'8.15		ELEVATION
	DN	DOWN
	TOD	TOP OF DUCT (A.F.F.)
	BOP	BOTTOM OF PIPE
	AFF	ABOVE FIN. FLOOR
	NTS	NOT TO SCALE
DN		ARROW INDICATES DIRECTION OF FLOW
		PITCH DOWN
T	T	THERMOSTAT
H	H	HUMIDISTAT
S	S	SOLID STATE SPEED CONTROLLER
S	S	SMOKE DETECTOR
UC	UC	DOOR UNDERCUT
(E)	(E)	EXISTING
(N)	(N)	NEW
(R)	(R)	RELOCATED

SYMBOL	ABBR	DESCRIPTION
VALVES:		
	GV	GATE VALVE
	CV	CHECK VALVE
PRV	PRV	PRESSURE REDUCING VALVE
S	SV	SOLENOID VALVE
	BV	BALANCING VALVE WITH READ OUT PORTS
	GLV	GLOBE VALVE (STRAIGHT PATTERN)
	GLV	GLOBE VALVE (ANGLE PATTERN)
	BFV	BUTTERFLY VALVE
	BV	BALL VALVE
	GC	GAS COCK
	PV	PLUG VALVE
	DV	HOSE END DRAIN VALVE
	TCV	AUTOMATIC TEMP. CONTROL VALVE, 2–WAY
	TCV	AUTOMATIC TEMP. CONTROL VALVE, 3–WAY
	TPR	TEMPERATURE/ PRESSURE RELIEF VALVE
FITTINGS		
P & T	P & T	PRESSURE/ TEMPERATURE PORT TAPS
U	U	UNION
CR	CR	CONCENTRIC REDUCER
ER	ER	ECCENTRIC REDUCER
EJ	EJ	EXPANSION JOINT
AC	AC	ALIGNMENT GUIDE
FC	FC	FLEXIBLE PIPE CONNECTOR
		THERMOMETER W/THERMOWELL
MAV	MAV	MANUAL AIR VENT
FS	FS	FLOW SWITCH
PS	PS	PRESSURE SWITCH
PG	PG	PRESSURE GAUGE W/GAUGE COCK
		STEAM TRAP

A 10"ø (2) 250 — DIFFUSER NECK SIZE, TYPICAL OF; CUBIC FEET PER MINUTE; SYMBOL/DESIGNATION

* NOTE: ALL HW AND HWC PIPING IS 110° UNLESS NOTED OTHERWISE.

FILE NAME:MOC.DWG PLOT DATE: 11/17/00 FILE LOCATION: G:\ARCHIVES\PROJECTS\DRAKE\

FAN SCHEDULE

SYMBOL (F #)	CFM @ ALT.	TOTAL S.P. IN WG @ ALT.	MAX. RPM	MOTOR HP (WATTS)	MOTOR BHP	MOTOR VOLT/ PHASE	MIN. WHEEL DIA.	MAX. SONES	OPER. WEIGHT LBS.	MAKE AND MODEL	NOTES A	B	C	D	E	F	G	H
F–1	TOILET EXHAUST									COOK GN–160	0	0	1	1	1	3	0	0
	75	.5	1384	43	–	115/1	–	3.3	50									
–	–									–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–	–								

GENERAL COMMENTS:

1. CAPACITIES AT 6200 FT. ELEVATION
2. MAXIMUM SONES SHOWN ARE AMCA CERTIFIED LEVELS BEFORE TAKING CREDIT FOR SOUND ATTENUATION OF ROOF CURB, ATTENUATOR TO REDUCE SONES 50%.
3. FOR SOUND ATTENUATING CURBS, SIZE FAN 7% MORE CFM THAN SCHEDULED TO ACCOUNT FOR CURB LOSS.
4. PROVIDE LABELS ON FANS AS TO AREAS SERVED.

NOTES:

A. CURB
0. NONE
1. FIELD–BUILT, INSULATED
2. FACTORY–BUILT, INSULATED.
3. FACTORY BUILT INSULATED, 18" TALL.
4. FACTORY BUILT SOUND ATTENUATING
5. FACTORY VENTILATED GREASE HOOD EXHAUST.
6. FACTORY INSULATED EXTENDED HEIGHT CURB.
7. REUSE EXISTING CURB, PROVIDE INSULATED ADAPTORS AS REQUIRED.

B. SCREEN
0. NONE
1. BIRD
2. INSECT

C. DRIVE
1. DIRECT
2. BELT

D. DAMPER
0. NONE
1. GRAVITY BDD
2. BAROMETRIC ADJUSTABLE BDD
3. MOTORIZED CONTROL DAMPER, 115V/1ø
4. MAGNETIC BUTTERFLY DAMPER LATCHES.

E. ACCESSORIES
1. SOLID STATE SPEED CONTROL, MTD. IN MOTOR COMPARTMENT FOR BALANCING
2. ELECTRIC DISCONNECT
3. WALL MOUNTED SOLID STATE SPEED CONTROL
4. 115V/1ø REVERSE ACTING THERMOSTAT SET 85°F.
5. WALL MOUNTED 2 SPEED SWITCH.
6. DRAIN CONNECTION.
7. CLEANABLE GREASE RECEPTOR.

F. TYPE
1. CEILING FAN
2. CENTRIFUGAL ROOF EXHAUSTER
3. CABINET FAN
4. WALL PROPELLER FAN
5. CENTRIFUGAL UPBLAST ROOF EXHAUSTER.
6. TUBEAXIAL UPBLAST ROOF EXHAUSTER.
7. CENTRIFUGAL UTILITY SET.

G. SPECIAL COATINGS
0. NONE
1. PHENOLIC
2. EPOXY
3. POLYESTER/EPOXY
4. EISENHEISS

H. MISCELLANEOUS
0. NONE
1. VIBRATION ISOLATORS.
2. EMERGENCY POWER.
3. SECURE FAN TO CURB AT EACH CORNER EACH SIDE AND 12" O.C.
4. AMCA B SPARKPROOF, 3/4" SCROLL DRAIN AND ACCESS PANEL.
5. EXPLOSION PROOF.
6. 2 SPEED/2 WINDING (1200/1800).
7. 2 SPEED/2 WINDING (900/1800).
8. VARIABLE FREQUENCY DRIVE.

014029

012009

Approved 4/18/01

MISCELLANEOUS EQUIPMENT SCHEDULE

EUH–1 Q–MARK MODEL MUH–10–B ELECTRIC UNIT HEATER, 10 KW 208V/1PH, 48 AMPS.

PLUMBING FIXTURE SCHEDULE

CODE	DESCRIPTION	MINIMUM CONNECTION CW	HW	SAN.	VENT	MANUFACTURER / MODEL	FAUCETS & FITTINGS	REMARKS AND ACCESSORIES
WC–1	WATER CLOSET	1/2"		3"	2"	AMERICAN STANDARD CADET 2898.012		ELONGATED BOWL
LAV–1	LAVATORY	1/2"	1/2"	1 1/4"	1 1/4"	AMERICAN STANDARD RONDALYN 0491.019	DELTA 520–MPU	4" CENTERS
BT–1	BATHTUB	1/2"	1/2"	2	1 1/2"	AMERICAN STANDARD SALEM 14 – 0155.017	DELTA 1343	
SH–1	SHOWER	1/2"	1/2"	1 1/2"	1 1/2"	AMERICAN STANDARD ALCOVE SHOWER 3636.ST	DELTA 1323	
S–1	SINGLE COMPT SINK	1/2"	1/2"	1 1/2"	1 1/2"	–	DELTA 350–WF	8" CTRS
S–2	DUAL COMPT SINK	1/2"	1/2"	1 1/2"	1 1/2"	ELKAY LMR–3322 18GA 302 S/S	DELTA 350–WF	8" CTRS

DOMESTIC WATER CIRCULATING PUMP SCHEDULE

CODE	MANUFACTURER/ MODEL NO.	SERVICE	LOCATION	PUMP TYPE	GPM	HEAD (FT)	RPM	ELECTRICAL HP	VOLT	PH	REMARKS
DWCP–1	B&G LR–15B	DOM. HW RECIRC	BOILER ROOM	INLINE	1.0	5	3500	1/12	120	1	PROVIDE ALL BRONZE CONSTRUCTION

DOMESTIC WATER HEAT EXCHANGERS SCHEDULE

CODE	MANUFACTURER/ MODEL NO.	CAPACITY GALLONS	HEATING SURFACE SQ. FT.	RECOVER AT 80 DEGREE F	REMARKS
HX–1 & 2	TRIANGLE TUBE PHASE III MODEL TR–120	120	INLINE	180 GPH	–

REVISIONS:

RECEIVED
Town of Frisco
Building Department
Date: 4-16-01
Plan Review #: 00-0106

DRAKE LANDING
Building "C"
Lot 4R, Lakepoint at Frisco
Frisco, Colorado 80433

M-E / YODER ENGINEERS, INC.
0098 E. BEAVER CREEK BLVD. SUITE 317
P.O. BOX 5760, AVON, CO. 81620
PH: (970) 949-6000 FAX: (970) 949-1959

DRAWN BY: MDC
CHECKED BY: MPD
DATE: 11/17/00
SCALE: 1/8"=1'–0"
JOB NUMBER: 8052.00
SHEET INFORMATION: LEGEND & SCHEDULES

SHEET NUMBER: M0C.1

DRAKE LANDING: BLDG C

	LOOP 1	LOOP 2	LOOP 3	LOOP 4	LOOP 5	LOOP 6	LOOP 7	LOOP 8	LOOP 9	LOOP 10
ROOM SERVED	RZ-1	RZ-1	RZ-1	RZ-1	RZ-2	RZ-2	RZ-2	RZ-2	RZ-2 LOFT	
T-STAT CONTROL										
TOTAL LOAD (BTUH/FT^2)	35	35	35	35	35	35	35	35	35	35
PANEL SURFACE TEMP. (F)	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5
FLOOR CONSTRUCTION										
TUBE SIZE	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625
TUBING O.C. SPACING (IN.)	12	12	12	12	12	12	12	12	12	12
FLOOR COVERING R-VALUE	0	0	0	0	0	0	0	0	0	0
DIFFERENTIAL TEMP. (F)	10	10	10	10	10	10	10	10	10	10
RECC. SUPPLY WATER TEMP. (F)	100	100	100	100	100	100	100	100	100	100
LOOP LENGTH (FT)	245	245	200	200	240	240	200	200	300	
LEADER LENGTH (FT)	30	30	40	40	30	30	30	30	40	
TOTAL LOOP LENGTH (FT)	275	275	240	240	270	270	230	230	340	0
LOOP FLOW (GPM)	1.715	1.715	1.400	1.400	1.680	1.680	1.400	1.400	2.100	0.000
LOOP HEAD LOSS (FT/FT)	0.0431	0.0431	0.0304	0.0304	0.0431	0.0431	0.0304	0.0304	0.0698	
LOOP HEAD LOSS (FT)	11.853	11.853	7.296	7.296	11.637	11.637	6.992	6.992	21.352	0.000
HALF TURNS FROM CLOSED	3.2	3.2	2.8	2.8	3.2	3.2	2.7	2.7	4.0	0.0

MANIFOLD TOTALS

SUPPLY WATER TEMP. (F)	120
MANIFOLD FLOW (GPM)	14.49
TOTAL HEAD LOSS (FT)	21.352

DRAKE LANDING BLDG C

	LOOP 1	LOOP 2	LOOP 3	LOOP 4	LOOP 5	LOOP 6	LOOP 7	LOOP 8	LOOP 9	LOOP 10
ROOM SERVED	RZ-3	RZ-3	RZ-3	RZ-4	RZ-4	RZ-4	RZ-4 LOFT	RZ-4 LOFT		
T-STAT CONTROL										
TOTAL LOAD (BTUH/FT^2)	35	35	35	35	35	35	35	35	35	35
PANEL SURFACE TEMP. (F)	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5
FLOOR CONSTRUCTION										
TUBE SIZE	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625
TUBING O.C. SPACING (IN.)	12	12	12	12	12	12	12	12	12	12
FLOOR COVERING R-VALUE	2	2	2	2	2	2	2	2	2	2
DIFFERENTIAL TEMP. (F)	10	10	10	10	10	10	10	10	10	10
RECC. SUPPLY WATER TEMP. (F)	100	100	100	100	100	100	100	100	100	100
LOOP LENGTH (FT)	265	265	265	265	265	265	280	280		
LEADER LENGTH (FT)	30	30	30	30	30	30	40	40		
TOTAL LOOP LENGTH (FT)	295	295	295	295	295	295	320	320	0	0
LOOP FLOW (GPM)	1.855	1.855	1.855	1.855	1.855	1.855	1.960	1.960	0.000	0.000
LOOP HEAD LOSS (FT/FT)	0.0525	0.0525	0.0525	0.0525	0.0525	0.0525	0.0576	0.0576		
LOOP HEAD LOSS (FT)	15.488	15.488	15.488	15.488	15.488	15.488	18.432	18.432	0.000	0.000
HALF TURNS FROM CLOSED	3.7	3.7	3.7	3.7	3.7	3.7	4.0	4.0	0.0	0.0

MANIFOLD TOTALS

SUPPLY WATER TEMP. (F)	120
MANIFOLD FLOW (GPM)	15.05
TOTAL HEAD LOSS (FT)	18.432

DRAKE LANDING BLDG C

	LOOP 1	LOOP 2	LOOP 3	LOOP 4	LOOP 5	LOOP 6	LOOP 7	LOOP 8	LOOP 9	LOOP 10
ROOM SERVED	RZ-5	RZ-5	RZ-5	RZ-6	RZ-6	RZ-6	RZ-6 LOFT	RZ-6 LOFT		
T-STAT CONTROL										
TOTAL LOAD (BTUH/FT^2)	35	35	35	35	35	35	35	35	35	35
PANEL SURFACE TEMP. (F)	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5
FLOOR CONSTRUCTION										
TUBE SIZE	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625
TUBING O.C. SPACING (IN.)	12	12	12	12	12	12	12	12	12	12
FLOOR COVERING R-VALUE	2	2	2	2	2	2	2	2	2	2
DIFFERENTIAL TEMP. (F)	10	10	10	10	10	10	10	10	10	10
RECC. SUPPLY WATER TEMP. (F)	100	100	100	100	100	100	100	100	100	100
LOOP LENGTH (FT)	265	265	265	265	265	265	250	250		
LEADER LENGTH (FT)	30	30	30	30	30	30	40	40		
TOTAL LOOP LENGTH (FT)	295	295	295	295	295	295	290	290	0	0
LOOP FLOW (GPM)	1.855	1.855	1.855	1.855	1.855	1.855	1.750	1.750	0.000	0.000
LOOP HEAD LOSS (FT/FT)	0.0525	0.0525	0.0525	0.0525	0.0525	0.0525	0.0576	0.0576		
LOOP HEAD LOSS (FT)	15.488	15.488	15.488	15.488	15.488	15.488	16.704	16.704	0.000	0.000
HALF TURNS FROM CLOSED	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.9	0.0	0.0

MANIFOLD TOTALS

SUPPLY WATER TEMP. (F)	120
MANIFOLD FLOW (GPM)	14.63
TOTAL HEAD LOSS (FT)	16.704

DRAKE LANDING BLDG C

	LOOP 1	LOOP 2	LOOP 3	LOOP 4	LOOP 5	LOOP 6	LOOP 7	LOOP 8	LOOP 9	LOOP 10
ROOM SERVED	RZ-7	RZ-7	RZ-7	RZ-8	RZ-8	RZ-8	RZ-8 LOFT	RZ-8 LOFT		
T-STAT CONTROL										
TOTAL LOAD (BTUH/FT^2)	35	35	35	35	35	35	35	35	35	35
PANEL SURFACE TEMP. (F)	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5
FLOOR CONSTRUCTION										
TUBE SIZE	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625
TUBING O.C. SPACING (IN.)	12	12	12	12	12	12	12	12	12	12
FLOOR COVERING R-VALUE	2	2	2	2	2	2	2	2	2	2
DIFFERENTIAL TEMP. (F)	10	10	10	10	10	10	10	10	10	10
RECC. SUPPLY WATER TEMP. (F)	100	100	100	100	100	100	100	100	100	100
LOOP LENGTH (FT)	280	280	280	270	270	270	250	250		
LEADER LENGTH (FT)	30	30	30	30	30	30	40	40		
TOTAL LOOP LENGTH (FT)	310	310	310	300	300	300	290	290	0	0
LOOP FLOW (GPM)	1.960	1.960	1.960	1.890	1.890	1.890	1.750	1.750	0.000	0.000
LOOP HEAD LOSS (FT/FT)	0.0576	0.0576	0.0576	0.0525	0.0525	0.0525	0.0576	0.0576		
LOOP HEAD LOSS (FT)	17.856	17.856	17.856	15.750	15.750	15.750	16.704	16.704	0.000	0.000
HALF TURNS FROM CLOSED	4.0	4.0	4.0	3.9	3.9	3.9	3.7	3.7	0.0	0.0

MANIFOLD TOTALS

SUPPLY WATER TEMP. (F)	120
MANIFOLD FLOW (GPM)	15.05
TOTAL HEAD LOSS (FT)	17.856

DRAKE LANDING BLDG C

	LOOP 1	LOOP 2	LOOP 3	LOOP 4	LOOP 5	LOOP 6	LOOP 7	LOOP 8	LOOP 9	LOOP 10
ROOM SERVED	RZ-9	RZ-9	RZ-9	RZ-9						
T-STAT CONTROL										
TOTAL LOAD (BTUH/FT^2)	35	35	35	35	35	35	35	35	35	35
PANEL SURFACE TEMP. (F)	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5
FLOOR CONSTRUCTION										
TUBE SIZE	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625
TUBING O.C. SPACING (IN.)	12	12	12	12	12	12	12	12	12	12
FLOOR COVERING R-VALUE	2	2	2	2	2	2	2	2	2	2
DIFFERENTIAL TEMP. (F)	10	10	10	10	10	10	10	10	10	10
RECC. SUPPLY WATER TEMP. (F)	100	100	100	100	100	100	100	100	100	100
LOOP LENGTH (FT)	270	270	270	270						
LEADER LENGTH (FT)	30	30	30	30						
TOTAL LOOP LENGTH (FT)	300	300	300	300	0	0	0	0	0	0
LOOP FLOW (GPM)	1.890	1.890	1.890	1.890	0.000	0.000	0.000	0.000	0.000	0.000
LOOP HEAD LOSS (FT/FT)	0.0525	0.0525	0.0525	0.0525						
LOOP HEAD LOSS (FT)	15.750	15.750	15.750	15.750	0.000	0.000	0.000	0.000	0.000	0.000
HALF TURNS FROM CLOSED	4.0	4.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0

MANIFOLD TOTALS

SUPPLY WATER TEMP. (F)	120
MANIFOLD FLOW (GPM)	7.56
TOTAL HEAD LOSS (FT)	15.750

BOILER SCHEDULE

SYMBOL (B #)	FUEL TYPE (S)	BURNER TYPE	INPUT MBH @ S.L.	REQ'D OUTPUT MBH @ ALT.	EWT °F	LWT °F	FLOW GPM	BURNER HP	BURNER V/ø	FLUE DIAMETER	BOILER HP	GAS PRESSURE PSIG	OPER. WT. LBS.	MAKE AND MODEL	NOTES A	NOTES B	NOTES C	NOTES D
B-1	NAT. GAS	POWER	494	400	160	180	30	1/3	120/1	8	8.3	–	–	WIEL-MCLAIN 478-WF	1	2	3 5	5
B-2	NAT. GAS	POWER	494	400	160	180	30	1/3	120/1	8	8.3	–	–	WIEL-MCLAIN 478-WF	1	2	3 5	5

GENERAL COMMENTS

1. CAPACITIES ARE AT 9200 FT. ELEVATION.
2. WORKING PRESSURE IS 30 PSIG.
3. OVERSIZE BURNER (AND INCREASE SECTIONS) TO OBTAIN SPECIFIED OUTPUT AT ALTITUDE. EQUIVALENT CFH AT ALTITUDE IS APPROX. 9200.
4. PROVIDE CONTROL TRANSFORMER AND STARTER.
5. PROVIDE REQUIRED STATE PERMITS AND INSPECTIONS.

NOTES:

A. FLUID
- 0. WATER
- 1. 30% PROPYLENE GLYCOL
- 2. 50% PROPYLENE GLYCOL

B. BURNER
- 1. HI/LO FIRE
- 2. MODULATING

C. ACCESSORIES
- 0. NONE
- 1. 30 PPM LO NOX
- 2. DDC INTERFACE MODULE
- 3. BAROMETRIC DAMPER
- 4. PROBE LWCO
- 5. FULL LWCO
- 6. SEALED COMBUSTION CHAMBER

D. MISCELLANEOUS
- 0. NONE
- 1. HOT WATER
- 2. STEAM
- 3. ONE SIDE TUBE PULL
- 4. END TUBE PULL
- 5. BACK OUTLET FLUE
- 6. TOP FLUE CONNECTION

PUMP SCHEDULE

SYMBOL (P #)	SERVICE	GPM	HEAD (FT.H20)	PUMP EFF.	MOTOR DATA BHP HP	MOTOR DATA VOLTS / PHASE	MOTOR DATA RPM	PUMP TYPE	SUCTION/ DISCHARGE SIZE	VIBRATION ISOLATION TYPE	VIBRATION ISOLATION STATIC DEFL.	WEIGHT LBS. (G.C. 2)	MAKE AND MODEL	NOTES A	NOTES B	NOTES C	NOTES D	NOTES E	NOTES F	NOTES G
P-1	BOILER CIRC	30	5	–	1/3	120V/1PH	1667	WET ROTOR	1-1/4"			36	GRUNDFOS UPS 32-40	2	4	3	1	0	2	–
P-2	BOILER CIRC	30	5	–	1/3	120V/1PH	1667	WET ROTOR	1-1/2"			36	GRUNDFOS UPS 32-40	2	4	–	1	0	2	–
P-3	RAD LOOP INJECT	28	5	–	1/3	120V/1PH	1667	WET ROTOR	1-1/2"			36	GRUNDFOS UPS 32-40	2	4	3	1	2	1	–
P-4&4B	RAD LOOP CIRC	34	30	–	3/4	120V/1PH	3332	WET ROTOR	1-1/2"			50	GRUNDFOS UPS 40-160	2	3	3	1	2	2	4
P-5	HOT WATER SYS	32	5	–	1/3	120V/1PH	1667	WET ROTOR	1-1/4"			36	GRUNDFOS UPS 32-40	2	4	3	1	0	2	–

GENERAL COMMENTS

1. SCHEDULED RATING IS FOR PROPYLENE GLYCOL. CORRECTIONS FOR GPM AND HEAD HAVE BEEN MADE BY ENGINEER.
2. FOR PUMP WEIGHTS WITH INERTIA BASES, ADD 2 TIMES THE PUMP WEIGHT FOR THE INERTIA BASE.
3. PREMIUM EFFICIENCY MOTORS 1 HP AND OVER.
4. ALL PUMPS SHALL BE NON-OVERLOADING AT HORSEPOWER CURVE UNLESS NOTED OTHERWISE.
5. PROVIDE LEAD-LAG STARTER/CONTROLLER FOR PUMPS P-4 AND P-4B. FURNISH CONTROLLER TO DIVISION 16 FOR INSTALLATION.

NOTES

A. FLUID
- 1. WATER
- 2. 30% GLYCOL/WATER MIX
- 3. 35% GLYCOL/WATER MIX
- 4. 50% GLYCOL/WATER MIX

B. FLUID TEMPERATURE
- 1. 45° F
- 2. 80° F
- 3. 140° F
- 4. 180° F
- 5. 250° F

C. TYPE
- 1. CLOSE COUPLED BASE MOUNTED CENTRIFUGAL
- 2. FLEXIBLE COUPLED BASE MOUNTED CENTRIFUGAL
- 3. IN-LINE, HORIZONTAL SHAFT CENTRIFUGAL
- 4. IN-LINE, VERTICAL SHAFT CENTRIFUGAL
- 5. STEAM CONDENSATE RETURN

D. SUCTION DIFFUSER
- 1. NO
- 2. YES

E. ISOLATION
- 0. NONE
- 1. NEOPRENE PADS
- 2. 4 POINT ISOLATORS
- 3. CONCRETE INERTIA BASE

F. DUTY
- 1. VFD, EPDM COUPLER, INVERTER DUTY MOTOR, CONTROLLER
- 2. CONSTANT SPEED

G. MISCELLANEOUS
- 1. EMERGENCY POWER
- 2. FLUSHED SINGLE TUNGSTEN CARBIDE SEAL WITH FILTER ON FLUSH LINE (CWS)
- 3. ALL 316SS SHAFT, IMPELLER, ALL WETTED PARTS, TEFLON PACKING.
- 4. OPERATION AS SINGLE PUMP IN PARALLEL ARRANGEMENT
- 5. SINGLE PUMP OPERATION.
- 6. PROVIDE SPARE MOTOR
- 7. DDC INTERFACE MODULE
- 8. FACTORY MOUNTED CONTROL PANEL, WATER LEVEL GAUGE, DIAL THERMOMETER, DISCHARGE PRESSURE GAUGE, INLET STRAINER, STARTER, ALTERNATOR.
- 9. ALL BRONZE CONSTRUCTION
- 10. 4 PUMPS - 2 IN SERIES WITH 2 IN PARALLEL

014029

REVISIONS:

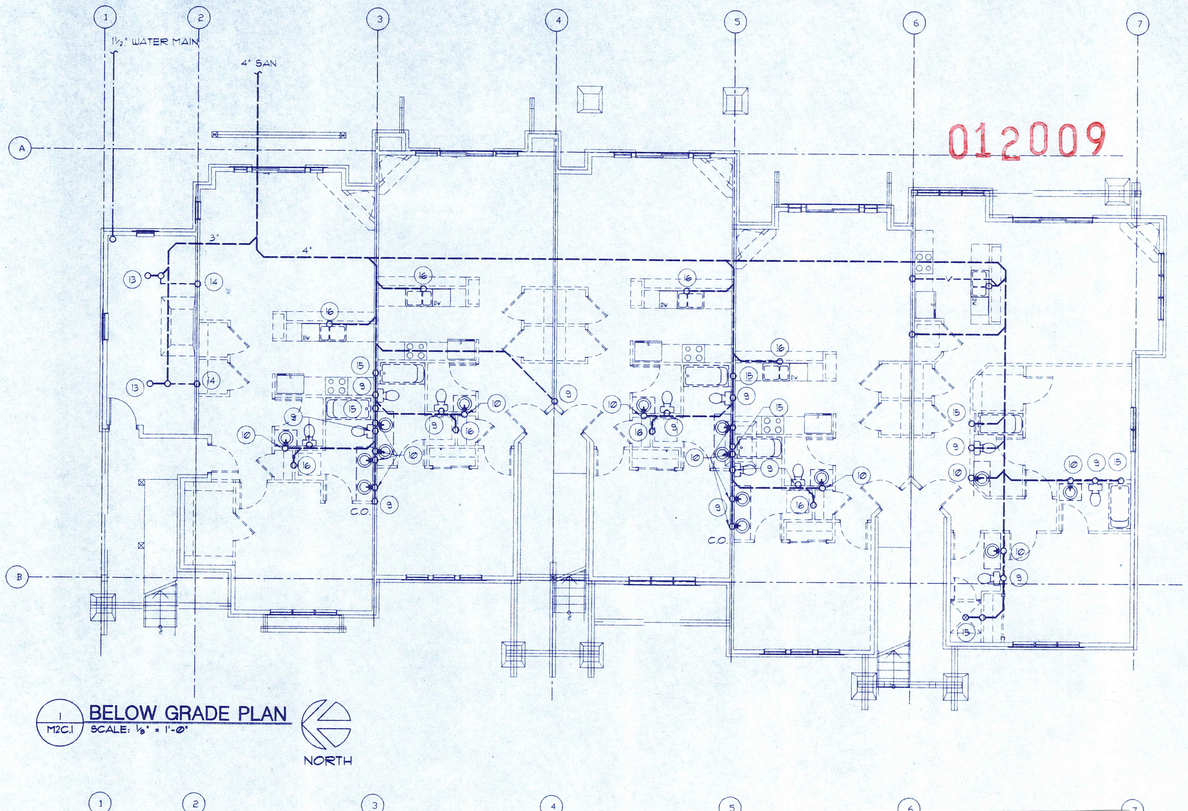
Received by the Town of Frisco Building Department
Date:
Plan Review #:

DRAKE LANDING
Building "C"
Lot 4R, Lakepoint at Frisco
Frisco, Colorado 80433

M-E / YODER ENGINEERS, INC.
0048 E. BEAVER CREEK BLVD. SUITE 307
P.O. BOX 5760, AVON, CO. 81620
PH: (970) 949-6000 FAX: (970) 949-1959

DRAWN BY: MDC
CHECKED BY: MPD
DATE: 11/17/00
SCALE: 1/8"=1'-0"
JOB NUMBER: 8052.00
SHEET INFORMATION: SCHEDULES
SHEET NUMBER: M0C.2

FILE NAME: M0C2.DWG
FILE LOCATION: G:\MECH\8000-DRAKE-LANDING\
PLOT SHEET: 11/16/00
PLOT TIME: 20:55



1 M2C.1 **BELOW GRADE PLAN** SCALE: ⅛" = 1'-0"

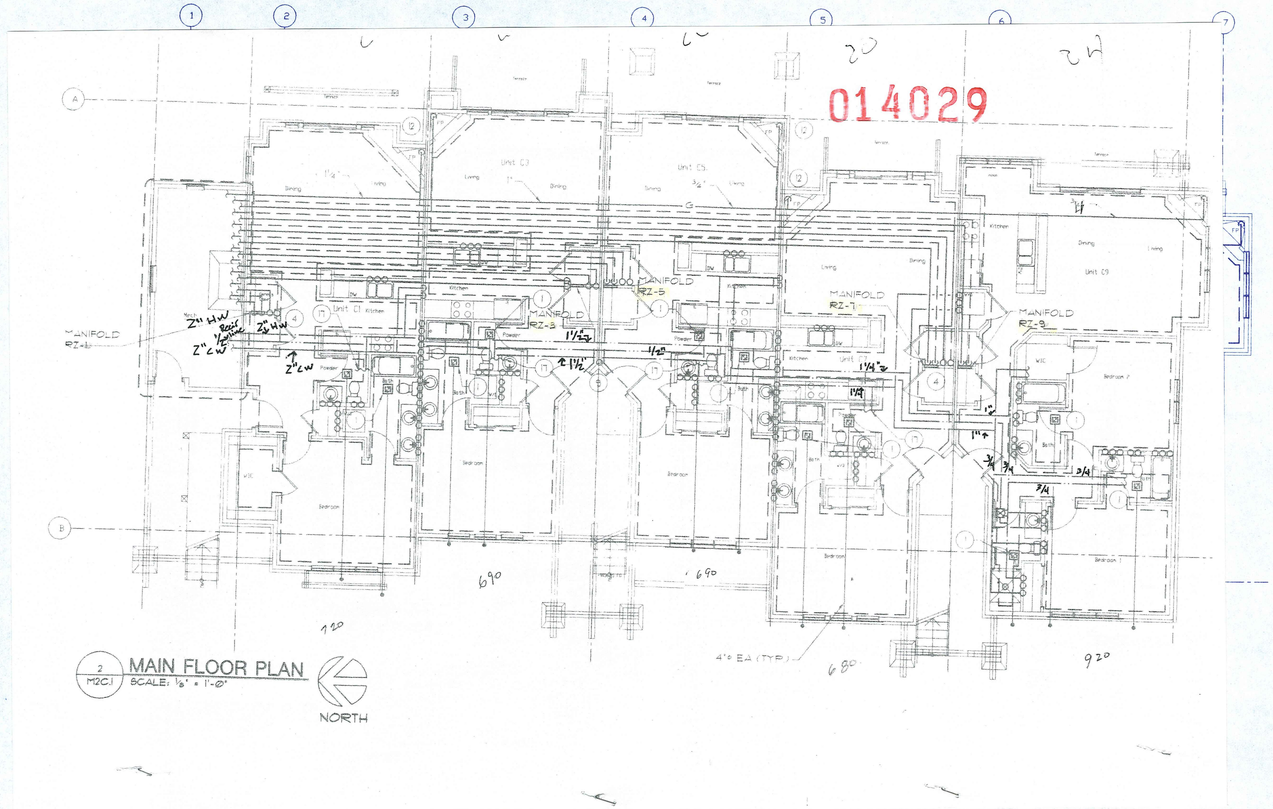
NORTH

012009

FLAG NOTES:

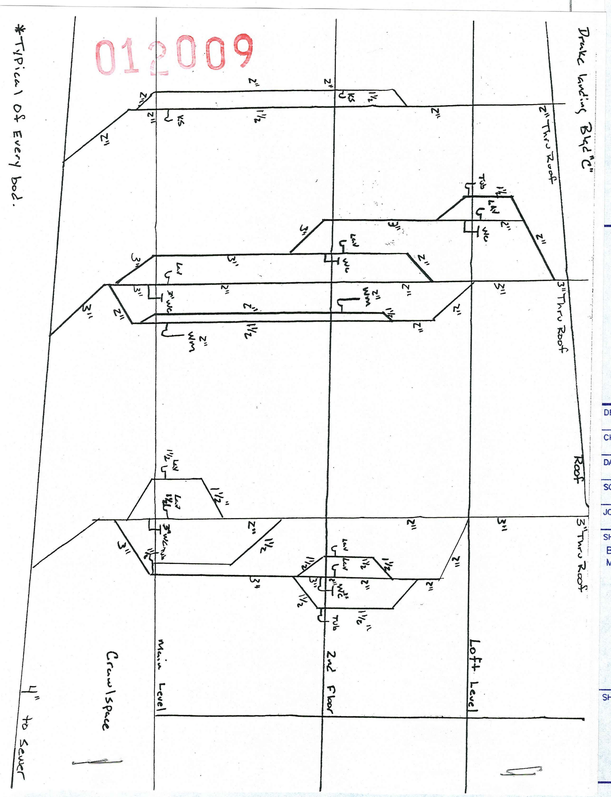
1. TOILET EXHAUST FAN F-1 CONNECTED TO 4" EXHAUST DUCT TO EAVE VENT. W/ ~~2~~ Two Tie together & Terminated to outside of Bldg. Not to EAVE. Exhaust Fans Run in 3"
2. NOT USED.
3. 3" SAN & 2" VENT UP.
4. ¾" RHWS & R UP AND DOWN TO MANIFOLD.
5. 1-½" SAN, ½" H & CW UP TO SINK.
6. 1-½" SAN, ½" H & CW UP TO LAVATORY. 1½ San (Not 1¼)
7. 1-½" SAN, ¾" H & CW UP TO BATHTUB.
8. 3" SAN, ½" CW UP TO WC.
9. 3" SAN UP.
10. 1-½" SAN UP. 1½ San (Not 1¼)
11. 3" SAN STUB. CAPPED FOR FUTURE USE.
12. ¾" GAS LINE UP AND DOWN TO FIREPLACE.
13. 3" SAN UP TO FLOOR DRAIN. 2" to Floor Drains
14. 1½" VENT UP.
15. 1½" SAN AND VENT UP.
16. 1½" SAN UP. 2" Drain for Kitchen w/ 1½ vent
17. ¾" H & CW TO SERVE TOILET GROUP AND WASHER BOX.

*Note:
mechanical Room 2 - 24" x 24" Combustion Air Grates will Be installed 1 - 12" A.F.F. 1 - 12" Below ceiling



2 M2C.1 **MAIN FLOOR PLAN** SCALE: ⅛" = 1'-0"

NORTH



REVISIONS:

Town of Frisco Building Department
Date: _____
Plan Review #: _____

DRAKE LANDING
Building "C"
Lot 4R, Lakepoint at Frisco
Frisco, Colorado 80433

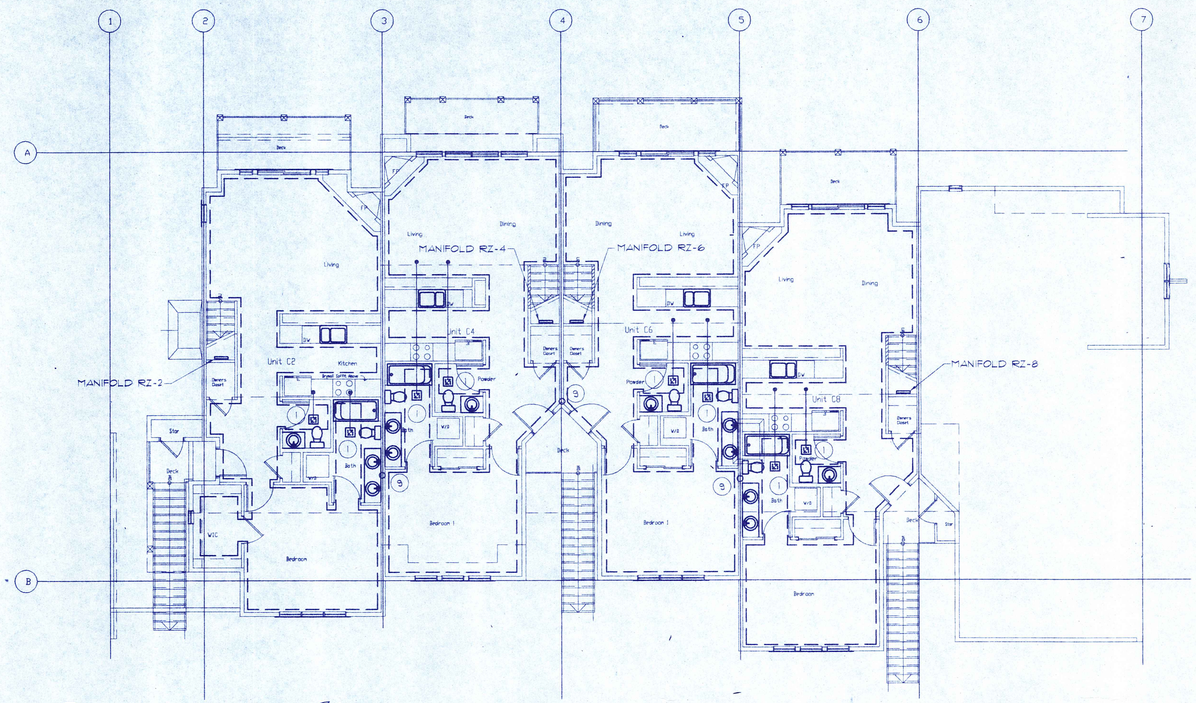
M-E / YODER ENGINEERS, INC.
0048 E. BEAVER CREEK BLVD. SUITE 307
P.O. BOX 5740, AVON, CO. 81620
PH: (970) 949-6000 FAX: (970) 949-1959

DRAWN BY:	MDC
CHECKED BY:	MPD
DATE:	11/17/00
SCALE:	1/8"=1'-0"
JOB NUMBER:	8052.00

SHEET INFORMATION:
BELOW GRADE & MAIN FLOOR PLANS

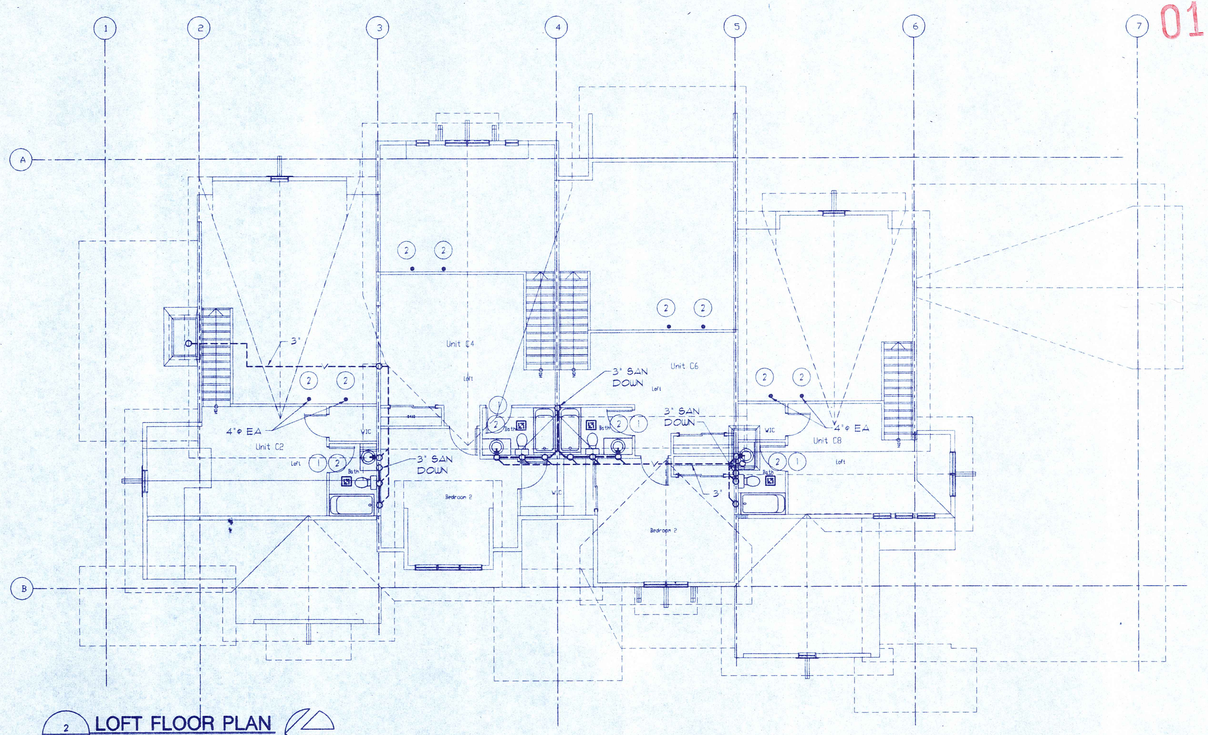
SHEET NUMBER:
M2C.1

FILE LOCATION: G:\MECH\DWGS\8052\PRES\8052-PRES-M2C1.DWG
PLOT DATE: 11/16/00 PLOT TIME: 20:07



1 M2C2 **UPPER FLOOR PLAN**
SCALE: 1/8" = 1'-0"

NORTH



2 M2C2 **LOFT FLOOR PLAN**
SCALE: 1/8" = 1'-0"

NORTH

012009

FLAG NOTES:

1. TOILET EXHAUST FAN F-1 CONNECTED TO 4"ø EXHAUST DUCT UP.
2. 4"ø EA UP TO ROOF CAP.
3. 3" SAN & 2" VENT UP.
4. ¾" RHUB & R UP TO MANIFOLD.
5. 1-½" SAN, ½" H & CW UP TO SINK.
6. 1-¼" SAN, ½" H & CW UP TO LAVATORY.
7. 1-½" SAN, ¾" H & CW UP TO BATHTUB.
8. 3" SAN, ½" CW UP TO WC.
9. 3" SAN UP.
10. 1-¼" SAN UP.
11. 3" SAN STUB. CAPPED FOR FUTURE USE.
12. ¾" GAS LINE UP TO FIREPLACE.

REVISIONS:

RECEIVED
Town of Frisco
Building Department
Date: _____
Plan Review #: _____

DRAKE LANDING
Building "C"
Lot 4R, Lakepoint at Frisco
Frisco, Colorado 80433

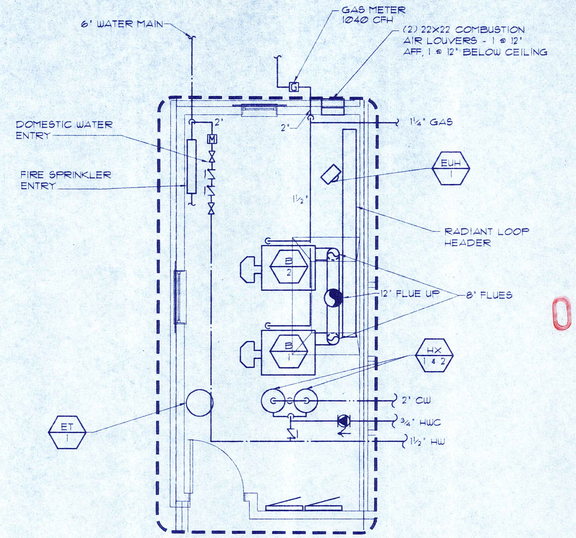
M-E / YODER ENGINEERS, INC.
0049 E. BEAVER CREEK BLVD. SUITE 307
P.O. BOX 5940, AVON, CO. 81620
PH: (970) 949-6000 FAX: (970) 949-1459

DRAWN BY:	MDC
CHECKED BY:	MPD
DATE:	11/17/00
SCALE:	1/8"=1'-0"
JOB NUMBER:	8052.00

SHEET INFORMATION:
UPPER & LOFT FLOOR PLAN

SHEET NUMBER:
M2C.2

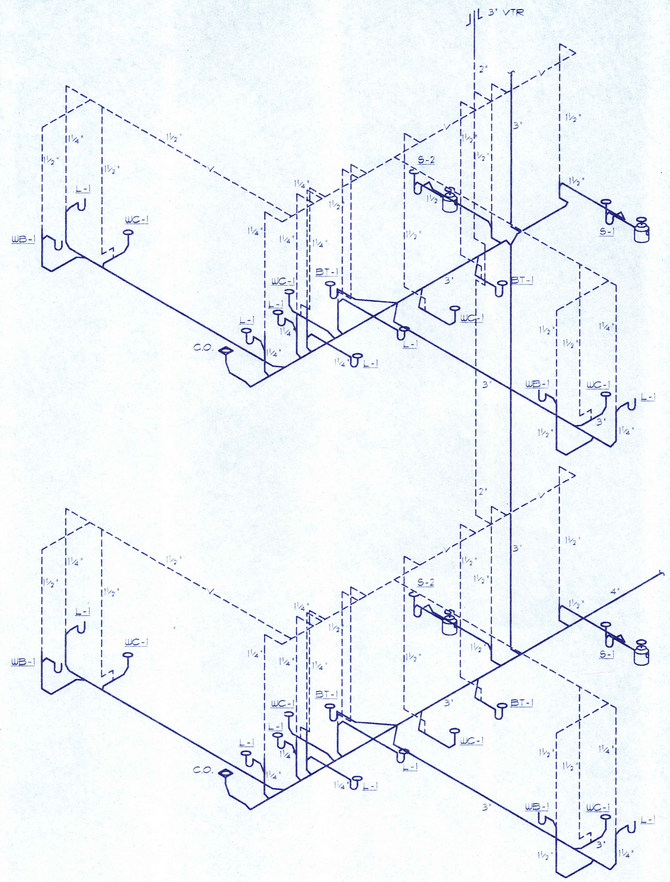
FILE NAME: M2C2.DWG FILE LOCATION: C:\MEDATA\8052-DRAKE-LANDING\



1 M3C.1 **MECHANICAL ROOM DETAIL**
SCALE: ¼" = 1'-0"

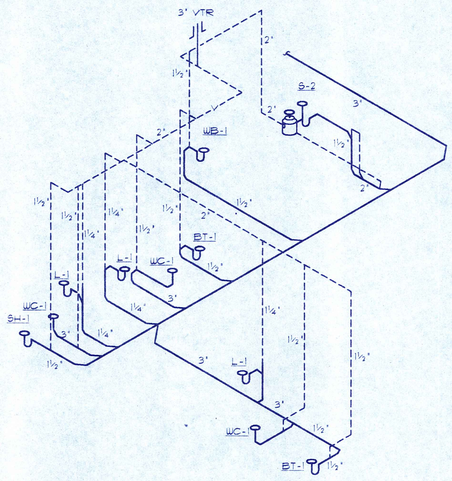
NORTH

014029



012009

3 M3C.1 **PLUMBING ISOMETRIC - TYP. OF UNITS C1-C8**
SCALE: NONE



2 M3C.1 **PLUMBING ISOMETRIC - UNIT C9**
SCALE: NONE

REVISIONS:

Received by
Town of Frisco
Building Department
Date:
Plan Review #:

DRAKE LANDING
Building "C"
Lot 4R, Lakepoint at Frisco
Frisco, Colorado 80433

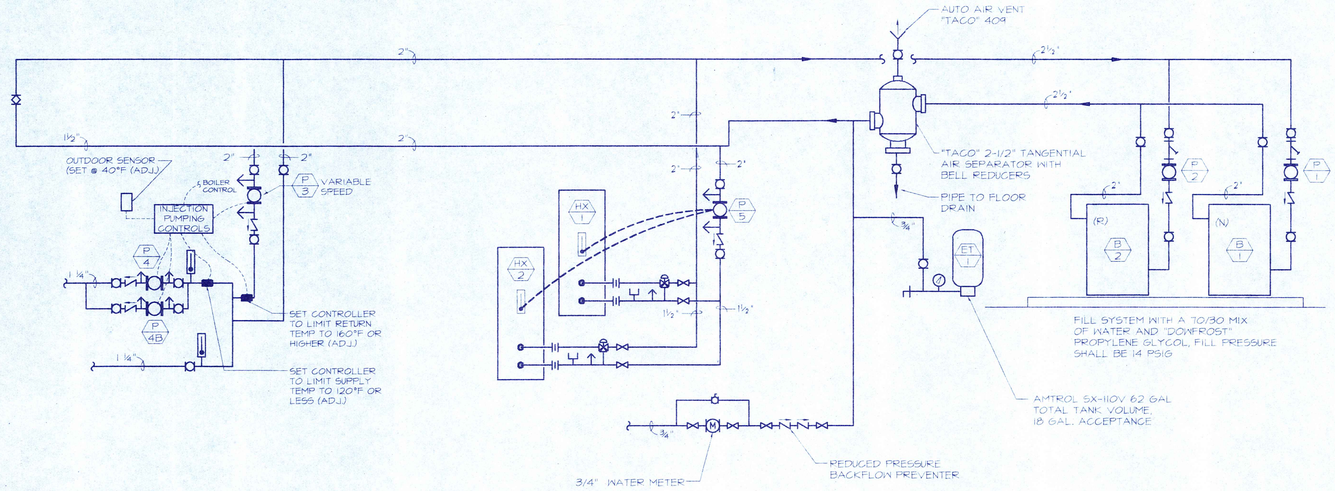
M-E / YODER ENGINEERS, INC.
0049 E. BEAVER CREEK BLVD. SUITE 307
P.O. BOX 5940, AVON, CO. 81620
PH: (970) 949-6000 FAX: (970) 949-1959

DRAWN BY:	MDC
CHECKED BY:	MPD
DATE:	11/17/00
SCALE:	1/8"=1'-0"
JOB NUMBER:	8052.00

SHEET INFORMATION:
DETAILS

SHEET NUMBER:
M3C.1

FILE NAME: M3C1.DWG
PLOT DATE: 11/29/00
FILE LOCATION: C:\MEP\WORK-PROJECTS\CAMPWAY
PLOT TIME: 08:12



1 / M4C.1 **BOILER PIPING DIAGRAM**
SCALE: NONE

RECEIVED
Town of Frisco
Building Department
Date: _____
Plan Review #: _____

014029

REVISIONS:

DRAKE LANDING
Building "C"
Lot 4R, Lakepoint at Frisco
Frisco, Colorado 80433

M.E. / VODER ENGINEERS, INC.
0048 E. BEAVER CREEK BLVD. SUITE 307
P.O. BOX 5140, AVON, CO. 81620
PH: (970) 949-6000 FAX: (970) 949-1959

DRAWN BY:	MDC
CHECKED BY:	MPD
DATE:	11/17/00
SCALE:	1/8"=1'-0"
JOB NUMBER:	8052.00

SHEET INFORMATION:
SCHEMATICS

SHEET NUMBER:
M4C.1

FILE: WWW.DWG - LAYOUT: M4C.1 - XREF: C:\DRAWINGS\8000\8052-ARCH-SHELL.DWG
PLOT DATE: 11/17/00 10:05
PLOT TIME: 11:49 AM