

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING INSPECTION

PERMIT

PERMIT ISSUED

Permit Number: 070293

JUN - 1 2007

CITY OF PORTLAND

Please Read Application And Notes, If Any, Attached

This is to certify that RAND REBECCA B /Henck Design and Fabrication

has permission to install Type I hood system

AT 390 COMMERCIAL ST

042 D004001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of this State and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and when permission procured before this building or part thereof is loaded or enclosed-in. 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. Area Case
Health Dept.
Appeal Board
Other Department Name

Signature: [Handwritten Signature] 6/1/07
Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

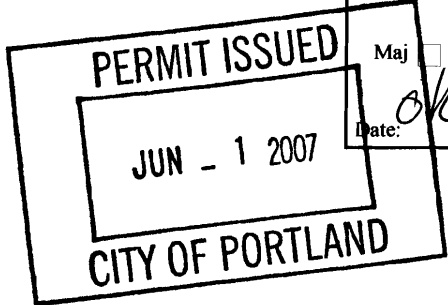
Permit No: 07-0293	Issue Date:	CBL: 042 D004001
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Location of Construction: 390 COMMERCIAL ST	Owner Name: RAND REBECCA B	Owner Address: 3 PINE GROVE WAY	Phone:
Business Name:	Contractor Name: Henckel Design and Fabrication	Contractor Address: 134 Hartley Street Portland	Phone 2073182623
Lessee/Buyer's Name	Phone:	Permit Type: Hood Systems, Commerical	Zone: WCZ

Past Use: Commercial - Restaurant - "Becky's Diner"	Proposed Use: Restaurant - "Becky's Diner" - install Type I hood system	Permit Fee: \$110.00	Cost of Work: \$8,984.98	CEO District: 2
<p><i>use Expansion under # 07-0206</i></p>		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied <i>See Conditions</i>	INSPECTION: Use Group: <i>A2</i> Type: <i>Type I Hood</i> <i>IMC-2003</i>	
Proposed Project Description: install Type I hood system		Signature: <i>Craig Cass</i>	Signature: <i>JMB 6/1/07</i>	
PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)				
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied				
Signature:		Date:		

Permit Taken By: ldobson	Date Applied For: 03/22/2007	Zoning Approval		
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<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building permits do not include plumbing, septic or electrical work.</p> <p>3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..</p>	<p align="center">Special Zone or Reviews</p> <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan	<p align="center">Zoning Appeal</p> <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied	<p align="center">Historic Preservation</p> <input checked="" type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied
	<p>Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/></p> <p>Date: <i>OK 3/28/07</i></p>	Date:	Date:



CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE	DATE	PHONE	

City of Portland, Maine - Building or Use Permit

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 07-0293	Date Applied For: 03/22/2007	CBL: 042 D004001
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Business Name:	Contractor Name: Henckel Design and Fabrication	Contractor Address: 134 Hartley Street Portland	Phone: (207) 318-2623
Lessee/Buyer's Name	Phone:	Permit Type: Hood Systems, Commerical	

Proposed Use: Restaurant - "Becky's Diner" - install Type I hood system	Proposed Project Description: install Type I hood system
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Dept: Zoning **Status:** Approved **Reviewer:** Marge Schmuckal **Approval Date:** 03/28/2007
Note: **Ok to Issue:**

Dept: Building **Status:** Approved with Conditions **Reviewer:** Jeanine Bourke **Approval Date:** 06/01/2007
Note: **Ok to Issue:**

- 1) The Hood shall be installed per IMC 2003 and NFPA 96
This permit is approved based on the plans submitted and updated for reductions in the cleaanances based on the application of a UL approved fire wrap or equivalent assembly per code.

Dept: Fire **Status:** Approved with Conditions **Reviewer:** Cptn Greg Cass **Approval Date:** 03/29/2007
Note: **Ok to Issue:**

- 1) NFPA 96 compliance letter is required
- 2) The enclosure of duct work shall comply with NFPA 96 7.7
No details are provided in plans.

Comments:

3/28/2007-mes: this was on hold until I got the final site plan approval from planning which I just received today. See permit #07-0206 for the use expansion and addition.

5/2/2007-jmb: Left voicemail w/Pete H. For details on ceiling clearance reductions, structurals and # of threaded rod details

6/1/2007-jmb: Received info, ok to issue

Please call 874-8703 or 874-8693 to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initialing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

A Pre-construction Meeting will take place upon receipt of your building permit.

- | | | |
|-------------------------------------|---------------------------------------|--|
| <input type="checkbox"/> | Footing/Building Location Inspection: | Prior to pouring concrete |
| <input type="checkbox"/> | Re-Bar Schedule Inspection: | Prior to pouring concrete |
| <input type="checkbox"/> | Foundation Inspection: | Prior to placing ANY backfill |
| <input checked="" type="checkbox"/> | Framing/Rough Plumbing/Electrical: | Prior to any insulating or drywalling |
| <input checked="" type="checkbox"/> | Final/Certificate of Occupancy: | Prior to any occupancy of the structure or use. NOTE: There is a \$75.00 fee per inspection at this point. |

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection.

If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

NA CERTIFICATE OF OCCUPANCIES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED

[Signature]
Signature of Applicant/Designee

6/1/07
Date

[Signature]
Signature of Inspections Official

6/1/07
Date

CBL: 42-D-4

Building Permit #: 070293



Henckel Design and Fabrication

134 Hartley Street
Portland, Maine
04103

Phone: 1-207-318-2623
Fax: 1-207-772-8952
E-mail: petehenckel@maine.rr.com

Becky's

May 29, 2007

Attn Jeanie Bourke
From Pete Henckel
Subject Becky's Diner

Jeanie you had called and ask for the information regarding the hanging schedule for the hoods as well as what they would be hanging from the drawing that where provided on the PDF file should contain the type of hanging structure the span length as well as the revisions to change the elevation of the kitchen space to allow for the installation of the exhaust and return air system. If this has not been made available to you I can provide you with a hard copy of the blue prints that we could review together but where I hand delivered these documents to your office two months ago when I applied for the permit on a PDF file they may have been missed placed in any event I would enjoy a chance to review these items of concern to allow the permit to be released I know that this is a very busy time for permit applications and I would be happy to review these items.

Jeanie below are the standard UL Rated Hanging systems provided by Sammy Anchors that H/D/F uses when we encounter a wooden structure as well as the standard procedures used during the installation of hood systems per code.

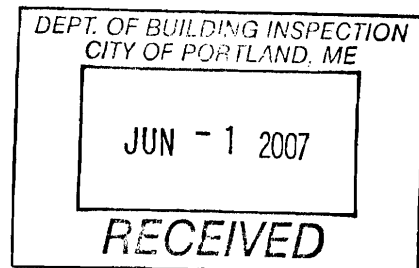
The hanging structure for the hoods are 2"X12" 16 on center with a span of 16' the Sammy Anchors to be used are UL Listed 9R21 to anchor 3/8" threaded rod with a max load rating of 1200LBS per anchor our hoods will be hung by five points plus anchored to steel studs where the hoods come in contact with the fire rate walls the hoods max weight is 330LBS hung at five points will spread the load per hanger to less then 66 LBS before it is anchored to the wall. When the hoods are to close to a combustibile #15 A Fire Barrier insulation will be used per code.

The chase way shown on the prints will be fire rate and the ducting insulated until it terminates at the roof thru the roofing curbs.

All walls that the hoods come in contact with will be made of steel studs with a 5/8" fire rated sheetrock installed over the steel studs the sheetrock will then be cover with 24GA stainless steel per code.

Jeanie I will try to call you tomorrow from Comish where we are installing a hood system my reception is poor in that area but if you would like to reach me I would look forward to hearing from you my # 318 2623 and thank you for your time and help in this.

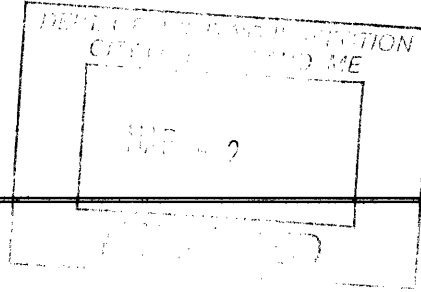
*070293
42D4*



- Restaurant Hoods • Boiler Breaching • HVAC Design • Curb Adaptors and Unit Installations •
- Welded Ducting • Custom Welding Fabrication •



Phone: 1-207-318-2623
Fax: 1-207-772-8952
E-mail: petehenckel@maine.rr.com



March 22, 2007

PROJECT:Becky's Diner

Jamie here is the quote for the welded exhaust work to be installed for your hood system As well as the make up air ducting required.

Below you will find the scope of work with the steps needed all of the step have a certain fire code that needs to be satisfied some of the steps them selves are solely to meet NFPA 2003 if you choose H/D/F for this work a permit will be obtained for the work listed below. Please note this quote includes no electrical work and only the items that are provided by H/D/F will be warrantied all hole to be cut in the structure will be done by the general contractor.

- #1.stainless steel backsplash will be installed where the hoods are to be located (please note if the walls were the hoods are to be located is made of wood a steel stud wall must be installed and then fire rated for code before the back splash can be set if the structure is cinder block steel suds are not required)
- #2.three hood will be hung per code (there is a question of the ceiling elevation and the hood height this can be corrected when the hoods are ordered)
- #3.16GA welded exhaust duct will be installed connecting the hoods to the exterior exhaust fans (there are three ways to install this system I have chosen what would be the most cost affective and will review this with you)
- #4.15A Fire Barrier will be installed per code to the welded duct.
- #5.make up air fans will be installed and ducted to the hood plenums (the exterior location of these units at this time have not been satisfied)
- #6.once the exhaust duct terminates the exhaust fans will be lifted in place.
- #7.clean outs and access doors are per code (6required).
- #8.the larger of the hoods will require two welded exhaust point from the hood to one exhaust duct.

The quote for the work listed above is \$8984.89 a deposit of 50% is required before the work can begin with the balance paid upon the work listed being completed any work added to this will be billed upon its completion.

Thank you Pete Henckel

PDF

- Restaurant Hoods • Boiler Breaching • HVAC Design • Curb Adapters and Unit Installations •
- Welded Ducting • Custom Welding Fabrication •

HOOD INFORMATION

HOOD NO.	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM					SUPPLY PLENUM					HOOD CONSTRUCTION	HOOD CONFIG.		
				TOTAL EXH. CFM	WIDTH	LENG.	RISER(S) DIA.	CFM	S.P.	TOTAL SUP. CFM	WIDTH	LENG.	RISER(S) DIA.		CFM	S.P.	END TO END
1	4812 SNDE-PSP-F	8' 0.00"Nom. 8' 0.00"DB	600 Deg.	2400	10"	23"		2480	-0.563"	1680					430 SS Where Exposed	LEFT	N/A
2	4812 SNDE-PSP-F	9' 0.00"Nom. 9' 0.00"DB	600 Deg.	2700	10"	25"		2700	-0.600"	1890					430 SS Where Exposed	RIGHT	N/A
3	454 SNDA	11' 9.00"Nom. 11' 9.50"DB	300 Deg.	3525	10"	33"		3525	-0.726"	0					430 SS Where Exposed	ALONE	N/A
4	364 MISC-(PSP)	12' 0.00"Nom. 12' 0.00"DB	300 Deg.	0						2000					430 SS Where Exposed	ALONE	N/A

HOOD INFORMATION

HOOD NO.	FILTER(S)				LIGHT(S)			UTILITY CABINET(S)					FIRE SYSTEM PIPING	HOOD WEIGHT	
	TYPE	QTY	HEIGHT	LENGTH	QTY	TYPE	WIRE GUARD	LOCATION	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY			LOCATION
1	Alum. Baffle w/ Handles	1	16"	16"	3	Incandescent Light	NO							NO	324 LBS.
		4	16"	20"											
2	Alum. Baffle w/ Handles	3	16"	16"	3	Incandescent Light	NO							NO	366 LBS.
		3	16"	20"											
3	Alum. Baffle w/ Handles	7	16"	30"	4	Incandescent Light	NO							NO	385 LBS.
4					0									NO	96 LBS.

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	POS.	LENGTH	WIDTH	HEIGHT	RISER(S)				
					WIDTH	LENG.	DIA.	CFM	S.P.
1	Front	96"	16"	6"	8"	26"		840	0.140"
					8"	26"		840	0.140"
2	Front	108"	16"	6"	10"	24"		945	0.159"
					10"	24"		945	0.159"
4	Front	144"	16"	6"	10"	24"		1000	0.141"
					10"	24"		1000	0.141"

HOOD OPTIONS

HOOD NO.	OPTION
3	BACK STANDOFF 3' Wide
	RIGHT END STANDOFF 3' Wide

NOTE: HOOD LABELED #4 IS A PERFORATED SUPPLY PLENUM ONLY

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NE Exception Taken

Revise and Resubmit

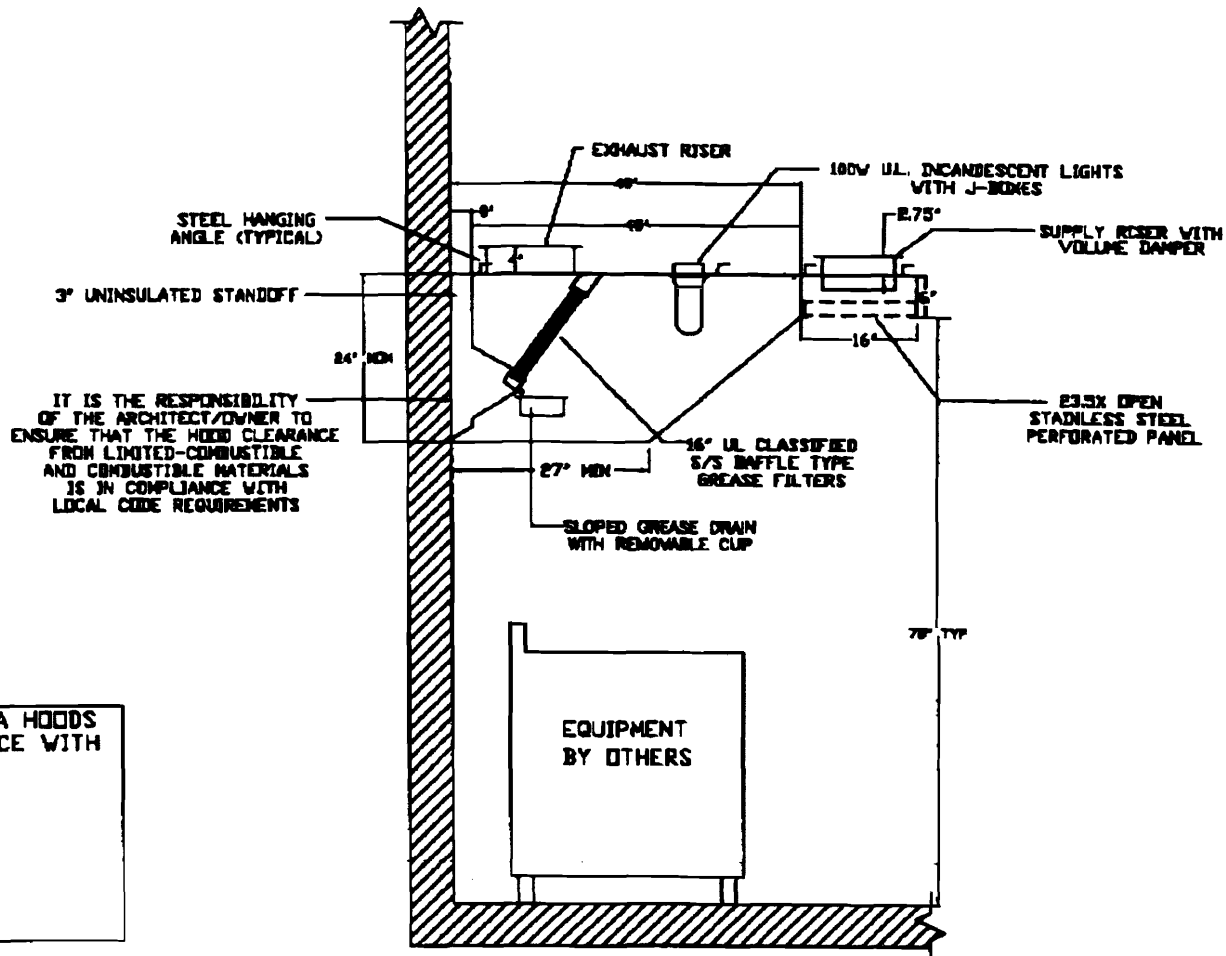
SIGNATURE _____

Your Title _____ Date _____



JOB	Becky's		
LOCATION	Bladeford, ME		
DATE	3/20/2007	JOB #	568729
DWG #	Becky's	DRAWN BY	BFC
REV.	1.00	SCALE	8.5" x 11"

- GENERAL NOTES**
- ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED DIMENSIONS BY ELECTRICAL CONTRACTOR.
 - ALL PLUMBING "FIELD" CONNECTIONS AND RELATED DIMENSIONS BY PLUMBING CONTRACTOR.
 - ALL ASSOCIATED WORKER MATERIALS BY INSTALLED CONTRACTOR.
 - IF LESS FACTORY LIGHTS ARE ORDERED HANGER BRACKETS AS SHOWN ON PLAN.
 - ALL CONNECTIONS FROM COFFER-TOP MUST PERMITS TO BE MADE BY MECHANICAL CONTRACTOR.
 - ALL LIGHTS SHALL BE ORDERED BY COFFER-TOP. ALL LIGHTS MUST BE MADE TO PERMITS BY ELECTRICAL CONTRACTOR.
 - LIGHTS PER LIGHT PROVIDED BY INSTALLING CONTRACTOR.
 - WIRING RACKS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
 - WIRELESS CONNECTIONS AROUND ALL SIZED EQUIPMENT TO BE PROVIDED BY CONTRACTOR AND DIMENSIONS ON THESE CONNECTIONS FOR ACCURACY, INTERFERENCE AND ADMINISTRATION OF COFFER-TOP MUST BE ORDERED FROM MECHANICAL CONTRACTOR FOR PROTECTION OF CONTRACTOR.
 - ORDER AND "TURNKEY" COSTS OF THIS EQUIPMENT SHALL BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF MANUFACTURE.
 - INCLUDE HOOD DIMENSIONS AS SHOWN ON DRAWING.



SECTION VIEW - MODEL 458-SNDa WITH MISC-PSP 168 SUPPLY PLENUM

CAPTIVE-AIRE SNDA HOODS
BUILT IN COMPLIANCE WITH



NFPA #96
NSF

12' HOOD SECTION VIEW

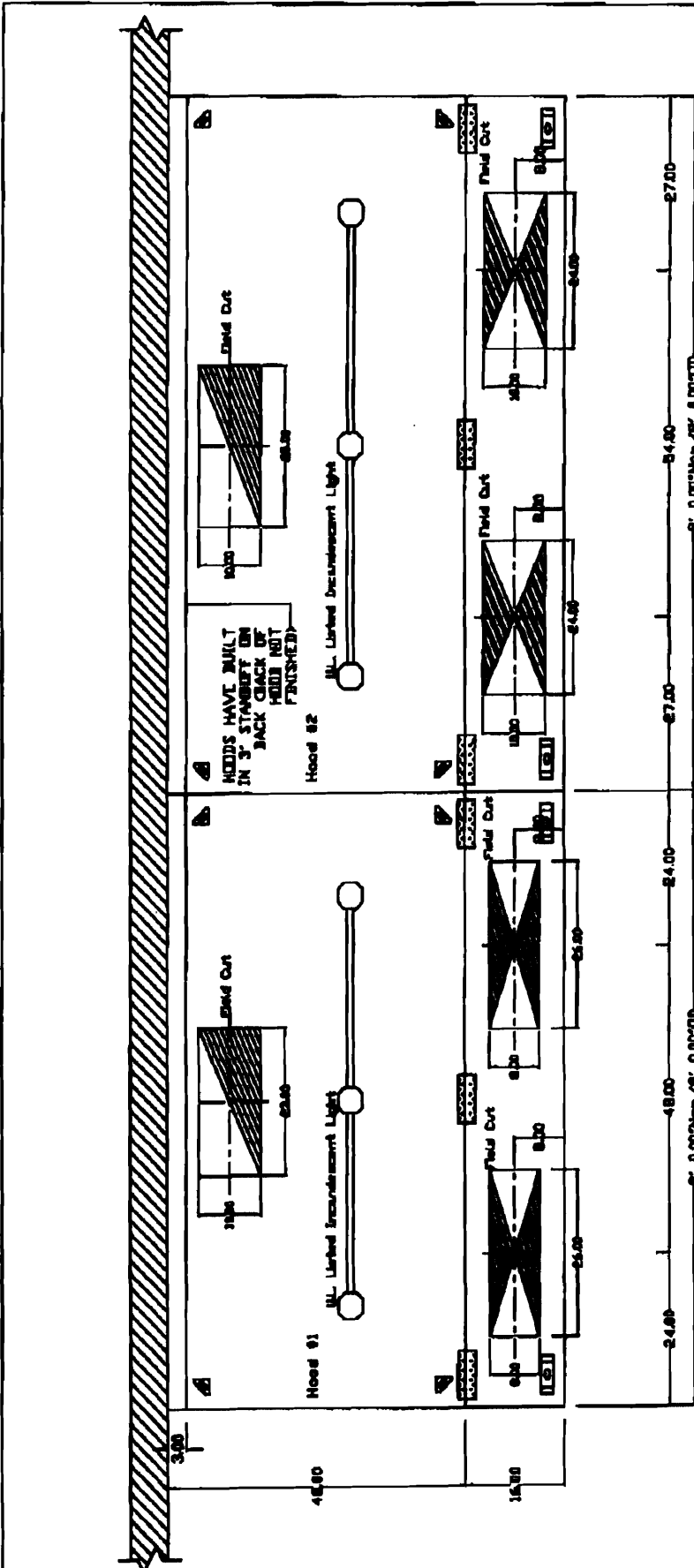
CUSTOMER APPROVAL TO MANUFACTURE:

- Approved as Noted
- Approved with MD Exception Taken
- Revised and Resubmit

SIGNATURE _____
Your Title _____ Date _____

CAPTIVE-AIRE

JOB Becky's	
LOCATION Biddeford, ME	
DATE 3/20/2007	JOB # 568729
DWG # Becky's	DRAWN BY BFC
REV. 1.00	SCALE 8.5" x 11"



PLAN VIEW - 8' 0.00' LONG 4812SND-2-PSP-F

PLAN VIEW - 9' 0.00' LONG 4812SND-2-PSP-F

17' HOOD PLAN VIEW

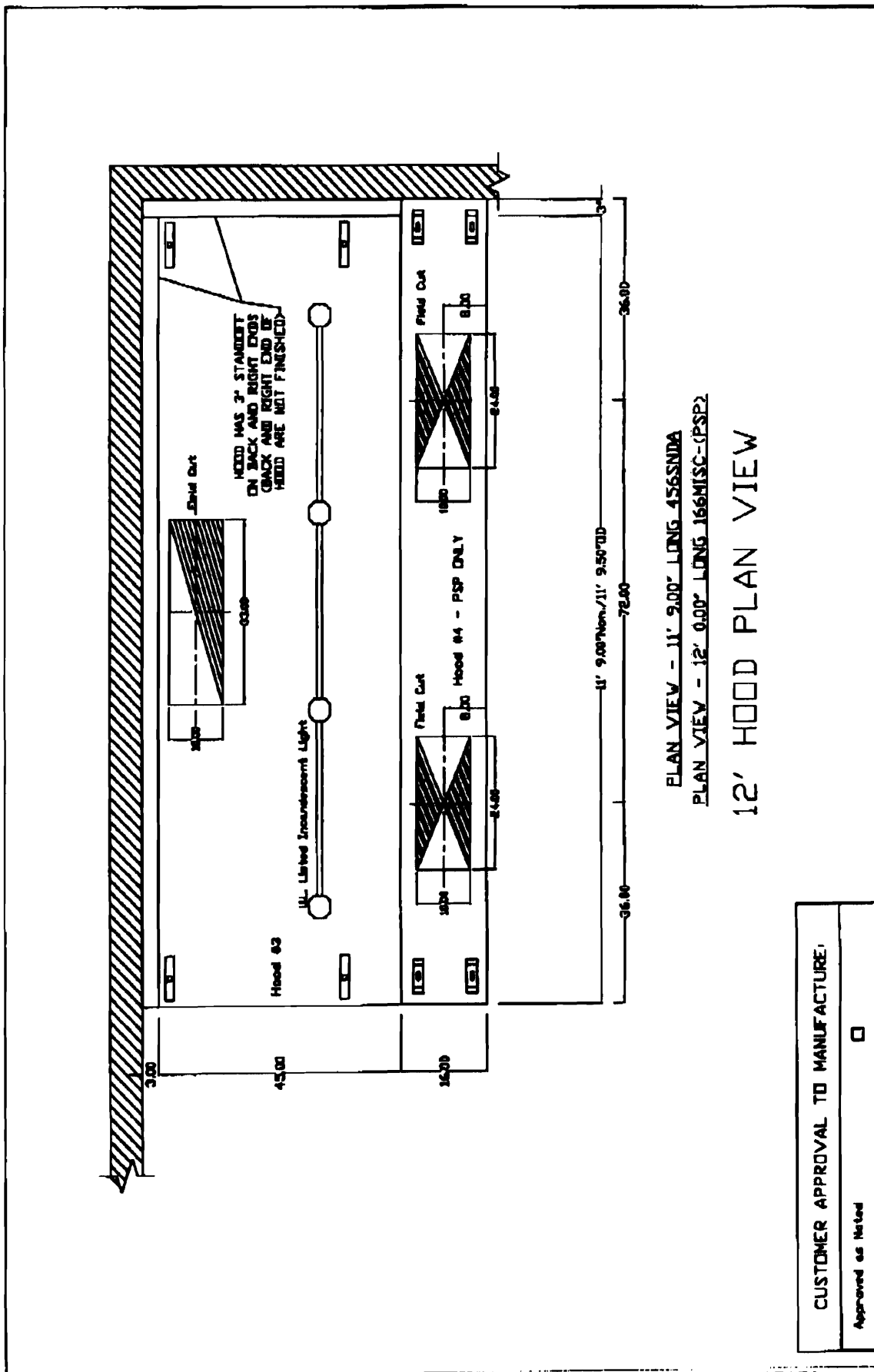
CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted
 Approved with MD Exception Taken
 Revised and Resubmit

SIGNATURE _____ DATE _____
 Year Title _____



JOB	Becky's
LOCATION	Biddleford, ME
DATE	3/20/2007
JOB #	568729
DWG #	Becky's
REV	1.00
SCALE	B.S' x 11'
DRAWN BY BFC	



PLAN VIEW - 11' 9.00" LONG 456SNDIA
 PLAN VIEW - 12' 0.00" LONG 166MISC-(PSP2)

12' HOOD PLAN VIEW

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted
 Approved with NO Exception Taken
 Review and Remedy
 SIGNATURE _____
 Your Title _____ Date _____



JOB	Becky's
LOCATION	Biddeford, ME
DATE	3/20/2007
DWG #	Becky's
REV.	1.00
JOB #	568729
DRAWN BY	BFC
SCALE	8.5' x 11'

FAN INFORMATION

FAN UNIT NO.	FAN UNIT MODEL #	EXHAUST FAN										SUPPLY FAN								
		MODEL	TAG	CFM	S.P.	RPM	H.P.	Ø	VOLT	FLA	BLOWER	HOUSING	TAG	CFM	S.P.	RPM	H.P.	Ø	VOLT	FLA
1	NCA30HPFA 17' Hood Exhaust	NCA30HPFA		5100	- 2.000"	785	3.000	1	230	17.0										
2	NCA24HPFA 12' Hood Exhaust	NCA24HPFA		3525	- 2.000"	1053	3.000	1	208	18.7										
3	A3-018										G10	A3		5570	1.000"	622	3.000	1	230	17.0

FAN OPTIONS

FAN NO.	OPTION (Qty. - Descr.)
1	1 - Grease Box
2	1 - Grease Box
3	1 - Gravity Backdraft Damper for Size 3 Housing

CURB ASSEMBLIES

NO.	ON FAN	ITEM	SIZE
1	# 1	Curb	30.500"W x 36.500"L x 20.000"H Pitched Vented Hinged
2	# 2	Curb	31.500"W x 31.500"L x 20.000"H Pitched Vented Hinged
3	# 3	Curb	35.000"W x 35.000"L x 20.000"H Pitched

SPECIFY ROOF PITCH FOR CURBS PRIOR TO RELEASING ORDER
____:12

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with MD Exception Taken

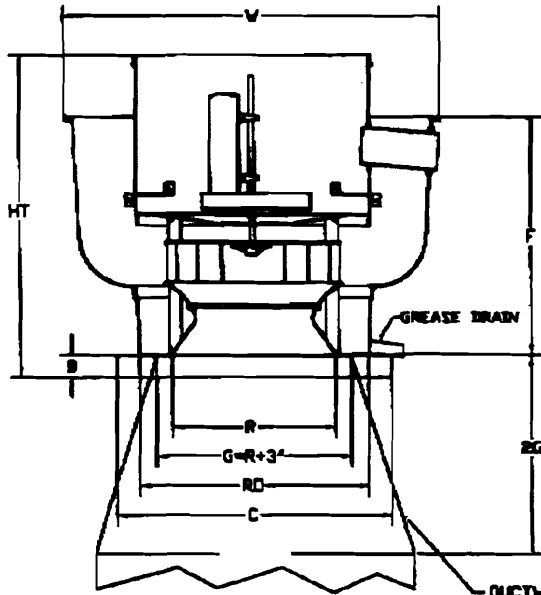
Review and Resubmit

SIGNATURE _____

Your Title _____ Date _____

CAPTIVEAIR	JOB Becky's	
	LOCATION Bliddeford, ME	
	DATE 3/20/2007	JOB # 568729
	DWG # Becky's	DRAWN BY BFC
	REV. 1.00	SCALE 8.5' x 11'

NCAHPFA SERIES UPBLAST EXHAUST FANS (UL762)



FEATURES:

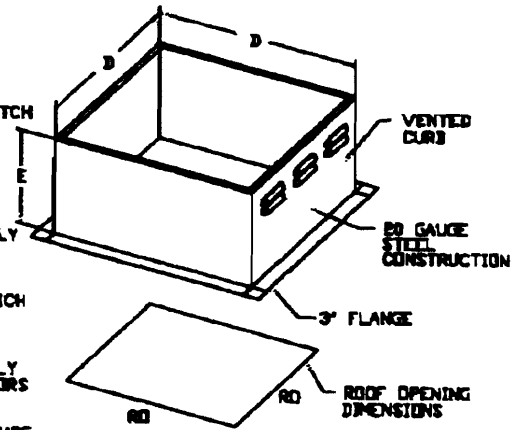
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL762
- ANCA SOUND AND AIR CERTIFIED
- WIRING FROM MOTOR TO DISCONNECT SWITCH
- WEATHERPROOF DISCONNECT
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DEGRADATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

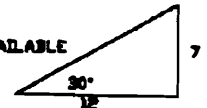
ABNORMAL FLARE-UP TEST
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS:

- GREASE BOX
- HINGED FAN
- PITCHER CURB



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.



SPECIFY PITCH
 EXAMPLE 7/12 PITCH = 30° SLOPE

NCAHPFA BELT DRIVE CENTRIFUGAL UP-BLAST EXHAUST FANS DIMENSIONAL DATA (DUCTWORK BETWEEN EXHAUST RISER ON HOOD AND FAN (BY OTHERS))

FAN MODEL	HT	V	B	C	F	R	RD	WEIGHT LB
NCA24HPFA	37 1/2	43 3/8	2	32	30 5/8	23 7/8	29	270
NCA30HPFA	40	52 3/4	2	40	39 1/2	24	36	410

CURB DIMENSIONAL DATA

FAN MODEL	D	E
NCA24HPFA	31 1/2	20
NCA30HPFA	38 1/2	20

12' HOOD →
 17' HOOD →

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Review and Resubmit

SIGNATURE _____

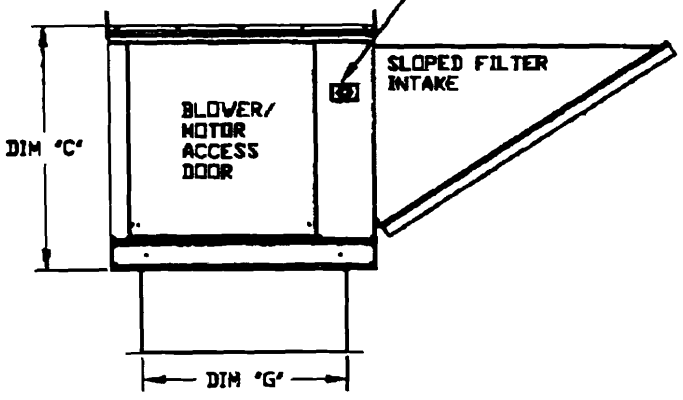
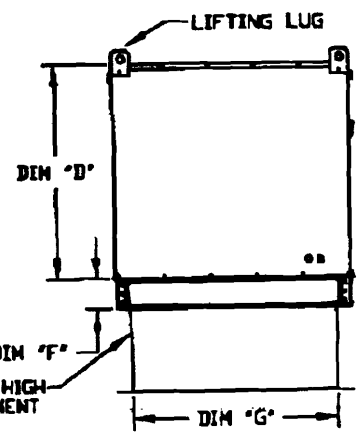
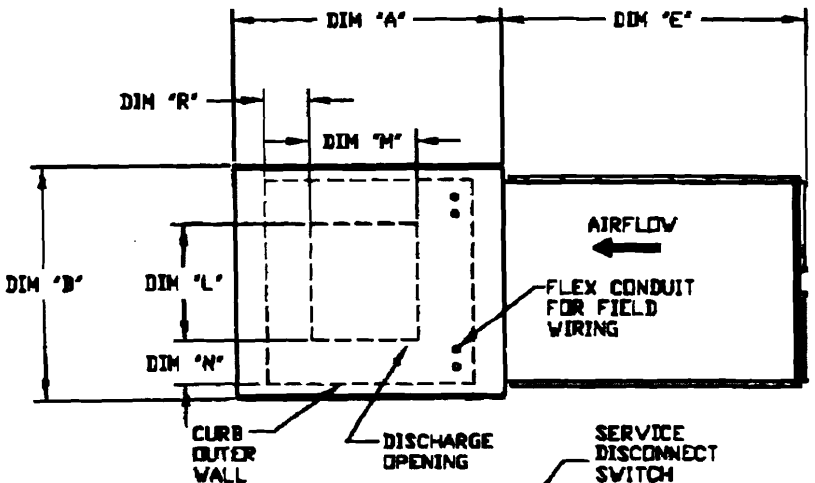
Your Title _____ Date _____



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LOCATION	Bladeford, ME
DATE	3/20/2007
JOB #	568729
DWG #	Becky's
DRAWN BY	BFC
REV.	1.00
SCALE	8.5' x 11'

MODULAR OUTDOOR DOWN DISCHARGE BLOWER WITH INTAKE HOOD

REV. 12/2/06



ALL DIMENSIONS ARE NOMINAL AND GIVEN IN INCHES.

ROOF OPENING 2" SMALLER THEN CURB DIMENSION.

MODEL/WEIGHT	UNIT DIMENSIONS								DISCHARGE OPENING				UNIT INFORMATION (CFM RANGE)						
	A	B	C	D	E	F	G	H	N	N	R	1	2	3	4				
G18 925 LBS	45-1/8	41-3/8	43-3/8	38-1/16	51-3/8	8-1/4	35	22	19	6-1/2	7	12"	20"	26"	36"	3000	6000	6000	CFM = 762 FPM

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____



JOB	Becky's
LOCATION	Bldford, ME
DATE	3/20/2007
JOB #	568729
DWG #	Becky's
DRAWN BY	BFC
REV.	1.00
SCALE	8.5" x 11"



PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Lee Urban- Director of Planning and Development
Michael J. Nugent- Inspections Division Director

Kitchen Exhaust System Checklist and Code Provisions

Dear Applicant,

The following is a checklist to assist you in filing for a permit for a Kitchen Exhaust system. The applicable Mechanical Code provisions have also been attached. Please complete this and submit job specific construction documents that demonstrate compliance with the attached information.

Type of System:

Type I Type II

(Type I systems are systems that vent fryers, grills, broilers, ovens or woks. Type II systems are systems that vent steamers and other non grease producing appliances)

Type of Materials:

Is the hood Stainless steel or other type of steel? yes If Other, what Type? _____

Is the duct work Stainless steel or other type of steel? NO If Other, what type? 16 Ga Black Iron welded

Thickness of the steel for the hood 18 Ga

Thickness of the duct for the hood 16 Ga

Type of Hood and Duct supports

3/8" Thread Rod UL RATED SANG
ANCHOR SYSTEM

Type of seams and Joints All welded.

installed in frames or holders so as to be readily removable without the use of separate tools, unless designed and installed to be cleaned in place and the system is equipped for such cleaning in place. Removable filter units shall be of a size that will allow them to be cleaned in a dishwashing machine or pot sink. Filter units shall be arranged in place or provided with drip-intercepting devices to prevent grease or other condensate from dripping into food or on food preparation surfaces.

507.11.2 Mounting position. Filters shall be installed at an angle of not less than 45 degrees (0.79 rad) from the horizontal and shall be equipped with a drip tray beneath the lower edge of the filters.

507.12 Canopy size and location. The inside lower edge of canopy-type commercial cooking hoods shall overhang or extend a horizontal distance of not less than 6 inches (152 mm) beyond the edge of the cooking surface, on all open sides. The vertical distance between the front lower lip of the hood and the cooking surface shall not exceed 4 feet (1219 mm).

Exception: The hood shall be permitted to be flush with the outer edge of the cooking surface where the hood is closed to the appliance side by a noncombustible wall or panel.

507.13 Capacity of hoods. Commercial food service hoods shall exhaust a minimum net quantity of air determined in accordance with this section and Sections 507.13.1 through 507.13.4. The net quantity of exhaust air shall be calculated by subtracting any airflow supplied directly to a hood cavity from the total exhaust flow rate of a hood. Where any combination of extra-heavy-duty, heavy-duty, medium-duty, and light-duty cooking appliances are utilized under a single hood, the highest exhaust rate required by this section shall be used for the entire hood.

507.13.1 Extra-heavy-duty cooking appliances. The minimum net airflow for Type I hoods used for extra-heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Wall-mounted canopy	550
Single island canopy	700
Double island canopy (per side)	550
Backshelf/pass-over	Not allowed
Eyebrow	Not allowed

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.2 Heavy-duty cooking appliances. The minimum net airflow for Type I hoods used for heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Wall-mounted canopy	400
Single island canopy	600
Double island canopy (per side)	400
Backshelf/pass-over	400
Eyebrow	Not allowed

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.3 Medium-duty cooking appliances. The minimum net airflow for Type I hoods used for medium-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Wall-mounted canopy	300
Single island canopy	500
Double island canopy (per side)	300
Backshelf/pass-over	300
Eyebrow	250

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.4 Light-duty cooking appliances. The minimum net airflow for Type I hoods used for light duty cooking appliances and food service preparation and cooking operations approved for use under a Type II hood shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Wall-mounted canopy	200
Single island canopy	400
Double island canopy (per side)	250
Backshelf/pass-over	250
Eyebrow	250

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.14 Noncanopy size and location. Noncanopy-type hoods shall be located a maximum of 3 feet (914 mm) above the cooking surface. The edge of the hood shall be set back a maximum of 1 foot (305 mm) from the edge of the cooking surface.

507.15 Exhaust outlets. Exhaust outlets located within the hood shall be located so as to optimize the capture of particulate matter. Each outlet shall serve not more than a 12-foot (3658 mm) section of hood.

507.16 Performance test. A performance test shall be conducted upon completion and before final approval of the installation of a ventilation system serving commercial cooking appliances. The test shall verify the rate of exhaust airflow required by Section 507.13, makeup airflow required by Section 508, and proper operation as specified in this chapter. The permit holder shall furnish the necessary test equipment and devices required to perform the tests.

507.16.1 Capture and containment test. The permit holder shall verify capture and containment performance of the exhaust system. This field test shall be conducted with all appliances under the hood at operating temperatures. Capture and containment shall be verified visually by observing smoke or steam produced by actual or simulated cooking, such as with smoke candles, smoke puffers, etc.

SECTION 508 COMMERCIAL KITCHEN MAKEUP AIR

508.1 Makeup air. Makeup air shall be supplied during the operation of commercial kitchen exhaust systems that are provided for commercial cooking appliances. The amount of

Grease Gutters provided? yes

Hood Clearance from Combustibles materials NFPA Compliant

Duct Clearance from Combustibles materials NFPA Compliant

Vibration Isolation System:

yes

Air Velocity within the duct system Min 1500 FPM

Grease accumulation prevention system

yes

Cleanouts yes

Grease Duct enclosure Fire Rated Chase

Exhaust Termination at The Roof See (PDF File)

Fire Suppression system

By others (Simplex Grinnell)

Exhaust fan mounting and clearance from the roof or wall 43" From the Roof

Exhaust fan distance from other vents or openings 10' Min

Exhaust fan height above adjoining grade 28'

Hood Specs

Style of hood Type I Captive Air

Type of Filter: Aluminum Baffles

Height of filter above nearest cooking surface: 36" Min 47" Max

Capacity of hood in CFM 12' Hood 3525^{CFM} / 17' 5100^{CFM}

Make up Air system description and capacity

Min 3000 CFM Max 6000 CFM

SECTION 506 COMMERCIAL KITCHEN HOOD VENTILATION SYSTEM DUCTS AND EXHAUST EQUIPMENT

506.1 General. Commercial kitchen hood ventilation ducts and exhaust equipment shall comply with the requirements of this section. Commercial kitchen grease ducts shall be designed for the type of cooking appliance and hood served.

506.2 Corrosion protection. Ducts exposed to the outside atmosphere or subject to a corrosive environment shall be protected against corrosion in an approved manner.

506.3 Ducts serving Type I hoods. Type I exhaust ducts shall be independent of all other exhaust systems except as provided in Section 506.3.5. Commercial kitchen duct systems serving Type I hoods shall be designed, constructed and installed in accordance with Sections 506.3.1 through 506.3.12.3.

506.3.1 Duct materials. Ducts serving Type I hoods shall be constructed of materials in accordance with Sections 506.3.1.1 and 506.3.1.2.

506.3.1.1 Grease duct materials. Grease ducts serving Type I hoods shall be constructed of steel not less than 0.055 inch (1.4 mm) (No. 16 Gage) in thickness or stainless steel not less than 0.044 inch (1.1 mm) (No. 18 Gage) in thickness.

Exception: Listed and labeled factory-built commercial kitchen grease ducts shall be installed in accordance with Section 304.1.

506.3.1.2 Makeup air ducts. Makeup air ducts connecting to or within 18 inches (457 mm) of a Type I hood shall be constructed and installed in accordance with Sections 603.1, 603.3, 603.4, 603.9, 603.10 and 603.12. Duct insulation installed within 18 inches (457 mm) of a Type I hood shall be noncombustible or shall be listed for the application.

506.3.2 Joints, seams and penetrations of grease ducts. Joints, seams and penetrations of grease ducts shall be made with a continuous liquid-tight weld or braze made on the external surface of the duct system.

Exceptions:

1. Penetrations shall not be required to be welded or brazed where sealed by devices that are listed for the application.
2. Internal welding or brazing shall not be prohibited provided that the joint is formed or ground smooth and is provided with ready access for inspection.
3. Listed and labeled factory-built commercial kitchen grease ducts installed in accordance with Section 304.1.

506.3.2.1 Duct joint types. Duct joints shall be butt joints or overlapping duct joints of either the telescoping or bell type. Overlapping joints shall be installed to prevent ledges and obstructions from collecting grease or interfering with gravity drainage to the intended collection point. The difference between the inside cross-sectional dimensions of overlapping sections of duct shall not exceed 0.25 inch (6 mm). The length of overlap for overlapping duct joints shall not exceed 2 inches (51 mm).

506.3.2.2 Duct-to-hood joints. Duct-to-hood joints shall be made with continuous internal or external liquid-tight welded or brazed joints. Such joints shall be smooth, accessible for inspection, and without grease traps.

Exceptions: This section shall not apply to:

1. A vertical duct-to-hood collar connection made in the top plane of the hood in accordance with all of the following:
 - 1.1. The hood duct opening shall have a 1-inch-deep (25 mm), full perimeter, welded flange turned down into the hood interior at an angle of 90 degrees from the plane of the opening.
 - 1.2. The duct shall have a 1-inch-deep (25 mm) flange made by a 1-inch by 1-inch (25 mm by 25 mm) angle iron welded to the full perimeter of the duct not less than 1 inch (25 mm) above the bottom end of the duct.
 - 1.3. A gasket rated for use at not less than 1,500°F (815°C) is installed between the duct flange and the top of the hood.
 - 1.4. The duct-to-hood joint shall be secured by stud bolts not less than 0.25 inch (6.4 mm) in diameter welded to the hood with a spacing not greater than 4 inches (102 mm) on center for the full perimeter of the opening. All bolts and nuts are to be secured with lockwashers.
2. Listed and labeled duct-to-hood collar connections installed in accordance with Section 304.1.

506.3.2.3 Duct-to-exhaust fan connections. Duct-to-exhaust fan connections shall be flanged and gasketed at the base of the fan for vertical discharge fans; shall be flanged, gasketed and bolted to the inlet of the fan for side-inlet utility fans; and shall be flanged, gasketed and bolted to the inlet and outlet of the fan for in-line fans.

506.3.2.4 Vibration isolation. A vibration isolation connector for connecting a duct to a fan shall consist of noncombustible packing in a metal sleeve joint of approved design or shall be a coated-fabric flexible duct connector listed and labeled for the application. Vibration isolation connectors shall be installed only at the connection of a duct to a fan inlet or outlet.

506.3.3 Grease duct supports. Grease duct bracing and supports shall be of noncombustible material securely attached to the structure and designed to carry gravity and seismic loads within the stress limitations of the *International Building Code*. Bolts, screws, rivets and other mechanical fasteners shall not penetrate duct walls.

506.3.4 Air velocity. Grease duct systems serving a Type I hood shall be designed and installed to provide an air velocity within the duct system of not less than 1,500 feet per minute (7.6 m/s).

Exception: The velocity limitations shall not apply within duct transitions utilized to connect ducts to differently

506.3.11 Grease duct fire-resistive access opening. Where cleanout openings are located in ducts within a fire-resistance-rated enclosure, access openings shall be provided in the enclosure at each cleanout point. Access openings shall be equipped with tight-fitting sliding or hinged doors that are equal in fire-resistive protection to that of the shaft or enclosure. An approved sign shall be placed on access opening panels with wording as follows: "ACCESS PANEL. DO NOT OBSTRUCT."

506.3.12 Exhaust outlets serving Type I hoods. Exhaust outlets for grease ducts serving Type I hoods shall conform to the requirements of Sections 506.3.12.1 through 506.3.12.3.

506.3.12.1 Termination above the roof. Exhaust outlets that terminate above the roof shall have the discharge opening located not less than 40 inches (1016 mm) above the roof surface.

506.3.12.2 Termination through an exterior wall. Exhaust outlets shall be permitted to terminate through exterior walls where the smoke, grease, gases, vapors, and odors in the discharge from such terminations do not create a public nuisance or a fire hazard. Such terminations shall not be located where protected openings are required by the International Building Code. Other exterior openings shall not be located within 3 feet (914 mm) of such terminations.

506.3.12.3 Termination location. Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from parts of the same or contiguous buildings, adjacent property lines and air intake openings into any building and shall be located not less than 10 feet (3048 mm) above the adjoining grade level.

Exception: Exhaust outlets shall terminate not less than 5 feet (1524 mm) from an adjacent building, adjacent property line and air intake openings into a building where air from the exhaust outlet discharges away from such locations.

506.4 Ducts serving Type II hoods. Single or combined Type II exhaust systems for food-processing operations shall be independent of all other exhaust systems. Commercial kitchen exhaust systems serving Type II hoods shall comply with Sections 506.4.1 and 506.4.2.

506.4.1 Type II exhaust outlets. Exhaust outlets for ducts serving Type II hoods shall comply with Sections 401.5 and 401.5.2. Such outlets shall be protected against local weather conditions and shall meet the provisions for exterior wall opening protectives in accordance with the International Building Code.

506.4.2 Ducts. Ducts and plenums serving Type II hoods shall be constructed of rigid metallic materials. Duct construction, installation, bracing and supports shall comply with Chapter 6. Ducts subject to positive pressure and ducts conveying moisture-laden or waste-heat-laden air shall be constructed, joined and sealed in an approved manner.

506.5 Exhaust equipment. Exhaust equipment, including fans and grease reservoirs, shall comply with Section 506.5.1

through 506.5.5 and shall be of an approved design or shall be listed for the application.

506.5.1 Exhaust fans. Exhaust fan housings serving a Type I hood shall be constructed as required for grease ducts in accordance with Section 506.3.1.1.

Exception: Fans listed and labeled in accordance with UL 762.

506.5.1.1 Fan motor. Exhaust fan motors shall be located outside of the exhaust airstream.

506.5.2 Exhaust fan discharge. Exhaust fans shall be positioned so that the discharge will not impinge on the roof, other equipment or appliances or parts of the structure. A vertical discharge fan shall be manufactured with an approved drain outlet at the lowest point of the housing to permit drainage of grease to an approved grease reservoir.

506.5.3 Exhaust fan mounting. An upblast fan shall be hinged and supplied with a flexible weatherproof electrical cable to permit inspection and cleaning. The ductwork shall extend a minimum of 18 inches (457 mm) above the roof surface.

506.5.4 Clearances. Exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches (457 mm).

Exception: Factory-built exhaust equipment installed in accordance with Section 304.1 and listed for a lesser clearance.

506.5.5 Termination location. The outlet of exhaust equipment serving Type I hoods, shall be in accordance with Section 506.3.12.3

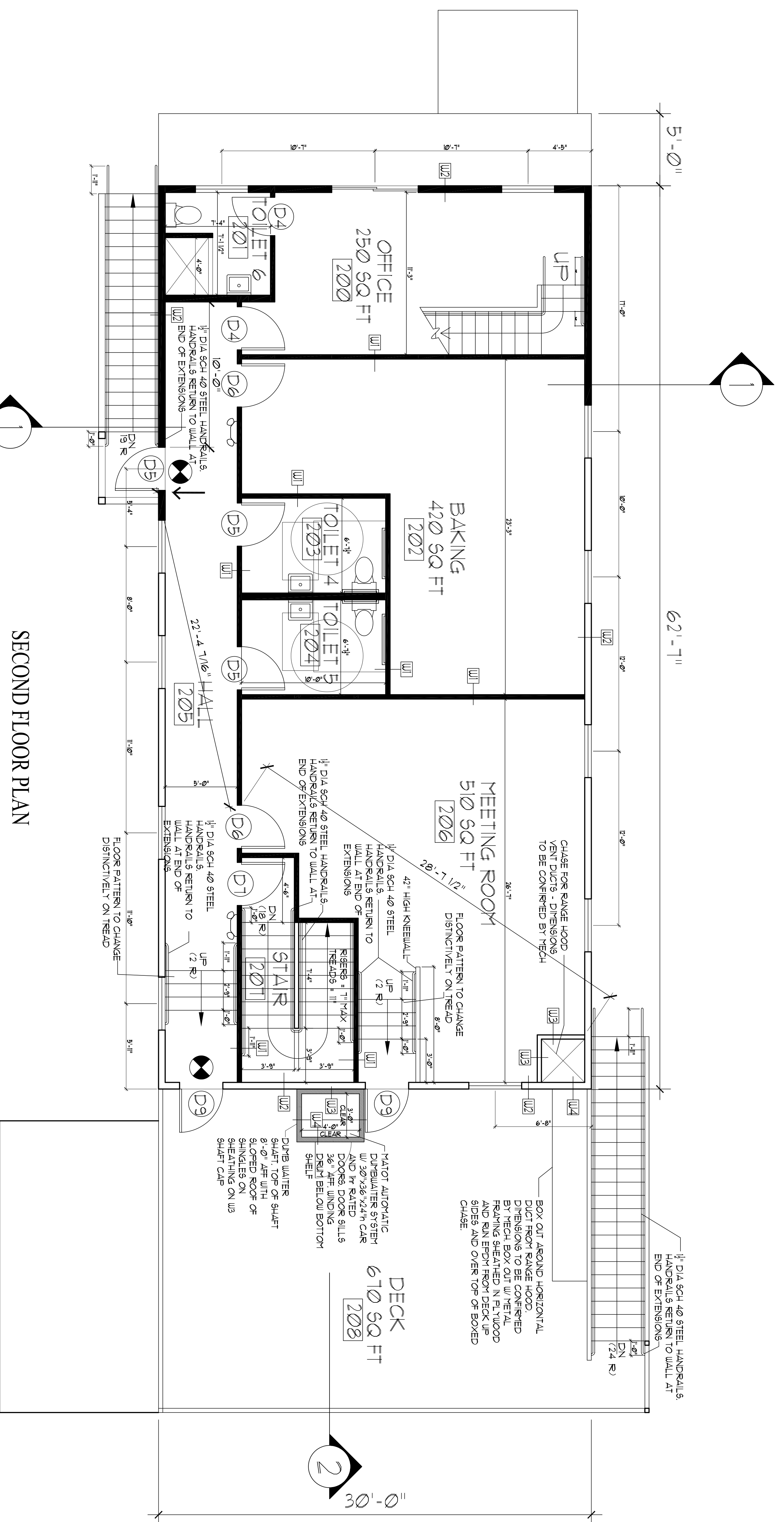
Exception: The minimum horizontal distance between vertical discharge fans and parapet-type building structures shall be 2 feet (610 mm) provided that such structures are not higher than the top of the fan discharge opening.

SECTION 507 COMMERCIAL KITCHEN HOODS

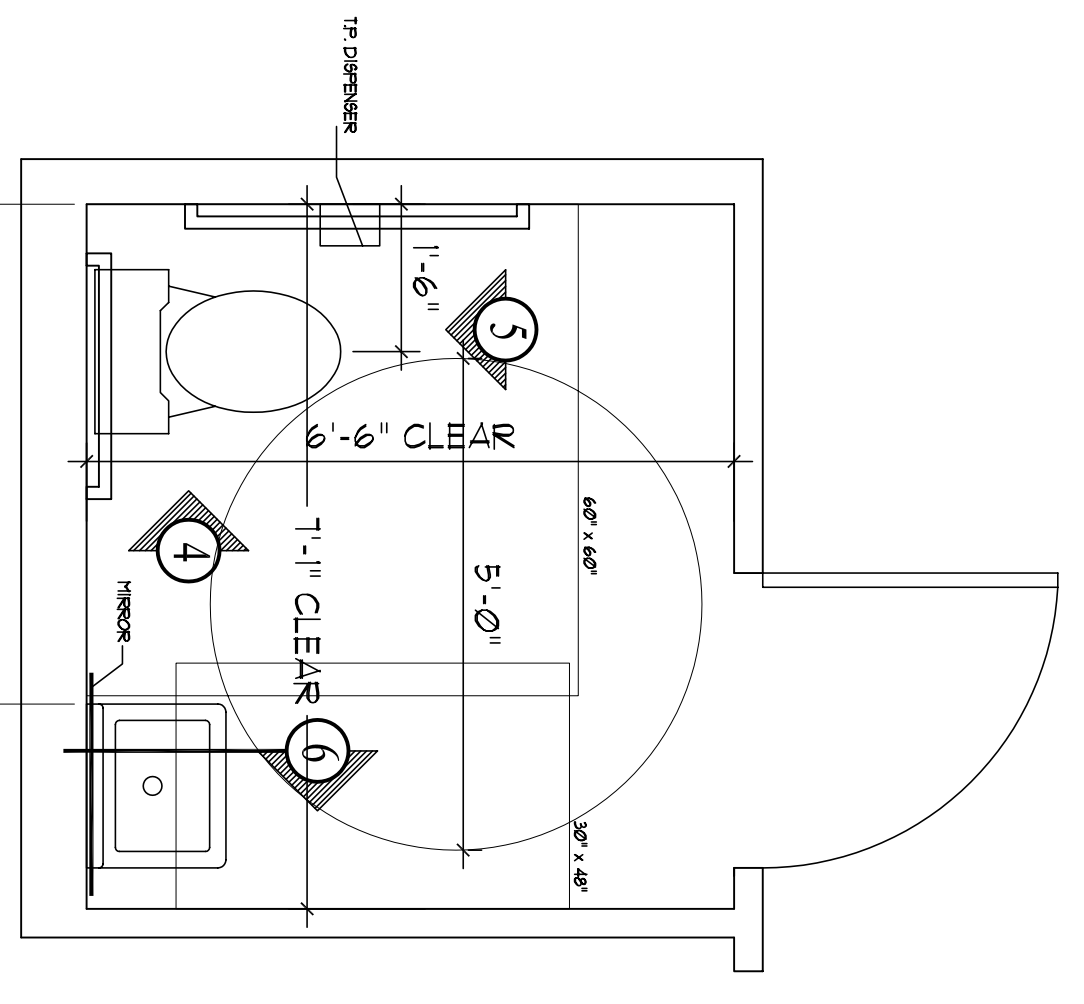
507.1 General. Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues.

Exceptions:

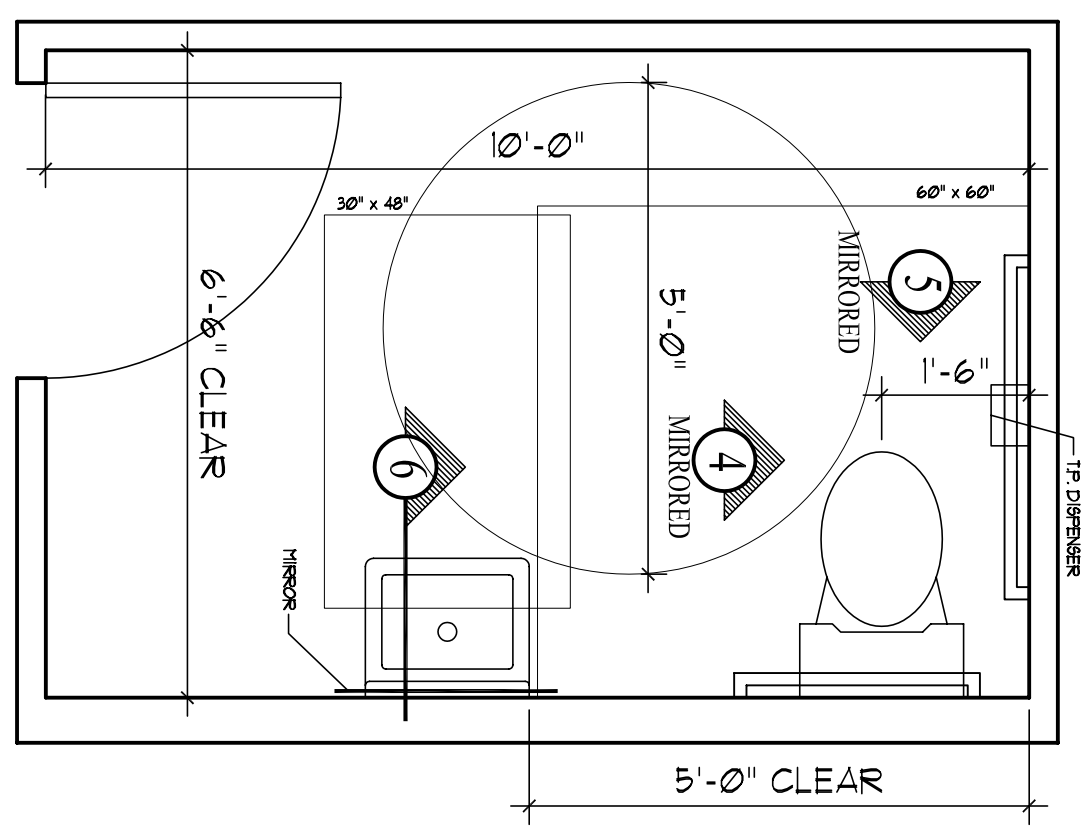
1. Factory-built commercial exhaust hoods which are tested in accordance with UL 710, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.7, 507.11, 507.12, 507.13, 507.14 and 507.15.
2. Factory-built commercial cooking recirculating systems which are tested in accordance with UL 197, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.5, 507.7, 507.12, 507.13, 507.14 and 507.15.
3. Net exhaust volumes for hoods shall be permitted to be reduced during no-load cooking conditions, where



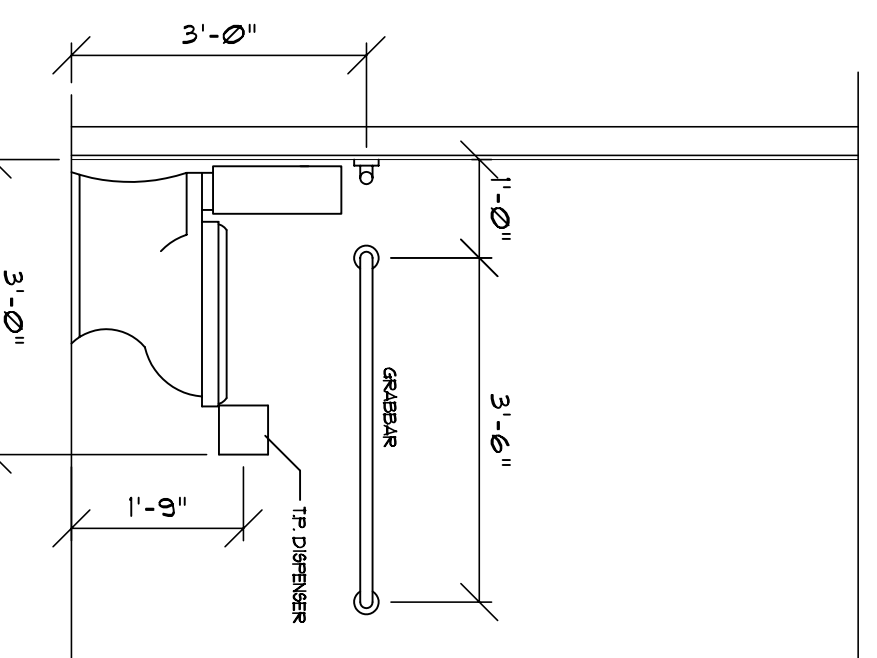
SECOND FLOOR PLAN



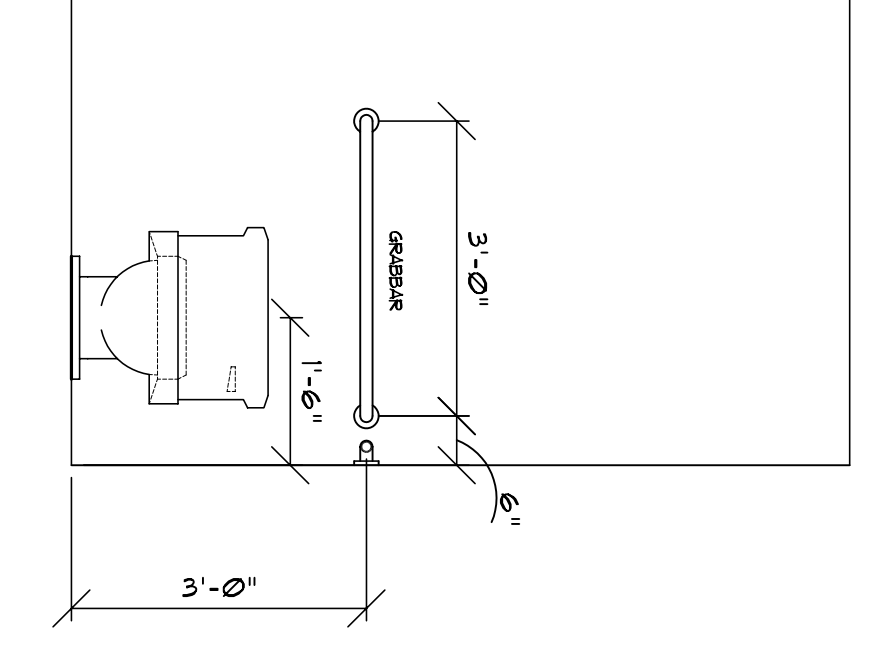
2 TYPICAL 1ST FLOOR BATHROOM KEY PLAN
SCALE: 1/2" = 1'-0"



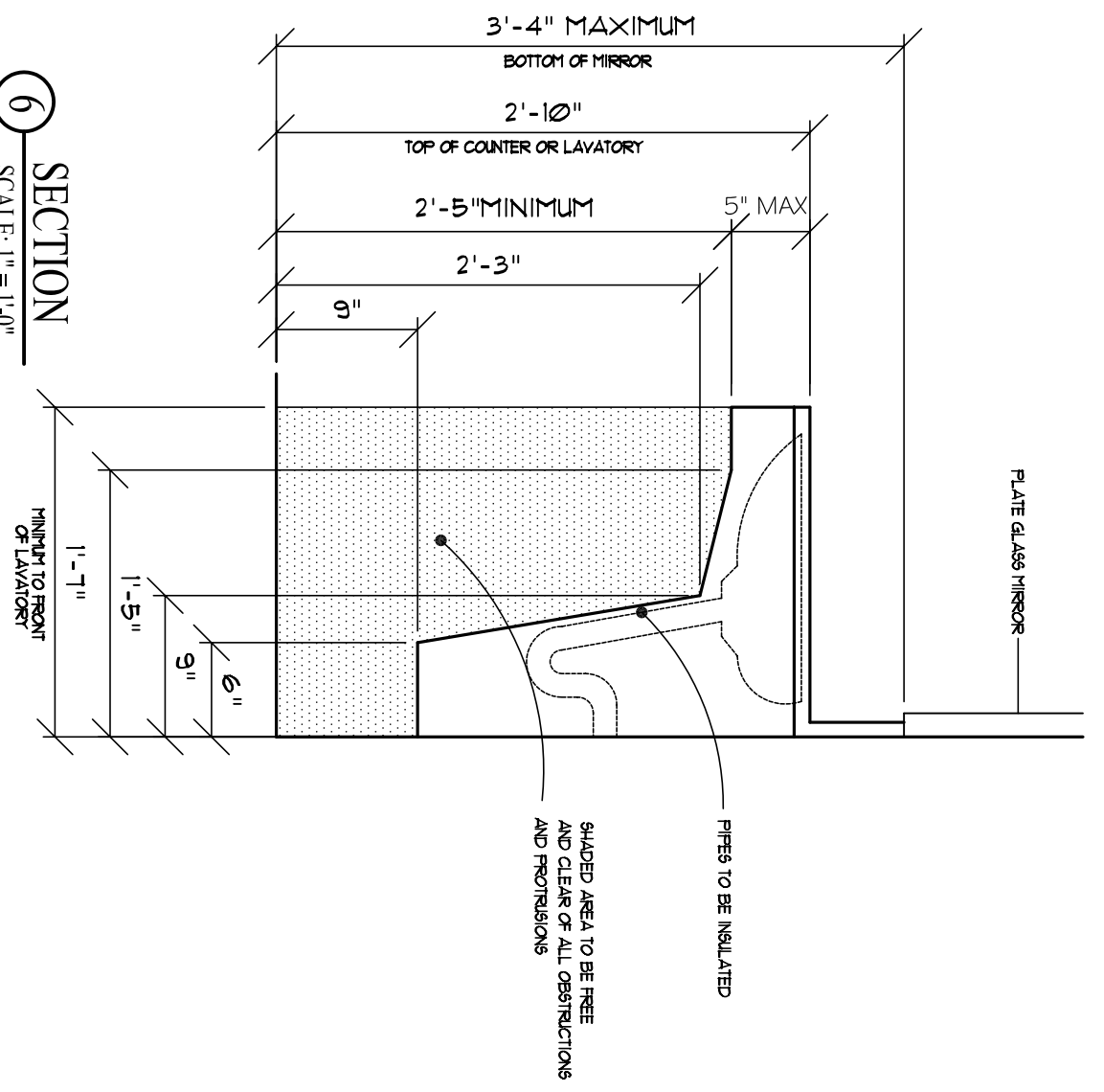
3 TYPICAL 2ND FLOOR BATHROOM KEY PLAN
SCALE: 1/2" = 1'-0"



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

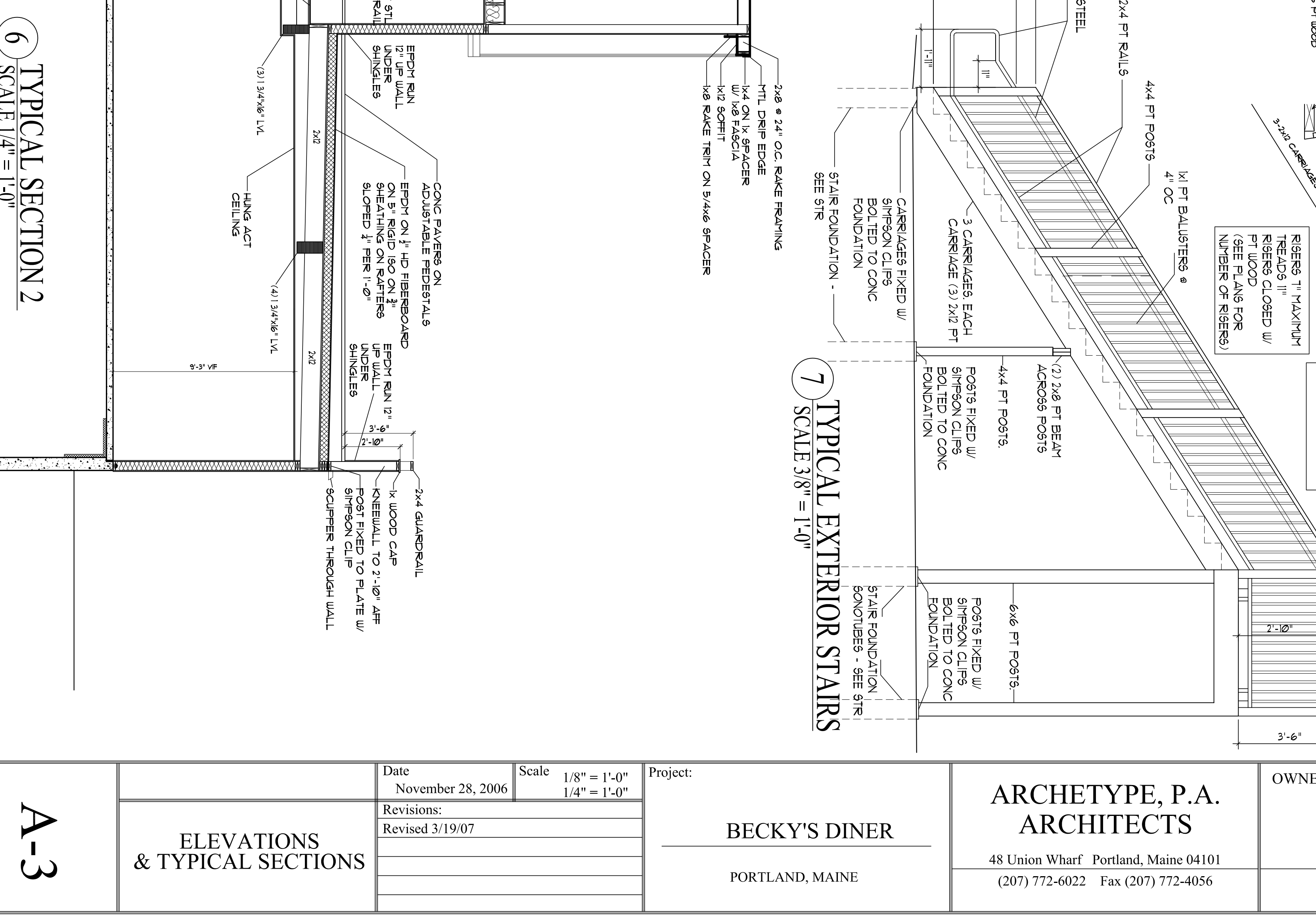
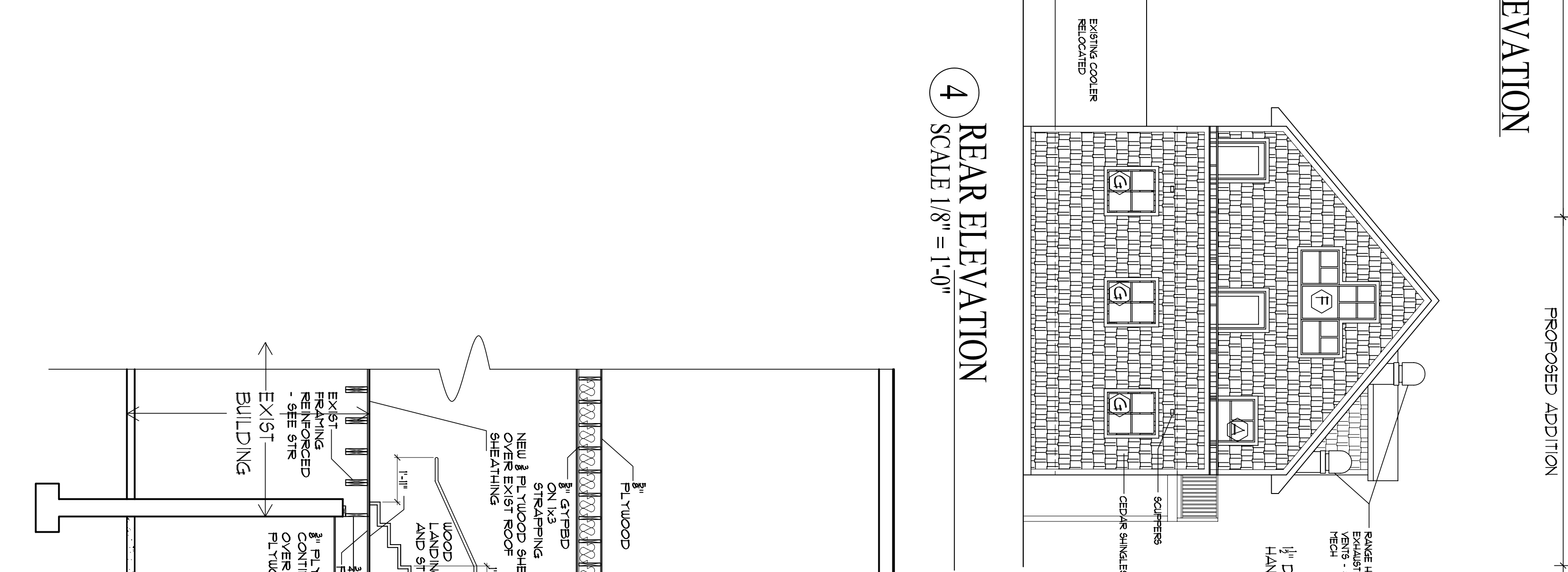
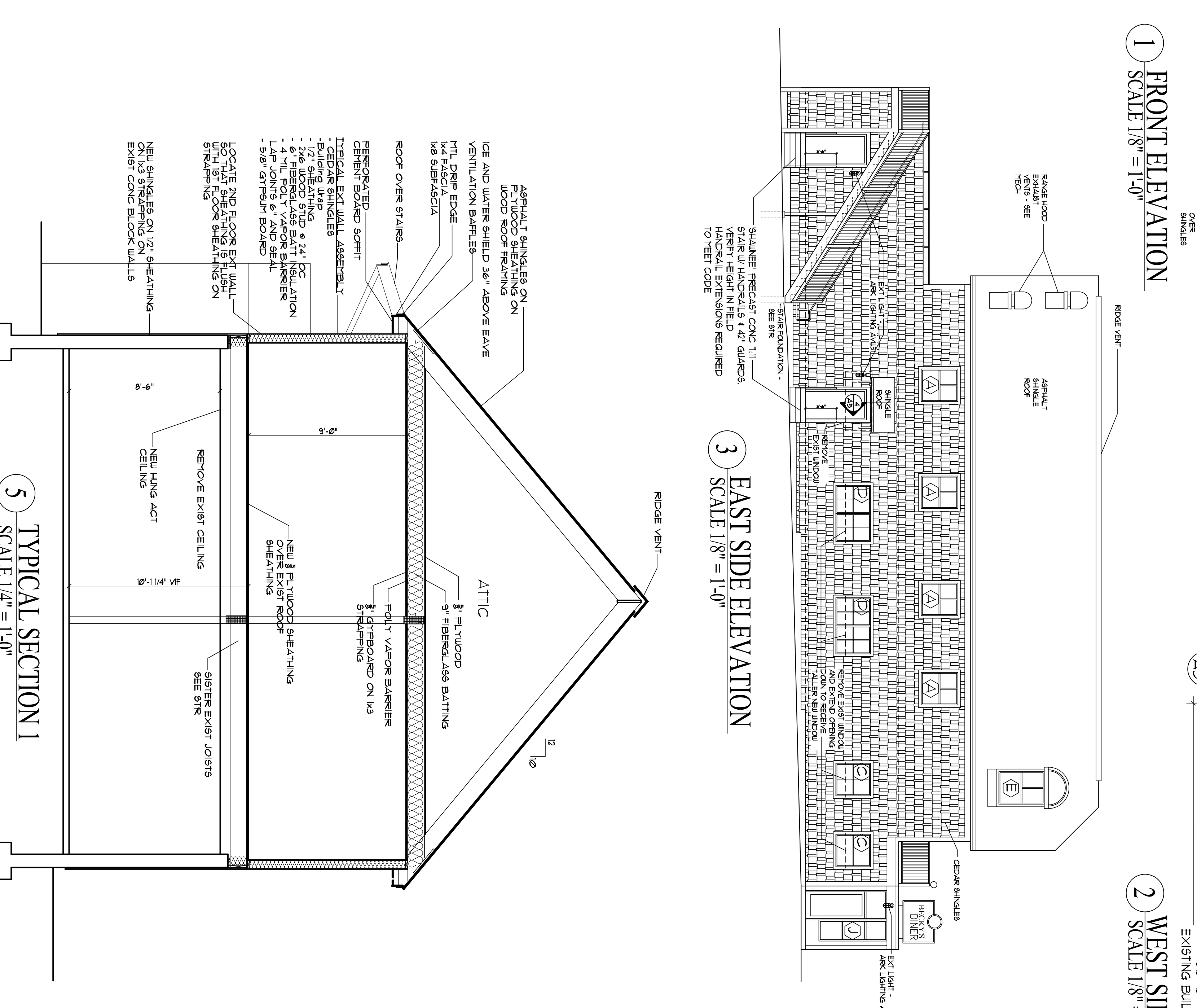
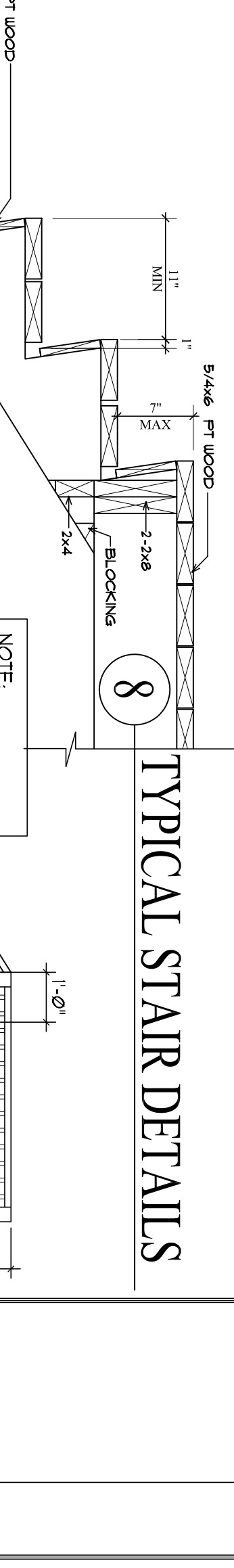
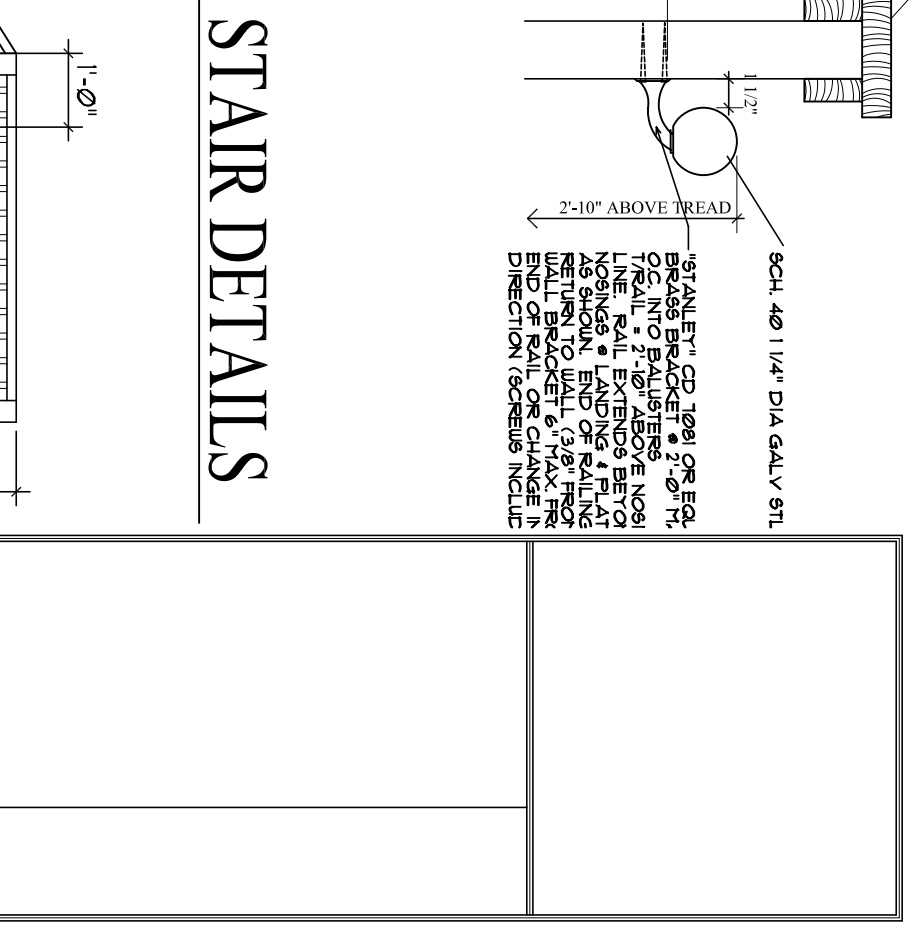
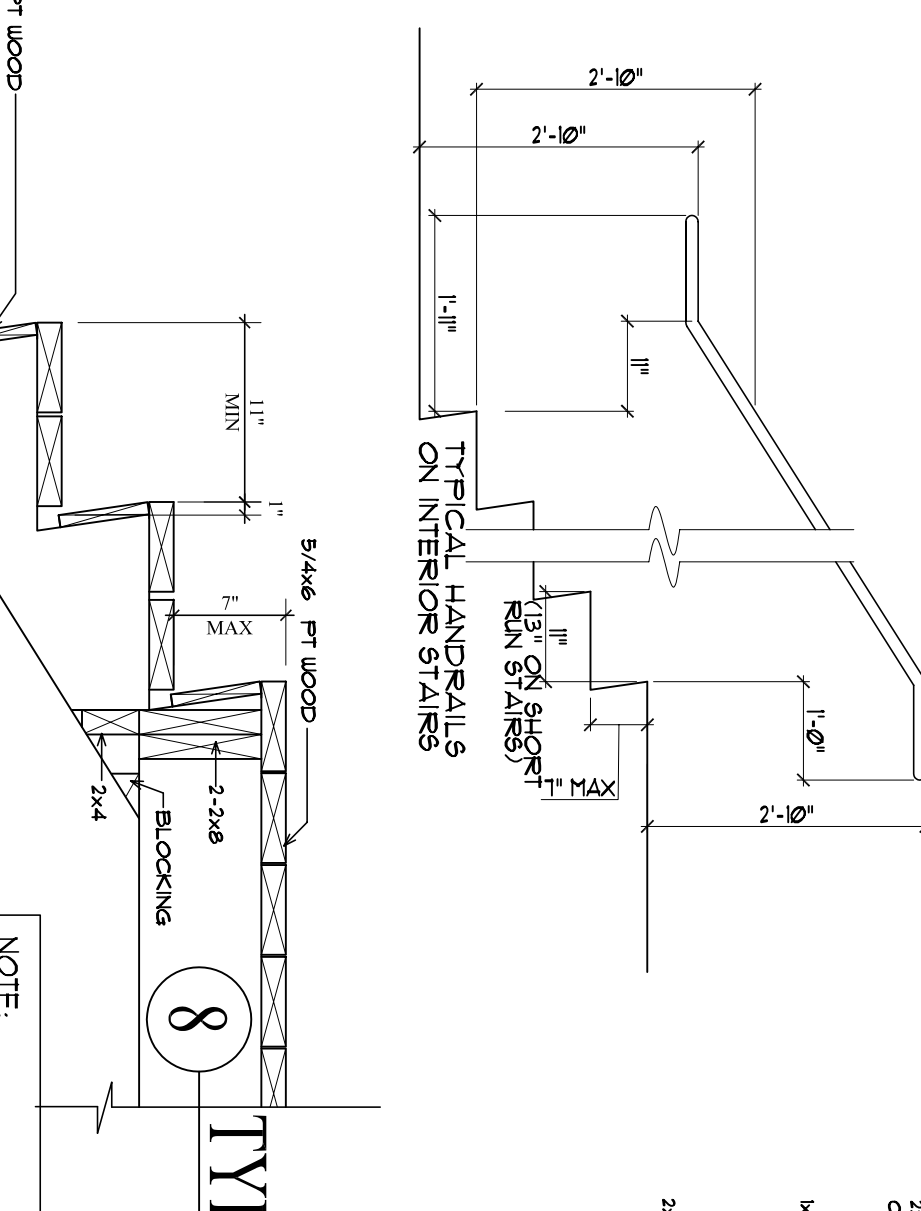
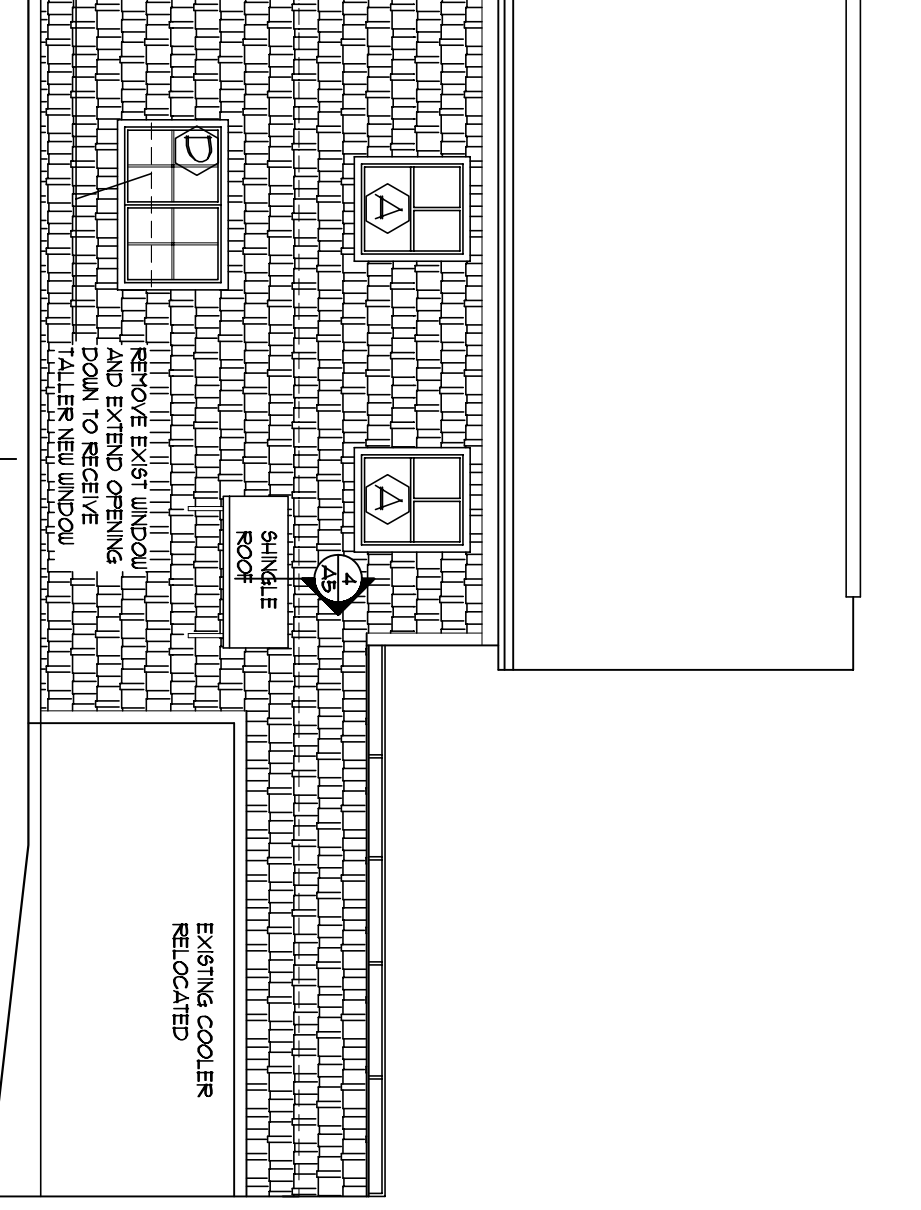
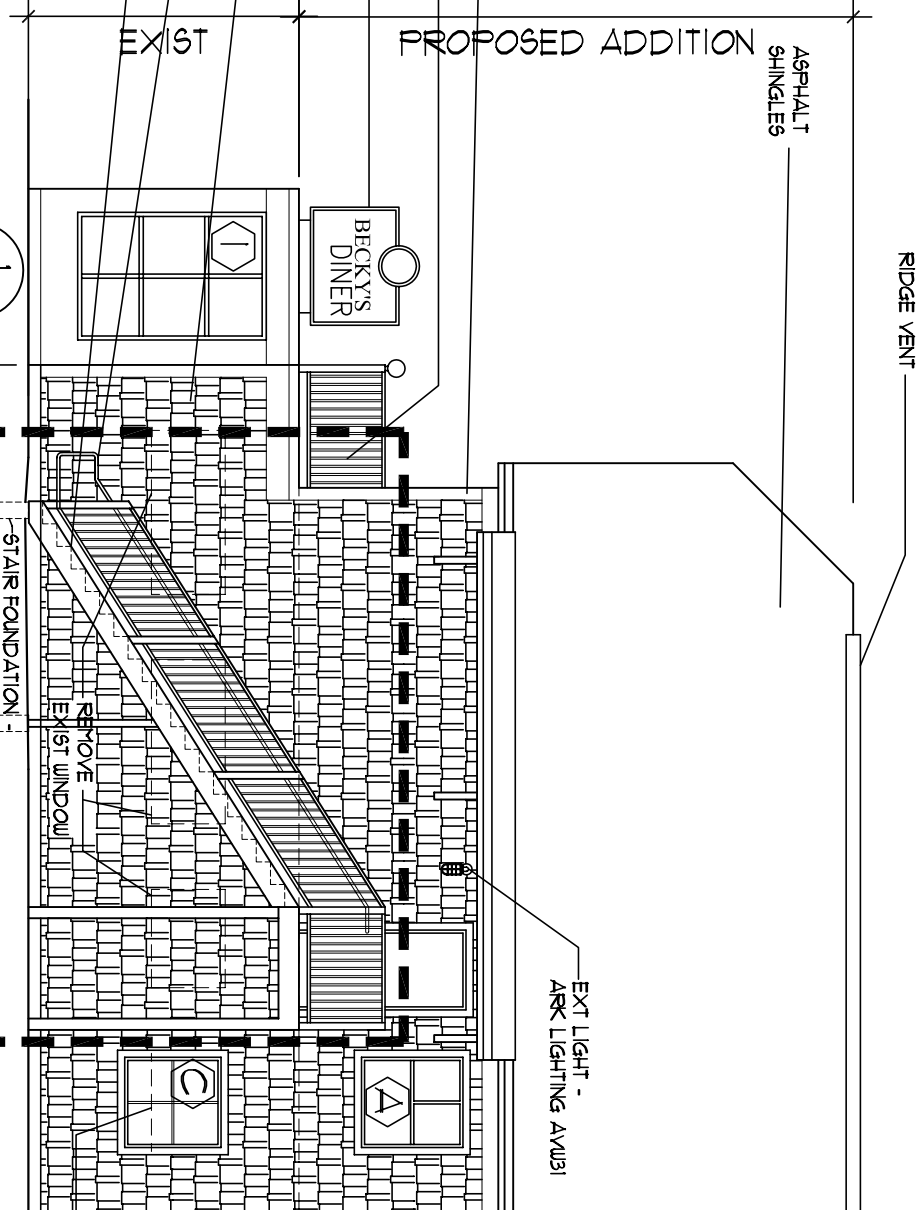
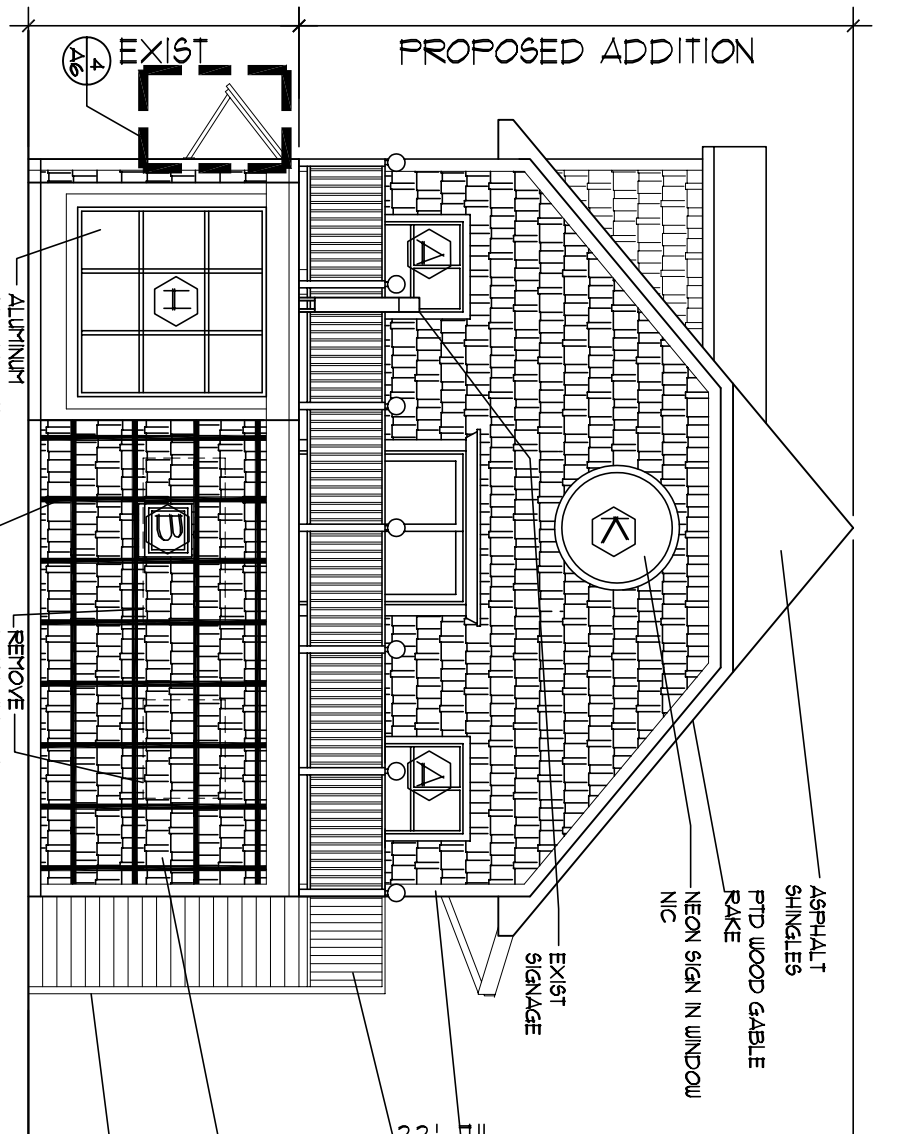


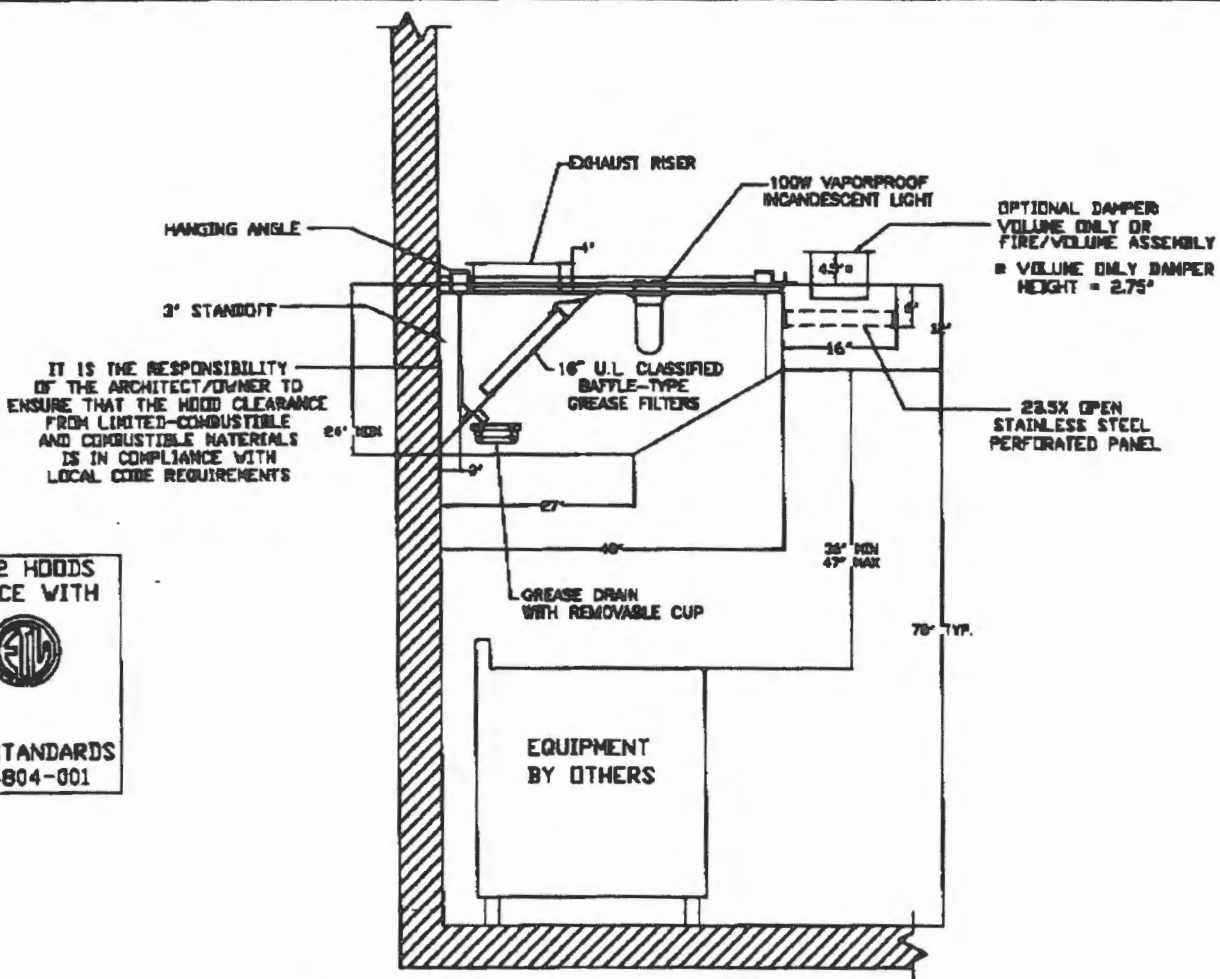
5 ELEVATION
SCALE: 1/2" = 1'-0"



6 SECTION
SCALE: 1" = 1'-0"

A-2	SECOND FLOOR PLAN	Date November 28, 2006	Scale 1/4" = 1'-0" 1/2" = 1'-0"	Project: BECKY'S DINER	ARCHETYPE, P.A. ARCHITECTS 48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056	OWNER:
	TYPICAL ACCESSIBLE BATHROOMS	Revisions: Revised 3/19/07		PORTLAND, MAINE		





IT IS THE RESPONSIBILITY OF THE ARCHITECT/OWNER TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED-COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS

CAPTIVE-AIRE SMD2 HOODS BUILT IN COMPLIANCE WITH

NSF I ETL

NFPA #96
NSF
UL 710 & ULC710 STANDARDS
E.T.L. LISTED 3054804-001

SECTION VIEW - MODEL 4812-SMD-2 with PSP Accessory

17' HOOD SECTION VIEW

RECEIVED

MAR 22 2007

DEPT. OF BUILDING INSPECTION
CITY OF PORTLAND, ME

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____

CAPTIVEAIRE

JOB Becky's	
LOCATION Biddeford, ME	
DATE 3/20/2007	JOB # 568729
DWG # Becky's	DRAWN BY BFC
REV. 1.00	SCALE 8.5" x 11"

09/03/07 Hood o'key > ~~max~~