

# FLOODPROOFING CERTIFICATE FOR NON-RESIDENTIAL STRUCTURES

The floodproofing of non-residential buildings may be permitted as an alternative to elevating to or above the Base Flood Elevation; however, a floodproofing design certification is required. This form is to be used for that certification. Floodproofing of a residential building does not alter a community's floodplain management elevation requirements or effect the insurance rating unless the community has been issued an exception by FEMA to allow floodproofed residential basements. The permitting of a floodproofed residential basement requires a separate certification specifying that the design complies with the local floodplain management ordinance.

BUILDING OWNER'S NAME <b>SCHRADER OIL Co.</b>	FOR INSURANCE COMPANY USE POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER <b>320 NORTH COLLEGE AVE.</b>	COMPANY NAIC NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.)	

CITY <b>FORT COLLINS</b>	STATE <b>COLORADO</b>	ZIP CODE <b>80524</b>
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### SECTION I FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM:

COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	DATE OF FIRM INDEX	FIRM ZONE	BASE FLOOD ELEVATION (in AO Zones, use depth)
<b>080102</b>	<b>0004</b>	<b>C</b>	<b>3-18-96</b>	<b>X-OUTSIDE 500 YR</b>	<b>N.A.</b>
<b>OLD TOWN MASTER PLAN</b>	<b>FIGURE 5.8</b>	<b>N.A.</b>	<b>1-7-93</b>	<b>100 YR.</b>	<b>4974.70</b>

### SECTION II FLOODPROOFING INFORMATION (By a Registered Professional Engineer or Architect)

Floodproofing Design Elevation Information:

Building is floodproofed to an elevation of **4977.2** feet NGVD. (Elevation datum used must be the same as that on the FIRM.)

Height of floodproofing on the building above the lowest adjacent grade is **12.2** feet.

(NOTE: for insurance rating purposes, the building's floodproofed design elevation must be at least one foot above the Base Flood Elevation to receive rating credit. If the building is floodproofed only to the Base Flood Elevation, then the building's insurance rating will result in a higher premium.)

### SECTION III CERTIFICATION (By a Registered Professional Engineer or Architect)

Non-Residential Floodproofed Construction Certification:

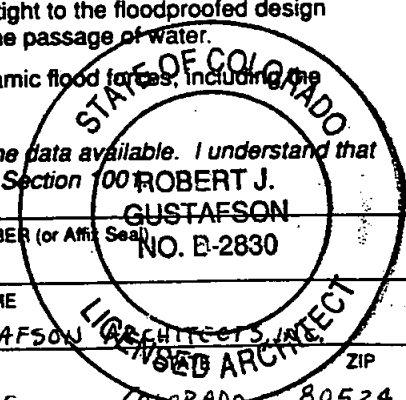
I certify that based upon development and/or review of structural design, specifications, and plans for construction that the design and methods of construction are in accordance with accepted standards of practice for meeting the following provisions:

The structure, together with attendant utilities and sanitary facilities, is watertight to the floodproofed design elevation indicated above, with walls that are substantially impermeable to the passage of water.

All structural components are capable of resisting hydrostatic and hydrodynamic flood forces, including the effects of buoyancy, and anticipated debris impact forces.

I certify that the information on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

CERTIFIER'S NAME <b>ROBERT J. GUSTAFSON</b>	LICENSE NUMBER (or Affil. Seal) <b>NO. B-2830</b>
TITLE <b>ARCHITECT</b>	COMPANY NAME <b>WICKHAM GUSTAFSON ARCHITECTS, INC.</b>
ADDRESS <b>1449 RIVERSIDE AVE.</b>	CITY <b>FORT COLLINS</b>
SIGNATURE <i>[Signature]</i>	PHONE <b>(970) 493-2025</b>
	DATE <b>5-16-2000</b>



Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

FEDERAL EMERGENCY MANAGEMENT AGENCY  
 NATIONAL FLOOD INSURANCE PROGRAM  
**FLOODPROOFING CERTIFICATE**  
 FOR NON-RESIDENTIAL STRUCTURES

Preconstruction  
 O.M.B. No 3067-007  
 Expires May 31, 1999

The floodproofing of non-residential buildings may be permitted as an alternative to elevating to or above the Base Flood Elevation; however, a floodproofing design certification is required. This form is to be used for that certification. Floodproofing of a residential building does not alter a community's floodplain management elevation requirements or effect the insurance rating unless the community has been issued an exception by FEMA to allow floodproofed residential basements. The permitting of a floodproofed residential basement requires a separate certification specifying that the design complies with the local floodplain management ordinance.

BUILDING OWNER'S NAME	FOR INSURANCE COMPANY USE
SCHRADER OIL CO.	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER	COMPANY NAIC NUMBER
320 NORTH COLLEGE AVE.	
OTHER DESCRIPTION (Lot and Block Numbers, etc.)	

CITY	STATE	ZIP CODE
FORT COLLINS	COLORADO	80524

**SECTION I FLOOD INSURANCE RATE MAP (FIRM) INFORMATION**

Provide the following from the proper FIRM:

COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	DATE OF FIRM INDEX	FIRM ZONE	BASE FLOOD ELEVATION (in AO Zones, use depth)
080102	0004	C	3-18-96	X-OUTSIDE 500 YR	N/A
OLD TOWN MASTER PLAN	FIGURE 5.8	N/A	1-7-93	100 YR	

**SECTION II FLOODPROOFING INFORMATION (By a Registered Professional Engineer or Architect)**

Floodproofing Design Elevation Information:

Building is floodproofed to an elevation of 4.9765 feet NGVD. (Elevation datum used must be the same as that on the FIRM.)

Height of floodproofing on the building above the lowest adjacent grade is 1.6 feet.

(NOTE: for insurance rating purposes, the building's floodproofed design elevation must be at least one foot above the Base Flood Elevation to receive rating credit. If the building is floodproofed only to the Base Flood Elevation, then the building's insurance rating will result in a higher premium.)

**SECTION III CERTIFICATION (By a Registered Professional Engineer or Architect)**

Non-Residential Floodproofed Construction Certification:

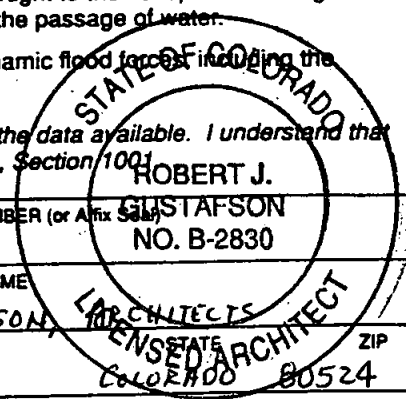
I certify that based upon development and/or review of structural design, specifications, and plans for construction that the design and methods of construction are in accordance with accepted standards of practice for meeting the following provisions:

The structure, together with attendant utilities and sanitary facilities, is watertight to the floodproofed design elevation indicated above, with walls that are substantially impermeable to the passage of water.

All structural components are capable of resisting hydrostatic and hydrodynamic flood forces including the effects of buoyancy, and anticipated debris impact forces.

I certify that the information on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
ROBERT J. GUSTAFSON	GUSTAFSON NO. B-2830
TITLE	COMPANY NAME
ARCHITECT	WICKHAM GUSTAFSON ARCHITECTS
ADDRESS	CITY
1449 RIVERSIDE	FORT COLLINS
SIGNATURE	STATE
<i>[Signature]</i>	COLORADO
	ZIP
	80524
	PHONE
	(970) 493-2025
	DATE
	7/21/99



Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.



LAWRENCE A. WICKHAM  
ROBERT J. GUSTAFSON  
DONALD G. SHIELDS  
COREY S. STINAR

**A R C H I T E C T S**

1449 RIVERSIDE AVENUE  
FORT COLLINS, COLORADO

80524

(970) 493-2025  
FAX (970) 493-2026

July 21, 1999

Ms. Marsha Hilmes  
Stormwater Dept.  
City of Fort Collins  
700 Wood Street  
Fort Collins, Colorado 80521

RE: Building flood-proofing  
Schrader Oil Company  
Convenience Store/ Car Wash  
320 North College Ave.  
Fort Collins, Colorado

Dear Ms. Hilmes:

I am submitting the following proposal for your approval to meet flood-proofing requirements for the above project.

As you can see from the enclosed grading plan, the flood elevation for this site is delineated at 4974.7 feet. The finished floor for the renovated convenience store will be 4975.61 feet. The finished floor for the car wash storage room will be at 4975.67 feet and 4975.00 feet in the car wash bay.

### **Flood-proofing proposal**

1. Floodproofing of the convenience store is not required because the existing finished floor is above the site flood elevation. (See attached grading plan.)
2. Floodgates shall be installed at the hollow metal doors into the car wash storage room. The top of the floodgates shall be at a minimum elevation of 4976.2 feet. (See attached car wash floor plan and floodgate details.)
3. The square footage of the existing restaurant is 953.96 square feet. The total square footage of the new car wash building is 1144 square feet. The square footage of the car wash storage room plus the walls enclosing the car wash bay is 434.15 square feet. This means that the net square footage of the car wash building with the car wash bay doors open is 434.15 square feet. This is a smaller square footage than square footage of the existing restaurant. We propose to open the car wash bay overhead doors during a flood to reduce the building volume in the floodway to less than the historic volume. To accomplish this we shall install a float valve with the switch set to activate when flood waters reach an elevation of 4974.7 feet. This switch shall

open the overhead doors and allow flood waters to flow through the car wash bay. To keep flood waters from entering the sanitary sewer system through the car wash bay sand/oil interceptor, a gate valve shall be installed on the out-flow pipe from the sand/oil interceptor. This gate valve shall be manually closed when the convenience store is not open for business and when flood conditions exist.

I am confident this proposal will meet with your approval. If you have any questions or comments please give me a call.

Sincerely,



Donald Shields Jr.  
Project Manager



LAWRENCE A. WICKHAM  
ROBERT J. GUSTAFSON  
DONALD G. SHIELDS  
COREY S. STINAR

**A R C H I T E C T S**

1449 RIVERSIDE AVENUE  
FORT COLLINS, COLORADO

80524

(970) 493-2025  
FAX (970) 493-2026

July 8, 1999

## **FLOOD EMERGENCY RESPONSE PLAN**

Schrader Oil Co.  
Car Wash Building  
320 North College Ave.  
Fort Collins, Colorado

- 1) The person in charge of the Emergency Response Plan shall be the Operations Manager for Schrader Oil Co.
- 2) All station shift managers shall be trained in the use and operation of the floodgates.
- 3) The floodgates on the car wash pedestrian doors shall be installed and remain in place from May 1<sup>st</sup> to September 30<sup>th</sup>. The Operations Manager shall perform the installation and removal.
- 4) **Daily Floodproofing Procedures:**
  - Close of business day:
    - a.) The store shift manager shall inspect the floodgates for worn gasket seals, and to insure that they are closed and latched tightly.
    - b.) The store shift manager shall close the gate valve on the outflow pipe from the sand/oil interceptor in the car wash bay.
  - Opening of business day:
    - a.) The store shift manager shall inspect the floodgates for worn gasket seals, and to insure that they are closed and latched tightly.
    - b.) The store shift manager shall close the gate valve on the outflow pipe from the sand/oil interceptor in the car wash bay.
- 5) In the event of a flood watch for the City of Fort Collins during business hours the store shift manager shall:
  - a.) Close the car wash for business until the flood watch is rescinded.
  - b.) Inspect the floodgates to make sure they are securely closed and latched.
  - c.) Close the gate valve on the outflow pipe from the sand/oil interceptor in the car wash bay.
- 6) From October 1<sup>st</sup> to April 30<sup>th</sup> the floodgates shall be stored on shelving in the car wash storage room.



LAWRENCE A. WICKHAM  
ROBERT J. GUSTAFSON  
DONALD G. SHIELDS  
COREY S. STINAR

**A R C H I T E C T S**

1449 RIVERSIDE AVENUE  
FORT COLLINS, COLORADO

80524

(970) 493-2025  
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July 8, 1999

## **FLOODPROOFING** **INSPECTION AND MAINTENANCE PLAN**

Schrader Oil Co.  
Car Wash Building  
320 North College Ave.  
Fort Collins, Colorado

- 1) The station shift manager shall inspect the floodgates twice daily. Inspections shall occur at store opening and closing.
- 2) The station shift manager shall check the floodgates for worn gasket seals and the tightness of the latch.
- 3) Any deterioration shall be reported immediately to the Operations Manager.
- 4) The Operations Manager shall direct maintenance personnel to make the appropriate repairs.
- 5) The repair of any floodgate deterioration shall be completed within 24 hours.
- 6) The station shift manager shall inspect the wire housing around the float valve switch for the car wash overhead doors twice daily. They shall remove any debris that will impede the operation of the switch. Inspections shall occur at store opening and closing.

*"QUALITY PUMPS SINCE 1939"*

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

<http://www.zoeller.com>



SECTION: 4.10.050  
FM0528  
0598  
Supersedes  
0497

MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347  
SHIP TO: 3849 Cane Run Road • Louisville, KY 40211-1961  
(502) 778-2731 • 1 (800) 928-PUMP • FAX (502) 774-3624

**COMPARE THESE FEATURES**

- Float is constructed of durable ABS plastic encasing variable level switch.
- Variable level control switch is rated at 5 Amp. 115 or 230V.
- 16/2 Type SJOWA Neoprene Cord-Standard.
- Long cords are available in 15-25-35-50 foot lengths.
- Temperature rating of 130° F (54° C).
- Approximately 1/2" liquid level differential in switching action.
- Mounting strap is included. (Weighted type optional).

Variable Level Control Switch is normally open when hanging vertically above liquid level. Switch closes when it reaches a few degrees above the horizontal position.

**APPLICATIONS**

- Switch for Duplex pump control and High Level Alarm on Electrical Alternating Control Panel systems for dewatering, effluent and sewage applications.
- Switch for A-Pak.
- High Level Alarm Switch.

**Residential Applications**

Part Number	Cord Length	Mounting Method
10-0743	15	Nylon Strap
10-0744	20	Nylon Strap

**Commercial Applications**

Part Number	Cord Length	Mounting Method
10-0225	15	Nylon Strap
10-0017	25	Nylon Strap
10-0022	35	Nylon Strap
10-0044	50	Nylon Strap
10-0054	15	Adjustable Weight
10-0741	25	Adjustable Weight
10-0135	35	Adjustable Weight
10-0742	50	Adjustable Weight

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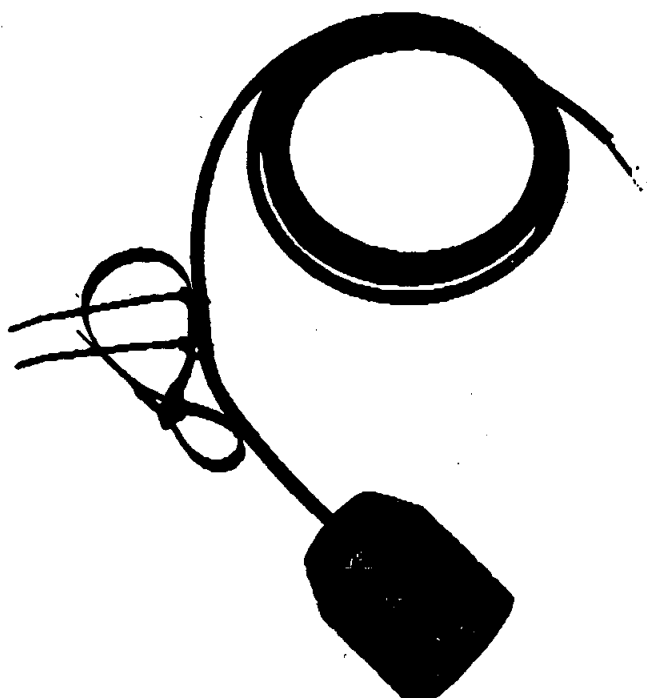
## VARIABLE LEVEL CONTROL SWITCH



10-0225 - 15'

10-0017 - 25'

10-0022 - 35'

10-0044 - 50'



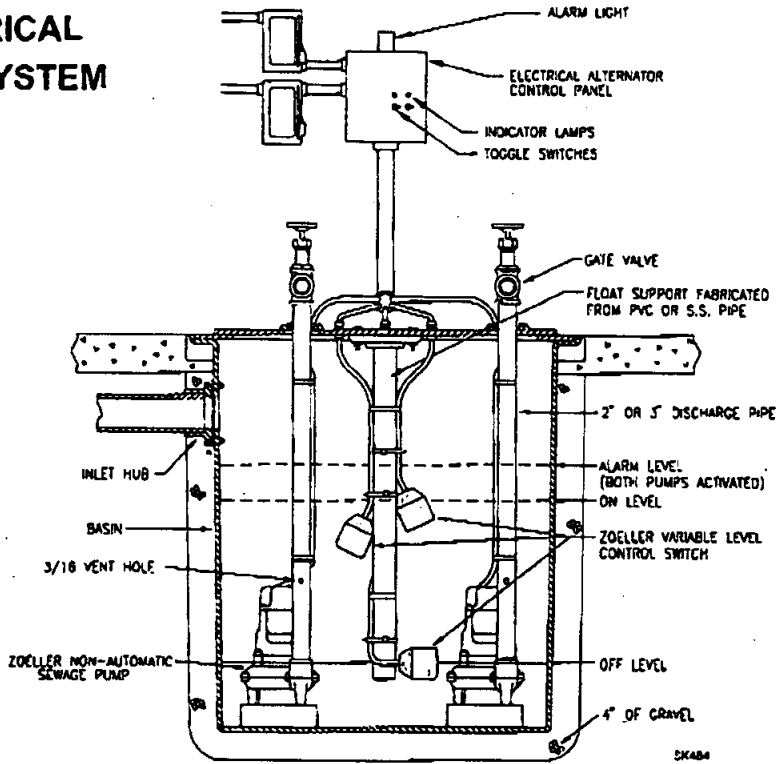



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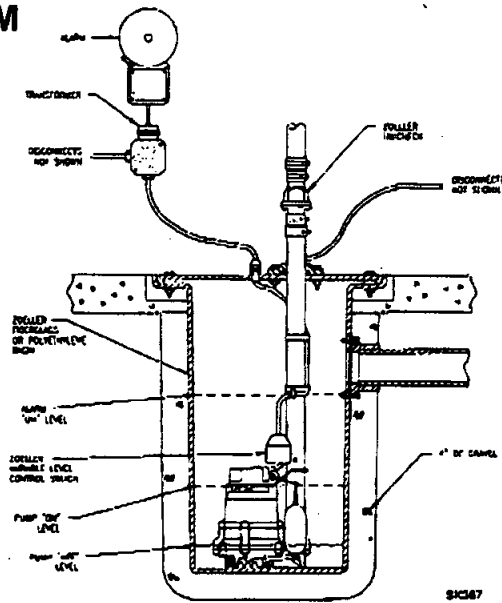
# TYPICAL APPLICATIONS

**NOTE:** All electrical systems must be installed by a qualified licensed electrician according to the National Electrical Code.

## DUPLEX ELECTRICAL ALTERNATING SYSTEM



## SIMPLEX SYSTEM



Switch for A-Pak, High Level Alarm Switch.

Voltage	A-Pak	Variable Level Control Switch
115V	#10-0015	#10-0225
230V	#10-0016	

For information on additional Zoeller products refer to catalog on Electrical Alternator, FM0486; Single Phase Simplex Control/Alarm Systems, FM0732; and Simplex Controller, FM0731.



<http://www.zoeller.com>

**ZOELLER PUMP CO.**

MAIL TO: P.O. BOX 18347  
Louisville, KY 40256-0347  
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Manufacturers of . . .

*"Quality Pumps Since 1939"*

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