# Overflow Notifier Definition

# Introduction

The remodeled kitchen is to far away from the septic tank for a gravity fed system. Therefore a sump pump will be used to pump water from the kitchen to the septic tank. However if the pump ever breaks down there needs to be a way to signal that to people.

Red Text: Conventions A To-Be-Determined requirement.

[ ... ]: Future Feature. Color et by the Identifier element type

# Product Characteristics

* Weight: <1/2lb
* Height (X): 1/2in
* Length (Y): 1in
* Width (Z): 1in
* Product Life Time Target: 30 years
* Outdoor Operating Temperature: ??
* Indoor Operating Temperature: ??
* Added to complete system

# Device: Sensor

## Pump Failure Detector

Characteristics

* Will use the overflow outlet as a sense point
* Min flow to be detected: sink faucet at full flow
* Must survive freezing temperature for up to a week

# Device: Notifier

## Feature List

## Light Indicator

Characteristics

* Initial indicator
* Highly reliable
* Color: Red
* Easy to see

## Buzzer

Characteristics

* Secondary Indicator
* Noticable

## Reset Button

Characteristics

* SPST
* Externally accusable
* Same size as the light

## Processing

Characteristics

* Handles logic to turn on the light and buzzer

## Power Brick

Characteristics

* British standard
* Provides power to the Notifier and Sensor
* Internal power supply

# Interface List

Sensor <--> Notifier

Characteristics

* DC On/Off signal
* Provides Power to the sensor

## Mechanical

* Waterproof for outside components
* Label Reset Button with “Reset”
* Indoor needs to paintable
* Wall mounted

# Behavior Definition

# Processes

## Notification

Behavior

* Immediate notification is not needed
* Blinking Rate: 2Hz
* After a time out secondary signal should sound

## Secondary Indicator Timer

Behavior

* This timer turns on when over flow is detected. When it times out the secondary indicator turn

on.

# Product States

* NORMAL
* ALERT
* SECONDARY ALERT

# Detailed Behavior

# Initial State: NORMAL

## Pump Failure is detected

1. Turn on Light Indicator
2. Start Secondary Indicator Timer
3. Go to ALERT State

# Initial State: ALERT

## Reset Button is pressed

1. Turn off Light Indicator
2. Go to NORMAL State

## Secondary Indicator Timer times out

1. Turn on Buzzer
2. Go to SECONDARY ALERT

# Initial State: SECONDARY ALERT

## Reset Button is pressed

1. Turn off Light Indicator
2. Turn off Buzzer
3. got to NORMAL State

Use Case

User sees indicator or buzzer