



City of Lawrence
UTILITIES

Water Conservation Plan

Water Conservation Plan for the City of Lawrence

TABLE OF CONTENTS

INTRODUCTION	3
WATER CONSERVATION PLAN.....	4
LONG TERM WATER USE EFFICIENCY.....	4
Water Use Conservation Goals.....	4
Water Conservation Practices.....	4
Education.....	5
Management.....	5
Regulation.....	6
DROUGHT RESPONSE.....	7
Stage 1: Water Watch.....	7
Stage 2: Water Warning.....	9
Stage 3: Water Emergency.....	12
PLAN REVISION, MONITORING AND EVALUATION.....	15

INTRODUCTION

The City of Lawrence depends on three water sources to provide enough potable water to its residents. Those include the Clinton Reservoir, the Kansas River, and alluvial wells. At this time, the City is able to treat 37 million gallons per day (MGD).

In order to help sustain a long-term water supply, the City has joined the Kansas River Water Assurance District. The district contracted for water storage in the reservoirs along the Kansas River. Membership in the district allows us to buy rights to a portion of the water stored in state reservoirs for our use in time of drought.

As per the state requirements for water assurance district members (K.S.A. 82a-733a), Lawrence prepared this plan. The City used the “2007 Kansas Municipal Water Conservation Plan Guidelines” sent out by the Kansas Water Office in August 2007.

The plan includes two sections as required by the Kansas Water Office guidelines:

- Long-Term Conservation Plan
- Drought Contingency Plan

The City of Lawrence believes that our Water Conservation Plan adds a major step in giving our customers a dependable water supply in future years.

WATER CONSERVATION PLAN

The main goal of this plan includes making long-term water conservation plans (Long-Term Water Use Section) and short-term water emergency plans (Drought/Emergency Contingency Section). The City hopes to assure our customers of a water supply to meet their needs. The wise use of water also may limit or postpone expansion of the water system. The plan also will help to conserve the limited water resources of the State.

LONG-TERM WATER USE

WATER USE GOALS

The City used 108 gallons per person per day (GPCD) in 2008. This GPCD figure included:

- a) water sold to customers;
- b) water used for free public services (parks, cemeteries, swimming pools, etc.); and
- c) water lost by leaks in the water system.

The GPCD figure does not include water for industries that use over 200,000 gallons per year. According to Figure 1, shown in the Kansas Municipal Water Use 2008 Publication, we are located in Region 8. From this publication, we determined that our City GPCD water use was 108, which was 12 percent below the region average of 123 GPCD during 2008. The City sets a water use goal not to exceed 128 GPCD based on the region average of the last five years (2004 thru 2008). We anticipate reaching this goal by following the specific actions outlined in our plan.

WATER PRACTICES

This section of the plan describes the education, management and regulation efforts related to the long-term conservation of water in the City. Practices followed to save water are listed and their status.

Education:

The City water bills show the total number of gallons of water used during the billing period and the amount of the bill. The bill includes water saving tips at least once each year. The local media receives information on saving water at least once each year and encourages school district to become involved in water conservation programs in schools.

The City of Lawrence has implemented the following practices as recommended in the area of education:

- Water bills will show the amount of water used in gallons and the cost of the water.
- Water bills will show the amount of water used in gallons during this billing period and the number of gallons used last year during the same billing period.

- Water conservation tips will be provided with the monthly water bills during the summer months.
- Water conservation articles or issues will be provided or discussed each month during the summer by the local news media.
- Educational opportunities will be identified and used to educate children on water conservation and water quality topics.
- Make available information on water conserving landscape practices through publications, local news media, web site or other appropriate means.
- Meet with the 25 largest water users, to discuss water conservation, at least biannually.

Management:

Water meters measure all water supplies and water pumped to the water system. Any new supply will have its own meter. City staff reads these meters daily and check the meters for accuracy on an annual basis or whenever the Water Plant Manager deems it necessary.

All customers have water meters. Those meters are checked for accuracy and repaired or replaced based on the finding. They may be tested upon request from the customer or on a regular schedule based on the meter size. City staff reads each customer's meter monthly and mail a monthly water bill to each.

Leaks from the City's system are repaired when leaks are detected or reported. Pressure is checked on a daily basis.

Monthly charges for water service to all customers follow Chapter 19, Article 3, Section 19-312 of the Lawrence Code. Sewer rates are also based on the current rate model and located in Chapter 19, Article 3, Section 19-314.

The City of Lawrence has implemented the following practices as recommended in the area of management:

- All source water will have meters installed and the meters will be repaired or replaced within two weeks when malfunctions occur.
- Meters for source water will be tested for accuracy at least once every year. Each meter will be repaired or replaced if its test measurements are not within American Water Works Association (AWWA) standards.
- Meters will be installed at all residential service connections and at all other service connections whose annual water use may exceed 300,000 gallons, including separate meters for municipally operated irrigation systems, which irrigate more than one acre of turf.
- Meters at each individual service connection will be replaced on a regular basis, per City of Lawrence Water Meter Replacement Program, if they are one inch or less. Meters between one and a half inches and less than six inches will be replaced per City of Lawrence Water Meter Replacement Program. Meters six inches and above will be tested on at least an annual basis and replaced per City of Lawrence Water Meter Replacement Program. Each meter will be repaired or replaced if its test

measurements are not within industry standards (such as AWWA standards). (See Attachment 1 for details on the City of Lawrence Water Meter Replacement Program.)

- All meters for source water will be read at least on a monthly basis and meters at individual service connections will be read at least once every two months.
- A reading will be taken at each source water meter at the same time that meters for individual service connections are read.
- The Department of Utilities will implement a water management review, which will result in a specified change in water management practices or implementation of a leak detection and repair program or plan, whenever the amount of unsold water (amount of water provided free for public service, used for treatment purposes, water loss, etc.) exceeds 20 percent of the total source water for a four month time period.
- Water sales will be based on the amount of water used.

Regulation:

On a normal basis, the City does not have any water regulations in effect. The City does have a water emergency ordinance which provides for regulatory controls during periods of drought or water emergencies. These regulations are outlined in the Drought/Emergency Contingency section of this plan. The City maintains an ordinance to assist in saving water during a supply emergency.

Lawrence has a plumbing code, which requires use of water saving units in all new and remodeled construction. Most new homes and/or remodeling projects include the use of water saving toilets and faucets. The City of Lawrence has implemented the following practices as recommended in the area of regulation:

- All new or renovated construction will install toilets that use 1.6 gallons per flush or less and low flow showerheads that use 2.5 gallons per minute or less.

DROUGHT/EMERGENCY CONTINGENCY

The City of Lawrence addresses any short-term water shortage through stages based on severity with triggers, goals and actions. Each stage is stricter than the stage before since water supply or access to the water has declined. With a Kansas Water Office declaration of drought condition on Clinton Reservoir or Kansas River Basin, Lawrence will coordinate with the Kansas Water Office and the Kansas River Water Assurance District to closely monitor the drought condition impacts on both water sources and respond accordingly. The City Manager is authorized by ordinance to implement the needed measures.

STAGE 1: WATER WATCH

Triggers:

This stage is triggered by any one or combination of the following conditions:

1. The City storage has fallen below 85 percent (or 5.7 million gallons) capacity or has difficulty in recovering overnight (no net gain) due to demands.
2. Treatment plant operations are at 80% (or 28.8 mgd) or more for three consecutive days.
3. A component of the water system becomes contaminated.
4. Water supply system is experiencing difficulty in delivering water through a major water system component, such as the storage reservoir, water tower, pumping system, transmission pipeline, or water treatment facility to meet the water supply demands.
5. The Kansas River Water Assurance District calls for implementation of Stage 1 Water Watch from its members.
6. Drought declaration on the state or regional level that requires implementation of Stage 1 Water Watch of the City's water conservation plan.

Goals:

The goal for water use reduction under Stage 1, Water Watch, is 5% reduction per week. If circumstances warrant or if required by the Kansas Water Office, the City Manager or his/her official designee can set a goal of greater water use reduction. Additional goals of this stage are to make the public aware of water supply conditions and maintain the water supply system.

Actions:

The below actions may be implemented in part or in whole, based on the conditions that have triggered this stage or the progress in achieving the above target water use reduction goal:

Educational Measures

1. Make occasional news releases to the local media describing present conditions and the water supply outlook for the coming season.
2. Make public the prior month's summary of rainfall, temperature, water levels and storage at the start of each month.

Management

DOC121 Municipal Water Conservation Plan
 Revised Date:
 Approved by CC: 12/21/10
 Approved by KWO: 12/28/10

1. Repair leaks upon detection or notification.
2. Monitor the City's use of water and curtail activities such as hydrant flushing and other water uses that are not critical to the water system, fountains, watering of City grounds, and vehicle washing.
3. Contact large water users, such as the City's Parks and Recreation Department, University of Kansas, Haskell University, and local golf courses to request a voluntary decrease in usage.

Regulation

1. Ask the public to curtail some outdoor water use and to make wise use of indoor water, i.e. wash full loads, take short showers, do not let faucets run, etc.
2. Encourage landscape irrigation only between the hours of 6pm and 10am.
3. Irrigation should occur without significant water runoff, which can be accomplished by correctly cycling of sprinkler system and allowing time for the water to soak into the landscape between irrigation events.
4. Hand watering for landscape irrigation purposes is allowed on a daily basis.
5. New plant material may be irrigated on a more frequent basis until the new plant material is established.
6. Initiate public education on non-essential water uses as follows:
 - Discourage hosing on paved areas, such as sidewalks, driveways, parking lots, tennis courts, patios, or other impervious surfaces, except to alleviate an immediate health or safety hazard.
 - Discourage hosing of buildings or other structures for purpose other than fire protection or surface preparation prior to painting.
 - Discourage use of water in such a manner as to allow runoff or other waste, including:
 - Failure to repair a controllable leak, including a broken sprinkler head, a leaking valve, leaking or broken pipes, or a leaking faucet;
 - Operating a permanently installed irrigation system with: (1) a broken head; (b) a head that is out of adjustment and the arc of the spray head is over a street or parking lot; or (c) a head that is misting because of high water pressure; or
 - During irrigation, allowing water to (a) run off a property and form a stream of water in a street for a distance of 50 feet or greater; or (b) to pond in a street or parking lot to a depth greater than ¼ inch.

City/Government

1. All City of Lawrence operations will adhere to the water use restrictions and advisories set forth in this plan.

Commercial/Industrial

1. All actions listed above are for all water users, including commercial and industrial users.
2. Stock at commercial plant nurseries and retail plant sales is exempt from Stage 1 Water Watch watering restrictions.

STAGE 2: WATER WARNING

Triggers:

This stage is triggered by any one or combination of the following conditions:

1. The City storage has fallen below 70 percent capacity (or 4.7 million gallon) or has difficulty recovering overnight (no net gain) due to demands.
2. Treatment plant operations are at 90 percent capacity (or 32.4 mgd) or more for three consecutive days.
3. Contamination of a water supply source(s) or part of the water supply system.
4. Demand for all or part of the delivery system equals or exceeds delivery capacity because delivery capacity is inadequate.
5. Water supply system is experiencing difficulty or is unable to deliver water due to the failure or damage of major water system components, such as the failure of a storage reservoir, water tower, pumping system, transmission pipeline, water treatment facility, major power failure, natural disaster that causes a severe and prolonged limit on the ability of the water supply system to meet the water supply demands.
6. The Kansas River Water Assurance District calls for implementation of Stage 2 Water Warning from its members.
7. Drought declaration on the state or regional level that requires implementation of Stage 2 Water Warning of the City's water conservation plan.

Goals:

The goal for this stage, Water Warning, is to reduce overall weekly consumption by 10% per week. If circumstances warrant or if required by the Kansas Water Office, the City Manager or his/her official designee can set a goal of greater water use reduction.

Actions:

In addition to all actions for a water watch, the below actions may be implemented in part or full, based on the conditions that have triggered this stage or the progress in achieving the above target water use reduction goal:

Educational Measures

1. Make weekly news releases to the local media describing present conditions and the water supply outlook for the coming week.
2. Make public the prior week summaries of rainfall, temperature, water levels and storage each Thursday.
3. Provide tips on saving water indoors and outdoors to water customers.
4. Provide water conservation articles to the local newspaper.

Management

1. Monitor water supplies daily.
2. Repair leaks upon notification or detection.

Regulation

1. Landscape irrigation with sprinklers or irrigation systems at each service address may be restricted to no more than 3 days per week. The City Manager, or his/her designee may, after notice to the citizens of the City of Lawrence, designate

irrigation schedules. This includes landscape watering of parks, golf courses, and sports fields. Wholesale customers may use different criteria but need to achieve the same reduction in water use.

An example of a 2 day per week irrigation schedule is:

- Residential addresses ending in an even number (0, 2, 4, 6, or 8) may water on Wednesdays and Saturdays only.
- Residential addresses ending in an odd number (1, 3, 5, 7, or 9) may water on Thursdays and Sundays only.
- Non-residential locations and multi-family locations (apartment complexes, businesses, industries, etc.) may water on Tuesdays and Fridays only.

Other irrigation schedules may be adopted as needed to achieve the goals of this stage.

Other restriction measures that may be used include:

- Restrict outdoor water use, including lawn watering and car washing to before 10:00 am and after 6 pm. On your irrigation days (see above schedule), you may water from 12:00 am to 10:00 am and then again from 6:00 pm to 11:59 pm.
- Irrigation shall provide a maximum of 1 inch per sprinkler zone per week.
- Irrigation shall occur without significant water runoff, which can be accomplished by correctly cycling the sprinkler system and allowing time for the water to soak into the landscape between irrigation events.
- EXCEPTIONS:
 - Foundations may be watered up to 2 hours/day using a handheld hose, soaker hose or drip irrigation system placed within 24 inches of the foundation that does not produce a spray of water above the ground.
 - Newly installed shrubs (less than 1 year old) and trees (less than 2 years old) may be watered up to two hours per day by handheld hose, drip irrigation, a soaker hose or tree bubbler. Tree watering is limited to an area not to exceed the drip line of the tree.
 - Establishing new turf is discouraged. If hydro-mulch, grass sod, or grass seed is installed for the purpose of establishing a new lawn, there are no watering restrictions for the first 30 days while it is being established. After that, the watering restrictions set forth in this stage apply.
 - Golf courses may water greens and tee boxes without restrictions, however watering must be done before 10am and after 6 pm. Fairways are subject to irrigation as outlined in the above watering schedule. Golf course rough may be restricted to up to twice per week watering.
 - Parks, medians, right-of-ways, etc. may water any time before 10 am and after 6 pm. However, irrigation will be limited by a percent decrease as determined to meet reduction goals.
 - Skinned areas of sports fields may be watered as needed for dust control.

- Washing of any motor vehicle, motorbike, boat, trailer, airplane, or other vehicle shall be limited to the use of a hand-held bucket or a hand-held hose equipped with a positive-pressure shutoff nozzle for quick rinses. Vehicle washing may be done at any time on the premises of a commercial car wash or commercial service stations. Companies with an automated on-site vehicle washing facility may wash its vehicles at any time. Further, such washing may be exempt from these requirements if the health, safety, and welfare of the public are contingent upon frequent vehicle cleansing, such as garbage trucks and vehicles used to transport food and perishables.
2. Water customers will refrain from or significantly limit aesthetic and non- essential water use. Water shall not be used to wash down hard surfaced areas, including without limitation, such as sidewalks, parking lots, gutters, patios, driveways, tennis courts, or other impervious surfaces, except to alleviate an immediate health or safety hazard. Water shall not be used for dust control. However, water may be used for road construction or to clean surfaces for painting.
 3. Water shall not be used for hosing on buildings or other structures for purposes other than fire protection or surface preparation prior to painting.
 4. Prohibit use of water in such a manner as to allow runoff or other waste, including:
 - Failure to repair a controllable leak, including a broken sprinkler head, a leaking valve, leaking or broken pipes, or a leaking faucet;
 - Operating a permanently installed irrigation system with: (a) a broken head; (b) a head that is out of adjustment and the arc of the spray head is over a street or parking lot; or (c) a head that is misting because of high water pressure; or
 - During irrigation, allowing water to (a) run off a property and form a stream of water in a street for a distance of 50 feet or greater; or (b) to pond in a street or parking lot to a depth greater than ¼ inch.
 5. Hand watering, physically holding the water hose, for landscape irrigation purposes is allowed on a daily basis regardless of the time of the year.
 6. Allow refilling of swimming pools one day a week after sunset.
 7. Consider excess water use charges for usage of water over the amount used in the winter.

Commercial/Industrial

1. All actions listed above for all water users apply to commercial and industrial users.
2. Stock at commercial plant nurseries and retail plant sales is exempt from Stage 2 Water Warning watering restrictions.
3. Hotels are encouraged to implement laundry conservation measures by encouraging patrons to reuse linens and towels.

STAGE 3: WATER EMERGENCY

Triggers:

This stage is triggered by any one or combination of the following conditions:

1. The City storage has fallen below 50 percent capacity (or 3.4 million gallon) and has difficulty recovering overnight (no net gain).
2. Treatment plant operations are at 95 percent capacity (or 34.2 mgd) or more for 3 consecutive days.
3. Water demand has reached or exceeded 98% of reliable delivery capacity for one day. The delivery capacity could be citywide or in specified portion of the system.
4. Contamination of the water supply source(s) or water supply system.
5. Demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.
6. Water supply system is unable to deliver water due to the failure or damage of major water system components, such as the failure of a storage reservoir, water tower, pumping system, transmission pipeline, water treatment facility, major power failure, natural disaster that causes a severe and prolonged limit on the ability of the water supply system to meet the water supply demands.
7. The Kansas River Water Assurance District calls for implementation of Stage 3 Water Emergency from its members.
8. Drought declaration on the state or regional level that requires implementation of Stage 3 Water Emergency of the City's water conservation plan.

Goals:

The goals of this stage are to reduce overall weekly consumption by 20% reduction per week. If circumstances warrant or if required by the Kansas Water Office, the City Manager or his/her official designee can set a goal of greater water use reduction.

Actions:

The below actions may be implemented in part or full, based on the conditions that have triggered this stage or the progress in achieving the above target water use reduction goal:

Educational Measures

1. Make daily news releases to the local media describing present conditions and the water supply outlook for the next day.
2. Make prior days summaries of rainfall, temperature, water levels and storage each day.
3. Hold public meetings to discuss the emergency, the status of the City water supply and further actions, which need to be taken.

Management

1. Monitor water supplies daily.
2. Repair leaks upon detection or notification.
3. Seek additional emergency supplies from other users, the state or the federal government.
4. Potential activation of Utilities Department Emergency Response Plan.

Regulation

1. Landscape irrigation with sprinklers or irrigation systems at each service address may be restricted to 1 day per week. The City Manager, or his/her designee may, after notice to the citizens of the City of Lawrence, designate irrigation schedules or **may prohibit irrigation watering completely**. This includes landscape watering of parks, golf courses, and sports fields. Wholesale customers may use different criteria but need to achieve the same reduction in water use.

An example of a 1 day per week irrigation schedule is:

Irrigation schedules will be based on the last digit of the address:

- 1 – Tuesday
- 2 – Wednesday
- 3 and 4 – Thursday
- 5 and 6 – Friday
- 7 and 8 – Saturday
- 9 and 0 – Sunday
 - Example – 731 Wakarusa Drive will water on Tuesday; 429 Michigan will water on Sunday; 4607 Larissa Drive will water on Saturday

Other irrigation schedules may be adopted as needed to achieve the goals of this stage.

- EXCEPTIONS:
 - Foundations may be watered up to 2 hours on any day using a handheld hose, soaker hose or drip irrigation system placed within 24 inches of the foundation that does not produce a spray of water above the ground.
 - Newly installed shrubs (less than 1 year old) and trees (less than 2 years old) may be watered up to two hours on any day by handheld hose, drip irrigation, a soaker hose or tree bubbler. Tree watering is limited to an area not to exceed the drip line of the tree.
 - Golf course greens may be subject to the above watering schedule guidelines, however watering must be done before 10 am and after 6pm. Fairways are restricted to up to once per week watering as outlined above. Golf course rough cannot be watered.
 - Watering for dust control on skinned areas of sport fields is not allowed.
 - Hand watering, physically holding the water hose, for landscape irrigation purposes is allowed on a daily basis regardless of the time of the year.
- On your irrigation day (see above schedule), you may water from 12:00 am to 10:00 am and then again from 6:00 pm to 11:59 pm.

2. All users are encouraged to wait until the current drought or emergency situation has passed before establishing new landscaping and turf. If hydro-mulch, grass sod, or grass seed is installed for the purpose of establishing a new lawn, there are no watering restrictions for the first 30 days while it is being established. After that, the watering restrictions set forth in this stage apply. (This does not include over-seeding.)
3. Prohibit use of water for dust control, except as required to protect public health.

4. Vehicle washing restricted to commercial car wash, commercial service stations or a private on-site vehicle washing facility and can only be done as necessary for health, sanitation, or safety reasons, including but not limited to the washing of garbage trucks and vehicles used to transport food and other perishables. All other vehicle washing is prohibited.
5. Prohibit the operation of ornamental fountains or ponds that use potable water except where necessary to support aquatic life.
6. Prohibit the draining, filling or refilling of swimming pools, wading pools and Jacuzzi type pools. Existing private and public pools may add water to maintain pool levels.
7. Use of water from fire hydrants shall be limited to firefighting or other related activities necessary to maintain public health, safety and welfare. Under the direction of the City Manager, use of water from fire hydrants for construction purposes may be allowed by permit.
8. Consider excess water use charges for usage of water over the amount used in the winter.

City/Government

1. All City of Lawrence operations will adhere to the water use restrictions.
2. Prohibit wet street sweeping.

Commercial/Industrial

1. All actions listed above
2. Hotels are required to implement laundry conservation measures be encouraging patrons to reuse linens and towels.
3. Stock at commercial plant nurseries may be watered only with a hand-held hose, hand held watering can, or drip irrigation system.
4. Use of water from hydrants for any purpose other than firefighting related activities or other activities necessary to maintain public health, safety, and welfare requires a special permit issued by the Utilities Department.

PLAN REVISION, MONITORING & EVALUATION

The City of Lawrence reviews monthly totals for water production, sales, water provided free, and “unaccounted for water.” Problems noted during the monthly review will be solved as soon as possible.

This plan will be reviewed in April each year and on a more frequent basis during drought or other water shortage conditions. If the gallons per person per day (GPCD) goals for the prior year are not met, the City will review the data collected from prior year and evaluate the status and effectiveness of the conservation practices in the plan. The City will provide a status report to the Kansas Water Office, including any added practices that may be needed to meet the goals of the City.

DRAFT

Attachment 1.

**City of Lawrence
Water Meter Replacement Program**

The City of Lawrence is responsible for installing and maintaining the water meters for over 32,000 customers. The water meters vary in size from 5/8" to 12". Proper maintenance of the water distribution system includes replacement of water meters. Replacement of water meters insures the accurate recording of water usage. Water meters will be replaced prior to the point where the water meters begin to under record consumption. Ideally, water meters will be replaced at the time when the cost of the water meter is more than offset by the additional revenue generated by the improved accuracy in recording consumption. The replacement procedures are summarized below.

Basis for Water Meter Replacement Program

In preparing the water meter replacement program, the City of Lawrence consulted AWWA publications, water meter manufacturer recommendations, and field testing of water meter. AWWA publications recommend water replacement schedules in the range of 10 to 15 years for residential water meters of 1" and smaller. This AWWA publication data is based on studies conducted in the 1990's. Current water meter manufacturer recommendations for residential meter replacement are based on the volume of 1.5 to 2 million gallons. Limited field testing of residential water meters indicate inaccuracies begin above 2 million gallons.

For water meters 1 1/2" and larger, the AWWA does not specify a time frame for water meter replacement but recommends 10% to 20% of the system be replaced annually for non residential water meters. With current water meter technology, water meters are expected to operate accurately for over 10 years. Manufacturers recommend annual testing of large water meters.

Water Meter Replacement Program

The water meter replacement program consists of the following two replacement strategies:

1. For water meters 1" and smaller, water meters will be replaced when the volume registered through the water meter exceeds 2 million gallons or age of the water meter reaches 20 years.
2. For water meters 1 1/2" or larger, water meters will be replaced when the age of the water meter reaches 15 years.
3. For water meters 6" or larger or for rural water districts, water meters will be tested annually for accuracy. If testing indicates accuracies outside of the AWWA recommendations, the water meters will be calibrated and re-tested. Upon re-testing, if the testing still indicates inaccuracy, the water meter will be replaced.

Responsibilities

For water meters 1" and smaller, the Finance Department's Meter Service Representatives and Utilities Department Field Service Crews replace water meters meeting the criteria listed in No. 1 above. For water meters 1 1/2" and larger, Utilities Department Field Service Crews test and replace water meters meeting the criteria listed in No. 2 and 3 above.