



**BUILDING TRADES BOARD  
AGENDA  
COMMISSION CHAMBERS AT CITY HALL  
JANUARY 27, 2014  
5:30 P.M.**

- 1. CALL TO ORDER BY CHAIRMAN:**
- 2. MINUTES: Consider approval of the minutes from the October 14, 2013 meeting:**  
ACTION: \_\_\_\_\_
- 3. OLD BUSINESS:**  
ACTION: \_\_\_\_\_
- 4. LIST OF NEW LICENSED CONTRACTORS FROM SEPTEMBER 26, 2013 TO DECEMBER 31, 2013:**  
ACTION: \_\_\_\_\_
- 5. WATER CONSERVATION & EFFICIENCY PROGRAM STATUS:**  
ACTION: \_\_\_\_\_
- 6. IAPMO 2012 GREEN PLUMBING & MECHANICAL CODE SUPPLEMENT:**  
ACTION: \_\_\_\_\_
- 7. OTHER:**  
ACTION: \_\_\_\_\_

Enclosed:   Draft Minutes  
              Supporting Documentation

If you will be unable to attend please contact the Planning, Inspection, and Enforcement office at 785- 628-7310. Any person with a disability and needing special accommodations to attend this meeting should contact the Planning, Inspection, and Enforcement office (785-628-7310) 48 hours prior to the scheduled meeting time. Every attempt will be made to accommodate any requests for assistance.

**DRAFT**  
**BUILDING TRADES BOARD MEETING**  
**Commission Chambers of City Hall**  
**October 14, 2013**  
**5:30 p.m.**

**1. CALL TO ORDER:** The Building Trades Board met on Monday, October 14, 2013 at 5:30 p.m. in Commission Chambers at City Hall.

**Roll Call:**

Present: Jerry Sonntag  
Dave Schoendaller  
Tim Jacobs  
Dale Befort  
Roger Mettlen - left at 6:30 p.m.

Absent: Arlen Flax

Chairman Jerry Sonntag declared that a quorum was present and called the meeting to order.

City Staff Present: Paul Briseno, Assistant City Manager  
Jesse Rohr, Superintendent of PIE  
Nick Willis, Stormwater Superintendent  
Mike Schlyer, Inspector of P.I.E.  
Dean Koehn, Inspector of P.I.E.  
Linda K Bixenman, Administrative Secretary of P.I.E.

**2. MINUTES:** Roger Mettlen moved, Dave Schoendaller seconded the motion to approve the minutes as presented from the July 29, 2013 meeting.

Vote: AYES: Jerry Sonntag  
Dave Schoendaller  
Tim Jacobs  
Dale Befort  
Roger Mettlen

**3. OLD BUSINESS:** None.

**4. LIST OF NEW LICENSED TRADE CONTRACTORS FROM May 28, 2013 TO SEPTEMBER 26, 2013:** The current list of new contractor's licenses was presented to the board for informational purposes.

**5: GUEST SPEAKER ANDY VEATCH TO DISCUSS LAWN IRRIGATION INSTALLATION AS IT PERTAINS TO THE GREEN CODE:**

Nick Willis, Stormwater/Water Conservation Superintendent, explained that the purpose of the meeting was for input from the board and contractors on the lawn irrigation portion of the IAPMO 2012 Green Plumbing and Mechanical Code Supplement. A guest speaker will give a presentation and answer questions.

He used the overhead visual to present a GIS aerial picture of the city pointing out the newer areas having more turf than the older parts of the city. He used other studies and history of water usage to point out that the city is looking at facing water supply for the demand. Growth will catch up if water usage is not managed differently.

He introduced the guest speaker, Andy Veatch, to speak about lawn installation as it pertains to the green code.

Handouts were as follows:

1. Calculation of Precipitation Rate (PR) of Drip Emitters and Bubblers and Rotary Nozzles for compliance.
2. Effect of Rotary Nozzles and Cycle and Soak Scheduling on Landscape Irrigation Efficiency.
3. PowerPoint presentation by Andy Veatch on the 2012 Green Plumbing and Mechanical Code Supplement

Andy Veatch came before the board and audience and gave his credentials. He has been working in lawn irrigation since 1992. He is the owner and master license holder of lawn sprinkler services. He is a member of the MABCD Board of Appeals of Plumbers and Gas Fitters of Wichita, Sedgwick County. He is a certified irrigation designer, contractor, and landscape irrigation auditor. He is a KDHE licensed Backflow Installer/Tester.

He pointed out that there would be some serious water savings if the old lawn irrigation systems were brought up to a better standard. This is what would be called "low hanging fruit". The new systems would be affected by the new code supplement.

The presentation was in three basic parts:

1. What Section 413 means to installers
  - a. No more pop-up spray heads
  - b. Sub-surface Drip line for areas less the 4' wide
  - c. Pressure regulated sprinkler heads &/or pressure reducing valves
  - d. Maintain a precipitation rate standard with less on the slopes
  - e. Audit of sprinkler system to calculate accurate precipitation

2. What Section 413 means to authority having jurisdiction
  - a. Greater site review and user education
  - b. Accountability for backflow prevention testing, installation and compliance
  - c. Codes on amount and type of plant material
  - d. Demonstration of competency of contractors, installers & designers
  - e. Performance compliance – auditing of system
  
3. Recommendations
  - a. Require all sprinkler systems to have a rain sensor - automatically adjust for weather or soil moisture conditions
  - b. Set a performance target
  - c. Require audit of the installed sprinkler system
  - d. Accountability - Require all companies in the business of lawn irrigation to have a city license that would require a competency test. Require that the backflow preventer be installed by a KDHE licensed backflow installer tester. Require all new sprinkler systems be audited upon completion to insure the sprinkler system meets the requirements of the 413.9 and 413.11.

The highlights from the discussion from the board and licensed contractors were as follows.

Jerry Sonntag pointed out the importance of education and control as to what is allowed to be planted and having buffers next to hard surfaces. He suggested a landscaping design be approved and submitted up front along with the building plans for new homes. He thought if there were a code requirement and an inspection requirement with the installation; the thinking might change. He talked about having separate meters for inside and outside.

Guy Riedel pointed out that unmaintained lawn irrigation systems lose millions of gallons of water particularly from leakage of seals around the spray nozzles. He suggested having a maintenance contract because of the water situation.

Because some of the variations in size of lots; some being 2 acres or greater, he recommended that a percentage of the yard be xeriscape and a higher percentage of the lawn be warm season grass. He pointed out that no irrigation system would be needed for buffalo grass.

If landscaping design was required with the new building plans, a landscaper would need to be brought in at that time. He pointed out that the banker and mortgage processor would have to know that on average 10% of the cost of the home would be for the landscaping.

He stated that a buffer against the sidewalks and curb lines was a good alternative. He pointed out the importance of education the way a lawn should be watered and the installation of the system. It is important to have subsurface moisture to saturate the soil so the root system for the grass would go down and search for water, otherwise the grass can be easily stressed.

He stated that there is a problem with the lawn irrigation installation industry in Hays. There are fly-by-nighters that do not know the trade, installing some of the sprinkler systems. Licensing does not require proof of working under an experienced licensed contractor for a period of time like most trades. He also emphasized that home owners installing their own lawn sprinkler systems need to come to an end.

He estimated the cost to upgrade the existing systems on a regular sized lot would be around \$1,500.00.

Jesse Rohr noted that the homeowner is allowed to do the work for any trade. They have to follow the standards required by the trade.

Andy Veatch explained the licensing requirements in his jurisdiction. A potential contractor must have two years experience before being qualified to be a journeyman. They must have experience as a journeyman for two years before being qualified to become a master. They are required to take some continuing education classes. This trade is taken more seriously by other trades.

Bob Schumacher stated that the requirement of a rain sensor would not be worth it in our climate of little rainfall. He also pointed out that a lawn sprinkler system would not need to be turned on until June.

Hays Medical Center has an alarm system for notification of excess flow; although it is not cost effective for a residential owner.

Andy Veatch explained the importance of a rain sensor.

Tim Jacobs pointed out that planting the native grasses (Buffalo or Bermuda) would be a huge savings on water.

Jesse Rohr asked Mr. Veatch if they require their systems to be audited. He asked if there is any follow-up after the systems are installed.

Mr. Veatch answered that they do not require audits, although they require a permit. The city checks the backflow and irrigation tap. His company tests the backflow and sends the first report to the City and every 5 years the homeowner is notified that the backflow is to be tested. The city council is in the process of

developing regulations where rain sensors would be required to be on the systems.

Dave Schoendaller stated that he agrees of what is being said about the standards that need to be set for the trade. A backflow can contaminate the whole system. The design is not signed off or inspected like other trades or the job does not go on. A contractor needs to be held to a certain standard for their jobs. He asked where they start.

Nick Willis pointed out that this discussion for water conservation methods has prompted other issues that need to be addressed such as the back flow preventer.

He explained that what we are up against is water supply limits. Spending more for water does not create water supply. This topic will also be discussed at the Planning Commission. He and Jesse Rohr pointed out that the trigger is the irrigated areas, not the turf areas.

Jesse Rohr explained to the contractors and the board that a good starting point would be the recommendations listed by Andy Veatch in his presentation.

## **6: ADJOURNMENT**

Chairman Jerry Sonntag adjourned the meeting at 6:50 p.m.

Submitted by: Linda K. Bixenman  
Administrative Secretary  
Planning, Inspection and Enforcement

## NEW TRADE CONTRACTOR LICENSES FROM 09-26-2013 TO 12-31-2013

Business Name	ResponsibleParty	Address	City	State	Zip	Phone	Date Opened	Category
Construction Brokers Inc	Joseph Miceli	800 Brooklyn Ave	Kansas City	MO	64124	816-471-7094	10/02/13	General
Miller Electric Inc	Steve Minson	629 N Georgie Ave	Derby	KS	67037	316-788-0471	11/06/13	Electrical
Wearing, Heating & Air Cond Inc	Gary Wearing	328 N 13th St	Salina	KS	67402	785-825-2665	12/05/13	Mechanical
Precision Electrical Contractors	Tomas Perez	668 N Ohio - P O Box 1153	Salina	KS	67401	785-309-0094	12/19/13	Electrical

# Memo

**To:** Hays Building & Trades Board Members  
**From:** Nicholas Willis, Stormwater/Water Conservation Superintendent  
**CC:** City Manager's Office  
**Date:** January 20, 2014  
**Re:** Water Conservation & Efficiency Program Status

While most of the members of the Building & Trades Board are probably familiar with the regular restrictions on outdoor watering that occur yearly, more recent efforts have not been well detailed to board members. Here is a summary of what has been done:

In late 2013, a new rate structure was adopted for residential properties, essentially making outdoor watering twice as expensive as it was previously. Water use for residences greater than their average winter consumption (AWC) used to cost twice as much as their AWC on a volumetric basis. Now, any usage in a month which is beyond 7,500 gallons over the AWC will cost four times as much as the base rate (\$7.20 vs. \$1.80 per 100 cubic feet or 748 gallons). This action will impact outdoor water usage, sending the strongest price signal to those persons watering large expanses of cool season turf. Water usage has price elasticity; in general a 10% increase in rates can be expected to spur a 3-4% decrease in water usage. The elasticity is greatest for those things which are largely habits (i.e. lawn watering, car washing) and for those rates which last (i.e. people are unlikely to change their lawns if water is only expensive for a short period of time). With time, we expect this to help drive outdoor water usage down.

Also in 2013, the City Commission adopted a water conservation budget vastly expanding the city's efforts to save water. A Water Conservation Specialist has been hired to set up new programs, administer ongoing programs and, with time, get into water auditing. Programmatically, \$335,000 was budgeted for the following items:

1. Water distribution system leak detection. This survey will help pinpoint leaks in the potable water distribution system that are not currently surfacing. Towns with infrastructure a similar age to Hays' often see pretty good results

from this survey. Within a few months, Hays will be putting out a Request for Proposals for these services.

2. Gravity flush toilet rebates. The City Commission gave its blessing to a rebate program aimed at existing gravity flush toilets as found in homes and hotels. This effort will serve to reduce year-round water usage in Hays and is especially important for stretching water supplies in times of continued drought.
3. Urinal rebates. The City Commission gave its blessing to a rebate program aimed at replacing existing urinals with new fixtures saving at least 88% of water used.
4. Educational efforts. Funds were budgeted to develop educational outreach efforts aimed at Hays citizens of all ages. Currently staff is exploring turn-key, proven programs for elementary school.
5. Commercial rebates. This program is still in development, but will take a two-pronged approach towards reducing usage from the commercial, industrial and institutional properties comprising about ½ of all potable water usage in Hays. Staff will be going before the City Commission with set rebates for some common commercial items, such as water-cooled ice machines, and a policy for rebates for uncommon, but high water-using items, such as a process in a factory.
6. Retrofits of city facilities. This budget item will pay for the installation of the most efficient fixtures in city-owned facilities. This program will work with North Central Kansas Technical College in an effort to train the future plumbers of the region in the use of state of the art plumbing fixtures.

Members of the Building & Trades Board are not the only board or commission appointed by the Mayor tackling the water use issue. The Planning Commission, with jurisdiction over zoning and subdivision regulation, has set a public hearing for changes on irrigation and landscaping regulations. Details of some of these proposed changes are below:

1. Square footage caps on the amount of irrigated vegetation on a property.
2. Requirements for submittals of landscape plans with all construction proposals (previously, duplexes and single family homes were exempted).
3. Requirements for buffers between spray irrigated areas and hardscapes.
4. Submittal requirements for irrigation system design (currently, no submittals are required in order to install a system).
5. Xeriscape requirements for commercial properties.

As water is embedded in so many daily activities, solutions to the water problems facing Hays must be multi-pronged. The efforts put forth in the water conservation budget are mainly meant to bring older systems to a more modern efficiency of water usage. The efforts of you and your fellow board members are aimed at preventing the ballooning of future, unsustainable water use.

# Memo

**To:** City of Hays Building and Trades Board

**From:** Nicholas Willis, Stormwater/Water Conservation Superintendent  
Jesse Rohr, Planning, Inspection & Enforcement Superintendent

**CC:** City Manager's Office  
Hays Public Works Directors  
Hays Utility Department Directors  
City of Hays Building Inspectors

**Date:** January 20, 2014

**Re:** IAPMO Green Plumbing & Mechanical Code Recommendation

After two meetings of the Building and Trades Board discussing aspects of the 2012 Green Plumbing & Mechanical Code Supplement published by IAPMO, city staff is presenting its ideas for recommendation to the City Commission by the Building and Trades Board.

City Staff recommends that the Building and Trades Board recommends the adoption of the following Chapters in their entirety:

Chapter 1: Administration

Chapter 2: Definitions

Chapter 3: General Regulations

Chapter 5: Alternate Water Sources for Non-Potable Applications

Chapter 9: Installer Qualifications

Chapter 10: Swimming Pools, Spas, and Hot Tubs

Chapter 11: Referenced Standards

Appendix A: Method of Calculating Water Savings

Appendix B: Potable Rainwater Catchment Systems

City Staff recommends that the Building and Trades Board recommends the adoption of the following Chapters in their entirety, with the noted exceptions:

#### **Chapter 4:**

Strike section 405.2 as Hays' water supply is on the borderline of the referenced hardness cutoff (some years it is higher, some lower). While there are significant issues regarding wastewater quality and water usage with water softening systems, staff would prefer to defer discussion on this issue at this time.

#### **Section 413:**

Andy Veatch, in his presentation to the Board had several recommendations. He recommended that the application rate limitations be raised, but only on the condition that a proper audit is completed and certain uniformity in application is met.

At this time, the City does not have enough staff training or time to spend the 4 or so hours that an audit requires for each new sprinkler system (note, if a system failed, subsequent audits would be required before the system could be used). Permit fees would need to be raised to the \$150-\$200 range to cover city costs, with additional fees for a re-audit. Staff recommends staying with the application rates as recommended in the code for the following reasons:

1. The infiltration rate of the local soils in Hays is typically near 1 inch per hour. As controller settings are changed after initial system installation (as they inevitably will be), staff believes that runoff becomes more likely with higher application rates.
2. Mr. Veatch put the extra cost for pressure regulated MP Rotator nozzles at \$6.45 each over standard non-regulated sprays. Regulated sprays cost \$2.45 more than unregulated sprays, thus the additional cost placed on system installation by the lower application rate is \$4 per spray. In other words, to make up the \$200 auditing cost, a system would break even at 50 sprays (as there has no desire to not require pressure regulation). When an extra 2-3 hours of contractor time is included to be present at the audit, the cost savings possible through an audit become even lower.
3. Overapplication without runoff is less of a problem than overapplication with runoff. As much of the City's water supply is from the local alluvial aquifer, irrigation practices with cause excess deep percolation are less problematic than those which cause runoff (which typically does not infiltrate back to the local aquifer).

Mr. Veatch also recommended that there "is no great improvement over system performance by banning spray heads UNLESS you require subsurface dripline for all spacings less than 12'. Because of this recommendation, staff recommends amending section 413.8 to read as follows:

#### **413.8 Narrow or Irregularly Shaped Landscape Areas.**

Narrow or irregularly shaped landscape areas, less than ~~4 feet (1219 mm)~~ 12 feet (3658 mm) in any direction across any opposing boundaries shall not be irrigated by any irrigation emission device except low flow emitters.

City staff is still exploring contractor qualifications and licensing requirements for irrigation contractors. We believe there needs to be incentive for contractors to attend classes and

stay up to date, similar to the requirements on plumbers and electricians. For the time being staff is not recommending changes, but may do so in the future.

## **Chapter 6:**

The Building & Trades Board expressed concern about the amount of water that can be wasted between the furthest fixture and the hot water heater. Staff shares this concern to some degree, but believes that such built-in water wastage is exactly what the code is meant to discourage. In researching other standards, it appears that a half gallon is a reasonable compromise between forcing the installation of recirculation systems or extra hot water heaters and water savings. Therefore, the following change is recommended:

Delete Section 602.6.

### **602.7.1 Maximum Volume of Hot Water Without Recirculation or Heat Trace.**

The maximum volume of water contained in the hot water distribution pipe between the water heater and any fixture shall not exceed ~~32 ounces (oz) (946 mL)~~ 64 ounces (oz) (1892 mL). ~~Where a fixture fitting shut off valve (supply stop) is installed ahead of the fixture fitting, the maximum volume of water is permitted to be calculated between the water heater and the fixture shut off valve (supply stop).~~