Facilities Management Procedure
Webber State University
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Irrigation Winterization Procedures for WSU Ogden Campus

Description:
This document provides a comprehensive process for irrigation winterization and seasonal maintenance for the Ogden Campus.

References/Sources:
Irrigation Plans for WSU Ogden Campus

Definitions:
Automatic Irrigation System: Irrigation systems that do not require a manual turn on and shut off at the site box.

Computerized maintenance management system (CMMS): Database that Facilities Management uses as a work management system.

Manual Irrigation System: Irrigation systems that require a manual turn on and shut off from the site box.

Responsible Party:
Facilities Management Landscape Manager

Procedure:
Facilities Management will support and maintain a sustainable winterizing procedure for irrigation systems at Weber State University. An annual evaluation of current practices will be performed to accommodate upgrades and changes in irrigation systems.
Beginning October 1, a Preventive Maintenance work request will be flagged in the CMMS to indicate the commencement of the winterization process. Both automatic and manual irrigation systems will be attended to beginning from the highest point of elevation on campus. The winterization process will be started by October 15 and completed no later than November 7th, annually.

**Before Beginning Winterization**

The Irrigation Specialist or designee will complete the following steps:

1. Reserve a compressor from a preferred vendor on October 1.
2. Ensure that a 50 foot compressor hose is included in the compressor rental.
3. Procure any attachments and connectors necessary for this process (e.g. quick coupler attachments, hose attachments).
4. Ensure that the Pineview Water line is shut down and off for the season (contact Pineview Water at 471 West 2nd Street, Ogden UT or (801) 621-6555 with questions).

**Tools Needed**

**185 Compressor:** Equipment rental business options may include: Advantage Rental, Sunbelt Rental or Howe Rental

**Map Books (may be printed or obtained online):** Green paint indicates valves. Orange paint indicates drains

**1 Inch Quick Connector Stems (two stems)**

**50 or 75 Foot Air Compressor Hose:** 50 foot hose can be used but 75 feet of hose is preferred.

**Quick-Connect Connectors:** Note to self: Speak with Ryan about which connectors we need/used (how many do we have) air compressor stems.

**Garden Hose:** Used to guide water when draining in certain areas such as at the Softball Field and north side of the Lindquist Memorial Pond.

**Irrigation Remotes and Backup Batteries:** Two remotes are needed, one for the Ogden campus and one for the Davis campus. Ensure that backup batteries are charged and ready.

**Red Multi-Key:** includes: Cross-Top Key, Square-Top Key and Stop-and-Waste Key

**Bollard Keys:** These are needed to access the sidewalk to attach the quick coupler to the irrigation system near the Administration building.

**Flashlight**

**Vise Grips**
SECTION 1: AUTOMATIC IRRIGATION SYSTEMS

MAINLINE (PART 1)

1. Plumbers need to close the reservoir while the reservoir is full. It is ideal for the plumbers to close the reservoir prior to Pineview shutting off the water to our campus which typically occurs on October 15th.
2. Leave the north frontage mainline drain CLOSED until after all other zones have been blown out.
3. Work from East to West across campus, going in this direction will allow the mainline to drain down.
4. Continue to allow all zones to run, this will help to distribute the water in the mainline to plants rather than simply allowing the water to go into the drain.

W1 CLOCK (Power to this irrigation pump needs to be shut off prior to winterizing)

1. Park in W1 parking lot near pump and irrigation clock
2. Isolate by closing the square top isolation in round irrigation box between water meter and pump
3. Connect compressor into the hose bib on north side of pump.
4. There is not a filter to flush on this valve.
5. Rotate through each zone.

ANNEX 2

1. Park on Edvalson on the south side of Annex 2
2. Isolate by closing cross-top valve in big box on the southeast corner of house.
3. Connect compressor into hose bib in the same box
4. Begin rotating through each valve on clock to open each lateral line. Keep the line open until the last head is misting

ELIZABETH DEE SHAW STEWART STADIUM

1. Park the compressor next to the filter just east of the pump house, across from the north side of the stadium.
2. Isolate system from mainline by using the square top isolation valve in the turf (located 3 feet northwest of the filter in a round irrigation box).

3. Connect compressor into quick coupler in a round green plastic irrigation box near the curb.

4. Drain the main line by opening a drain that is located at the south side of the stadium, south of the track. The drain valve is located east of the manhole cover in a green, rectangular irrigation box. Open this valve to flush water out.

5. After allowing the water to flush out, close this drain to build the pressure back up.

6. Rotate through each zone on the clock until the last head is misting, this will get the zones within the stadium including the cannons that spray the artificial field, which also need to be blown out.

7. The following zones are attached to these lines but are not hooked up to the clock, so they must be opened manually:
   a. The islands in the W5 lot consist of 18 valves needing to be blown out individually. 15 valves are in the island and 3 of them are just outside of the north fence along the W5 curb.
   b. Annex 13 has two valves that need to be opened manually, these are in the turf SE of the ticket booth on the south side of the stadium. NOTE: in order to blow these two valves out, station 17 on the Stadium Clock must be open to allow water to flow to this area.

8. The filter is drained by gravity and two drains are left open over the winter, (the drain at the NE corner of the concrete pad for the filter should be opened).
   a. The flush valve is to be left open.

9. Other drains opened once compressor has been turned off
   a. Two air reliefs on the south side of the stadium, one of which included the mainline drain from step 3.
   b. One ball valve in a rectangular irrigation box just north of the mainline drain.

ANNEX 9 - WSU Wilderness Recreation Center

1. Park near back (west) wall near bottle filter
2. Isolate at bottle filter
3. Connect compressor into bottle filter
4. Do not open any drains
5. Open each valve until last head is misting. There are 4 manual valves and an
irrigation clock to work through.

**ANNEX 13**

1. Park near back (west) wall near bottle filter
2. Isolate at bottle filter
3. Connect compressor into bottle filter
4. Do not open any drains
5. Open each valve until the last head is misting, then go to the next valve (10 manual valves in all).

**SCIENCE LAB (Timer must stay turned on as it is connected to the Weather Center).**

1. Park by the east side of Science Lab Building (W2 parking lot).
2. Isolate system from the mainline by closing valve at the inlet side of the filter.
3. Connect compressor into the quick coupler by the filter.
4. Flush the filter using the compressor to backwash.
5. Drain the mainline of the system:
   a. Open gate valve located on the south west corner of sidewalk and A4 parking lot. This will open an expansion pipe at the SW corner of the Science Lab. **Caution:** A large expulsion of water will present itself at the SW corner of the Science Lab.
   b. Close the valve once most of the water has been pushed out.
6. Begin rotating through each valve on remote to open each lateral line.
7. Keep the line open until the last head is misting. Expulsion of mainline water will decrease time and effort in emptying each succeeding zone.

**MARRIOTT ALLIED HEALTH**

No winterizing of this clock is done.

**TENNIS COURTS**

1. Park the compressor in the northeast corner of the Swenson Gym along the curb.
2. Isolate system from mainline by using the square top isolation valve in the turf about 5ft north of the filter. The filter is located on the NE corner of the A7 lot.
3. Connect compressor into brass quick coupler in a green plastic irrigation box near the curb.
4. Drain the main line by opening a drain that is located at the southeast corner of the A7 lot, just east of the sidewalk. This drain is in a green round plastic irrigation box next to a drain. Open this valve to flush water out, after allowing the water to flush out, close this drain to build pressure back up.
5. Rotate through each zone until the last head is misting.

TECHNICAL EDUCATION (known as A2 clock) If already hooked into Peterson Plaza; steps 1, 2, 3 and 4 are already complete.)

1. Park at southwest corner of Engineering Tech Building. (same as Peterson Plaza clock)
2. Isolate system from mainline by using the square top isolation valve in the round plastic irrigation box. It is south of double set of stairs between Building 4 and the Library. (There are two isolation valves at this spot, the north most valve isolates Technical Education Clock and Peterson Plaza).
3. Connect compressor into the quick coupler by the filter at southwest corner of Engineering Tech Building.
4. Flush the filter using the compressor to backwash.
5. Rotate through each zone. On drip zones: give each zone a few minutes to flush, allowing the header line to drain. On MP, rotor and spray zones: keep each zone on until the heads are misting.

STEWART LIBRARY (NE CORNER OF LIBRARY)

Note: Obtain an adapter for a compressor hose to hose bib and ensure 75 feet of compressor hose is available for use.

1. Park near Library clock on the sidewalk located on the left side of the
2. Isolate system from mainline by using the square top isolation valve in the round plastic irrigation box. It is south of double set of stairs between Building 4 and the Library. (The valve located on the most south isolation does the Library).
3. Connect compressor into quick connect to the west of the filter in round irrigation box.
4. Flush filter by opening brass drain valve on filter. Close after water has drained and air starts to come out.
5. Open Netafim ball valve drains to 45 degrees and leave open until irrigation startup in spring (2 at the NE corner of library, 10 along west side of Marriott Allied Health in raised flowerbeds).
6. Rotate through each zone. On drip zones: give each zone a few minutes to flush, allowing the header line to drain. On MP, rotor and spray zones: allow each zone to stay on until the heads are misting.
7. Keep Isolation closed until irrigation startup.

PETERSEN PLAZA

1. Park at southwest corner of Engineering Tech Building.
2. Isolate system from mainline by using the square top isolation valve in the round plastic irrigation box. It is south of double set of stairs between Building 4 and the Library. (There are two isolation valves at this spot, the north most valve isolates Peterson Plaza).
3. Connect compressor into the quick coupler by the filter at southwest corner of Engineering Tech Building.
4. Flush the filter using the compressor to backwash.
5. Open Netafim ball valve drains to 45 degrees and leave open until irrigation startup in spring.
6. Rotate through each zone. On drip zones: give each zone a few minutes to flush, allowing the header line to drain. On MP, rotor and spray zones: keep each zone on until the heads are misting.

BELL TOWER

1. Park on the east side of the Bell Tower Plinth.
2. Isolate Bell Tower irrigation by closing Ball Valve on Inlet side (east side) of filter.
3. Connect compressor into the quick connect on east side of Bell Tower Plinth.
4. Flush filter by opening PVC ball valve on filter until air starts to come out, then close PVC ball valve. (note: water may be warm due to nearby underground tunnels).
5. Rotate through each zone. On drip zones: give each zone a few minutes to flush, allowing the header line to drain. On MP and spray zones: allow each zone to stay on until the heads are misting.
6. Keep Isolation closed until irrigation startup when we open it up again.

HEAT PLANT

1. Park in parking lot south of Heat Plant Building.
2. Isolate in cement coffin that is located between the heat plant and the Newman center.
3. Connect in quick connect located in this cement coffin.
4. Begin rotating through each valve on clock on the south side of Heat Plant to open each lateral line. Keep the line open until the last head is misting.

5. Also open the single electric irrigation valve located in the cement coffin.

ANNEX 11 AND 12

1. Park on south side of Annex 12.
2. Isolate on east side of Annex 12 is a cross-top valve to close.
3. Connect in tall sprinkler south of Annex 12 by removing irrigation head. Replace sprinkler head after blowing out system.

PE FIELD

1. Park compressor on the northwest corner of the PE Field, inside the fencing.
2. Isolate by closing isolation valve in round box east of backstop inside the PE field fencing.
3. Connect compressor in quick coupler located east of the irrigation clock.
4. Drain filter by connecting a quick coupler in rectangular green irrigation box on the southwest corner of the PE Field.
5. Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.

MILLER ADMINISTRATION BUILDING

Note: Obtain a hose, quick connect to drain system and bollard wrench/key.

1. Isolate system from the mainline at the south side of the A1 lot. (GPS)
2. Park in the A1 Parking lot and back-up the sidewalk that slopes up to the bottom floor doors of the Miller Administration Building. Note: The Bollard keys may be used to lower the bollard and back further into the area.
3. Connect compressor into the quick coupler at the NW side of the Miller Administration Building, just north of the sidewalk. (GPS)
4. Flush the filter SE of the Miller Administration building, north of the duck pond. Use the compressor to backwash the filter. (GPS)
5. Drain the mainline of the system: Connect into quick coupler using a hose on the north
side of the pond, west side of the filter. (GPS)

6. Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.

ANNEX 4 & 5

Open two drains in irrigation box on the south side of Annex 5

1. Open ball valve to 45 degrees in green irrigation box next to sidewalk that goes from the south side of annex 5 to the sidewalk
2. Open ball valve to 45 degrees in green irrigation box about 15 feet southwest of Annex

BROWNING CENTER

There are three areas to the Browning Center irrigation: South, East and West.

South Side

1. Pull up on the sidewalk that goes between Kimball Arts and the Browning Center, just north of the W8 Parking lot next to the turf
2. Isolate the area by closing the gate valve at the southeast corner of the berm in a rectangular plastic irrigation box
3. Connect compressor into a quick connect just south of the bank of valves in a rectangular plastic irrigation box
4. There is not a filter to flush or a spot to drain the mainline at
5. Manually open solenoid valves in this area until each valve is misting.
   - Four of these valves are immediately north of where the compressor is plugged in near the long sidewalk.
   - Four of these are on the east side of the berm where the where the system was isolated in step 2.
6. Keep Isolation closed until irrigation startup

East Side

1. Park near southeast corner of Lampros Hall.
2. Isolate system from mainline by using the square top isolation valve in the road about 15 feet southeast of the Lampros Hall sidewalk.
3. Connect compressor into brass filter using a hose adapter. This connection point is in the south most irrigation box at the southeast corner of Lampros Hall.
4. There is a drain to help flush this line in the same box where the compressor is connected into the system.

5. Open each valve until the last head is misting. There are 18 valves to be opened individually and they are in the following places:
   - Four valves are located by the southeast corner of Lampros Hall
   - Five valves are located along the sidewalk on the east side Browning Center
   - Two valves are located on the southeast corner of the Browning Center (note: one of these valves does the island in the middle of the W7 parking lot, leave this valve on until these heads are misting)
   - Seven valves are located along the shuttle turn around road (west side of the road), at the top of the rock wall

6. Keep isolation valves closed until irrigation startup.

**West Side**

This procedure is for winterization of the west side of the Browning Center. This includes all the zones of the Browning Center Northwest clock and some of the zones of the Browning Center Southeast clock.

1. Park compressor next to the curb on the SW corner of the inner horseshoe on the west side of the Browning Center
2. Isolate area using the Ball valve in a plastic rectangular irrigation box, inside the horseshoe on the southeast corner. (note it is connected to a pressure reducer)
3. Connect compressor into quick connect in the horseshoe in a rectangular irrigation box
4. There is not a filter to flush.
5. Manually open solenoid valves around this area, 2 valves inside horseshoe, 2 valves south of the horseshoe, 7 valves north of the horseshoe.

**SUICIDE HILL and PT Field**

1. Park in the road east of PT Field
2. Isolate in round box with a square top valve by the culinary cross connect.
3. Connect in SE corner of field, right by the gate is a round irrigation box with a quick connect.

4. Drain using quick coupler on west side A10 parking lot, immediately north of bank of valves.

5. Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.
   a. Use the East PT clock first and go through each zone.
   b. Move to the West PT clock, on this clock there is a satellite clock

If you need to isolate Suicide, there is an isolation valve after the PT field on the west northwest side of PT field by the paver roadway, just west of the paved roadway in a round irrigation box.

**ALUMNI and HURST BUILDING (these are blown out at same point-of-connection)**

1. Park on the east side of the Hurst Building.

2. Isolate in the road using a square top valve in a steel top round box. This valve box is in the road north of Promontory Tower, just west of crosswalk to the long sidewalk.

3. Connect compressor into the hose bib connection on the filter.

4. Currently, there is not a place to drain the system.

5. Begin rotating through each valve on the Hurst Clock using the remote to open each lateral line. Keep the line open until the last head is misting.

Rotate through each valve on the Alumni Building Clock using the remote to open each lateral line. Keep the line open until the last head is misting.

**ELIZABETH HALL**

Note: Obtain a 3/4 inch quick connect for drainage

1. Isolate system from the mainline by closing valve in “water” round, metal box south of Elizabeth Hall in the landscape at the bottom of the waterfall. (GPS)

2. Park on the north side of Elizabeth Hall on the sidewalk.

3. Connect compressor into the quick coupler in the landscape on the north side of Elizabeth Hall. (GPS)

4. Flush the filter using the compressor OR flush the filter earlier while the system is still energized. This filter is buried deeply and risk of high water encounter is likely if the
filter is not energized at time of flushing. (GPS)

5. Drain the mainline of the system at the SW corner of the Education Building. The smaller quick connect stem and a garden hose for this quick connector will be required.

6. Begin rotating through each valve on your remote to open each lateral line. Keep the line open until the last head is misting.

**UNION BUILDING**

1. Park on the northwest side of the Union Building.
2. Isolate at the filter on the northeast corner of student services building.
3. Connect compressor into any of the quick couplers in the bookstore plaza.
4. Currently, there is not a place to drain the system.
5. Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.

**SOCIAL SCIENCE BUILDING**

1. Park on the west side of the Social Science Building (Edvalson Street).
2. Isolate at the filter (west side of building)
3. Connect compressor into the quick coupler just west of the filter.
4. Flush the filter using the compressor to backwash.
5. Currently, there is not a place to drain the system.
6. Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.

**MILLER ADMINISTRATION BUILDING**

Note: Obtain a hose, quick connect to drain system.

1. Park in the A1 Parking lot and back-up the sidewalk that slopes up to the bottom floor doors of the Miller Administration Building.
2. Isolate system from the mainline at the southeast corner of the A1 parking lot, just west of dumpster in the flowerbed along the curb-line.
3. Connect compressor into the quick coupler just south of double set of stairs.
4. Flush the filter southwest of the Miller Administration building, north of the duck pond. Use the compressor to backwash the filter.
5. Drain the mainline of the system: Connect into quick coupler using a hose on the north side of the pond, west side of the filter.
6. Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.

**SOFTBALL FIELD (revisit in annual evaluation)**
Note: Obtain an Extra Quick connect to be attached to hose for drainage. This will eliminate damage to stabilized granite around the field.

1. Isolate from the north side of country hills drive.
2. Park on the curb just SE of Don’s shed (this is the same spot to blow out the Dee Events Center Mainline).
3. Connect compressor into the quick coupler SE of Don’s shed by the curb? (GPS)
4. Flush the filter using the compressor.
5. Drain the mainline of the system at the SW corner of left field, connect in to the quick coupler and extend the hose out of the field, to the drain. NOTE: It will take some time for the hose to finally start misting.
6. Begin rotating through each valve on your remote to open each lateral line. Keep the line open until the last head is misting.
7. The pumps will be winterized (for the DEC and Softball Field) is the pump

DEE EVENTS CENTER

1. Park at curb just south east of landscape shed next to the curb (north east of DEC). This is the same spot to blowout the Softball field.
2. Isolate by closing two valves
   a. Close square top valve in front of 1351 Country Hills Drive, on the north side of Country Hill Drive. This isolates the system from Weber Basin.
   b. Isolate from the softball field by ensuring that the culinary cross-connect is switched over culinary water.
3. Connect the compressor at Quick Coupler southeast of landscape shed along the curb-line.
4. To Drain:
   a. Install twist in the bowl by Harrison Blvd. allow this sprinkler to run until drained. Remove once drained before moving on to Step 5.
   b. Go to east perimeter and open 2 inch valve, close before moving on to Step 5.
5. Cycle through manual valves until last head is misting.
6. Open valves along handicap ramp. Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.
7. Cycle through valves on new construction. Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.

University Village

1. Park inside of the fence near the NE corner by the pump.
2. Isolate by closing two valves
   a. The first valve is on the SW corner of the property in a green rectangular plastic box near the filter, south of the fence in the hammer throw area.
   b. The second valve is on the NE corner of the property next to the sidewalk in a
green rectangular plastic box near the filter.

3. Connect compressor into quick coupler on NE corner of property by the filter and pump inside the fence.

4. Remotely activate each station to purge water from the pipes until no water comes out of the heads.

   a. Start with the area on the NE corner of the parking lot. Stations 1-8
   b. Continue to the controller located on east side of building 4. Stations 1-8
   c. Continue to the timer located on the west side of building 2. Stations 1-21
   d. Do the community center last because of elevation changes. Stations 1-22

5. Winterize two pumps

   a. First one is located in the NE corner of the parking lot.
      - Remove drain plug and allow water to drain.
      - Re-install drain plugs after water has finished draining
   b. Second one is located on the south side of the play field.
      - Remove drain plug and allow water to drain.
      - Re-install drain plugs after water has finished draining.

6. Check all ball valves to make sure they are left at a 45 degree angle so that they do not freeze.

   a. One valve is located at point-of-connection.
   b. Other valve is in the grass south of the community center.

CONTINUING EDUCATION CENTER

The following procedure will be followed for winterizing the Continuing Education Center property for WSU:

A. Before Beginning Winterization
   1. Reserve a compressor from list of vendors On October 1
   2. Ensure that a 50 foot compressor hose is included in the compressor rental
   3. Procure any attachments and connectors necessary for this process

B. Procedure
   1. Park compressor near northeast corner of the Continuing Education Center, in the north utility access.
2. Isolate system- The stop and waste valve is in the north planter bed by front door.
3. Connect compressor into 3/4" quick connect in plastic irrigation box at northeast side of the Continuing Education Center.
4. There are many drains on the main line, at multiple valve boxes. The mainline feeding the backflow preventer drains back through the stop and waste valve.
5. Turn on each station until the last head is misting.
6. Blowout backflow preventer. It is a double check Valve (it is an old style, which is now illegal. It will be updated and relocated above ground with a RP Device) also located in the north planter bed.
7. Keep isolation closed until irrigation startup.

BELKA PROPERTY

1. Park on the northwest side of the property
2. Isolate at above ground filter on northwest side of property
3. Connect compressor into the filter at the northwest side of property.
4. Drain at 2 spots to open, allow time to flush then close:
   a. In oak grove north of filter
   b. Is by back gate northeast corner of property
5. Rotate through each valve on both clocks, go through each zone until the last head is misting
   a. One of the clocks is in the basement
   b. Second clock is south of the house in the backyard

ANNEX 8

1. Open manual valves and allow them to drain for 24 hours.
2. Close manual valves until spring.

ANNEX 10

1. Open manual drains and allow them to drain for 24 hours
2. Close manual drains until Spring

ANNEX 14

1. First isolate the system.
2. Drains opened for winterizing open for 24 hours.
3. After 24 hours, close drain valves until spring.

SOUTH FRONTAGE
1. Park on the sidewalk at the southwest corner of the frontage, drive up near the large Weber State sign.
2. Isolate at square top in irrigation box north of the filter in the round-box.
3. Connect compressor into the quick coupler in irrigation box east of the filter.
4. Drain by using quick coupler on west side of south roundabout.

Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.

LOWER QUAD (Air gap located in system, ensure it is working properly - located on the NW side of the pond, between the pond and the sidewalk)

1. Park at the southeast corner of the lower quad near the filter, in southwest corner of A1 parking lot.
2. Isolate by closing inlet side of filter. NOTE: Ensure butterfly is shut completely if it is not shut it blows into the mainline and pressure will not build up enough to clear the system.
3. Connect compressor into the hose bib on the filter.
4. Drain at stop and waste in the south east side of spillway in the concrete of the sidewalk, then close once done.
5. Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.
6. Keep isolation closed until springtime.

NORTH FRONTAGE

1. Park at the northwest corner of the Ogden campus, northwest corner of W-10 lot.
2. Isolate at square top in irrigation box south of the filter.
3. Connect compressor into the quick coupler in irrigation box southwest of the filter.
4. If the mainline is not drained, open the outlet side of filter. (The stop and waste and by the filter can be drain the campus mainline)
5. Drain using north frontage zone by using quick coupler on west side of north roundabout.

Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.

MAINLINE (PART 2)

1. After all areas have been isolated and blown out, Open the north filter drain to allow the
mainline to drain

2. Isolate at square top in irrigation box south of the filter.
3. Connect compressor into the quick coupler in irrigation box southwest of the filter.
4. If the mainline is not drained, open the outlet side of filter. (The stop and waste and by the filter can be drain the campus mainline)
5. Drain using north frontage zone by using quick coupler on west side of north roundabout.
6. Begin rotating through each valve on remote to open each lateral line. Keep the line open until the last head is misting.