

Irrigation Industry Association of British Columbia

Standards for Landscape Irrigation Systems

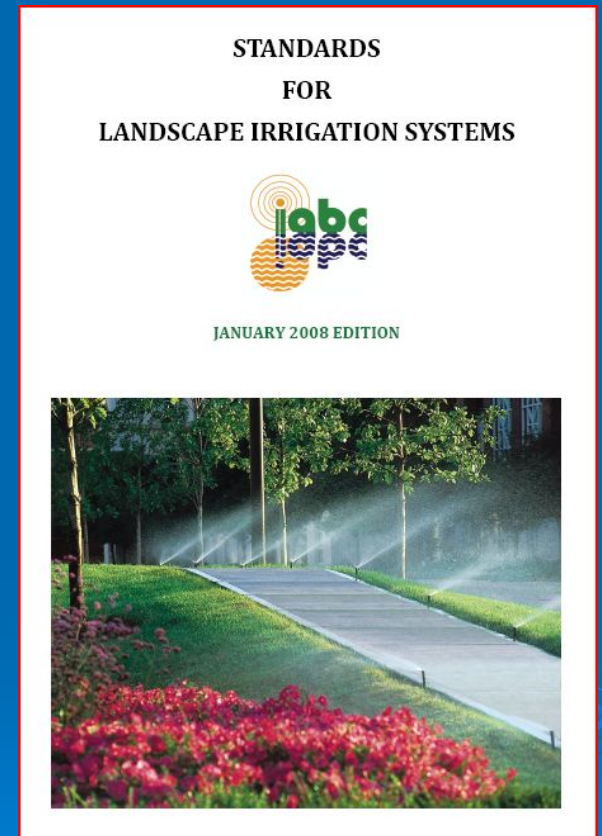
Overview



Current IIABC Standards

Available on the IIABC website

- Design
- Materials
- Installation
- Maintenance
- Inspection and Testing



Standards - General Information

- Scope of work
- Quality Assurance
- Submittals
- Site Condition
- Regulations

TABLE OF CONTENTS	
<i>Introduction</i>	page 1
General	
1. Scope of Work	page 2
2. Quality Assurance	page 2
3. Submittals	page 3
4. Site Conditions	page 3
5. Owner or Representative	page 4
6. Regulations	page 4
7. Alternate Materials	page 4
Design	
1. Sprinklers	page 5
2. Pipe	page 5
3. Zoning	page 6
4. Controls	page 6
5. Pressure Control	page 6
6. Winterizing	page 7
7. Low Volume / Micro Irrigation	page 7
8. Control Wire	page 7
Materials	
1. Sprinklers	page 8
2. Control Valves	page 8
3. Isolation Valves	page 8
4. Controllers	page 8
5. Wire	page 9
6. Backflow Prevention Devices	page 9
7. Pipe - Polyethylene	page 9
8. Pipe - Poly Vinyl Chloride	page 9
9. Fittings	page 10
10. Cement and Primer	page 10
11. Valve Boxes	page 10
12. Sleeving	page 10
13. Hydraulic Controls	page 10
Installation	
1. Excavation and Backfill	page 11
2. Pipe	page 11
3. Valves and Valve Boxes	page 12
4. Sprinklers	page 12
5. Wire	page 13
6. Backflow Prevention	page 13
7. Controller	page 13
8. Turf Valves / Quick Coupling Valves	page 14
9. Sleeving	page 14



Standards - Design

- 💧 Sprinklers and Pipe
- 💧 Zoning and Controls
- 💧 Pressure Control
- 💧 Winterizing
- 💧 Low Volume – micro
- 💧 Control wire

TABLE OF CONTENTS	
<i>Introduction</i>	page 1
<i>General</i>	
1. Scope of Work	page 2
2. Quality Assurance	page 2
3. Submittals	page 3
4. Site Conditions	page 3
5. Owner or Representative	page 4
6. Regulations	page 4
7. Alternate Materials	page 4
<i>Design</i>	
1. Sprinklers	page 5
2. Pipe	page 5
3. Zoning	page 6
4. Controls	page 6
5. Pressure Control	page 6
6. Winterizing	page 7
7. Low Volume / Micro Irrigation	page 7
8. Control Wire	page 7
<i>Materials</i>	
1. Sprinklers	page 8
2. Control Valves	page 8
3. Isolation Valves	page 8
4. Controllers	page 8
5. Wire	page 9
6. Backflow Prevention Devices	page 9
7. Pipe - Polyethylene	page 9
8. Pipe - Poly Vinyl Chloride	page 9
9. Fittings	page 10
10. Cement and Primer	page 10
11. Valve Boxes	page 10
12. Sleeving	page 10
13. Hydraulic Controls	page 10
<i>Installation</i>	
1. Excavation and Backfill	page 11
2. Pipe	page 11
3. Valves and Valve Boxes	page 12
4. Sprinklers	page 12
5. Wire	page 13
6. Backflow Prevention	page 13
7. Controller	page 13
8. Turf Valves / Quick Coupling Valves	page 14
9. Sleeving	page 14



Standards - Materials

- 💧 Sprinklers
- 💧 Valves
- 💧 Controllers and Wire
- 💧 Backflow prevention devices
- 💧 Pipe and fittings
- 💧 Cement and primer
- 💧 Valve boxes and sleeving

TABLE OF CONTENTS	
<i>Introduction</i>	page 1
<i>General</i>	
1. Scope of Work	page 2
2. Quality Assurance	page 2
3. Submittals	page 3
4. Site Conditions	page 3
5. Owner or Representative	page 4
6. Regulations	page 4
7. Alternate Materials	page 4
<i>Design</i>	
1. Sprinklers	page 5
2. Pipe	page 5
3. Zoning	page 6
4. Controls	page 6
5. Pressure Control	page 6
6. Winterizing	page 7
7. Low Volume / Micro Irrigation	page 7
8. Control Wire	page 7
<i>Materials</i>	
1. Sprinklers	page 8
2. Control Valves	page 8
3. Isolation Valves	page 8
4. Controllers	page 8
5. Wire	page 9
6. Backflow Prevention Devices	page 9
7. Pipe - Polyethylene	page 9
8. Pipe - Poly Vinyl Chloride	page 9
9. Fittings	page 10
10. Cement and Primer	page 10
11. Valve Boxes	page 10
12. Sleeving	page 10
13. Hydraulic Controls	page 10
<i>Installation</i>	
1. Excavation and Backfill	page 11
2. Pipe	page 11
3. Valves and Valve Boxes	page 12
4. Sprinklers	page 12
5. Wire	page 13
6. Backflow Prevention	page 13
7. Controller	page 13
8. Turf Valves / Quick Coupling Valves	page 14
9. Sleeving	page 14



Standards - Installation

- 💧 Excavation and backfill
- 💧 Pipe
- 💧 Valves, valve boxes and wire
- 💧 Sprinklers
- 💧 Wire
- 💧 Backflow Prevention
- 💧 Controller

TABLE OF CONTENTS	
<i>Introduction</i>	page 1
<i>General</i>	
1. Scope of Work	page 2
2. Quality Assurance	page 2
3. Submittals	page 3
4. Site Conditions	page 4
5. Owner or Representative	page 4
6. Regulations	page 4
7. Alternate Materials	page 4
<i>Design</i>	
1. Sprinklers	page 5
2. Pipe	page 5
3. Zoning	page 6
4. Controls	page 6
5. Pressure Control	page 6
6. Winterizing	page 7
7. Low Volume / Micro Irrigation	page 7
8. Control Wire	page 7
<i>Materials</i>	
1. Sprinklers	page 8
2. Control Valves	page 8
3. Isolation Valves	page 8
4. Controllers	page 8
5. Wire	page 9
6. Backflow Prevention Devices	page 9
7. Pipe - Polyethylene	page 9
8. Pipe - Poly Vinyl Chloride	page 9
9. Fittings	page 10
10. Cement and Primer	page 10
11. Valve Boxes	page 10
12. Sleeving	page 10
13. Hydraulic Controls	page 10
<i>Installation</i>	
1. Excavation and Backfill	page 11
2. Pipe	page 11
3. Valves and Valve Boxes	page 12
4. Sprinklers	page 12
5. Wire	page 13
6. Backflow Prevention	page 13
7. Controller	page 13
8. Turf Valves / Quick Coupling Valves	page 14
9. Sleeving	page 14



Standards – Maintenance and Inspection

- 💧 Job site neat, and clean
- 💧 Scrap removed
- 💧 Reducing amount of open trench

Site Maintenance	page 15
Inspection and Testing	
1. Inspection	page 16
2. Testing	page 16
3. Deficiencies	page 16
Installation Detail Drawings	
Figure 1 Shrub Spray on Riser	page 17
Figure 2 Turf Rotary Head or Pop Up Spray Head	page 18
Figure 3 Quick Coupler Valve	page 19
Figure 4 Globe Valve - Standard Installation	page 20
Figure 5 Controller – Wall Mount	page 21
Figure 6 Residential Point of Connection	page 22
Figure 7 As-Built Plans Minimum Recommendations	page 23

- 💧 Inspection - done by owners representative
- 💧 Testing - covers landscape and meets design criteria
- 💧 Deficiencies are rectified



High Efficiency Irrigation Standard



- 💧 Current standards, while good, do not achieve the highest efficiency possible.
- 💧 Integrate landscape and irrigation professionals with irrigation system specifiers.
- 💧 Aid in the development of the most effective water saving practices.

Purpose of the Guideline

- 💧 There are a number of other programs such as LEEDS that request high efficiency without really defining what it means.
- 💧 Provide guidance in planning, designing, installing, maintaining and managing the most water conscience and effective irrigation systems available.
- 💧 Ensure landscape designs can be irrigated efficiently.
- 💧 Allow users to develop a comprehensive knowledge of landscape components that comprises an effective water conservation approach involving creating, developing and maintaining acceptable landscapes.



Components of the guideline

From initial planning of a new development or reinvigorating an existing area elements that are essential include:

Standard Items

- ◆ Initial planning, design, maintenance and management

New criteria not often considered:

- ◆ Setting a pre-development water budget
- ◆ Site Condition Evaluation
- ◆ Product and system performance
- ◆ Developing a site water allocation



High Efficiency Rating Tool

Product Rating Guide(template)

Minimum of 80% Rating Average across all Product Categories on Project

If Applicable enter a One (1) otherwise Leave as a Zero (0)

Maximum Eligible

Controllers

1 Four (4) Program Capability			
1 Season Adjustment % by Program			
1 Multiple Programmable Sensor Inputs			
1 Electrical Fault Detection and Reporting			
0 Flow Log Capabilities			
1 Ability to self adjust station run times from current climatic data	6	5	83%

Master Valves

1 Slow Closing			
1 Slow Opening			
1 Low Amperage Draw			
1 Pressure Regulation			
1 Flow Control			
1 Top Serviceable			
1 Min. 220psi Rating	7	7	100%

Flow Sensors

1 Reacts to High Flow			
1 Reacts to Low Flow			
1 Self Contained / Master Valve Activation Capable			
1 Low Voltage Wiring			
1 Top Serviceable	5	5	100%

Remote Control Valves

1 Flow Control			
1 Pressure Regulation			
1 Top Serviceable			
1 Manual Operation by solenoid & atmospheric bleed			
1 Min. 200psi Rating			
0 Low Flow characteristics	6	5	83%

Pressure Regulators

0 Static PSI at POC over 60 PSI			
1 Brass Pressure Regulator installed downstream of Backflow Device			
1 Pressure Gauge Installed along with Pressure Regulator	3	2	67%

Filters

1 Main Filter installed at POC			
0 Automatic Self Flushing Filter			
1 Filter installed at individual RCV's	3	2	67%

Climate Sensors

1 Rain Shut Down functional on all controllers			
1 Climate Adjustment of Station Run Times on all controllers			
0 Wind Shut Down functional on all controllers			
0 Freeze Shut Down functional on all controllers	4	2	50%

Soil Moisture Sensors

0 Utilized in appropriate areas	1	0	0%
---------------------------------	---	---	----

Rotors

1 Zoned according to precipitation rate			
1 Factory Installed Check Valve			
1 Low Trajectory Nozzles	3	3	100%

Spray

1 Pressure Regulated			
1 Factory Installed Check Valve			
1 30 ft Elevation Retention	3	3	100%

Rotating Nozzles

1 Adjustable Arc			
1 Adjustable Radius			
1 Maintains Match Precipitation throughout all adjustments			
1 Dual Pop Feature	4	4	100%

Low Volume / Low Pressure Components

1 Adhere to HEIS Details and Specifications	1	1	100%
---	---	---	------

Pipe

1 Class 200 Lateral Piping			
1 Schedule 40 Mainline Piping			
1 Flow Rates below 5 fps	3	3	100%

Wire

1 Single 14 gauge to each control valve, shared 14 or 12 gauge Common			
1 Gel Filled Enclosure for each splice	2	2	100%

Connections

0 Triple Swing Joints on all Sprinkler Heads and Quick Couplers			
0 Threaded Schedule 80 Fittings on all Valve Assemblies	2	0	0%

Total Product Categories →

FAIL	PASS
15	77%

