

| SELECT CERTIFIED PROGRAM

# Certification Candidate Handbook

Overview, policies & procedures



# Certification Candidate Handbook

## Table of Contents

### Introduction

Goal & Mission of the Irrigation Association Certification Program .....	1
Role of IA Certification Board .....	1

### Certification Program Descriptions

Agriculture Certifications .....	1
Landscape Certifications .....	2
Candidate Eligibility Recommendations .....	2
Application Process .....	2
Computer-based & Paper/Pencil Testing .....	2
Accommodation .....	3
Registration .....	3
Scheduling a Computer-based Exam .....	3
Preparing for the Exam .....	3
Exam Specification Sheets .....	3
Equation Sheets .....	3
Reference Books .....	3
Education Opportunities .....	3
Exam Day .....	3
Policies During Exam Administration .....	4
Exam Security & Confidentiality .....	4
Code of Ethics .....	4
Security Violations .....	4
Scoring & Results .....	4
Scoring Process .....	4
Notification of Results .....	4
Appeal of Exam Results .....	4
Appeal of Exam Administration .....	5

Rescheduling an Exam .....	5
Rescheduling .....	5
Cancellation Policy .....	5
Withdrawing an Application .....	5
Failure to Appear .....	5
Retaking the Exam .....	5
Logo Use .....	5
Certified Professionals Online Directory .....	5
Maintaining Your Certification .....	5
Certification Renewal Fees .....	5
Continuing Education Units Requirements .....	6
Failure to Renew or Submit CEUs .....	6
Reporting of CEUs .....	6
CEU Audits .....	6
CEU Audit Reinstatement Policy .....	6
Certification Reinstatement .....	7
Reinstatement of Credentials .....	7
EPA WaterSense Program .....	7
Complaint & Discipline Policy .....	8
Appeals Process .....	8
<b>Certification Fees</b>	
Conduct of Hearing .....	8
Decision/Resolution .....	9
<b>Irrigation Association Exam Fees</b>	
North America (U.S. & Canada) .....	9
International Testing .....	9
Refund Policy .....	10
<b>CEU Categories</b> .....	11

## Certification Program Examinations

### **Certified Irrigation Designer**

#### General Landscape/Turf

Specifications, Supplemental Materials & References .....13

Detailed Content Outline ..... 14

#### Specialty Landscape/Turf

Specifications, Supplemental Materials & References ..... 18

#### General Agriculture

Specifications, Supplemental Materials & References ..... 19

Detailed Content Outline .....20

#### Specialty Drip/Micro

Specifications, Supplemental Materials & References ..... 21

Detailed Content Outline .....22

#### Specialty Sprinkler

Specifications, Supplemental Materials & References .....23

Detailed Content Outline ..... 24

### **Certified Agricultural Irrigation Specialist**

Specifications, Supplemental Materials & References .....25

Detailed Content Outline .....26

### **Certified Landscape Irrigation Auditor**

Specifications, Supplemental Materials & References .....28

Detailed Content Outline .....29

### **Certified Golf Irrigation Auditor**

Specifications, Supplemental Materials & References ..... 31

Detailed Content Outline .....32

### **Certified Irrigation Contractor**

Specifications, Supplemental Materials & References .....34

Detailed Content Outline .....35

### **Certified Irrigation Technician**

Specifications, Supplemental Materials & References .....39

Detailed Content Outline .....40

**Certification Complaint Form** .....43

**Certification Reinstatement Application** .....45

**North America Certification Examination Registration Form** .....47

**International Certification Examination Registration Form** .....49

# Introduction

## Goal & Mission of the Irrigation Association Certification Program

The Irrigation Association certification program is designed to provide a mechanism by which individuals can demonstrate their experience and professionalism in one or more areas of the irrigation industry. This is accomplished by passing a written exam. Certification represents a milestone in one's career that should encourage a continuation of learning and development through additional practice and training to remain competitive in an ever-changing industry. The certification program is designed to provide an avenue through which qualified irrigation professionals can demonstrate their experience and technical competence.

## Role of IA Certification Board

The IA certification program is governed by the Certification Board. The Certification Board establishes policies and procedures that govern board action, certification procedures, staff activities and all other activities related to the administration of the certification process. The Certification Board develops the exam and works with the IA-approved testing agency to ensure that exams are kept current and are fairly graded. The Certification Board has the additional responsibility for maintenance of the certification process such that it is held in the highest regard by members of the IA, the irrigation industry and related organizations and industries.

## Certification Programs

The IA certification program offers certification exams in several different areas for the irrigation professional. Detailed content outlines for each exam can also be found on the IA website at [www.irrigation.org/prepare-for-exams](http://www.irrigation.org/prepare-for-exams).

### Agriculture Certifications

- CID
- CAIS

### Landscape Certifications

- CID
- CLIA
- CGIA
- CIC
- CIT

## Certification Program Descriptions

### AGRICULTURE CERTIFICATIONS

#### Certified Irrigation Designer

The certified irrigation designer is a professional who prepares irrigation designs. The CID evaluates site conditions and determines net irrigation requirements based on the needs of the project. The designer selects the most effective irrigation equipment and design methods. The objective of a CID is to establish specifications and design drawings for the construction of an irrigation project.

There are two exams required to become a CID. Candidates for the CID designation must successfully complete both a general exam and a specialty exam. There are currently two agriculture specialty exams: drip/micro and sprinkler.

All components of the CID program must be completed within three years of applying to the program.



## Certified Agriculture Irrigation Specialist

The certified agriculture irrigation specialist is involved in the management and operation of on-farm irrigation systems. These systems include pressurized systems like microirrigation and sprinklers. Candidates have one year from date of application to complete the program.

## LANDSCAPE CERTIFICATIONS

### Certified Irrigation Designer

The certified irrigation designer is a professional who prepares irrigation designs. The CID evaluates site conditions and determines net irrigation requirements based on the needs of the project. The designer selects the most effective irrigation equipment and design methods. The objective of a CID is to establish specifications and design drawings for the construction of an irrigation project.

There are two exams required to become a CID. Candidates for the CID designation must successfully complete both a general exam and a specialty exam. There are currently two landscape/turf specialty exams: golf course and/or residential/commercial.

All components of the CID program must be completed within three years of applying to the program.

### Certified Landscape Irrigation Auditor

A certified landscape irrigation auditor is involved in the quantification of landscape irrigation water use. Auditors collect site data, make maintenance recommendations and minor repairs, and perform field measurements and observations. Through this data gathering, a basic irrigation schedule can be developed that will assist a site water manager or property owner in managing overall irrigation water usage.

### Certified Golf Irrigation Auditor

A certified golf irrigation auditor is involved in the quantification of turf irrigation water use tailored to the unique conditions found on golf courses. Auditors collect site data, make maintenance recommendations and minor repairs, and perform field measurements and observations on golf courses. Through this data gathering, a basic irrigation schedule can be developed for greens/tees and fairways that will assist the superintendent in making irrigation decisions.

### Certified Irrigation Contractor

The purpose of the certified irrigation contractor program is to certify that a candidate has met an advanced level of competency in the execution of contracts or subcontracts to install, repair and/or maintain irrigation systems. The CIC must conduct business in such a manner that irrigation projects meet the specifications

and requirements of the contract. The CIC program must be completed within one year of applying to the program.

## Certified Irrigation Technician

A certified irrigation technician is an entry-level irrigation field professional who is installing, repairing and/or maintaining irrigation systems. This person is in the field and not the business owner. Candidates will have one year to complete the program from the date of application.

## CANDIDATE ELIGIBILITY RECOMMENDATIONS

**CID** — To apply to the certified irrigation designer program, it is recommended candidates have at least three years of irrigation-related field experience or two years of irrigation-related field experience and one year of education.

**CAIS** — To apply to the certified agricultural irrigation specialist program, field experience with management and operation of on-farm irrigation systems is recommended. Intermediate math skills are recommended to be successful.

**CLIA/CGIA** — To apply to the certified landscape irrigation auditor or certified golf irrigation auditor program, it is recommended candidates have at least one year of irrigation-related work experience.

**CIC** — To apply to the certified irrigation contractor program, it is recommended candidates have at least three years of irrigation-related field experience or two years irrigation-related field experience and one year of education.

**CIT** — To apply to the certified irrigation technician program, it is recommended candidates have a minimum of six months or 1,000 hours of irrigation-related field experience.

## APPLICATION PROCESS

### Computer-based & Paper/Pencil Testing

The candidate must submit the completed application, registration form and appropriate fees at least 14 days in advance of the exam date. Exams are delivered through computer-based testing at testing centers nationwide throughout the year. More information about computer-based testing can be found at [www.irrigation.org/register-for-exams](http://www.irrigation.org/register-for-exams).

Completed application forms should be sent to the IA at 8280 Willow Oaks Corporate Drive, Suite 630, Fairfax, VA 22031, or faxed to 703.536.7019. The application forms can be found on the IA's website, [www.irrigation.org/certification](http://www.irrigation.org/certification).

Applications are reviewed to verify information and will be kept confidential. Candidates will not be discriminated against based on race, religion, creed, age, gender, or national origin or ancestry. Candidates who submit a completed application will receive confirmation of their acceptance into the program via email. They will then be able to register for a specific exam site and time to take the test.

If the application is incomplete, the candidate will receive a letter or email explaining what is missing and will have a 30-day time period to respond. If the candidate does not respond, the candidate must then submit in writing a request for a refund minus the application fee.

The application may be deemed incomplete for reasons such as the following:

- Application is not completely filled out.
- Application is not signed.
- Appropriate fees are not submitted.

If the application is denied, the candidate will receive a letter stating the reason for the denial with a 30-day time period to respond. The application may be denied for reasons such as

- falsification of any information on the exam application.
- failure to sign the code of ethics.

### Accommodation

The IA complies with the provisions of the Americans With Disabilities Act and Title VII of the Civil Rights Act, as amended (42 U.S.C. 2000e. et. seq.) in accommodating disabled candidates who need special arrangements. The request must be submitted in writing with supporting documentation from a physician or other qualified professional reflecting a diagnosis of the candidate's condition and explanation of exam aids or modifications needed. Please contact the IA at 703.536.7080 with any questions concerning ADA arrangements.

### Registration

To register for a certification exam, the candidate must submit a completed registration form. The registration forms and fees can be found at the back of this handbook. The candidate can also register online via the website at [www.irrigation.org/register-for-exams](http://www.irrigation.org/register-for-exams). Candidates must register at least 14 days prior to the exam date. On-site registration is NOT allowed.

### Scheduling a Computer-based Exam

After the application has been approved, and the exam registration fee has been paid, the candidate will receive emails with logon information and instructions on how to schedule an exam at a testing center.

## PREPARING FOR THE EXAM

Candidates should register at least 14 days in advance of the exam date. All certification programs are self study. Education courses are not required to sit for any of the IA's certification exams.

### Exam Specification Sheets

Exam specification sheets are available for every exam. Candidates will receive the appropriate sheet when they register for an exam. They can also be found in the back of this handbook. The specification sheet provides information such as the number and type of questions; how long the candidate will have to complete the exam; what materials the candidate may bring to the exam; percentage of question categories; and recommended reference materials.

### Equation Sheets

The equation sheets can be found on the IA website at [www.irrigation.org/landscape-exam-resources](http://www.irrigation.org/landscape-exam-resources) for landscape-related exams or [www.irrigation.org/agriculture-exam-resources](http://www.irrigation.org/agriculture-exam-resources) for ag-related exams. The IA will supply a link with the candidate's application approval.

### Reference Books

References for each exam are listed on each exam's specification sheet at the back of this handbook.

### Education Opportunities

The IA and other licensed providers offer educational courses that may be beneficial to the certification candidate. Education courses do not "teach to the exam" nor are they all inclusive of the material that will be tested on the exam. Check the IA website ([www.irrigation.org/prepare-for-exams](http://www.irrigation.org/prepare-for-exams)) or contact the IA for additional information on educational opportunities. *IA classes are not required for certification nor endorsed by the IA Certification Board.*

## EXAM DAY

The confirmation letter will include the test date, time, and exam the candidate is taking. It will also include an exam specifications sheet indicating what the candidate may bring to the exam. (e.g., calculator, engineer ruler, measuring wheels, etc.)

Candidates must present one form of identification **that has a current photo with signature** (driver's license or passport). Candidates should also bring their confirmation letter with them on testing day in order to be admitted to the test.

Any candidate who loses or does not receive a confirmation email after scheduling the exam should contact the IA at 703.536.7080.

The candidate must arrive at the exam location at least 15 minutes prior to the exam starting time. The candidate may not bring books, papers, study aids, translation aids or other materials into the exam room. **Late arrivals will not be admitted to the room and will be considered “no shows.”**

Scratch sheets and equation sheets will be provided.

For computer-based testing, the candidate must present one form of identification **that has a current photo with signature** (driver’s license or passport). Candidates should also bring their confirmation email that contains the exam launch code with them on testing day in order to begin the test.

The confirmation email will include the test date, time, testing center location and exam the candidate is taking.

### Policies During Exam Administration

A candidate who completes the exam may leave the testing room after turning in all exam materials. Please try to do this as quietly as possible so that those still working on the exam will not be disturbed. The administrator will make sure that the candidate returns all materials. The administrator and candidate must sign across the seal on the exam envelope if it is a paper/pencil test.

## EXAM SECURITY & CONFIDENTIALITY

### Code of Ethics

To obtain any IA certification the candidate must pass a certification exam(s) administered by the IA and agree to operate by the IA code of ethics and declaration on the application form.

### Security Violations

No spouses, children, parents, friends or other outside parties are permitted near the testing room. Upon completion of the exam, candidates must leave the testing area immediately.

Any candidate who gives or receives help during the exam will be asked to leave and his/her exam will not be scored. Exam fees will not be refunded, and the candidate may be prohibited from taking IA exams for a specified period of time.

The performance of all candidates is monitored and may be analyzed to detect fraud. If there is a question about score validity or the identify of an exam candidate at any time after the exam administration, the IA Certification Board will investigate and determine whether it is appropriate to void the exam score.

The IA Certification Board maintains and adheres to a security policy, which is available to board members and staff for the administration of exams and maintaining the certification program.

## SCORING & RESULTS

### Scoring Process

Exams are scored making every effort to ensure that the score is reported within a reasonable time period and that the score accurately reflects the points received by the candidate. This may involve hand scoring exams to verify results and/or reviewing candidate comments.

Candidates are encouraged to use the comment forms that are available in each exam packet or in the comment section if the exam is taken via computer-based testing. Comments can be related to a specific question or equation, the administration of the exam or the exam site conditions. Comments that would affect whether a candidate passes or fails will be reviewed before the exam is scored. All other comments are reviewed by the Certification Board at their regularly scheduled meetings.

### Notification of Results

Results will be reported for paper-pencil tests in writing only to the candidate at the address indicated on the exam registration form. Candidates receive their results approximately 45 days following the exam administration date. Results are reported as “pass” or “fail.”

If candidates are taking an exam via computer-based testing, they will receive their results immediately following completion of the exam and within 24 hours of completing their exam via email.

Candidates who pass an exam and achieve a certification will be notified of their passing status. They will receive an official IA certificate, and a wallet-sized card will be available for printing in the certified professional’s online profile.

Candidates who pass an exam as one step of the certification process (such as the CID specialty exams) will be provided with diagnostic information. The “analysis of performance” identifies knowledge areas and is intended to help the candidate prepare for the next level of exam.

Candidates who fail an exam will be provided with diagnostic information. The “analysis of performance” identifies the knowledge areas in which the candidate’s performance is deficient and is intended to help the candidate become better prepared before sitting for the exam again.

### Appeal of Exam Results

Candidates may request a verification of their score, which may involve hand scoring and/or a review by the Certification Board. Any scoring alteration found as a consequence of an appeal of exam results will be applied to all candidates whose pass-fail status was affected; not just the candidate requesting the appeal. All requests should be made in writing within 30 days of receiving exam results to the Irrigation Association by email (certification@irrigation.org) or fax (703.536.7019).



## Appeal of Exam Administration

Testing conditions should be such that each candidate has an equal opportunity to be successful. Test sites should be comfortable, accessible, well lit and free of distracting noise. Proctors should provide clear and uniform instructions and monitor testing conditions throughout the entire session. If conditions of the exam administration do not meet these standards, notify the IA as soon as possible. Any special considerations made for testing conditions that are deemed unacceptable as a consequence of an appeal will be applied to all candidates whose pass-fail status was affected; not just the candidate requesting the appeal.

## RESCHEDULING AN EXAM

### Rescheduling

Candidates who would like to reschedule a certification exam within five business days of their scheduled exam date must do so in writing and send to the attention of IA certification by email ([certification@irrigation.org](mailto:certification@irrigation.org)) or fax (703.536.7019). A rescheduling fee will be assessed to the candidate who would like to reschedule an exam.

### Cancellation Policy

A cancellation fee will be assessed to the candidate who fails to cancel a scheduled exam at least five business days before the exam date. Cancellations must be made in writing and sent to the attention of IA certification by fax (703.536.7019) or email ([certification@irrigation.org](mailto:certification@irrigation.org)).

### Withdrawing an Application

All application changes must be made in writing and sent to the attention of IA certification by fax (703.536.7019) or email ([certification@irrigation.org](mailto:certification@irrigation.org)).

### Failure to Appear

If a candidate does not appear to take a scheduled exam, the candidate will forfeit all fees. All fees will need to be paid again if the candidate decides to reschedule at a later date.

## RETAKING THE EXAM

No retake exam may be scheduled by anyone in the exam process until the candidate has been officially notified of the results of his/her previously taken exam. No candidate will be allowed to retake an exam until 90 days have passed. There is no refund for failed exams.

A candidate will be allowed to take the exam no more than three times within a two-year period. If unsuccessful on the third attempt, the candidate must wait one year before he/she will be allowed to re-apply to the program and take the exam.

If the certification candidate does not take an exam for three consecutive years, the candidate must restart the certification process.

## LOGO USE

The IA provides logos for use by certified individuals in good standing (current with certification fees and CEUs). These logos may be used on advertising and marketing materials, business signs, publications and business forms to promote the individual's certified status.

Certified professional marketing resources are the intellectual property of IA. Limited rights are granted to certified professionals in good standing to customize these materials for their own use.

The Select Certified logo, individual certification logos and water drop/leaf graphic are the exclusive property of the Irrigation Association. The Select Certified and certification logos may be used by certified professionals in good standing, as long as they comply with the certification logo conditions of use, provided as part of the logo artwork download.

Marketing resources and logos are provided only for certified professionals' own use. Sharing these files and use by all other individuals, corporations and entities is strictly prohibited without prior express written approval from the Irrigation Association.

### Certified Professionals Online Directory

The IA will recognize certified individuals in the online certification directory on the IA website. The following information is publicly available on the IA website:

- candidate name and certifications
- candidate contact information
- if the candidate is an IA member
- if the candidate is part of the EPA WaterSense program
- if the candidate is a USDA Technical Service Provider
- if the candidate is available for hire

## MAINTAINING YOUR CERTIFICATION

### Certification Renewal Fees

In order to maintain active status and enjoy the associated benefits, a certified individual must pay an annual renewal fee for each designation and maintain continuing education units. The annual renewal fee is required commencing with the first year after certification and each year thereafter. The IA will send an annual renewal invoice by Oct. 15 to active (and not current) certified individuals with a return date of Dec. 31.

All certified individuals must pay a renewal fee every year, due by Dec. 31. Renewal fees submitted and received after Dec. 31 will be subject to a late fee. Several renewal reminders will be sent beginning in June each year. Renewal fees are not refundable.

## Continuing Education Units Requirements

***It is the candidate's responsibility to maintain and report CEUs. See chart at end of handbook for CEU categories.***

All certified individuals must recertify every two years by earning and submitting 20 CEUs in one or more approved categories. **All CEUs must be earned during the current period and cannot be carried forward to future years**, with the exception of CEUs earned after Oct. 31, which may be carried forward to the next immediate cycle by submitting to IA staff.

All certified individuals **must retain** written supporting CEU documentation **for two years** following the CEU submittal period. (Supporting documentation can be attendance sheets, course attendee rosters, program agendas, course schedules, a course syllabus, a copy of an article written, etc.) When possible, obtain signed documentation of your participation.

### Failure to Renew or Submit CEUs

A letter will be mailed and emailed by Feb. 15 to certified individuals who are not current with their CEU submittals or renewal payments stating that their certification has been suspended until they submit the required CEUs and/or payments needed to renew their certification.

By April 5, a final notice will be mailed stating that if the individual does not submit the required CEUs and/or payments, their certification will be revoked on May 1.

Individuals who fail to renew will be given until April 30 to come into compliance with the program standards. After April 30, certified individuals are considered "lapsed" and must retake and pass the exam(s) in order to regain certification.

By May 5, letters will be mailed and emailed to all those delinquent individuals, stating that their certification(s) have been permanently revoked and they will need to retake the exam(s) in order to regain certification.

Individuals will need to retake all applicable exams at the full exam fee (not a retake fee).

### Reporting of CEUs

The certified individual can submit CEUs at any time during the year. The preferred method for entering CEUs is online at our website, [www.irrigation.org/submitCEUs](http://www.irrigation.org/submitCEUs). Alternatively, the certified individual may submit via fax a properly completed CEU submittal form for a fee. The fax number is 703.536.7019.

### CEU Audits

At the end of each CEU cycle, random CEU audits consisting of 10% of all certified individuals within the cycle will be conducted.

The IA Certification Board may add additional certified individuals, at their discretion, to the randomly chosen list of certified individuals to investigate claims or suspicion of impropriety.

CEU audit notices will be mailed by Dec. 15. All individuals being audited must respond by Jan. 31 of the following year. Individuals will be notified of their status on a first-come, first-served basis. Status letters from the IA Certification Board will be mailed and emailed on a weekly basis. There are two possible Certification Board responses:

- The individual is in compliance and no action is required.
- Status letter will be mailed via regular mail.
- The individual is not in compliance and will be given 45 days from the date of his or her status letter to take corrective action.

For those people who do not respond to the initial request, second notices will be mailed requiring a signature receipt by Feb. 15. These individuals will have an additional 15 days to respond to the request for documentation. There are two possible Certification Board responses:

- Documentation is received and the individual is in compliance and no action is required.
- Documentation is received and the individual is not in compliance and will be given 30 days from the date of their letter to take corrective action.

For those individuals who don't respond to either requests for documentation or the corrective action letter, their certifications will be revoked on May 1. This letter will be mailed to the individual requiring a signature receipt. These individuals will need to retake all exams, at full price, in order to become certified again.

Supporting documentation can be a program agenda, course schedule, copy of an irrigation audit, a course syllabus, a copy of an article, etc. Where there is an instructor or coordinator it would be helpful to have the signature of that person to indicate attendance. Often a certificate of attendance or a roster of course attendance is provided and either of these is sufficient to indicate course or seminar attendance.

### CEU Audit Reinstatement Policy

Any person who was audited but did not respond to the request for documentation or deficiency letter, but submits documentation prior to June 1, can be reinstated to the program. This late submittal needs to be complete and have no deficiencies in order to be accepted. A late submittal fee will be required for processing. If there are deficiencies in the submission and the individual ends up with less than the required CEUs for certification renewal, they will lose their certifications. These individuals will need to retake all exams, at full price, in order to become certified again. This letter will be mailed requiring a signature receipt.

## Certification Reinstatement

All individuals who have lapsed certifications are eligible to apply for one of the reinstatement procedures that follow. Individuals may only apply for reinstatement once in a lifetime under this policy. Professionals who have let their IA certifications lapse for more than four years are NOT eligible for reinstatement. Likewise, individuals who have lost their certifications due to disciplinary actions implemented by the Irrigation Association Certification Board cannot apply for reinstatement under this policy.

Please forward the required information, along with payment and completed application form to IA headquarters. All application payments will be processed upon receipt. If your application is unable to be approved, your payment less the nonrefundable reinstatement fee will be returned.

The IA Certification Board reserves the right to grant or deny your request for reinstatement based on the merits of your case. If you are approved, you will receive a new certificate stating that you were reinstated as of the date of the IA Certification Board decision.

### Reinstatement of Credentials Lapsed Less Than Two Years

The individual will need to complete the reinstatement application, which will require

- a cover letter explaining why the lapse occurred, all supporting documentation and verification of former certification.
- payment of all past unpaid renewal fees and/or current year's unpaid fees (including late fees) in full.
- payment of \$250 nonrefundable reinstatement fee.
- documentation of CEU activity, e.g., certificates of attendance, transcripts, etc. (averaging 10 CEUs per year).
- certification reinstatement, if approved, will be retroactive to the original date of certification, and the CEU cycle and requirements will remain unchanged. IA staff will confirm receipt of reinstatement application within five business days. IA Certification Board response to application may take up to 60 days.

### Reinstatement of Credentials Lapsed More Than Two Years But Less Than Four Years

Any certified professional whose certifications have lapsed more than two years ago but less than four years can apply for reinstatement and will be considered on an individual basis.

Requests for reinstatement of such Individuals are only granted under the most extenuating circumstances. Letters of request for reinstatement must include

- a cover letter explaining why the lapse occurred, all supporting documentation and verification of former certification.
- payment of all past unpaid renewal fees and/or current year's unpaid fees (including all late fees) in full.
- payment of \$250 nonrefundable reinstatement fee.
- documentation of CEU activity, e.g., certificates of attendance, transcripts, etc. (averaging 10 CEUs per year).
- a detailed description of continued involvement in the irrigation field.
- three references including contact information.
- documentation that supports the request (such as medical documentation, transcripts, etc.)
- IA staff will confirm receipt of reinstatement application within five business days. IA Certification Board response to application may take up to 60 days.
- certification reinstatement, if approved, will be retroactive to the original date of certification, and the CEU cycle and requirements will remain unchanged.

## EPA WaterSense Program

The following IA certification programs carry the EPA WaterSense label. Individuals certified in these programs and in good standing are eligible for the WaterSense program. Good standing indicates that the individual has earned and submitted the necessary CEUs along with a renewal fee by the renewal date, on an annual basis.

- **certified irrigation contractor**
- **certified irrigation designer – landscape**

As an IA-certified professional who has passed one of the above exams, you will be able to distinguish yourself from your competitors as being certified by a WaterSense-labeled professional certification program and will be eligible to work on projects that specify irrigation work be conducted by practitioners with WaterSense-labeled credentials.

The following IA certification programs will also carry the EPA WaterSense label if proof of completing an audit is provided to the IA.

- **certified landscape irrigation auditor**
- **certified golf irrigation auditor**

IA-certified professionals with their credential will be included on WaterSense's online directory of certified professionals. IA-certified professionals will also gain access to promotional materials and tools developed by the EPA, including the promotional label. Once certified by an above-labeled program, no further paperwork is needed.

## COMPLAINT & DISCIPLINE POLICY

The IA Certification Board Disciplinary Committee is responsible for implementing disciplinary policies and procedures as established by the Certification Board.

Grounds for disciplinary action shall include, but are not limited to

- evidence of falsification of information provided on documents submitted to the IA or its agents.
- cheating on certification exams or audits.
- evidence of noncompliance with the code of ethics.
- evidence of improper use of the IA certification status, logos and/or acronyms.

The IA Certification Board has established policies and procedures to fairly and consistently address alleged violations. Disciplinary procedures are designed to ensure that valid and actionable complaints are investigated and considered, and that all parties involved in the complaint have an opportunity to document circumstances warranting the complaint and to respond to the complaint.

All complaints will first be reviewed by the IA staff liaison who will then report the complaint to the IA Certification Board chair. The IA staff liaison will acknowledge receipt of complaint within 10 business days. If the complaint can be verified and resolved without further documentation or investigation, the staff liaison will notify the Certification Board chair and send a letter/email to all involved parties, and the complaint will be closed.

If the complaint requires additional information, the complainant will be required to submit a signed IA Certification Board complaint form with supporting documents within 30 days of request for further actions to be considered. Upon receipt and review of the complaint form and supporting documentation, the IA Certification Board Disciplinary Committee may inform, in writing, the accused and/or complainant of the official opening of an investigation. The IA staff liaison will acknowledge receipt of complaint form and supporting documentation within 10 business days. The accused will have the opportunity to respond to the complaint made against them within 30 days of notification of the investigation.

After all information is received, the IA Certification Board Disciplinary Committee will investigate the infraction and determine a course of action, which may include but is not limited to revocation of certification. The accused, who may be in danger of revocation of their status or suspension of their eligibility, will be notified of this pending action in writing and delivered by a method requiring a signature of receipt.

Following the investigation, the IA Certification Board chair will inform the accused of the decision in writing. The complainant will be notified in writing that a decision was reached. If disciplinary

action is imposed, the accused may submit an appeal of the decision to the IA Certification Board. This appeal must be submitted in writing to the IA Certification Board chair. The accused will have 30 days from receipt of the letter to appeal the decision. The signed appeal must be submitted in writing and clearly state the grounds for appeal.

### Appeals Process

Any individual who believes that he/she has been or will be adversely affected by disciplinary action as a result of a decision made by the IA Certification Board Disciplinary Committee shall have the right to appeal. If such person wants to proceed with an appeal, he/she is instructed to file a signed written appeal by U.S. Postal Service certified mail to the IA certification director within 30 days of the date of notification of action.

### Complaint

The appeal submitted by the appellant shall include

1. the nature of the objection(s) including any adverse effects.
2. actions or inactions that are at issue.
3. the specific remedial action(s) that would satisfy the appellant's concerns.
4. previous efforts to resolve the objection(s) and the outcome of each.

### Response

Within 30 days after the receipt of the appeal, the IA Certification Board chair shall respond in writing to the appellant after the IA Certification Board Disciplinary Committee reviews the appeal, specifically addressing each allegation of fact in the complaint to the extent of the IA Certification Board chair's knowledge.

### Hearing

If the appellant and the IA Certification Board Disciplinary Committee are unable to resolve the written complaint informally in a manner consistent with these policies, the IA Certification Board chair shall schedule a hearing with members of the entire Certification Board on a date agreeable to all participants, giving at least 10 business days notice. Any costs for the hearing will be the burden of the appellant.

### Conduct of Hearing

The appellant has the burden of demonstrating adverse effects, improper actions or inaction, and the efficacy of the recommended disciplinary action. The IA Certification Board Disciplinary Committee has the burden of demonstrating that all actions are in compliance with IA Certification Board disciplinary procedures. *Robert's Rules of Order Newly Revised* shall apply to questions of parliamentary procedures for the hearing not covered herein. This hearing may be conducted via a meeting or conference call.

## Decision/Resolution

The IA Certification Board chair shall render its decision in writing within 30 days of the hearing, stating the findings of fact and conclusions, with reasons therefore, based on a preponderance of the evidence. In formulating its decision, the IA Certification Board may give consideration to positions, among others, including

- finding for the appellant remanding the action to the IA Certification Board Disciplinary Committee with a specific statement of the issues and facts in regard to which fair and

equitable action was not taken.

- finding for respondent, with a specific statement of the facts that demonstrate fair and equitable treatment of the appellant and the appellant's objections.
- finding that new, substantive evidence has been introduced, and remanding the entire action to the IA Certification Board Disciplinary Committee for appropriate reconsideration.

The decision of the IA Certification Board is final.

## Irrigation Association Exam Fees North America (U.S. & Canada)

**BEGINNING SEPT. 1, 2015**

IRRIGATION ASSOCIATION	MEMBER	NONMEMBER	MEMBER RETAKE	NONMEMBER RETAKE
Application fee/exam	None	None	None	None
CLIA/CGIA	\$250	\$495	\$200	\$325
CIC	\$250	\$495	\$200	\$325
CIT	\$175	\$300	\$175	\$300
CID General L/T exam	\$250	\$495	\$200	\$325
CID Specialty L/T	\$250	\$495	\$200	\$325
CID General Ag	\$250	\$495	\$200	\$325
CID Specialty Ag	\$250	\$495	\$200	\$325
CAIS	\$200	\$450	\$150	\$275

## Irrigation Association Exam Fees International Testing

**BEGINNING SEPT. 1, 2015**

IRRIGATION ASSOCIATION	MEMBER	NONMEMBER	MEMBER RETAKE	NONMEMBER RETAKE
Application fee/exam	None	None	None	None
CLIA/CGIA	\$350	\$595	\$300	\$425
CIC	\$350	\$595	\$300	\$425
CIT	\$275	\$400	\$275	\$400
CID General L/T exam	\$400	\$595	\$350	\$475
CID Specialty L/T	\$400	\$595	\$350	\$475
CID General Ag	\$400	\$595	\$350	\$475
CID Specialty Ag	\$400	\$595	\$350	\$475
CAIS	\$300	\$595	\$250	\$375



## Certification Fees (in U.S. dollars)

**EFFECTIVE JUNE 1, 2013**

CERTIFICATION RENEWAL FEES	MEMBER	NONMEMBER
One certification	\$75	\$125
Each additional certification	\$25	\$25
Late fee	\$25	\$25

	IA MEMBER	IA NONMEMBER	STUDENT
Cancellation/rescheduling fee (within 5 business days of exam)	\$100	\$150	N/A
No-show fee	Exam fee	Exam fee	N/A
Retake fee (after failed exam)	Exam fee	Exam fee	N/A
Embosser fee	\$100	\$100	\$100
Stamp fee	\$50	\$50	\$50
Digital stamp fee	\$30	\$30	\$30
CEU office submission	\$25	\$25	\$25
Proctor fee - half day	\$60	\$60	N/A
Proctor fee - all day	\$100	\$100	N/A

### Refund Policy

Upon request, refunds will be given to candidates within 30 days of their application minus a \$75 administration fee.

## CEU Categories

### Irrigation Association Qualifying Continuing Education Units (Beginning Aug. 1, 2018)

All certified professionals must submit 20 continuing education units per two-year cycle to remain in good standing. A minimum of five Tier 1 CEUs per cycle must be related to water-efficient concepts in the field of irrigation.

IRRIGATION ASSOCIATION CERTIFICATIONS	
Cap	No cap (maximum) on the number of CEUs per year earned in this category
Qualifying activity	20 CEUs earned for becoming a CID
	10 CEUs earned for additional CID specialties
	10 CEUs earned for becoming a CIC, CIT, CLIA, CGIA, CAIS, CLWM
Training definition	Does not apply to first certification earned
IRRIGATION ASSOCIATION LEADERSHIP ROLES	
Cap	A maximum of 10 CEUs per cycle can be earned in this category. CEUs in this category are earned at the rate of 1 CEU per hour of attendance.
Qualifying activity	Serving as a board member on an IA affiliate local or state irrigation association
	Serving as a board member or chair/vice chair of a committee with the Irrigation Association
	Serving as a noncompensated member of a state irrigation licensing board or committee
IRRIGATION EDUCATIONAL CONTENT DEVELOPER	
Cap	No cap (maximum) on the number of CEUs per year earned in this category CEUs in this category are earned at the rate of 2 CEUs per article/book chapter/session.
Qualifying activity	Writing reference material or irrigation books
	Presenting irrigation-related technical papers
	Writing articles for an irrigation publication
IRRIGATION TRAINING - TIER 1	
Cap	No cap (maximum) on the number of CEUs per year earned in this category CEUs in this category are earned at the rate of 1 CEU per hour of attendance.
Qualifying activity	Attending irrigation educational or brand-specific courses or seminars
	Teaching irrigation education or brand-specific courses or seminars
Training definition	Irrigation educational courses and seminars are typically sponsored by, but are not limited to, trade associations, educational institutions, IA-licensed providers, professional irrigation instructors, manufacturers or distributors.
	Subject matter within this tier is directly related to irrigation and can be brand specific.
	Examples of acceptable courses include irrigation scheduling, irrigation hydraulics, irrigation installation, or product application scheduling and maintenance. Backflow and water harvesting classes fall in this category. The 40-hour backflow course earns 10 CEUs and recertification course earns 5 CEUs.
IRRIGATION TRAINING - TIER 2	
Cap	A maximum of 5 CEUs per cycle may be earned in this category. CEUs in this category are earned at the rate of 0.5 CEU per hour of attendance.
Qualifying activity	Judging an irrigation competition
	Attending in-house irrigation courses or seminars
	Teaching in-house irrigation courses or seminars
Training definition	Irrigation courses and seminars are offered by an individual's employer.
	Subject matter is directly related to irrigation and can be brand-specific.

## CEU Categories, cont.

IRRIGATION TRAINING – TIER 3	
Cap	A maximum of five CEUs per cycle can be earned in this category.
	CEUs in this category are earned at the rate of 0.25 CEU per hour of attendance.
Qualifying activity	Attending irrigation or green industry trade shows
	Attending or teaching green industry or pesticide application courses or seminars
	Attending or teaching business courses or seminars
Training definition	Irrigation or green industry trade shows attendance is considered for walking the trade show floor or attending corporate sales meetings. Staffing of an individual's employer or affiliate trade association booth does not qualify.
	Green industry courses and seminars are typically sponsored by, but not limited to, manufacturers, distributors, trade associations, and educational institutions.
	Subject matter is <b>indirectly related to irrigation and can be brand specific</b> .
	Landscape lighting and hardscape classes and seminars do not qualify for IA CEUs.
	Business courses and seminars are typically sponsored by manufacturers, distributors, trade associations, and educational institutions. Subject matter is <b>directly related to irrigation industry business functions</b> .

# Certification Program Examination

## SPECIFICATIONS, SUPPLEMENTAL MATERIALS & REFERENCES

The IA reserves the right to cancel, postpone or reschedule exams, as necessary.

CID GENERAL LANDSCAPE/TURF		
Specifications/Supplemental materials	Passing score	References
150 questions multiple choice equally weighted  4 hours allotted  Calculator*  #2 pencils	Individual forms of the CID exam contain different blends of questions for a variety of reasons, including maintaining security of the program.  Determining the equivalence of various forms of the exam involves statistical analyses of the relative difficulty of each question. This process yields a pass-fail score that is dependent on the questions comprising the individual exam.  For this reason, the passing score for the CID exam is not announced prior to its administration. Depending on the exam, the passing score typically ranges between 70%-75%.	<i>Principles of Irrigation, 3rd Edition</i> , Irrigation Association  <i>Alternative Water for Landscape Irrigation, 2nd Edition</i> , Irrigation Association  Equation Sheet  ASIC Earth Grounding Electronic Equipment in Irrigation Systems Guidelines  Drip Emitter Design Guide  Dripline Design Guide  Flow Sensor Installation  National Electrical Code  <i>Irrigation, Sixth Edition</i> , Irrigation Association  <i>Electrical Troubleshooting Student Workbook</i> , Irrigation Association  Glossary of Irrigation Terms, Irrigation Association

\*Programmable calculators may be used as long as they are silent, battery-operated and a nonprinting model. Smartphones, tablets, smart watches, pagers, personal digital assistants or other electronic devices are NOT approved for use on IA exam.

An equation sheet will be provided when applicants register for the exam. Equation sheets and the IA's Glossary of Irrigation Terms are also available at the IA website ([www.irrigation.org/landscape-exam-resources](http://www.irrigation.org/landscape-exam-resources)). A copy of the same equation sheet will be provided in the examination packet.

References shown in italics are available on the IA website (<https://store.irrigation.org>).

# Certified Irrigation Designer General Landscape/Turf

## DETAILED CONTENT OUTLINE

### Equipment (40%)

#### A. Pumps

1. Understanding and Selecting Pumps Types
  - a. Vertical turbine
  - b. Centrifugal (horizontal/vertical)
  - c. Submersible
  - d. Displacement
  - e. Prefabricated vs. site built
2. Understanding and Selecting Pump Controls
  - a. Variable frequency drive
  - b. Pump start relay
  - c. Flow and pressure start
  - d. Integration with irrigation controls
  - e. Communication
3. Understanding and Selecting Pump Accessories
  - a. Pressure sustaining valve
  - b. Foot valve
  - c. Pressure relief
  - d. Air relief
  - e. Strainers
  - f. Suction and discharge piping
  - g. Check valve
  - h. Bypass
  - i. Tanks (pressure holding)
4. Understanding and Mitigating Environmental Conditions
  - a. Temperature
  - b. Humidity
  - c. Sound
  - d. Water quality
5. Evaluating and Designing Power Supplies
  - a. Surge
  - b. Primary and secondary grounding
  - c. Power supply
  - d. Wiring
  - e. Codes

#### B. Low Volume Irrigation

1. Understanding Types and Applications
  - a. Line source drip
  - b. Point source drip
  - c. Microsprays
  - d. Mats
2. Understanding Low Volume Irrigation Accessories
  - a. Valves
  - b. Filters
  - c. Pressure regulators
  - d. Fittings
  - e. Emitters
  - f. Operation indicators

#### C. Pipe

1. Understanding and Selecting Pipe Types
  - a. PVC
  - b. Poly (PE)
  - c. HDPE
  - d. Copper
  - e. Galvanized
  - f. PEX
  - g. Ductile iron
  - h. Cast iron
  - i. Steel
2. Understanding Pipe and Fitting Connections
  - a. Gasket joint
  - b. Solvent weld
  - c. Fusion
  - d. Threaded
  - e. Flanged
  - f. Mechanical joint

#### D. Sprinklers

1. Understanding and Selecting Sprinklers
  - a. Sprays
  - b. Rotors
  - c. Multistream multitrajectory rotary sprinklers
  - d. Water cannons
  - e. Check valves
  - f. Pressure regulation
  - g. Water quality
  - h. Codes
2. Understanding Sprinkler Accessories
  - a. Swing assemblies
  - b. Check valves
  - c. Pressure regulators
  - d. Risers/extensions
  - e. Effluent designation
  - f. Stabilizers

#### E. Valves

1. Understanding Types and Applications
  - a. Electric (ac/dc)
  - b. Hydraulic
  - c. Pneumatic
  - d. Manual
  - e. Quick coupling
  - f. Pressure regulating/sustaining
  - g. Check
  - h. Air/vacuum relief
  - i. Normally open/normally closed
  - j. Hydrometer
  - k. Three-way
  - l. Angle/globe



2. Understanding Valve Accessories
  - a. Valves boxes
  - b. Pressure regulating modules
  - c. Specialty solenoids
  - d. Effluent designator
  - e. Locators
  - f. ID tags

#### **F. Sensors**

1. Understanding Types and Applications
  - a. Rain
  - b. Temperature
  - c. Soil moisture
  - d. Humidity
  - e. Wind
  - f. Flow
  - g. Quantity
  - h. Location
  - i. Weather station
  - j. Pressure
  - k. Water level
  - l. Water quality
  - m. Power
  - n. Wired/wireless
2. Understanding Accessories
  - a. Housings
  - b. Mounts
  - c. Grounding
  - d. Power supply
  - e. Data loggers

#### **G. Controllers**

1. Understanding Types and Applications
  - a. Electromechanical
  - b. Hybrid
  - c. Central
  - d. Weather/soil-moisture based
  - e. Conventional/two-wire
  - f. Internet based
2. Understanding Accessories
  - a. Surge protection
  - b. Grounding
  - c. Enclosures
  - d. Remotes
  - e. Line conditioners

#### **H. Filters**

1. Understanding Types and Applications
  - a. Screen
  - b. Disc
  - c. Media
  - d. UV
  - e. Reverse osmosis
  - f. Centrifugal
  - g. Self-cleaning/flushing

2. Understanding Accessories
  - a. Filter manifolds
  - b. Filter controls
  - c. Automatic drains
  - d. Enclosures

#### **I. Wire**

1. Understanding Types and Applications
  - a. Insulation
  - b. Connectors
  - c. Multistrand/solid core
  - d. Multiconductor/single conductor
  - e. Two-wire
  - f. Communication
  - g. Sizes
  - h. Codes

### **Hydraulics (16%)**

#### **A. Point of Connection**

1. Utilizing Water Supplies
  - a. Water harvesting
  - b. Potable water
  - c. Effluent water
  - d. Surface water
  - e. Codes

#### **B. Pipe Sizing**

1. Understanding Methods
  - a. Velocity
  - b. Friction factor

#### **C. Concepts**

1. Understanding Hydraulic Principles
  - a. Elevation
  - b. Pressure (psi/ft)
  - c. Volume (water/air)
  - d. Critical path
  - e. Friction loss
  - f. Velocity
  - g. Dynamic pressure
  - h. Static pressure
  - i. Surge/hammer
  - j. Looped mains
  - k. Pressure regulation
  - l. GPM vs. PSI

#### **D. Equipment Location**

1. Determining Proper Placement
  - a. Thrust blocking
  - b. Air/vacuum relief
  - c. Topography
  - d. Utilities
  - e. Codes
  - f. Site considerations

## Scheduling (15%)

### A. Utilizing Scheduling Concepts

1. Distribution uniformity
2. Scheduling multiplier
3. Precipitation rate
4. Matched precipitation rate
5. Management allowed depletion
6. Types
  - a. Moisture based
  - b. Base schedule
  - c. Water budget
  - d. Synthetic turf
7. Cycle and soak
8. Water restrictions
9. Water window
10. Site use
11. Hydrozones
12. Water allotments
13. Codes
14. Wind

### B. Soil-Plant-Water Relationships

1. Soil
  - a. Infiltration rates
  - b. Water-holding capacity
  - c. Compaction
  - d. Salinity
2. Rainfall
3. Temperature
4. Evapotranspiration

## Layout (15%)

### A. Determining Proper Sprinkler Spacing

1. Rectangular, triangular, single row
2. Adjust for wind
3. Adjust for site conditions/use
4. Overspray (hardscape, plant material)
5. Matched precipitation rate
6. Runoff
7. Available pressure
8. Pressure regulation
9. Manufacturer's recommendations
10. Codes

### B. Determining Proper Low Volume Application

1. Type
  - a. Line source drip
  - b. Point source drip
  - c. Microsprays
  - d. Mats
2. Soils
3. Installation depth
4. Slope
5. Plant root zone
6. Water quality

### C. Determining Proper Pump Application

1. Requirements
  - a. NPSH (available vs. required)
  - b. Curves
  - c. Sizing
  - d. Horsepower
  - e. Available power
  - f. BHP vs. WHP
  - g. Flow cavitation
2. Types
  - a. Flooded suction
  - b. Booster
  - c. Suction lift
  - d. Submersible
3. Accessories
  - a. Intake structures
  - b. Mounting
  - c. Controls
  - d. Sensors
  - e. Tanks
  - f. Enclosures
  - g. Suction and discharge piping
4. Maintenance/winterization
5. Location
6. Noise
7. Water quality
8. Codes/permits

### D. Determining Applying and Implementing the Water Supply

1. Types
  - a. Potable
  - b. Nonpotable
  - c. Lakes/ponds
  - d. Wells
  - e. Rainwater
  - f. Streams
  - g. Gray water
  - h. Stormwater
  - i. Blowdown
  - j. Condensate
  - k. Reclaimed
2. Quality
3. Codes/permits
4. Available pressure and volume
5. Cost
6. Storage/impoundment
7. Multiple points of connections
8. Elevation

### E. Determining Proper Zoning

1. Hydrozones
2. Like equipment
3. Site uses
4. Hydraulics
5. Topography
6. Microclimates

## Electrical (7%)

### A. Applying Electrical Concepts

1.  $V=IR$
2. Critical path
3. Ohms
4. Voltage
  - a. Alternating and direct current
  - b. Primary
  - c. Secondary
  - d. Voltage loss
  - e. Polarity
5. Load
6. Wire
  - a. Size
  - b. Type
  - c. Color coding
  - d. Connectors
  - e. Strain relief
7. Codes
8. UL/CSA (ULc)
9. Relays
10. Control wiring plan
11. Wire path routing and separation

### B. Applying Communication Concepts

1. Two-wire
2. Ethernet
3. Coaxial
4. Shielded
5. Plenum
6. Twisted pair

### C. Applying Grounding Concepts

1. Primary vs. secondary
2. Equipment selection
3. Soil conductivity
4. Impedance
5. Layout
6. Connections
7. Shielding/bonding

## Maintenance and Operations (7%)

### A. Applying Maintenance and Operations Concepts to the Design

1. Isolation valves
  - a. Mainline
  - b. Control valve
2. Drain valves
3. Winterization/start-up
4. Unions
5. Maintenance schedules
6. Sleeving
7. Grounding
8. Water supplies
9. Wire path isolation

# Certification Program Examination

## SPECIFICATIONS, SUPPLEMENTAL MATERIALS & REFERENCES

The IA reserves the right to cancel, postpone or reschedule exams, as necessary.

CID SPECIALTY LANDSCAPE/TURF			
Examination	Specifications/Supplemental materials	References	Exam Content (approx. %)
<b>Specialty Golf Course</b>	50 questions multiple choice equally weighted using design plan  4 hours allotted  Calculator*  #2 pencils  Design aids: Engineer's scale, map measuring wheel	<i>Principles of Irrigation, 3rd Edition,</i> Irrigation Association  Equation Sheet  Glossary of Irrigation Terms, Irrigation Association	Pipes and valves ..... 20 Pumps.....16 Water source .....14 Topography.....14 Scheduling.....12 Sprinklers.....12 Wiring.....4 Zoning.....4 Wiring and controllers .....4
<b>Specialty Residential/Commercial</b>	100 questions multiple choice equally weighted using design plan  4 hours allotted  Calculator*  #2 pencils  Design aids: Engineer's scale, map measuring wheel	<i>Principles of Irrigation, 3rd Edition,</i> Irrigation Association  <i>Landscape Drip Irrigation Design and</i> <i>Management, 3rd Edition</i>  <i>Irrigation, Sixth Edition</i>  Equation Sheet  Glossary of Irrigation Terms, Irrigation Association  National Plumbing Code  National Electrical Code	Equipment..... 20 A. Pumps B. Low Volume Irrigation C. Pipe D. Sprinklers E. Valves F. Sensors G. Controllers H. Filters I. Wire Hydraulics ..... 20 A. Point of Connection B. Pipe Sizing C. Concepts D. Equipment Location Scheduling..... 20 Layout.....25 Electrical .....10 Maintenance and Operations.....5

\*Programmable calculators may be used as long as they are silent, battery-operated and a nonprinting model. Smartphones, tablets, smart watches, pagers, personal digital assistants or other electronic devices are NOT approved for use on IA exam.

An equation sheet will be provided when applicants register for the exam. Equation sheets and the IA's Glossary of Irrigation Terms are also available at the IA website ([www.irrigation.org/landscape-exam-resources](http://www.irrigation.org/landscape-exam-resources)). A copy of the same equation sheet will be provided in the examination packet.

References shown in italics are available on the IA website (<https://store.irrigation.org>).

# Certification Program Examination

## SPECIFICATIONS, SUPPLEMENTAL MATERIALS & REFERENCES

The IA reserves the right to cancel, postpone or reschedule exams, as necessary.

CID GENERAL AGRICULTURE		
Specifications/Supplemental materials	Passing score	References
150 questions multiple choice equally weighted  4 hours allotted  Calculator*  #2 pencils	Individual forms of the CID exam contain different blends of questions for a variety of reasons, including maintaining security of the program.  Determining the equivalence of various forms of the exam involves statistical analyses of the relative difficulty of each question. This process yields a pass-fail score that is dependent on the questions comprising the individual exam.  For this reason, the passing score for the CID exam is not announced prior to its administration. Depending on the exam, the passing score typically ranges between 70%-75%.	<i>Principles of Irrigation, 3rd Edition</i> , Irrigation Association  <i>Irrigation, Sixth Edition</i> , Irrigation Association (chapter 15 only)  Equation Sheet  Glossary of Irrigation Terms, Irrigation Association

\*Programmable calculators may be used as long as they are silent, battery-operated and a nonprinting model. Smartphones, tablets, smart watches, pagers, personal digital assistants or other electronic devices are NOT approved for use on IA exam.

An equation sheet will be provided when applicants register for the exam. Equation sheets and the IA's Glossary of Irrigation Terms are also available at the IA website ([www.irrigation.org/agriculture-exam-resources](http://www.irrigation.org/agriculture-exam-resources)). A copy of the same equation sheet will be provided in the examination packet.

References shown in italics are available on the IA website (<https://store.irrigation.org>).



# Certified Irrigation Designer General Agriculture

## DETAILED CONTENT OUTLINE

### Pumps (15%-20%)

- A. Calculate available NPSH
- B. Determine required NPSH
- C. Calculate theoretical suction lift
- D. Determine cavitation potential
- E. Identify end suction, submersible and turbine pumps
- F. Read and identify elements of pump curves
- G. Calculate efficiency
- H. Calculate brake HP and water HP
- I. Mounted in series or parallel
- J. Calculated total dynamic head
- K. Calculate affinity laws

### Hydraulics (20%-25%)

- A. Determine dynamic conditions
- B. Calculate friction loss using Hazen-Williams
- C. Calculate friction loss in pipe, fittings and valves
- D. Determine static conditions
- E. Maximum water velocity allowable in pipe and valves
- F. Identify required pipe pressure class
- G. Surge and water hammer potential
- H. Thrust block location and construction
- I. Calculate conversion of psi to feet of head
- J. Calculate Bernoulli equation

### Economics (5%-10%)

- A. Calculate operating cost
- B. Calculate capital cost

### Soil-Water-Plant Relations (15%-20%)

- A. Understand the characteristics of soil horizon, soil tension, soil texture, soil structure, soil particle size, intake rate and water movement in soil
- B. Understand the relationship between field capacity, permanent wilting point, plant available water, saturation and allowable depletion
- C. Understand how water quality and salinity effect the soil-water-plant relationship
- D. Calculate field capacity, permanent wilting point, and plant available water
- E. Calculate crop water needs

### Scheduling (10%-15%)

- A. Calculate precipitation rate
- B. Determine reference ET and crop coefficient
- C. Calculate flow rates required for irrigated area
- D. Define deficit irrigation
- E. Methods of measuring soil moisture monitoring
- F. Understand effects of regional climate, crop growth stage
- G. Calculate crop ET
- H. Calculate run time
- I. Management of water source
- J. Understand effective rainfall

### Efficiency/Uniformity (10%-15%)

- A. Understand the concepts of application and irrigation efficiency
- B. Calculate application efficiency
- C. Understand the differences of CU and  $DU_{LQ}$
- D. Calculate uniformity measures
- E. Understand application efficiency vs. uniformity
- F. Identify potential causes of water losses
- G. Understand the effects of sprinkler spacing on uniformity
- H. Interpret water destination diagrams

### System Components (10%-15%)

- A. Select proper backflow devices
- B. Calculate voltage, current or resistance using Ohm's Law
- C. Calculate voltage drop to determine wire size
- D. Understand the proper application for single phase and three-phase power
- E. Understand the proper application for DC and AC power
- F. Understand the piping specifications, ratings and proper application
- G. Understand the application and functionality of control valves, specialty valves, and automatic controls

# Certification Program Examination

## SPECIFICATIONS, SUPPLEMENTAL MATERIALS & REFERENCES

The IA reserves the right to cancel, postpone or reschedule exams, as necessary.

CID SPECIALTY DRIP/MICRO		
Specifications/Supplemental materials	Passing score	References
75 questions multiple choice equally weighted  4 hours allotted  Calculator*  #2 pencils	Individual forms of the CID exam contain different blends of questions for a variety of reasons, including maintaining security of the program.  Determining the equivalence of various forms of the exam involves statistical analyses of the relative difficulty of each question. This process yields a pass-fail score that is dependent on the questions comprising the individual exam.  For this reason, the passing score for the CID exam is not announced prior to its administration. Depending on the exam, the passing score typically ranges between 70%-75%.	<i>Drip and Micro Irrigation Design and Management for Trees, Vines and Field Crops, 5th Edition</i>  <i>Irrigation, Sixth Edition</i> , Irrigation Association (chapters 2-9, 11, 15, 16, 20, 24)  Sample Problems  Equation Sheet  Glossary of Irrigation Terms, Irrigation Association

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References shown in italics are available on the IA website (<https://store.irrigation.org>).

# Certified Irrigation Designer Drip/Micro

## DETAILED CONTENT OUTLINE

### System Design/Economics (20%-25%)

- A. Calculate gross application rate
- B. Calculate net application rate
- C. Calculate system operation time
- D. Calculate system flow rate requirement
- E. Understand how zoning affects economics
- F. Understand the relationship between ET, energy consumption and annual cost
- G. Understand the relationship between pressure, energy consumption and annual cost
- H. Understand the relationship between uniformity, energy consumption and annual cost
- I. Understand tubing and pipe specifications
- J. Understand advantages and disadvantages of drip irrigation
- K. Understand emitter discharge exponent
- L. Understand strategies for sizing pipes and hose
- M. Understand the operation of special valves

### Hydraulics (15%-20%)

- A. Determine dynamic conditions
- B. Calculate friction loss using Hazen-Williams
- C. Calculate friction loss in pipe, fittings and valves
- D. Determine static conditions
- E. Maximum water velocity allowable in pipe and valves
- F. Identify required pipe pressure class
- G. Surge and water hammer potential
- H. Thrust block location and construction
- I. Conversion of units of measurement
- J. Calculate Bernoulli equation
- K. Understand flush manifold design

### Filtration (15%-20%)

- A. Understand the proper application and sizing of prescreening, sand separators, media filters, tubular screens, gravity overflow screens, disc filters, and rotary cleaning tubular screens
- B. Understand the required operational management, flushing management and typical settings for media filters
- C. Understand mesh and media sizing and specifications

### Emitting Devices (5%-10%)

- A. Understand advantages and disadvantages of orifice size
- B. Understand characteristics of emitter path types
- C. Understand the relationship between emitter flow rate, K, discharge pressure and emitter discharge exponent
- D. Understand Coefficient of Variation
- E. Understand characteristics of pressure compensating emitting devices

### Injection (5%-10%)

- A. Understand chemical injection equipment and methods
- B. Understand chemical injection for water treatment and system maintenance

- C. Understand fertilizer injection for supplying required plant nutrients

### Soil-Water-Plant Relations (5%-10%)

- A. Understand the characteristics of soil horizon, soil tension, soil texture, soil structure, soil particle size, intake rate and water movement in soil
- B. Understand the relationship between field capacity, permanent wilting point, plant available water, saturation and allowable depletion
- C. Understand how water quality and salinity effect the soil-water-plant relationship
- D. Calculate field capacity, permanent wilting point, and plant available water

### Scheduling (5%-10%)

- A. Calculate precipitation rate
- B. Determine reference ET and crop coefficient
- C. Calculate flow rates required for irrigated area
- D. Define deficit irrigation
- E. Methods of measuring soil moisture monitoring
- F. Understand effects of regional climate and crop growth stage
- G. Calculate crop ET
- H. Calculate run time
- I. Management of water source
- J. Understand effective rainfall

### Efficiency/Uniformity (10%-15%)

- A. Understand the concept of application and irrigation efficiency
- B. Calculate application efficiency
- C. Understand the differences of CU and  $DU_{LQ}$
- D. Calculate uniformity measures
- E. Understand application efficiency vs. uniformity
- F. Identify potential causes of water losses
- G. Understand the effects of sprinkler spacing on uniformity
- H. Interpret water destination diagrams

### Pumps (1%-5%)

- A. Calculate available NPSH
- B. Determine required NPSH
- C. Calculate theoretical suction lift
- D. Determine cavitation potential
- E. Identify end suction, submersible and turbine pumps
- F. Read and identify elements of pump curves
- G. Calculated efficiency
- H. Calculate brake HP and water HP
- I. Mounted in series or parallel
- J. Calculate total dynamic head calculations
- K. Calculate *affinity laws*

# Certification Program Examination

## SPECIFICATIONS, SUPPLEMENTAL MATERIALS & REFERENCES

The IA reserves the right to cancel, postpone or reschedule exams, as necessary.

CID SPECIALTY SPRINKLER		
Specifications/Supplemental materials	Passing score	References
50 questions multiple choice equally weighted  4 hours allotted  Calculator*  #2 pencils	Individual forms of the CID exam contain different blends of questions for a variety of reasons, including maintaining security of the program.  Determining the equivalence of various forms of the exam involves statistical analyses of the relative difficulty of each question. This process yields a pass-fail score that is dependent on the questions comprising the individual exam.  For this reason, the passing score for the CID exam is not announced prior to its administration. Depending on the exam, the passing score typically ranges between 70%-75%.	<i>Principles of Irrigation, 3rd Edition</i> , Irrigation Association  <i>Irrigation, Sixth Edition</i> , Irrigation Association (chapters 10, 15, 16, 17, 21, 26)  Formula Sheet  Glossary of Irrigation Terms, Irrigation Association

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# Certified Irrigation Designer Sprinkler

## DETAILED CONTENT OUTLINE

### Pumps and Power (15%-20%)

- A. Calculate available NPSH
- B. Determine required NPSH
- C. Calculate theoretical suction lift
- D. Determine cavitation potential
- E. Identify end suction, submersible and turbine pumps
- F. Read and identify elements of pump curves
- G. Calculate efficiency
- H. Calculate brake HP and water HP
- I. Mounted in series or parallel
- J. Calculate total dynamic head
- K. Calculate affinity laws
- L. Size motors
- M. Understand pump operation characteristics

### Hydraulics (20%-25%)

- A. Determine dynamic conditions
- B. Calculate friction loss using Hazen-Williams
- C. Calculate friction loss in pipeline diameter transitions
- D. Calculate friction loss in fittings and valves
- E. Determine static conditions
- F. Calculate water velocity and flow rate calculations in laterals
- G. Understand surge and water hammer potential
- H. Thrust block location and construction
- I. Read and understand nozzle performance charts
- J. Calculate friction loss using Bernoulli equation
- K. Calculate nozzle discharge rates
- L. Understand pipe specifications, ratings, and proper application

### Scheduling (10%-15%)

- A. Calculate precipitation rate
- B. Use reference ET and crop coefficient to determine crop ET
- C. Calculate flow rates and applied volume for required for irrigated area
- D. Calculate crop ET
- E. Calculate hours of operation
- F. Determine irrigated area
- G. Calculate reservoir capacity
- H. Determine irrigation interval
- I. Calculate irrigation requirement
- J. Use application efficiency
- K. Understand soil intake rates and soil types
- L. Understand the effects of sprinkler spacing on uniformity

### Sprinkler Type (40%-50%)

- A. Center Pivot and Linear Move
  - 1. Determine machine flow rate
  - 2. Calculate machine run time
  - 3. Calculate machine precipitation rate
  - 4. Calculate depth of water applied
  - 5. Understand mainline sizing for multiple machines
  - 6. Determine flow rate per unit of area
  - 7. Determine correct operating pressure
- B. Hand Move/Solid Set/Side Roll
  - 1. Determine irrigated area
  - 2. Compare system flow rate to required flow rate
  - 3. Nozzle selection
  - 4. Determine irrigation interval
  - 5. Determine number of sprinklers per lateral
  - 6. Compare precipitation rate to soil intake rate
  - 7. Determine the number of laterals
  - 8. Determine power requirements
  - 9. Determine lateral spacing
  - 10. Calculate lateral inlet pressure
  - 11. Understand how sprinklers are used for frost control
- C. Traveler
  - 1. Calculate gross application rate required
  - 2. Determine system flow rate
  - 3. Determine lane spacing
  - 4. Calculate pressure loss in hose
  - 5. Determine ground speed



# Certification Program Examination

## SPECIFICATIONS, SUPPLEMENTAL MATERIALS & REFERENCES

The IA reserves the right to cancel, postpone or reschedule exams, as necessary.

CERTIFIED AGRICULTURAL IRRIGATION SPECIALIST		
Specifications/Supplemental materials	References	Exam Content (approx. %)
100 questions multiple choice equally weighted  3 hours allotted  Calculator*  #2 pencils	<i>Agricultural Irrigation Specialist Training Manual,</i>	Soil-Plant-Water Relationships 15
	Ag-Irrigation Management	Irrigation Methods 10
	<i>Fertigation, Second Edition</i>	Basic Hydraulics 5
	Formula Sheet	Efficiency and Uniformity 14
	Example Questions	Irrigation Scheduling 20
	Soil Water Terminology Handout	Water Quality, Salinity and Drainage 8
		Climate Monitoring and Control 5
		Chemigation 8
		Irrigation Management 15

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# Certified Agricultural Irrigation Specialist

## DETAILED CONTENT OUTLINE

### Domain I: Soil-Plant-Water Relationships (15%)

- A. Apply the use of soil horizon, soil texture, soil structure, soil particle size, intake rate, and water movement in soils
- B. Identify soil textures and available water of the management area
- C. Measure the amount of moisture in the soil (volume, percent, tension)
- D. Relate root depth to soil compaction and soil texture barriers
- E. Utilize soil evaluation tools
- F. Use the relationship among field capacity, plant available water (available water in the root zone), permanent wilting point and saturation, management allowable depletion, soil moisture depletion
- G. Identify over-irrigation events
- H. Apply additional water for leaching
- I. Apply the basic principles of the soil-plant-water relationship

### Domain II: Irrigation Methods (10%)

- A. Apply an understanding of the layout, key components, and constraints of drip/micro irrigation system
- B. Apply an understanding of the layout, key components, and constraints of surface irrigation system
- C. Apply an understanding of the layout, key components, and constraints of sprinkler irrigation system
- D. Apply an understanding of the use and function of irrigation equipment and devices
  - a. Pumps
  - b. Chemigation valves
  - c. Filters
  - d. Emission devices
  - e. Valves
  - f. Pressure control
  - g. Pipe
  - h. Flow measurement devices
  - i. Fertilizer injection/pumps
  - j. Controllers

### Domain III: Basic Hydraulics (5%)

- A. Understand the impacts of the components of pressure loss
- B. Determine how and where pressure is measured in the field
- C. Use flow rate and pressure change relationship

### Domain IV: Efficiency and Uniformity (14%)

- A. Understand the difference between efficiency and uniformity including common errors
- B. Use irrigation efficiency concepts including IE, beneficial and reasonable, nonbeneficial and unreasonable, losses and leaching
- C. Determine and/or apply distribution uniformity concepts

- D. Estimate application efficiency
- E. Interpret water destination diagrams (graphical representation of the water applied to the field)

### Domain V: Irrigation Scheduling (20%)

- A. Apply the components of evapotranspiration (ET) for irrigation scheduling
- B. Use soil moisture content to schedule irrigation intervals
- C. Use crop stress indicators to schedule irrigation intervals
- D. Use published  $K_c$  and ET values to schedule irrigation intervals
- E. Apply the steps to estimate  $ET_c$
- F. Use plant available water (PAW) for irrigation scheduling
- G. Use management allowable depletion (MAD) for irrigation scheduling
- H. Use action soil moisture depletion (SMD) for irrigation scheduling
- I. Estimate adjusted crop  $K_c$
- J. Estimate final crop ET
- K. Calculate net vs. gross application
- L. Read flow meters and calculate application rates
- M. Apply the scheduling constraints of the various types of systems (e.g., center pivot, linear move, drip/micro/under tree sprinklers, hand move sprinklers)

### Domain VI: Water Quality, Salinity and Drainage (8%)

- A. Utilize water quality guidelines and water quality reports to assess suitability
- B. Use water quality data to explain crop production, soil structure, irrigation system issues, and the fertility of the soil
- C. Apply the correct units to measure salinity
- D. Use values for  $EC_{iw}$ ,  $EC_e$ , and  $EC_{sw}$  to improve productivity
- E. Evaluate potential impact of the salinity threshold of various crops
- F. Evaluate leaching options, including estimating the leaching requirement for maintenance leaching and determining depths to apply for reclamation leaching
- G. Evaluate the layout and components of a drainage system for performance
- H. Determine the hydraulic connectivity of different soils

### Domain VII: Climate Monitoring and Control (5%)

- A. Use appropriate tools and technologies for monitoring climate and climate control
- B. Assess the effects and influences of plant critical temperatures
- C. Evaluate climate-based factors that affect when to start and stop events for climate control (e.g., wet-bulb, dew point temperature, relative humidity, plant critical temperature and ice melting, temperature thresholds)

**Domain VIII: Chemigation (8%)**

- A. Relate water analysis to compatibility
- B. Use different injection methods and equipment available
- C. Use chemigation applications to prevent plugging including chlorine, line cleaners, and acids
- D. Apply fertigation techniques including suitability, safety, and volume applied

**Domain IX: Irrigation Management (15%)**

- A. Use soil moisture sensors for irrigation scheduling
- B. Use telemetry tools for remote monitoring
- C. Use environmental monitoring tools for decision support
- D. Use plant monitoring tools for irrigation scheduling
- E. Collect data regarding weather, growth stage, and soil conditions to estimate irrigation requirements

- F. Recommend basic irrigation schedules
- G. Monitor changes in soil moisture, pressure, flow, and fertilizer output to evaluate performance
- H. Determine needed adjustments to irrigation plans based on monitoring data
- I. Compare current data to established benchmark data
- J. Investigate the cause of change in pressure or flow rates
- K. Identify the need for, and perform, equipment maintenance based on system type
- L. Understand optimal sensor placement (soil and/or environmental) in relation to factors such as outlet spacing/layout, tree/plant layout, projected canopy size, field slope, etc.

# Certification Program Examination

## SPECIFICATIONS, SUPPLEMENTAL MATERIALS & REFERENCES

The IA reserves the right to cancel, postpone or reschedule exams, as necessary.

CERTIFIED LANDSCAPE IRRIGATION AUDITOR		
Specifications/Supplemental materials	Passing score	References
125 questions multiple choice equally weighted  3 hours allotted  Calculator*  #2 pencils	Individual forms of the CLIA exam contain different blends of questions for a variety of reasons, including maintaining security of the program.  Determining the equivalence of various forms of the exam involves statistical analyses of the relative difficulty of each question. This process yields a pass-fail score that is dependent on the questions comprising the individual exam.  For this reason, the passing score for the CLIA exam is not announced prior to its administration. Depending on the exam, the passing score typically ranges between 70%-74%.	<i>Landscape Irrigation Auditor, 3rd Edition</i> , Irrigation Association  <i>Smart Technologies for Irrigation Management</i> (chapters needed can be downloaded from website)  Equation Sheet  Glossary of Irrigation Terms, Irrigation Association

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References shown in italics are available on the IA website (<https://store.irrigation.org>).

# Certified Landscape Irrigation Auditor

## DETAILED CONTENT OUTLINE

### Irrigation Audit Procedures (23-27%)

#### A. Develop Site Profile

1. Consult with client
  - a. Discuss audit objectives
  - b. Discuss audit procedures
  - c. Obtain water use records
  - d. Obtain site plans
  - e. Create a comprehensive site plan
  - f. Discuss available incentives/rebates
  - g. Discuss water use regulations (restrictions, ordinances)
2. Locate/evaluate irrigation equipment
  - a. Point of connection (water meter, backflow, pump station, water source)
  - b. Type of control system (central control, two-wire, smart controller, irrigation timer)
  - c. Sensor (flow, rain, wind, soil moisture)
  - d. System controller (identify capabilities, record current schedule, record station locations)

#### B. System Performance and Operation

1. Run each station
  - a. Observe and record system
    - i. Sprinklers not operating within correct pressure range
    - ii. Sprinkler spacing/layout
    - iii. Sprinkler rotation time
    - iv. Sprinkler height (at grade)
    - v. Clogged nozzles
    - vi. Sprinkler interference
    - vii. Sprinkler arc/radius
    - viii. Incorrect nozzle
    - ix. Tilt of sprinklers
    - x. Leaks (sprinklers, pipe, valves)
    - xi. Improper zoning (hydrozoning)
    - xii. Matched precipitation rate (zoning, nozzle, mixed sprays/rotors in same zone)
    - xiii. Check for normal valve function
2. Provide recommendations and solutions to system problems
3. Tune up system

#### C. Procedures for Catch Can Test

1. Prepare for catch can test
  - a. Verify appointment time/test date (review site plans, select areas for testing)
2. Perform field testing procedures
  - a. Verify and record test conditions
  - b. Operate zones and flag sprinklers
  - c. Check and record the sprinkler pressure
  - d. Place catch cans according to site and area

- e. Operate sprinklers in test area
  - f. Record hydrozone information (soil properties, root zone depth, slope, exposure, plant type)
3. Prepare test area map
  4. Record catch can data (on test area map/tabular worksheet)
  5. Record sprinkler location

### Soil-Plant-Water Relationships (23-27%)

#### A. Utilize Soil Properties

1. Soil textural class (observed/soil charts)
2. Infiltration rate (observed/soil charts)
3. Permeability/percolation
4. Soil conditions
5. Field capacity using charts
6. Available water-holding capacity
7. Plant available water
8. Permanent wilting point
9. Allowable depletion
10. Management allowable depletion

#### B. Water/Weather

1. Understand evapotranspiration (ET) (reference, historical, onsite sensors)
2. Consider rainfall (total/effective)
3. Utilize landscape coefficient (species, density, microclimate)

#### C. Consider Plant Characteristics

1. Types
2. Water use requirements (low, medium, high)
3. Thatch
4. Root depth
5. Cultural practices

### Irrigation Scheduling (28-32%)

#### A. Calculate Sprinkler Performance Factors

1. Uniformity indicators
  - a. Low quarter distribution uniformity
  - b. Coefficient of uniformity
  - c. Scheduling coefficient
2. Net precipitation rate
3. Gross precipitation rate

#### B. Identify/Calculate Scheduling Formulas

1. Plant water requirement
  - a. Plant material
  - b. Reference period
  - c. Reference ET (ET<sub>o</sub>)
  - d. Landscape coefficient
  - e. Crop coefficient
  - f. Plant water requirement

2. Irrigation water requirement
3. Scheduling requirements
  - a. Soil texture class
  - b. Available water
  - c. Active root zone depth
  - d. Plant available water
  - e. Allowable depletion
  - f. Management allowed depletion
  - g. Irrigation days per period
  - h. Total run time per day
  - i. Max run time per cycle
  - j. Cycles per day
  - k. Run time multiplier

**C. Adjust Schedules According to the Following Principles**

1. Controller features
2. Mandated watering restrictions
3. Real-time schedules using irrigation info from weather stations
4. Seasonal weather changes
5. Voluntary watering restrictions
6. Purveyor infrastructure water limitations

**D. Recommend Irrigation Management Guidelines**

1. Base schedule implementation
2. System maintenance
  - a. Maintain irrigation system hardware, soil conditions, and healthy plants
  - b. Develop a preventative maintenance program
3. Track water use to provide feedback about actual vs. budgeted water use
4. Upgrade system

**E. Follow-up Communications with Client**

1. Review results
2. Follow-up on system upgrades
3. Recommend audit intervals

**Equipment/Technology (18-22%)**

**A. Distinguish Types of Irrigation Application Devices**

1. Spray
2. Rotor
3. Microirrigation

**B. Utilize Sensors that Interrupt Irrigation**

1. Flow
2. Wind
3. Rain
4. Soil moisture

**C. Utilize ET/Sensor-based Technologies (“Smart”)**

1. Weather-based controllers
  - a. On-site sensors
  - b. Subscription-based
  - c. Historical ET
2. Soil moisture-based controllers

**D. Utilize Sprinkler Head/Electric Valve Technology**

1. Pressure regulation in heads
2. Pressure regulation in electric valves
3. Check valves/low head drainage prevention

**E. Codes**

# Certification Program Examination

## SPECIFICATIONS, SUPPLEMENTAL MATERIALS & REFERENCES

The IA reserves the right to cancel, postpone or reschedule exams, as necessary.

CERTIFIED GOLF IRRIGATION AUDITOR		
Specifications/Supplemental materials	Passing score	References
125 questions multiple choice equally weighted  3 hours allotted  Calculator*  #2 pencils	Individual forms of the CGIA exam contain different blends of questions for a variety of reasons, including maintaining security of the program.  Determining the equivalence of various forms of the exam involves statistical analyses of the relative difficulty of each question. This process yields a pass-fail score that is dependent on the questions comprising the individual exam.  For this reason, the passing score for the CGIA exam is not announced prior to its administration. Depending on the exam, the passing score typically ranges between 70%-74%.	<i>Golf Irrigation Auditor</i> , Irrigation Association  <i>Landscape Irrigation Auditor, 3rd Edition</i> , Irrigation Association  <i>Smart Technologies for Irrigation Management</i> (chapters needed can be downloaded from website)  Equation Sheet  Glossary of Irrigation Terms, Irrigation Association

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# Certified Golf Irrigation Auditor

## DETAILED CONTENT OUTLINE

### Irrigation Audit Procedures (23-27%)

#### A. Develop Site Profile

1. Consult with client
  - a. Discuss audit objectives
  - b. Discuss audit procedures
  - c. Obtain water use records
  - d. Obtain site plans
  - e. Create a comprehensive site plan
  - f. Discuss available incentives/rebates
  - g. Discuss water use regulations (restrictions, ordinances)
2. Locate/evaluate irrigation equipment
  - a. Point of connection (water meter, backflow, pump station, water source)
  - b. Type of control system (central control, two-wire, smart controller, irrigation timer)
  - c. Sensor (flow, rain, wind, soil-moisture)
  - d. System controller (identify capabilities, record current schedule, record station locations)

#### B. System Performance and Operation

1. Run each station
  - a. Observe and record system
    - i. Sprinklers not operating within correct pressure range
    - ii. Sprinkler spacing/layout
    - iii. Sprinkler rotation time
    - iv. Sprinkler height (at grade)
    - v. Clogged nozzles
    - vi. Sprinkler interference
    - vii. Sprinkler arc/radius
    - viii. Incorrect nozzle
    - ix. Tilt of sprinklers
    - x. Leaks (sprinklers, pipe, valves)
    - xi. Improper zoning (hydrozoning)
    - xii. Matched precipitation rate (zoning, nozzle, mixed sprays/rotors in same zone)
    - xiii. Check for normal valve function
2. Provide recommendations and solutions to system problems
3. Tune up system

#### C. Procedures for Catch Can Test

1. Prepare for catch can test
  - a. Verify appointment time/test date (review site plans, select areas for testing)
2. Perform field testing procedures
  - a. Verify and record test conditions
  - b. Operate zones and flag sprinklers
  - c. Check and record the sprinkler pressure
  - d. Place catch cans according to site and area

- e. Operate sprinklers in test area
- f. Record hydrozone information (soil properties, root zone depth, slope, exposure, plant type)
- g. Prepare test area map
- h. Record catch can data (on test area map/tabular worksheet)
- i. Record sprinkler location

### Soil-Plant-Water Relationships (23-27%)

#### A. Utilize Soil Properties

1. Soil textural class (observed/soil charts)
2. Infiltration rate (observed/soil charts)
3. Permeability/percolation
4. Soil conditions
5. Field capacity using charts
6. Available water-holding capacity
7. Plant available water
8. Permanent wilting point
9. Allowable depletion
10. Management allowable depletion

#### B. Water/Weather

1. Understand evapotranspiration (ET) (reference, historical, on-site sensors)
2. Consider rainfall (total/effective)
3. Utilize landscape coefficient (species, density, microclimate)

#### C. Consider Plant Characteristics

1. Types
2. Water use requirements (low, medium, high)
3. Thatch
4. Root depth
5. Cultural practices

### Irrigation Scheduling (28-32%)

#### A. Calculate Sprinkler Performance Factors

1. Uniformity indicators
  - a. Low quarter distribution uniformity
  - b. Coefficient of uniformity
  - c. Scheduling coefficient
2. Net precipitation rate
3. Gross precipitation rate

#### B. Identify/Calculate Scheduling Formulas

1. Plant water requirement
  - a. Plant material
  - b. Reference period
  - c. Reference ET (ET<sub>o</sub>)
  - d. Landscape coefficient
  - e. Crop coefficient
  - f. Plant water requirement

2. Irrigation water requirement
3. Scheduling requirements
  - a. Soil texture class
  - b. Available water
  - c. Active root zone depth
  - d. Plant available water
  - e. Allowable depletion
  - f. Management allowed depletion
  - g. Irrigation days per period
  - h. Total run time per day
  - i. Max run time per cycle
  - j. Cycles per day
  - k. Run time multiplier

**C. Adjust Schedules According to the Following Principles**

1. Controller features
2. Mandated watering restrictions
3. Real-time schedules using irrigation info from weather stations
4. Seasonal weather changes
5. Voluntary watering restrictions
6. Purveyor infrastructure water limitations

**D. Recommend Irrigation Management Guidelines**

1. Base schedule implementation
2. System maintenance
  - a. Maintain irrigation system hardware, soil conditions, and healthy plants
  - b. Develop a preventative maintenance program
3. Track water use to provide feedback about actual vs. budgeted water use
4. Upgrade system

**E. Follow-up Communications with Client**

1. Review results
2. Follow-up on system upgrades
3. Recommend audit intervals

**Equipment/Technology (18-22%)**

**A. Distinguish Types of Irrigation Application Devices**

1. Spray
2. Rotor
3. Microirrigation

**B. Utilize Sensors that Interrupt Irrigation**

1. Flow
2. Wind
3. Rain
4. Soil moisture

**C. Utilize ET/Sensor-based Technologies (“Smart”)**

1. Weather-based controllers
  - a. On-site sensors
  - b. Subscription-based
  - c. Historical ET
2. Soil moisture-based controllers

**D. Utilize Sprinkler Head/Electric Valve Technology**

1. Pressure regulation in heads
2. Pressure regulation in electric valves
3. Check valves/low head drainage prevention

**E. Codes**

# Certification Program Examination

## SPECIFICATIONS, SUPPLEMENTAL MATERIALS & REFERENCES

The IA reserves the right to cancel, postpone or reschedule exams, as necessary.

CERTIFIED IRRIGATION CONTRACTOR		
Specifications/Supplemental materials	Passing score	References
150 questions multiple choice equally weighted using design plan	Individual forms of the CIC exam contain different blends of questions for a variety of reasons, including maintaining security of the program.	<b>Primary References</b> <i>Landscape Irrigation Contractor</i> , Oct. 2014, Irrigation Association
3.5 hours allotted	Determining the equivalence of various forms of the exam involves statistical analyses of the relative difficulty of each question. This process yields a pass-fail score that is dependent on the questions comprising the individual exam.	<i>Principles of Irrigation, 3rd Edition</i> , Feb., 2013 Irrigation Association
Calculator*		Designing, Operating, and Maintaining Piping Systems Using PVC Fittings (download free from website)
#2 pencils		
Engineer's scale	For this reason, the passing score for the CIC exam is not announced prior to its administration. Depending on the exam, the passing score typically ranges between 68%-72%.	Standards, Codes, and Regulations (download free from website)  Equation Sheet (download free from website)  <b>Other Helpful References</b> <i>Irrigation, Sixth Edition</i> , Irrigation Association  Glossary of Irrigation Terms, Irrigation Association

\*Programmable calculators may be used as long as they are silent, battery-operated and a nonprinting model. Smartphones, tablets, smart watches, pagers, personal digital assistants or other electronic devices are NOT approved for use on IA exam.

An equation sheet will be provided when applicants register for the exam. Equation sheets and the IA's Glossary of Irrigation Terms are also available at the IA website ([www.irrigation.org/landscape-exam-resources](http://www.irrigation.org/landscape-exam-resources)). A copy of the same equation sheet will be provided in the examination packet.

References shown in italics are available on the IA website (<https://store.irrigation.org>).

# Certified Irrigation Contractor

## DETAILED CONTENT OUTLINE

### Domain I: Irrigation Design (20%-24%)

#### A. Educate Client

1. Irrigation best management practices
2. Sprinkler system features
3. Water management capabilities
4. Design considerations

#### B. Perform Site Analysis

1. Owner requirements
2. Irrigated area
3. Type of soil/intake rate
4. Property size/dimensions
5. Water window
6. Topography
7. Utility location
8. Right of ways
9. Codes/Ordinances
10. Water service source and capacity
11. Hardscape and landscape layout
12. Power source
13. Soil analysis
14. Plant evaluation
15. Budgeting
16. Adopting design promoting water conservation on existing systems

#### C. Determine Point of Connection, Water Supply, and Capacity

1. Pump design (e.g., type of pump, pressure tank, pump controls)
2. Pressure compensating/pressure regulating valve
3. Electrical components
  - a. Controller and pump
  - b. Grounding
  - c. Available power supply
4. Backflow prevention requirements
  - a. Type
  - b. Installation location
  - c. Water source
5. Water supply sizing
  - a. Available flow
  - b. Minimum required flow rate
  - c. Available pressure
  - d. Water quality

#### D. Establish the Hydrozone and the Appropriate Components

1. Climatic exposure
2. Plant water requirements
3. Soils
4. Topography
5. Drainage
6. Hardscape
7. Local restrictions
8. Priority areas

#### E. Select Sprinkler Heads, Drip Type and Determine Spacing

1. Head selection and layout
  - a. Based on catalog specifications
  - b. Based on distribution uniformity/scheduling coefficient (SC)
2. Drip selection and layout
  - a. Catalogue recommendations
  - b. Soil types

#### F. Establish Zoning, Valve Selection, and Piping

1. Zoning
  - a. Gallons per minute
  - b. Hydrozoned
2. Pipe layout (lateral and main)
  - a. Type of pipe
  - b. Pressure loss/pipe sizing
3. Valve location and type
  - a. Other valves (e.g., isolation valves, quick coupler valves)
4. Sleeves (e.g., water, wire)

#### G. Determine Controller and Sensor Location, Type and Wire

1. Controller
  - a. Electronic
  - b. SMART controllers (e.g., weather-based, soil moisture-based, self-adjusting)
2. Sensors (e.g., rain sensors, soil moisture sensors)
3. Wire type and sizing
  - a. Single strand
  - b. Multistrand
  - c. Wire splicing
  - d. Grounding

#### H. Design Plan, Installation Details and Specifications

1. To scale
2. Legend
3. Formatting

### Domain II: Irrigation Installation (24%-28%)

#### A. Implement Preconstruction Requirements (permits, utility locations, etc.)

1. Utility location and protection
2. Erosion control
3. Permits
4. Product submittals
5. Plan submittals
6. Verify site and system requirements
7. Verify water quality/quantity

#### B. Review Plans and Specifications (e.g., using a scale, reading specifications)

1. Legend
2. Plan notes
3. Details

4. Scale and sheet size
5. Verify using current drawing
6. Request for Information (RFI)
7. Plan verification information

**C. Procure System Material**

1. Detail take off
2. Vendor pricing
3. Product availability and lead time
4. Onsite storage/security
5. Product inventory tracking

**D. Determine Equipment and Labor Needs**

1. Power equipment
2. Tools
3. Labor
4. Subcontractor
5. Safety equipment
6. Trenching/plowing

**E. Layout System (e.g., mark property lines, locate system components)**

1. Verify utility locations
2. Verify site features
3. Identify obstructions
4. Identify field changes

**F. Arrange for Point of Connection**

1. Types of supply lines
2. Water supply connections
3. Isolation valve
4. Backflow
5. Quick coupler/winterization connection
6. Power supply
7. Pressure regulation
8. Pump
9. Filtration
10. Drain valve

**G. Install Mainline and Valves**

1. Types and sizes
2. Unions/fittings
3. Manifolds
4. Valve box (e.g., drainage, labeling)
5. Pipe connections (e.g., cutting, solvent welding, mechanical connection)
6. Thrust blocking
7. Flushing
8. Pressure testing
9. Backfill and compaction
10. Air vacuum release valve
11. Isolation valves
12. Control valves
13. Specialty valves

**H. Install Lateral Pipe and Sprinkler Heads**

1. Sprays
2. Rotors
3. Bubbler

4. Swing joint assemblies (e.g., triple swing, unitized swing, flexible connections)
5. Matched precipitation rate (MPR) nozzle
6. Adjusting (e.g., arc, radius, set at grade)
7. Rotators/multistream
8. Trenching/plowing
9. Backfill and compaction
10. Flushing
11. Pipe connections (e.g., cutting, solvent welding, mechanical connection)

**I. Install Various Drip Components**

1. Point source and inline drip
2. Pressure reducing valve (PRV)
3. Microsprays
4. Flush valves
5. Air relief
6. Low flow remote control valves
7. Fittings
8. Headers
9. Filters
10. Valve boxes
11. Stapling

**J. Install Controller, Sensors and Related Components**

1. Wall mount
2. Conduit (i.e., no exposed wire above ground)
3. Grounding
4. Electrical power connection
5. Control wire labeling
6. Connect field wires to controller, setup zone sequence, and testing
7. Sensor wiring and testing or calibration (e.g., soil, rain, wind, weather)
8. Other accessories (e.g., remote controls, communications, decoders)
9. Input initial program

**Domain III: Irrigation Scheduling, Management and Conservation (16%-20%)**

**A. Determine Local Water Restrictions**

1. Seasonal
2. Daily
3. Water windows
4. Runoff
5. Water budget
6. Water availability
7. Source (reclaimed)

**B. Determine Soil Type, Water-holding Capacity, Infiltration Rate and Slope**

1. Basic soil biology (e.g., water retention capability, porosity)
2. Soil texture type
3. Water-holding capacity
4. Infiltration rate
5. Allowable depletion
6. Compaction

**C. Calculate Landscape Water Requirements (ET, plant factors, root depth, etc.)**

1. Root depth
2. Evapotranspiration (ET)
3. Crop coefficient
4. Microclimate
5. Slope
6. Field capacity
7. Saturation
8. Wilting point
9. Permanent wilting point

**D. Conduct Assessment or Audit to Determine Application Rate**

1. Irrigation system inspection
  - a. Proper sprinkler adjustment
  - b. Proper nozzles installed in sprinklers
  - c. Leaks
  - d. Broken equipment
  - e. Drip layout/performance
  - f. Pressure
2. Measure precipitation rate
3. Calculate system uniformity
4. Controller capabilities

**E. Create an Irrigation Schedule**

1. Peak-demand schedule
2. System capacity and watering schedules
3. Local watering restrictions
4. Cycle-soak times
5. No-irrigation days (events, maintenance, etc.)
6. Seasonal adjustments
7. Determine schedule coefficient (SC)

**F. Program the Controller with the Irrigation Schedule**

1. Verify data input
2. Test program
3. Sprinkler test run

**G. Audit Site Conditions for Maximizing Water Conservation Results**

1. Prioritization of irrigation areas (e.g., water budget, drought response)
2. Review performance measures to monitor progress of water conservation (e.g., audit, meters, billing, measure root depth, plant health)
3. Estimate actual and theoretical landscape water use
4. Mitigate runoff and deep percolation
5. Implement long range water conservation plan based on auditing results

**Domain IV: Maintenance and Repair (16%-20%)**

**A. Perform System Startup**

1. Charge the system (e.g., pump priming)
2. Adjust and clean sprinkler heads
3. Clean all filters
4. Set proper program controller

5. Verify operation (e.g., site inspection, check for leaks)
6. Drip irrigation (e.g., flush laterals, check pressures)

**B. Perform System Inspection and Adjustments**

1. Test and adjust all components as necessary
  - a. Adjust irrigation schedule
  - b. Adjust sprinklers and nozzles
  - c. Verify valve operation
  - d. Verify drip operation
  - e. Verify system pressures
2. Leak detection and investigation
3. Verify sensor operation (e.g., weather station, weather sensors)

**C. Identify and Perform Repairs as required**

1. Diagnosis and troubleshooting
  - a. Electrical and hydraulics
2. Documentation (e.g., work orders, pictures)
3. Communication
  - a. End-user
  - b. Coordinate with related trades/other

**D. Adjust the Irrigation Schedule as needed**

1. Restrictions
2. Weather
3. Site conditions
4. Plant maturity
5. Season

**E. Inform Customers About System Operation and Best Practices**

**F. Recommend System Upgrades to Improve Efficiency**

**G. Winterize System**

1. Turn water off
2. Drain or evacuate main lines and lateral lines as applicable
  - a. Compressed air
  - b. Manual drain valves
3. Turn off controller
4. Manually drain backflow device and pumps

**Domain V: Laws and Codes (6%-10%)**

**A. Safety and Health Regulations (OSHA, OH&S)**

1. Controlling Electrical Hazards (OSHA 3075, 2002)
2. Excavations (OSHA 2226, 2015)
3. Chemical Hazard Communications (OSHA 3084, 1998)
4. Ground Fault Protections (OSHA 3007, 1998)
5. Material Safety Data Sheets (MSDS) (OSHA Recommends ANSI, TIP 0304-38)
  - a. Personal protection equipment (e.g., goggles, earplugs, hard hat, safety vest)
  - b. First aid
6. Other OSHA regulations
  - a. Reporting incidents
  - b. Recordkeeping
  - c. Posting requirements
  - d. Inspections

- e. Rights and responsibilities
  - i. Employers
  - ii. Employees
- f. Safety training and education

**B. Electric Codes (2017)**

- 1. Low voltage
- 2. High voltage
- 3. Depth of cover
- 4. Separation from other utilities

**C. Plumbing Codes (2015)**

- 1. Hazard classifications
- 2. Types of backflow prevention
- 3. Backflow installation

**D. Labor Laws (per Federal and Local Laws)**

- 1. Prevailing wages
- 2. Equal opportunity employment
- 3. Immigration

**Domain VI: General Business Management  
(6%-10%)**

**A. Maintain Recordkeeping (e.g., human resources, taxes, Department of Transportation)**

**B. Perform Basic Accounting (e.g., profit and loss, balance sheet, annual budgets)**

**C. Hire and Manage Employees**

- 1. Workers compensation
- 2. Health insurance
- 3. Overtime
- 4. Training

**D. Evaluate Contracts and Proposals**

**E. Perform Bidding and Estimating**

- 1. Direct costs
  - a. Labor
  - b. Equipment (e.g., field equipment)
  - c. Material
  - d. Subcontractor
- 2. Indirect costs (i.e., overhead)
- 3. Overhead cost recovery
- 4. Profit margin and markup

**F. Maintain Job Costing (e.g., cost analysis, budgeting)**

**G. Promote Business**

- 1. Customer relations
- 2. Advertising (e.g., social media, signage, uniform and vehicle branding)
- 3. Industry qualifications and certifications
- 4. Networking

**H. Insurance Requirements**

- 1. Bonding (e.g., surety bonding, bid bonds, performance bonds)
- 2. Liability insurance
- 3. Other insurance types (e.g., vehicle, error and omissions, key person)

**I. General Licensure (per local requirement)**



# Certification Program Examination

## SPECIFICATIONS, SUPPLEMENTAL MATERIALS & REFERENCES

The IA reserves the right to cancel, postpone or reschedule exams, as necessary.

CERTIFIED IRRIGATION TECHNICIAN		
Specifications/Supplemental materials	Passing score	References
100 questions multiple choice equally weighted  3 hours allotted  Calculator*  #2 pencils	Individual forms of the CIT exam contain different blends of questions for a variety of reasons, including maintaining security of the program.  Determining the equivalence of various forms of the exam involves statistical analyses of the relative difficulty of each question. This process yields a pass-fail score that is dependent on the questions comprising the individual exam.  For this reason, the passing score for the CIT exam is not announced prior to its administration. Depending on the exam, the passing score typically ranges between 68%-72%.	<i>Irrigation System Installation and Maintenance</i> , Irrigation Association, Sept., 2013  <i>Basic Irrigation Hydraulics</i> Student Workbook, Irrigation Association  <i>Electrical Troubleshooting</i> Student Workbook, Irrigation Association  <i>Irrigation Components Residential/Small Commercial Systems</i> Student Workbook, Irrigation Association

\*Programmable calculators may be used as long as they are silent, battery-operated and a nonprinting model. Smartphones, tablets, smart watches, pagers, personal digital assistants or other electronic devices are NOT approved for use on IA exam.

The IA's Glossary of Irrigation Terms are also available at the IA website ([www.irrigation.org/landscape-exam-resources](http://www.irrigation.org/landscape-exam-resources)).

References shown in italics are available on the IA website (<https://store.irrigation.org>).

# Certified Irrigation Technician

## DETAILED CONTENT OUTLINE

### Understanding Basic Irrigation Principles (41-46%)

#### A. Sprinkler Type, Nozzle Type and Spacing

1. Evaluate coverage area to determine sprinkler type and spacing
2. Assess spacing relative to sprinkler type and coverage area
3. Assess existing nozzle selection
4. Perform maintenance and adjustments
5. Match head and nozzle being replaced
6. Understand relative precipitation rates

#### B. Swing Joint Assemblies

1. Identify assembly components
2. Determine appropriate swing joint type
3. Determine appropriate swing joint installation

#### C. Pipe Fittings and Connection Procedures

1. Select proper solvents for pipe type and primers
2. Identify type of pipe fitting
3. Determine connection procedures based on pipe and fitting type
4. Perform connection procedures based on pipe and fitting type

#### D. Equipment and Tool Usage

1. Follow manufacturer's instructions
2. Select appropriate equipment and/or tools for the task
3. Maintain equipment and tools

#### E. Pumps

1. Identify pump types, components and controls
2. Understand pump flow and pressure
3. Demonstrate understanding of pump safety

#### F. Backflow Functionality

1. Identify backflow type, function and components
2. Identify state and local requirements

#### G. Plans and as-built Documentation

1. Read scale and legend
2. Understand specifications

#### H. Water Meter Usage

1. Identify appropriate meter
2. Understand meter readings
3. Identify leak detector on meter

#### I. Job Safety

1. Identify and use appropriate safety equipment
2. Locate utilities
3. Follow excavation safety procedures
4. Follow confined space entry procedures
5. Follow MSDS guidelines

#### J. Startup and Winterization Procedures

#### K. Identify Leaks

#### L. Identify All Water Supplies

#### M. Demonstrate Understanding of Basic Soil-Plant-Water Relationships

### Understanding Electrical Principles: (28-32%)

#### A. Voltmeter Operation

1. Test amperage or watts
2. Test for voltage, resistance, and continuity
3. Understand voltmeter readings

#### B. Controller Electrical Operation

1. Demonstrate understanding of basic controller programming
2. Identify components
3. Perform diagnostics procedures
4. Perform controller functions
5. Perform reset procedures
6. Perform basic controller ad component replacement

#### C. Transformer Operation

1. Test incoming and outgoing voltage
2. Match transformer properties for replacement

#### D. Solenoid Operation

1. Test resistance and incoming voltage
2. Identify manufacturer
3. Identify manufacturer specifications

#### E. Wiring Types

1. Determine wire size and type
2. Determine appropriate burial depth

#### F. Field Wiring/Wire Tracking/Valve Locating

1. Select appropriate equipment
2. Perform equipment setup and operational procedures
3. Perform splicing procedures

### Understanding Hydraulic Principles: (26-27%)

#### A. Sensors

1. Demonstrate understanding of how sensors operate
2. Identify sensors used
3. Perform sensor maintenance and replacement
4. Follow manufacturer's operating procedures

#### B. Valves

1. Demonstrate understanding of how valves operate
2. Identify valves
3. Perform valve installation, maintenance, troubleshooting and repair
4. Install appropriate valve enclosure

**C. Pressure Testing**

1. Determine dynamic vs. static pressure
2. Understand pressure gauge readings
3. Understand manufacturer's pressure requirements

**D. Flow Testing**

1. Record flow meter readings
2. Understand manufacturer's flow requirements

**E. Drip Mechanics**

1. Determine maximum tubing length
2. Identify filtration and pressure regulation requirements
3. Identify emission devices
4. Perform maintenance procedures
5. Determine appropriate component usage

**F. Read Friction Loss Charts**

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## IA Certification Complaint Form

The IA Certification Board has established policies and procedures to fairly and consistently address alleged violations. Complaint procedures are designed to ensure that valid and actionable complaints are investigated and considered, and that all parties involved in the complaint have an opportunity to document circumstances warranting the complaint and to respond. Please see the *IA Certification Candidate Handbook* for the complete discipline and appeals policy.

If you would like to file a complaint against a certified professional, please complete all requested information and send to:

Certification Program  
Irrigation Association  
8280 Willow Oaks Corporate Drive, Suite 630  
Fairfax, VA 22031  
Fax: 703.536.7019  
certification@irrigation.org

### Contact Information

Complainant Name: \_\_\_\_\_

Phone Number (office): \_\_\_\_\_ (cell): \_\_\_\_\_

Email Address: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Name of Accused: \_\_\_\_\_

Irrigation Association Certifications Held by Accused: \_\_\_\_\_

Description of Complaint: \_\_\_\_\_

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## IA Certification Complaint Form

Page 2

What Irrigation Association Certification Board policy was violated, if known? \_\_\_\_\_

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Why do you believe this policy was violated?

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Details of Complaint: (Provide dates, location, project name, owner's name, correspondence, and other supporting documentation to validate the complaint.)

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By signing this document, I understand that if this complaint is determined to be actionable by the IA Certification Board. The person I am making a complaint against will be provided all of the information provided to the Board for their review and to provide a rebuttal to the complainant made against them.

Signature of Complainant: \_\_\_\_\_ Date: \_\_\_\_\_

## IA Certification Reinstatement Application

Professionals who have let their IA certifications lapse for more than four years are not eligible for reinstatement. Individuals who have lost their certifications due to disciplinary actions implemented by the Irrigation Association Certification Board cannot apply for reinstatement under this policy. All individuals who have lapsed certifications are eligible to one of the reinstatement procedures below. Individuals may only apply for reinstatement once in a lifetime under this policy.

Please forward the required information below, along with payment and completed application form to IA headquarters. All application payments will be processed upon receipt. If your application is not approved, your payment less the nonrefundable reinstatement fee will be returned.

The IACB reserves the right to grant or deny your request for reinstatement based on the merits of your case. Certification reinstatement, if approved, will be retroactive to the original date of certification and the CEU cycle and requirements will remain unchanged.

### Reinstatement Criteria

#### REINSTATEMENT OF CREDENTIALS LAPSED LESS THAN TWO YEARS

The individual will need to complete the reinstatement application, which will require

- payment of current and past renewal fees, including all late fees, in full.
- payment of \$250 nonrefundable reinstatement fee.
- documentation of CEU activity since lapse, e.g., certificates of attendance, transcripts, etc. (averaging 10 CEUs per year).

Certification reinstatement, if approved, will be retroactive to the original date of certification and the CEU cycle and requirements will remain unchanged.

IA staff will confirm receipt of reinstatement application within five business days. IACB response to application may take up to 60 days.

#### REINSTATEMENT OF CREDENTIALS LAPSED MORE THAN TWO YEARS BUT LESS THAN FOUR YEARS

Any certified professional whose certifications have lapsed more than two years ago but less than four years can apply for reinstatement and will be considered on an individual basis.

Requests for reinstatement of such individuals are only granted under the most extenuating circumstances. Letters of request for reinstatement must include

- a cover letter explaining why the lapse occurred, all supporting documentation and verification of former certification.
- a detailed description of continued involvement in the irrigation field.
- documentation of CEU activity since lapse, e.g., certificates of attendance, transcripts, etc. (averaging 10 CEUs per year).
- three references including contact information.
- documentation that supports the request (such as medical documentation, transcripts, etc.).
- payment of current and past renewal fees, including all late fees, in full.
- payment of \$250 nonrefundable reinstatement fee.

IA staff will confirm receipt of reinstatement application within five business days. IACB response to application may take up to 60 days.



# IA Certification Reinstatement Application

Page 2

## PERSONAL INFORMATION (please print)

NAME

PHONE NUMBER (OFFICE)

CELL

EMAIL ADDRESS

MAILING ADDRESS

CITY

STATE

ZIP COUNTRY

IRRIGATION ASSOCIATION CERTIFICATIONS PREVIOUSLY HELD

WHEN DID CERTIFICATIONS LAPSE? (MONTH/YEAR)

## PAYMENT INFORMATION

\_\_\_\_\_ Past Certification Renewals Due (including late fees)

\$250 Reinstatement Application Fee (nonrefundable)

\_\_\_\_\_ Total

**CHECK ENCLOSED** \$ \_\_\_\_\_ US

(remit in US\$ on a U.S. bank, payable to the Irrigation Association)

Foreign orders may pay with money orders payable in U.S. dollars or via credit card below.

**CHARGE:** ☐ VISA ☐ MasterCard ☐ American Express ☐ Discover

CARD NUMBER

EXPIRATION DATE (MONTH/YEAR)

CVV

NAME ON CARD

SIGNATURE

Certification Program  
Irrigation Association  
8280 Willow Oaks Corporate Dr. Suite 630  
Fairfax, VA 22031  
Fax: 703.536.7019  
[certification@irrigation.org](mailto:certification@irrigation.org)

## North America Certification Exam Registration

North America includes the United States (and Puerto Rico), Canada & Mexico

### PLEASE USE THIS FORM TO REGISTER FOR ALL IA EXAMS.

- The *Certification Candidate Handbook* contains all relevant information about IA exam preparation, including references and content outlines.
- Exam application and registration is required at least 14 days prior to exam date. A late fee of \$25 will be assessed for any paper/pencil exam registrations received less than 14 days before the exam date. On-site registration is not allowed.
- The IA reserves the right to cancel, postpone or reschedule any or all exams as necessary.

### CANDIDATE INFORMATION - HOME

NAME		
ADDRESS (NO PO BOXES)		
CITY	STATE/PROVINCE	POSTAL CODE
PHONE	EMAIL (REQUIRED)	

**EXPERIENCE:** Depending on the certification exam you plan to take, the IA recommends candidates have six months to three years of irrigation-related experience. Filling out your irrigation-related experience below is optional.

CURRENT EMPLOYER				
POSITION/TITLE				
/	/			
EMPLOYED FROM	TO	YEARS	MONTHS	OF EXPERIENCE
SUPERVISOR/CONTACT				
BUSINESS ADDRESS				
CITY	STATE	ZIP		
TEL	FAX			
EMAIL				

PREVIOUS EMPLOYER				
POSITION/TITLE				
/	/			
EMPLOYED FROM	TO	YEARS	MONTHS	OF EXPERIENCE
SUPERVISOR/CONTACT				
BUSINESS ADDRESS				
CITY	STATE	ZIP		
TEL	FAX			
EMAIL				

### CANDIDATE INFORMATION - WORK

NAME		
ADDRESS (NO PO BOXES)		
CITY	STATE/PROVINCE	POSTAL CODE
PHONE	EMAIL (REQUIRED)	

**Preferred Shipping Address:** ☐ Home ☐ Work

### Certification Code of Ethics

I subscribe to the following code of ethics and will:

- uphold the integrity of the irrigation industry.
- protect public health and safety.
- comply with all local, regional, and national laws and regulations.
- adhere to the concepts of free enterprise.
- follow fair and honest business practices, including legitimate representation of my personal capabilities, experience, certifications and licenses.
- apply ethical practices to all contractual and warranty obligations.
- use responsible procedures in the design, installation, management and maintenance of irrigation systems.
- promote best management practices for water, soil and energy through efficient and cost-effective irrigation system design, installation, management and maintenance.
- work to gain respect and recognition for the irrigation industry at the local, regional, national and international level.

Declaration:

- I declare that the information contained in this application is true and accurate.
- I understand that falsification is grounds for revocation of certification.
- I understand that I am required to respond to an audit of my CEUs, if selected.
- I have read and agree to follow the certification code of ethics.
- I understand that failure to adhere to the certification code of ethics may result in disciplinary action up to and including revocation and/or exclusion from the certification program.

Acceptance of the code of ethics is **required** for approval.

SIGNATURE
DATE

# Irrigation Association Certification Exam Registration (pg. 2)

## PRACTICE EXAMS (PRACTICE EXAM FEES ARE NONREFUNDABLE)

Practice Exam	Member Fee With Exam Purchase	Member Fee Without Exam Purchase	Nonmember Fee With Exam Purchase	Nonmember Fee Without Exam Purchase	Total
<input type="checkbox"/> Practice Exam - Landscape Irrigation Auditor	<input type="checkbox"/> \$50	<input type="checkbox"/> \$75	<input type="checkbox"/> \$75	<input type="checkbox"/> \$100	
<input type="checkbox"/> Practice Exam - Irrigation Contractor	<input type="checkbox"/> \$50	<input type="checkbox"/> \$75	<input type="checkbox"/> \$75	<input type="checkbox"/> \$100	

## EXAM FEES

Exam	Member Fee	Nonmember Fee	Retake Fee Member	Retake Fee Nonmember	Total
<input type="checkbox"/> Certified Landscape Irrigation Auditor	<input type="checkbox"/> \$250	<input type="checkbox"/> \$495	<input type="checkbox"/> \$200	<input type="checkbox"/> \$325	
<input type="checkbox"/> Certified Golf Irrigation Auditor	<input type="checkbox"/> \$250	<input type="checkbox"/> \$495	<input type="checkbox"/> \$200	<input type="checkbox"/> \$325	
<input type="checkbox"/> Certified Irrigation Contractor	<input type="checkbox"/> \$250	<input type="checkbox"/> \$495	<input type="checkbox"/> \$200	<input type="checkbox"/> \$325	
<input type="checkbox"/> Certified Irrigation Technician	<input type="checkbox"/> \$175	<input type="checkbox"/> \$300	<input type="checkbox"/> \$175	<input type="checkbox"/> \$300	
<input type="checkbox"/> Certified Irrigation Technician - Spanish	<input type="checkbox"/> \$175	<input type="checkbox"/> \$300	<input type="checkbox"/> \$175	<input type="checkbox"/> \$300	
<input type="checkbox"/> Certified Agricultural Irrigation Specialist	<input type="checkbox"/> \$200	<input type="checkbox"/> \$450	<input type="checkbox"/> \$150	<input type="checkbox"/> \$275	
Certified Irrigation Designer					
<input type="checkbox"/> General Landscape/Turf Exam	<input type="checkbox"/> \$250	<input type="checkbox"/> \$495	<input type="checkbox"/> \$200	<input type="checkbox"/> \$325	
<input type="checkbox"/> Specialty Golf Course (L/T)	<input type="checkbox"/> \$250	<input type="checkbox"/> \$495	<input type="checkbox"/> \$200	<input type="checkbox"/> \$325	
<input type="checkbox"/> Specialty Residential/Commercial	<input type="checkbox"/> \$250	<input type="checkbox"/> \$495	<input type="checkbox"/> \$200	<input type="checkbox"/> \$325	
<input type="checkbox"/> General Agriculture Exam	<input type="checkbox"/> \$250	<input type="checkbox"/> \$495	<input type="checkbox"/> \$200	<input type="checkbox"/> \$325	
<input type="checkbox"/> Specialty Drip/Micro (AG)	<input type="checkbox"/> \$250	<input type="checkbox"/> \$495	<input type="checkbox"/> \$200	<input type="checkbox"/> \$325	
<input type="checkbox"/> Specialty Sprinkler (AG)	<input type="checkbox"/> \$250	<input type="checkbox"/> \$495	<input type="checkbox"/> \$200	<input type="checkbox"/> \$325	

**GRAND TOTAL FOR APPLICATION AND EXAM FEES** \_\_\_\_\_

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☐ Paper/Pencil Exam Site \_\_\_\_\_ Exam Date: \_\_\_\_\_ **-OR-** ☐ Computer-based Testing

### REFERENCES

Prices are subject to change without notice.

#### Member Nonmember

- |                                |                                |   |
|--------------------------------|--------------------------------|---|
| <input type="checkbox"/> \$65  | <input type="checkbox"/> \$110 | Landscape Irrigation Auditor (CLIA)   |
| <input type="checkbox"/> \$60  | <input type="checkbox"/> \$90  | Golf Irrigation Auditor (CGIA)  |
| <input type="checkbox"/> \$75  | <input type="checkbox"/> \$125 | Landscape Irrigation Contractor (CIC)   |
| <input type="checkbox"/> \$60  | <input type="checkbox"/> \$90  | Irrigation System Installation & Maintenance (CIT)                              |
| <input type="checkbox"/> \$75  | <input type="checkbox"/> \$125 | Principles of Irrigation (CIC, CID, CLWM)                                       |
| <input type="checkbox"/> \$153 | <input type="checkbox"/> \$205 | Irrigation, Sixth Edition (CIC, CID, CLWM)                                      |
| <input type="checkbox"/> \$50  | <input type="checkbox"/> \$75  | Landscape Drip Irrigation Design & Management (Specialty Res/Comm)              |
| <input type="checkbox"/> \$48  | <input type="checkbox"/> \$54  | Agriculture Irrigation Management (CAIS)  |
| <input type="checkbox"/> \$90  | <input type="checkbox"/> \$125 | Fertigation (CAIS)  |
| <input type="checkbox"/> \$139 | <input type="checkbox"/> \$149 | Drip and Micro Irrigation for Trees, Vines and Row Crops (Specialty Drip/Micro) |

**Shipping:** Shipping fees are subject to change without notice. Please contact the IA for international shipping. International customs and duties are the responsibilities of the customer.

- ☐ \$13 to ship one book UPS Ground in the United States
- ☐ \$17 to ship *Irrigation, Sixth Edition*
- ☐ \$2.50 for each additional book

### PAYMENT INFORMATION

Name \_\_\_\_\_

\$ \_\_\_\_\_ Exam Fees

\$ \_\_\_\_\_ Late Fee (if applicable)

\$ \_\_\_\_\_ Cost of References

\$ \_\_\_\_\_ Shipping Cost

\$ \$5.00 Handling (book orders only)

\$ \_\_\_\_\_ Total in U.S. dollars

☐ Check here for a receipt.

Check #: \_\_\_\_\_

Remit in U.S. dollars drawn on a U.S. bank, payable to Irrigation Association.

**CHARGE:** ☐ VISA ☐ MasterCard ☐ American Express

CARD NUMBER \_\_\_\_\_

EXPIRATION DATE (MONTH/YEAR) \_\_\_\_\_

NAME ON CARD \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

**Please note: By submitting this form you acknowledge your credit card will be charged the correct fees according to IA membership records.**

# Irrigation Association International Certification Exam Registration

## PLEASE USE THIS FORM TO REGISTER FOR ALL IA EXAMS.

- The *Certification Candidate Handbook* contains all relevant information about IA exam preparation, including references and content outlines.
- Exam application and registration is required at least 14 days prior to exam date. A late fee of \$25 will be assessed for any paper/pencil exam registrations received less than 14 days before the exam date. On-site registration is not allowed.
- The IA reserves the right to cancel, postpone or reschedule any or all exams as necessary.

## CANDIDATE INFORMATION - HOME

NAME		
ADDRESS (NO PO BOXES)		
CITY	STATE/PROVINCE	POSTAL CODE
PHONE	EMAIL (REQUIRED)	

**EXPERIENCE:** Depending on the certification exam you plan to take, the IA recommends candidates have six months to three years of irrigation-related experience. Filling out your irrigation-related experience below is optional.

CURRENT EMPLOYER				
POSITION/TITLE				
/	/			
EMPLOYED FROM	TO	YEARS	MONTHS	OF EXPERIENCE
SUPERVISOR/CONTACT				
BUSINESS ADDRESS				
CITY	STATE/PROVINCE	POSTAL CODE		
TEL	FAX			
EMAIL				

PREVIOUS EMPLOYER				
POSITION/TITLE				
/	/			
EMPLOYED FROM	TO	YEARS	MONTHS	OF EXPERIENCE
SUPERVISOR/CONTACT				
BUSINESS ADDRESS				
CITY	STATE/PROVINCE	POSTAL CODE		
TEL	FAX			
EMAIL				

## CANDIDATE INFORMATION - WORK

NAME		
ADDRESS (NO PO BOXES)		
CITY	STATE/PROVINCE	POSTAL CODE
PHONE	EMAIL (REQUIRED)	

**Preferred Shipping Address:** ☐ Home ☐ Work

## Certification Code of Ethics

I subscribe to the following code of ethics and will

- uphold the integrity of the irrigation industry.
- protect public health and safety.
- comply with all local, regional, and national laws and regulations.
- adhere to the concepts of free enterprise.
- follow fair and honest business practices, including legitimate representation of my personal capabilities, experience, certifications and licenses.
- apply ethical practices to all contractual and warranty obligations.
- use responsible procedures in the design, installation, management and maintenance of irrigation systems.
- promote best management practices for water, soil and energy through efficient and cost-effective irrigation system design, installation, management and maintenance.
- work to gain respect and recognition for the irrigation industry at the local, regional, national and international level.

**Declaration:**

- I declare that the information contained in this application is true and accurate.
- I understand that falsification is grounds for revocation of certification.
- I understand that I am required to respond to an audit of my CEUs, if selected.
- I have read and agree to follow the certification code of ethics.
- I understand that failure to adhere to the certification code of ethics may result in disciplinary action up to and including revocation and/or exclusion from the certification program.

Acceptance of the code of ethics is **required** for approval.

SIGNATURE
DATE

## International Certification Exam Registration (pg. 2)

### PRACTICE EXAMS (PRACTICE EXAM FEES ARE NONREFUNDABLE)

Practice Exam	Member Fee With Exam Purchase	Member Fee Without Exam Purchase	Nonmember Fee With Exam Purchase	Nonmember Fee Without Exam Purchase	Total
<input type="checkbox"/> Practice Exam – Landscape Irrigation Auditor	<input type="checkbox"/> \$50	<input type="checkbox"/> \$75	<input type="checkbox"/> \$75	<input type="checkbox"/> \$100	
<input type="checkbox"/> Practice Exam – Irrigation Contractor	<input type="checkbox"/> \$50	<input type="checkbox"/> \$75	<input type="checkbox"/> \$75	<input type="checkbox"/> \$100	

### EXAM FEES

Exam	Member Fee	Nonmember Fee	Retake Fee Member	Retake Fee Nonmember	Total
<input type="checkbox"/> Certified Landscape Irrigation Auditor	<input type="checkbox"/> \$350	<input type="checkbox"/> \$595	<input type="checkbox"/> \$300	<input type="checkbox"/> \$425	
<input type="checkbox"/> Certified Golf Irrigation Auditor	<input type="checkbox"/> \$350	<input type="checkbox"/> \$595	<input type="checkbox"/> \$300	<input type="checkbox"/> \$325	
<input type="checkbox"/> Certified Irrigation Contractor	<input type="checkbox"/> \$350	<input type="checkbox"/> \$595	<input type="checkbox"/> \$300	<input type="checkbox"/> \$425	
<input type="checkbox"/> Certified Irrigation Technician	<input type="checkbox"/> \$275	<input type="checkbox"/> \$400	<input type="checkbox"/> \$275	<input type="checkbox"/> \$400	
<input type="checkbox"/> Certified Irrigation Technician - Spanish	<input type="checkbox"/> \$275	<input type="checkbox"/> \$500	<input type="checkbox"/> \$275	<input type="checkbox"/> \$400	
<input type="checkbox"/> Certified Agricultural Irrigation Specialist	<input type="checkbox"/> \$300	<input type="checkbox"/> \$550	<input type="checkbox"/> \$250	<input type="checkbox"/> \$375	
Certified Irrigation Designer					
<input type="checkbox"/> General Landscape/Turf Exam	<input type="checkbox"/> \$400	<input type="checkbox"/> \$595	<input type="checkbox"/> \$350	<input type="checkbox"/> \$475	
<input type="checkbox"/> Specialty Golf Course (L/T)	<input type="checkbox"/> \$400	<input type="checkbox"/> \$595	<input type="checkbox"/> \$350	<input type="checkbox"/> \$475	
<input type="checkbox"/> Specialty Residential/Commercial (L/T)	<input type="checkbox"/> \$400	<input type="checkbox"/> \$595	<input type="checkbox"/> \$350	<input type="checkbox"/> \$475	
<input type="checkbox"/> General Agriculture Exam	<input type="checkbox"/> \$400	<input type="checkbox"/> \$595	<input type="checkbox"/> \$350	<input type="checkbox"/> \$475	
<input type="checkbox"/> Specialty Drip/Micro (AG)	<input type="checkbox"/> \$400	<input type="checkbox"/> \$595	<input type="checkbox"/> \$350	<input type="checkbox"/> \$475	
<input type="checkbox"/> Specialty Sprinkler (AG)	<input type="checkbox"/> \$400	<input type="checkbox"/> \$595	<input type="checkbox"/> \$350	<input type="checkbox"/> \$475	

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#### REFERENCES

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##### Member Nonmember

<input type="checkbox"/> \$65	<input type="checkbox"/> \$110	Landscape Irrigation Auditor (CLIA)
<input type="checkbox"/> \$60	<input type="checkbox"/> \$90	Golf Irrigation Auditor (CGIA)
<input type="checkbox"/> \$75	<input type="checkbox"/> \$125	Landscape Irrigation Contractor (CIC)
<input type="checkbox"/> \$60	<input type="checkbox"/> \$90	Irrigation System Installation & Maintenance (CIT)
<input type="checkbox"/> \$75	<input type="checkbox"/> \$125	Principles of Irrigation (CIC, CID, CLWM)
<input type="checkbox"/> \$153	<input type="checkbox"/> \$205	Irrigation, Sixth Edition (CIC, CID, CLWM)
<input type="checkbox"/> \$50	<input type="checkbox"/> \$75	Landscape Drip Irrigation Design & Management (Specialty Res/Comm)
<input type="checkbox"/> \$48	<input type="checkbox"/> \$54	Agriculture Irrigation Management (CAIS)
<input type="checkbox"/> \$90	<input type="checkbox"/> \$125	Fertigation (CAIS)
<input type="checkbox"/> \$139	<input type="checkbox"/> \$149	Drip and Micro Irrigation for Trees, Vines and Row Crops (Specialty Drip/Micro)

**Shipping:** Shipping fees are subject to change without notice. Please contact the IA for international shipping. International customs and duties are the responsibilities of the customer.

International shipping rates will vary by country. Contact IA for a quote on the shipping price for any orders.

#### PAYMENT INFORMATION

Name \_\_\_\_\_

\$ \_\_\_\_\_ **Application and Exam Fees**

\$ \_\_\_\_\_ **Practice Exam Fees**

\$ \_\_\_\_\_ **Cost of References**

\$ \_\_\_\_\_ **Shipping Cost**

\$ \_\_\_\_\_ **Total in U.S. dollars**

☐ **Check here for a receipt.**

**Check #:** \_\_\_\_\_

Remit in U.S. dollars drawn on a U.S. bank, payable to Irrigation Association.

**CHARGE:** ☐ VISA ☐ MasterCard ☐ American Express

CARD NUMBER

EXPIRATION DATE (MONTH/YEAR)

NAME ON CARD

SIGNATURE

DATE

**Please note: By submitting this form you acknowledge your credit card will be charged the correct fees according to IA membership records.**

**The Irrigation Association is the leading membership organization for irrigation equipment and system manufacturers, dealers, distributors, designers, consultants, contractors and end users.**

**The IA is dedicated to promoting efficient irrigation technologies, products and services.** The association serves its members and the irrigation industry by

- educating the public on sound practices and water management.
- serving as a centralized clearinghouse for research and innovation.
- improving industry proficiency through continuing education.
- recognizing and promoting experience and excellence with professional certification.
- lending expertise to water-use public policy at the local, state, regional and national levels.

**Irrigation Association**

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Fairfax, VA 22031

Tel: 703.536.7080 | Fax: 703.536.7019

[www.irrigation.org](http://www.irrigation.org) | [info@irrigation.org](mailto:info@irrigation.org)