

# COUNTY LOUTH GOLF CLUB IRRIGATION SYSTEM



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# INTRODUCTION

- RHA
- THE IMPORTANCE OF EFFICIENT IRRIGATION
- EXISTING IRRIGATION SYSTEMS AT CLGC
- PROPOSED IRRIGATION SYSTEM AT CLGC



# RHA

- Dedicated irrigation design and consultancy practice
- Established in 1985
- Portfolio of customers / clients include;
  - R&A & Open Championship Courses
  - St. Andrews Links Trust
  - Jockey Club including Cheltenham, Newmarket, Aintree
  - Commonwealth War Graves Commission
- Current ongoing projects
- Projects in Ireland



# IMPORTANCE OF IRRIGATION

- Water is one of the most important factors for quality turf grass
- Water provides to distinct functions;
  - Replaces water lost through evapo-transpiration [E/T]
  - Assists in general course maintenance practices
- Average year used on a reduced basis to replace E/T and ensure consistent soil moisture to promote finer grasses indicative of links golf
- Average year used as much, if not more, for aiding course maintenance practices including;
  - Over-seeding
  - Washing in wetting agents and general turf surfactants
- Applying water efficiently is essential to ensure quality turf grass

# EXISTING IRRIGATION SYSTEM

- Beyond 25 years old and consists of the following;
  - water supply; two springs on the golf course [4<sup>th</sup> & 16<sup>th</sup> fairways]
  - pump house; beside the 4<sup>th</sup> fairway spring
  - pump station; multistage pumps and controls [takes water directly from spring at 4<sup>th</sup> fairway]
  - main line pipe work; uPVC pipe of sizes predominantly 3" & 2"
  - lateral pipe work; uPVC likely 1¼" / 1½"

# EXISTING IRRIGATION SYSTEM

- Beyond 25 years old and consists of the following;
  - Greens putting surface irrigation using full circle sprinklers
  - Fairway irrigation – sporadic and controlled in groups
  - Walkway irrigation – sporadic and limiting
  - Tees irrigation – all tees within a tee complex operate together
  - Wall mounted non pc controller -



# EXISTING IRRIGATION SYSTEM CONCERNS

- The concerns with the existing irrigation system are;
  - its age; lifespan of an irrigation system using uPVC pipe work is 25 years with the need for ongoing replacement of component parts as they wear and tear
  - limited as laid records including plans
  - water supplies during dry periods of weather
  - lack of information relating to water supplies and their potential yields
  - the lack of any form of secure water storage
  - the age and condition of the existing pumping station
  - the type, age and condition of the existing pipe work

# EXISTING IRRIGATION SYSTEM CONCERNS

- The concerns with the existing are;
  - the intermittent and un-reliable control cable network
  - the type of controller [wall mounted]
  - the lack of control as to where and how water is applied to the existing surfaces to ensure efficient use of water
  - the age and condition of the sprinklers, pipe work and valves on all greens, fairways and tees which require replacement
  - lack of full time irrigation technician to ensure system receives correct level of service and maintenance

















































# WHATS INVOLVED IN IMPLEMENTATION OF A NEW IRRIGATION SYSTEM

- Water supplies to be reviewed and upgraded [quantity and quality]
- Water storage tank to be installed to provide secure daily storage
- Pump house to be replaced [alongside water storage tank] to ensure suitability for new pump station
- New pump station to allow for improved water distribution and capacity to reduce the watering time window
- New pipe work network
- New control cable network [latest technology]
- New greens irrigation to allow for independent control of watering over the putting surfaces, surrounds and approaches



# WHATS INVOLVED IN IMPLEMENTATION OF A NEW IRRIGATION SYSTEM

- Fairway irrigation to allow for individual head control using fully adjustable part circle sprinklers to limit overthrow into semi-rough / rough areas saving water with ability to apply water to semi-rough areas where necessary for turf quality renovation
- Walkway irrigation to ensure consistency across the course
- Tee irrigation allowing for individual tees to be irrigated independently of each other avoiding too much overthrow of water
- Computerised control system in the Course Managers office allowing for operation of both courses from one central location
- Full time irrigation technician pivotal to ensure long term benefits of the system are maintained to protect CLGC's investment







































# WHAT NEXT?







No.	Ref.	Date	REVISIONS
1	ASAP	2015	ISSUED FOR TENDER AND APPROVAL OF MEMBERS. ONLY TO BE USED FOR TENDER PURPOSES.
2	ASAP	2015	UPDATE TO REFLECT THE PROPOSED WORK AREAS AND TO REFLECT THE PROPOSED WORK AREAS AND TO REFLECT THE PROPOSED WORK AREAS.
3	ASAP	2015	UPDATE TO REFLECT THE PROPOSED WORK AREAS AND TO REFLECT THE PROPOSED WORK AREAS.
4	ASAP	2015	UPDATE TO REFLECT THE PROPOSED WORK AREAS AND TO REFLECT THE PROPOSED WORK AREAS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE LOCATION OF ALL SERVICES PRIOR TO COMMENCEMENT OF WORK.

SETTING OUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY DISCREPANCIES SHALL BE REPORTED AND CLARIFIED AT THE EARLIEST OPPORTUNITY.

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CLIENT: ROYAL PORTRUSH GOLF CLUB

PROJECT: PROPOSED IRRIGATION SYSTEM

DRAWING TITLE: EXISTING AS LAID IRRIGATION SHOWING PROPOSED NEW WORK AREAS

DRAWN BY:	A. MORTRAM	<input type="checkbox"/>
CHECKED:	ADM	<input type="checkbox"/>
DATE:	MARCH 2015	
SCALE:	1:1250 @ A0	
DRAWING NO:	320-06 - SHEET 1 OF 5	
REV.	DETAILS	DR. CH. AP. DATE

•	GREEN SPRINKLER	85mm PE PIPE (10 BAR)
•	GROUND SPRINKLER	80mm PE PIPE (10 BAR)
•	APPROACH SPRINKLER	115mm PE PIPE (10 BAR)
•	TEE SPRINKLER	125mm PE PIPE (10 BAR)
•	FARROW & CARRY SPRINKLER (FULL CIRCLE)	150mm PE PIPE (10 BAR)
•	FARROW & CARRY SPRINKLER (PART CIRCLE)	150mm PE PIPE (10 BAR)
•	VALVE SPRINKLER	150mm PE PIPE (10 BAR)
•	GREEN ISOLATION VALVE ASSEMBLY	85mm PE PIPE - LATERALS (10 BAR)
•	FARROW & TEE ISOLATION VALVE ASSEMBLY	85mm PE PIPE - LATERALS (10 BAR)
•	MAIN ISOLATION VALVE ASSEMBLY	85mm PE PIPE - LATERALS (10 BAR)
•	TEE & WALKWAY ISOLATION VALVE ASSEMBLY	85mm PE PIPE - LATERALS (10 BAR)
•	MANUAL WATERPOINT VALVE ASSEMBLY	85mm PE PIPE - LATERALS (10 BAR)
•	SEWER COVER VALVE ASSEMBLY	MANHOLES PORTABLE WATER (APPROX ROUTE)
•	DRAIN VALVE ASSEMBLY	POWER & CONTROL CABLES ONLY
•	TWO 600mm AIR RELEASE VALVE ASSEMBLY	WEATHER STATION LOCATION
•	BASE PROTECTION LOCATION	TANK LOCATION
•	CABLE JOINT LOCATION	MAN BRIDGE TWIN PUMP STATION LOCATION
•	CABLE PATH & STATION IDENTIFICATION NUMBERS	IRRIGATION CENTRAL COMPUTER CONTROL LOCATION
•	(1-3: DAUGHTER BOARD 1; 3-4: DAUGHTER BOARD 2)	













# SUMMARY

The purpose of the irrigation upgrade is to;

- replace the antiquated irrigation infrastructure
- improve flexibility and efficiency to ensure water can be targeted to where it is needed reducing water usage
- allow for water application in an efficient manner
- reduce water usage which has a knock on effect to energy consumption in relation to electricity
- allow for promotion of fine links grass establishment and their long term maintenance
- allow for continued training of CLGC irrigation technician to ensure CLGC's investment is serviced and maintained sufficiently into the future



**THANK YOU**