Dublin University Rifle Club



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# Dublin University Rifle Club Proposed Projectile Hall Statement of Requirements

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# Executive Summary

### 1. Introduction

This document states the requirements for the Dublin University Rifle Club (D.U.R.C.) in the proposed New Sports Center. It is an updated version of the previously submitted Statement of Requirements, compiled by Mr. Raymond Reilly on September 29, 1998, and reflects changes in the International Shooting Sport Federation (I.S.S.F.) rules and regulations made after the Sydney Olympics in 2000, as well as changes in the Target Shooting sport in Ireland since the preparation of the previous Statement.

This document was prepared by the Chief Range Officer and Match Secretary, Mark Dennehy, and was approved by the Captain and Committee of the D.U.R.C.. It was based on meetings of that Committee and discussions with the Committees of all of the major Shooting clubs in Ireland as well as several clubs in the UK; on correspondance with the British Shooting Sports Council (B.S.S.C.); and on the research carried out in the preparation of the previous version of this Statement, a copy of which is attached to this document.

This document is a fair representation of the conclusions of the majority of those involved in considering the design of the new range.

#### 1.1. The sport of Target Shooting

Target shooting is one of the founding sports of the modern Olympic games, but its origins as a sport date from well before their founding in 1896, with competitions being documented throughout the Middle Ages, dating as far back as the 11<sup>th</sup> century. Modern target shooting is carried out using an enormous variety of different rifles and pistols, with calibers ranging from less than .177 up to .50 and beyond. As a sport, it is enjoyed by hundreds of millions of people worldwide, shooting with pistols, rifles and shotguns.

An International sport, ours is contested at such major events as the Olympic Games and Commonwealth Games (though shooters from the Republic are not eligible to enter the latter). Five of the Olympic shooting events and six of the Commonwealth Games shooting events are catered for by this sport and we have a World Championship every four years, and several World Cup events each year, along with Regional events, such as the European Championships.

We currently use .22 calibre rifles and .177 calibre air rifles, shooting at paper targets. Shot-holes on the targets are observed with the use of spotting telescopes.

Our sport also boasts a very impressive safety record - no sport-related accidents have been reported in any competitions or training sessions in the history of the sport in Ireland.

In the Olympics, the shooting sports continue to draw the third-greatest number of countries, and the largest number of competitors – this is not a recent development, as shooting sports have had the largest number of competitors as far back as the first modern Olympics in 1896. There are currently a total of 17 events - a number which has varied between 13 and 22 events since the founding of the modern Olympics. One of the greatest surges in participation came in 1984, when separate women's events were first added to the Olympic program.

While only 17 events are featured in the Olympic Games, the I.S.S.F. recognizes a 59 seperate shooting events in rifle, pistol, shotgun, and running target. And while there are great differences between disciplines, all rely on stamina and concentration to successfully shoot with such precision. The sport's reliance on such skills makes shooting a sport in which size, gender and age, unlike athletics or gymnastics, have little bearing on success.

For example, Oscar Swahn from Sweden was 72 years old in 1920 when he won his last shooting medal, becoming the oldest medalist in the history of the Games. The youngest shooter to win a medal was 16 year old Konstantin Lukashik from Belarus, who won a Gold medal in 1992. It is not uncommon for Olympic shooters to have been competing in the games for more than 20 years. However, it is certainly not a requirement to compete – Nancy Johnson, who won the 10m ladies Air Rifle gold medal in Sydney in 2000 for the USA, had at the time only been competing for two years and was only 26 years old, while her two of her competitors in the final were 17 years old.

### 1.2. The structure of governing bodies

1.2.1. The International Shooting Sport Federation

The I.S.S.F., under the leadership of its President Dr. Olegario Vzquez Raa from Mexico, is formally recognized by the International Olympic Committee (I.O.C.) as the sole controlling body of the international amateur shooting sports at worldwide levels of competition. As such, it supervises sport shooting competition in the Olympic Games, World Championships, World Cups and Continental Championships/Games.

#### 1.2.2. The National Rifle and Pistol Association of Ireland

Shooting in Ireland is organised at club level, and is 32 county based. All rifle shooting in Ireland is governed by the National Rifle and Pistol Association of Ireland (N.R.P.A.I.). The original N.R.P.A.I. was established in 1966 and was the governing body of all rifle and pistol shooting in Ireland. In 1987 it was restructured and became a Federation in order to give support to the two major types of shooting sports - the Olympic/I.S.S.F. disciplines and the Sporting rifle groups. As a federation of shooting sports, its membership is open to national associations catering for shooting sports.

The current member associations to the N.R.P.A.I. are the National Target Shooting Association (N.T.S.A.), the **NASRC!** (NASRC), the National Silhouette Association of Ireland (N.S.A.I.) and the Irish Pony Club Rifle Association (I.P.C.R.A.). The N.R.P.A.I. is recognised by the sporting body of the Department of Education, headed by former athlete John Tracey, as the official National Governing Body (N.G.B.) for rifle shooting in Ireland.

#### 1.2.3. The National Target Shooting Association

The N.T.S.A. is the association which governs Olympic style shooting in Ireland. It is affiliated to the I.S.S.F., to the European Shooting Confederation (E.S.C.) and to the N.R.P.A.I.. It is recognised and supported by the Irish Sports Council (I.S.C.) and the Olympic Council of Ireland (O.C.I.).

#### 1.3. The Dublin University Rifle Club

#### 1.3.1. History

D.U.R.C. is one of the oldest sports clubs in Dublin University, having existed in the College from before the war. However the club in its modern format was founded at the start of 1962 by P.G.L. Coulson, M.C.C. Heaton and C.R. Oakley, with an initial membership fee of \$5. Even though the club at the time possessed no equipment, interest was so high that the club ended its first year with fifty members, and in July of that year they went to Bisley shooting fullbore rifles. For many years, most of the matches shot were in Bisley or shoulder-to-shoulder with Queens University Belfast (Q.U.B.) - sadly Queens' rifle club closed in 1972 due to the security situation of the time, thus rendering it impossible for the Club to partake in any offical Intervarsities (an Intervarsity requiring three University teams). The Clubs first Range was located on campus in the Lincoln Gate end of College, with three Firing Points, and was operational by the start of the 1964/5 academic year. Progress was made quickly with this Range, the Club entering the prestigous British Universities Top XX in 1967.

The period following sadly saw difficulties for the club : the security situation in Northern Ireland resulted in severe restrictions on firearms being put in place thus removing a large number of the clubs rifles, Q.U.B. was closed, and membership in the club fell to an all-time low. From 1970 to 1975 the Club ebbed : only from 1976 did the Club begin to grow once again, with fullbore shooting now taking a back seat to smallbore events. In 1978, College announced that a new eight-point firing range would be constructed to serve the Club, which had by now recovered from its serious decline. Unfortunately, this new range was never built.

By 1981, performance of the Clubs Members in smallbore shooting was quite high, with Susan FitzSimon finishing fifth in the Universities Top XX, a magnificant performance. Air Rifle was introduced in 1982, and our annual grudge match with the Fencing Club was begun in 1983. In 1985, DURC hosted two seperate National Championships, the Air Rifle and indoor Target Rifle championships. Work began in 1986 to construct a 6 yard Air Rifle range – this proved to be less than adaquate and was later replaced by the present 10 metre range. At this time the Club had in excess of 250 members, and was at the time one of the largest sport clubs in College - a claim which it still holds.

In the Club's Silver Jubilee year, more Members were recruited (to a then-record high of more than 270) and the Club distinguished itself shooting fullbore in Bisley once more. Further, at the time, D.U.R.C. Committee Members were serving on the Committees of NASRC, the N.T.S.A. and indeed one of our members, Dr. Albert Jordan, was serving as both the vice-Chairman of the N.T.S.A. and Chairman of the N.R.P.A.I..

In more recent times, the Club has achieved even higher levels of success. Now facing our 40<sup>th</sup> year,

#### 1.3.2. Organisation

From the D.U.R.C. Constitution, Article 5 :

The Club shall consist of

- a President
- one or more vice-Presidents
- a Captain
- a Secretary
- a Treasurer
- up to five Ordinary Members of Committee
- up to twenty Range Officers and
- the Ordinary Members

Article 7:

The Committee shall consist of the Captain, the Secretary, the Treasurer (referred to collectively as "the Club Officers") together with the Ordinary Members of Committee.

Duties for each Club Officer, the Committee and the Range Officers are set out in the DURC constitution. Range Officers are supervised by the Chief Range Officer, who is a member of committee.

Ordinary Members who wish to shoot book a detail (a block of time during which they may shoot) on a printed grid made publicly available at the end of each week on the Club Noticeboard in Front Arch. They may not book more than one detail a week during Michaelmas Term; and may book more details per week only when demand allows, at which time the Committee announces the restriction lifted (usually midway through Hillary Term). Members may not book more than two consecutive details at any time. These rules exist due to availability problems with the current facility, see Section 2.1.

Upon arriving at the Range (15 minutes in advance of their booked detail), they are supervised by the Duty Range Officers. The Duty Range Officers dispense ammunition, keep the accounts of ammunition dispensed, assist members in their training, give safety talks and train new members to shoot in a safe manner, and are in general responsible for the progress of the shooting on the range on that night.

Range Officers are Ordinary Members, invited by Committee to volunteer to be trained as Range Officers. Designated Trainee Range Officers, they are then trained and observed over a period of at least one full college term (except in such cases where the Member has received external training, for example in Rifle Clubs abroad). Once the Committee are in agreement that the Trainee Range Officer has shown sufficent technical knowlege, regard for safety and displays an appropriate public image on behalf of the Club, he or she is made a full Range Officer. At that point, he or she can no longer book a detail during regular hours, but may shoot outside these hours. For dedicated shooters, this ability is worth the work involved in being a Range Officer for the Club.

#### 1.3.3. Sporting Record and Club Reputation

D.U.R.C. can lay claim to an exceedingly impressive sporting record, certainly one of the most impressive in the College today.

D.U.R.C. currently has two of the three Irish National Champions among it's members - Raymond Reilly holding the 50m Prone Rifle championship, and Mark Dennehy holding the 25yd Indoor Prone Rifle championship. Ray Reilly has also represented Ireland internationally at levels of competition up to and including the World Cup. Mark Dennehy is currently scheduled to travel to Munich in June 2001 to serve as the Team Offical for the Irish team in the World Cup, and he also serves as Public Relations Officer for the N.T.S.A.. Both are currently active members of the National Squad.

Past members of D.U.R.C. have included many great sportsmen and sportswomen, including

Derval Tubridy Derval was the first Irish shooter to win a Gold Medal shooting in an International event. Shot for the Irish team on many occasions.

Conor Tighe Conor holds college Pinks and has represented Ireland at Bisley. He also holds the highest proficency award, the Mastershot, from the British Shooting Association.

Ian Marnane

Simon Kennedy Simon holds college Pinks.

In its history, the Club has awarded almost twenty Pinks.

Our reputation at competitions throughout Ireland is excellent, with standing invitations at clubs from Fermoy, Co.Cork to Comber, Co.Down.

#### 1.3.4. Affiliations

D.U.R.C. is affiliated to the N.R.P.A.I. through the N.T.S.A. D.U.R.C. is affiliated to the I.S.S.F. through the N.T.S.A.

### 2. Current Facilities

The most obvious and necessary requirement for any shooting club is the facility in which the shooting takes place. In the case of D.U.R.C., this facility is currently situated on campus, in Park Lane.



Figure 1: Location of the D.U.R.C. shooting facility

This current facility, while servicable, is the most restrictive and ill-equipped in the country today, both in the Republic and in Northern Ireland. Indeed, we have yet to encounter a more restrictive rifle range anywhere in Ireland or the United Kingdom. This is understandable given that the current facility was to have been a temporary one, never intended to serve as the location of the Club for more than thirty years. D.U.R.C. initially occupied the Park Lane facility in late 1970, at which time the club membership was quite small compared to today - approximately 100 as opposed to the current total of nearly 400. Indeed the College has announced as far back as 1978 that it understood the pressure on the Club for space and that a new larger range was to be built.

For the purpose of more fully understanding the need for a better facility, the following list of specific problems is presented; though it should be noted that it is not considered exhaustive by those who have shot on the D.U.R.C. range.

### 2.1. Availability

At present the Club is limited by space to providing only one of two possible configurations of the Range :

- 1. Two firing points for 25 yard smallbore Prone Rifle. This configuration also allows for training in the Kneeling position for the 3-Position Free Rifle and Sporter Rifle disciplines. The standing position, how-ever, cannot be correctly trained for due to restrictions in mounting targets at the correct height. See Figure 2.
- 2. Three firing points for 10 metre Air Rifle. See Figure 3.

The Club currently has nearly 400 members. This is an average figure for membership. The Club has been forced to implement rules for booking details. Even following these rules, and with Range Officers working



Figure 2: Smallbore shooting configuration



Figure 3: Air Rifle shooting configuration

from 5pm to 10pm each night of the week, it would take eight weeks to allow each member of the club to shoot for thirty minutes for Air Rifle, over twelve weeks for Prone Rifle, and more than twenty-five weeks for Sporter. Obviously, this means that many shooters are turned away each year for no other reason than a lack of space. This is an intolerable situation for the Club as it leads to a form of elitism, where students that are able to reach the booking form first gain access to the range while those whose studies prevent that access for more than a few hours on a Friday are unable to book a detail. For night students especially, this has been a source of much anguish.

#### 2.2. Competition Hosting

The Club is in the unfortunate position of being unable to host its Open competitions. These are events which D.U.R.C. hosts and which are open to the Irish shooting community in general. As such, they represent a major component in D.U.R.C.'s public image, and hence are also a major component in the public image the College projects in the sport. These competitions attract shooters from all over the Republic, Northern Ireland and the United Kingdom. We regularly have the entire National Squad in attendance, including Olympians Rhona Barry, Gary Duff and Alan Lewis. Scores achieved in these competitions are Registered by the N.T.S.A. and used in determining those shooters who may be selected to represent Ireland in International events such as the European Championships and the World Cup events held each year, as well as the Olympic Games.

In previous years, D.U.R.C. has held its annual Free Rifle Open in Fassaroe Shooting Club (F.S.C.). Due to this discipline shooting over a 50 metre range, this is a situation that the Club has had to accept. However, the annual Air Rifle Open was recently moved back to the College campus (for the 1997 Air Rifle Open) in the Luce Hall sports center, after a period of having hosted the competition in other clubs (see Figures 4 and 5). While imperfect, it was felt that at least the competition was being hosted on the college campus. However by 2000, conditions had become unworkable: the target changers which D.U.R.C. had to use within Luce Hall were several years past their design life expectancy and were failing on a regular basis. This resulted in the de-registering of the competition - the N.T.S.A. ruled that any scores achieved at the competition was null and void due to unacceptably poor conditions. Transporting the target boxes (the large boxes holding the targets in Figures 4 and 5) to the first floor of the center was always recognised as a hazardous operation – it was felt now that it was no longer worth the possibility of injury to run the competition in the main hall. The lower



Figure 4: DURC Air Rifle Open being held in the Luce Sports Center



Figure 5: DURC Air Rifle Open being held in the Luce Sports Center

hall was not made available by College for the competition. Parking facilities for competitors coming from as far afield as Antrim and Comber (including the Irish National Squad) were not made available. Due to all of these conditions, the decision was made to hold the Air Rifle Open in the UCD Air Rifle range in 2001. This was seen as a very public embarressment to both the Club and the College.

### 2.3. Technical Nonconformities

From the sport's technical point of view, the current facility does not conform to the appropriate regulations. There are numerous nonconformities in the current facility, listed below. It is to be noted that while these are quite numerous, the design of a range which complies with I.S.S.F. regulations is not an onerous task, but a relatively simple one.

- 2.3.1. Firing Lanes
- 2.3.2. Firing Points

I.S.S.F. General Technical Rules, section 6.3.14.1 state that firing points for Prone Rifle must be at least 1.6 metres wide and 2.5 metres deep. The current Prone Rifle firing points in D.U.R.C. are approximately 1.2 metres wide and 1.8 metres deep, though it is not practicable to use more than 1.75m of this depth. As can be seen from

### 2.4. Safety

While the Club enjoys one of the College's finest Safety records – with no injuries after thiry-nine years of continous activity – the current facilities are a constant source of minor bumps and bruises due to the low ceiling and mismatched floor levels between the Range and the Office. While this is a tolerable situation for minor bumps, the possibility of a serious injury is a real one. Further, were there ever a fire on the Range, there is no seperate fire exit apart from the normal entrance to the Club. This has caused the Club to issue rules to its Range Officers regarding procedure during a fire – namely to leave the facility with great haste, including the abandonment of any live ammunition in the building due to the proximity of explosive pressurised containers being stored in the Buildings Office nearby. This is not a pleasant thought for any Range Officer or Ordinary Member to contemplate.

More serious safety risks come from the lack of any armour to deflect ricochetting projectiles from the offices of the Buildings Office which are situated above the current range. The Office of the Club has such armour installed; and the probability of a round deflecting to the angle required to strike the roof of the Range is extremely low; but it is still a real risk and one which is stressed during the training of shooters in the Club.

Finally, the general conditions of the present facility are a health risk. On many occasions the sewerage system in the building has become blocked and the resultant overflow emerges from inspection drains in the Range and Office – these drains were initially outside the main buildings in Park Lane but the current facility is part of an extension which was built in the late 1960s and the standard of construction was quite poor. The general dustiness of the Range was a source of much irritation for nasal passages and aggravation for asthma sufferers and was only rectified this year when the Committee cleaned and painted the floor with floor paint in the Range – a task which was undertaken at significant expense to a single member of the Club with no funding from College.

#### 2.5. Coaching

The present facility does not allow for the possibility of running coaching courses on anything more than a strictly informal basis with a very limited number of shooters attending. Due to these restrictions, we are unable to secure the services of any of the major national-level coaches which we require to allow students to make significant progress in the sport without sacrificing their academic interests. At present, progress to the higher levels of the sport either takes upwards of five to ten years of training in the club; a prodigious talent for shooting; or a resolve to sacrifice academic performance to dedicate more time to shooting. None of these are acceptable, therefore coaches are a vital necessity for the Club.

#### 2.6. Public Interest

The present facility does not allow for spectators to observe smallbore shooting on the Range at all, and only at a limited level for the Air Rifle discipline. This is a greater hinderance than would seem at first, since it prevents students who are curious about the sport from observing before committing to joining the club and training. It also prevents competitions to be observed and prevents shooters from improving their sporting ability by observing those who are shooting at a higher level. This is one of the main ways of improving a shooters performance and we are currently prevented from doing it.

This lack of ability to observe shooting is also a serious hinderance to the recruitment of new members and the promotion of the sport on many levels. Closed-circuit television was considered for the purposes of observation : however the costs of such a scheme remain prohibitivly high.

### 3. Objectives

The primary objective of D.U.R.C. is stated in its constitution <sup>1</sup>:

The object of the Club shall be to instil an abiding interest in marksmanship among its members.

As such, the objectives of the Club with regard to the new range are as follows :

- To secure a facility which will not reduce, but substantially improve the quality of the service which the Club is capable of providing to its constituent Members, the students.
- To ensure that the important attributes of the current facility are carried over to the new facility; and that likewise those attributes which are detrimental to the sport are not carried over.
- To ensure that the new facility will be capable of housing the Club at its present level of membership and also the near-term (1-5 years) projected membership
- To ensure that the new facility will be approved by the Garda Siochana as a safe venue for a Firearms club.
- To ensure that the new facility will be capable of accomodating the needs of the club in the long term. Given that the previous facility was designated a temporary one when first occupied in 1970, it is envisaged that the Club will occupy the new facility for a considerable period of time : as such it must be capable of supporting the Club for the next thirty years.
- To allow for the adoption of new shooting disciplines by the Club.
- To ensure that the Club may be operated in a safe and secure fashion.

#### 3.1. Membership projections

When the current facility was occupied in 1970, the annual average membership was approximately 100 members. Currently the Club is emerging from a fall in membership which occurred in 1997 with the graduation and departure of the majority of the Club's active competitors and Committee. At that time the average membership was approximately 400 to 500 members per year. This then fell to a low of approximately 200 members before a recruitment drive was begun two years ago. The Club in the current year has almost reached the 400 members mark. However, though the overall membership level is only now reaching the 400 mark again, the number of actively competing members has returned to its previous high point, and since nearly 50% of those actively competing are in their first two years of membership (and of attendance at college), we can reasonably expect an increase in the level of membership in the next two years.

Allready this year we have seen several members display sufficent natural ability that, in their first year of membership they have won prizes in open competition. This does happen on a regular basis within the club, but usually with one or two students per year. This year that figure is much larger - closer to eight students between Air Rifle and Prone Rifle.

Given these circumstances and the the level of facilities under which they were achieved, it is not unreasonable to expect that the club membership could reach 750 students or more within four years of occupying the proposed new facility. We can expect a higher level of competitive ability from these members with proper national-level coaching and increased training time. Given that the club currently ranks as one of the most competitive in the country, this would be an excellent public image for both the Club and the College.

<sup>&</sup>lt;sup>1</sup>D.U.R.C. Constitution, Article 3

#### 3.2. Health and Safety

Safety is the main priority for the Club's Range Officers, as well as for the competitors in the sport in general. Due to diligence and a commitment to safety, the Club enjoys perhaps the best safety record in the College, without a single injury during its thirty-nine years of active competition, not only with the current Air and Smallbore rifles, but also with Fullbore (7.62mm calibre) rifle and both Smallbore (.22 calibre) and Fullbore (.32 to .45 calibre) pistol (which the club shot with prior to 1970). The new facility cannot compromise on safety: were it to do so, the Garda Siochana would not certify it as a Firearms Range. DUCAC and the Department of Sport have both stated this will not be allowed to transpire. However, the Committee feels that consultations on safety issues should be held at a very early stage in the design process. More points on safety are made in Section 4.

#### 3.3. Disciplines

Currently the Club can train and compete in the following disciplines:

- Prone 25 yard Free Rifle
- 10 metre Olympic Air Rifle

Further, we can train for the following disciplines in a reduced capacity :

- 50 metre Prone Free Rifle
- 100 yard Prone Free Rifle
- 50 metre 3-Position Free Rifle
- 50 metre Sport Rifle
- Silhouette Rifle

Though it must be noted that in these disciplines, external competitions are actually a main source of training for D.U.R.C. shooters, with the result that our competitive standing in these disciplines is less than those listed above.

Given the current economic situation of the College, the possiblility of a full 50 metre range seems unlikely, though further examination proves it to be less unlikely than it would first appear. However, extending the number of disciplines that can be successfully trained for is less demanding. The proposed new Range caters for the following disciplines :

- 10 metre Air Rifle
- 10 metre Running Target
- 25 yard Prone Rifle
- 25 yard 3-Position Free Rifle
- 25 yard Sport Rifle
- 10 metre Standard Air Pistol
- 10 metre Five Shot Air Pistol
- 25 metre Rapid Fire Pistol
- 25 metre Pistol

- 25 metre Center Fire Pistol
- 25 metre Standard Pistol

It also allows for training in a reduced capacity for the following :

- 50 metre Prone Rifle
- 50 metre 3-Position Free Rifle
- 100 yard Prone Rifle
- 50 metre Sport Rifle
- Silhouette Rifle
- 50 metre Running Target

All of these events can be progressed to World Cup level; the following can be progressed as far as the Olympic games :

- 50 metre Prone Rifle
- 50 metre 3-Position Free Rifle
- 10 metre Air Rifle
- 10 metre Running Target
- 10 metre Standard Air Pistol
- 25 metre Rapid Fire Pistol
- 25 metre Pistol

Note that while Pistols are currently barred by an internal policy in the Department of Justice, a review of this policy has recently been completed and the first applications for pistol licences have been drafted at the time of preparation of this document. The Club feels that to ignore this development would be extremely foolhardy – the pistol events comprise fully a third of the Olympic shooting events and are logistically far easier to deal with. The Club feels that with the current facility it is not possible to avail of the change in policy, but the proposed range design must take take it into account.

# 4. Requirements

4.1. Physical layout of Range Facility

### 4.1.1. Firing Points

### 4.1.2. Passage Area

### 4.1.3. Observation Area

### 4.1.4. Targets and Backstops

### 4.1.5. Soundproofing

### 4.1.6. Security

4.2. Lighting

### 4.3. Administration/Preparation Area

- 4.3.1. Network Access
- 4.3.2. Power
- 4.3.3. Security

- 4.4. Meeting/Conference Area
- 4.4.1. Power
- 4.4.2. Water supply

4.5. Secure Equipment Storage Area

4.6. Washing and Lavatory Facilities

### 4.7. Access

The level of access to the facilities for the Club is by necessity very high. Ordinary Members of the Club shoot between 6pm and 10pm on weekday nights, under the supervision of trained Range Officers. These Range Officers are volunteers, the most experienced shooters in the Club and normally constitute the core of the Club's competitive squads. However, due to the lack of space, the Range Officers agree not to book details during regular hours, in order that Ordinary Members can use these details. In return, they are given access to the range outside these hours to train. **Without this facility, the Club could not attract volunteers to become Range Officers and would be unable to function as a result.** Therefore the issue of permanent, 24-hour access for Range Officers cannot be stressed strongly enough, and is one of the characteristics of the current range that the Committee believes is essential.

Further, when attending competitions in other clubs (which happens on three to four weekends per month, on average), there is a serious requirement for safe and secure access for private vechicles to the range. A single competitor's equipment for a competition is surprisingly extensive, including :

- Rifle
- Bolt (which must be transported seperately to the Rifle)
- Ammunition
- Sights
- Spotting Scope
- Shooting Mat
- Shooting Jacket
- Shooting Glove
- Shooting Glasses, if required
- Ammunition boxes
- Shooting Shoes/Trousers, if used
- Shooting Sling

Note that along with this list of individual shooter's equipment, there is an associated list of items that the Club must bring for all shooters :

- Paperwork, including authorisations, shooting diaries, datacards for each competitor and so forth
- Toolboxes for adjustments of various parts of the Clubs rifles to suit individual shooters
- Ancillary items (shooting blinds, spare parts in case of failure on the firing line, rulebooks for consultation on rulings, cameras for recording the competition for the Members who did not attend the competition, and so forth)

In total, there can between ten and thirty kilograms of equipment for each competitior, plus another ten to twenty which the Club must bring to each competition. Transporting all of this equipment to private vehicles from the range and back again must be a safe procedure because it is carried out almost every weekend during term and every two weeks outside of term. The current facility allows for this, if somewhat akwardly due to the large size of the equipment and the small size of the main door of the building.

# 5. Proposed Design



Figure 6: Proposed new range : 10m Air Rifle, Running Target and Air Pistol configuration



Figure 7: Proposed new range : 25 yard Prone Rifle, 3-Position Free Rifle and Sporter Rifle configuration



Figure 8: Proposed new range : 25m Pistol configuration

# 6. Conclusion

### A. ISSF Shooting Sport Events for the Olympic Games

### A.1. Olympic Rifle Events

50m Rifle 3 Positions Men The shooter fires three rounds of 40 shots each in the prone, standing and kneeling positions at a target 50 meters away. Prior to the first competition shot, any number of sighting shots may be fired. The rifle is a 5.6mm (0.22in) smallbore single-shot rifle whose weight may not exceed 8 kilos. The center ring, which is 10.4mm (0.4in) in diameter, must be hit at a distance of 50 meters within a time limit of 45 minutes in the prone position, 75 minutes in the standing position and 60 minutes in the kneeling position. The best eight shooters from this opening program are qualified for the final.

The final consists of 10 shots in the standing position with a time limit of 75 seconds per shot. Each shot is evaluated in decimal tenths and added to the score of the opening program.

50m Rifle Prone Men Sixty shots are fired in the prone position. Prior to the first competition shot, any number of sighting shots may be fired. The competition time, including the sighting shots, is 75 minutes. The distance of the target, the size of its center and the gun are the same as for the 3-Position Rifle match.

In the final, 10 shots are fired with a time limit of 45 seconds per shot in the "prone" position. The decimal score is added to the opening score to determine the winner.

50m Rifle 3 Positions Women Three rounds of 20 shots are fired in the prone, standing and kneeling positions. The time limit for all three positions, including the sighting shots, is 135 minutes. The rifle is a 5.6mm (0.22in) smallbore single-shot rifle whose weight may not exceed 6.5 kilos. The shots are once again fired at the target's center, which is 10.4mm in diameter at a distance of 50 meters.

In the final, the best eight female shooters fire 10 shots in the standing position with a time limit of 75 seconds per shot, and the score is evaluated in decimal tenths. The final score is then added to the opening score to determine the total result.

10m Air Rifle Men and Women Compressed air rifles and carbon dioxide rifles with a caliber of 4.5mm (.177in) and a maximum weight of 5.5 kilograms are permitted. Men complete 60 shots in 105 minutes with any number of sighting shots before the first competition shot is fired. Women complete 40 shots within a maximum of 75 minutes, including the sighting shots. The shots are fired in the standing position at a center ring (actually more of a dot) of exactly 0.5mm diameter at a distance of 10 meters.

In the following final, each of the eight finalists only has 75 seconds to fire each of his or her 10 final shots. The points achieved are subdivided into decimal tenths. A shot that hits directly in the center of the ten counts as a 10.9, whereas a shot just barely touching the center counts as 10.0. The results from the normal program and the final are added together.

10m Running Target Men With a 4.5mm (.177in) caliber compressed air or carbon dioxide rifle and sighting telescope, 60 shots are fired, 30 of them in a slow round and 30 in a rapid round. In the slow round, the target, which is pulled across a 2 meter wide aisle, is visible for five seconds, beginning once from the left and once from the right. In the rapid round, the target is only visible for 2.5 seconds. The match is shot at a distance of 10 meters, and the center of the target is 5.5mm in diameter. The telescope may not exceed 300mm in length and may only have a maximum fourfold magnifying power. The rifle, including the sight, may not weigh more than 5.5 kilos.

In the following 10 shot, rapid fire final in the standing position, the shots are evaluated in decimal tenths. The scores of the opening program and final are added together.

#### A.2. Olympic Pistol Events

50m Pistol Men Within a maximum of 120 minutes, any number of sighting shots plus 60 competition shots are fired at a target 50 meters away. A 5.6mm (0.22in) caliber, single-shot pistol is used in the competition. The center ring of the target is 50 mm in size, and the gun must be fired, single-handed, in the standing position.

In the following final, 10 shots must be completed within a maximum of 75 seconds per shot. Here again, the score is evaluated in decimal tenths and added to the opening score.

25m Rapid Fire Pistol Men This program consists of two rounds of 30 shots each, and one round consists of two series of five shots fired in eight, six, and four seconds. A series of five shots is fired at five targets, 75 cm apart, at a distance of 25 meters. The match is started with a command for the shooters from a 45 degree position with a 5.6mm (0.22in) calibre smallbore pistol, which has a maximum weight of 1.260kg.

In the final of the best eight shooters, two series of five shots must again be completed in four seconds, and the shots are evaluated in decimal tenths. The scores of the opening program and final are added together at the end.

25m Pistol Women The score consists of a combination of 30 precision shots and 30 duel shots. At a distance of 25 meters, a center ring 50mm in diameter must be hit in the precision semi-round. Six series of five shots must be completed, with six minutes for each series, one minute of which is preparation time. In the duel semi-round, the center is twice as large (100mm), and six series of five shots must be completed with 3 seconds per shot, with a 7 second break between shots and a one minute break between each series. The pistol may not weight more than 1.4kg and must have a caliber of 5.6mm(.22in).

In the following final of the eight best shooters, 10 shots are completed in the precision round within 75 seconds per shot. The final score is evaluated in decimal tenths and added to the opening score.

10m Air Pistol Men and Women The pistols used must be 4.5mm (.177in) caliber compressed air or carbon dioxide pistols, with a maximum length of 420 mm, height of 200 mm and width of 50 mm as well as a maximum weight of 1.7 kg. The trigger resistance must be at least 500 grams. The match is shot, single-handed, in the standing position at a distance of 10 meters, and the center ring of the target is 11.5 mm in diameter. The time limit for men with any number of sighting shots and the 60 competition shots is 105 minutes. For women, 40 shots must be fired within 75 minutes.

The final of the best eight consists of 10 shots within 75 seconds per shot, and the score is evaluated in decimal tenths. The final result is added to the score of the opening program.

#### A.2.1. Olympic Shotgun Events

At present, the club does not shoot in Shotgun events, though there are six Olympic-class shotgun events (Trap, Double Trap and Skeet), and a healthy clay pigeon community in Ireland at present. It is not envisaged, however, that a clay pigeon range on campus would be appropriate due to the surrounding city area.

#### A.3. Equipment

#### A.3.1. Free Rifle

All rifle clothing and accessories are governed by strict rules for thickness and stiffness. Shooters start with sweatshirts or sweaters and tights, then put on jackets and pants made of leather or canvas. This ensemble improves physical stability and helps muffle the pulse during these lengthy contests. Flat-soled leather boots aid the rifle shooter's stability from the standing and kneeling positions. Leather gloves with rubber-padded palms helps minimize the discomfort of the heavy rifle and sling. The sling (extending from the triceps to

the front of the rifle stock) is used for support when shooting from the prone or kneeling positions. In the standing portion of the three-position match, athletes may use palm rests for extra comfort and gun elevation. Between shots, competitors rest their rifles on a shooting stand. Shooting glasses, ear and eye protection are other important accessories.

#### A.3.2. Pistol

Pistol shooters compete without the benefit of special clothing, gloves or boots. Most athletes wear flat-soled shoes for increased stability, but footwear must not extend above the shooter's ankle. Competitors frequently wear blinders over their "non-shooting" eye to prevent squinting. Spotting scopes allow athletes to view their targets in 25- and 50-meter competition. In all events, special caps designed to limit the athlete's field of vision are common; ear and eye protection are a given.



### B. Example Ranges

For the purpose of orienting the reader with the current state of Ranges in Ireland and the United Kingdom, I have compiled a brief overview of the facilities enjoyed by some of the Clubs currently operating in the Republic, Northern Ireland, and the United Kingdom.

#### B.1. Comber Rifle Club



Figure 9: Comber Rifle Club. Approach and parking area.

Comber Rifle Club can perhaps best lay claim to being the model for the development of Rifle and Pistol ranges in Ireland. Catering to almost every aspect of Rifle and Pistol Target Shooting, it has a 60 lane outdoor range for 50 metres and 100 yards, a 25 metre Pistol range and two indoor 15 yard ranges. As can be see from the photographs, it is not only a highly functional range, but also a very presentable one, from which its members draw great pride. It is perhaps unique in that the club has a very active social side whose events are not necessarily shooting-related. Comber's members fall into two categories - the shooting members and the associated members, whose membership entitles them to the use of the social club rooms and whose membership fees help fund construction work and maintainance on the club. This is an important example of how the social aspect of a shooting club is no less important than the competitive aspect. Without the social members, Comber could not operate.

As can be seen in Figures 9 and 10, the actual Range itself at Comber (the building in the photograph is the Range, not the Social Club) is quite well maintained. The majority of the lower floor of the building is a preparation area for shooters, with noticeboards and scoreboards on the walls. Also on the lower floor are an Administrative area, toilets, a shower and a storage area for target holders and other equipment which does not require especially secure storage (ie. Firearms and ammunition). The upper floor is used for food preparation and relaxation by shooters before and after competing (Figure 11). The firing points (Figure 12) are approximately 1.6 metres wide by 2.5 metres deep, in accordance with I.S.S.F. regulations <sup>2</sup>; they are also level, stable and covered from the worst of the weather, again in accordance with I.S.S.F. regulations <sup>3</sup>.

Access to the range is available on a 24-hour basis for all senior shooting members of the club (junior members must be supervised). Physical access is via private vehicle, ample area being available for parking (Figure 9).

<sup>&</sup>lt;sup>2</sup>I.S.S.F. General Technical Rules, Section 6.3.14

<sup>&</sup>lt;sup>3</sup>I.S.S.F. General Regulations, Sections 3.5.1, 3.5.1.2, 3.5.2, 6.3.12



Figure 10: Comber Rifle Club. View of the 50m and 100yd Target Lines from the Firing Line.



Figure 11: Comber Rifle Club. Upstairs area for food preparation/relaxation.



Figure 12: Comber Rifle Club. Firing line during competition.



Figure 13: Comber Rifle Club. Targets being changed during competition.



Figure 14: Comber Rifle Club. 25m Pistol Firing Line.



Figure 15: Comber Rifle Club. Indoor Preparation Area.

### B.2. East Antrim Rifle Club



Figure 16: East Antrim Rifle Club. Outdoor 50m Rifle Range.



Figure 17: East Antrim Rifle Club. Indoor 25m Pistol/25yd Rifle Range.

East Antrim Rifle Club (E.A.R.C.) has almost equal claim to being a suitable development model for Shooting Clubs in Ireland. Though not having as many firing lanes as Comber due to a shortage of suitable land in the local area, the standard of construction and attention to design in E.A.R.C. has resulted in a exceedingly useful range whose only fault is the inability to host I.S.S.F. International-level competitions. Normal National-level competitions are possible, and have been held in E.A.R.C. in the past.

E.A.R.C. has ranges for 10m Air Rifle, 10m Air Pistol, 25m Standard Pistol, 50m Prone and 3-Position Free Rifle. Each range has ten firing points apiece, the minimum required for I.S.S.F. standard finals <sup>4</sup> . As shown in Figure 17, its indoor Pistol range has baffles between shooting stalls to prevent accidental injury from ejecting

<sup>&</sup>lt;sup>4</sup>I.S.S.F. General Regulations, Section 3.5.1



Figure 18: East Antrim Rifle Club. Outdoor 50m Range. View of Firing Point. Note lack of space.



Figure 19: East Antrim Rifle Club. Outdoor 50m Range. View of Firing Point.



Figure 20: East Antrim Rifle Club. Outdoor 50m Range. View of Firing Point. Note lack of space.



Figure 21: East Antrim Rifle Club. Outdoor 50m Range. View of Firing Point. Note lack of space.



Figure 22: East Antrim Rifle Club. Indoor 10m Air Rifle/Pistol Range.



Figure 23: East Antrim Rifle Club. Indoor 10m Air Rifle/Pistol Range.



Figure 24: East Antrim Rifle Club. Upstairs Relaxation/Meeting area.



Figure 25: East Antrim Rifle Club. Indoor 10m Air Rifle/Pistol Range.



Figure 26: East Antrim Rifle Club. Indoor 25m Pistol/25 yard Rifle Range. View of Targets from Firing Line



Figure 27: East Antrim Rifle Club. Indoor 25m Pistol/25 yard Rifle Range. View of Firing Line.



Figure 28: East Antrim Rifle Club. Downstairs Food preparation area.



Figure 29: East Antrim Rifle Club. Upstairs Relaxation/Meeting area.



Figure 30: East Antrim Rifle Club. Upstairs Relaxation/Meeting area.

spent casings and to prevent distraction by other shooters. These baffles, however, do not conform to I.S.S.F. regulations <sup>5</sup> and so would not be desirable in the new Facility.

Again, upstairs in the E.A.R.C. shooting club is an area for relaxation for shooters, and a food preparation area is on the lower floor, as is the Administrative area and noticeboards.

<sup>&</sup>lt;sup>5</sup>I.S.S.F. General Technical Rules, Section 6.3.16.5

### B.3. Fassaroe Shooting Club



Figure 31: Fassaroe Shooting Club. Storage and Food preparation area.



Figure 32: Fassaroe Shooting Club. View of Silhouette Rifle Firing Line.

Until recently one of the largest shooting clubs in the Republic, F.S.C. does not enjoy the presentable surroundings of its Northern Ireland peers at present, being housed on farmland adjacent to a landfill site. New premises are being sought at the present time by the F.S.C. Committee. The current range caters for up to sixteen 50m (or 100 yard) Prone or 3-Position Rifle competitors, as well as up to six Silhouette Rifle competitors, shooting at ranges up to 150 yards. Figure 32 shows this firing line.

The Administration area in F.S.C. is at the far end of the 50m range enclosure. The storage area and food preparation areas are housed seperatly to this enclosure (see Figure 31). These facilities are not sufficient for F.S.C. at present and are one of the main components of the range listed for upgrading upon the move to new premises.



Figure 33: Fassaroe Shooting Club. View of Target Line.



Figure 34: Fassaroe Shooting Club. View of Firing Line during National Squad Training.

### B.4. Wilkinstown Target Shooting Club



Figure 35: Wilkinstown Target Shooting Club. View of Firing Line and Target Line.

Wilkinstown Target Shooting Club (W.T.S.C.) has been in existance for some years now, but only in the past year has its membership suddenly begun to increase at a dramatic rate. In fact, W.T.S.C. is one of the main topics of discussion among the Air Rifle community in Ireland at present as Geoff Cooney, the Club president and currently the Air Rifle Coordinator for Ireland, has begun a junior training program in the local area, training juniors from local secondary schools. W.T.S.C. has seen its membership increase by an order of magnitude since the inception of this program. It is to be noted that regular training and coaching has progressed these juniors to the point where several have been invited to attend the training camp in Munich with the United Kingdom Junior Team this year - an invitation which was last extended in 1997 to D.U.R.C. for smallbore training. In fact, several of W.T.S.C.'s members are now listed as among the best Air Rifle shooters in the country, only 18 months after they have started to train. This graphically demonstrates what can be accomplished given access to a sufficiently equipped range and coaching.

W.T.S.C. has currently begun a construction program to extend their present range (see Figure 35) from eight to twelve firing points for 10m Air Rifle (the club does not compete in smallbore events). The club hopes to update its range to a level where it can hold I.S.S.F. level competitions (at present it cannot and must use University College Dublin Rifle Club (U.C.D.R.C.)'s range).

B.5. University College Dublin Rifle Club



Figure 36: UCD Rifle Club. View of Firing Line during a Final.



Figure 37: UCD Rifle Club. View of Firing Line during competition.

The U.C.D.R.C. is currently the largest Air Rifle range in the country, with fourteen 10m Air Rifle firing lanes. It is regularly used for the National Squad training weekends for air rifle and is hired out to other national clubs for hosting of Air Rifle competitions. This gives the Club a pervasive presence in the community, and results in a great deal of exposure for UCD in press reports and so forth.

The range in U.C.D.R.C. is quite simple in physical layout - a single large room houses the Firing Lanes, Preparation Area, Relaxation and food preparation Areas, a sub-division of the room was constructed to house the Administrative and Meeting Area, and a seperate Secure Storage Area is used to house equipment and ammunition. As can be seen in Figures 36 and 37, there is ample room for both regular competition and Finals, and as Figure 38 shows, there is adaquate room for preparation and relaxation as well.

U.C.D.R.C. was chosen to house the 2001 D.U.R.C. Air Rifle Open competition due to the lack of adaquate facilities in Trinity. This has been recieved as a large embarressment both to D.U.R.C. and to the College, but no other option is currently realistic until the proposed new Facility is constructed.



Figure 38: UCD Rifle Club. View of Preparation Area/Relaxation Area/Food preparation area.



Figure 39: UCD Rifle Club. View of Firing Line during National Squad Training.



Figure 40: UCD Rifle Club. View from sample Firing Point.

### B.6. Rathdrum Rifle and Pistol Club

The Rathdrum Rifle and Pistol Club (R.R.P.C.) is the closest range to D.U.R.C. in terms of facilities provided. As such, a long-standing relationship of friendly rivalry has sprung up between the two clubs - R.R.P.C. is often the first external range our smallbore shooters will compete in. Equipped with eight firing lanes (which are not I.S.S.F. compliant <sup>6</sup>), of which four permit 3-Position shooting as well as Prone, R.R.P.C. is the only other 25-yard range in the Republic at present. As such, it operates under N.T.S.A. rules as opposed to I.S.S.F. rules, which has been the cause of much confusion for many shooters. Those who shoot recreationally tend to follow N.T.S.A. rules, while those in the community who strive to compete at the highest levels (including D.U.R.C.) compete on I.S.S.F. regulations.

R.R.P.C. is also capable of hosting 25 yard smallbore pistol competitions, having done so prior to 1970, and several of its members still compete in Northern Ireland and the Isle of Man in pistol competiton.

<sup>6</sup>I.S.S.F. General Regulations, Section 6.3.14.2



Figure 41: Rathdrum Rifle and Pistol Club. View of Firing Line. Note the individual baffles fitted to each firing point.



Figure 42: Rathdrum Rifle and Pistol Club. Preparation and Meeting area, with Administrative area in background.

### B.7. Sinclair Range



Figure 43: Sinclair Range. View of Firing Line. Note the individual baffles for each Firing Point.

The Sinclair Range is listed as the third best equipped range in the United Kingdom at present. Equipped with sixty 50m Firing Lanes, it fully complies with I.S.S.F. regulations <sup>7</sup> for International-level competitions, which it holds regularly. Each firing point is equipped with Gehmann electro-mechanical target changers, and has a power socket which can be used for other equipment. The range is equipped with a PA. system for use by range officers, in accordance with I.S.S.F. regulations <sup>8</sup> and there are areas provided in a building at the rear of the Firing Line for Adminstration, Relaxation, Food Preparation, and Meetings (see Figure 44). Toilet facilities are also provided. Preparation of equipment takes place behind the Firing Points, where sufficent sheltered room is provided (see Figure 43). A Secure Storage Area is being planned for construction, at present a temporary structure is used for large competitions with Range Officers assigned to monitor this Area. For normal trainig, this area is not used due to the club not holding a group licence for club firearms - members hold individual licences as the licencing laws for firearms are more permissive in the Isle of Man.

<sup>7</sup>I.S.S.F. General Regulations, Section 3.5.1

<sup>&</sup>lt;sup>8</sup>I.S.S.F. General Technical Rules, Section 6.3.6.12



Figure 44: Sinclair Range. View from above Target Line. Note scale of range and building at rear right of range, which houses Administrative, Relaxation, Food Preparation Areas, as well as toilet facilities.



Figure 45: Sinclair Range. View of Firing Point.



Figure 46: Sinclair Range. View of Firing Point during competition. Note correct amount of space available.



Figure 47: Sinclair's temporary Air Rifle Range. View of Firing Line during competition.

### Acronyms

D.U.R.C. Dublin University Rifle Club

- B.S.S.C. British Shooting Sports Council
- N.S.R.A. National Small-bore Rifle Association
- N.T.S.A. National Target Shooting Association
- I.S.S.F. International Shooting Sport Federation
- N.R.P.A.I. National Rifle and Pistol Association of Ireland
- N.A.S.R.C. National Association of Sporting Rifle Clubs
- N.S.A.I. National Silhouette Association of Ireland
- I.P.C.R.A. Irish Pony Club Rifle Association
- I.O.C. International Olympic Committee
- I.S.C. Irish Sports Council
- O.C.I. Olympic Council of Ireland
- E.S.C. European Shooting Confederation
- N.G.B. National Governing Body
- U.C.D.R.C. University College Dublin Rifle Club
- W.T.S.C. Wilkinstown Target Shooting Club
- F.S.C. Fassaroe Shooting Club
- R.R.P.C. Rathdrum Rifle and Pistol Club
- D.R.C. Dublin Rifle Club
- E.A.R.C. East Antrim Rifle Club
- M.R.C. Midlands Rifle Club
- Q.U.B. Queens University Belfast

### **Referenced Materials**

- I.S.S.F. Offical Statutes and Regulations, Edition 2001, in force from January 1st, 2001 : Comprising
  - I.S.S.F. General Regulations
  - I.S.S.F. General Technical Rules
  - I.S.S.F. Rifle Rules
  - I.S.S.F. Pistol Rules
- D.U.R.C. Constitution
- D.U.R.C. Statement of Requirements for the proposed New Sports Hall

- From Bisley to Park Lane : A history of Dublin University Rifle Club, Albert Jordan, PhD., 1987
- MIL-HDBK-1027/3B, Range Facilities and Miscellaneous Training Facilities other than Buildings, US Naval Facilities Engineering Command