

Development Plan
for
The Irrigation Technology Center
of Texas

Executive Summary

Prepared by

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for

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Executive Summary

Introduction

In August of 2001, Beach Ramirez, Inc. was engaged by the Agriculture Program, Texas A&M University System to conduct a Development Plan for the proposed Irrigation Technology Center of Texas to be located in or near San Antonio, Texas. This report addresses the following issues:

- demand
- facilities and land requirements
- design concepts
- site selection criteria
- budgetary costs associated with building and operating the facility
- potential economic impact

The vision of the ITC is to establish a world class, state-of-the-art facility for education, testing and applied research to promote water conservation and efficient water use, while preserving quality urban landscapes and profitable agricultural production.

There is a definite need for such a facility. Irrigation is the single largest user of water in Texas, and the Texas Water Development Board projects that water demand in Texas will surpass total available supply by 2010.

Given the critical nature of water supply and demand, the focus for a world-class irrigation research and technology center needs to be directed to what eventually produces and promotes the more efficient use of water. The ITC's vision and mission does this by focusing on performance standards, new and improved equipment testing, public and private sector assistance in research and development, and education and training.

Demand Analysis

Our analysis indicates that that demand for Testing and Certification will be the primary revenue generator from the private sector. In a Beach Ramirez survey of manufacturers at the Irrigation Association Convention in San Antonio (Nov. 2001), 70% of respondents indicated a strong interest in utilizing the ITC for testing, research, and development.

Revenues and demand for services will increase over time, but the following revenue is expected within the first few years of ITC establishment. Approximately \$625,000 in annual revenue can be realized from the Irrigation and Hydraulics Labs and from marketing and analytical studies. Demand for

applied research (contracts and grants) should conservatively generate between \$1.2 and \$1.3 million annually.

Demand for Education (training and certification) is conservatively expected to generate over \$500,000 annually from Licensed Irrigators for continuing education courses, basic training courses for Licensed Irrigator candidates, and international training courses.

Stakeholder support is expected at \$500,000, with a total revenue of \$3.4 million. This does not include the significant potential additional revenue from contracts and grants, publications, software sales, technology transfer fees, and donations.

Building and Land Requirements

The ITC is divided into four primary units and systems (Irrigation Testing Unit, Urban Landscape Irrigation Systems, Agricultural Irrigation System, and the Wastewater Unit) along with support facilities, including an Administrative and Education Building. The ITC will need approximately 211,000 square feet of space in 11 buildings with 444 parking spaces on a total of approximately 525 acres.

The plan is to develop the ITC in six (6) phases:

- Phase 1-A includes the Irrigation Test lab #1 (Wind Tunnel) and a temporary building for offices and support space.
- Phase 1-B includes Irrigation Test Lab #2 and the Drip Test Lab. The total square feet of permanent buildings is approximately 100,000 square feet on 2.5 acres.
- Phase 2 is the Hydraulics Lab of about 43,000 square feet on 1.25 acres.
- Phase 3 includes the Agricultural Irrigation Systems with several large plots for a total of 419 acres, Urban/Landscape Irrigation System plots on 30 acres, and the Central Shop with 11,500 square feet. The total of this phase is 16,300 square feet on 449 acres.
- Phase 4 is the Wastewater Unit.
- Phase 5 is an Administration and Education Building with 48,500 square feet on about 6 acres.
- Phase 6 includes a future Visitors Center, land for ITC expansion, and land for private/public sector research and development. Total acres of between 40 and 70.

Design Concepts

Because the actual site has not been chosen, we approached the design and layout of the ITC with several different schemes. Three initial Design Concepts were produced with one design concept chosen and further developed, including an enlargement of the area where most of the buildings will be located.

Site Selection Criteria

We developed a set of site selection criteria divided by the major sectors of Transportation, Infrastructure, Cost, Location, Terrain, Political, Regulatory, and Visibility. Once site selection is started, the sectors should be categorized by Primary, Secondary, and Tertiary importance.

Capital Budget and Income and Expense

Below is a summary of the capital expenditures needed to set the ITC facilities and equipment in place as planned. Estimated capital cost for Land, Buildings, Infrastructure, Site Work, Soft Cost, and Furniture, Fixtures and Equipment is \$26.6 million, which includes a budget of \$5 million for contingency. Estimated capital cost for all equipment and material necessary to operate the ITC is \$4.5 million.

| Total Capital Budget | |
|---|-------------------|
| Capital Expenditures | \$ |
| Buildings | |
| Direct | 13,989,070 |
| Soft Costs | 3,077,552 |
| Contingency | 5,120,000 |
| Infrastructure/Land Acquisition | 4,443,001 |
| Equipment | <u>4,521,800</u> |
| TOTAL | 30,553,223 |
| Annual Operating Costs | 3,174,231 |
| Potential Initial Annual Revenue | 3,407,192 |

The budget was further analyzed by phase. The Phase 1-A budget is summarized listed below and is \$3 million for capital expenditures and \$848,000 for annual operating costs. The potential revenue for Phase 1-A is estimated at \$964,000 per year.

| Phase 1-A Capital Budget Summary | |
|---|-----------|
| | \$ |
| Lab #1 | |
| Direct | 715,650 |
| Soft Costs, FF&E | 157,443 |
| Contingency | 261,928 |
| Infrastructure/Land Acquisition | 1,600,000 |
| Equipment | 236,000 |
| Annual Operating Costs | 848,077 |
| Potential Initial Annual Revenue | 964,231 |

In spite of a capital budget totaling \$31 million, the resulting assets will provide the capabilities to generate a significant amount of income. A number of financing alternatives are presented that would take advantage of the ITC's ability to generate revenue and gain state and federal initiatives, philanthropic donations and local stakeholder support.

The generation of predictable revenue provides the ability to leverage and thus pay for the capital budget over time. Options include private financing, public financing, and a public/private arrangement.

Economic Impact Analysis

The initial one-time construction impact (including equipment and supplies) is approximately \$44.5 million and should produce approximately 1,524 jobs.

Visitor demand may be categorized by academic/scientific, international, industry, and tourist sectors. Our analysis indicates that an estimated 9,475 visitors would come for training and education in addition to 15,566 leisure visitors for a total of about 25,000 visitors.

Visitors are expected to provide an economic impact of \$3.4 million for on-going local purchases for supplies and materials, with a total impact of approximately \$26.1 million annually with at least 500 jobs.

Renderings

Renderings of the ITC were developed and visually illustrate the land and facilities that will carry out the ITC's vision and mission.

For complete report, please see <http://itc.tamu.edu> or contact:

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