



**US Army Corps  
of Engineers**  
Office of the Chief  
of Engineers

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# **Civil Works Planners Training**

**Division Planning Representatives'  
Task Force Report**



DEPARTMENT OF THE ARMY

U.S. Army Corps of Engineers  
WASHINGTON, D.C. 20314

REPLY TO  
ATTENTION OF:

DAEN-CWP

20 December 1983

SUBJECT: Civil Works Planners Training

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1. The Division Planning Representatives' Task Force Report contains recommendations that, upon implementation, would substantially improve Civil Works planners training. I fully support these recommendations. The program we envision will provide a series of sequential, inter-related training activities designed to take the Corps planner from entry into the organization through development as a skilled technical specialist or study manager, and eventually on to supervisor and executive. The attached figure depicts the sequential aspect of this program.

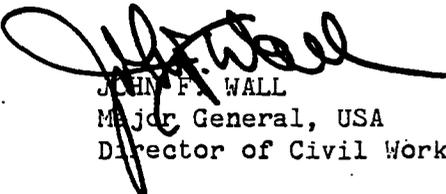
2. To implement this plan, I am directing the Chief of Planning to: (1) develop the core courses for apprentice and journey level planners; (2) evaluate the curriculum of courses offered to all planners; (3) develop an effective system for disseminating training information; and (4) assign a national planners training manager to oversee this program.

3. To assure the success of this effort, I request each division commander to: (1) assure that all apprentice and journey level planners in division and district offices attend the 100 and 200 level core courses, and that all planners be encouraged to continue training through appropriate 300 level PROSPECT courses; (2) develop a rotational entry training program for new planners not in the Junior Engineer Training Program; (3) encourage developmental and cross-training assignments; (4) improve career advisory capability in division and district offices; (5) support long-term training programs; and (6) assure that division and district offices have a planners training liaison officer to oversee these activities.

4. I commend the effort spent in developing this essential training program, so critical to maintaining Corps capability, credibility and professionalism. It should lead to substantial improvement in planning productivity and performance, in a manner that is both cost-effective and financially efficient.

FOR THE COMMANDER:

1 Incl  
as

  
JOHN F. WALL  
Major General, USA  
Director of Civil Works

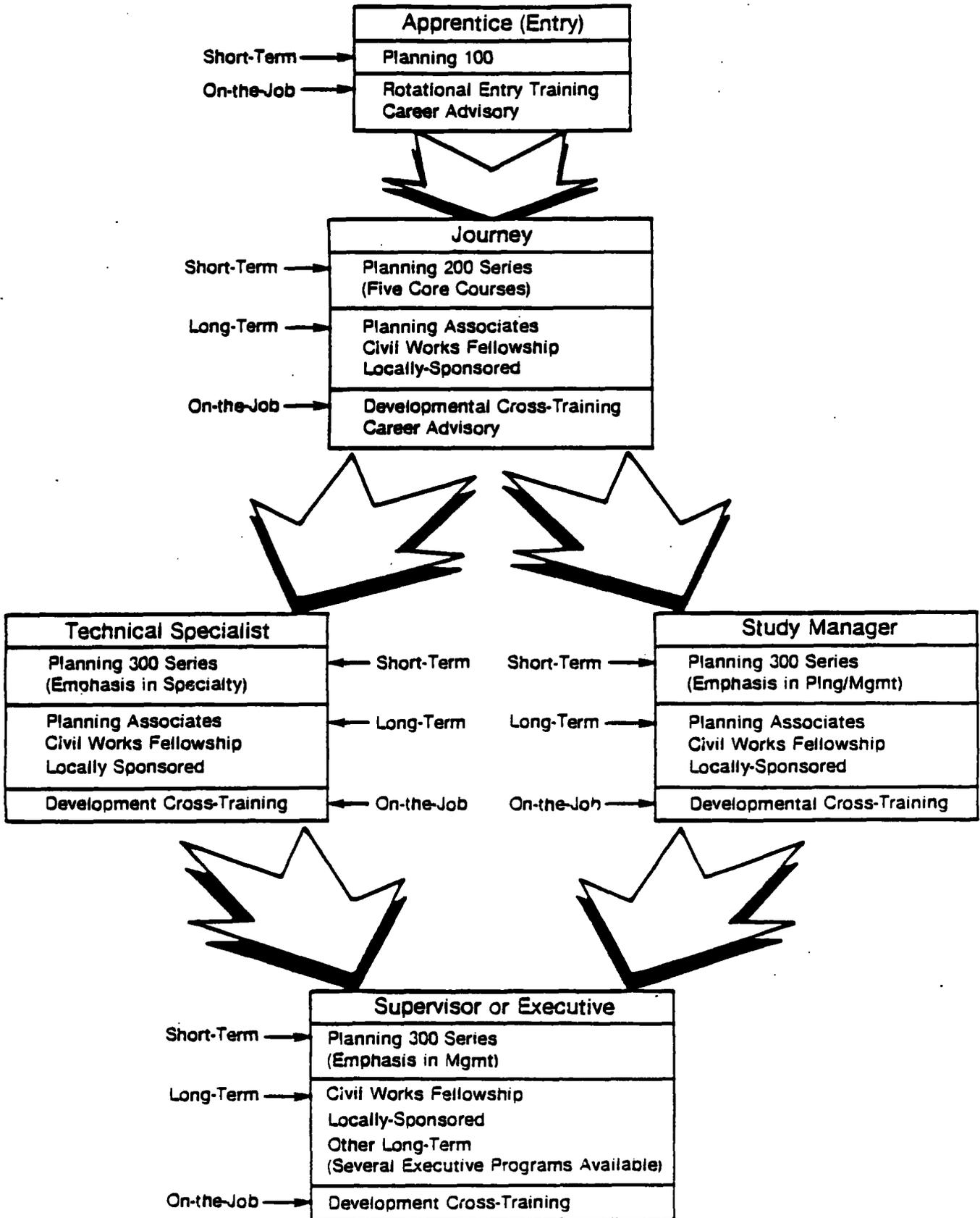
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SUBJECT: CIVIL WORKS PLANNERS TRAINING

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# Civil Works Planners Training Career Training Model



DIVISION PLANNING REPRESENTATIVES'  
TASK FORCE REPORT  
ON  
CIVIL WORKS PLANNERS TRAINING

December 1983

## EXECUTIVE SUMMARY

A Task Force on Civil Works Planners Training was assembled from division planning offices to prepare a cost-effective planners training program. Using available information and the recent OCE sponsored Civil Works Planners Training Study, the Task Force produced this report. The report is a consensus of Task Force members on how best to attain such a program. The Task Force strongly recommends its implementation. Implementation of the recommended program will result in a comprehensive, integrated, quality product - a failing of what we have now.

Generally, information dissemination among trainees, proponents, sponsors and all Corps elements needs to be improved. Therefore the Task Force recommends developing a Planners Training Handbook, and Planners Training Brochure.

A core curriculum which is concise but comprehensive should be developed and implemented for Civil Works planners. This curriculum should consist of one entry-level overview course and five journey-level courses in each of the following subjects: Planning Process and Management; Hydrologic Engineering for Planners; Organizational Support to Planning; Economic Analysis for Planners; and Environmental Analysis for Planners. Development of all six courses would require about 14 months and \$250,000. They should be financed from existing revolving funds or by field office assessment. In addition, a general curriculum has been identified, consisting of 40 courses usually available within the PROSPECT system and most useful to planners. These courses are elective, and provide in-depth treatment of environmental, economic, management/planning, and engineering/technical subjects for advanced and specialized planners.

On-the-job training can be improved in these areas: first, a rotational entry training program should be instituted for all new planners who are not in the Junior Engineer Training Program. Second, planning divisions should encourage more developmental cross-training through "job-swapping," temporary promotions, and rotational executive positions. Third, the career advisory service provided by supervisors and other experienced planners must be improved.

Existing long-term training programs are excellent and require little change. A more formal approach to sharing expectations among supervisors and employees is needed before taking such training. Also, Planning should encourage use of locally-sponsored programs.

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## INTRODUCTION

This report is concerned with the findings of two efforts designed to identify means for improving training for Corps of Engineers planners. The first, an in-depth study by the Institute for Water Resources (IWR) provided the basis for the second, a Task Force development of practical actions. The findings of the Task Force are presented in this report. The results of the IWR study are only highlighted here and are available in a separate document.

The Task Force was charged with preparing a cost-effective planners training program. This report is the consensus of the Task Force members on how best to attain such a program. The Task Force strongly recommends its implementation.

### Background

The IWR study was undertaken in 1982 as an element of the Director of Civil Works' Planning Improvement Program for 1982. The study sought to determine what kind of training is needed to support the Corps mission in planning and the objectives of the Planning Division, and to identify a variety of actions that could help provide for a training program specifically targeted to Corps planners.

IWR surveyed some 2,000 Corps planners and interviewed various officials inside and outside the Corps that were knowledgeable on water resource planners training. A nine-member advisory group composed of persons from the Office of Personnel, Training and Development Branch and various branches of Planning Division, OCE, provided direction and review for the study. Others, including personnel in IWR, BERH, Planning Division, Huntsville Training Division, and FOA planning chiefs also provided ideas and review. The report was completed in February 1983.

### Results of the IWR Study

The study examined the three major elements of the Corps planners training program namely, short-term, long-term, and on-the-job. It concluded that the Corps investment in training for planners is worthwhile and that planners are receptive to it. Nevertheless, the study also found that there are opportunities for improving the existing program.

IWR developed a strategy for planners training, and identified a number of actions that describe means by which the strategy could be implemented. These actions are listed in the report executive summary as follows:

#### Curriculum

- o Identify Planner's Curriculum
- o Establish a Core of Courses for Planners

- o Provide Strategically Focused Training for Anticipated New Missions or Policy Changes
- o Consider Changes in the Long-Term Training Program
- o Give More Emphasis to On-the-Job Training

#### Administration

- o Review Job Performance Descriptions
- o Review Financing
- o Consider Establishing Continuing Education Units (CEU's) for Corps Training Courses
- o Review Policy on Attendance of Conferences

#### Sources of Information on Training

- o Publicize Training Officer Services
- o Encourage Designation of Training Liaison Officers
- o Clarify Descriptions of CWP Courses
- o Prepare Brochures on Training Program for Planners
- o Designate a CWP Training Advisor

#### Availability of Instruction

- o Prepare Special Topic Tapes
- o Take Training to the Students

#### Enrollment

- o Try out a Rolling Admissions Policy
- o Enforce Course Prerequisites

#### Need for Additional Review

While the IWR report set forth a sound strategy for planners training and provided an excellent source of data and opinions on training, it warranted a more careful review by OCE and field offices. Consequently, OCE Planning Division set up a Task Force of division planning representatives (Incl 1) for the purpose of preparing a cost-effective planners training program. As an initial input to the Task Force, OCE Planning Division staff reviewed and prepared a series of matrix-type charts describing the current planning-related PROSPECT training courses. Three Task Force meetings were held (4-5 October, 24-26 October, and 15-16 November 1983) to develop the detailed information leading to this report.

The first meeting led to identification and discussion of short-term training problems and proposed solutions, preparation of proposed core course outlines for apprentice and journey level planners, and preparation of a proposed general curriculum of courses for all planners. The second meeting developed short-term training core course outlines in more detail and identified courses of most use for advanced and specialized planners. The

second meeting also produced a schedule of actions necessary to implement these short-term training elements, along with related costs, and identified long-term and on-the-job program elements. The third meeting refined descriptions of proposed short-term, long-term, and on-the-job training programs.

## OVERVIEW OF PLANNERS TRAINING

The three major components of planners training - short-term, long-term, and on-the-job - must be integrated into each planner's training in order to achieve the best results. In particular, short-term and on-the-job training cannot be treated independently when considering the needs of planners. However, for purposes of implementing a sound planners training program, this report discusses each type of training separately, in terms of proposed actions, implementation recommendations, schedules, and associated costs. In addition, this report addresses two topics critical to the success of these programs: information dissemination and on-going management of the program.

### Short-Term Training

Short-term training generally refers to training of 1-2 weeks duration, and is primarily accomplished through the PROSPECT training program administered by Huntsville Training Division and managed by OCE (DAEN-PEC-D). The Task Force supports the IWR study proposals calling for a general planners training curriculum of courses and for "core" training courses that would be either required or strongly encouraged for all entry and journey level planners.

a. Core Training Courses. The Task Force developed a description of a series of core training courses. This consists of one 100-level and five 200-level courses that should be given to all apprentices and journey level planners. The core courses are:

- o Planning 100 - Introduction to Planning. A 40-hour course for incoming planners, to include economic, environmental, engineering, planning, and management subject material (Incl 2).
- o Planning 200 - Planning Process and Management. A 40-hour course similar to the current course given by BERH planning associates (Incl 3).
- o Planning 210 - Hydrologic Engineering for Planners. A 40-hour course in hydrologic engineering essentially similar to the course currently put on by HEC (Incl 4).
- o Planning 220 - Organizational Support to Planning. A 40-hour course on the organizational and technical support relationships between planning and other functional elements in the Corps organization (Incl 5).

- o Economics 200 - Economic Analysis for Planners. A 40-hour course for journey level planners on economic analysis. This course is based on but extensively modifies an existing course on this topic (Incl 6).
- o Environment 200 - Environmental Analysis for Planners. A 40-hour course for journey level planners on environmental analysis (Incl 7).

The Planning 100 course should be taught to all incoming Corps of Engineers planners. For this reason, it will be taught frequently. Arrangements should be made to provide Planning 100 at minimal travel cost. The Task Force recommends that the course be developed for regional presentation but that it also be designed to be given in the traditional manner on a national scale, depending on the demand for it. Regional presentation would include use of video tapes and other related technologies and would be given on-site using division/district professional staff as discussion leaders.

It is estimated that development of Planning 100 with video tape modules and program guides for facilitation could be done in a 14-month period at a cost of \$150,000. Once developed, it is estimated that the cost of presentation over 5 years would be \$40,000 (Incl 8). For implementing the course, it is recommended that there be a training liaison officer in each office who would be responsible for arranging for its presentation (instructors, time, etc.) and that the instructors be trained (PROSPECT offers a course in Instructional Methods). The Task Force feels strongly that Planning 100 be given to all new planners.

The five core 200-level courses are recommended for all journey level planners, but are not required. They can be taken in any order. These courses are targeted toward GS 7 through 11, but may also be taken by higher grade personnel. The 200-level courses would be developed on a national scale. Development time and cost estimates for each of the five courses are shown in Inclosure 9. The total cost for development would be about \$100,000 with development of the five phased in over a 13-month period. Development would be simultaneous with Planning 100 so that all six core courses would be ready for presentation in about 14 months (Incl 10).

For the set of 200-level core courses the post-development presentation costs over 5 years are estimated at \$240,000.

The Task Force further recommends that funding for all six core courses come from the existing revolving fund if possible. If this is not possible then OCE could obtain the money by assessing the field offices. At any rate, funding should be handled in two separate blocks, one for the 100-level course and one for the 200-level courses.

b. Advanced and Specialized Courses. To help planners select appropriate courses from the PROSPECT program, the Task Force identified 40 existing courses as being the most useful, and categorized them by four broad subject tracks: management and planning, environmental, economic, and engineering and technical. The listing is given on Inclosure 11. Because these courses provide a fairly in-depth treatment to their subjects they are suitable for advanced and specialized planners and are considered 300-level courses.

Within any given subject track, the corresponding 200-level course or its equivalent would be a prerequisite. Equivalency could be satisfied through experience or other training and would be determined by the supervisor.

The Task Force also noted that the list of 300-level courses does not include certain areas of contemporary concern that may need to be further addressed in the content of future courses. These subject areas are: contracting for non A/E services, recreation and resource management planning, financial aspects of planning, and some vehicle for knowledge transfer on state-of-the-art techniques, particularly in the field of economics.

The costs of developing any new 300-level courses for planners would be provided by Huntsville Division from PROSPECT funds generated for new course development. This is consistent with current procedures regarding development and financing of PROSPECT courses.

Finally, towards improving courses within the PROSPECT program, the Task Force recommends that the following actions be taken:

- o Conduct a systematic evaluation of PROSPECT courses according to certain criteria in order to delete courses, add new ones, or modify existing ones.
- o Require proponents to take their responsibilities more seriously. In particular, to ensure that course descriptions are clear and complete.
- o Employ better coordination at the OCE level for development and presentation of 300-level courses.

c. Other Short-Term Training. Attendance at workshops, conferences, and professional seminars also provides excellent and inexpensive opportunity for technology transfer among Corps professionals.

#### On-the-Job Training

On-the-job training must be coupled with short-term training in improving the professional's knowledge, understanding, and capability to perform. The Corps must assure that its planners receive not only the appropriate core of short courses, but that they obtain valuable experience in a range of positions that familiarize them both with the organization and with the diverse elements of water resources planning. Planners should be assured that

they will receive two different types of on-the-job-training: (1) rotational entry training for orientating apprentice planners, and (2) developmental cross-training for journey level planners. The Task Force developed the following statements about each type, and career advisory service.

a. Rotational Entry. CW Planning should require each new planner not on the Junior Engineer Training Program to enter a rotational orientation program (3-12 month duration) through offices within and outside the planning division. Each district/division office would develop a program suited to its needs. Within 6 months of adoption of this report, each district/division office would advise CWP on the specifics of the rotational program and institute the program in FY 85.

b. Developmental Cross-Training. CW Planning should strongly encourage and support the use of cross-training and developmental assignments to broaden the experience and supervisory capability of the planning workforce. Such actions include:

- o Temporary promotions to fill supervisory vacancies that occur during personnel selection procedures. This action would improve an individual's supervisory skills.
- o Job-swapping on the same grade level between districts and divisions and OCE to convey supervisory skills to one individual while increasing another individual's perspective of the Corps program mission. Divisions should take a lead role in this action.
- o Interdisciplinary cross-training at installation level to broaden the experience of the Corps planners.
- o Consider leaving an executive position vacant to be filled on a rotational basis by other individuals whose assignment to that position would then create a development potential for others.

c. Career Advisory. Because supervisors have general responsibility for Individual Development Plans (IDP), they should be periodically trained in appropriate career development techniques to help improve their role. In addition, the following steps would improve the conditions under which supervisors provide career advisory service to apprentice and journey level planners:

- o Encourage development of a mentor relationship preferably permitting some choice on the part of the employee.
- o Put more emphasis on the IDP (with the mentor system providing assistance).
- o Develop a cadre of career advisors to aid the employee and to balance the requirements of the mission in development of training schedules.
- o Increase visibility in training objectives and accomplishments.

- o Establish higher, more stringent standards for supervisors in their job description regarding their employee advisory role.

### Long-Term Training

Long-term training is the term applied to training > 120 days. The programs for planners are fundamentally sound, and require little modification other than more effective dissemination of information on how to apply to various programs. Before an employee departs for long-term training, the supervisor and the trainee should explicitly share expectations about what each anticipates will be accomplished during the extended training period.

a. Planning Associates Program. BERH administers the Planning Associates program to about 15 students per year, and provides a mixture of academic principles and practical applications in preparing the students for roles of increasing responsibility as water resources planners and study managers. The program is funded by OCE to a limit of 15 students. Under provisions instituted in FY 83, additional students not funded by OCE may be sent by division offices if those offices fund that training. No changes to this program are proposed.

b. Civil Works Fellowship. The Civil Works fellowship program is administered and funded by OCE and includes, but is not limited to, planners. The program involves one year of full-time training at a university selected by the trainee. Its orientation may be characterized as more "academic" and less "applied" than the Planning Associates Program. The Corps planning program will gain from those who seek additional academic training, and it should continue to complement other long-term training programs. No changes to this program are proposed.

c. Other Long-Term Training. Several other one-year training programs are available to Corps planners. ER 350-1-416 and section 7 of HNPD 350-1-1 list several of these programs. These are very specific in orientation and are geared to middle managers and executives. They are administered and funded by OCE and include, but are not limited to, planners. No changes to these programs are proposed.

d. Locally-Sponsored Programs. With the increasing burden of travel costs affecting long-term as well as short-term training, locally-sponsored programs offer an opportunity to obtain a substantial amount of training for planners at a relatively low cost. These university programs are managed and funded within division and district offices, and are carried on while employees continue to work either full or part-time. The type of locally sponsored program is best determined by the individual office. Participation in these programs is encouraged. Information on locally-sponsored programs that are working effectively in other offices should be distributed to each division and district.

## INFORMATION DISSEMINATION

One of the most serious problems in planners training is the dissemination of important information about the various training program elements. Planners need to have access to comprehensive up-to-date information on all aspects of the program, i.e., courses available, prerequisites, application procedures, etc. This information can be provided in a handbook and/or in a brochure. In addition, there is a need to assure that the short-term PROSPECT courses are fully used and that potential course attendees are matched with available course spaces.

### Planners Training Handbook

It is proposed that a Planners Training Handbook, which would be conceptually similar to the Planning Guidance Notebook be developed. The handbook would provide a comprehensive guide to short-term, long-term, and on-the-job training to Corps planners and their supervisors. The handbook would be distributed to planning chiefs and supervisors in each division and district office. It would be printed and published in loose-leaf format so that the information contained therein can be updated and local information can be added. The handbook would give pertinent information on each major program element, i.e., short-term, long-term, and on-the-job training. It is intended to be a comprehensive source document on the subject of planners training.

### Planners Training Brochure

In addition to the handbook, it is proposed to prepare and distribute to all Corps planners a Planners Training Brochure that would provide basic information describing the various elements of the planners training program. This brochure would differ from the handbook in that it would deal with information of an unchanging nature, and would direct the planners to the handbook for program details and specific procedures. The brochure should be published as an engineer pamphlet, and packaged in a format similar to EP 200-2-1, Planning's Environmental Training Program (PET) brochure.

### Availability of PROSPECT Spaces

With increasing pressures placed upon travel budgets, a situation is recurring wherein planners are signing and paying for PROSPECT courses, but are not attending these courses because of shortage of travel funds. At the same time, planners in other offices who may be interested in attending these courses have no indication of spaces available. The Task Force recommends that OCE Planning Division undertake a comprehensive investigation of the factors causing this problem. This investigation should also work to pose solutions.

## MANAGEMENT

The recommendations and proposals contained in this report will substantially improve planners training. These improvements will require constant oversight from OCE and field offices. In OCE Planning Division this would require heavy involvement from a senior-level planners training manager who would be assigned national training responsibilities only. In OCE and in each field office, a planners training liaison officer would be designated and would be assigned responsibility for covering internal planning division training. The planners training liaison officers would service their individual organizations and maintain contact with OCE through the planners training manager.

DIVISION PLANNING REPRESENTATIVES'  
TASK FORCE ON CIVIL WORKS PLANNERS TRAINING

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Task Force meetings were facilitated by Dr. Jerome Delli Priscoli and Ms. Mary Vincent of IWR. In addition, Messrs. Kyle Schilling of IWR, Harold Kinback of BERH, Arthur Deckelman of HNDD, and Gerald Liebes of OCE (PEC-D) attended meetings as observers and resource persons. Mr. Carl Argiroff, Chief, Planning Division, Detroit District, hosted the initial Task Force meeting. Mr. Robert Gregory attended that meeting as his representative. Mr. Raleigh Leef directed the OCE Planning Division review of current PROSPECT training courses.

## PLANNING 100: INTRODUCTION TO PLANNING

Objectives: At the completion of this course, participants will:

- a. have an introductory knowledge of (1) the Corps and its programs, (2) the steps involved in the planning process, (3) study management, and (4) technical aspects of studies
- b. be able to contribute productively to the study process.

Applicability: The course is designed for entry level planners who are new to Corps CW planning. The course should be taken within the first six months of assignment to CW planning. This course satisfies prerequisites for 200 level courses.

Course Description: Types of CW programs and planning studies, the planning and review processes, study management, introduction to technical support groups (engineering, construction, operations, real estate, economics, and environment). This is a 40-hour course.

### Course Outline:

- I. Course Administration
- II. Introduction to the Corps
  - A. Brief History
  - B. Types of Programs
  - C. Planning Organization
  - D. Civil Works Planning Program
- III. Introduction to the Planning Process
  - A. Problem Identification and Data Collection
  - B. Plan Formulation
  - C. Plan Evaluation
  - D. Recommendations
  - E. Review Process
- IV. Study Management
  - A. Styles of Study Management
  - B. Role of Study Manager
  - C. Keys to Successful Study Management
  - D. Organization Interface
  - E. The Interdisciplinary Team
  - F. Project Tracking
- V. Introduction to Technical Support Group
  - A. Engineering
  - B. Construction
  - C. Operations and Maintenance
  - D. Real Estate
  - E. Economics
  - F. Environment
- VI. Course Evaluation and Wrap-up

## PLANNING 200: PLANNING PROCESS AND MANAGEMENT

Objectives: At the completion of this course the participants will:

- a. have a detailed knowledge of (1) the CW Planning Process, and (2) study management
- b. have a working knowledge of the Planning Guidance Notebook
- c. have an introductory knowledge of (1) Federal budget process, (2) contracting procedures, and (3) policy impacts
- d. have skills in study management techniques
- e. have the ability to apply study management techniques to job assignments

Applicability: The course is designed for journey level planners (GS 7, 9, 11). Prerequisite is Introduction to Planning (Planning 100).

Course Description: A skills development course in study management techniques. An introduction to budget processes, contracting procedures, and policy development. This is a 40 - hour course.

### Course Outline:

- I. Major Steps in CW Projects
- II. Project Purposes
- III. The Federal Interest and Local Cooperation
- IV. Planning Studies
- V. Planning Process
- VI. Planning Reports
- VII. Review Process
- VIII. Study Management
- IX. Federal Budget Process
- X. Contracting Procedures
- XI. Policy Impacts

## PLANNING 210: HYDROLOGIC ENGINEERING FOR PLANNERS

Objectives: At the completion of this course, participants will:

- a. have an understanding of basic hydrologic and hydraulic concepts as they are applied to water resource planning.
- b. have a conceptual understanding of hydrograph analysis, fluvial hydraulics, frequency analysis, reservoir studies, and management of hydrologic studies.

Applicability: The course is intended for water resource planners and other professionals in planning-related positions who have a limited background in the basic principles and theory of hydrology and their application in planning studies.

Course Description: This course provides introduction & hydrograph analysis, flood hydrograph routing, principles of streamflow profiles, and sediment transport. In addition, principles and concepts of flow frequency analysis, analysis of mitigation measures, and risk analysis are presented. This is a 40-hour course.

### Course Outline:

- I. Introduction to Hydrologic Engineering
- II. Introduction to Hydrograph Analysis
- III. Flood Hydrograph Routing
- IV. Basic Principles of Streamflow Profiles
- V. Sediment Transport in Natural Streams
- VI. Concepts and Principles of Flow Frequency Analysis
- VII. Analysis and Perspective on Flood Damage Mitigation Measures
- VIII. Risk Criteria in Flood Control Planning
- IX. Concepts of Reservoir Sizing, Operation, and Yield
- X. Hydrologic Aspects of Planning Studies
- XI. Hydrologic Engineering Models
- XII. Course Summary and Critique

## PLANNING 220: ORGANIZATIONAL SUPPORT TO PLANNING

Objective: At the completion of this course, the participants will have an understanding of the relationship between planning and other functional elements such as engineering, construction, operations, real estate, legal, etc., and some of the techniques used to support the planning process.

Applicability: GS 7, 9, and 11. Prerequisite: Introduction to Planning (Planning 100).

Course Description: This course explains the relationship of other functional elements to planning and describes some of the techniques used by these elements. This is a 40-hour course.

### Course Outline:

- I. Administrative Details and Overview
- II. Engineering
- III. Construction
- IV. Operations and Maintenance
- V. Real Estate
- VI. Legal

## ECONOMICS 200: ECONOMIC ANALYSIS FOR PLANNERS

Objective: At the completion of this course, journey level planners will have detailed knowledge of the concepts and methods used in the economic analysis of water resource projects.

Applicability: GS 7, 9, and 11. High priority for technical specialists.  
Prerequisite: Introduction to Planning (Planning 100).

Course Description: This course covers basic economic concepts and methods of computing economic costs and benefits for various type projects. This is a 40-hour course.

### Course Outline:

- I. Economic Analysis for the NED Account
- II. Computing Economic Costs
- III. Computing Economic Benefits
- IV. M & I Water Supply
- V. Urban Flood Damage
- VI. Agriculture
- VII. Hydropower
- VIII. Navigation - General
- IX. Inland Navigation
- X. Deep Draft Navigation
- XI. Recreation
- XII. Commercial Fishing
- XIV. Cost Allocation and Cost Sharing
- XV. Economic Analysis for the NED Account

## ENVIRONMENT 200: ENVIRONMENTAL ANALYSIS FOR PLANNERS

Objective: At the completion of this course, journey level planners will have detailed knowledge of the authorities, procedures, and methods of environmental analysis.

Applicability: GS 7, 9, and 11. High priority at an early stage for Environmental Technical Specialists. Prerequisite: Introduction to Planning (Planning 100).

Course Description: This course covers basic environmental authorities, NEPA procedures, and evaluation methods. This is a 40-hour course.

### Course Outline:

- I. Introduction
- II. Basic Authorities
- III. NEPA Procedures
- IV. Cultural Resources
- V. Habitat Evaluation Procedures (HEP) and Other Measures for Fish and Wildlife Impacts
- VI. Wetlands Development/Restoration
- VII. Development of Resource Management Plans
- VIII. Recreation Planning Methods
- IX. Water Quality 404 (b) Evaluation
- X. Environmental Resources in the Overall Planning Process
- XI. Coordination Procedures
- XII. Social Impact Assessment
- XIII. Mitigation Planning
- XIV. Environmental Support Roles

TIME AND COST ESTIMATES FOR IMPLEMENTING  
PLANNING 100: INTRODUCTION TO PLANNING

Regional Design	Time
Draft Development (CW Planning Division, work with consultant, interviews, and 1st cut to FOAs)	3 mos.
Review by FOAs	1 mos.
Consult. Review Cmts. & Meet with FOAs for Feedback.	1 mos.
Consult. Prepares Final Draft Including Script	3 mos
Review By Same FOA People (via mail)	2 mos.
Final Type to OCE (Final Tapes & Script)	4 mos.
	14 months
Estimated Cost to Develop	\$150 K
Estimated Cost to Put on Over 5 YRS	\$ 40 K
	Total Cost = \$190 K

TIME AND COST ESTIMATES FOR IMPLEMENTING  
THE FIVE 200 - LEVEL COURSES

I. COURSE	ESTIMATED TIME TO DEVELOP	ESTIMATED COST TO DEVELOP	BEGIN IN MONTH	AGENT
Hydrol. Eng. Plng. Proc. & Mgmt.	2-3 mos.	10 K	1	CWP/HEC
Environment	6 mos.	25 K	4	CWP*
Economic	3 mos.	25 K	6	CWP*
Org. Support	6 mos.	25 K	8	CWP and other functions

TOTAL DEVELOPMENT COST \$100 K

\* FOA Task Force to be an active Participant

II. Post Development Costs for Five 200-Level Courses over 5 years:

Estimate \$10 K for each course for each time put on.  
Four Courses to be given in Yr. 1, five courses in  
yrs. 2-5.

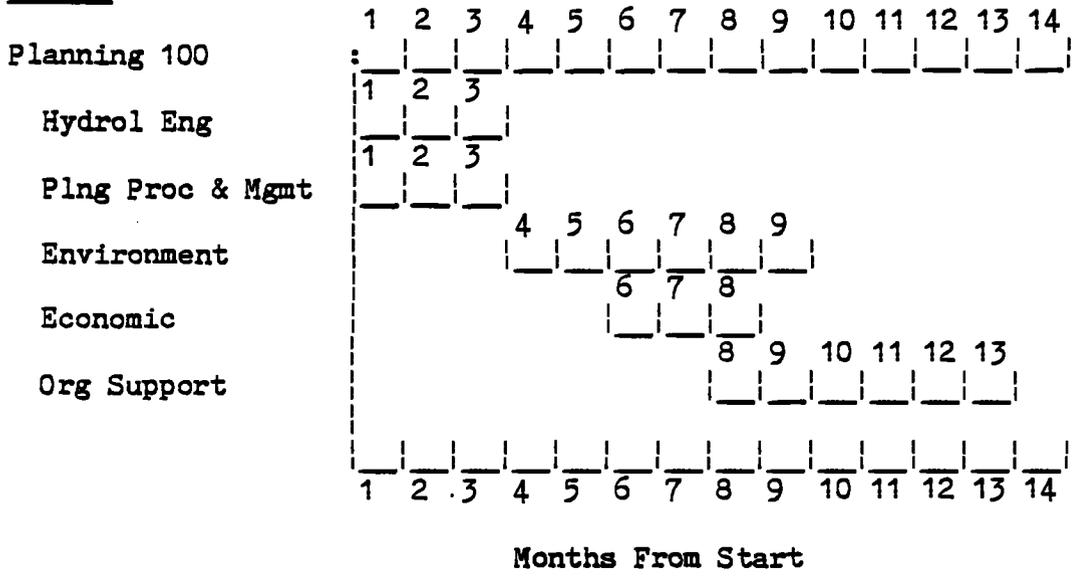
Yr 1, 4 courses put on once =  $1 \times 4 = 4$   
Yr 2-5, 5 courses put on 4 times =  $5 \times 4 = 20$

24 times.

24 times x 10 k per time = \$240 K to put on over 5 yrs.

SCHEDULE FOR CORE COURSE DEVELOPMENT

COURSE



## 300 LEVEL COURSES\*

### Management and Planning

CW Prog Dev (A1MCPVDE)	4 days
Executive ADP (M1MCAUEF)	5 days
Manage E&S Workforce (M4MMESWF)	3 days
Manage Dev. I, II, III (M1MMDI,II,III)	5 days ea.
Neg. Bargain, & Conflict (M1MNBCM)	4 1/2 days
Plng Prog Mgmt (P1MIMPRRP)	3 days
Problem Analysis (M4MPADME & M4MPADMM)	5 days
Form. Nonstr. Plans (P1MNSP)	5 days
Adv. Publ. Invol. II (P4MPIA)	5 days
(for. Pro Mgr & up, including Exec.)	

### Environmental

Aesthetic Resources (P1MEAQ)	4 1/2 days
Ecosystems Survey Tech (P4MGBEST)	5 days
Env. Qual. Plng. (P1MEQP)	5 days
Env. Impact Assess (P4MGBEFP)	5 days
Habitat Eval. Proced. (P2MHEP)	4 days
Wetlands Classif. (P2ZWC)	5 days
Wetland Dev. and Rest. (P1MWDR)	4 days
Wetlands Field Tech I (P4MWT)	5 days
Wetlands Spec II (P4MWS)	15 days
Wetland Soils/Hyd III (P1MWSH)	5 days

### Economics

Water Supply/Cons. Plng (P1MESIAWS)	5 days
Water Trans Plan Meth (P4MWTP)	5 days
Applied Social Analysis Techniques (P1MSIAT)	5 days
Forecasting Techniques (P1MFTWRP)	4 1/2 days
Land Use Analysis (P1MLUAWRP)	5 days
Regional Development Accounts (P1MRDA)	5 days
Spatial Data Mgmt. for Plng. (P1MSDMT)	4 1/2 days

\* Now existing in the PROSPECT System. PROSPECT number is in parentheses. Prerequisite for 300 level course is the 200 level course in the corresponding area or the educational/experience equivalent to the 200 level course. Equivalency to be determined by supervisor.

Engineering/Technical

Coastal Engineering (P1MCE)	5 days
Floodplain H&H (P1MFPH)	9 1/2 days
Hydro Aspects Hydropower (P1MHAH)	9 1/2 days
Hydropower Planning (P1MHY)	9 1/2 days
Photogrammetry-Mgr (P4MPM)	4 1/2 days
Reservoir System Analysis (P1MRSA)	9 1/2 days
Ship Nav. Channel Design (P1MDNCD)	4 days
Small Scale Hydropower (P3MSSH)	4 1/2 days
Streambank Protection (T1MSP)	8 days
Water Supply Hydrology (P1MHTDWSP)	4 1/2 days
Remote Sensing - Manager (M4MRSM)	3 days