

**MEMORANDUM OF AGREEMENT FOR
DEVELOPMENT OF FISH PASSAGE FACILITIES
AND FOR PROTECTION OF AQUATIC RESOURCES AT THE
WEST SPRINGFIELD HYDROELECTRIC PROJECT
ON THE WESTFIELD RIVER**

1.0 Introduction

This MEMORANDUM OF AGREEMENT ("MOA") is entered into by and between the "parties", Decorative Specialties International, Inc. ("DSI") the Commonwealth of Massachusetts Division of Fisheries and Wildlife ("MDFW"), and the United States Department of the Interior, Fish and Wildlife Service ("USFWS"). This MOA concerns settlement of fishway construction, operation, and maintenance and instream flows for aquatic habitat protection at the West Springfield Hydroelectric Project (FERC No. 2608) on the Westfield River in western Massachusetts (Project). The Project includes the lower most dam on the Westfield River, which is tributary to the Connecticut River.

2.0 Construction, Operation, Maintenance and Measures for Determining Effectiveness of Fish Passage Facilities

The USFWS shall amend its Section 18 Prescription and MDFW its recommendations to FERC regarding fish passage to conform to the following facilities and requirements for the West Springfield Hydroelectric Project.

2.1 DSI agrees to construct the following facilities, as described in Figures VIII-1, VIII-2, VI-3, of the December 1992 FERC additional information filing, at its West Springfield Hydroelectric Project: a.) Denil fish ladder to be located adjacent to the north abutment of the existing spillway; b.) a 2 foot by 3 foot rectangular weir cut adjacent to the north dam abutment to provide for downstream passage and attraction flows; c.) a fish trap with sorting and holding facilities, as well as truck access, at the upstream end of the above referenced Denil fishway; d.) an inclined screen and associated flume to be located in the power canal immediately downstream of the Denil fishway exit for the purpose of downstream fish passage; e.) screens across both the DSI and Southworth Company tailraces; and f.) select instream structures in the north channel of the project bypass to create a Zone of Passage for all lifestages of American shad and Atlantic salmon. The above referenced structures are to be designed and maintained to allow for functional use during the life of the license. DSI will exercise its best effort for all structures to be operational by April 1, 1996.

2.2 DSI agrees to take the following steps to create an effective Zone of Passage for anadromous fish during the fish passage seasons. The fish passage seasons shall be from April 1 through July 15 and September 1 through October 31. To accomplish this, DSI agrees to pass 85 cfs or inflow, whichever is less, in the bypass reach between the West Springfield Dam and Powerhouse in combination with instream structures during the fish passage season. MDFW and USFWS, in consultation with DSI, will evaluate the effectiveness of these flows and channel modification designs, through visual observation, in the first year of project operation. If flow or structure location is found to be an impediment to anadromous fish passage, DSI will modify the structures and/or increase the minimum flow up to a maximum continuous flow of 125 cfs or inflow, whichever is less. If after exhausting all practical, structural, behavioral or minimum flow options, it is found that anadromous fish do not seek out a passage route to the fishway, but rather remain in the area of the tailrace, DSI will adjust its project operation such that up to 50 percent of the usable inflow (usable inflow is defined as the combined hydraulic capacity of each of DSI's units, 622 cfs) is provided in the bypass upstream of the DSI tailrace during the passage season. This spillage will occur

throughout the April 1 - July 15 period, beginning at sunrise for 4 hours. The operational schedule (the number of days in the April 1 - July 15 period and hours in a specific day) that this condition will exist will be adjusted by USFWS in consultation with on site representatives of the MDFW and DSI as needed to accomplish effective passage.

2.3 MDFW will be responsible for and assume the costs associated with fish passage monitoring and trapping and trucking operations. MDFW will provide miscellaneous equipment and supplies associated with those activities as well as provide fuel and maintenance for the fish transport truck. DSI will assume all other operation, maintenance, specialty studies, energy and miscellaneous responsibilities and costs associated with operation of the project. These costs and responsibilities will include, but not be limited to, mechanical and electrical maintenance of the facilities.

2.4 DSI agrees to conduct studies to determine the effectiveness of upstream and downstream passage facilities including the Zone of Passage at the West Springfield facility. In the first two years of project operation, the effectiveness of upstream passage facilities will be assessed through observation and adjustment. Upon request by MDFW and/or USFWS a year of more formal effectiveness studies for upstream passage (e.g. tagging, etc.) will be conducted, if needed. These studies can be requested anytime in the first 5 years of project operation. The need for an additional sequence of observation, adjustment, and formal studies will be evaluated by DSI, MDFW, and the USFWS upon major modifications to the upstream passage facilities. In the first two years of project operation the effectiveness of downstream passage facilities will be assessed through observation and if needed these facilities will be adjusted. DSI will not be required to perform more formal studies for downstream passage.

2.5 MDFW and USFWS agree that no fishway structural modifications or additions with total and cumulative capital costs in excess of \$100,000 will be required for a 10-year period following the initial operation of the fish passage facilities described herein provided these facilities are built according to USFWS approved final designs. The \$100,000 capital costs over ten years does not include initial capital construction or maintenance of the zone of passage in the bypass reach.

2.6 In 1994 and 1995, prior to the construction of the permanent fish passage facilities at the West Springfield Project, DSI and MDFW will cooperatively work toward successful downstream passage and the trapping of Atlantic salmon adults. During powerhouse operations, DSI will operate the trash sluice at the powerhouse with a minimum flow of 25 cfs during the period April 1 - July 15 for the downstream passage of Atlantic salmon smolts. The MDFW will supply the labor and equipment to trap Atlantic salmon adults at the facility and transport them to a holding facility. In support of the effort to trap Atlantic salmon adults during 1994 and 1995 DSI shall reimburse MDFW up to \$1000 per year for the labor associated with non-supervisory personnel. In order to receive payment MDFW shall supply DSI with monthly invoices documenting labor charges.

3.0 Non-Passage Season Minimum Flows

During the non-passage season of July 16 through August 31 and November 1 through March 31, DSI will continuously pass into the bypass a minimum flow of 85 cfs or inflow, whichever is less. DSI agrees to construct a rectangular weir cut adjacent to the south dam abutment, if needed, to assure adequate distribution of flow in the north and south channels for aquatic resources during the non-passage seasons (this need will be evaluated by MDFW, and USFWS in consultation with DSI immediately after construction and initial operation of the north abutment weir, described in Section 2.1, above).

4.0 Execution of the Settlement Agreement

4.1 Within five working days after signing, DSI will submit this Agreement to the Federal Energy Regulatory Commission for consideration in the Commission's proceeding regarding DSI's application for a new license for the Project. Within twenty working days after signing, USFWS will file its amended Section 18 Prescription and MDFW its amended recommendations with the Federal Energy Regulatory Commission for consideration in the Commission's proceeding regarding DSI's application for a new license for the project. The Agreement shall go into effect when the Commission issues a new license for the project and shall remain in effect as long as the project is licensed by the Federal Energy Regulatory Commission. Nothing in this Agreement shall cause DSI to have to act in violation of the Commission's Order Issuing License, any other FERC order, or any integral Water Quality Certificate.

4.2 This Agreement is hereby signed as of the 2 day of February, 1994, on behalf of DSI, MDFW, and USFWS by the following individuals who represent that they are fully authorized to do so.

William S. Linnell

William S. Linnell
Vice President, General Manager
Decorative Specialties International

1/21/94
Date

Wayne F. MacCallum

Wayne F. MacCallum, Director
Massachusetts Division of Fisheries and Wildlife

1/25/94
Date

Cathy Clark

for Ronald E. Lambertson, Regional Director
U.S. Fish and Wildlife Service,
Northeast Region

1/31/94
Date