Specifications for
Chagrin River Jetty and
River Bank Protection
Design

City of Eastlake
Lake County, Ohio

TC 556.5 S43 1981

18287

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#80-D-C2052

SPECIFICATIONS

FOR

CHAGRIN RIVER JETTY AND RIVER BANK PROTECTION DESIGN

CITY OF EASTLAKE
LAKE COUNTY, OHIO

I hereby certify that these plans and specifications were prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Ohio

Gustave John Fink

Date April 16, 19 81 Registration No. 45287

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STANLEY CONSULTANTS, INC

INTERNATIONAL CONSULTANTS IN ENGINEERING, ARCHITECTURE, PLANNING, AND MANAGEMENT

B7869.1 TC

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for

CHAGRIN RIVER JETTY AND
RIVER BANK PROTECTION DESIGN

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LAKE COUNTY, OHIO

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BIDDING REQUIREMENTS

Bidding Requirements

PLANS LIST

B7869.1 PL

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Bidding Requirements

INSTRUCTIONS TO BIDDERS

B7869.1 IB

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Bidding Requirements

INSTRUCTIONS TO BIDDERS

1.1 SCOPE

A. Construction of 277' of rubble mound jetty, 185' of rubble mound beach retaining wall and 100' of gabion mattress river bank revetment. Dredge an 80' wide, 1,100' long channel depositing the material to form graded shoulder to the channel revetment, the spending beach and to regrade the existing beach to the east of the new jetty and to provide navigational aids.

B. Work is located at the east bank and channel of the Chagrin River mouth (as it enters Lake Erie) at the City of Eastlake, Lake County, Ohio.

1.2 BIDDER'S KNOWLEDGE

A. Be familiar with specifications and conditions which affect work under this Contract.

B. Make personal examination of project site and physical conditions affecting work.

C. Ground elevations indicated on drawings were obtained on June 25, 1980. Estimated quantities are based on these values. Because of the unstable bank and riverbed conditions at the Chagrin River mouth, actual quantities are subject to change.

D. Large sunken tree logs and other debris are believed to be covered by the sand spit at the river mouth. This material shall be removed to project depth with the other dredged materials to the depths required.

1.3 BIDDER'S QUALIFICATIONS

A. Personnel and facilities: if requested, satisfy Owner as to integrity, equipment, personnel, and financial ability to perform work.

B. Business entity: indicate on proposal whether bidder is an individual, partnership, corporation, or other business entity.

C. Experience: if requested, submit list of projects worked on by bidder, identified as to project owner, location, approximate date of construction, and value of construction performed by bidder.

1.4 BID SECURITY

A. Submit with bid, bid security in form of an acceptable bidder's bond or certified check or cash in amount not less than 5% of bid

Checks shall be drawn on and certified by an acceptable Ohio bank.

B. Enclose in separate sealed envelope attached to envelope containing bid.

C. Make bid security payable to City of Eastlake, Ohio.

D. The bid security of the successful bidder will be retained until he has signed the Contract and furnished the required performance bond, whereupon it will be returned. Owner reserves the right to retain the security of the three lowest bidders until the lowest bidder enters into Contract. If lowest bidder fails to execute and deliver the Contract and furnish the required performance bond within 10 days of Owner's acceptance of proposal, Owner may annul acceptance and the bid security of that bidder will be forfeited. Owner may then enter negotiations with next lower bidder.

E. Bid security of unsuccessful bidders: returned within 15 days after award of Contract.

F. Bidder's bond: not acceptable.

1.5 TAXES

A. Include in proposals amounts payable by Contractor or Owner on account of taxes imposed by taxing authorities upon sale, purchase, or use of materials and equipment;

taxes of foregoing descriptions payable by Contractor.

B. After delivery of materials and equipment, submit to Owner, in manner prescribed, statement of taxes of foregoing descriptions paid on materials and equipment incorporated in complete construction.

1.6 PREFERENCE FOR LABOR AND MATERIALS

A. The Contractor shall observe state laws with regard to preference for labor and materials.

1.7 PRICE

A. Each bidder shall submit unit prices for the work covered by the Contract Documents, together with any prices for alternate construction or materials, or other prices or data required by the Form of Proposal or specified.

B. Compute bid using quantities shown in Form of Proposal; quantities are approximate only.

1. Owner reserves the right to change quantities to be furnished.

2. Contractor's compensation computed on basis of final quantities incorporated in completed construction.

3. In event of discrepancies between unit prices and unit price extensions listed in bidder's proposal, unit prices shall govern.

C. Each bidder's proposal shall cover complete work described in Contract Documents, including costs incidental thereto. Proposal shall include all costs of permits, fees, and similar expenses.

D. Contractor must notify Owner in writing at any time he knows or has reason to know that approximate quantities shown in Form of Proposal will be exceeded by 10

percent or more, and secure a change order pursuant to "Changes" in General Conditions.

1.8 SUBSTITUTIONS

A. General:

1. Items of equipment and material are identified in Contract Documents by reference to recognized standards or trade designations, or as products of specific manufacturers, or by a combination of the two methods. Any proposed deviation from the identification established in the Contract Documents is a substitution; all substitutions proposed shall meet the quality standards defined herein, established for this project.

2. Products produced by manufacturers other than those mentioned in the specification are considered as "substitutions," even though the term "or equal" or "or approved equal" is stated or implied after the identification of material or equipment as the product of a specific manufacturer.

3. If more than one manufacturer is listed for a given product, the bidder may, at his option, base his bid on furnishing the equivalent product of any one of the manufacturers named; such selection is not considered a substitution, provided the selection meets the quality standards established for the project.

4. It is intended that products by manufacturers other than those identified in Contract Documents may be proposed for use on this project, unless otherwise stipulated. Products proposed shall meet the quality standards, defined herein, established for this project.

5. Where the term "or equal" is not stated following an identification of material or equipment as the

product of a specific manufacturer, it shall be implied, unless otherwise stipulated.

6. Qualifying statements may be added after an identification of material or equipment as the product of a specific manufacturer. Statements containing phrases such as "to match existing," "no substitutions," or similar wording shall indicate that substitutions are not acceptable, and the term "or equal" shall not be implied.

B. Quality standards:

1. Established in Contract Documents by either or both of following:

a. Reference to type or model number of specific manufacturer.

b. Specific requirements set forth, including reference to recognized standards or trade designations.

2. Determine features required for items of equipment and material for this project. Features include construction, type, function, design, finish, appearance, efficiency and general quality.

C. Data on substitutions:

1. Submit complete listing of substitutions proposed, with drawings and other data required herein, and Contract price changes pertaining to each proposed substitution, with bid. If list is not submitted to meet this requirement, furnish products of manufacturers specified.

2. Furnish drawings or other data required to indicate any modifications which would result from use of proposed substitutions.

3. Furnish general arrangement drawings, full

descriptive data, and any other information required to demonstrate that proposed substitutions are, in fact, equal to products specified.

D. Acceptance or rejection of proposed substitutions:

1. Owner's Representative may consider such factors as overall project arrangement, overall project cost, and similar factors in determining acceptability of proposed substitutions.

2. Owner's Representative will determine if proposed substitutions are acceptable or unacceptable, and will inform successful bidder of his decision, in writing, before execution of Contract.

E. Bidder's responsibility:

1. Burden of proof that proposed substitutions meet quality standards established for project shall in all cases remain with bidder.

2. Abide by Owner's Representative's decision regarding acceptability of proposed substitutions.

3. Acceptance of proposed substitutions shall not relieve bidder of responsibility for providing workmanship, materials and equipment meeting quality standards established for project.

1.9 CONTRACT PRICE

A. Contract price may be modified after award of Contract by any of the means mentioned elsewhere in the Contract Documents.

1.10 SUBMISSION OF BIDS

A. Prepare bids in triplicate on Form of Proposal included herewith.

B. Forms are included as follows:

1. Owner's Copy: bound in specifications.

2. Duplicate Copy for Engineer: inserted loose in specifications.

3. Duplicate Copy for bidder: inserted loose in specifications.

C. Submit following in sealed envelope:

1. Owner's Copy of bid.

2. Duplicate Copy for Engineer.

D. Sealed envelope shall be marked with bidder's return address, and shall be addressed as follows:

TO:

Mayor Morris Becker
City of Eastlake
35150 Lake Shore Boulevard
Eastlake, Ohio, 44094

PROPOSAL FOR:

Chagrin River Jetty and
River Bank Protection
City of Eastlake, Ohio

E. Retain Duplicate Copy for bidder.

F. Legally authorized representative of bidder shall sign bid.

1.11 DATA TO ACCOMPANY BIDS (Submit in duplicate)

A. Information required in specifications.

1.12 QUESTIONS AND ADDENDA

A. Any questions concerning interpretation or intent of the Contract Documents should be directed to:

Mr. Jack Fink
Stanley Consultants, Inc.
Stanley Building
Muscatine, Iowa 52761
Phone 319-264-6290

B. Questions of a nontechnical nature shall be directed to:

Mr. R. K. Buckman
Stanley Consultants, Inc.
Stanley Building
Muscatine, Iowa 52761

C. Replies which are of a general interest to all bidders will be issued by Addenda mailed or delivered to all parties recorded by the Engineer as having received the bidding documents.

D. Only replies by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

E. Questions received less than ten days prior to the date for opening bids will not be answered.

F. Owner reserves the right to reuse or amend the Contract Documents prior to the date set for receipt of bids. Such revisions and amendments, if any, will be announced by addendum or addenda to the Contract Documents.

G. Bidders are required to acknowledge receipt of all addenda by listing such addenda in the Form of Proposal.

1.13 WITHDRAWAL OF BIDS

A. Bids may be withdrawn any time prior to scheduled

closing time for receipt of bids; no bid may be withdrawn for period of 30 calendar days thereafter.

1.14 EVALUATION OF BIDS

A. Owner may consider such factors as bid price, materials, methods of construction, experience and responsibility of bidder, and similar factors in determining which bid it deems to be in its best interests.

B. Owner may reject any or all bids, waive informalities or technicalities in any bid, and accept any bid which it deems to be in its best interests.

C. Owner reserves the right to defer acceptance of any proposal for a period not to exceed 30 calendar days after receipt of bids.

1.15 EXECUTION OF CONTRACT

A. Successful bidder shall, within 10 calendar days after acceptance of his proposal, enter into written contract with Owner on forms included with specifications, for performance of work awarded to him.

B. Contract, when executed, shall be deemed to include entire agreement between parties; Contractor shall not claim any modification resulting from representation or promise made by representatives of Owner or other persons.

+ + END OF INSTRUCTIONS TO BIDDERS + +

Bidding Requirements

FORM OF PROPOSAL

B7869.1 FP

Name of Bidder_____

Address of Bidder_____

TO: Mayor Morris Becker
City of Eastlake
35150 Lake Shore Boulevard
Eastlake, Ohio 44094

The undersigned bidder submits herewith bid security in form of an acceptable bidder's bond, a certified check, or cash in amount not less than 5% of bid, which shall become the property of the City of Eastlake should the undersigned fail or refuse to execute a contract and to furnish bond as called for in the specifications within the time provided.

The undersigned bidder, having examined the Contract Documents, and having familiarized himself with the nature and location of the work to be done and the conditions under which the work will be performed, hereby proposes to provide the required labor, services, materials and equipment and to perform the work described in the specifications and Addenda_____, _____, and _____, within the time and for the sum or sums stated hereinafter:

CHAGRIN RIVER JETTY AND RIVER BANK PROTECTION

1. Construct jetty, revetments, graded beack, beach retaining wall, dredged navigation channel, navigation aids and associated items as specified and shown for the following unit prices:

* NOTICE: Submit Proposals on this form. See "Instructions *
* to Bidders" for copies required and manner of submittal. *

Bidding Requirements

FORM OF PROPOSAL

Item	Unit	Est. Quantity	Unit Price	Extended Price
Site Clearing	LS	---	$_____	$_____
Channel Dredging and Excavation for structures including grading of spoil	CY	30,800	$_____	$_____
Jetty				
Armor Stone (5,000 lb.)	Ton	1,100	$_____	$_____
Armor Stone (2,000 lb.)	Ton	2,330	$_____	$_____
Underlayer Stone (500 lb.)	Ton	1,420	$_____	$_____
Underlayer Stone (200 lb.)	Ton	2,090	$_____	$_____
Bedding Stone	Ton	2,720	$_____	$_____
Beach Retaining Wall				
Armor Stone (2,000 lb.)	Ton	1,570	$_____	$_____
Underlayer Stone (200 lb.)	Ton	1,710	$_____	$_____
Bedding Stone	Ton	1,930	$_____	$_____
River Bank Revetment				
18" Gabion Mattress	SY	555	$_____	$_____
Bedding Stone	Ton	340	$_____	$_____
Navigation Light	Ea.	2	$_____	$_____
		TOTAL BID	$_____	

2. Work will be completed with _____ calendar days after receipt of written notice to proceed.

* NOTICE: Submit Proposals on this form. See "Instructions *
* to Bidders" for copies required and manner of submittal. *

FORM OF PROPOSAL

3. Exceptions: bidder shall list on a separate sheet or sheets all exceptions or clarifications to the specifications. Such "exceptions" shall list the specification page number and paragraph identification to which they apply. Such page shall be in a separate sealed envelope affixed to the outside of bidder's sealed bid and labeled "Exceptions." Where no exceptions or clarifications exist, bidder shall include a sheet indicating such.

4. The attachment of printed forms or any standard statement contained in the bidder's proposal will not be construed as an exception to the Contract Documents unless listed as "exceptions."

The undersigned bidder certifies that this proposal is made in good faith, without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this proposal is made in conformity with the specifications and agrees that, in event of any discrepancies or differences between any conditions of his proposal and the specifications prepared by Stanley Consultants, the provisions of the latter shall prevail.

Bidder_____

Business Entity_____

By_____

Title_____

Date of Proposal _____, 1981.

* NOTICE: Submit Proposals on this form. See "Instructions *
* to Bidders" for copies required and manner of submittal. *

CONTRACT FORMS

Contract Forms

FORM OF CONTRACT

B7869.1 FC

THIS AGREEMENT, made and entered into this ___ day of _____, 1981, by and between the _____ _____ party of the first part, hereinafter referred to as the _____ and _____, party of the second part, hereinafter referred to as the "Contractor,"

WITNESSETH:

That whereas the _____ has heretofore caused to be prepared certain plans and specifications, dated the ____ day of _____, 1981, for _____ _____ under the terms and conditions therein fully stated and set forth, and

Whereas, said plans and specifications and proposal accurately and fully describe the terms and conditions upon which the Contractor is willing to perform the work specified:

NOW, THEREFORE, IT IS AGREED:

1. That the _____ hereby accepts the proposal of the Contractor for the work and for the sums listed below:

FORM OF CONTRACT

2. That this Contract consists of the following component parts which are made a part of this agreement and Contract as fully and absolutely as if they were set out in detail in this Contract:

   A. Bidding Requirements and Conditions of the Contract, including:

      1. Plans List.
      2. Instructions to Bidders.
      3. General Conditions.
      4. Special Conditions.

   B. Specifications for Chagrin River Jetty and River Bank Protection.

   C. Plans listed.

   D. Addenda Numbers _____.

   E. Contractor's Proposal.

   F. This Instrument.

   Above components are complementary and what is called for by one shall be as binding as if called for by all.

3. That payments are to be made to the Contractor in accordance with and subject to the provisions embodied in the documents made a part of this Contract.

4. That this Contract is executed in triplicate.

Contract Forms

FORM OF CONTRACT

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the date first written above.

_____

BY_____(Seal)

(Title)_____

ATTEST:

_____

(Title)_____

Contractor_____

By_____(Seal)

(Title)_____

ATTEST:

_____

(Title)_____

FORM OF BOND

KNOW ALL MEN: That we _____

_____

hereinafter called the Principal, and _____

_____ and

_____

_____ and

_____

hereinafter called the Surety or Sureties, are held and firmly bound unto _____

_____

_____

hereinafter called the Owner, in the sum of _____

_____

_____ ($ _____),

for the payment whereof the Principal and the Surety or Sureties bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly, by these presents.

WHEREAS, the Principal has, by means of a written Agreement dated _____

_____ entered into a contract

with the Owner for _____

_____

which agreement includes a guarantee of all work against defective workmanship and materials for a period of two years from the date of final acceptance of the work by the obligee, a copy of which Agreement is by reference made a part hereof;

Now Therefore, the condition of this Obligation is such that, if the Principal shall faithfully perform the Contract on his part and shall fully indemnify and save harmless the Owner from all cost and damage which he may suffer by reason of failure so to do and shall fully reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any such default.

And further, that if the Principal shall pay all persons who have contracts directly with the Principal for labor or materials, failing which such persons shall have a direct right of action against the Principal and Surety under this Obligation, subject to the Owner's priority.

Then this Obligation shall be null and void, otherwise it shall remain in full force and effect.

Provided, however, that no suit, action or proceeding by reason of any default whatever shall be brought on this Bond after three years from the date of final acceptance of the work.

And Provided, that any alterations which may be made in the terms of the Contract, or in the work to be done under it, or the giving by the Owner of any extension of time for the performance of the Contract, or any other forbearance on the part of either the Owner or the Principal to the other shall not in any way release the Principal and the Surety or Sureties, or either or any of them, their heirs, executors, administrators, successors or assigns from their liability hereunder, notice to the Surety or Sureties of any such alteration, extension or forbearance being hereby waived.

And Further Provided, the Principal and Sureties on this bond hereby agree to pay all persons, firms, or corporations having contracts directly with the Principal or with subcontractors all just claims due them for labor performed or material furnished, in the performance of the contract on account of which this bond is given, when the same are not satisfied out of the portion of the contract price which the Owner shall retain until completion of the improvement but the Principal and Sureties shall not be liable to said persons, firms, or corporations unless the claims of said claimants against said portions of the contract price shall have been established as provided by law.

Every Surety on this bond shall be deemed and held, any contract to the contrary notwithstanding, to consent without notice:

a. To the extension of time to the Principal in which to perform the contract.

b. To changes in the plans, specifications, or contract, when such changes do not involve an increase of more than twenty percent of the total contract price, and shall then be released only as to such excess increase.

c. That no provision of this bond or of any other contract shall be valid which limits to less than three years from the date of final acceptance of the work the right to sue on this bond for defects in workmanship or material not discovered or known to the obligee at the time such work was accepted.

This Bond is executed in triplicate.

Signed and Sealed this _____ day of _____, 19____.

In Presence of

_____) _____(SEAL)
) as to Principal
_____) _____

_____) _____(SEAL)
) as to Principal
_____) _____

_____) _____(SEAL)
) as to Surety
_____) _____

_____) _____(SEAL)
) as to Surety
_____) _____

CONDITIONS OF THE CONTRACT

Conditions of the Contract

GENERAL CONDITIONS

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Conditions of the Contract

GENERAL CONDITIONS

GC-1 INTENT OF CONTRACT DOCUMENTS 64

A. The intention of the documents is to set forth requirements of performance, type of equipment and structures, and standards of materials and construction. It is also intended to include all labor and materials, equipment and transportation necessary for the proper execution of the work, to require new material and equipment unless otherwise indicated, and to require complete performance of the work in spite of omission of specific reference to any minor component part. It is not intended, however, that materials or work not covered by or properly inferable from any heading, branch, class or trade of the specifications shall be supplied unless distinctly so noted. Materials or work described in words, which so applied have a well-known technical or trade meaning, shall be held to refer to such recognized standards. 67 68 69 70 71 72 73 74 75 76 77 78 80 82

GC-2 SUPERVISION AND CONSTRUCTION PROCEDURES 85

A. Contractor shall supervise and direct the work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the Contract. 89 90 91 92

GC-3 PROTECTION OF PERSONS AND PROPERTY 95

A. Safety precautions and programs: the Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. 99 100 101

B. Safety of persons and property: 104

1. The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to: 107 108 110

a. All employees on the work and all other persons who may be affected thereby; 113 114

b. All the work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, 117 118 119

custody or control of the Contractor or any of his Subcontractors or Sub-subcontractors; and

c. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

2. The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

3. The Contractor shall erect and maintain, as required by existing conditions and progress of the work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

4. When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

5. The Contractor shall promptly remedy all damage or loss (other than damage or loss covered under "Insurance and Bonds" in Special Conditions) to any property referred to under "Safety of Persons and Property" above, caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under "Safety of Persons and Property" above, except damage or loss attributable to the acts or omissions of the Owner or Engineer or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not

attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligations under "General Indemnification."

6. The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and the Engineer.

7. Contractor's duties and responsibilities for the safety and protection of the work shall continue until such time as all the work is completed and Engineer has issued a notice to Owner and Contractor in accordance with "Acceptance and Final Payment."

8. The Contractor shall not load or permit any part of the work to be loaded so as to endanger its safety.

GC-4 DOCUMENTS AND SAMPLES AT THE SITE

A. Contractor shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to Engineer and shall be delivered to him for Owner upon completion of the Project.

GC-5 GENERAL INDEMNIFICATION

A. The Contractor shall indemnify and save harmless the Owner against any liens filed for nonpayment of his bills in connection with the Contract work. The Contractor shall furnish the Owner satisfactory evidence that all persons who have done work or furnished materials, equipment, or service of any type under this Contract have been fully paid prior to the acceptance of the work by the Owner.

B. The Contractor shall indemnify and hold harmless the Owner and Engineer and their agents and employees from and against all claims, damages, losses and expenses, including attorneys' fees, arising out of or resulting

from the performance of work under this Contract, provided that any such claim, damage, loss or expense is both:

1. Attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself), including the loss of use resulting therefrom; and

2. Caused in whole or in part by any negligent, reckless or intentional act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable.

C. In any and all claims against the Owner or Engineer or any of their agents or employees by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damage, compensation or benefits payable by or for the Contractor or any subcontractor under worker's compensation acts, disability benefit acts, other employee benefit acts or any insurance proceeds or limitations.

D. The obligation of the Contractor shall not extend to the liability of the Engineer, his agents or employees arising out of the Engineer's preparation or review of maps, drawings, opinions, reports, surveys, change orders, designs or specifications.

GC-6 SUBCONTRACTS

A. The Contractor shall not assign, sublet, or transfer the whole or any part of the work herein specified without the written consent of the Owner. Any such assignment, subletting, or transfer shall not in any manner relieve the Contractor from any of the responsibilities assumed herein.

B. For convenience of reference and to facilitate the letting of contracts and subcontracts, the detailed specifications are separated into titled parts. Such separation shall not, however, operate to make the

Engineer an arbiter to establish limitations on contracts between Contractor and subcontractors. 277

GC-7 CONTRACTOR'S EMPLOYEES 280

A. The Contractor shall either personally superintend his work or shall cause it to be done by a capable superintendent satisfactory to the Engineer. Such superintendent shall be authorized to act on behalf of the Contractor and to supervise the work in a manner that will comply with all requirements of the plans and specifications as interpreted by the Engineer. The Contractor shall not reassign or replace his superintendent without consent of the Owner and Engineer. 283 284 285 286 287 288 289 290 291

B. Incompetent or incorrigible employees shall be dismissed by the Contractor or his representative when requested by the Engineer, and such persons shall not again be permitted to return to work without the written consent of the Engineer. 294 295 296 297 298

C. No person whose physical condition is such as to make his employment dangerous to his health or safety, or to the health or safety of others, shall be employed in the development of the project. 302 303 304

D. There shall be no discrimination against any employee or applicant for employment because of race, religion, color, sex, or national origin. This provision shall be included in all subcontracts. 307 309 310

GC-8 PATENTS 313

A. All fees or royalties for patented inventions, equipment, or arrangements that may be used in any manner connected with the construction or erection of the work, or any part thereof, shall be included in the price mentioned in the Contract. 316 317 318 319 320

B. The Contractor shall protect and hold harmless the Owner and Engineer against any and all claims or litigation by reason of infringement of any patent rights on any materials, equipment, or construction furnished by the Contractor. 323 324 325 326 327

C. The Contractor shall indemnify and save the Owner and Engineer harmless from all claims and litigation, 330 331

including expenses and attorney fees, arising out of the infringement or alleged infringement of any patent rights on any materials, equipment, or construction furnished by the Contractor.

GC-9 GUARANTEES

A. The Contractor shall guarantee against all defects for the period specified in the Form of Bond (or for one year after the date of final acceptance if no bond is required):

1. Materials and equipment shall be free from damage and imperfections in design, materials or construction which would create hazards, operating difficulties or unworkmanlike appearance; and

2. Equipment quoted upon shall be capable of continuous and satisfactory performance under normal operating conditions at specified design conditions and capacity.

B. The Contractor shall repair or replace any such defects in a manner acceptable to the Owner, and without expense to the Owner, within ten days after notification in writing by the Owner of such defect. If the Contractor shall not have made said repairs or replacements or have made arrangements for correction thereof within the period specified above, the Owner may do so and charge the cost of same to the Contractor.

C. The Contractor guarantees that all equipment delivered under the Contract will be made from materials suitable and adequate for the purposes intended as described in the Contract, and in a workmanlike manner in accordance with the best engineering practice, and that such equipment will fully comply with the specifications, including all performance requirements and representations included in the specifications, whether set forth on data sheets, performance curves, or otherwise. The Contractor agrees to promptly correct, at no expense to Owner, by repair or replacement, any defect or failure of compliance that may develop within the period specified in the Form of Bond or one year after the date of final acceptance if no bond is required. Contractor's obligation shall include any

labor or transportation costs incurred or involved in making corrections. 386

GC-10 INTERPRETATION OF PLANS AND SPECIFICATIONS 389

A. The Contractor shall promptly report any errors or ambiguities in the plans and specifications to the Engineer. Questions as to meaning of plans and specifications shall be interpreted by the Engineer, whose decision shall be final and binding on all parties concerned. 392 393 394 395 396 397

B. The Engineer will provide the Contractor with such information as may be required to show revised or additional details of construction. 400 401 402

C. The Contractor will not be allowed to take advantage of any errors or omissions in the plans and specifications. The Engineer will provide full information when errors or omissions are discovered. 405 406 408

GC-11 DECISIONS BY ENGINEER 411

A. The Engineer shall, within a reasonable time after presentation, make decisions in writing on claims between the Contractor and Owner. Such decisions shall be regarded as final, except that recourse to arbitration may be had as hereinafter provided. 414 415 417 418

GC-12 WORKMANSHIP AND MATERIALS 421

A. All work done and all materials and equipment furnished by the Contractor shall conform to the plans and specifications. Competent labor and tradesmen shall be used on all work. 424 425 427

B. All workmanship shall be of the best quality. 431

C. Wherever the specifications call for an item of material or equipment by a manufacturer's name and type, and additional features of the item are specifically required by the specifications, the additional features specified shall be provided whether or not they are normally included in the standard manufacturer's item listed. 434 435 436 437 439 440

D. Wherever the specifications call for an item of material or equipment by a manufacturer's name and 443 444

type, and the specified item becomes obsolete and is no longer available, the Contractor shall provide an item equal in quality and performance which is currently available, at no change in Contract price.

GC-13 INSPECTION

A. The Engineer shall observe the work on behalf of the Owner, and will provide general assistance during construction insofar as proper interpretation of the Contract requirements is affected.

B. The Engineer shall not be responsible for the acts or omissions of the Contractor's superintendent or other employees.

C. All materials used and all completed work by the Contractor shall be subject at all times to the observation, test, and approval of the Engineer. The Contractor shall furnish such samples of materials for examination and tests as may be requested by the Engineer and shall furnish any information required concerning the nature or source of any materials or equipment which he proposes to use.

D. The construction, fabrication, and manufacture of any equipment or materials specified herein may be inspected by the Engineer at the plant or factory and the Engineer shall have free access to make such inspection.

E. Any materials, equipment, or work which do not satisfactorily meet the specifications may be condemned by the Engineer by giving a written notice to the Contractor. All condemned materials, equipment, or work shall be promptly taken out and replaced.

F. Any defective material, equipment, or work may be rejected by the Engineer at any time prior to final acceptance by the Owner even though said defective items may have been previously overlooked.

GC-14 INSPECTORS

A. Inspectors may be appointed by the Engineer or Owner to see that the work is completed in accordance with the plans and specifications.

B. Inspectors shall have authority to suspend items of work which are not being completed in accordance with the plans and specifications, subject to the final decision of the Engineer to condemn and reject items of defective work and materials.

C. Inspectors shall have no authority to permit deviation from the plans and specifications and the Contractor shall be liable for any deviations made without a written order from the Engineer.

GC-15 DELAYS

A. Delays caused by injunction or legal actions, "Acts of God," or other causes beyond the control of the Contractor (of which the Owner shall be the sole judge) shall entitle the Contractor to a reasonable extension of time within which to complete the work.

B. "Acts of God" shall mean an earthquake, flood, cyclone, or other cataclysmic phenomena of nature. Rain, wind, flood, or other natural phenomena of normal intensity for the locality of the Project shall not be construed as an "Act of God" and no extension of time shall be allowed the Contractor because of effects of such phenomena.

C. Application for such extension of time shall be made to the Owner by the Contractor within ten days after the occurrence of such delay and shall state reasons for the request for the extension of time.

D. No extension of time shall be valid unless it is given in writing by the Owner.

GC-16 CHANGES

A. The Engineer shall have the right, with the approval of the Owner, to order extra work or to make changes by altering, adding to, or deducting from, the work.

B. No such changes or extra work shall be authorized unless covered by written order of the Engineer and approved by the Owner. No changes shall be made or extra work ordered under this paragraph which will increase or decrease the total cost of the original contract price by more than 20%.

C. Written orders for changes or extra work shall specify an extension of the completion time, if any, and method of payment which shall be determined as follows:

1. Where unit prices or unit adjustment prices form a part of the Contract, these unit prices shall be used to compute adjustment of compensation, if applicable to the changes.

2. Where no applicable unit prices or unit adjustment prices form a part of the Contract, payment for the changes shall be made by one of the following methods:

a. By a lump sum based on Contractor's estimate, approved by the Engineer and accepted by the Owner.

b. By "Cost-Plus" as defined in the Special Conditions.

D. In case the Contractor deems that extra compensation is due him for labor or materials not clearly covered in the Contract, and not ordered by the Engineer as a change or as extra work, the Contractor shall notify the Engineer in writing of his intention to make a claim for such extra compensation before he begins the work on which he bases his claim, and he shall furnish a daily record of the cost of the work to the Engineer. Failure on the part of the Contractor to give such notification or to furnish records of cost shall constitute a waiver of the claim for extra compensation. However, the filing of notice and the furnishing of cost records shall not be construed to prove the validity of the claim.

E. In no case shall the Contractor delay work because of lack of agreement for compensation for changes or extra work mentioned hereinbefore.

F. All claims for extra compensation shall be filed, in writing, with the Engineer before Owner's final acceptance of work.

G. When changes or extra work are done on a cost-plus basis, the Contractor shall submit a statement including time sheets and invoices of costs to the Engineer for his approval. After such a statement is

approved, the Engineer shall certify its correctness to the Owner.

GC-17 UNAUTHORIZED WORK

A. Work done without lines and grades having been established, work done without proper inspection, or any changes made or extra work done without written authority will be done at the Contractor's risk and will be considered unauthorized, and, at the option of the Engineer, may not be measured and paid for.

GC-18 OTHER CONTRACTS

A. The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and for the execution of their work, and shall properly connect and coordinate his work with theirs.

B. If any part of the Contractor's work depends for proper execution or results upon the work of any other contractors, the Contractor shall inspect and promptly report to the Engineer any defects in such work that render it unsuitable for such proper execution and results. His failure so to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of his work, except as to defects which may develop in the other contractor's work after the execution of his work.

C. To insure the proper execution of his subsequent work, the Contractor shall measure work already in place and shall at once report to the Engineer any discrepancy between the executed work and the plans and specifications.

GC-19 OWNER'S RIGHT TO DO WORK

A. If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the Owner after ten days' written notice to the Contractor may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor; provided, however, that the Engineer shall approve both such action and the amount charged to the Contractor. The Contractor shall reimburse the Owner for the amount by which the cost to the Owner of correcting such deficiencies exceeds the amount remaining due to the Contractor under the Contract.

GC-20 OWNER'S RIGHT TO TERMINATE CONTRACT

A. If the Contractor should be adjudged a bankrupt; or if he should make a general assignment for the benefit of his creditors; or if a receiver should be appointed on account of his insolvency; or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials; or if he should fail to make prompt payment to the subcontractors or for materials or labor; or persistently disregard laws, ordinances, or the instructions of the Engineer; or otherwise be guilty of a substantial violation of any provision of the Contract, then the Owner, upon the certificate of the Engineer that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor seven days' written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools, and appliances thereon and finish the work by whatever method he may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished.

B. If the unpaid balance of the Contract price shall exceed the expense of finishing the work, including compensation for additional material, administrative service, and engineering fees, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the

difference to the Owner. The expense incurred by the Owner as herein provided, and the damage incurred through the Contractor's default, shall be certified by the Engineer.

GC-21 CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

A. If, through no act or fault of the Contractor, the work is suspended for a period of more than ninety days by the Owner or under an order of court or other public authority, or the Engineer fails to act on any application for payment within thirty days after it is submitted, or the Owner fails to pay the Contractor any sum approved by the Engineer or awarded by arbitrators within thirty days of its approval and presentation, then the Contractor may, upon seven days' written notice to the Owner and the Engineer, terminate the Agreement and recover from the Owner payment for all work executed and any expense sustained, plus a reasonable profit. In lieu of terminating the Agreement when the Engineer has failed to act on an application for payment or the Owner has failed to make any payment as aforesaid, the Contractor may, upon seven days' notice to the Owner and the Engineer, stop work until he has been paid all amounts then due.

GC-22 PAYMENTS WITHHELD

A. The Engineer may withhold or, on account of subsequently discovered evidence, nullify the whole or a part of any certificate to such extent as may be necessary to protect the Owner from loss on account of:

1. Defective work not remedied.

2. Claims filed or reasonable evidence indicating probable filing of claims.

3. Failure of the Contractor to make payments properly to subcontractors or for material or labor.

4. A reasonable doubt that the Contract can be completed for the balance then unpaid.

5. Damage to another contractor.

B. When the above grounds are removed, payment shall be made for amounts withheld because of them.

GC-23 ACCEPTANCE AND FINAL PAYMENT

A. As soon as the work has been satisfactorily completed, the Engineer will certify the Contractor's final estimate stating that the work has been completed in accordance with the terms and conditions of this Contract, with qualifications, if any, as stated. The balance found to be due the Contractor according to the terms of payment shall be paid by the Owner as provided in the Contract; provided, however, that any state laws which designate the manner of final payment shall be followed in lieu of the manner of final payment outlined above. Prior to receipt of final payment, the Contractor shall file with the Owner, a receipt in full from each manufacturer, subcontractor, and dealer for all equipment and materials used on the work and a complete release of all liens, including tax liens, which may have arisen from this Contract. In lieu thereof, the Owner, at his option, may accept from the Contractor a statement showing balance due on all accounts.

B. The making and acceptance of the final payment shall constitute: (1) a waiver of all claims by the Owner, with the exception of such claims as may thereafter be discovered; and (2) a waiver of all claims by the Contractor, except those previously made in writing and still unsettled.

C. If, after substantial completion of the work, final completion thereof is materially delayed through no fault of the Contractor, and the Engineer so confirms, the Owner shall, upon certification by the Engineer, and without terminating the Agreement, make payment of the balance due for that portion of the work fully completed and accepted. If the remaining balance for work not fully completed or corrected is less than any retainage stipulated, and if either performance or labor and material payment bonds have been furnished, the written consent of the surety or sureties to the payment of the balance due for that portion of the work fully completed and accepted shall be submitted by the Contractor to the Engineer prior to certification of such payment. Such payment shall be made under the

terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

GC-24 NO WAIVER OF LEGAL RIGHTS

A. Neither the payment for, nor acceptance of the whole or any part of the work by the Owner or representatives of the Owner, nor any extension of time, nor the withholding of payments, nor any possession taken by the Owner, nor the termination of employment of the Contractor shall operate as a waiver of any portion of the contract or any power therein reserved or any right therein reserved or any right therein provided.

GC-25 OWNER'S RIGHT TO SUSPEND WORK

A. The Owner may, at any time, suspend the work, or any part thereof, by giving ten days' written notice to the Contractor. The date for resumption of work may be specified in either the suspension notice or in a subsequent written notice and the work shall be resumed by the Contractor within ten days after the date so specified.

B. If the work, or any part thereof, is suspended by written notice, and if the Owner does not give written notice to the Contractor to resume work at a date within one year following the suspension date, the Contractor may abandon that portion of the work so suspended, and he will be entitled to payment for all work done on the portions so abandoned.

C. If suspension of all or part of the work by the Owner causes additional expense not due to the fault or negligence of the Contractor, the Owner shall reimburse the Contractor for the additional expense incurred due to suspension of the work; provided, however, that this paragraph shall not be construed as entitling the Contractor to compensation for delays due to inclement weather, failure to furnish additional surety or sureties specified herein, for suspension made at the request of the Contractor, or for any other delay provided for in the Contract Documents. Claims for such compensation, with complete substantiating records, shall be filed with the Engineer within ten days after the date of order to resume work in order to receive consideration.

GC-26 ARBITRATION

A. All questions subject to arbitration under this Contract shall be submitted to arbitration at the choice of either party to the dispute.

B. The Contractor shall not cause a delay of the work during any arbitration proceedings, except by agreement with the Owner.

C. The demand for arbitration shall be filed in writing with the Engineer, in the case of an appeal from his decision, within ten days of receipt of his decision. In any other case, the demand for arbitration shall be filed in writing within a reasonable time after cause thereof, and in no case later than the time of final payment, except as otherwise expressly provided in the Contract. If the Engineer fails to make a decision within a reasonable time, an appeal to arbitration may be taken as if his decision had been rendered against the party appealing.

D. No one shall be nominated or act as an arbitrator who is in any way financially interested in the Contract or in the business affairs of either the Owner, Contractor, or Engineer.

E. The parties may agree upon one arbitrator. In all other cases there shall be three arbitrators. One arbitrator shall be named by each party to this Contract; each party shall notify the other party and the Engineer of such choice in writing. The third arbitrator shall be chosen by the two arbitrators named by the parties. If the two arbitrators fail to select a third within fifteen days, the third arbitrator shall be chosen by the presiding officer of the bar association nearest to the location of the work. Should the party demanding arbitration fail to name an arbitrator within ten days of his demand, his right to arbitration shall lapse. Should the other party fail to choose an arbitrator within the said ten days, the presiding officer of the bar association nearest to the location of the work shall appoint such arbitrator. Should either party refuse or neglect to supply the arbitrators with any papers or information demanded in writing, the arbitrators are empowered by both parties to proceed ex parte.

F. If there be one arbitrator, his decision shall be binding; if there are three, the decision of any two shall be binding. Such decision shall be a condition precedent to any right of legal action, and wherever permitted by law it may be judicially enforced.

G. The arbitrators are authorized to award to the party whose contention is sustained such sums as they shall deem proper for the time, expense and trouble incidental to the appeal and, if the appeal was taken without reasonable cause, damages for delay. The arbitrators shall fix their own compensation, unless otherwise provided by agreement, and shall assess the costs and charges of the arbitration upon either or both parties.

H. The award of the arbitrators shall be in writing. The form of the proceeding or form of the award shall not be grounds for objection to the award.

GC-27 OWNERSHIP OF MATERIALS

A. All material and work covered by partial payments shall become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for all materials and work for which payments have been made, for the restoration of damaged work, or as a waiver of rights of the Owner to require the fulfillment of all the terms of the Contract.

GC-28 CLEANING UP

A. The Contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work he shall remove all his rubbish, tools, scaffolding and surplus materials and shall leave his work "broom clean" or its equivalent, unless more exactly specified. In case of dispute, the Owner may remove the rubbish and charge the cost to the several contracts as the Engineer shall determine to be just.

\+ + END OF GENERAL CONDITIONS + +

Conditions of the Contract

SPECIAL CONDITIONS

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Conditions of the Contract

SPECIAL CONDITIONS

1.1 FORM OF SPECIFICATIONS

A. Abbreviated, outline type.

B. Determine components of specifications from Table of Contents.

1.2 DEFINITION OF TERMS

A. "Owner," shall mean City of Eastlake, 35150 Lake Shore Boulevard, Eastlake, Ohio, 44094.

B. "Engineer" shall mean Owner's authorized representative.

C. "Bidder" shall mean an individual, firm, partnership or corporation, or combination thereof, submitting a proposal for the work contemplated and acting directly or through a duly authorized representative.

D. "Contractor" shall mean the individual, firm, partnership or corporation, and his, their or its heirs, executors, administrators, successors and assigns, or the lawful agent of any such individual, firm, partnership, covenantor or corporation, or his, their or its surety under any contract bond, constituting one of the principals to the Contract and undertaking to perform the work herein specified. Where any pronoun is used as referring to the word "Contractor," it shall mean the Contractor as defined herein.

E. "Subcontractor" shall mean any person, firm or corporation with a direct contract with the Contractor who acts for or in behalf of the Contractor in executing any part of the Contract, but does not include one who merely furnishes material.

F. "Contract Documents" shall mean those documents listed in the Form of Contract, including all additions, deletions and modifications incorporated therein before execution of the Contract.

G. "Proposal" shall mean the written offer or copy thereof

of a bidder to perform the work described by the Contract Documents when made out and submitted on the prescribed Form of Proposal, properly signed and accompanied by any required bid security.

H. "Contract" shall mean the written agreement covering the performance of the work described in the Contract Documents including all supplemental agreements thereto.

I. "Work" shall mean equipment, supplies, materials and services to be furnished by agreement, unless some other meaning is indicated by context.

J. "Written notice" shall be considered as served when delivered in person or by registered mail to the individual, firm or corporation or to the last business address of such known to him who serves the notice. It shall be the duty of each party to advise the other parties to the agreement of any change in his business address until completion of the Contract.

1.3 COORDINATION OF CONSTRUCTION

A. Coordinate work with other contractors, Owner and Engineer to assure orderly and expeditious progress of work.

B. Select order of work and establish schedule of working hours for construction, subject to approval of Owner

C. Access to the construction site shall be either by way of the shoreline construction easement granted this project and Galalina Blvd., or by way of Lake Erie, if access is from the water. Possible conflicts with transporting equipment and materials shall be clarified with Owner prior to submittal of bid.

1.4 INSURANCE AND BONDS

A. The Contractor shall comply with the following

Conditions of the Contract

SPECIAL CONDITIONS

insurance requirements:

1. Worker's Compensation; Employer's Liability: Contractor shall comply with all worker's compensation laws and employer's liability acts of the state or states having jurisdiction of the labor or services to be performed hereunder by the Contractor and shall carry full insurance, or be authorized to self-insure, covering liability of its employees under such law.

2. Comprehensive General Liability: except as may otherwise be required herein or by separate agreement, the Contractor shall carry comprehensive general public liability insurance, including the following.

   a. Premises and operations including explosion, collapse and underground coverage.

   b. Independent contractor's protection.

   c. Products and completed operations.

   d. Contractual, including specified provision for the Contractor's obligation under "Contractor's Responsibility" and "General Indemnification" in the General Conditions.

   e. Owned, nonowned and hired motor vehicles.

   f. Special maritime endorsement which covers work on navigable waters for employees who are masters, mates, and crew members aboard vessels.

   g. Each liability coverage shall have personal injury limits of not less than $500,000 for each person, for each occurrence, and aggregate, and property damage limits of not less than $500,000 for each occurrence and aggregate.

3. Furnish to Owner 3 copies of certificates of insurance from carriers acceptable to the Owner evidencing compliance with the foregoing requirements. Certificates shall require written notice to the Owner and Engineer at least 15 days prior to policy termination or the effective date of any policy changes which restrict or reduce the limits or coverage or change the name or names of the insured. Contractor shall not begin the labor or services to be performed until such certificates have been approved by the Owner.

B. Property insurance:

1. The Contractor shall purchase and maintain property insurance upon the entire work accomplished under this Contract to the full insurable value thereof. Such insurance shall be in a company or companies against which the Owner has no reasonable objection. This insurance shall include the interests of the Owner, Engineer, Contractor, and sub-tier contractors and shall insure against perils of fire, extended coverage, vandalism and malicious mischief.

2. The Contractor shall file one certified copy of all policies with the Owner before commencement of on-site work. If Owner and/or Engineer is damaged by the failure of the Contractor to maintain such insurance and to so notify the same, then the Contractor shall bear all reasonable costs properly attributable thereto.

3. If this insurance is written with stipulated amounts deductible under terms of the policy, the Contractor shall pay the difference attributable to deductions in any payments made by the insurance carrier on claims paid by this insurance.

4. The Owner shall purchase and maintain such steam boiler and machinery insurance as may be required by the Contract Documents or by law. This insurance shall include the interests of the

Owner, the Contractor, subcontractors and sub-subcontractors in the Work.

5. The Owner and Contractor waive all rights against each other for damages caused by fire or other perils to the extent covered by insurance provided under this Section, except such rights as they may have to the proceeds of such insurance held by the Owner as trustee. The Contractor shall require similar waivers by sub-tier contractors. In waiving rights of recovery under this subparagraph, the term "Owner" shall be deemed to include his employees, and the Engineer and his employees as the Owner's representative.

6. Any insured loss is to be adjusted with the Owner and made payable to the Owner as trustee for the insureds, as their interests may appear, subject to the requirements of any applicable mortgagee clause and of Item 9. following.

7. If required in writing by any party in interest, the Owner as trustee shall, upon the occurrence of an insured loss, give bond for the proper performance of his duties. He shall deposit in a separate account any money so received, and he shall distribute it in accordance with such agreement as the parties in interest may reach, or in accordance with an award by arbitration in which case the procedure shall be as provided in the General Conditions. If after such loss no other special agreement is made, replacement of damaged work shall be covered by an appropriate Change Order.

8. The Owner as trustee shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within five days after the occurrence of loss to the Owner's exercise of this power, and if such objection be made, arbitrators shall be chosen as provided in the General Conditions. The Owner as

trustee shall, in that case, make settlement with the insurers in accordance with the directions of such arbitrators. If distribution of the insurance proceeds by arbitration is required, the arbitrators will direct such distribution.

9. If the Owner finds it necessary to occupy or use a portion or portions of the work performed under this Contract prior to substantial completion, such occupancy shall not commence prior to a time mutually agreed to by the Owner and Contractor and concurred with by the insurance company or companies. This insurance shall not be cancelled or lapse on account of such occupancy.

10. Unless otherwise provided, the Owner shall purchase and maintain property insurance upon the entire work at the site to the full insurable value thereof. This insurance shall include the interests of the Owner, the Engineer, the Contractor, and sub-tier contractors in the work and shall insure against the perils of fire, extended coverage, vandalism and malicious mischief.

11. The Owner shall file a copy of all policies with the Contractor before an exposure to loss may occur. If the Owner does not intend to purchase such insurance, he shall inform the Contractor in writing prior to commencement of the work. The Contractor may then effect insurance which will protect the interests of himself and the sub-tier contractors, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by failure of the Owner to purchase or maintain such insurance and to so notify the Contractor, then the Owner shall bear all reasonable costs properly attributable thereto.

12. If by terms of this insurance any mandatory deductibles are required, the Owner shall be

responsible for payment of such mandatory deductibles in the event of a paid claim.

13. The Owner shall purchase and maintain such steam boiler and machinery insurance as may be required by the Contract Documents or by law. This insurance shall include the interests of the Owner, the Contractor, subcontractors and sub-subcontractors in the Work.

14. If the Contractor requests in writing that insurance for special hazards be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

15. The Owner and Contractor waive all rights against each other for damages caused by fire or other perils to the extent covered by insurance provided under this Section, except such rights as they may have to the proceeds of such insurance held by the Owner as trustee. The Contractor shall require similar waivers by sub-tier contractors. In waiving rights of recovery under these terms, the term "Owner" shall be deemed to include his employees, and the Engineer and his employees as the Owner's representative.

16. Any insured loss is to be adjusted with the Owner and made payable to the Owner as trustee for the insureds, as their interests may appear, subject to the requirements of any applicable mortgagee clause and of Item 19 following.

17. If required in writing by any party in interest, the Owner as trustee shall, upon the occurrence of an insured loss, give bond for the proper performance of his duties. He shall deposit in a separate account any money so received, and he shall distribute it in accordance with such agreement as the parties in interest may reach, or

in accordance with an award by arbitration in which case the procedure shall be as provided in the General Conditions. If after such loss no other special agreement is made, replacement of damaged work shall be covered by an appropriate Change Order.

18. The Owner as trustee shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within five days after the occurrence of loss to the Owner's exercise of this power, and if such objection be made, arbitrators shall be chosen as provided in the General Conditions. The Owner as trustee shall, in that case, make settlement with the insurers in accordance with the directions of such arbitrators. If distribution of the insurance proceeds by arbitration is required, the arbitrators will direct such distribution.

19. If the Owner finds it necessary to occupy or use a portion or portions of the work performed under this Contract prior to substantial completion, such occupation shall not commence prior to a time mutually agreed to by the Owner and Contractor and concurred with by the insurance company or companies. This insurance shall not be cancelled or lapse on account of such occupancy.

C. Performance and payment bond:

1. Contractor shall furnish performance and payment bond using the enclosed Form of Bond as security for the faithful performance and payment of all his obligations as required in the Contract Documents. The bond shall be in an amount at least equal to the Contract price, with such sureties as are licensed to conduct business in the state where the project is located and as are otherwise acceptable to Owner.

2. If the surety on any bond furnished by Contractor

is declared a bankrupt, or becomes insolvent, or its right to do business is terminated in any state where any part of the project is located, Contractor shall within five days thereafter substitute another bond and surety, both of which shall be acceptable to Owner.

D. Additional bonds and insurance: prior to delivery of the executed Contract by Owner to Contractor, Owner may require Contractor to furnish such other bonds and such additional insurance, in such form and with such sureties or insurers as Owner may require. If such other bonds or such other insurance are specified by written instructions given prior to opening of bids, the premiums shall be paid by Contractor; if subsequent thereto, they shall be paid by Owner.

1.5 SUBSURFACE INVESTIGATION

A. A subsurface investigation has been conducted.

1. A geotechnical report concerning subsurface materials or conditions has been obtained by Engineer for Engineer's own use and has been relied upon by Engineer in preparing plans and specifications.

2. A copy of said report will be made available by Engineer to any bidder for review upon request in writing. Written requests are required to be in the following form: "Please forward a copy of geotechnical investigation report for subject project. The contracting firm herein named releases Owner and Engineer from any responsibility or obligation as to its accuracy or completeness or for any additional compensation for work performed under the Contract due to assumptions based on use of such furnished information."

3. The report, including any recommendations therein, is not guaranteed as to accuracy or completeness,

and is not a part of the Contract Documents. No express or implied agreement, warranty, guarantee, or representation is made as to such report or any part of such report. Conditions affecting the work may differ from those indicated in the report. Bidder shall adjust its bid to cover any risk which it might expect to encounter.

B. Contractor assumes all responsibility for its work on this project and shall not rely on subsurface information obtained from Engineer or Owner. Neither Owner nor Engineer will be responsible in any way for additional compensation for work performed due to Contractor's assumptions based on subsurface information obtained from Engineer or Owner.

C. Before submitting its Proposal each bidder will, at its own expense, make such additional investigations and tests as the bidder may deem necessary to prepare its Proposal for performance of work in accordance with the time, price, and other terms and conditions of the Contract Documents. On request, each bidder will be provided access to the site to conduct such investigations and tests as each bidder deems necessary for submission of its bid.

1.6 LINE AND GRADE

A. Obtain line and grade from existing bench marks, and other reference points established by Owner.

B. Contractor will establish a survey baseline for the project for the purpose of construction and quantities measurement.

C. Provide men, tools, stakes, and materials as required to establish temporary or permanent reference marks in connection with work.

D. Perform detailed measurements and transfer elevations as required to lay out and construct work.

E. Preserve bench marks and other reference points; if disturbed, replace according to Engineer's instructions, at no cost to Owner.

1.7 STORAGE

A. Limited outdoor storage space will be available at project site.

B. Store materials and equipment in manner which will preserve their quality and fitness; provide temporary storage buildings as required.

C. Location of construction facilities, including construction plant and yard on site, shall be subject to approval by Owner remove upon completion of work.

1.8 WATER FOR CONSTRUCTION

A. Contractor shall make his own arrangements for water to meet his construction requirements.

1.9 ELECTRICITY FOR CONSTRUCTION

A. Contractor shall make his own arrangements for electrical service to meet his construction requirements.

1.10 SANITARY FACILITIES

A. Sanitary facilities shall be provided by Contractor for use of all construction personnel, including those of other contractors, for the duration of the project, as follows:

1. Facilities shall consist of chemical units, complete with weather-tight enclosure, adequately ventilated, and equipped with latching door.

2. Chemical units shall be maintained weekly or at lesser periods if determined necessary. Chemical units shall be in accordance with the rules and

regulations of the locality of the project (state, county or city).

3. Contractor shall furnish toilet paper for the chemical units and shall replenish supply whenever required.

4. Sanitary facilities remain property of the Contractor and, upon completion of the work, shall be removed from the site.

1.11 CONTRACTOR'S OFFICE

A. Contractor shall provide, maintain and heat an office for his use at job site; equip with telephone.

1.12 COPIES OF PLANS AND SPECIFICATIONS

A. After award of Contract, Contractor may obtain, at no charge, a maximum of 5 complete sets of full-size plans, as listed in the specifications, and 5 sets of specifications.

B. Additional copies of specifications, and , full-size plans may be obtained under the following conditions:

1. Specifications:

a. Furnished at no charge by Engineer in reasonable number consistent with extra copies in Engineer's possession.

b. If Contractor's requirement for additional specifications necessitates reprinting of specifications, Contractor shall pay the entire cost of such reprinting.

c. Partial sets of specifications will not be provided.

2. Full-size plans:

a. Complete sets of full-size plans may be purchased from Engineer at $5.00 per set.

b. Partial sets of full-size plans will be supplied at Engineer's reproduction charge.

C. Revised plans and specifications, if required, will be provided by Engineer to show authorized changes or extra work under the following conditions:

1. Specifications: furnished at no charge, in same quantity as original issuance.

2. Full-size plans:

a. One revised, complete (or partial, as required) set of full-size plans will be issued, at no charge, for each full-size set originally issued, and for each full-sized set purchased by the Contractor after award of Contract, up to 4 copies maximum. One full-sized reproducible set will be issued to accommodate the 5th and subsequent sets purchased by the Contractor. Contractor shall use reproducible set to complete printing for additional plans in his possession.

b. No distribution of revised prints to update partial sets will be made, unless requested by Contractor and paid for at Engineer's reproduction costs.

1.13 SUBMITTAL OF INFORMATION

A. General: after award of Contract, submit information requested herein to location designated.

B. Construction schedule:

1. Submit 5 copies within 15 days after request; show dates of starting and completing various portions

of work, including Contract price breakdown for these items.

2. Contact Owner for suggested items to be used.

3. Submit to Owner.

C. Purchase orders and subcontracts, prices need not be shown:

1. Submit 1 copy.

2. Submit to Owner.

D. Test reports and certificates:

1. Submit 1 copy, unless specified otherwise, of reports required in specifications.

2. Submit to Owner.

E. Instruction manuals:

1. Submit 5 complete sets of instruction manuals covering installation, operation and maintenance for equipment, auxiliary items and accessory devices furnished, and including assembly drawings, descriptive literature and parts lists, with identification symbols, for all replaceable parts and assemblies.

a. Instruction manuals shall include nameplate information and shop order numbers for each item of equipment furnished.

b. Instruction manuals shall include a list of recommended spare parts.

c. Information contained in manuals shall be comprehensive and specific in character and not general.

d. Each manual shall be bound between hard covers and the contents shall be properly indexed.

2. Submit to Owner.

F. Shop drawings and manufacturers' information:

1. Submit to Owner.

2. Material requested herein or in specifications. Term "shop drawings" refers to all drawings prepared by Contractor and/or his suppliers and includes all fabrication drawings, working drawings, catalog data, manufacturer's specifications, equipment and material schedules, detailed layouts and assembly information.

3. Normal submittal:

a. Drawings not larger than 36" x 120": submit 1 copy of each drawing to Owner. Copies of drawings submitted shall be black line on white background or reproducible mylars. Owner or Engineer will photographically reproduce additional copies of drawings as required for distribution.

b. If Contractor will not grant permission for Engineer to reproduce drawings, Contractor shall submit 5 copies of each drawing to Owner.

c. Drawings larger than 36" x 120", printed catalog information or brochures, or other multiple page documents: submit 5 copies of each drawing to Engineer at Muscatine office.

4. Engineer will review shop drawings, indicate action taken according to the classifications set forth in the "Instructions For Shop Drawing Transmittal" bound herein, and return one copy to Contractor.

5. Additional copies:

   a. If Contractor's copy is marked "RESUBMIT," Contractor shall recheck drawing and make necessary revisions in accordance with comments noted on shop drawing and/or in separate letter and resubmit 1 final copy to Engineer at Muscatine office. If drawings exceed 36" x 120" in size, resubmit 5 final copies to Engineer at Muscatine office.

   b. If Contractor's copy is marked "REVIEWED" or "REVIEWED AS NOTED," Contractor shall submit 3 additional copies to Engineer at Muscatine office. Contractor may proceed with fabrication of the work detailed on the drawings.

6. Shop drawing transmittal form:

   a. Shop drawing transmittal form is bound herein; two pads of forms (approximately 100 sheets per pad) will be furnished by Engineer; Contractor shall reproduce any additional copies required; use in accordance with instructions given on the attachment.

   b. Submit 3 copies of the transmittal form for initial submittals and resubmittals.

7. Contractor's responsibility: check shop drawings prior to submittal for errors, correctness of details and conformance with the Contract; for coordination between suppliers and subcontractors; and for internal coordination within the prime Contract.

8. Review of shop drawings by Owner does not relieve the Contractor of responsibility for errors, correctness of details or conformance with the Contract.

9. Contractor shall be responsible for making corrections to materials and equipment as required

to obtain conformance with Contract requirements, whether such corrections are required during review of shop drawings, subsequent to release of drawings, data and information mentioned hereinbefore, or after fabrication and shipment of materials and equipment.

10. Submit shop drawings for navigational aids in accordance with the preceding instructions:

a. Navigational aids.

G. Addresses:

1. Following addresses shall be used for submission of information requested herein.

2. Engineer at Muscatine office:

Mr. Jack Fink
Stanley Consultants, Inc.
Stanley Building
Muscatine, Iowa 52761
Telephone: 319-264-6290

3. Owner:

Mayor Morris Becker
City of Eastlake
35150 Lake Shore Boulevard
Eastlake, Ohio 44094

1.14 CODES AND STANDARDS

A. Perform work in accordance with best present-day installation and manufacturing practices; conform to "Manual of Accident Prevention in Construction" by The Associated General Contractors of America, Inc. and , Occupational Safety and Health Act requirements.

B. Comply with all applicable laws, building and construction codes and requirements of governmental agencies

under whose jurisdiction work is being performed; fees for permits and licenses shall be paid by Contractor.

C. Unless specifically noted to contrary, conform with and test in accordance with applicable sections of latest revisions of codes and standards listed in specifications.

D. Conflicts:

1. Between referenced codes and standards: code or standard establishing more stringent requirements shall be followed.

2. Between referenced codes and standards and specifications and plans : one establishing more stringent requirements shall be followed.

1.15 MATERIAL TESTS AND CERTIFICATES

A. Material tests:

1. When requested in Contract Documents, provide samples of materials for testing by qualified testing laboratory; selection of laboratory shall be subject to approval by Owner.

2. Include all costs for tests in proposal.

B. Certificates of compliance: when requested by Contract Documents, submit certified statement from manufacturer that materials supplied conform with requirements of standards specified.

C. If Owner has reasonable doubt that materials furnished comply with specifications, Contractor shall make additional tests as directed:

1. If additional tests establish that materials comply with specifications, all costs for such tests will be borne by Owner.

2. If additional tests establish that materials do not comply with specifications, all costs for such tests shall be borne by Contractor.

1.16 DEFECTIVE EQUIPMENT AND MATERIALS

A. Defective equipment:

1. If equipment fails to conform to requirements of Contract Documents or to operate satisfactorily, correct such defects promptly at no cost to Owner.

2. Owner will have right to operate unsatisfactory equipment until it is replaced or corrected, without cost for depreciation, use, or wear.

3. Remove equipment from operation for examination, adjustment, alteration or change only at times approved by Owner.

B. Defective materials:

1. If materials fail to conform to requirements of Contract Documents, correct such defective materials promptly at no cost to Owner.

2. Contractor shall repair or replace defective materials only at times approved by Owner.

1.17 EXISTING MATERIALS

A. Remove existing dredgings, excavated fill and debris not required for or used in new installation.

1.18 CONTRACT TERMINATION

A. If work is stopped as a result of action of any federal, state, local or any other governmental authority, or any court, because of national emergency, and as a result it would be impracticable to proceed with the Contract, the Contractor and Owner may, by written agreement, terminate the Contract.

B. Agreement to terminate the Contract shall include terms and conditions of termination and provision for making compensation to any party under the facts and circumstances in the case.

C. If Owner and Contractor cannot agree to termination, or to terms and conditions of such termination, including compensation, either may have questions determined by bringing appropriate action in the district court of the state and county in which the work is located.

1.19 LIQUIDATED DAMAGES

A. Time of completion of work is of the essence of this Contract. Should Contractor neglect, refuse or fail to complete project within time herein agreed upon, after giving effect of extension of time, if any, as herein provided for, in view of difficulties in estimating with exactness, damages caused by such delay, Owner shall have right to deduct from and retain out of such moneys, which may be then due or which may become due and payable to Contractor, sum of $250 per calendar day for each and every calendar day that such construction is delayed in its completion beyond time specified, as liquidated damages and not as penalty.

B. If amount due and to become due from Owner to Contractor is insufficient to pay in full any such liquidated damages, Contractor shall pay to Owner amount necessary to effect such payment in full, provided Owner shall properly notify Contractor in writing of manner in which amount retained, deducted or claimed as liquidated damages was computed.

1.20 PAYMENT

A. Separate payment will be made for only those items of work specifically described in Contract Documents and specifically listed in Form of Proposal; all other work shall be paid for by applicable unit price for items to which work pertains.

B. Payment made as follows:

SPECIAL CONDITIONS

1. Ninety percent of value of work accomplished during regularly scheduled 30-day periods, including equipment and materials delivered: payable within 30 days following such periods.

2. Final ten percent: payable 31 days after final acceptance of work by Owner.

1.21 FINAL INSPECTION AND ACCEPTANCE

A. Notify Owner when work is considered to be complete, in operating condition, and ready for final inspection.

B. Owner , after determining that installation is ready for final inspection, and after giving 10 days' notice to Contractor, will make final inspection and tests he deems necessary to determine if provisions of specifications are satisfied.

C. Owner will not accept work nor make final payment to Contractor until Owner has certified that work of Contractor is complete and in conformance with specifications.

+ + END OF SPECIAL CONDITIONS + +

TECHNICAL SPECIFICATIONS

Division 1 General Requirements

SECTION 01010 - SUMMARY OF WORK

B7869.1 01010

SECTION INDEX

1.1 Reference
1.2 Scope of the Work
1.3 Certificates of Compliance and Tests
1.4 Completion of Work

Division 1 General Requirements

SECTION 01010 - SUMMARY OF WORK

1.1 REFERENCE

A. Requirements of the General Conditions and Special Conditions apply to all work under this Section.

1.2 SCOPE OF THE WORK

A. Contractor shall provide all materials, equipment, and labor for the complete construction of the jetty, revetments, graded beach, dredged channel, and associated items in accordance with drawings and specifications.

B. Work includes preparation of site access road; site clearing; excavation; channel and structure foundation dredging; regrading the existing embankment; installation of armor stone, secondary stone and bedding stone; installation of navigational aids,; and surface and site restoration as identified on drawings and in Specification including grading of deposited spoil material.

1.3 CERTIFICATES OF COMPLIANCE AND TESTS

A. Contractor shall provide necessary certificates of compliance and material for sampling and testing. Sampling and testing shall be done by the Engineer as necessary to ensure adherence to specifications.

1.4 COMPLETION OF WORK

A. All work identified on drawings and in specifications shall be completed within 365 calendar days on the notice to proceed. Final elevations shall conform with lines and grades identified on drawings.

+ + END OF SECTION 01010 + +

1) I. J. McAlister
2) G. F. Tavener, G. J. Fink

Division 1 General Requirements

SECTION 01150 - MEASUREMENT AND PAYMENT

B7869.1 01150

SECTION INDEX

1.1 Reference
1.2 General
1.3 Description of Unit Price Items

Division 1 General Requirements

SECTION 01150 - MEASUREMENT AND PAYMENT

1.1 REFERENCE

A. Requirements of the General Conditions and Special Conditions apply to all work under this Section.

1.2 GENERAL

A. Items of work described herein are specifically listed in the Form of Proposal for separate measurement and payment.

B. No other item of work required by the drawings or specifications shall be measured or paid for as a separate item, but shall be included as part of the listed unit price item to which the work pertains. Failure to list all such related work in the following descriptions of unit price items shall not invalidate this stipulation.

1.3 DESCRIPTION OF UNIT PRICE ITEMS

A. All measurement for payment shall be performed by Contractor and will be subject to verification by Engineer unless otherwise stated herein. Contractor shall perform initial and final cross sectioning and other measurements required for determination of quantities. Results of such measurements shall be made available to the Engineer for verification. Contractor shall furnish qualified personnel to assist Engineer in making field checks for quantity verification as directed by the Engineer.

B. Following descriptions are intended to define areas of work associated with unit price items.

C. Armor Stone, Underlayer Stone (Secondary Stone), Bedding Stone; ton (2,000 lb. TON): stone delivered and placed in the permanent work in accordance with Contract drawings and specifications will be paid for through respective unit prices. Stone shall be weighed over scales furnished by the Contractor or over public scales weighed by a certified weigh-master. The weight of stone to be paid for shall be the gross weight less

the unloaded weight of the truck, any dunnage used, or any stone not meeting specifications for the class of stone being delivered. Scales furnished by the Contractor shall be verified for accuracy periodically by the Contractor or as requested by the Engineer. Such verification shall be in a manner approved by and in the presence of the Engineer. Original copies of all scale tickets shall be furnished to the Engineer. All costs incurred by the Contractor in determining stone quantities shall be included in the unit price bids.

D. Dredging; cubic yard (CY): includes all cost of labor, materials and equipment for dredging navigation channel and structure foundations, removal of logs and debris, placement of dredge spoils at approved site; and placement of debris at an approved off-site location; payment on basis of volumes of material removed from its original places as determined by bathymetric surveys conducted before and after dredging operations and by method of average end areas.

E. River Bank Revetment; square yard (SY): includes all cost of labor, materials and equipment for the placement, securing, and filling of 18-inch gabion matresses on the prepared river bank.

F, Navigation Lights; each (EA): includes all cost of labor, materials and equipmet necessary to install navigation beacon according to requirements of U.S. Coast Guard.

+ + END OF SECTION 01150 + +

1) I. J. McAlister
2) G. F. Tavener, G. J. Fink

Division 2 Site Work

SECTION 02000 - GENERAL INFORMATION

B7869.1 02000

SECTION INDEX

1.1 Reference
1.2 Submittal of Information
1.3 Codes and Standards
1.4 Datum and Baseline
1.5 Commencement and Prosecution of Work
1.6 Stone Quality
1.7 Stone Placement
1.8 Underwater Excavation

Division 2 Site Work

SECTION 02000 - GENERAL INFORMATION

1.1 REFERENCE

A. Requirements of the General Conditions and Special Conditions apply to all work under this Division.

1.2 SUBMITTAL OF INFORMATION

A. General: see Special Conditions, "Submittal of Information" and "Material Tests and Certificates."

B. Submit the following:

1. The proposed plan of operation to be followed in constructing the revetment, site work, and related construction.

2. A materials list identifying the source of supply for each stone type.

3. Suitable test reports or service records of use in similar applications shall be submitted to the Engineer to determine the acceptability of stone. Test results shall include specific gravity (saturated surface dry), magnesium sulfate soundness, and freezing and thawing as required for classes of stone.

4. Manufacturer's catalog data for navigation aids, equipment, gabion fabric containers, and stone fill.

1.3 CODES AND STANDARDS

A. General: see Special Conditions, "Codes and Standards."

B. Work shall comply with appropriate codes and standards of the following organizations:

1. American Association of State Highway and Transportation Officials (AASHTO).

2. American Society for Testing and Materials (ASTM).

3. State of Ohio Department of Highways Construction and Material Specifications (ODHS).

1.4 DATUM AND BASELINE

A. Elevations shown on the drawings are based upon International Great Lakes Datum.

B. A survey baseline shall be established by the Contractor with the approval of the Engineer. Reference points identified on drawings shall remain intact for duration of project. Computation of quantities shall be based upon measurements referenced to this baseline.

1.5 COMMENCEMENT AND PROSECUTION OF WORK

A. Stone work may be commenced at any location selected by the Contractor and approved by the Engineer. Work shall be completed in one continuous segment for each individual element.

B. Should work be halted at the end of a construction season, the extremities of the completed work shall be protected with armor stone as directed by the Engineer. Stone used for such protection will be paid for at the respective unit prices. No additional payment will be made for such protection. Upon resumption of work, units of armor used for said protection shall be reset to the lines and grades shown on drawings. No additional payment will be made for resetting of stone.

1.6 STONE QUALITY

A. General:

1. The stone shall be free from cracks, seams, deleterious matter, and other defects as would tend to increase its deterioration from natural causes. Material likely to contribute to water pollution is not acceptable.

2. No individual stone shall have its least dimension less than one-third its greatest dimension.

B. Armor stone, underlayer stone (secondary stone), gabion basket fill stone, and bedding stone:

1. Specific gravity shall be determined in accordance with ASTM C127 and shall be at least 2.56, equivalent to a weight of 160 pounds per solid cubic foot.

2. Stone loss in the soundness test shall be determined in accordance with ASTM C88, and shall not exceed 10%.

3. Stone loss in the freeze and thaw test shall be determined in accordance with AASHTO T103 and shall not exceed 10% after 25 cycles (one freezing and one thawing shall constitute one cycle).

4. The above tests may be waived if evidence is submitted showing approval of stone for similar applications by State of Ohio and/ or U.S. Government agencies.

5. In event that stone of differing quality may be supplied from any one source, exact location in quarry from which material tested was extracted shall be clearly stated.

C. Sand fill: excavated beach sand material that has been cleared of debris and other deleterious materials that may break down the effectiveness of the bed.

1.7 STONE PLACEMENT

A. Armor stone, underlayer stone (secondary stone), and gabion fill stone:

1. Place to the lines and grades shown on the drawings, with a neat finished surface.

2. Insofar as practicable, stones shall be set with their longitudinal axis normal to the center line of the revetment and dipping downward toward the center of the structure.

3. Stones shall have vertical joints broken and be securely set.

B. Bedding stone: material may be dumped from truck or placed by other approved method in such manner as to secure a reasonably graded compact mass to the lines and grades shown on the drawings.

C. Sand fill:

1. Place excavated material to lines and grades shown on the drawings.

2. No voids shall result from placement of material.

3. Material shall be machine compacted.

1.8 UNDERWATER EXCAVATION

A. Excavate to lines and grades under the water surface of Lake Erie as shown on the drawings. Any material excavated beyond designated limits must be removed from site and disposed of properly by Contractor. No payment will be made for overexcavation.

B. Commence construction by deposition at the proper stone as soon as possible to prevent trench from refilling with extraneous material.

C. Material which is rejected by the Engineer for use as beach sand fill must be removed from the site and disposed of properly by Contractor. Separate payment will be made for this material.

+ + END OF SECTION 02000 + +

1) I. J. McAlister
2) G. F. Tavener, G. J. Fink

Division 2 Site Work

SECTION 02110 - CLEARING

B7869.1 02110

SECTION INDEX

1.1 Reference
1.2 Clearing and Grubbing

Division 2 Site Work

SECTION 02110 - CLEARING

1.1 REFERENCE

A. Requirements of Section 02000 apply to all work under this Section.

1.2 CLEARING AND GRUBBING

A. Clearing and grubbing shall be done in conformance with ODHS Item 201 "Clearing and Grubbing."

B. Remove, by clearing and grubbing, trees, stumps, roots, brush, vegetation and debris from areas to be excavated or to receive fill.

C. Dispose of spoil material by removing from site. Selected rubble may be incorporated into fill material as permitted by Engineer.

D. Contractor shall avoid undue disturbance of North Island (including North Island Marsh) during construction of project.

+ + END OF SECTION 02110 + +

1) I. J. McAlister
2) G. F. Tavener, G. J. Fink

Division 2 Site Work

SECTION 02881 - DREDGING

B7869.1 02881

SECTION INDEX

1.1 Reference
1.2 General
1.3 Dredging
1.4 Disposal of Dredged Material

Division 2 Site Work

SECTION 02881 - DREDGING

1.1 REFERENCE

A. Requirements of Section 02000 apply to all work under this Section. Use of the word "dredging" shall not preclude use of land-based machinery where applicable.

1.2 GENERAL

A. Perform navigation channel and structure foundation dredging as required for construction of work under this Contract.

B. Provide any maintenance dredging required concurrently with the construction of the jetty and river bank protection to remove sediments from portions of the channel already constructed and preserve the integrity of the required channel dimensions.

1.3 DREDGING

A. Use a clamshell dredge or a crane with a clam bucket mounted on a barge, or a suction dredge for dredging channel and jetty foundations. Equipment employed shall allow satisfactory control and facilitate the handling of the material to be removed including buried debris.

B. Disposal of dredged material: by truck operating from shore, dump barge operating in water, pump by pipe to disposal site, or other method approved by Owner and Engineer.

C. Should existing walls adjacent to dredging area be damaged as a result of Contractor's operations, Contractor shall repair or replace damaged portions.

D. Character of materials to be removed: see Instructions to Bidders, "Bidder's Knowledge" and soil survey information.

E. Geometry of dredging requirements: see drawings.

F. Overdredging: removal of material in excess of project

depths will not be paid for unless approved by Engineer prior to such removal.

1.4 DISPOSAL OF DREDGED MATERIAL

A. General: on-site spoil discharge area for acceptable dredge spoils is shown on drawings; obtaining off-site disposal location for unacceptable material is Contractor's responsibility.

B. Sand sized dredged material in excess of what is required for backfill and for spending beach shall also be deposited at on-site disposal area.

C. During progress of work, Contractor shall not deposit debris, logs, timbers, metal components, rock or any other such type of rubbish or obstructive material which may be encountered during dredging operations at site or on-site disposal area. Such materaials shall be deposited in suitable off-site disposal site, location of which is approved by Owner and Engineer. Disposal in a wetland is not permitted.

D. Maximum elevation of any dredged sands deposited at shore of on-site disposal area shall not exceed plus 10' above datum (low water datum: 568.6' IGLD).

E. Provide temporary dikes, levees, weirs, ditches, and other regulating structures to prevent spoil from encroaching on private property or navigation channels and to limit the degree of water turbidity to reasonable levels. Spoil encroachment does not include dispersion of material to east of on-site disposal area by natural littoral processes.

F. All fences, roads, ditches, private or public grounds and other structures which may be damaged as a result of Contractor's operations shall be repaired or rebuilt by Contractor at his expense.

+ + END OF SECTION 02881 + +

1) I. J. McAlister
2) G. F. Tavener, G. J. Fink

Division 2 Site Work

SECTION 02885 - JETTY

B7869.1 02885

SECTION INDEX

1.1 Reference
1.2 General
1.3 In-situ Sand Quality
1.4 Stone Classification

Division 2 Site Work

SECTION 02885 - JETTY

1.1 REFERENCE

A. Requirements of Section 02000 apply to all work under this Section.

1.2 GENERAL

A. The jetty consists of two sections. The outer section, circular in plan, is referred to as jetty "head" while the remainder is described as jetty "trunk."

1.3 IN-SITU SAND QUALITY

A. In-situ sand underneath the jetty: shall be a clean, durable product free from clays, shales, silt stone, and other deleterious materials that may break down and decrease the effectiveness of the bed.

1.4 STONE CLASSIFICATION

A. Jetty head:

1. Armor stone:

   a. Average weight: 5,000 lb. (2.5 Ton).

   b. Maximum weight: 10,000 lb. (5 Ton).

   c. Minimum weight: 3,750 lb. (1.88 Ton).

2. Underlayer stone:

   a. Average weight: 500 lb.

   b. Maximum weight: 1,000 lb.

   c. Minimum weight: 375 lb.

3. Bedding stone:

   a. Average size: 4".

   b. Maximum size: 8".

c. Not more than 10% of material, by weight, less than 2".

B. Jetty trunk:

1. Armor stone:

a. Average weight: 2,000 lb. (1.0 Ton).

b. Maximum weight: 4,000 lb. (2 Ton).

c. Minimum weight: 1,500 lb. (0.75 Ton).

2. Underlayer stone:

a. Average weight: 200 lb.

b. Maximum weight: 400 lb.

c. Minimum weight: 150 lb.

3. Bedding stone:

a. Average size: 4".

b. Maximum size: 8".

c. Not more than 10% of material by weight, less than 2".

+ + END OF SECTION 02885 + +

1) I. J. McAlister
2) G. F. Tavener, G. J. Fink

Division 2 Site Work

SECTION 02886 - SPENDING BEACH RETAINING WALL

B7869.1 02886

SECTION INDEX

1.1 Reference
1.2 Stone Classification

SECTION 02886 - SPENDING BEACH RETAINING WALL

1.1 REFERENCE

A. Requirements of Section 02000 apply to all work under this Section.

1.2 STONE CLASSIFICATION

A. Rubble Mound Beach retaining wall:

1. Armor stone:

   a. Average weight: 2,000 lb.

   b. Maximum weight: 3,000 lb.

   c. Minimum weight: 1,500 lb.

2. Underlayer stone:

   a. Average weight: 200 lb.

   b. Maximum weight: 400 lb.

   c. Minimum weight: 150 lb.

3. Bedding stone:

   a. Average size: 4".

   b. Maximum size: 8".

   c. Not more than 10% of material, by weight, less than 2".

+ + END OF SECTION 02886 + +

1) I. J. McAlister
2) G. F. Tavener, G. J. Fink

Division 2 Site Work

SECTION 02887 - SPENDING BEACH

B7869.1 02887

SECTION INDEX

1.1 Reference
1.2 Grading

Division 2 Site Work

SECTION 02887 - SPENDING BEACH

1.1 REFERENCE

A. Requirements of Section 02000 apply to all work under this Section.

1.2 GRADING

A. Perform excavation and backfill as required.

B. Finish surface to grade and cross-section shown on drawings. Grade to a smooth, uniformly sloping (1:10), flat surface.

C. Suitable material cut from excavation areas shall be moved to areas requiring fill; excess material or material not suitable for fill shall be disposed of by Contractor in approved disposal sites.

+ + END OF SECTION 02887 + +

1) I. J. McAlister
2) G. F. Favener, G. J. Fink

Division 2 Site Work

SECTION 02888 - CHANNEL REVETMENT

B7869.1 02888

SECTION INDEX

1.1 Reference
1.2 Sand Fill
1.3 Side Slope Grading
1.4 Gabion Mattress Bedding
1.5 Gabion Mattress

Division 2 Site Work

SECTION 02888 - CHANNEL REVETMENT

1.1 REFERENCE

A. Requirements of Section 02000 apply to all work under this Section.

1.2 SAND FILL

A. Sand fill: excavated beach sand material that has been cleaned of debris and other deleterious materials that may break down the effectiveness of the bed.

1.3 SIDE SLOPE GRADING

A. Channel side slopes shall be graded to 1 on 1.5 as shown on drawings. If natural material is found to be unstable at this slope, slope may be reduced as authorized by Engineer.

1.4 GABION MATTRESS BEDDING

A. 6-12 inch bedding stone similar to that used elsewhere on project.

1.5 GABION MATTRESS

A. General: gabion baskets shall be provided so as to provide a minimum mattress thickness of 18". They shall be laid to the lines and grades shown on drawings.

B. Basket wire: 0.1062" diameter with a mesh opening of not greater than 3" x 4": wire shall be galvanized with a minimum of 0.80 oz. psf of wire surface. Wire shall have an ultimate tensile strength of not less than 65,000 psi.

C. Basket edges shall be manufactured into selvedges containing galvanized wire of not less than 0.1535" diameter

D. Baskets shall be subdivided into compartments by mesh diaphragms so that individual cell shall not exceed 40" in length.

E. Binding: individual baskets shall be tied at selvedges and at each diaphragm with galvanized binding wire of not less than 0.0866" in diameter. Not less than 4 ties should be made to each 18" of edge. Baskets shall be wired to each other.

F. Filling: 6" tpo 8" stone should be used of quality equal to that used for jetty, with exception that rounded stone of sufficient size will be acceptable. Secure tops of gabions together with ties a 6" intervals when filling is complete. Filled gabion baskets may be placed by sling if required.

G. Manufacturer: Maccaferri Gabion of America, Inc.; Bekaert Steel Wire Corporation, or equal.

+ + END OF SECTION 02888 + +

1) I. J. McAlister
2) G. F. Taverner, G. J. Fink
3) A. P. Cole, M. E. Carstens
4) W. R. Klatt

Division 11 Equipment

SECTION 11851 - NAVIGATION AIDS (BEACON LIGHT)

B7869.1 11851

SECTION INDEX

1.1 Reference
1.2 Codes and Standards
1.3 General
1.4 Light Support
1.5 Support Pole
1.6 Navigation Beacon

Division 11 Equipment

SECTION 11851 - NAVIGATION AIDS (BEACON LIGHT)

1.1 REFERENCE

A. Requirements of the General Conditions and Special Conditions and Section 02000 apply to all work under this Division.

1.2 CODES AND STANDARDS

A. See Special Conditions, "Codes and Standards."

B. Work shall be in accordance with applicable codes and standards of the following organizations:

1. American Society for Testing and Materials (ASTM).

2. American Concrete Institute (ACI).

3. American Welding Society (AWS).

4. U.S. Coast Guard (Class 1 private aid to navigation).

1.3 GENERAL

A. Furnish and install all support piles and navigation beacons, as specified herein or shown on drawings.

1.4 LIGHT SUPPORT

A. Steel H Pile: HP 10 x 42 with a minimum embedment to elevation -21.0.

1.5 SUPPORT POLE

A. Pole assembly material standards:

1. Structural steel: ASTM A36.

2. Anchor bolts: ASTM A307.

3. Galvanizing: conform to ASTM A123.

4. Standard weight of pipe: ASTM A120.

5. Welding: conform to Structural Welding Code AWS D1.1-20.

6. Height: capable of supporting navigational light at least 20' above water.

7. Diameter sufficient to withstand wind load.

B. Structure fabrication:

1. Fabricate all materials as shown on drawings.

2. Connection detail: connection detail for the support pile and navigation beacon attachment not detailed on drawings shall be designed by fabricator and shall be subject to Engineer's review.

3. Shop assembly: the structure shall be pre-assembled in shop.

4. Shop painting: surface preparation "Power Tool Cleaning", in accordance with SSPC-SP 3-63.

5. Apply two coats of rust-resistant paint and two finish coats in shop; touch up in field; color of finish coat, yellow.

6. Structure erection:

a. Assembly of pole: provide all bolts, tools, etc., required for assembly of pole.

b. Installation:

1) Assemble accurately as shown on drawings.

2) Handle carefully so parts will not be damaged.

c. Install plumb, level, and solidly anchored to support pile.

1.6 NAVIGATION BEACON

A. Lantern:

1. Lens: 155 mm colored acrylic "Fresnel" lens.

2. Green lens shall be fitted on east beacon, red lens shall be fitted to west beacon.

3. Tungsten incandescent light shall be used.

4. Display height: not less than 20' above water level.

5. Range: light must be visible for at least one mile.

B. Flasher/lampchanger:

1. Cycle: light flashing cycle of more than 15 and less than 30 flashes per minute.

2. Sunswitch: sunswitch will allow operation only between sunset and sunrise.

3. Lampchanger: automatic lamp changer (6 or more lamps) shall be provided to allow for burn out of lamps.

4. Operating temperature: fully operational between 0 F and 125 F and resilient to temperature extremes of -60 F to 140 F.

C. Battery:

1. Battery: light must be powered by an independent reliable source, compatible with lantern system, with operating temperature range of 0 F to 125 F, and capable of giving at least 12 months service to lamp between sunset and sunrise without recharge.

2. Battery box: galvanized steel, top opening battery box on which lantern will mount.

D. Manufacture and quality standard: Tideland Signal Corporation, P. O. Box 52430, Houston Texas, 77052. Model CHAN-3 light assembly, or equal.

+ + END OF SECTION 11851 + +

1) I. J. McAlister
2) G. F. Tavener, G. J. Fink
3) A. P. Cole, M. E. Carstens
4) W. R. Klatt

SHOP DRAWING TRANSMITTAL

PROJECT TITLE _____ PROJECT NO. _____ CONTRACT NO. _____

PROJECT LOCATION _____ CONTRACT TITLE _____

CONTRACTOR'S TRANSMITTAL

TRANSMITTAL NO. _____

NO. COPIES	SUBMITTAL NEW	SUBMITTAL RESUB	SUBMITTAL ADD'L COPIES	MANUFACTURER	MFR. NO.	SUBJECT

ENGINEER'S/ARCHITECT'S ACTION

STATUS ABBREVIATIONS:
R - REVIEWED
RS - RESUBMIT

S - SUPPLEMENTAL REFERENCE _____

STANLEY NO.	STATUS	DISTRIBUTION CONTR.	DISTRIBUTION RES EN/AR	DISTRIBUTION OWNER	DISTRIBUTION	REV'D COPIES REQ'D	ADD'L COPIES REQ'D

CONTRACTOR'S REMARKS _____

CONTRACTOR'S IDENTIFICATION NUMBER _____

CONTRACTOR'S NAME _____

ADDRESS _____

BY _____ DATE _____

ENGINEER'S/ARCHITECT'S REMARKS _____

BY _____ DATE _____

ACTION OF ANY KIND ON DRAWINGS BY ENGINEER/ARCHITECT DOES NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS, CORRECTNESS OF DETAILS AND CONFORMANCE WITH THE CONTRACT.

INSTRUCTIONS FOR SHOP DRAWING TRANSMITTAL

1 Shop drawings and manufacturers' information submitted shall be accompanied by completed copies of the "Shop Drawing Transmittal Form." Submit number of copies as specified under "Information for Engineer" or "Information for Architect."

2 Number each transmittal consecutively, assigning resubmittals new transmittal numbers.

3 Do not include new submittals and resubmittals on the same transmittal form.

4 A brief title under "Subject" should clearly identify the specific application of the equipment or material covered by the drawing, utilizing where possible the same title used on plans or in specifications.

5 Information under "Contractor's Transmittal" shall be completed by Contractor prior to submittal.

6 Information under "Engineer's/Architect's Action" will be completed by Engineer or Architect.

7 Submit additional copies or revised copies as indicated on the returned transmittal form or as set forth in this specification under "Information for Engineer" or "Information for Architect."

8 Engineer's or Architect's action is classified as follows:

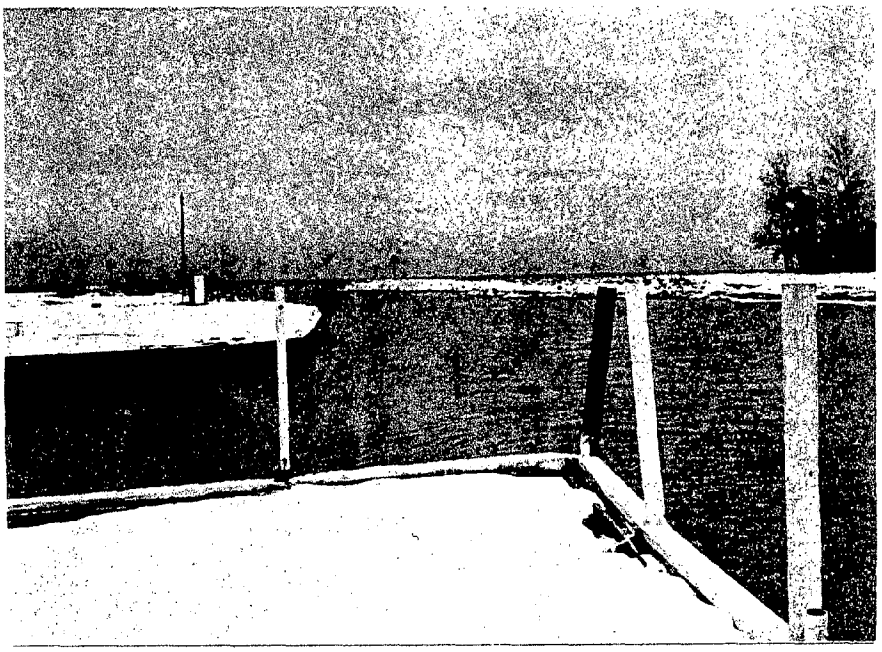
a) REVIEWED: indicates that the shop drawing has been reviewed and appears to be in general agreement with the plans and specifications.

b) RESUBMIT: indicates that the shop drawing or part thereof does not appear to be in general agreement with the plans and specifications.

c) SUPPLEMENTAL REFERENCE: indicates that the shop drawing gives information that is incidental to the work described in the plans and specifications and is for general information only.

Attachment to
Form No. 3001-R1
SHOP DRAWING TRANSMITTAL

The mouth of the Chagrin River, Eastlake, and the completed wingwall.



View from upriver, looking north.

Ohio CEIP

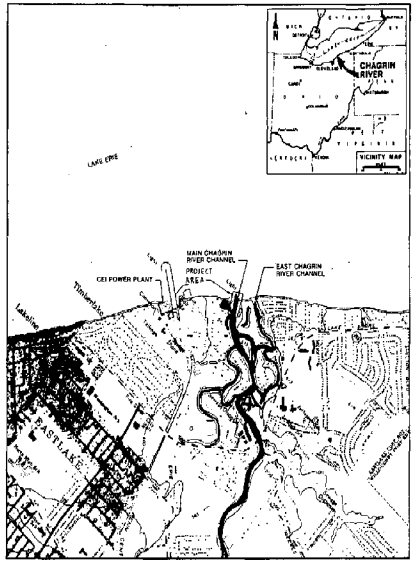
Looking east, across the Chagrin River, at the completed wingwall.

PLANS

FOR

CHAGRIN RIVER JETTY/BREAKWATER EASTLAKE, OHIO

CITY OF EASTLAKE
EASTLAKE,OHIO



EASTLAKE LOCATION MAP

0 2000 4000
FEET

INDEX TO DRAWINGS	
DWG NO.	TITLE
7869-1	COVER SHEET AND INDEX
7869-2	PLANS AND SECTIONS
7869-3	CONSTRUCTION PLAN
7869-4	SOIL BORING LOGS

GENERAL LEGEND

A-1 — DESIGNATES CUTTING PLANE OF SECTION

SECTION a-1 / 1 — VIEW IDENTIFICATION NUMBER DRAWING NUMBER(S) ON WHICH VIEW IS CALLED OUT

EL+10 — ELEVATION DESIGNATION

GENERAL NOTES:

ALL ELEVATIONS REFERENCED TO LOW WATER DATUM (LWD) LWD = 569.6 FT. INTERNATIONAL GREAT LAKES DATUM (IGLD) TAKEN AT FATHERS POINT QUEBEC.

DIMENSIONS AND/OR ELEVATIONS MARKED THUS (±) MUST BE VARIFIED IN THE FIELD BY THE CONTRACTOR.

DIMENSIONS ARE GENERALLY TO SCALE, BUT SHOULD NOT BE SCALED. USE DIMENSIONS SHOWN. N.T.S. (NOT TO SCALE) IS SHOWN ONLY WHERE DIMENSION IS OBVIOUSLY OUT OF SCALE.

AT FULL SIZE
0 1 2 3 IN
0 1 2 3 4 5 6 7 8 cm

NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE	NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE

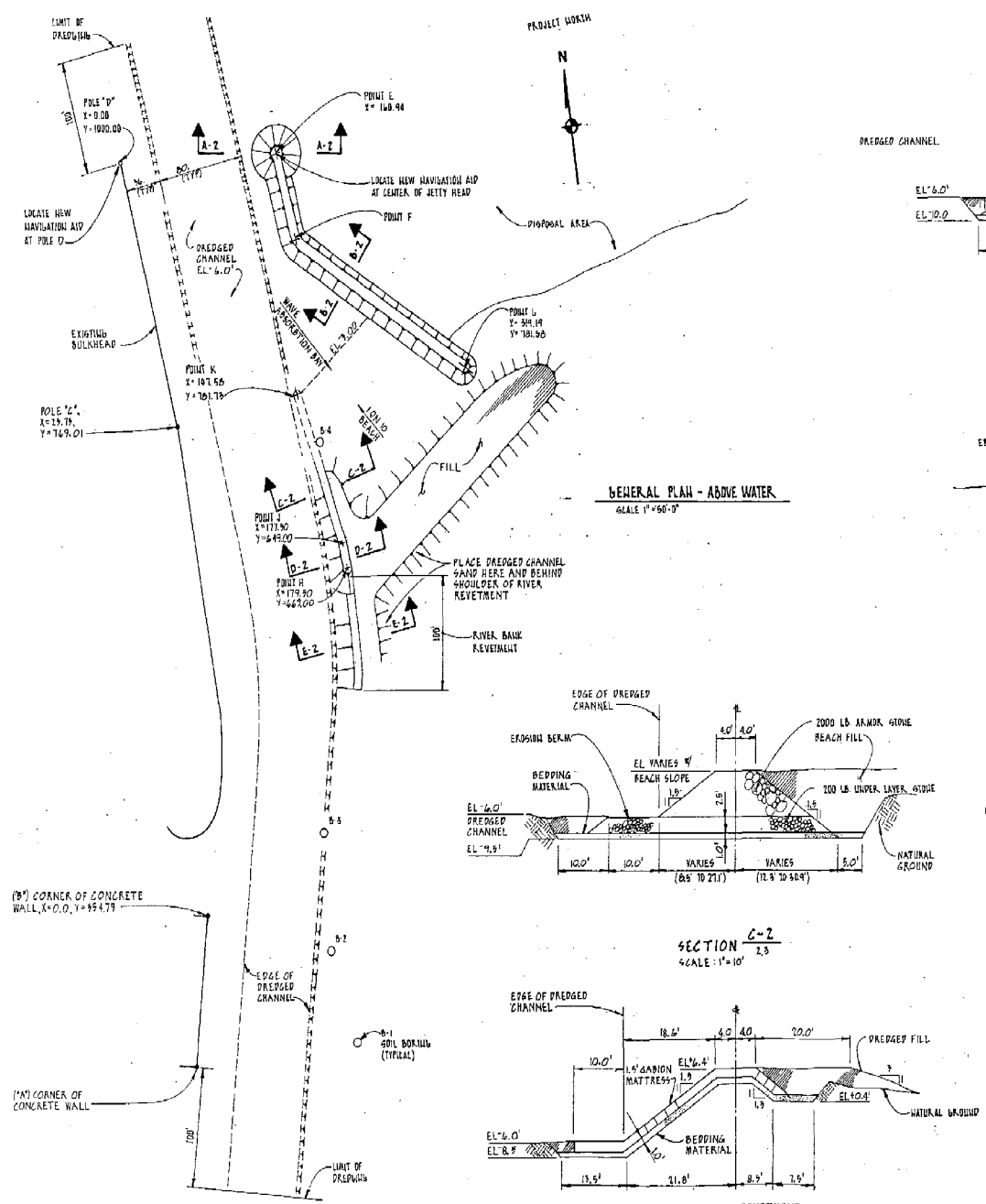
DESIGNED
DRAWN R. J. Hage
CHECKED G. J. Fox
APPROVED R. Fitzgerald
APPROVED H. G. Ford
DATE April 16, 1981

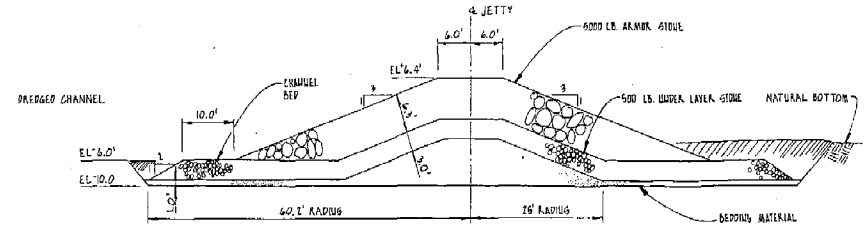
STANLEY CONSULTANTS
INTERNATIONAL CONSULTANTS IN ENGINEERING, ARCHITECTURE, PLANNING, AND MANAGEMENT

CHAGRIN RIVER
JETTY/BREAKWATER
EASTLAKE,OHIO

COVER SHEET AND INDEX

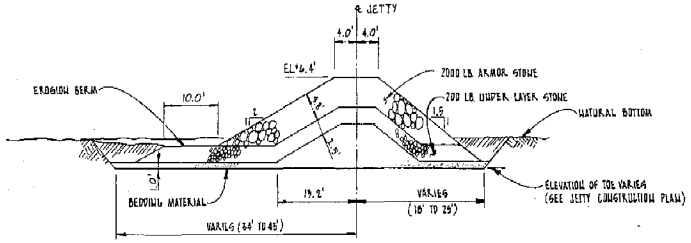
SCALE AS SHOWN
NO. 7869-1
REV. 0





JETTY HEAD

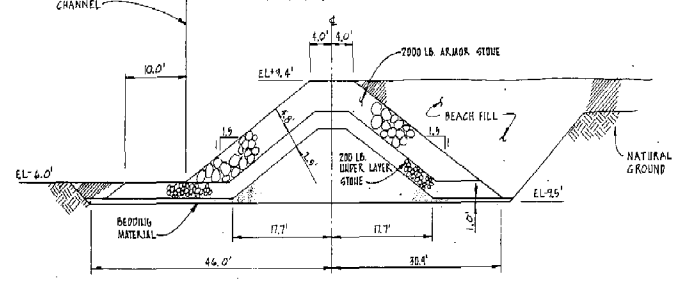
SECTION A-2 / 2,3
SCALE: 1"=10'



JETTY TRUNK

SECTION B-2 / 2,3
SCALE 1"=10'

SECTION C-2 / 2,3
SCALE: 1"=10'



SECTION D-2 / 2,3
SCALE: 1"=10'

RIVER BANK REVETMENT

SECTION E-2 / 2,3
SCALE: 1"=10'

NOTE:
ELEVATIONS REFER TO LOW WATER DATUM (LWD)
LWD=+568.60' ABOVE IGLD

AT FULL SIZE

NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE	NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE

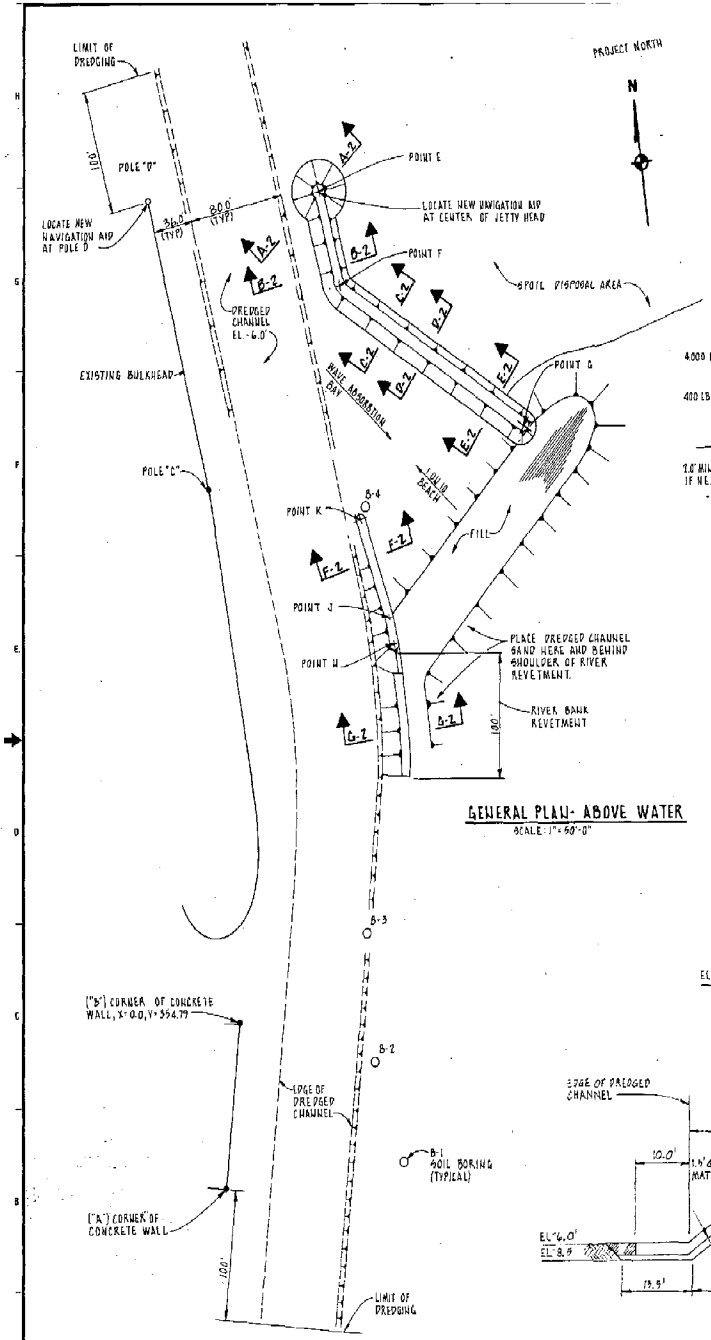
DESIGNED G.F. Tavener
DRAWN S.J. Searles
CHECKED G.J. Fink
APPROVED G.F. Tavener
APPROVED G.J. Fink
DATE April 16, 1981

STANLEY CONSULTANTS
INTERNATIONAL CONSULTANTS IN ENGINEERING ARCHITECTURE, PLANNING AND MANAGEMENT

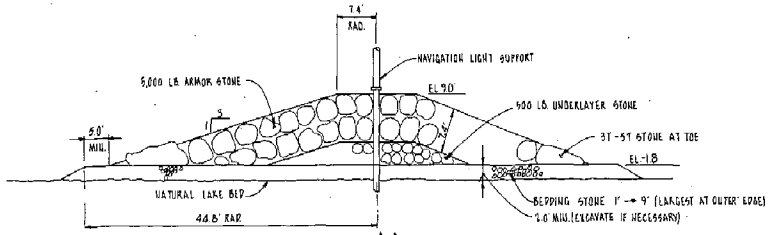
CHAGRIN RIVER
JETTY / BREAKWATER
EASTLAKE, OHIO

PLANS AND SECTIONS

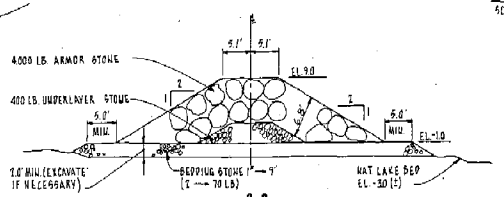
SCALE: AS SHOWN
NO. 7869-2
REV. 0



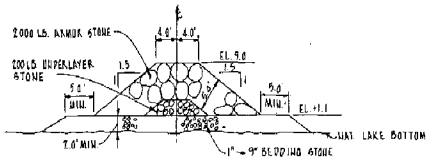
GENERAL PLAN- ABOVE WATER
SCALE: 1" = 60'-0"



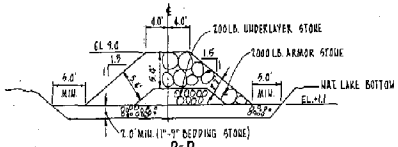
SECTION A-A / 2,3
JETTY HEAD
SCALE: 1" = 10'



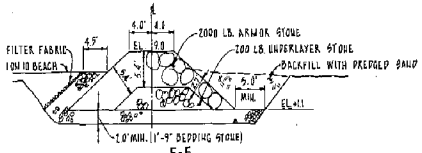
SECTION B-B / 2,3
JETTY "NECK"
SCALE: 1" = 10'



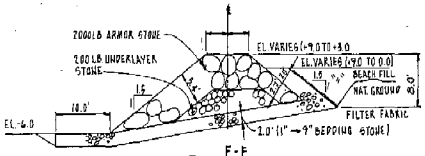
SECTION C-C / 2,3
JETTY TRUNK
(LAKE BOTTOM EL +1.0 AND DEEPER)
SCALE: 1" = 10'



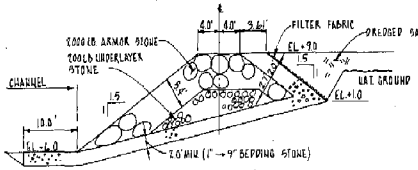
SECTION D-D / 2,3
JETTY TRUNK
(LAKE BOTTOM EL +1.0 AND ABOVE)
SCALE: 1" = 10'



SECTION E-E / 2,3
JETTY TRUNK
(SUPPORTING WAVE ABSORBTION BEACH)
SCALE: 1" = 10'

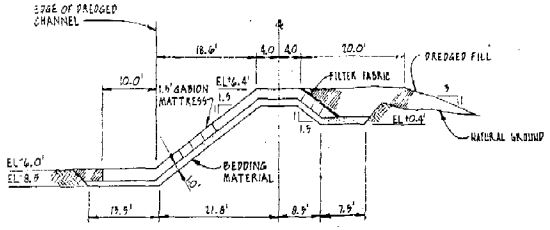


SECTION F-F / 2,3
SPENDING BEACH RETAINING WALL
SCALE: 1" = 10'

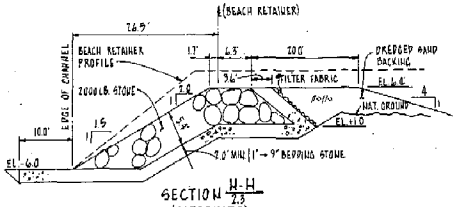


SECTION G-G / 2,3
SPENDING BEACH RETAINING WALL
SCALE: 1" = 10'

NOTES:
1. ELEVATIONS REFER TO LOW WATER DATUM (LWD) LWD = +568.60' ABOVE IGLD
2. UNDERLAYER MATERIAL, IF USED FOR TEMPORARY ACCESS BY LAND-BASED EQUIPMENT, MUST BE TRIMMED TO THE SECTION SHOWN ON THE DRAWINGS PRIOR TO PLACEMENT OF ARMOR STONE.



RIVER BANK REVETMENT
SECTION H-H / 2,3
SCALE: 1" = 10'



SECTION H-H / 2,3
(ALTERNATE)
RIVER REVETMENT
SCALE: 1" = 10'

AT FULL SIZE
0 1 2 3 IN
0 1 2 3 4 5 6 7 8 cm

NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE
1	GENERAL (REDRAWN)				

NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE
1	GENERAL (REDRAWN)			G.J. Fink	5-28-81

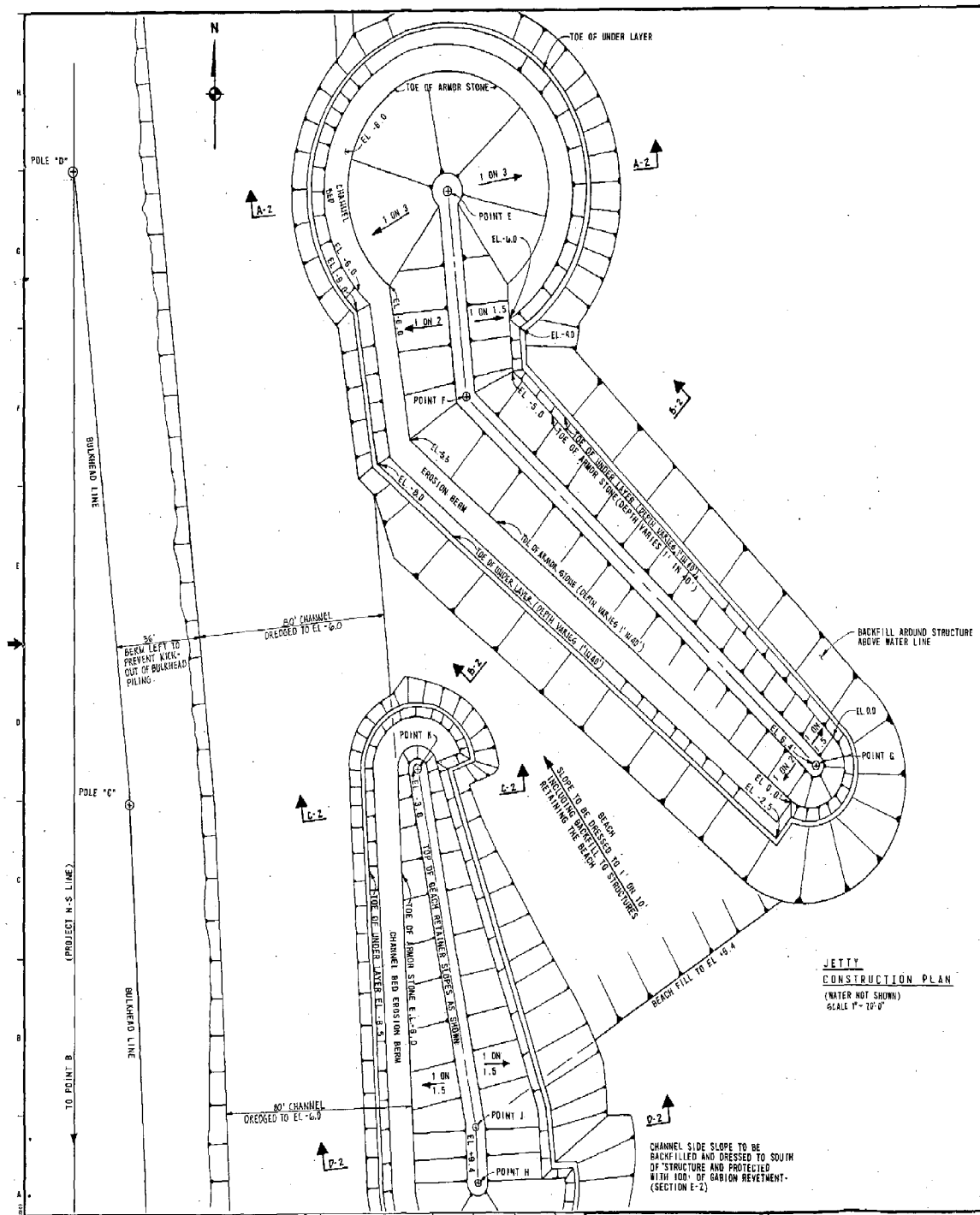
DESIGNED G.J. Fink
DRAWN
CHECKED
APPROVED
APPROVED G.J. Fink
DATE APRIL 1981

STANLEY CONSULTANTS
INTERNATIONAL CONSULTANTS IN ENGINEERING, ARCHITECTURE, PLANNING AND MANAGEMENT

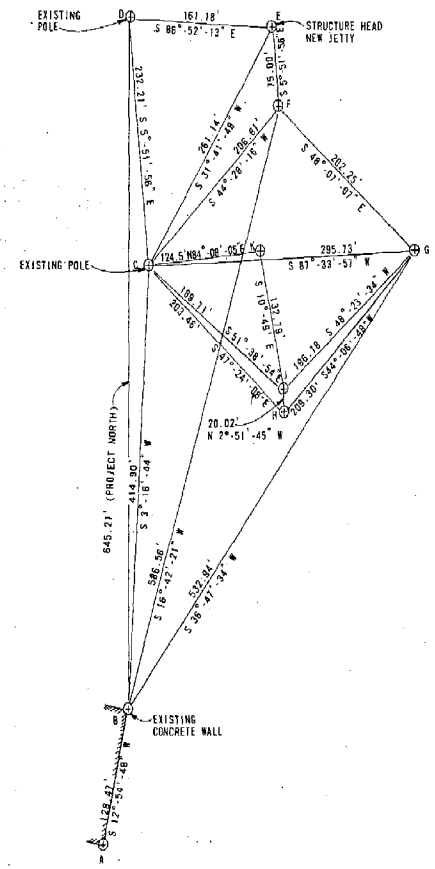
CHAGRIN RIVER
JETTY / BREAKWATER
EASTLAKE, OHIO

PLANS AND SECTIONS

SCALE AS SHOWN
NO. 7869-2
REV. 1



JETTY
CONSTRUCTION PLAN
(WATER NOT SHOWN)
SCALE 1" = 70'-0"



RELOCATION DIAGRAM
NO SCALE

NOTE: POLE "D" IS KNOWN TO HAVE BEEN DISTURBED DURING THE WINTER OF 80/81. USE WITH CAUTION.

PROJECT COORDINATES

POINT	X (EAST)	Y (NORTH)	DESCRIPTION
A	-26.71	229.57	CORNER, EXISTING BULKHEAD
B	0.00	354.79	CORNER, EXISTING BULKHEAD
C	23.73	769.01	LIGHT POLE (EXISTING)
D	0.00	1000.00	LIGHT POLE (SEE NOTE)
E	169.94	991.20	NEW JETTY HEAD
F	168.61	915.59	NEW JETTY TRUNK
G	319.19	781.57	NEW JETTY FOOT
H	173.50	634.30	BEACH RETAINER
J	172.50	651.30	BEACH RETAINER
K	147.56	781.73	BEACH RETAINER

AT FULL SIZE
0 1 2 3 IN
0 1 2 3 4 5 6 7 8 cm

NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE	NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE

DESIGNED G.F. Jones-Ed
DRAWN Charles Mangely
CHECKED G.H. Funk
APPROVED G.F. Tuttle-Ed
APPROVED G.G. Sand
DATE April 16, 1981

STANLEY CONSULTANTS
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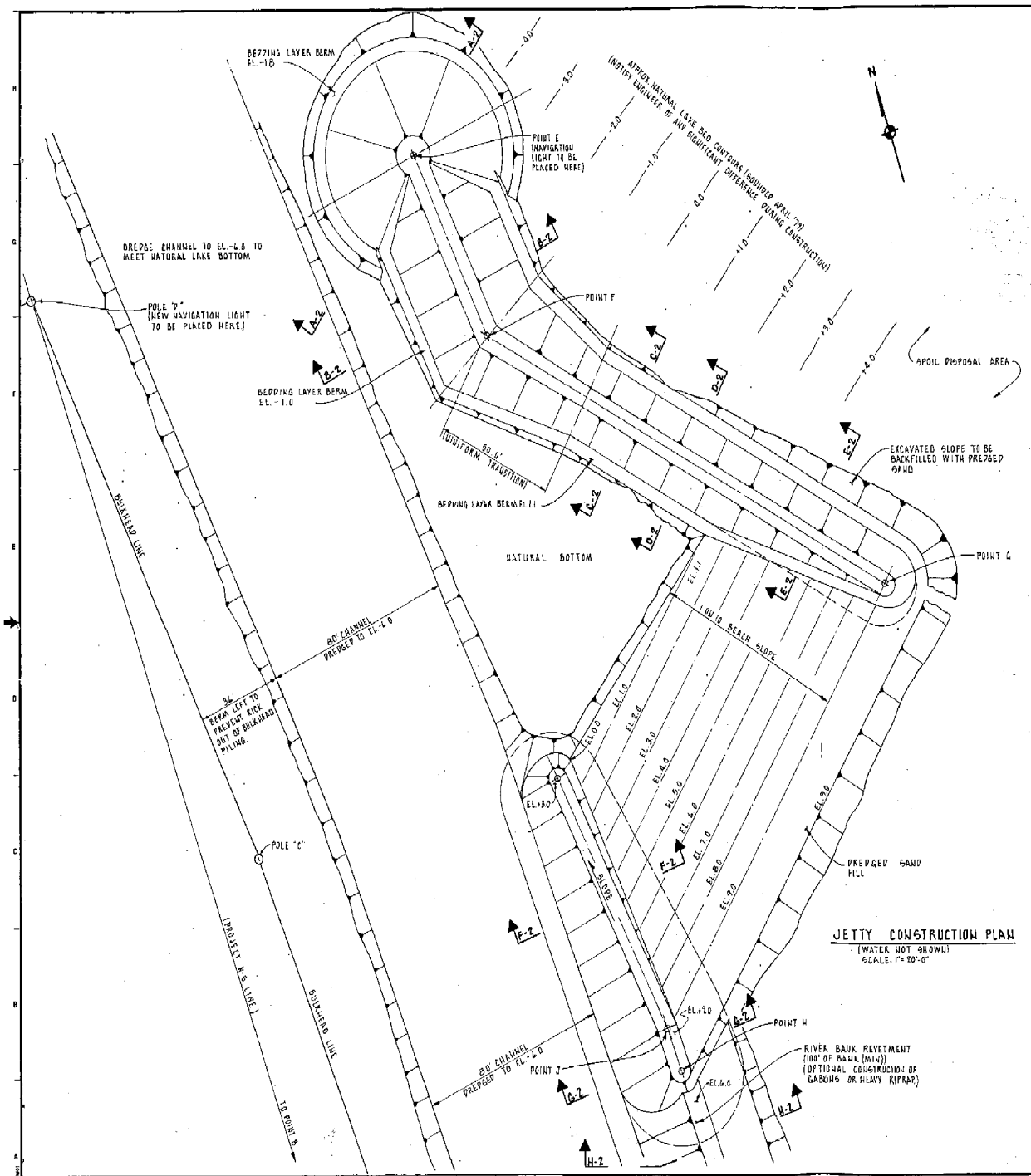
CHAGRIN RIVER
JETTY BREAKWATER
EASTLAKE, OHIO

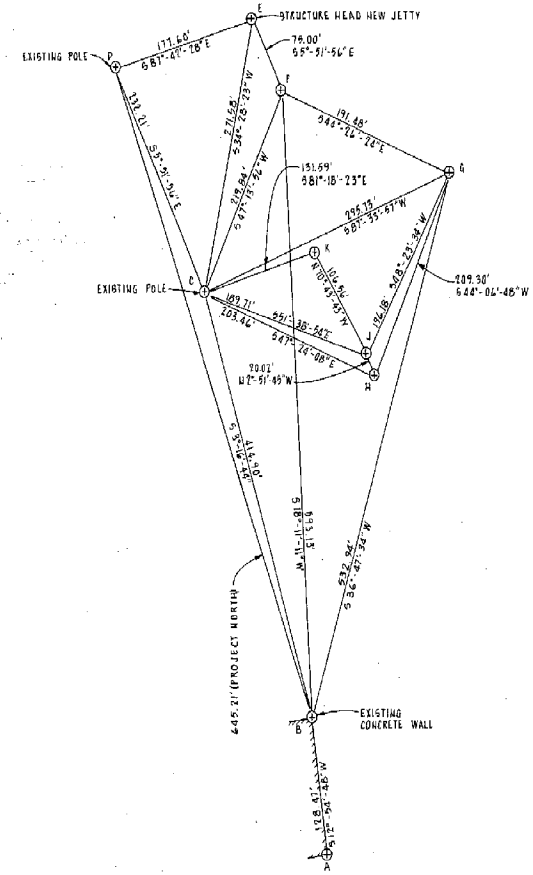
CONSTRUCTION PLAN

SCALE AS SHOWN
NO. 7869-3
REV. 0



JETTY CONSTRUCTION PLAN

(WATER NOT SHOWN)
SCALE: 1" = 20'-0"



RELOCATION DIAGRAM

NO-SCALE

NOTE: POLE "D" IS KNOWN TO HAVE BEEN DISTURBED DURING THE WINTER OF 80/81. USE WITH CAUTION.

PROJECT COORDINATES

POINT	X (EAST)	Y (NORTH)	DESCRIPTION
A	-28.71	229.57	CORNER, EXISTING BULKHEAD
B	0.00	346.19	CORNER, EXISTING BULKHEAD
C	25.73	769.01	LIGHT POLE (EXISTING)
D	0.00	1000.00	LIGHT POLE (SEE NOTE)
E	177.45	992.90	NEW JETTY HEAD
F	185.12	918.29	NEW JETTY TRUNK
G	319.19	781.97	NEW JETTY FOOT
H	113.50	631.30	BEACH RETAINER
J	172.50	681.30	BEACH RETAINER
K	158.17	796.89	BEACH RETAINER

AT FULL SIZE
0 1 2 3 IN
0 1 2 3 4 5 6 7 8 cm

NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE	NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE
						1	GENERAL (REDRAWN)				5-28-81

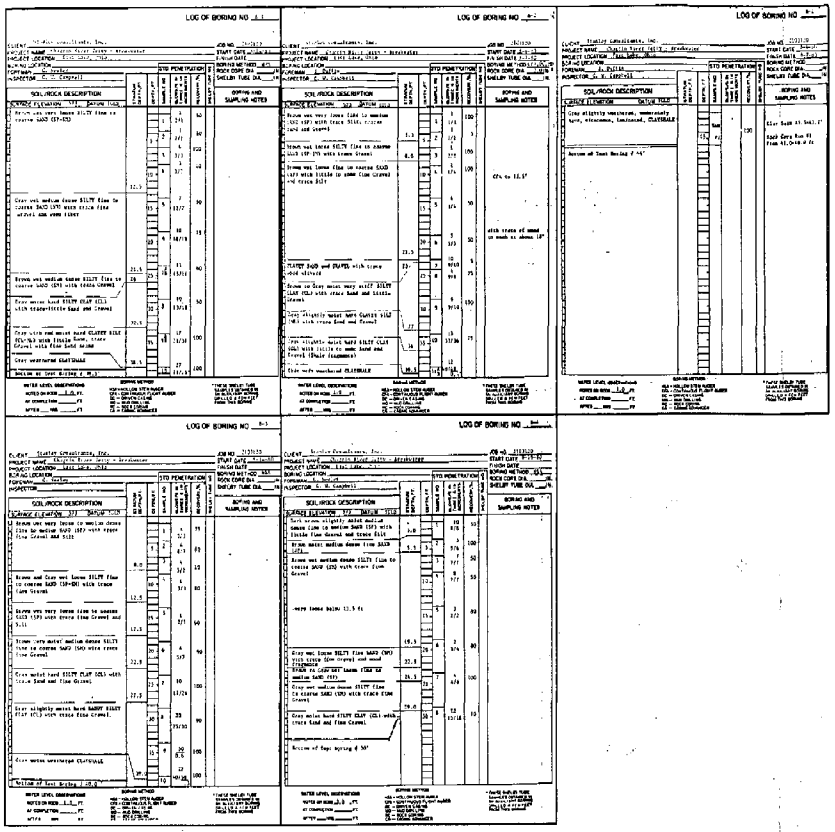
DESIGNED
DRAWN
CHECKED
APPROVED
APPROVED
DATE APRIL '80

STANLEY CONSULTANTS
INTERNATIONAL CONSULTANTS IN ENGINEERING, ARCHITECTURE, PLANNING AND MANAGEMENT

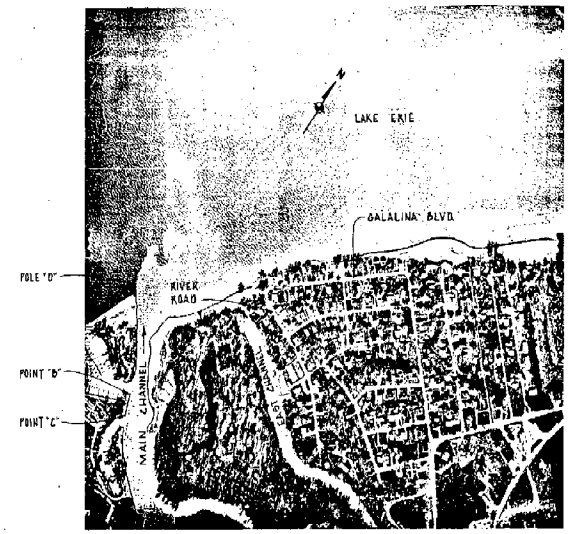
CHAGRIN RIVER
JETTY BREAKWATER
EASTLAKE, OHIO

CONSTRUCTION PLAN

SCALE AS SHOWN
NO. 7869-3
REV. 1



SEE SPECIFICATIONS FOR INFORMATION ON REPORT CONCERNING SUBSURFACE INVESTIGATION.



REFERENCE PHOTO
(NO SCALE - SPRING 1974)

B.M.: FIRE HYDRANT AT INTERSECTION OF RIVER DRIVE AND GALALINA BLVD. WITH RAISED LETTERS "MATHEWS" ON FLANGE. EL. 576.15' (IGLD).

AT FULL SIZE
0 1 2 3 IN
0 1 2 3 4 5 6 7 8 cm

NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE	NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE

DESIGNED
DRAWN
CHECKED
APPROVED
APPROVED
DATE April 16, 1981

STANLEY CONSULTANTS
INTERNATIONAL CONSULTANTS IN ENGINEERING, ARCHITECTURE, PLANNING AND MANAGEMENT

CHAGRIN RIVER
JETTY / BREAKWATER
EASTLAKE, OHIO

SOIL BORING LOGS

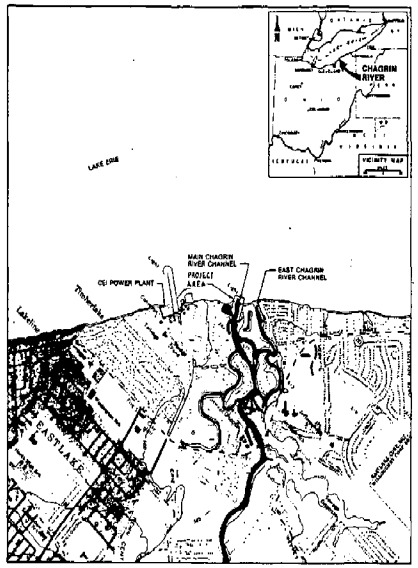
SCALE:
NO. 7869-4
REV. 0

PLANS

FOR

CHAGRIN RIVER JETTY/BREAKWATER
EASTLAKE, OHIO

CITY OF EASTLAKE
EASTLAKE,OHIO



EASTLAKE LOCATION MAP

INDEX TO DRAWINGS	
DWG NO.	TITLE
7869-1	COVER SHEET AND INDEX
7869-2	PLANS AND SECTIONS
7869-3	CONSTRUCTION PLAN
7869-4	SOIL BORING LOGS

GENERAL LEGEND

A-1 — DESIGNATES CUTTING PLANE OF SECTION

SECTION A-1 / 1 — VIEW IDENTIFICATION NUMBER DRAWING NUMBER(S) ON WHICH VIEW IS CALLED OUT

EL.10 — ELEVATION DESIGNATION

GENERAL NOTES:

ALL ELEVATIONS REFERENCED TO LOW WATER DATUM (LWD) (WD = 568.8 FT. INTERNATIONAL GREAT LAKES DATUM (IGLD) TAKEN AT FATHERS POINT QUEBEC.

DIMENSIONS AND/OR ELEVATIONS MARKED THUS (±) MUST BE VARIFIED IN THE FIELD BY THE CONTRACTOR.

DIMENSIONS ARE GENERALLY TO SCALE, BUT SHOULD NOT BE SCALED. USE DIMENSIONS SHOWN. N.T.S. (NOT TO SCALE) IS SHOWN ONLY WHERE DIMENSION IS OBVIOUSLY OUT OF SCALE.

AT FULL SIZE
0 1 2 3 IN
0 1 2 3 4 5 6 7 8 cm

NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE	NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE

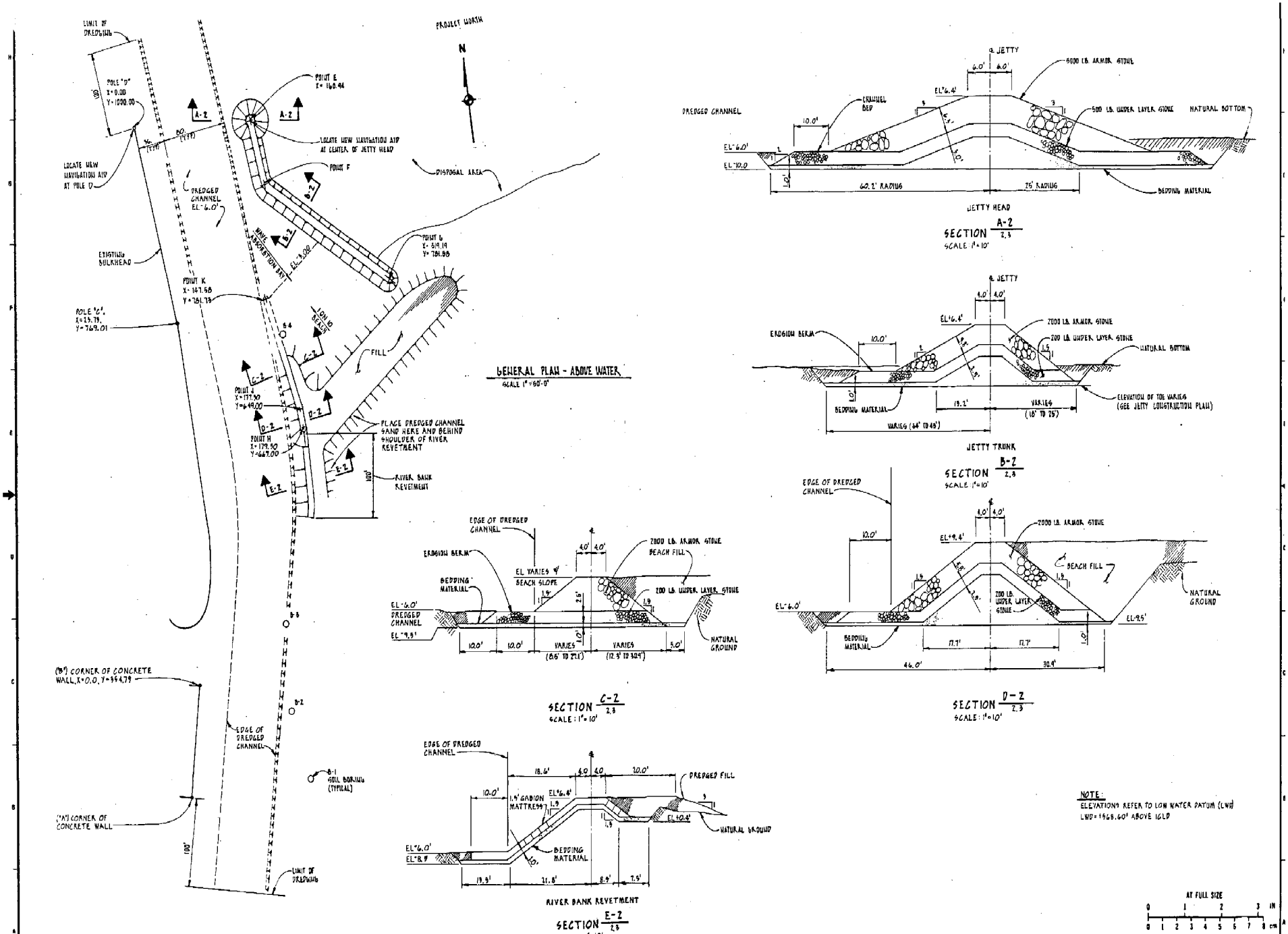
DESIGNED
DRAWN R. J. HUGG
CHECKED J. ESKE
APPROVED
APPROVED
DATE April 16 1981

STANLEY CONSULTANTS
INTERNATIONAL CONSULTANTS IN ENGINEERING ARCHITECTURE PLANNING AND MANAGEMENT

CHAGRIN RIVER
JETTY/BREAKWATER
EASTLAKE,OHIO

COVER SHEET AND INDEX

SCALE AS SHOWN
NO. 7869-1
REV. 0



NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE	NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE

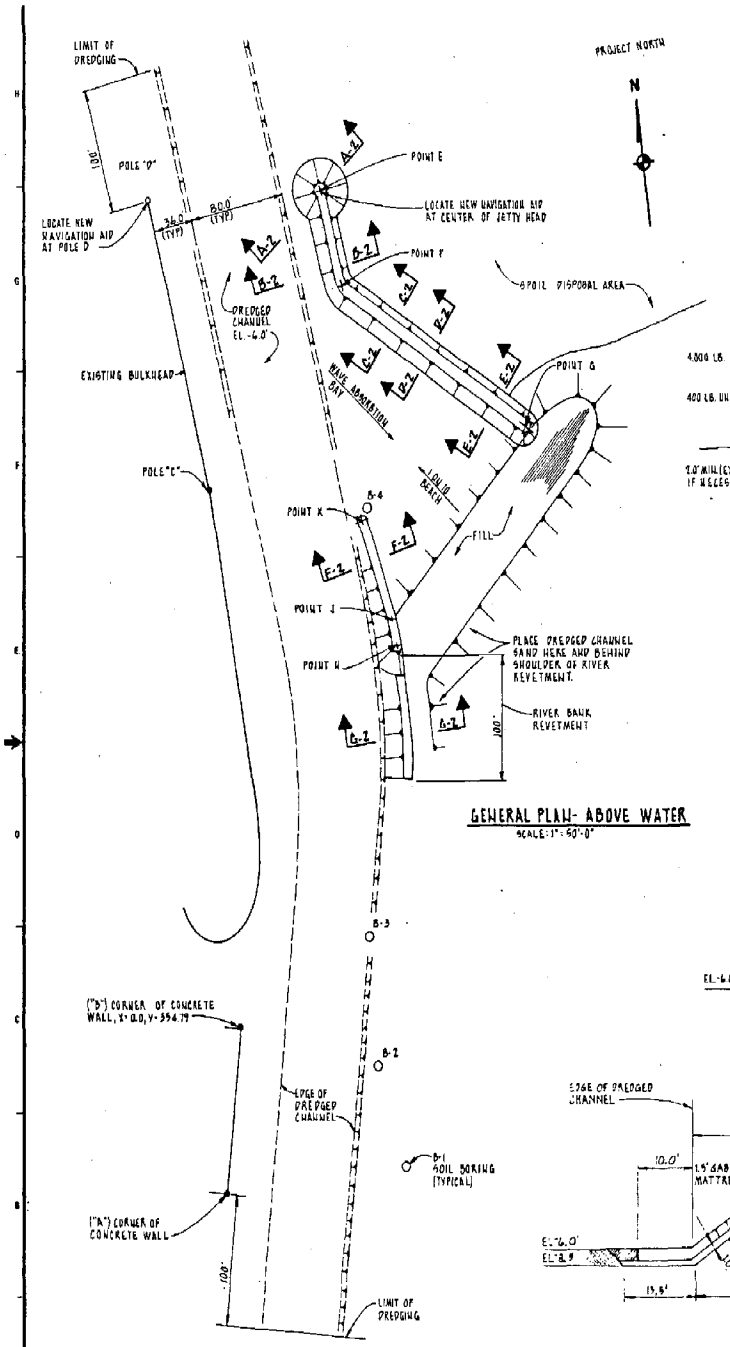
DESIGNED G.F. Tavares
DRAWN S.J. Searles
CHECKED G.J. Fink
APPROVED G.F. Tavares
APPROVED [illegible]
DATE April 16, 1981

STANLEY CONSULTANTS
INTERNATIONAL CONSULTANTS IN ENGINEERING, ARCHITECTURE, PLANNING AND MANAGEMENT

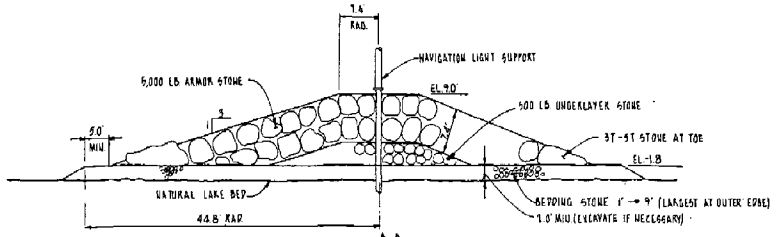
CHAGRIN RIVER
JETTY / BREAKWATER
EASTLAKE, OHIO

PLANS AND SECTIONS

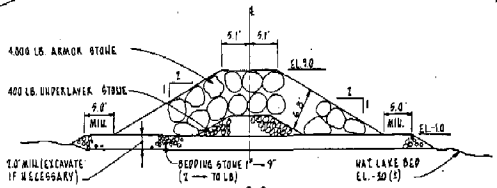
SCALE: AS SHOWN
NO. 7869-2
REV. 0



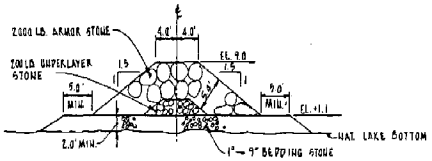
GENERAL PLAN- ABOVE WATER
SCALE: 1" = 60'-0"



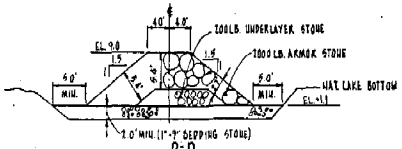
SECTION A-A / 2,3
JETTY HEAD
SCALE: 1" = 10'



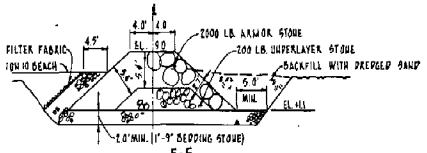
SECTION B-B / 2,3
JETTY "NECK"
SCALE: 1" = 10'



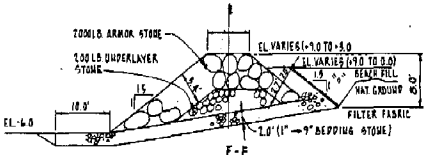
SECTION C-C / 2,3
JETTY TRUNK
(LAKE BOTTOM EL.+1.0 AND DEEPER)
SCALE: 1" = 10'



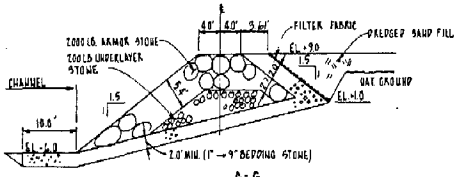
SECTION D-D / 2,3
JETTY TRUNK
(LAKE BOTTOM EL.+1.0 AND ABOVE)
SCALE: 1" = 10'



SECTION E-E / 2,3
JETTY TRUNK
(SUPPORTING WAVE ABSORBTION BEACH)
SCALE: 1" = 10'

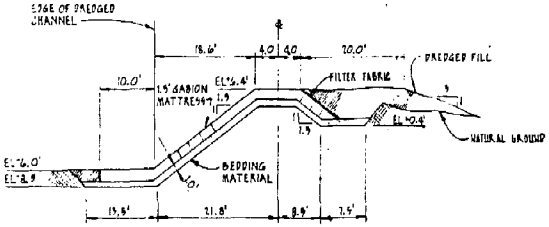


SECTION F-F / 2,3
SPENDING BEACH RETAINING WALL
SCALE: 1" = 10'

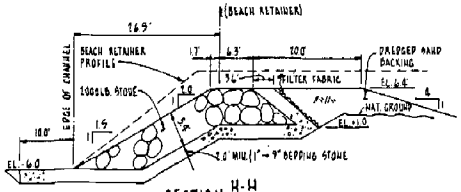


SECTION G-G / 2,3
SPENDING BEACH RETAINING WALL
SCALE: 1" = 10'

NOTES:
1. ELEVATIONS REFER TO LOW WATER DATUM (LWD) LWD = +569.60' ABOVE IGLD
2. UNDERLAYER MATERIAL, IF USED FOR TEMPORARY ACCESS BY LAND-BASED EQUIPMENT, MUST BE TRIMMED TO THE SECTION SHOWN ON THE DRAWINGS PRIOR TO PLACEMENT OF ARMOR STONE.



RIVER BANK REVETMENT
SECTION H-H / 2,3
SCALE: 1" = 10'



SECTION H-H / 2,3
(ALTERNATE)
RIVER REVETMENT
SCALE: 1" = 10'

AT FULL SIZE
0 1 2 3 IN
0 1 2 3 4 5 6 7 8 cm

NO.	REVISIONS	DRAWN	APPROVED	APPROVED	DATE
1	GENERAL REDRAWN			G.J. Fiel	9-28-81

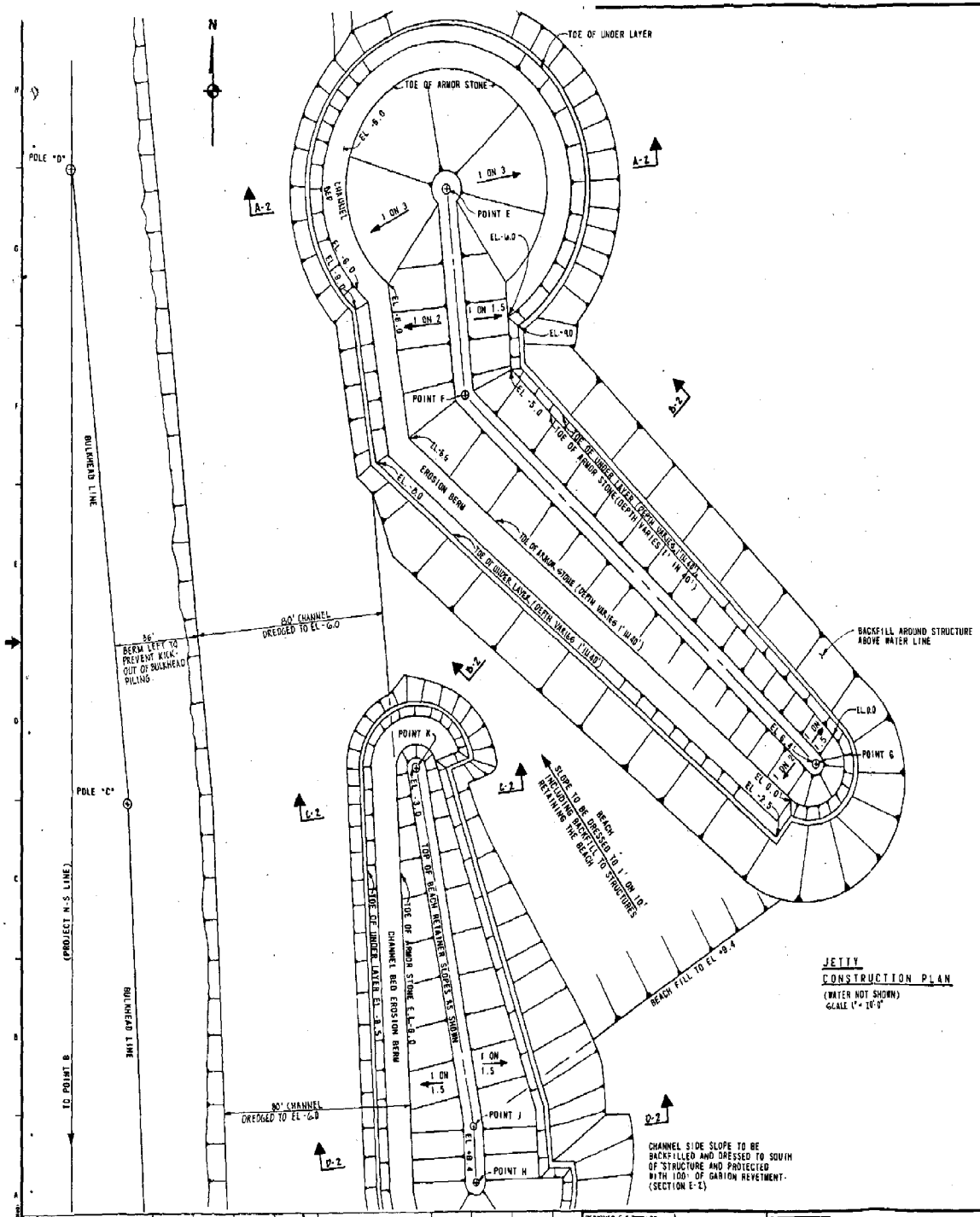
DESIGNED
DRAWN
CHECKED
APPROVED
APPROVED
DATE APRIL 1981

STANLEY CONSULTANTS

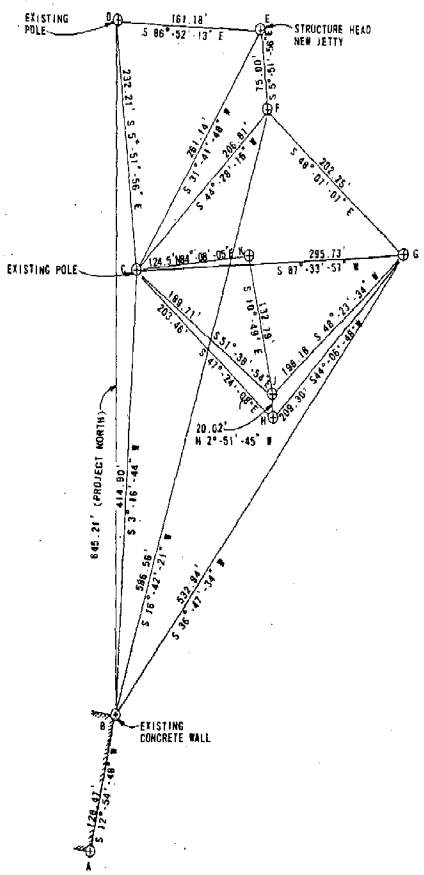
CHAGRIN RIVER
JETTY / BREAKWATER
EASTLAKE, OHIO

PLANS AND SECTIONS

SCALE AS SHOWN
NO. 7869-2
REV 1



JETTY
CONSTRUCTION PLAN
(WATER NOT SHOWN)
SCALE 1" = 10'-0"



RELOCATION DIAGRAM
NO SCALE

NOTE: POLE "D" IS KNOWN TO HAVE BEEN DISTURBED DURING THE WINTER OF 80/81. USE WITH CAUTION.

PROJECT COORDINATES

POINT	X (EAST)	Y (NORTH)	DESCRIPTION
A	-28.71	229.57	CORNER, EXISTING BULKHEAD
B	0.00	354.79	CORNER, EXISTING BULKHEAD
C	23.73	769.01	LIGHT POLE (EXISTING)
D	0.00	1000.00	LIGHT POLE (SEE NOTE)
E	160.94	991.20	NEW JETTY HEAD
F	168.81	916.59	NEW JETTY TRUNK
G	319.19	781.57	NEW JETTY FOOT
H	173.50	631.30	BEACH RETAINER
J	172.50	651.30	BEACH RETAINER
K	147.58	781.73	BEACH RETAINER

AT FULL SIZE
0 1 2 3 IN
0 1 2 3 4 5 6 7 8 cm

NO	REVISIONS	DRAWN	APPROVED	APPROVED	DATE	NO	REVISIONS	DRAWN	APPROVED	APPROVED	DATE

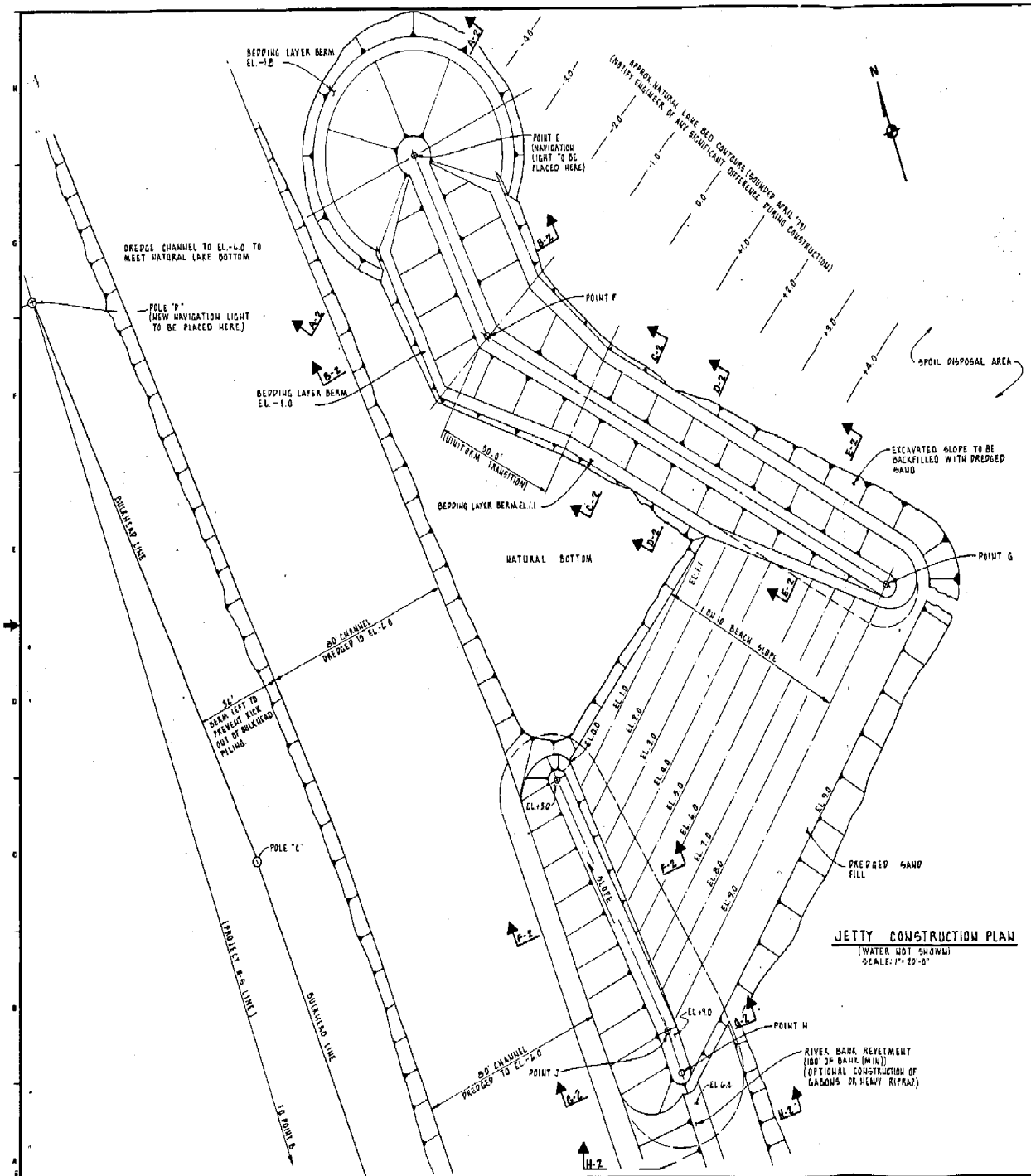
DESIGNED G.F. Thompson
DRAWN [illegible]
CHECKED G.F. Fink
APPROVED G.F. Thompson
APPROVED [illegible]
DATE April 16, 1981

STANLEY CONSULTANTS
INTERNATIONAL CONSULTANTS IN ENGINEERING, ARCHITECTURE, PLANNING AND MANAGEMENT

CHAGRIN RIVER
JETTY BREAKWATER
EASTLAKE, OHIO

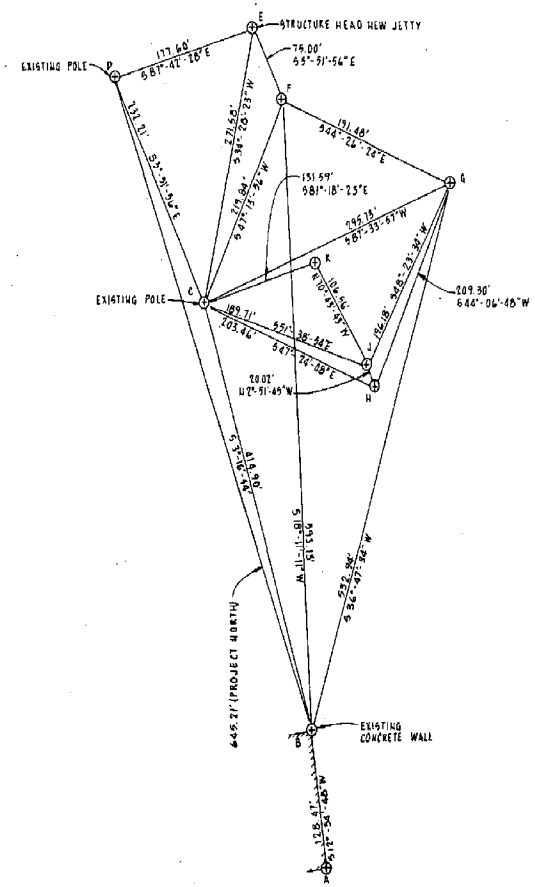
CONSTRUCTION PLAN

SCALE AS SHOWN
NO. 7869-3
REV. 0



JETTY CONSTRUCTION PLAN

(WATER NOT SHOWN)
SCALE: 1" = 20'-0"



RELOCATION DIAGRAM

NO SCALE

NOTE: POLE "D" IS KNOWN TO HAVE BEEN DISTURBED DURING THE WINTER OF 80/81. USE WITH CAUTION.

PROJECT COORDINATES

POINT	X(EAST)	Y(NORTH)	DESCRIPTION
A	-28.71	229.57	CORNER, EXISTING BULKHEAD
B	0.00	346.79	CORNER, EXISTING BULKHEAD
C	29.78	769.01	LIGHT POLE (EXISTING)
D	0.00	1000.00	LIGHT POLE (SEE NOTE)
E	177.45	992.90	NEW JETTY HEAD
F	165.12	918.29	NEW JETTY TRUNK
G	319.19	781.53	NEW JETTY FOOT
H	175.50	651.30	BEACH RETAINER
J	172.50	651.30	BEACH RETAINER
X	158.17	756.89	BEACH RETAINER

AT FULL SIZE
0 1 2 3 IN
0 1 2 3 4 5 6 7 8 cm

NO	REVISIONS	DRAWN	APPROVED	APPROVED	DATE
1	GENERAL (REDRAWN)			GJF	5-28-81

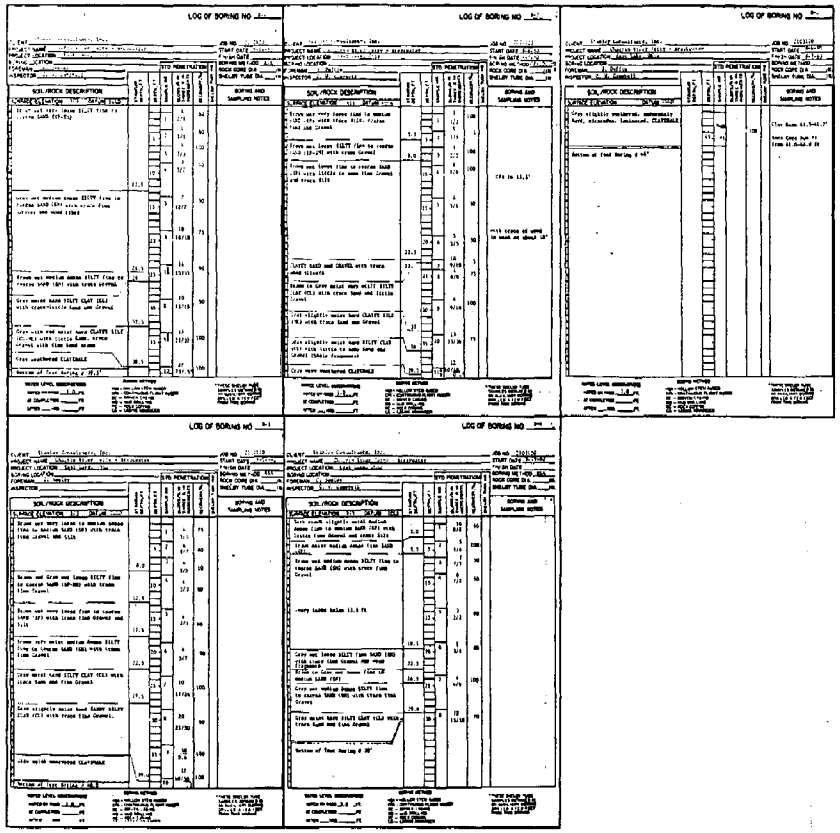
DESIGNED
DRAWN
CHECKED
APPROVED
APPROVED
DATE APRIL '79

STANLEY CONSULTANTS
INTERNATIONAL CONSULTANTS IN ENGINEERING, ARCHITECTURE, PLANNING AND MANAGEMENT

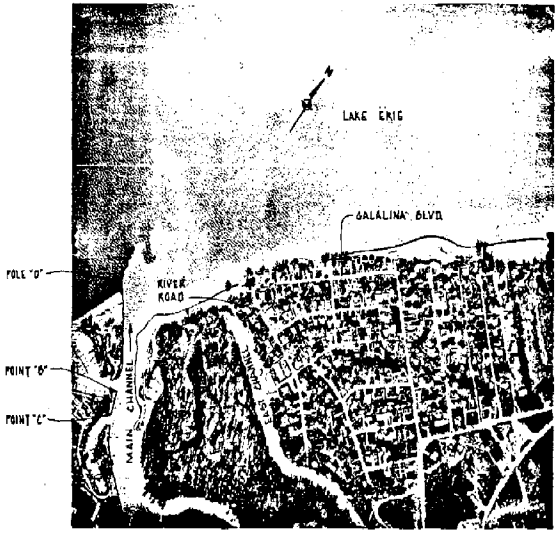
CHAGRIN RIVER
JETTY BREAKWATER
EASTLAKE, OHIO

CONSTRUCTION PLAN

SCALE AS SHOWN
NO 7869-3
REV 1



SEE SPECIFICATIONS FOR INFORMATION ON REPORT CONCERNING SUBSURFACE INVESTIGATION.



REFERENCE PHOTO
(NO SCALE - SPRING 1974)

B.M.: FIRE HYDRANT AT INTERSECTION OF RIVER DRIVE AND GALALINA BLVD. WITH RAISED LETTERS "MATHEWS" ON FLANGE. EL. 576.16' (IGLD).

AT FULL SIZE

NO	REVISIONS	DRAWN	APPROVED	APPROVED	DATE	NO	REVISIONS	DRAWN	APPROVED	APPROVED	DATE

DESIGNED
DRAWN
CHECKED
APPROVED
APPROVED
DATE

STANLEY CONSULTANTS

CHAGRIN RIVER
JETTY / BREAKWATER
EASTLAKE, OHIO

SOIL BORING LOGS

SCALE:
NO. 7869-4
REV. 0

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