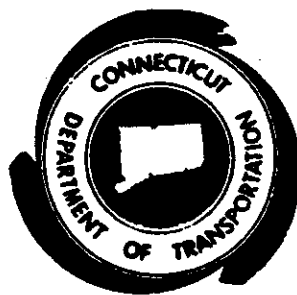


STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

SPECIFICATIONS
FOR
AERIAL PHOTOGRAPHY
AND
PHOTOGRAMMETRIC MAPPING



REVISED 1976

TABLE OF CONTENTS

DIVISION I

General Requirements and Covenants

Section		Page
1.	Definition of Terms	1-4
2.	Proposal Requirements and Conditions	4-7
3.	Award and Execution of Contract	7-14
4.	Scope of Work	14-16
5.	Control of Work	16-17
6.	Legal Relations and Responsibility to Public	17-20
7.	Prosecution and Progress	20-22
8.	Measurement and Payment	22-23

DIVISION II

Map Requirements

1.	General Requirements and Covenants	24-29 a
2.	Map Details 200S-5C	29 a-34
3.	Map Details 100S-2C	34-39
4.	Map Details 40S-1C	39-46
	Exhibits I thru VIA	

DIVISION I

GENERAL REQUIREMENTS AND COVENANTS

SECTION I. DEFINITION OF TERMS -

Whenever, in these specifications and contract, the following terms, or pronouns in place of them, are used, the intent and meaning shall be interpreted as follows:

"State": State of Connecticut

"Department": Connecticut Department of Transportation

"Commissioner": Connecticut Transportation Commissioner acting directly or through his duly authorized representative.

"Bureau": Bureau of Highways

"Deputy Commissioner": Bureau of Highways, Deputy Commissioner of the Department of Transportation acting directly or through his duly authorized representative.

"Engineer": Transportation Commissioner, Deputy Transportation Commissioner, acting directly or through his duly authorized representative.

"Bidder": Any individual, partnership, firm or corporation submitting an approved proposal for the work contemplated.

"Contractor": Party of the second part to the contract, acting directly or through his agents or employees.

"Subcontractor": Any individual, firm, partnership or corporation to whom the Contractor sublets or assigns any part or parts of the project covered by the contract with the approval of the Commissioner or his duly authorized representative.

"Surety": The corporate body which is bound with and for the Contractor, who is primarily liable to the Department of Transportation; and which engages to be responsible for the Contractor for his payment of all debts covering all materials and labor used or employed in the execution of the contract and for his acceptable performance of the work for which he has contracted.

"Proposal Form": The approved form on which the Bidder is to or has submitted his, their or its proposal for the work contemplated.

"Proposal": The properly executed offer of the Bidder when submitted on the proposal form, to perform the work contemplated.

"Plans": All maps, drawings, or reproductions of maps or drawings, pertaining to the work contemplated.

"Specifications": The description, provisions and requirements contained herein, together with all written agreements made or to be made pertaining to the method and manner of performing the work, or to the quantity and quality of materials to be furnished under the contract.

"Special Provisions": Statements modifying or changing the requirements or provisions of the Specifications or Plans or adding new requirements or provisions thereto.

"Contract": The agreement covering the performance of the work and the furnishing of materials required for the completion of the project. The Contract shall include the "Notice to Contractors", "Proposal", "Plans", "Specifications", and "Performance Contract Bond", "Public Liability", "Property Damage", and "Workmen's Compensation" Insurance Policies, also any and all "Special Provisions" or "Mapping Orders" made or to be made which reasonably could be required for the completion of the work in an acceptable manner.

"Performance Contract Bond": The approved form of security furnished by the Contractor and his Surety as a guaranty of good faith on the part of the Contractor to execute the work in accordance with the terms of the Contract.

"Payment Bond": The approved form of security furnished by the Contractor and his Surety as a guaranty of good faith on the part of the Contractor to pay all debts pertaining to materials, rental of equipment and labor used or employed in the execution of the Contract.

"Mapping Order": A written order signed by the Engineer and accepted by the Contractor to perform work stipulated therein and at the basis of payment set forth.

"Calendar Day": Every day shown on the calendar, Sundays and holidays included.

SECTION 2. PROPOSAL REQUIREMENTS AND CONDITIONS

(a) Contents of Proposal Forms: Prospective Bidders qualifying under (f) of this section will be furnished with proposal forms. These proposal forms will state the location and description of the work to be done, the time in which the work must be completed, and the date and time of the opening of proposals.

These proposal forms are non-transferable. Any prospective Bidder who has been issued a proposal form and transfers this proposal form to any other persons, parties or corporations may be barred from future bidding. The proposal of the Bidder who has not been issued the proposal form directly by this Department may be rejected. The Bidder will be furnished with any Special Provisions or requirements which vary from or are not contained in the Standard Specifications.

(b) Examination of Plans, Specifications, Special Provisions and Site of Work: The Bidder is required to examine carefully the site of the work, and the proposal form, plans, special provisions, specifications and contract form for the work contemplated, and it will be assumed that he judged for

and satisfied himself as to the conditions to be encountered, as to the character, quality and quantity of the work to be performed, materials to be furnished, and as to the requirements of the above documents.

(c) Preparation of Proposal: The Bidder must submit his proposal on the forms furnished by the Department. The blank spaces in the proposal must be filled in correctly where indicated, for each and every item given, and the Bidder must state, both in words and in numerals, written or printed in ink, or typewritten, the prices for which he proposes to do each item of the work contemplated. In case of discrepancy between the words and the numerals, the words shall govern. Ditto marks are not considered writing, printing or typewriting and shall not be used. He shall also show the total amount of his bid in the space provided in the proposal form. The Bidder shall sign his proposal correctly. If the proposal is made by an individual, his name and post office address must be shown. If made by a firm or partnership, or by a corporation, the proposal must be signed by an official of the firm, partnership or corporation authorized to sign contracts, and must also show the post office address of the firm, partnership or corporation.

(d) Rejection of Proposals: The Engineer may reject a proposal if they show any irregularities, omissions, alterations of form or additions not called for, or do not comply with instructions to bidders, or contain conditional or alternate bids, unless bids on alternate items are specifically called for in the proposal form.

(e) Disqualification of Bidders: More than one proposal for the same project from an individual, a firm or partnership a corporation or an association under the same or different names will not be considered. Reasonable ground for believing that any Bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such Bidder is interested. Any and all proposals will be rejected if there is reason for believing that collusion exists among the Bidders and no participants in such collusion will be considered in future proposals for the same work. Proposals in which the prices obviously are unbalanced may be rejected. Unbalanced prices shall be interpreted to mean that the unit price for any item is such that it is unreasonable for that particular item when considered by itself and not considered in connection with the bid submitted on any other item or items. No contract will be awarded except to competent bidders capable of performing the class of work contemplated.

(f) Competency of Bidders: The Engineer may refuse to issue a proposal blank to any individual, partnership, firm or corporation adjudged incompetent by the Department on one or more of the following facts: Those who have defaulted on previous contracts; those who have failed to complete contracts within the time required, and those who have performed similar work in an unsatisfactory manner.

(g) Familiarity With Laws, Etc.: The Bidder is assumed to have made himself familiar with all Federal and State laws and local bylaws, ordinances and regulations which in any manner affect those engaged or employed in the work, or the materials or equipment used in or upon the work, or in any way affect the conduct of the work and no plea of misunderstanding will be considered on account of his ignorance thereof.

SECTION 3. AWARD AND EXECUTION OF CONTRACT

(a) Consideration of Bids: After the proposals are opened and read the Engineer may request from such bidders, as appears desirable, the filing of a sworn "Contractor's Statement" on forms furnished by the Department fully outlining the capital, equipment, work in hand and experience of the bidder. The Engineer may reject the proposal of any individual, partnership, firm or corporation who, judging from their sworn statement fail to have the required experience in the class of work bid on or fail to have the proper personnel and equipment to prosecute the work within the time allowed or fail to have sufficient capital

and quick assets to finance the work. Until the final award of the contract the Commissioner reserves to himself the right to reject any or all bids and to waive technicalities as he may deem best for the interests of the State.

(b) Award of Contract: All contracts will be awarded by order of the Commissioner at the main office of the Connecticut Department of Transportation.

(c) Requirements of Performance Contract Bond and Payment Bond: The successful bidder, at the time of the execution of the contract, must deposit with the Commissioner, a surety company bond for the satisfactory completion of the work and a surety company bond for the payment of all debts pertaining to materials, rental of equipment, and labor used or employed in the execution of the contract. These bonds shall each be in an amount equal to the amount of the contract award. The forms of bond shall be that provided by the Department.

The Surety must be a corporate surety licensed to sign surety bonds in the State of Connecticut and acceptable to the Commissioner.

(d) Execution of Contract: Except as otherwise authorized by the Commissioner, all contracts shall be executed at the time designated. The successful Bidder, upon receipt of notice from the Department, shall, in person or represented by an official legally authorized to sign contracts, sign the necessary agreement entering into a contract with the State. No proposal

shall be considered binding upon the State until the execution of the contract.

(e) Failure to Execute Contract: Any Bidder who shall fail after 10 days' notice being given of acceptance of his bid, to enter into contract and furnish the required surety shall forfeit his claim to the work and his proposal guaranty shall be retained and used by the State, not as a penalty, but as liquidated damages.

(f) Insurance: Before the contract is executed, the Contractor will be required to file with the Commissioner a certificate of insurance, executed by an insurance company satisfactory to the Commissioner and on the forms provided by the Department, stating that with respect to the contract awarded the Contractor carries insurance in accordance with the following requirements:

1. Workmen's Compensation Insurance: With respect to all operations he performs and all those performed for him by subcontractors, the Contractor shall carry Workmen's Compensation Insurance in accordance with the requirements of the laws of the State of Connecticut.

2. Contractor's Liability Insurance: With respect to the operations the Contractor performs under the terms of the Agreement and any supplements thereto, with the State being named as an additional insured party the following minimum liability insurance coverage, said coverage to be provided by

an insurance company or companies satisfactory to the State. Each insurance policy shall state that the insurance company shall agree to investigate and defend the insured against all claims for damages, even if groundless.

(a) Insurance providing for a total limit of Five Hundred Thousand Dollars (\$500,000) for all damages arising out of bodily injuries to or death of one or more persons in any one accident or occurrence, and

(b) Insurance providing for a limit of not less than One Hundred Thousand Dollars (\$100,000) for all damages arising out of injury to or destruction of property in any one accident or occurrence, and subject to that limit per accident, a total (or aggregate) limit of Two Hundred Thousand Dollars (\$200,000) for all damages arising out of injury to or destruction of property during the policy period, and

(c) Insurance providing for a limit of not less than One Hundred Thousand Dollars (\$100,000) for all damages arising out of injury to or destruction of property in any one accident or occurrence and subject to that limit per

accident, a total (or aggregate) limit of Two Hundred Thousand Dollars (\$200,000) for all damages arising out of injury to or destruction of property during the policy period, and

(d) The operation of all motor vehicles, including those hired or borrowed, used in connection with this Agreement shall be covered by Automobile Liability Insurance in the following amounts: (i) not less than One Hundred Thousand Dollars (\$100,000) for all damages arising out of bodily injuries to or death of one person, and subject to that limit for each person, a total limit of Three Hundred Thousand (\$300,000) for all damages arising out of bodily injuries to or death of two or more persons in any one accident or occurrence, and (ii) not less than Fifty Thousand Dollars (\$50,000) for all damages arising out of injury to or destruction of property in any one accident or occurrence.

(e) Full coverage for damage or loss resulting from aircraft operations, ordinarily excluded from coverage, is to be provided in the amounts and manner specified herein.

3. Valuable Papers Insurance: A Valuable Papers Insurance policy to assure the State that all records, papers, books, maps, survey notes, all tracings and other data or documents will be re-established, recreated or restored if made unavailable by fire, theft, or any other cause. The photogrammetrist shall retain in his possession duplications of all products of his work under this Agreement, if and when it is necessary for the original to be removed from his possession during the time that this policy is in force. This policy shall provide coverage in the amount of Thirty Thousand Dollars (\$30,000) when the insured items are in his possession, and in the amount of Seven Thousand Dollars (\$7,000) regardless of the physical location of the insured items.

4. Professional Services Liability Insurance: A Professional Services Liability Insurance policy for errors and omissions in the minimum amount of Fifty Thousand Dollars (\$50,000). This policy shall indemnify and save harmless the State, its officers, agents and employees from claims, suits, actions, damages and costs of every name and description resulting from errors and omissions in the work performed by the Photogrammetrist after the starting date of and under

the terms of, this Agreement. This coverage shall be retained from the starting date of this Agreement, without interruption, until two (2) years after the award of the construction contract for this project, or for a period of seven (7) years from the starting date of this Agreement, whichever event occurs first. The Photogrammetrist may, at his election, obtain a policy containing a maximum Twenty-Five Thousand Dollars (\$25,000) deductible clause, but if he should obtain a policy containing such a clause, the Photogrammetrist shall be liable, as stated above herein, to the extent of the deductible amount. The State may, at its election and at no additional cost to the Photogrammetrist, continue this policy or substitute other similar insurance coverage beyond the period stated herein for the period of coverage.

5. Certificate of Insurance: In conjunction with the above, the Photogrammetrist agrees to furnish to the State, on the form or forms supplied by the State, a Certificate of Insurance, fully executed by an insurance company or companies satisfactory to the State for the insurance policy or policies required hereinabove which policy or policies shall be in accordance with the terms of said Certificate of Insurance.

The Workmen's Compensation and Contractor's Public Liability and Property Damage insurance hereinbefore specified shall be carried until all work required to be performed in the State under the terms of the contract is satisfactorily completed.

There shall be no direct payment to the Contractor on account of any premium or other expense in connection with any of the above required insurance but the cost thereof must be included in the general cost of the work.

SECTION 4. SCOPE OF WORK

(a) Intent of Plans and Specifications: It is the intent of the plans, specifications and supplementary documents to provide for the completion of all details of the work contemplated and the Contractor shall do all work necessary thereto in full compliance with the plans, these specifications, the special provisions, proposal and contract, including all incidental work. The Contractor shall furnish all material, equipment, tools and personnel necessary to the full completion of the work contemplated unless specifically otherwise provided in the contract.

(b) Special Works: Should any conditions which are not covered by the Specifications be anticipated on any proposed work, "Special Provisions" for such work will be supplied to the bidders and shall be considered a part of these specifications the same as though contained fully herein. Should any special provisions or requirements conflict with these specifications the "Special Provisions" shall govern.

(c) Extra Work: Shall be considered as work made necessary by changes in the program and/or in the scope of work, for which no price is provided in the contract, shall be done in accordance with the requirements of the specifications and as directed by the Engineer.

The Engineer shall notify the Contractor of the necessity for such extra work, stipulating its character and extent. Upon receipt of such notification, the Contractor shall advise the Engineer, in writing, of the compensation, either unit price or lump sum as requested, and of the number of days additional time required, in which he proposes to perform the extra work required. The Engineer may accept the compensation proposed by the Contractor

or, if he considers the prices submitted to be excessive, he may reject the offer at the compensation proposed without penalty to the Department. If acceptable, the character and extent of the extra work, together with the accepted basis of compensation and time allowance, shall be communicated to the Contractor by means of a mapping order which, when signed by the Contractor and the Engineer, shall become a part of the contract.

SECTION 5. CONTROL OF THE WORK

(a) Coordination of Specifications, Plans and Special Provisions: Any requirements appearing on either the plans, these specifications or the "Special Provisions" shall be equally binding on the Contractor. In case of conflict the provisions of the plans shall take precedence over the specifications and the special provisions shall take precedence over the plans. On all plans, the figured dimensions shall govern in case of discrepancy between the scales and figures. The Contractor shall take no advantage of any error or omission in the plans or of any discrepancy between the plans and the Specifications or Special Provisions, and the Engineer shall make such corrections and interpretations as may be deemed necessary for the completion of the work in a satisfactory manner.

(b) Inspection: All materials and each part or detail of the work shall be subject at all times to inspection by the Engineer or his authorized representatives or representatives of the Federal Highway Administration, and the Contractor will be held strictly to the true intent of the specifications in regard to quality of materials, workmanship and the diligent execution of the contract. Such inspection may include plant inspection, and any material furnished under these specifications is subject to such inspection. The Engineer or his representatives shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

(c) Defective and Unauthorized Work: All work which has been rejected shall be corrected or, if necessary, replaced in an acceptable manner by the Contractor at his own expense. Any extra work done without written authority will be considered as unauthorized and will not be paid for by the Department.

SECTION 6. LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

(a) Laws to be Observed: The Contractor at all times shall observe and comply with all Federal and State laws and local bylaws, ordinances and regulations in any manner affecting the conduct of the work, and all such orders or decrees as exist at present and those which may be enacted later, of bodies or tribunals having any jurisdiction or authority over the work, and shall indemnify

and save harmless the State and all of its officers, agents and servants against any claim or liability arising from or based on the violation of any such law, bylaw, ordinance, regulation, order or decree, whether by himself or his employees.

(b) Permits and Licenses: The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work.

(c) Patented Devices, Materials and Processes: If the Contractor is required or desires to use any design, devices, material, or process covered by letters, patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner and a copy of this agreement shall be filed with the Commissioner, if no such agreement is made or filed as noted, the Contractor and the Surety shall indemnify and save harmless the State from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark, and shall indemnify the State for any costs, expenses and damages which it may be obliged to pay, by reason of any infringement, at any time during the prosecution or after the completion of the work.

(d) Responsibility for Damage Claims, etc.: The Contractor shall indemnify and save harmless the State, the Department and all of its officers, agents and employees from all suits, actions or claims of any character, name and description brought for, or on account of any injuries or damages received or sustained by any persons or property by or from the said Contractor or by or in consequence of any neglect in safeguarding the work, or through the use of unacceptable materials in prosecuting the work or by or on account of any act or omission, neglect or misconduct of the said Contractor, or by or on account of any claims or amounts recovered for any infringement of the patent, trademark or copyright, or from any claims or amounts arising or recovered under the "Workmen's Compensation Law", or any other law, bylaw, ordinance or decree, and so much of the money due the said Contractor under and by virtue of his contract, as shall be considered necessary by the Commissioner, may be retained for the use of the State, or in case no money is due, his surety shall be held until such suit or suits, action or actions, claim or claims for injuries or damages, as aforesaid, shall have been settled and suitable evidence to that effect furnished to the Commissioner.

(e) Contractor's Responsibility for Work: Until the date of the formal acceptance of the project, the work shall be under the charge and care of the Contractor, and he shall take every necessary precaution against injury or damage to the same or any part thereof by the action of the elements or from any

other cause whatever, whether arising from the execution or from the non-execution of the work. The Contractor shall repair, restore, and make good, at his own expense, all injuries or damages to any portion of the work occasioned by any of the above causes before its completion.

(f) No Waiver of Legal Rights: The Commissioner reserves the right, should conclusive proofs of defective work or material used by or on the part of the Contractor be discovered, either before or after project has been accepted, or even after the final payment has been made, to claim and recover by process of law such sums as may be sufficient to correct the error or make good the defects in the work and materials.

SECTION 7. PROSECUTION AND PROGRESS

(a) Subletting or Assigning of Contract: If any part of the work is sublet, sold, transferred, assigned or otherwise disposed of the Contractor will not be relieved of any responsibility in connection therewith.

(b) Prosecution of Work: The work shall be prosecuted in such manner and with sufficient materials, equipment and personnel as is considered necessary to ensure its completion within the time set forth in the contract.

(c) Annulment of Contract: If the Contractor fails to begin the work under contract within the time specified, or fails to perform the work with sufficient workmen and equipment or with

sufficient materials to ensure the prompt completion of said work, or shall perform the work unsuitably or perform anew such work as shall be rejected as defective and unsuitable or shall discontinue the prosecution of the work, or shall fail to again commence work which has been discontinued within 48 hours, excluding Sundays and Holidays, after notice to do so, or if the Contractor shall become insolvent or declared bankrupt, or commit any act of bankruptcy or insolvency, or allow any final judgment to stand against him unsatisfied for a period of 10 days, or shall make an assignment for the benefit of creditors, or from any other cause whatsoever, shall not carry on the work in an acceptable manner, the Engineer shall give notice in writing to the Contractor and his Surety, of such delay, neglect or default, specifying the same. If the Contractor or Surety, within a period of 10 days after such notice, shall not proceed in accordance therewith, then the Commissioner shall, upon written notification from the Engineer of the fact of such delay, neglect or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of said Contractor. The Commissioner may enter into an agreement for the completion of said contract according

to the terms and provisions thereof, or use such other methods as in his opinion shall be required for the completion of said contract in an acceptable manner. All costs and charges incurred by the Department, together with the cost of completing the work under contract, shall be deducted from any monies due or which may become due said Contractor. In case the expense so incurred by the Department shall be less than the sum which would have been payable under the contract, if it had been completed by said Contractor, then the said Contractor shall be entitled to receive the difference, and in case such expense shall exceed the sum which would have been payable under the contract, then the Contractor and the Surety shall be liable and shall pay to the State the amount of said excess.

(d) Acceptance of Project and Termination of Contractor's Responsibility: The project will be considered complete when all work has been finished, the final inspection made by the Engineer and the work accepted by the Commissioner. The Contractor will then be released from further obligations except as set forth in his bond.

SECTION 8. MEASUREMENT AND PAYMENT

(a) Scope of Payments: The Contractor shall receive and accept the compensation, as herein provided, in full payment for furnishing all materials, personnel, tools and equipment and for performing all work contemplated and embraced under the contract,

also for all loss or damage arising out of the nature of the work, or from the action of the elements or from any unforeseen difficulties or obstructions which may arise or be encountered during the prosecution of the work, and for all risks of every description connected with the prosecution of the work, also for all expenses incurred by, or in consequence of the discontinuance of the prosecution of the work as herein specified, and for any infringement of patent, trademark or copyright and for completing the work and the whole thereof, in an acceptable manner according to the plans and specifications.

(b) Final Payment and Completion of Contract: When the Contractor has completed the work in an acceptable manner in accordance with the terms of the contract, the Engineer shall in writing authorize for final payment, and show the value of the entire amount of work performed and the value of all payments on prior certificates or statements which may have been made being merely partial payments and subject to correction in the final payment. Acceptance of this payment by the Contractor shall constitute the termination of the contract and shall void any further claims by him against the State.

DIVISION II
MAP REQUIREMENTS

SECTION 1. GENERAL REQUIRMENTS AND COVENANTS

(a) Area to be Covered: U.S. Geological Survey or other Item Map, showing the area to be mapped will be on file at the main office of the Connecticut Transportation Department. Prints will be furnished to bidders.

(b) Drafting: All tracings shall be drawn in ink on a stable plastic drafting film having a minimum thickness of three thousandths (0.003) inch. A description of sheet layouts, showing title and border information are noted elsewhere in this manuscript. A north point, indicating the Connecticut Grid System shall be shown on each map sheet (See exhibit I thru V).

(c) Control Surveys: All required field and office work shall be done by the Contractor, unless otherwise specified.

All Connecticut Geodetic Survey (C.G.S.), U.S. Geological Survey (U.S.G.S.) and U.S. Coast and Geodetic (U.S.C. & G.S.) horizontal and vertical control stations, in the area to be mapped, shall be shown with their elevations and coordinate values. All stations recovered shall be noted as recovered on the maps.

Horizontal control stations shall be so located that at least two stations, visible from each other or having a recorded azimuth to some permanent structure, shall appear on each map sheet.

In no case shall these stations be more than $\frac{1}{2}$ mile apart. Where it is necessary to satisfy this requirement, monuments and intermediate control stations shall be established in the field.

Pairs of monuments shall be located at two (2) mile intervals maximum. Where monumentation does not exist or when monuments are unrecoverable additional monuments shall be set to achieve the requirements mentioned above. Intermediate points shall be driven deformed reinforcing bars $\frac{1}{2}$ inch in diameter and 3 feet in length except where a cross shall be chiseled on ledge rock or concrete. All such stations shall be accurately shown and identified on the maps. In addition to control monuments, all intermediate stations used to establish the location of control monuments, shall be shown on all 100 and 40 scale mapping.

Horizontal control surveys shall conform to the specifications of the U.S.C. and G.S. Second Order Traverse and the requirements set forth in the Connecticut Highway Location Survey Manual revised to date.

With each map, submitted by the Contractor for approval a complete description of each control station, including the initial control stations on which computations for plotted control stations are based, shall be furnished. At least three references so located as to permit recovery of the station shall be furnished for each station, together with the coordinates of the station on the Connecticut Coordinate System.

(d) Method of Testing and Inspection: The Contractor shall furnish one complete set of computations, of the horizontal and vertical control data, for the purpose of review before the start of the Analytical Solution for stereo compilations. The Contractor will be notified of approval or rejection within (30) calendar days after the receipt of the computations. The Contractor shall furnish three (3) black (or blue) and white paper prints of each completed tracing for the purpose of testing and inspecting.

The Department will field inspect and test the check prints as rapidly as possible after receipt from the Contractor. The completeness of cultural and topographic detail will be determined by a thorough inspection in the field. Contour accuracy will be tested from a field traverse, taking elevations crossed by the traverse. In all cases, the Department reserves the right to select the areas to be tested.

When a sheet is rejected based upon the allowable percentage being greater than those listed in this document, the Contractor shall completely reanalyze the entire sheet and make corrections where necessary to bring that sheet within tolerances.

For either the initial or subsequent submissions, the Department shall be allowed sixty (60) calendar days for each map sheet after the receipt of the check prints, for approval or rejection. The Contractor will be notified of approval or rejection within this period. If any section is rejected, the Contractor will be required to bring it to proper accuracy,

and to submit three (3) additional prints, as before, at his own expense, within thirty (30) calendar days after notification of rejection.

All additional field inspections, tests or other checks made by the Department, after the initial check and rejection, for the purpose of determining the accuracy of any map will be at the expense of the Contractor, payment for which shall be at the rate of one hundred dollars (\$100) per sheet for each additional check after each rejection. All corrections made to bring the tracings to proper accuracy and all check prints submitted by the Contractor shall be at the expense of the Contractor.

The Contractor shall deliver tracings by items or sub-items when notified of the approval of all map sheets covered by the Unit except that upon special request the Contractor shall deliver any tracing of an approved map sheet.

(e) Negatives and Photographs: Original photographic negatives including photographic index negatives shall become the property of the Department.

The Contractor shall furnish two (2) sets of photographic contact prints on semi-matte double weight paper having sufficient overlap for stereoscopic study of the entire area and one (1) set of enlargements on semi-matte double weight paper completely covering the mapped area without stereoscopic coverage.

The Contractor shall furnish two (2) copies of a photographic index map of each project at a reduced scale to readily permit the selection of prints covering any part of the project. The scale, date, north arrow, project identification shall be shown. Identifying sequence numbers shall be shown on all photographic prints.

All photographs shall be clear, sharp, free of blemishes and of good quality in all respects.

(f) Plan Index: One mylar index of plan sheets shall be prepared and submitted by the Contractor. The index shall show the location of all plan sheets superimposed over a photographically reproduced U.S.G.S. or other acceptable item map or photograph showing the area of the entire project. The index shall be on mylar film with a maximum measurement of 24" x 36".

(g) Flying Period: All flights that are made for the purpose of obtaining photographs for photogrammetric mapping, shall be flown between February 1 to March 31 and November 1 to December 30, and when the ground is free of snow and when foliage is not present.

(h) Completion Time: Contact photographs and indexes shall be delivered to the Department at the address specified within ten (10) calendar days after the two month period within which aerial surveys are to be flown as shown on the proposal form and contract, hereinafter called the flying period. Failure

to complete flying of all items and sub-items within the flying period without advance written permission, will be cause for annulment of the contract as described in Division I, Section 7(c).

The Contractor shall have the equipment and the ability to produce and deliver check prints of the first six (6) inked tracings within seventy-five (75) calendar days of the last day of the flying period and shall do so. Check prints of additional tracings must be available for delivery at the rate of ten (10) map sheets over forty-five (45) calendar days thereafter. Where two or more items are combined in one contract, time allowed will be figured consecutively unless otherwise specified. Check prints shall be delivered in sequence.

If for any reason the completion of flying of any item is delayed, with permission, beyond the flying period, the last day of the flying period will, nevertheless, be considered the final date for determining photograph and map delivery dates.

Photographic negatives shall be delivered to the Department at the address specified, within thirty (30) calendar days after complete acceptance of all maps covered by the contract.

All material will be considered to be in the hands of the contractor until received at the main office of the Department. The date of submission or delivery by the contractor for the purpose of map delivery schedule will be considered the date of receipt at the main office of the Department.

(i) Partial Payment: The Contractor may request partial payments for work performed on the Lump-Sum fee. These requests for partial payments may be submitted monthly and shall be made on voucher forms supplied by the State. Partial payment shall be made by the State on the following basis. Partial payments shall be equal to Ninety percent (90%) of the amount arrived at by multiplying the percentage of work performed to date under the Agreement, as shown on the latest progress report submitted by the Contractor and approved by the State, by the Lump-Sum fee.

Final inspection of the complete delivery of inked tracings and enlarged photographs will be made within ten (10) calendar days of receipt of the material. If acceptable the Contractor will be notified of the acceptance in writing, thus authorizing submittal of his final voucher.

(j) Final Payment: Photographic negatives shall be delivered before final payment for the last item is made as described under Division I, Section 8(b).

(k) Miscellaneous Details: When the Contractor is required to perform all survey work and research necessary for complete 40 scale photogrammetric mapping, the Contractor shall, after receiving a notice of acceptance, of the photogrammetric and planimetric mapping, from the Department, add to the mapping through field surveys and research, the following items in those areas outlined by the Designer and approved by the Department.

- A. Identification and location of all utilities
both underground and above
- B. Street numbers and type of structures
- C. Pavement types
- D. Types and sizes of culverts
- E. Elevations of all drainage culverts and structures
not already shown
- F. Types and sizes of trees that are ornamental or
standing alone
- G. All existing street and highway lines and property
lines with the owners' names
- H. Railroad base lines or center lines with coordinates
and related data
- I. All other visible natural or man-made features not
visible through the photographs

SECTION 2. MAP DETAILS 200S-5C (200 scale - 5' Contours)

(a) Scale: Shall be at the scale of 1 inch equals
200 feet.

(b) Sheet Size Requirements: The final copy shall be
in ink, on a stable plastic drafting film having a minimum thickness
of three thousandths (0.003) inch. The drafting shall be of a
high standard of workmanship and shall be in conformance with the
requirements set forth in the Connecticut Highway Location Survey
Manual revised to date. Tracings shall be not more than

5 feet - 0 inches long and 2 feet - 6 inches wide to outside border lines. The gross width shall be uniform for all tracings and the gross length shall be uniform for each item or sub-item and one inch longer (1/2 inch margin each end) than the net length of the longest tracing as indicated on the Item Map. The net width shall be 26½ inches unless otherwise specified. When inside border lines of abutting tracings are perpendicular to the base they shall be shown as match lines. Otherwise match lines shall be shown as indicated on the detailed layout sheets. In either case the words, "Match Line to Sheet No. of Sheets" shall appear along the outside of the match line. Information as to the title to appear on the sheets. (See exhibit No. I and IA)

(c) Contents:

1. General: The map will show all the cultural features in accordance with the attached Standard Conventions for Aerial Topographic Maps as they apply to 200S-5C map details. It will be the Contractor's responsibility to show all required cultural features on the topographic map in horizontal position and orientation within the accuracy required under (c) of this section.

Buildings with one or more horizontal dimensions of 50 feet or more shall be drawn to scale. Buildings with one or more horizontal dimensions of 25 to 50 feet shall be shown 25 feet x 25 feet. Buildings with one or more horizontal dimensions of 15 to 25 feet shall be shown 15 feet x 15 feet. Buildings with no horizontal dimension greater than 15 feet need not be

shown. The common walls of attached buildings of varying heights shall be shown.

As an aid to orientation, all fence lines, walls and hedges as are visible on the original photography and are not adjacent to highways, streets or trails, shall be shown. This information is particularly desired in unsettled areas.

Roads shall be shown by dashed lines spaced the distance between curbs, hard surface edges or travel path, as the case may be. The drafting of road alignment shall be especially carefully executed. Roads of regular alignment shall be plotted with straightedge and regular curves. Free-hand or irregular curve drawing will be permitted only on meandering roads or trails of irregular alignment. Trails shall be shown by a dashed line representing the center line.

Power-transmission or telephone lines which are constructed on private rights of way and are cross country in nature shall be shown. Where visible, towers and/or utility poles shall be shown.

2. Drainage: Drainage lines shall be shown by a dash and three dot symbol in all well-defined drainage features indicated by the contours when the drainage feature is one-fourth mile or more in length. All drainage lines shall be stopped at a distance of at least 100 feet from the ridge lines. Streams averaging more than 25 feet wide shall be shown double line; each shore being indicated by the dash and three dot symbol. The shore line of small ponds shall also be shown by this symbol and the interior lightly cross-hatched in ink. Large ponds and lakes shall be lightly

cross-hatched one inch inside the shore line. Where drainage is known to exist, and where depression contours would otherwise be shown, such culvert or bridge as can be seen in the original photography, or are known to exist, shall be shown on the map.

3. Wooded Areas: Woodland outlines shall be carefully and accurately delineated. A cleared band of actual width shall be shown along transmission lines. Woodland lines must be in exact position, especially where the boundary is a road, railroad, or transmission line right of way.

4. Relief: Datum shall be mean sea level and relief shall be shown by 5-foot contour lines. All contours shall be drawn clear and sharp with a continuous solid line except through structures. Each 25-foot contour shall be accentuated and numbered. Elevations of all saddles, tops of summits, bottoms of depressions, road intersections, railroad and road intersections shall be shown to the nearest foot. In depressions where drainage is indicated by structures the contours shall not be shown as depression contours.

5. Lettering: Leroy Lettering Equipment or lettering equivalent in neatness and uniformity shall be used.

(a) Local Road Designations: The Contractor shall place on the maps the names or other official designations of local roads as shown on Town Roads Maps, that will be supplied by the Department.

6. Political Subdivision Lines: The Contractor will not be required to show political subdivision lines.

7. Coordinates: Grid lines shall be shown as continuous solid lines from inside border to inside border at 1000-foot intervals, conforming to the Connecticut Coordinate System, and labeled at the top, bottom and sides of each map sheet, approximately one (1) inch inside the border. The plotted position of each plane coordinate grid line shall not vary by more than one hundredth (1/100) of an inch from the true grid value on each map manuscript.

(c) Accuracy

1. Cultural Features: The plotted position of 90 percent of the cultural features (except symbolized buildings) shown on each completed map sheet shall be within five (5) feet of their actual position, with respect to the Connecticut Coordinate System, as measured on the ground. In no instance shall the error be greater than ten (10) feet.

2. Contours: Ninety percent of all contour elevations shown on each map sheet shall be correct within 1/2 the contour interval (2.5 feet) and the remaining 10 percent shall not be in error by more than the contour interval (5 feet). The allowable error may, however, be doubled where swamp growth, forest or brush completely obscure the ground. A contour which

can be brought within the above vertical tolerance by shifting its plotted location by 0.025 of an inch will be accepted as being correctly plotted.

Spot Elevations: 90% of all spot elevations placed on the map shall be accurate to within one-fourth (1/4) the contour interval (1.25 feet) and, 10% of all spot elevations placed on the map shall not exceed one-half (1/2) the contour interval, (2.5 feet).

(d) Scale of Enlarged Photographs: Photographic enlargements described in Division II, Section 1(e) shall be furnished at a scale of 1 inch = 500 feet.

SECTION 3. MAP DETAILS 100S-2C (100 Scale - 2' Contours)

(a) Scale: Shall be at the scale of 1 inch equals 100 feet.

(b) Sheet Size Requirements: The final copy shall be in ink on a stable plastic drafting film having a minimum thickness of three thousandths (0.003) inch. The drafting shall be of a high standard of workmanship, and shall be in conformance with the requirements set forth in the Connecticut Highway Location Survey Manual revised to date. Tracings shall be not more than 5 feet-0 inches long and 2 feet-6 inches wide to outside border lines. The title information shall appear in the lower margin. (See exhibit I and IA).

(b) Contents

1. General: The map will show all the cultural features in accordance with the attached Standard Conventions for Aerial Topographic Maps as they apply to 100S-2C map details. It will be the Contractor's responsibility to show all required cultural features on the topographic map in horizontal position and orientation within the accuracy required under (c) of this section.

Buildings with one or more horizontal dimensions of 20 feet or more shall be drawn to scale. Smaller buildings with one or more horizontal dimensions of 10 to 20 feet shall be shown 10 feet x 10 feet. Buildings with no horizontal dimension greater than 10 feet need not be shown. The common walls of attached buildings of varying heights shall be shown.

As an aid to orientation, all fence lines, walls and hedges as are visible on the original photography and are not adjacent to highways, streets, or trails shall be shown. This information is particularly desired in unsettled areas.

Roads shall be shown by dashed lines spaced the distance between curbs, hard surface edges, or travel path edges, as the case may be. The drafting of road alignment shall be especially carefully executed. Roads of regular alignment shall

be plotted with straightedge and regular curves. Freehand or irregular curve drawing will be permitted only on meandering roads or trails of irregular alignment. Trails shall be shown by a dashed line representing the center line.

Power transmission lines and telephone lines which are constructed on private rights-of-way and are cross country in nature shall be shown with the location of all poles and/or towers.

2. Drainage: Drainage lines shall be shown by a dash and three dot symbol in all well defined drainage features indicated by the contours when the drainage feature is one-fourth mile or more in length. All drainage lines shall be stopped at a distance of a least 50 feet from the ridge lines. Streams averaging more than 10 feet wide shall be shown double line; each shore being indicated by the dash and three dot symbol. The shore line of small ponds shall also be shown by this symbol and the interior lightly hatched in ink. Large ponds and lakes shall be lightly hatched one inch inside the shore line. Where drainage is known to exist, and where depression contours would otherwise be shown, such culvert and bridge endwalls as can be seen in the original photography, or are known to exist, shall be shown on the map.

3. Wooded Areas: Woodland outlines shall be carefully and accurately delineated. A cleared band of actual width shall be shown along all transmission lines. Woodland lines must be in exact position, especially where the boundary is a road, railroad, or transmission line right-of-way.

4. Relief: The datum shall be mean sea level, and relief shall be shown by 2-foot contour lines. All contours shall be drawn clear and sharp with a continuous solid line except through structures. Each 10-foot contour line shall be accentuated and numbered. Elevations of all road intersections, road and railroad intersections, saddles, tops of summits and bottoms of depressions shall be shown to the nearest 1/2 foot. In depressions where drainage is indicated by structures the contours shall not be shown as depression contours.

5. Lettering: The Contractor shall place on the map such lettering as can be secured from using Leroy lettering equipment or lettering equivalent in neatness and uniformity.

(a) Contour Numbering: Contour numbers shall be shown at intervals not to exceed 10 inches.

(b) Local Road Designations: The Contractor shall place on the maps the names or other official designation of local roads as shown on Town Roads Maps, that will be supplied by the Department.

6. Political Subdivision Lines: The Contractor will not be required to show political subdivision lines.

7. Coordinates: Grid Lines shall be shown as continuous solid lines from inside border to inside border, at 500 foot intervals, conforming to the Connecticut Coordinate System and labeled at the top, bottom and sides of each map sheet, approximately one (1) inch inside. The plotted position of each plane coordinate grid line shall not vary by not more than one hundredth (1/100 of an inch) from the true grid value on each map manuscript.

(c) Accuracy

1. Cultural Features: The plotted position of 90 percent of the cultural features (except symbolized buildings) shown on each completed map sheet shall be within two and one-half ($2\frac{1}{2}$ feet) of their actual position, with respect to the Connecticut Coordinate System, as measured on the ground. In no instance shall the error be greater than five (5) feet.

2. Contours: Ninety percent of all contour elevations shown on each map sheet shall be correct within one-half ($1/2$) the contour interval (1.0 foot) and the remaining ten percent shall not be in error by more than the contour interval (2.0 feet).

The allowable error may, however, be doubled where swamp growth, forest, or brush completely obscure the ground. A contour which can be brought within the above vertical tolerance by shifting its plotted location by 0.025 of an inch will be accepted as being correctly plotted.

Spot Elevations: 90% of all spot elevations placed on the map shall be accurate to within one-fourth (1/4) the contour intervals (.5 foot) and, 10% of all spot elevations placed on the map shall not exceed one-half (1/2) the contour interval, (1.0 foot).

(d) Scale of Enlarged Photographs: Photographic enlargements described in Division II, Section 1(e) shall be furnished at a scale of 1 inch = 200 feet.

SECTION 4. MAP DETAILS 40S-1C(40 scale - 1' Contours)

(a) Scale: Shall be at the scale of 1 inch equals 40 feet.

(b) Sheet Size Requirements: The final copy shall be in ink on a stable plastic drafting film having a minimum thickness of three thousandths (0.003) inch. The drafting shall be of a high standard of workmanship,

and shall be in conformance with the requirements set forth in the Connecticut Highway Location Survey Manual revised to date. Tracings shall be not more than 10 feet-0 inches long and 3 feet-6 inches wide to outside border lines.

The sheet will have no margins. The title information shall appear in the lower right hand corner (see sample title exhibit IV and V) with a role number and project number in the upper left hand corner (See exhibit II).

The Contractor shall be required to complete two (2) types of maps of the same area to fulfill 40S-1C mapping requirements unless otherwise noted.

(a) 1 - 40 Scale Planametric Map

(b) 1 - 40 Scale Topographic Map

Each map shall be identical in size and material and shall conform to the requirements hereinbefore noted.

(c). Contents:

1. General: The map will show all the cultural features in accordance with the attached Standard Conventions for

Aerial Topographic Maps as they apply to 40S-1C map details.

It will be the Contractor's responsibility to show all required cultural features on the topographic map in horizontal position and orientation within the accuracy required under (c) of this section.

All structures with one or more horizontal dimension of five (5) feet or more shall be drawn to scale represented by the outlines of their foundations. Such appurtenances as porches and steps shall be shown. The common walls of attached buildings of varying heights shall be shown. Structures of a temporary nature, such as, picnic tables and construction contractor's sheds, shall not be shown.

All fence lines, walls, hedges, curbs, telephone, telegraph, light and power poles, and trees with crown diameters greater than 10 feet (except in wooded areas) that are visible on the original aerial photographs shall be shown.

Roads shall be shown by dashed lines spaced the width of the hard surface or travel path except where curb lines shall be shown solid. Drafting of road alignment shall be especially carefully executed. Roads of regular alignment shall be plotted with straightedge and regular curves. Free-hand or irregular curve drawing will be permitted only on meandering roads or trails of irregular alignment.

Walks, drives and railroad tracks representing the center line shall be shown to scale. Trails shall be shown by dashed lines of the travel path.

Power-transmission lines shall be shown, together with base of towers to scale.

2. Drainage: Drainage lines shall be shown by a dash and three dot symbol in all well defined drainage features indicated by the contours when the drainage feature is one-tenth mile or more in length. All drainage lines shall be stopped at a distance of at least 50 feet from the ridge lines. Streams averaging more than 5 feet wide shall be shown double line; each shore being indicated by the dash and three dot symbol. The shore line of small ponds shall also be shown by this symbol and the interior lightly hatched in ink. Large ponds and lakes shall be lightly hatched one inch inside the shore line. Where drainage is known to exist, and where depression contours would otherwise be shown, such culvert and bridge endwalls as can be seen in the original photography, or are known to exist, shall be shown on the map. *W.E. and date*

3. Wooded Areas: Woodland outlines shall be carefully and accurately delineated. The width of clearing bands along all power transmission lines shall be accurately shown.

Woodland lines must be in exact position, especially where the boundary is a road, railroad, or transmission line right-of-way. Free standing trees with crown diameters greater than 10 feet shall be shown as in the attached Standard Conventions.

4. Relief: Datum shall be mean sea level and relief shall be shown by one foot contour lines. All contours shall be drawn clear and sharp with a continuous solid line except through buildings. Each 5 foot contour shall be accentuated and numbered. Elevations of all road intersections, road and railroad intersections, saddles, tops of summits, and bottoms of depressions shall be shown to the nearest 0.1 foot. In depressions where drainage is indicated by structures the contours shall not be shown as depression contours. Where stereo observations are interpolated due to poor ground visibility caused by a heavy concentration of evergreens or other interrupting features, such as, shadows, the contours shall be shown as dashed lines.

5. Lettering: The Contractor shall place on the map such lettering as can be secured from using Leroy lettering equipment or lettering equivalent in neatness and uniformity shall be used.

(a) Contour Numbering: Contour numbers shall be shown at intervals not to exceed 10 inches.

1929 GEODETIC
VERTICAL DATUM

(b) Local Road Designations: The Contractor shall place on the maps the names or other official designation of local roads as shown on Town Roads Map, that will be supplied by the Department.

6. Political Subdivision Lines: The Contractor will not be required to show political subdivision lines.

7. Coordinates: Grid lines shall be shown as continuous solid lines from inside border to inside border at ²⁰⁰~~400~~ foot intervals conforming to the Connecticut Coordinate System, and labeled at the top, bottom, and sides of each map sheet, approximately one (1) inch inside the border. The plotted position of each plane coordinate grid line shall not vary by more than one-hundredth (1/100) of an inch from the true grid value on each map manuscript.

Spot Elevations: Ninety percent of all spot elevations placed on the map shall be accurate to within one-fourth (1/4) the contour interval (.25 foot) and, ten percent of all spot elevations placed on the map shall not exceed one-half (1/2) the contour interval, (.50 foot).

(d) Accuracy

1. Cultural Features: The plotted position of ninety percent of the cultural features shown on each completed

map sheet shall be within one (1) foot of their actual position, with respect to the Connecticut Coordinate System as measured on the ground. In no instance shall the error be greater than two (2) feet.

2. Contours: Ninety percent of all contour elevations shown on each map sheet shall be correct within 1/2 the contour interval (0.5 feet) and the remaining 10 percent shall not be in error by more than the contour interval (1.0 foot). The allowable error may, however, be doubled where swamp growth, forest or brush completely obscure the ground. A contour which can be brought within the above vertical tolerance by shifting its plotted location by 0.025 of an inch will be accepted as being correctly plotted.

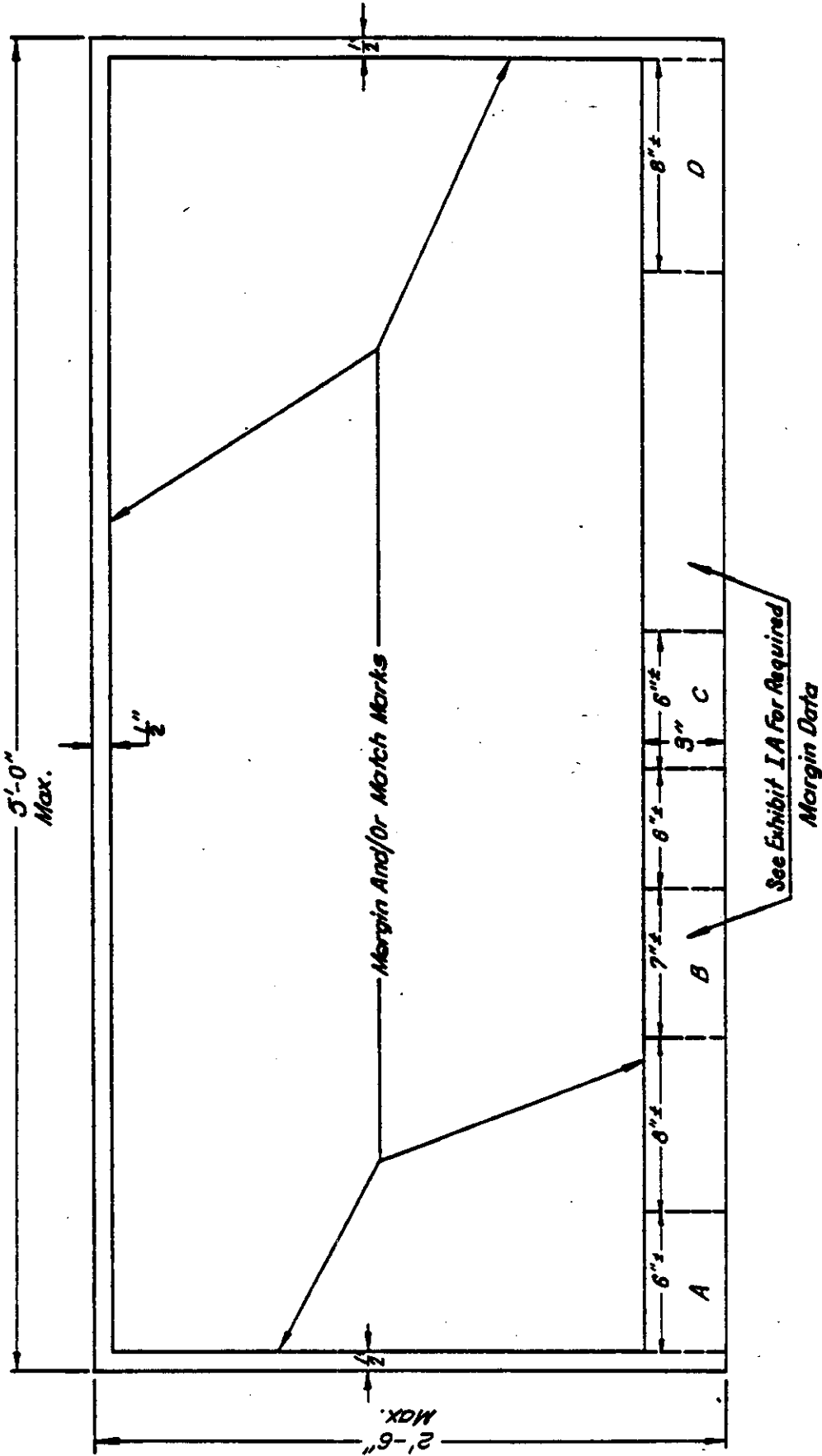
(e) Scale of Enlarged Photographs: Photographic enlargements described in Division II, Section 1(e) shall be furnished at a scale of 1 inch = 100 feet.

(f) Miscellaneous Spot Elevations: When called for spot elevations may be required at the following locations:

1. At 50-foot intervals along the center lines of medians
2. At 50-foot intervals along edges and center lines of pavement

3. In between contour lines that are more than 50 feet apart horizontally
4. On the grates of catch basins and on drainage structures
5. At the gound and top of curbs on overpass-underpass structures
6. At other locations when so directed.

100S-2C and 200S-5C PLAN SHEET LAYOUT



MARGIN DATA

FOR
100S-2C AND 200-5C MAPPING

A
Prepared
By

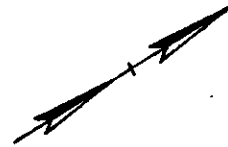
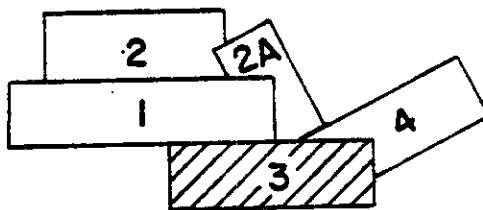
PREPARED BY
LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS
SYOSSET NEW YORK
MAPPING COMPILED FROM PHOTOGRAPHY
DATED APRIL 1962

B
Scales



SCALE 1" = 200'
1000 FOOT GRID BASED ON CONNECTICUT GRID SYSTEM
1927 N.A. DATUM
CONTOUR INTERVAL 5'
DATUM IS MEAN SEA LEVEL

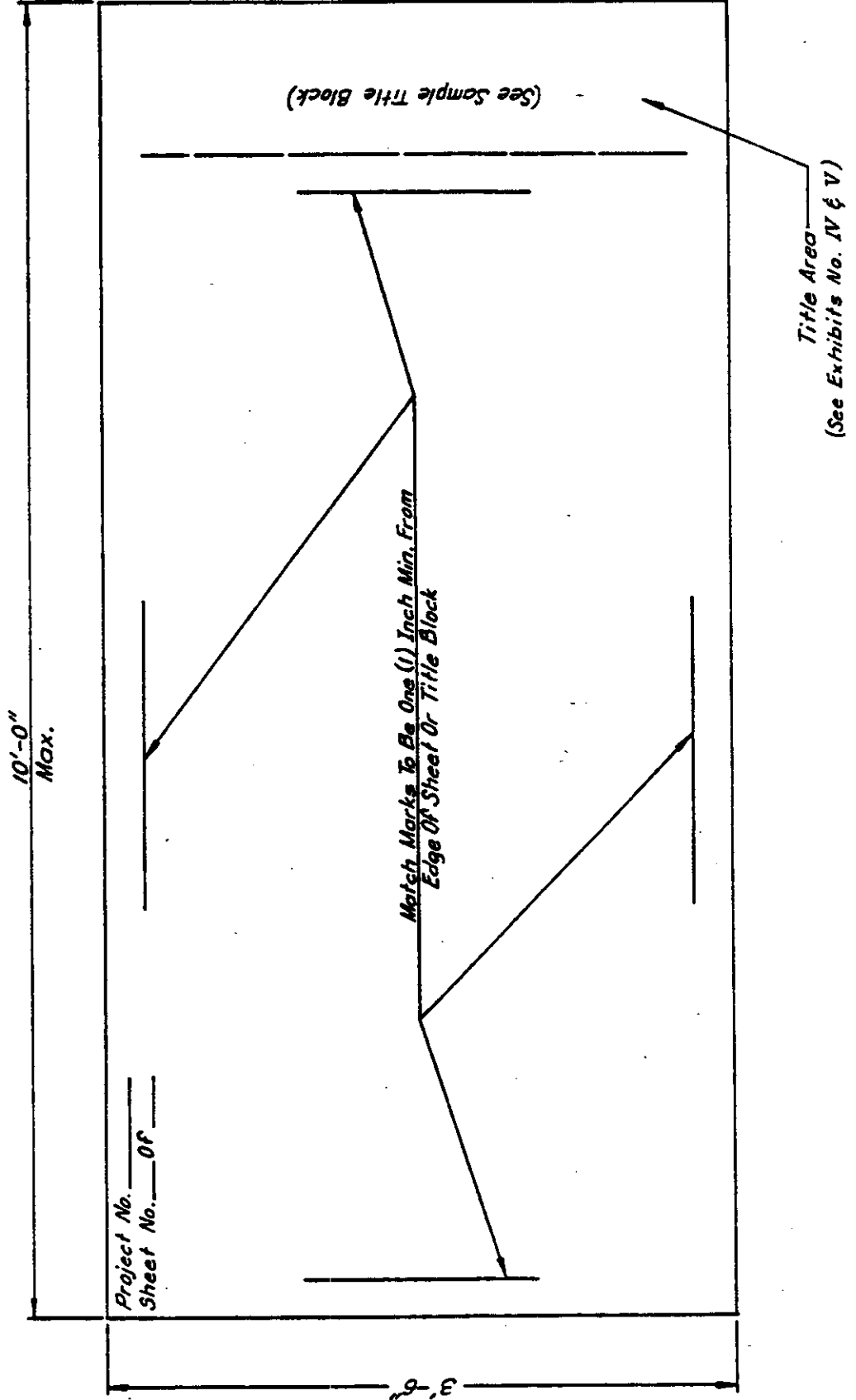
C
Index To
Adjoining
Sheets



D
Project
Title &
Sheet
Number

INTERSTATE ROUTE 87
GREENWICH & NORTH CASTLE
SHEET 3 OF 5

40S-IC PLAN SHEET LAYOUT



STANDARD ACCURACY FOR
PHOTOGRAMMETRIC MAPPING

TYPE	200S-5C	100S-2C	40S-1C	Others
SCALE	1"-200'	1"-100'	1"-40'	As Determined
CONTOUR INTERVALS	5 Feet Accentuate each 25' contour	2 Feet accentuate each 10' contour	1 Foot accentuate each 5' contour	as determined
CULTURAL FEATURES	90% shall be within 5' of actual position 10% shall not exceed 10' of the actual position	90% shall be within 2 1/2' of actual position 10% shall not exceed 5' of the actual position	90% shall be within 1 foot of actual position 10% shall not exceed 2' of the actual position	90% shall be located within 1/40 of the map scale 10% shall not exceed 1/20 of the map scale in actual position
CONTOURS NOTE: Contours may be shifted 0.025" of an inch in order to obtain the vertical requirements	90% shall not exceed 1/2 contour interval (2.5') of actual elevation 10% shall not exceed one contour interval (5.0') of actual elevation	90% shall not exceed 1/2 contour interval (1.0') of actual elevation 10% shall not exceed one contour interval (2.0') of actual elevation	90% shall not exceed 1/2 contour interval (0.5') of actual elevation 10% shall not exceed one contour interval (1.0') of actual elevation	90% shall not exceed 1/2 contour interval of actual elevation 10% shall not exceed one contour interval of actual elevation
SPOT ELEVATIONS	90% shall not exceed 1/2 contour interval (1.25') of actual elevation 10% shall not exceed 1/2 contour interval (2.5') of actual elevation	90% shall not exceed 1/2 contour interval (0.5') of actual elevation 10% shall not exceed 1/2 contour interval (1.0') of actual elevation	90% shall not exceed 1/2 contour interval (0.25') of actual elevation 10% shall not exceed 1/2 contour interval (0.5') of actual elevation	90% shall not exceed 1/2 contour interval of actual elevation 10% shall not exceed 1/2 contour interval of actual elevation
MAXIMUM SHEET SIZE	5'-0" Long x 2'-6" Wide	5'-0" Long x 2'-6" Wide	10'-0" Long x 3'-6" Wide	as determined

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
TOWNS OF WATERBURY, CHESHIRE &
SOUTHINGTON
INTERSTATE ROUTE 84

PROJECT NO. 130-133

MAPPING COMPILED FROM PHOTOGRAPHY DATED APRIL 1975



SCALE : 1" = 40'

TOPOGRAPHIC MAP

CONTOUR INTERVAL ONE FOOT

200 FOOT GRID BASED ON CONNECTICUT GRID SYSTEM

200

1927 N. A. DATUM

PHOTOGRAMMETRY BY
A. D. R. ASSOCIATES INC.
PENNSAUKEN, N. J.

INDEX TO ADJOINING SHEETS



SAMPLE TITLE FOR 40 SCALE

TOPOGRAPHIC MAPS

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
TOWNS OF WATERBURY, CHESHIRE &
SOUTHINGTON
INTERSTATE ROUTE 84

PROJECT NO. 130-133

MAPPING COMPILED FROM PHOTOGRAPHY DATED APRIL 1975



SCALE : 1" = 40'

PLANIMETRIC MAP

²
200 FOOT GRID BASED ON CONNECTICUT GRID SYSTEM

1927 N. A. DATUM

PHOTOGRAMMETRY BY
A. D. R. ASSOCIATES INC.
PENNSAUKEN, N. J.

INDEX TO ADJOINING SHEETS

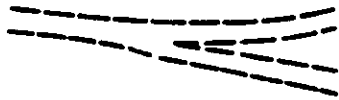


SAMPLE TITLE FOR 40 SCALE

PLANIMETRIC MAPS

STANDARD CONVENTIONS FOR AERIAL TOPOGRAPHIC MAPS

200S-5C 100S-2C 40S-1C



Existing Roadway Hard Surface Or Travel Path



Depression Contour



Triangulation Station Or Transit Traverse Station



Trail



Fence Line

BM
x
1232

Permanent Bench Mark
(And Elevation)



U.S. Numbered Route



Stone Wall

x 663

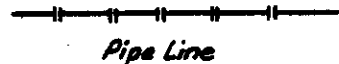
Spot Elevation



State Numbered Route



Hedge



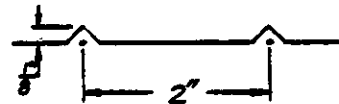
Pipe Line



Stream Or Shore Line



School



Approximate Location Of Inland Wetlands
(Light Weight Line)



Lake Or Pond



Church



Dam



Cemetery



Swamp Or Marsh



Foundation



Field Location Of Inland Wetlands
(Medium Weight Line)



Hooded Area



Transmission Line With Tower



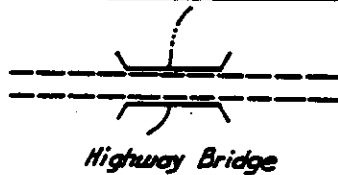
Contour Lines



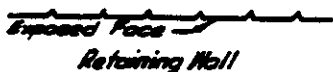
Mine Or Quarry

STANDARD CONVENTIONS FOR AERIAL TOPOGRAPHIC MAPS

USE SYMBOLS BELOW ON
200S-5C & 100S-2C ONLY



USE SYMBOLS BELOW ON
40S-1C ONLY



NOTE:
For Symbols Not Shown, See
The Connecticut Highway Location
Survey Manual Revised To Date