

BID No. 2020-021 - ADDENDUM #1

**SOLICITATION OF BIDS
THERMAL REMEDIATION OF VOLATILE ORGANIC COMPOUNDS
FORMER WASTEWATER TREATMENT FACILITY
SARL DRIVE
SALEM, NEW HAMPSHIRE**

Designed By:

**GeoInsight, Inc
186 Granite Street, Ste. 3A
Manchester, New Hampshire 03101**

Prepared For:

**Town of Salem – Municipal Services Department
33 Geremonty Drive
Salem, New Hampshire 03079**

Date: January 15, 2021

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The following questions were received from Thermal Remediation Contactors (TRCs) by the deadline for questions of January 12, 2021 as presented in the *Solicitation of Bids (Bid No. 2020-021), Thermal Remediation of Volatile Organic Compounds, Former Wastewater Treatment Facility, Sarl Drive, Salem, New Hampshire*, dated December 17, 2020 (“the Solicitation Document”). Responses to questions were prepared by GeoInsight, Inc. (GeoInsight; the Engineer) and the Town of Salem Municipal Services Department. This document with question responses and links to additional data shall collectively serve as Addendum #1 to the Solicitation Document. Bid response packages from TRCs shall state receipt of this Addendum #1 in the signature block provided on the Revised Schedule of Prices, which is included as Attachment A to this Bid Addendum.

Bid questions received (with responses):

Question: Could I receive a plan holders list and sign in sheet from yesterday’s meeting? Is a plan holders list available for this project?

Response: The sign-in sheet from the January 5, 2021 bid meeting and the bid/plan holders list was uploaded to the GeoInsight GeoShare file sharing website.
GeoShare URL: <https://geoshare.geoinsight.com/index.php/s/oGP9z4nLCqm6lt4>
Password: DecSlm39

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Question: Site Plan: Can you provide us with a site plan showing site features and utilities in AutoCAD format?

Response: The GeoInsight AutoCAD files used to create site plans in the Solicitation Document were uploaded to the GeoShare website. TRC’s may use the CAD files, but any use is at the TRC’s sole risk without liability to the Town or GeoInsight.

Question: Mass Estimate:

- What should be utilized for a mass estimate at the site?
- If a mass estimate is not available, please provide a mass estimate assumption to all bidders to ensure consistency between all bidders.

Response: The Solicitation Document does not include a volatile organic compound (VOC) mass estimate. A volumetric estimate of soil containing probable dense non-aqueous phase liquid (DNAPL) and soil containing trichloroethene (TCE) above the New Hampshire Department of Environmental Services (NHDES) Soil Remediation Standards (SRSs) was provided in the Solicitation Document. These areas were defined as the remedial target areas where proposed clean-up goals for the thermal remediation effort need to be met. TRCs are

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encouraged to develop their own estimates of VOC mass in the target areas defined, if it assists in optimizing their designs and costs. Presentation of a VOC mass estimate is not mandatory in bid responses, but may assist the Engineer and Town in reviewing TRC bid response packages for completeness.

Question: Due Date Extension:

- We fully understand the importance and timeliness of bid responses for the project; however a bid due date extension will allow us the opportunity to review all responses received and incorporate that information into our proposal.
- That said, can a bid due date extension be provided?

Response: The bid period will be extended to January 28, 2021 @ 11:00 am.

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Question: What are the physical parameters for the Peat/Fibrous unit (Cross Section A-A')? i.e., %TOC, grain size, porosity, moisture content (% humidity), and density. Please provide as much information as possible.

Response: Total solids data are available for three samples collected from the “peat” layer, as summarized below. These data are excerpted from Table 2 of the PDI Report. Other information on peat characteristic testing is not currently available.

Location Identification	SB19-45	SB19-51	SB19-53
Hydrogeologic Unit	USU (Peat)	USU (Peat)	USU (Peat)
Depth (feet)	2.5-4	1.5-3	2-4
Sample Date	7/18/2019	7/22/2019	7/22/2019
Solids, Total (%)	33.2	41.3	37.9

Question: What are the sewer line specifications such as materials, construction details, installation depths, etc?

Response: As-built plans for the 42-inch reinforced concrete pipe (RCP) as presented in Attachment B. Attachment B also include portions of a GZA site plan showing the 42” RCP sewer line.

Question: Several petroleum-related and other VOCs are purported to have been detected at concentrations greater than their respective SRSs, including 1,4-dioxane, benzene, ethylbenzene, methyl tert-butyl ether (MtBE), tert-butyl alcohol (TBA), and toluene. Please provide the maximum and average soil concentrations of these additional compounds, along with an updated figure showing their distribution in the Site subsurface.

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Response: Refer to Table 2 of the *Pre-Design Investigation Summary Report and Remedial Action Plan Addendum* (PDI/RAP; previously provided on the GeoShare site and incorporated by reference as part of the Solicitation Document). Soil sampling locations are illustrated on the site plans in the PDI/RAP.

Question: Please provide analytical results for NAPL composition and physical properties (speciation, density, viscosity, etc).

Response: Information is not available regarding the physical properties of the DNAPL, and a sample of the DNAPL was not collected for lab analysis, based upon historical document review completed by GeoInsight. Refer to the 2015 Remedial Action Plan Addendum prepared by GZA GeoEnvironmental for more information about the observed DNAPL (available on the NHDES OneStop website for download):

<https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4566978>

Question: The project area is mainly grass and will likely require some improvement to allow heavy equipment and vehicles to move around the site. If gravel is imported to specific areas of the project to improve equipment access during project work will bidders be required to remove the imported gravel and regrade the site at completion of the project?

Response: Gravel can be left in-place.

Question: Are bidders responsible for removal/decommissioning of any existing wells within or near the described thermal treatment areas? If so, please identify the specific wells. It is recommended that the well decommissioning work be conducted by the owner or owner's representative to avoid unnecessary business mark-ups, project cost escalation and project schedule delays. This work should be completed prior to the TRC site mobilization.

Response: The Town/Engineer will decommission monitoring wells that are identified by the TRC as requiring removal due to overlap with proposed infrastructure and heating elements. The TRC's preliminary design in the bid response shall include, at minimum, an area drawn on a site plan showing where wells will be required to be decommissioned prior to TRC's mobilization.

Question: After completion of the project is it acceptable to "cut, fill and cap" the thermal wells within the thermal treatment area? Or is it requirement to decommission/remove all thermal wells and TMPs within the thermal treatment area after project completion? Be advised, well decommissioning and removal costs are equal to thermal well installation costs.

Response: Assume that thermal heating wells and temperature monitoring points (TMPs) can be decommissioned as follows: remove wellhead covers/protective casings and associated concrete pads; cut the well casing 12-inches below surface grade; tremie-grout the well casing from

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bottom to top with a cement/bentonite slurry; loam and seed the top 12 inches above each decommissioned well. Well decommissioning shall be performed by a New Hampshire-licensed well driller.

Question: Tree removal work will be needed in areas near the thermal treatment area and around the “swale” area designated on RFP figures. Will tree removal be performed by others? Or is tree removal, clearing and grubbing the responsibility of the bidders?

Response: See Section 1.6.2, paragraph 1, of Solicitation Document. It is the bidder’s responsibility to define the area (on a site plan) where tree removal will be needed for its system installation and operation. The TRC will be responsible to complete tree removal and grubbing in the defined area. It should be noted that the Solicitation Document stated that tree removal and grubbing would be coordinated/completed by the Engineer/Town; however, this Bid Addendum now places the responsibility for tree removal and grubbing with the TRC and associated costs for this shall be incorporated into Task 2.0 of the Schedule of Prices.

Question: What is the extent of the site restoration duties for the bidders at project completion? Do trees, grass and plants need to be replanted and maintained?

Response: See Section 1.6, second to last bullet of section; Section 4.0, Bid Item 4.0; and item 4.0 of the Schedule of Prices, for reference to site restoration requirements of the Solicitation Document. Assume no re-planting of trees removed to install the thermal remediation system and infrastructure; however, the TRC is required to provide a site plan with its bid response showing the area it identifies for tree removal (see previous response).

Question: Are there Davis Bacon / prevailing wage and certified payroll requirements for this project? If so, please provide a relevant state of New Hampshire wage determination for this region.

Response: Davis Bacon / prevailing wage and certified payroll are not required for this project.

Question: Will utility accounts be held in the name of the Contractor or the Town? If they are held in the Town’s name, and the Contractor is responsible for utility payments, can the Town commit to providing the contractor with utility bills within 5-working days of receipt?

Response: See Section 4.0, Bid Item 3.0, second paragraph, and bid item 3.0 of the Schedule of Prices. If the option for the Town to direct-pay utility invoices/costs is selected for the project, it is anticipated that the utility accounts will be held in the name of the Town and invoices paid directly to the utility by the Town. If the option to have the TRC provide and pay for necessary utilities is selected, it should be assumed that the utility contracts will be held by the TRC. The Town’s current preference is for the TRC to hold the utility contracts and pay the utility bills.

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Question: Can a copy of the site plan and a utility plan be provided in AutoCAD compatible format?

Response: See previous question response and associated CAD files available on the GeoShare website.

Question: During installation work is it acceptable to place developed soil drill cuttings onto the thermal treatment zone (TTZ) and treat that material in-situ in lieu of offsite soil disposal? This assumes that those soils will meet or exceed project specific SRSs for the identified COCs on Site.

Response: Assume that soil developed from drill cuttings can be placed into the TTZ if treated to meet the SRSs in-lieu of off-site disposal. Final approval for this approach will be needed from the NHDES, so if the TRC wishes to use the on-site drill cutting treatment approach, this shall be stated in the bid response so that Remedial Design Report to be prepared by GeoInsight can present the approach to the NHDES.

Question: According to the RFP document:

“If the cleanup goals are not achieved based upon performance monitoring conducted, the system shall continue to be operated an additional 30 days at no additional cost to the Town (including additional power/energy costs for the additional operational period). In such a scenario, the costs borne by the Town/Engineer for the second round of performance testing that would be performed after a subsequent 30-day ISTRS operation period shall be reimbursed by the TRC. If more than one additional 30-day operational period and performance monitoring event is necessary to document that the Cleanup Goals have been achieved, costs for the system operation and performance monitoring shall be borne by the TRC.”

Is the TRC is responsible for covering all cost during this additional operational period, including the cost of utilities and confirmatory sampling activities, is there a reason or calculation that went into extending the operational period for a lengthy period of 30-days. Should operational data indicate that the previously failed confirmatory sampling areas are likely to meet the SRS goals – will the TRC have the ability to sop active heating and ISTR operations prior to the end of the 30-day period in order to collect the additional round of confirmatory samples?

Response: The 30-day period referenced in the Solicitation Document can be shortened as proposed by the TRC if it believes a shorter period will achieve the cleanup goal not previously attained during the initial performance/confirmatory sampling event. However, if the cleanup goals are not met after the additional operation period (30 days, or less, if proposed), the TRC will be required to complete subsequent system operation for additional periods and shall be responsible for system operation (including utility) costs and for costs of subsequent confirmation sampling event costs. Costs for confirmatory sampling will be borne by the Town and conducted by the Engineer at set milestones for TRC payment and for attaining the cleanup goals. As currently proposed in the Solicitation Document (subject to possible revision if an

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alternative approach is proposed by the TRC and accepted by the Town), three performance monitoring events are planned to be undertaken by the Town/Engineer (at the Town’s expense) upon receiving notice that the DNAPL cleanup goal has been met (event #1), notice that the SRS cleanup goal has been achieved in the “outer treatment zone ring” (event #2), and notice that the SRS cleanup goal has been met in the “inner” (former DNAPL source area) treatment zones (event #3). If additional system operation and subsequent additional performance testing is needed to re-evaluate meeting the cleanup goals after unsuccessful initial performance testing events, the costs for those additional performance monitoring events shall be borne by the TRC.

Question: If the cleanup goals are not met during the operational period proposed does the 30-day runtime apply to only the specific areas of thermal treatment that have not met the cleanup criteria?

Response: Yes. Additional system operation (for 30 days or a shorter period, if proposed by the TRC) can be focused to smaller subareas of the system treatment zone if other areas were deemed to have already met the cleanup goals. However, it shall be noted that if only a subset of the treatment system is operated, the TRC shall conduct such system operation so that impacts from areas not meeting the cleanup goals do not migrate to areas previously deemed to meet the cleanup goals (where subsequent system operation/treatment is not performed).

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Question: Are AutoCAD drawings available for the Site? If so, please provide.

Response: See previous question response and associated CAD files available on the GeoShare website.

Question: Is the thermal remediation contractor (TRC) required to deliver the proposal in person to the Salem Town Hall or is an email to cawholley@salemnh.gov sufficient?

Response: The Town cannot accept electronic submittals. Bid responses shall be delivered (hand delivery or by mail) to Town Hall as outlined in the Solicitation Documents and Invitation to Bid.

Question: So that you can confidently compare pricing from the TRCs, please provide the following information about confirmatory soil sampling:

1. the number of soil samples per boring
2. the number of borings
3. the depth of the borings
4. the locations of the borings

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Response: The Engineer/GeoInsight will develop a confirmatory/performance monitoring boring network and approach that reflects the selected TRC’s preliminary design, which will collectively be presented to the NHDES in a Remedial Design Report. The purpose of not providing this the requested information in the Solicitation Document was so that TRC’s did not alter treatment approach and system designs to preferentially target those areas proposed for performance monitoring borings/testing. As additional background (subject to revision), it is currently envisioned that 25 to 35 soil boring locations will be established for performance monitoring with most locations coinciding with an existing soil boring for comparison of pre-remediation and remedial performance testing data. Confirmation borings will be located in representative locations of the DNAPL-probable (>10% TCE solubility) areas and areas of TCE SRS exceedances. It is anticipated that the borings will be completed with direct-push methods, with continuous soil profiling. Soil samples from the borings will be selected for laboratory analysis based upon similar tested depths in the original boring locations and target treatment depths. GeoInsight anticipates a 2-foot long soil sample core length for confirmation soil samples.

Question: Page 13 of the PDI Final Report indicates that the bottom of the sand unit is encountered between 20 to 25 feet below ground surface (ft bgs), while Figures 6A and 6B show them at 20 to 30 ft bgs. Which is correct?

Response: The depth to the bottom of the upper sand unit is variable. A Surfer elevation topography plot of depths to the bottom of the upper sand unit/top of the silt-clay unit is included in Attachment C. The plot is provided for informational purposes only. Interpretations are based upon soil boring logs prepared by others and were not independently verified. It is incumbent upon user to independently interpret and use boring log information and reference the Surfer plot as they see fit and at their own risk.

Question: In the deepest DNAPL source, should the TRC assume the target deep depth interval of 33 feet, assuming the bottom of the sand unit is encountered at 30 feet and including 3 feet into the silty clay unit? Please confirm the target treatment zone depth.

Response: The Solicitation Document avoided prescribing specific thermal remedial treatment zones, but instead defined specific areas (and depths) where remedial performance goals are required to be met. It is up to the TRC to design its system “treatment” zone to target the DNAPL-probable and TCE SRS exceedance areas defined in the Solicitation Document. Preliminary designs provided by the TRCs shall clearly outline treatment depths and areas to assist in bid response review and comparison. If one vendor is deficient in defining its target area (lateral area and depths), that could affect the bid ultimately selected by the Town. As stated in the Solicitation Document, the bid selection will be a “best value” determination based upon cost, schedule, and details of the TRC’s preliminary remedial design.

Question: According to the scale on Figure 5B, the total overlapping treatment area appears to be 33,350 square feet. Please confirm the accuracy of the data.

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0' to 7'	780 sq. ft.
0' to 15'	85 sq. ft.
0' to 25'	7,370 sq. ft.
0' to 3' into silty clay	1,150 sq. ft.
7' to 15'	11,270 sq. ft.
7' to 25'	5,550 sq. ft.
7' to 3' into silty clay	3,215 sq. ft.
15' to 25'	3,930 sq. ft.

Response: Similar to the previous question response, the TRCs shall provide as much detail as possible in their preliminary designs and bid responses to assist in Town and Engineer with bid package review and eventual acceptance/award of the bid. This information shall include a clear indication of the TRC's proposed remedial treatment area (and soil volumes) designed to target the DNAPL-probable and TCE SRS exceedance areas defined in the Solicitation Document. At this stage, the Town/Engineer is deferring the request to confirm accuracy of assumptions posed in the pre-bid questions.

Question: Figure 5B shows that the top of the heating starts at 15 ft bgs. The report indicates that depth to groundwater is 7 ft bgs. Please note if the TRC does not heat the water column to the boiling point of water from the depth of interest to the top of the groundwater table, the volatilized TCE vapors will condense when encountering groundwater in this overlying cold zone, in this case from 7 to 15 ft bgs. To avoid this scenario, our recommendation is that RFP requires the TRC to create steaming conditions to the top of the water table, increasing the treatment volume by 1,164 cubic yards. Please advise.

Response: It is understood that the whole water column will require heating to achieve the remedial objectives. Please note the difference between the areas defined for remediation (DNAPL-probable areas and areas with TCE SRS exceedances) and the thermal treatment areas defined by the TRCs to target those defined remediation areas. It is anticipated that the thermal treatment area/volume may be larger than the area/volume containing DNAPL and TCE SRS exceedances. For ease of bid response review and comparison, it may be in the TRC's interests to clearly state its proposed thermal treatment target areas/volumes compared with the areas/volumes identified in the Solicitation Document for remediation.

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Question: As treatment volume is the most important cost driver, it will be quite difficult to compare vendor pricing without a defined treatment volume. Please confirm that 19,133 cubic yards, which is based on the table below, is the treatment volume desired by GeoInsight and the Town of Salem. If you desire a different volume, please provide a table as the basis of design.

780 sq. ft from 0' to 7'	202 cu. yd.
85 sq. ft from 0' to 15'	47 cu. yd.
7,370 sq. ft from 0' to 25'	6,824 cu. yd.
1,150 sq. ft from 0' to 3' into silty clay	1,065 cu. yd.
11,270 sq. ft from 7' to 15'	3,339 cu. yd.
5,550 sq. ft from 7' to 25'	3,700 cu. yd.
3,215 sq. ft from 7' to 3' into silty clay	2,500 cu. yd.
3,930 sq. ft from 15' to 25'	1,456 cu. yd.

Response: Addressed by previous three responses.

Question: Please indicate in a drawing or map the area on and adjacent to Sarl Drive where access is either limited or not allowed, thus requiring below grade construction for the ISTR subsurface infrastructure.

Response: Assume that areas north of the fence illustrated on site Figure 2A of the Solicitation Document (fence separating AOC #1 from AOCs 2 and 4) will require below grade/subsurface infrastructure to maintain current access to and around the Animal Rescue League buildings and former WWTF foundation structure. Assume areas south of the existing fence may have above grade infrastructure, so long as the above grade installations are separately fenced with appropriate signage or will not otherwise pose a public health/safety risk to possible trespassers if only restricted using the existing fence.

Question: The solicitation indicates that 30% retainage of payment will be used in lieu of a performance bond. As the retainage will affect TRC cash flow, please advise whether a TRC-provided performance bond could take the place of the retainage, likely lowering the cost to the Town of Salem.

Response: GeoInsight's understanding is that it is difficult for TRC vendors to obtain performance bonds for thermal remediation projects or, if obtainable, they come at a substantial cost. This appears to be compounded by difficulties with different TRCs/bidders potentially providing propriety equipment or technologies and possibly differing thermal remediation technology approaches. If a selected vendor failed to complete the project and a performance bond were exercised by the Town, it is unclear if the cost proceeds of the bond would be sufficient to hire a second TRC to continue thermal remediation using a system installed by others. However, ultimately, cost is a factor in the bid award. Therefore, if the performance bonding availability and costs have changed recently for thermal remediation projects, by this

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Addendum #1, the Town will allow for the optional presentation of both bid costs assuming the retainage approach defined in the Solicitation Document along with alternative costs if a performance bond is used in-lieu of the retainage approach. It should be noted, however, that after further review of performance bonding for this specific thermal remediation project, and seeking input from Town bond counsel, the Town may ultimately decide to keep the retainage option. In that instance, the costs presented in bid response packages for the retainage option will be included in the review process for TRC selection and costs for the performance bond option will not factor TRC selection.

ATTACHMENT A
SCHEDULE OF PRICES – REVISION #1

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BID FORM - SCHEDULE OF PRICING

BID ITEM	DESCRIPTION	TOTAL PRICE
1.0	<p>Task 1: Provide a lump sum cost to complete the final design (PE Stamped) of the system. Cost shall include all labor, equipment, materials, per diems, appurtenances, overhead and profit necessary to complete the successful design of the ISTRS including incorporating comments from the NHDES on the GeoInsight Remedial Design Report (which will include the TRC's preliminary remedial design provided in the Solicitation Response).</p> <p>Invoices may be prepared and payment issued based upon completion of the following milestones/subtasks:</p> <ul style="list-style-type: none"> • Submission and approval of TRC's Final Design Plans by Town/Engineer. 	<p>\$ _____ LUMP SUM</p>
2.0	<p>Tasks 2a through 2e: Provide lump sum cost to complete construction/installation and start-up of the approved ISTRS. Cost shall include all labor, equipment, materials, per diems, and appurtenances necessary to complete the successful implementation, installation and start-up of the ISTRS. The demonstration shall also include automated operation for two week continuous week without operational disruption. Lump sum shall include all taxes and associated fees to complete this task.</p> <p>Invoices may be submitted and payment issued based upon completion of the following milestones/subtasks:</p> <ul style="list-style-type: none"> • Task 2a – Procurement & Mobilization; • Task 2b – Subsurface Installation (e.g., electrodes, heating elements, steam injection wells, vents, temperature probes, etc.); • Task 2c – Surface Construction (e.g., temporary treatment system buildings and structures, security barriers, signage, etc.); • Task 2d – System Startup; and • Task 2e – Completion of Two-Week Shakedown. <p>30 percent of the Task 2 total costs/payment will be retained and paid proportionally upon attaining Task 3 milestones (see Section 2.2)</p> <p>Soil sample collection <u>add-on/option</u> (Task 2b) during temperature monitoring probe installation.</p>	<p>Subtask Costs:</p> <p>\$ _____ LUMP SUM</p> <p>\$ _____ LUMP SUM</p> <p>\$ _____ LUMP SUM</p> <p>\$ _____ LUMP SUM</p> <p>\$ _____ LUMP SUM</p> <p>TASK 2 TOTAL:</p> <p>\$ _____</p> <p>\$ _____ LUMP SUM (Task 2b add-on/option)</p>

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3.0	<p>Task 3: Provide lump sum costs to operate and maintain the ISTRS. Cost shall include all labor, equipment, materials, per diems, appurtenances, overhead, and profit, monthly status report preparation fees, performance and public safety monitoring to be performed by the TRC (such as its own performance soil sampling data to monitor progress toward the cleanup goals [separate from the third-party verification sampling to be collected by the Engineer] and vapor, heated groundwater, and DNAPL and dissolved contaminant migration monitoring program fees) as necessary to achieve the performance cleanup goals and adequately document such performance.</p> <p>Invoices may be prepared and payment issued based upon completion of the following milestones/subtasks (other milestones may be proposed by the TRC and approved by Town):</p> <ul style="list-style-type: none"> • Task 3a – completion of the O&M period to reach the performance cleanup goal to eliminate DNAPL; • Task 3b – completion of the O&M period to reach the performance cleanup goal to reduce CVOCs in soil to concentrations to below the NH-SRSs in the ‘outer treatment zone ring;’ and • Task 3c – completion of the O&M period to reach the performance cleanup goal to reduce CVOCs in soil to concentrations below NH-SRSs in the ‘inner’ former DNAPL source area of the treatment zone. • TRC-provided energy (electrical/ and/or natural gas) costs Note: includes costs for TRC-provided energy • Alternate/Option: Energy costs if paid directly by Town (Utility’s direct cost to Town with no markup). 	<p>Subtask Costs:</p> <p>\$ _____ LUMP SUM</p> <p>\$ _____ LUMP SUM</p> <p>\$ _____ LUMP SUM</p> <p>\$ _____ /Unit Energy Estimated number of energy units: _____ \$ _____ Total Energy Cost</p> <p>TASK 3 TOTAL:</p> <p>\$ _____</p> <p>\$ _____ /Unit Energy</p> <p style="text-align: right;">Bid Form Page 2 of 4</p>
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4.0	<p>Task 4: Provide lump sum costs to close-out the ISTRS including: the dismantling, removal, and demobilization of the system and all support equipment and structures; decommissioning (grout sealing) of temperature probes, groundwater monitoring wells (if installed by the TRC), and boreholes resulting from removed/abandoned heating elements or steam injection wells; restoration of the Site to pre-construction conditions (including loam and seeding, and establishment of grass on ground surface areas disturbed by the removal of the ISTRS); and preparation of a ISTRS Completion Report. Cost shall include all labor, equipment, materials, per diems, appurtenances, overhead and profit necessary to close-out the Site and demobilize the Site.</p> <p>Invoices may be prepared and payment issued based upon completion of the following mile milestones/subtasks:</p> <ul style="list-style-type: none"> • Task 4a – System Dismantle/Removal/Demobilization; • Task 4b – Site Restoration; • Task 4c – Demobilization; and • Task 4d – Final Report. <p>Other milestones may be proposed by the TRC and approved by the Town/Engineer.</p>	<p>Subtask Costs:</p> <p>\$ _____ LUMP SUM</p> <p>\$ _____ LUMP SUM</p> <p>\$ _____ LUMP SUM</p> <p>\$ _____ LUMP SUM</p> <p>Task 4 TOTAL:</p> <p>\$ _____</p>
TOTAL COSTS ALL BID ITEMS:		\$ _____
Preliminary Design	<p>Preliminary ISTRS Engineering Design: preliminary overall system design and site plans suitable for presentation to the NHDES as an attachment in a Remedial Design Report to be prepared by GeoInsight. The design shall be of sufficient detail such that the Town may evaluate the TRC's proposed approach and its applicability to the Site.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Schedule	<p>Project Proposed Schedule: The TRC shall provide a detailed schedule for the development and approval of the final design, construction, O&M, and closeout of the ISTRS per this Solicitation Document.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Past Performance	<p>Past Performance: The TRC shall present a minimum of three completed projects of similar size and scope including addressing the contaminants of concern and performance outcome in similar lithology. Please attach separate sheets to provide this information. Corporate write-ups/case-studies are allowable as long as they meet the requested information.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No

**SOLICITATION OF BIDS (BID No. 2020-021) - REVISION #1
THERMAL REMEDIATION OF VOLATILE ORGANIC COMPOUNDS
FORMER WASTEWATER TREATMENT FACILITY
SARL DRIVE
SALEM, NEW HAMPSHIRE**



COMPANY NAME: _____
DATE: _____

SUBMITTED BY: _____
EMAIL: _____
[signature]

[Printed Name]

[Title]

PRIMARY TECHNICAL CONTACT: _____
[Printed Name]

[Email]

[Telephone]

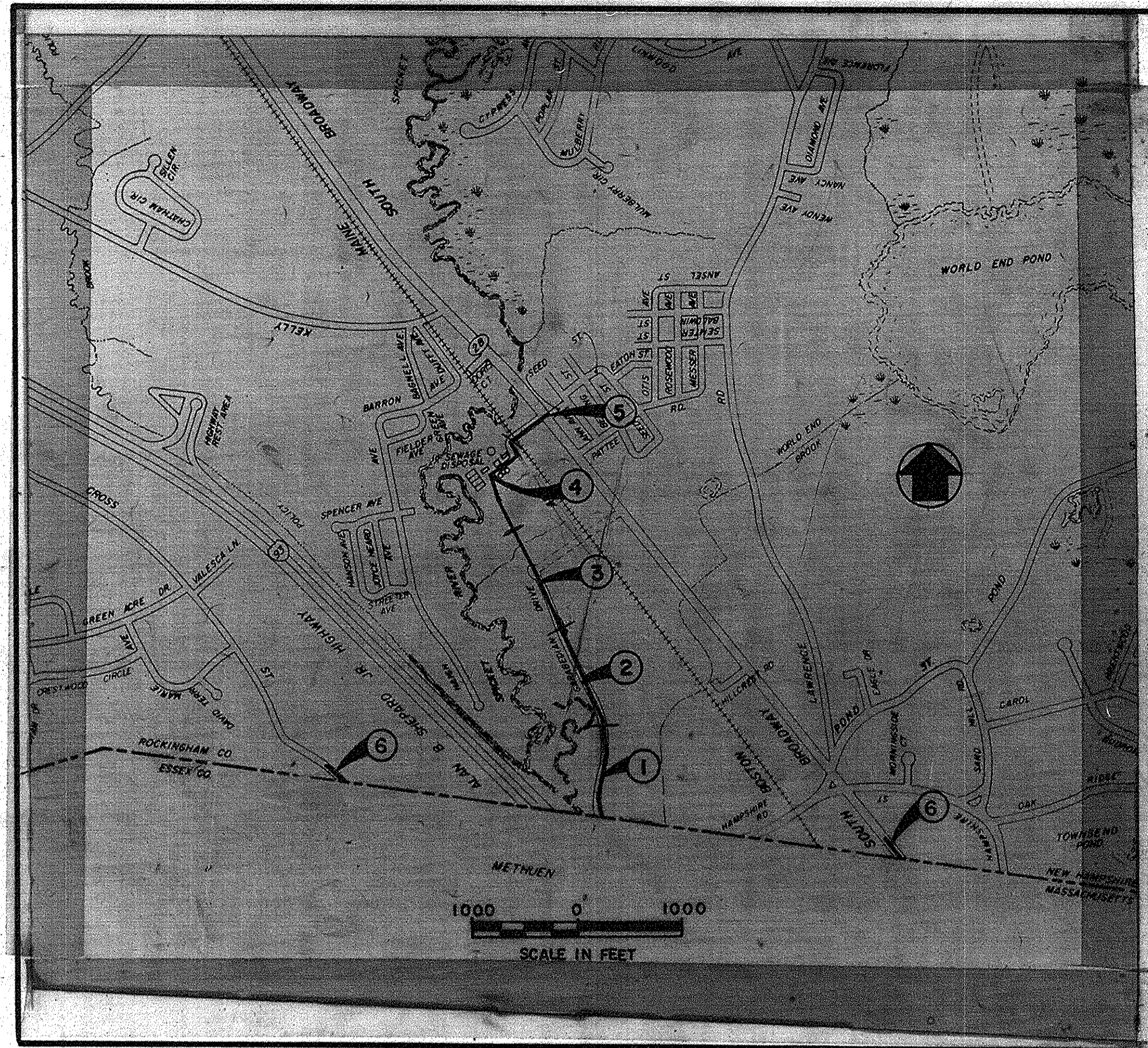
<p>SCHEDULE OF PRICING, REVISION #1 - Acknowledgment of receipt of Bid Addendum No.1, dated January 15, 2021</p> <p>Name: _____</p> <p>Signature: _____</p>
--

ATTACHMENT B
SEWER INTERCEPTOR AS-BUILT PLANS AND PORTIONS OF GZA SITE PLAN

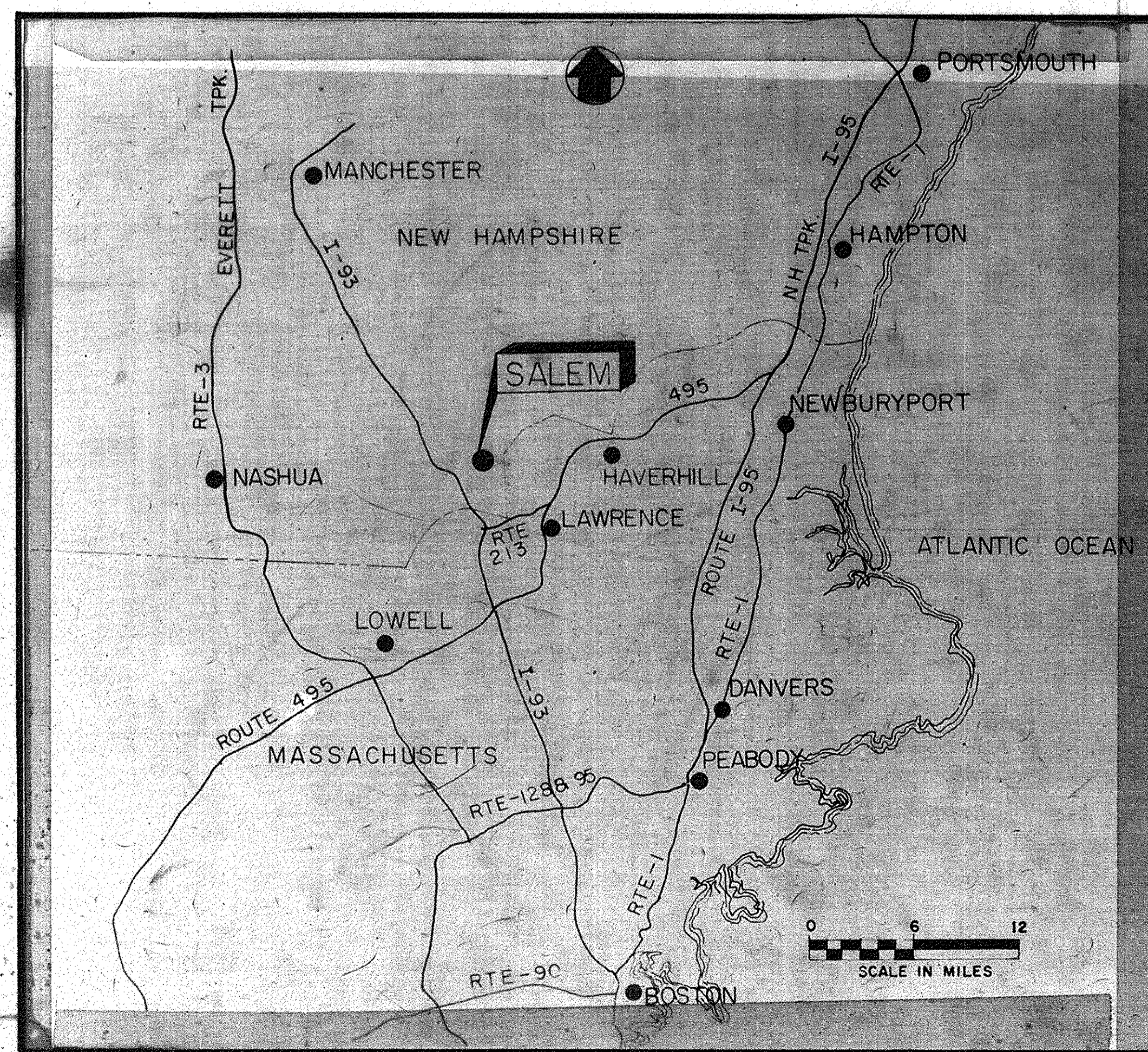
**RECORD DRAWINGS FOR
TOWN OF SALEM, NEW HAMPSHIRE**

**SPICKET RIVER PROJECT
G.L.S.D. INTERCEPTOR SEWER
PROJECT A**

**CONTRACT NO.2
EPA NO. C 330193-03**



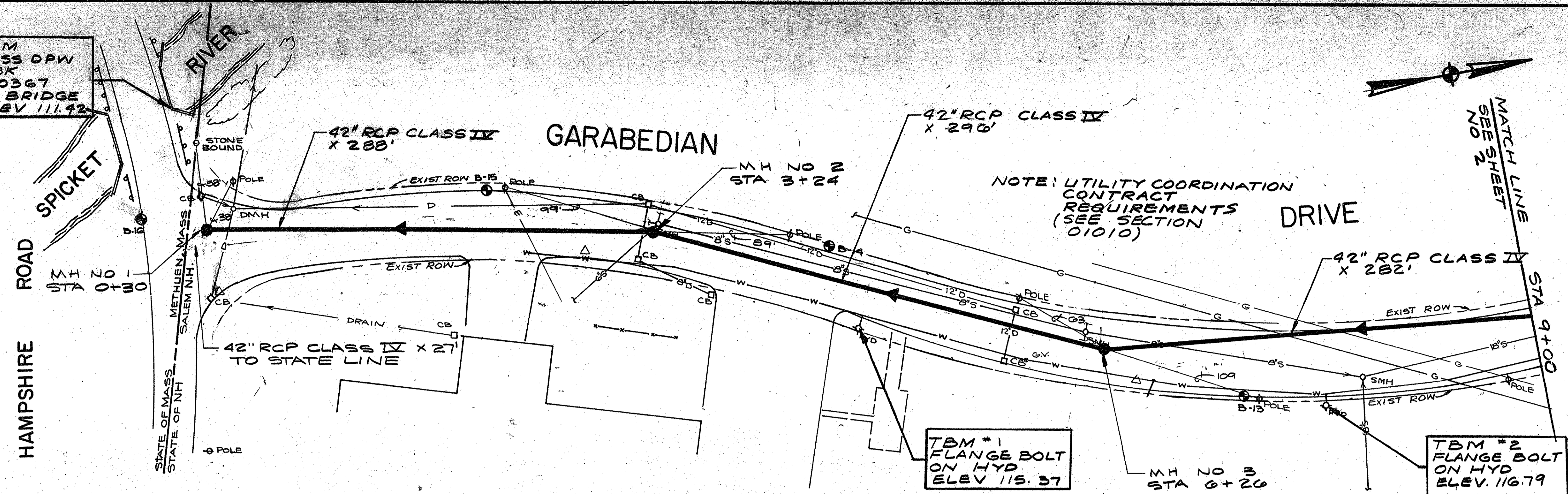
SITE PLAN



LOCATION MAP

PREPARED BY
G & UNDERWOOD ENGINEERS, INC.
PORTSMOUTH, NEW HAMPSHIRE

TBM
MASS DPW
DISK
#50367
ON BRIDGE
ELEV 111.42



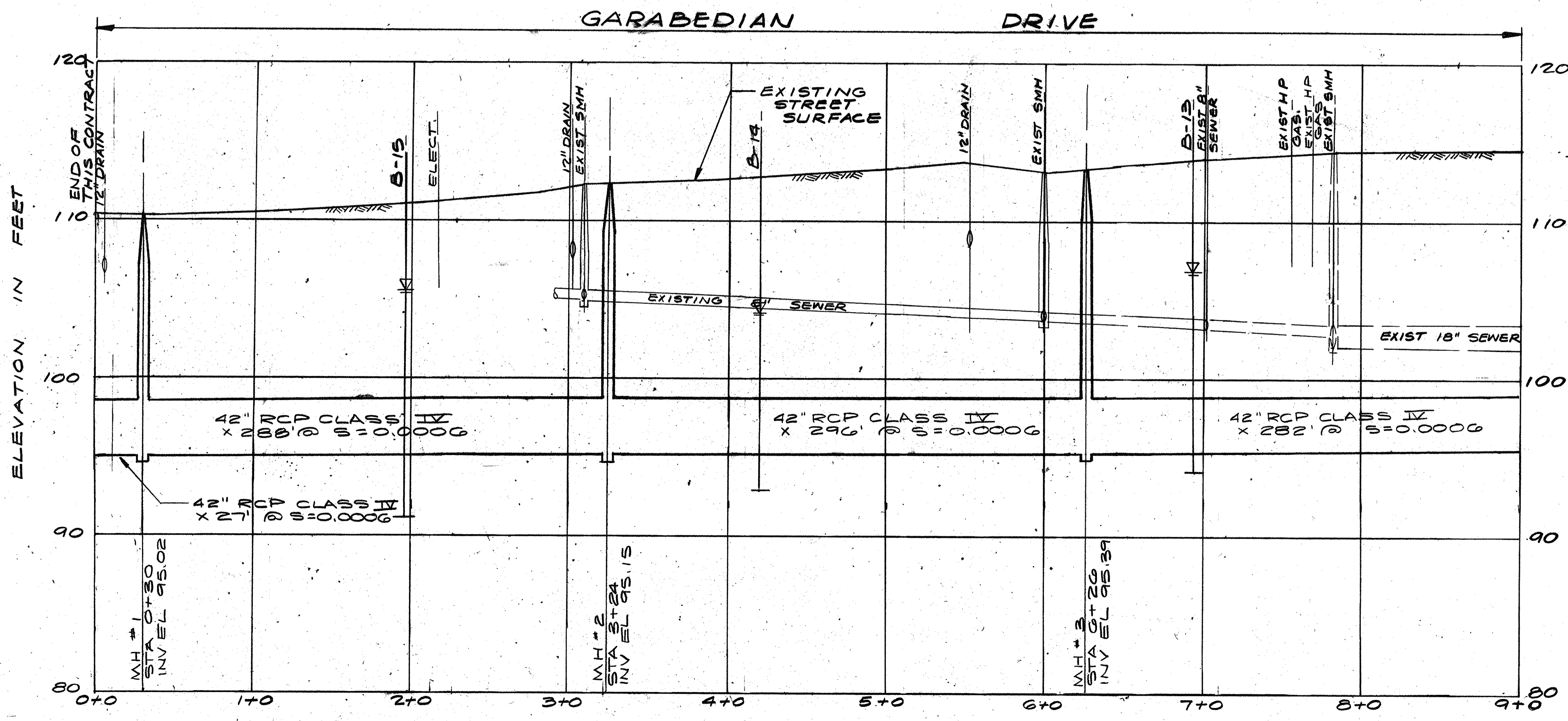
EXISTING LEGEND

- G-G-G GAS LINE
- S-SMH SEWER LINE
- D-DMH-CB DRAIN LINE
- W-W-W WATER LINE
- Tree, Woods or Brush
- Contours
- Property Line
- Easement Line
- B-1 Boring

PROPOSED

- Sewer Line
- Sewer Manhole

- NOTES**
- CONTRACTOR TO VERIFY ELEV. AND INV. OF EXIST SEWER SYSTEM AND CONNECTION LOCATIONS.
 - FULL WIDTH PERMANENT PAVEMENT ALTERNATE BID ITEM SEE SHEET NO 7



ISSUE FOR APPROVAL	DATE	BY
CONSTRUCTION	6-21-84	FGU
RECORD DRAWING	7-30-85	FGU
	9-19-86	FGU

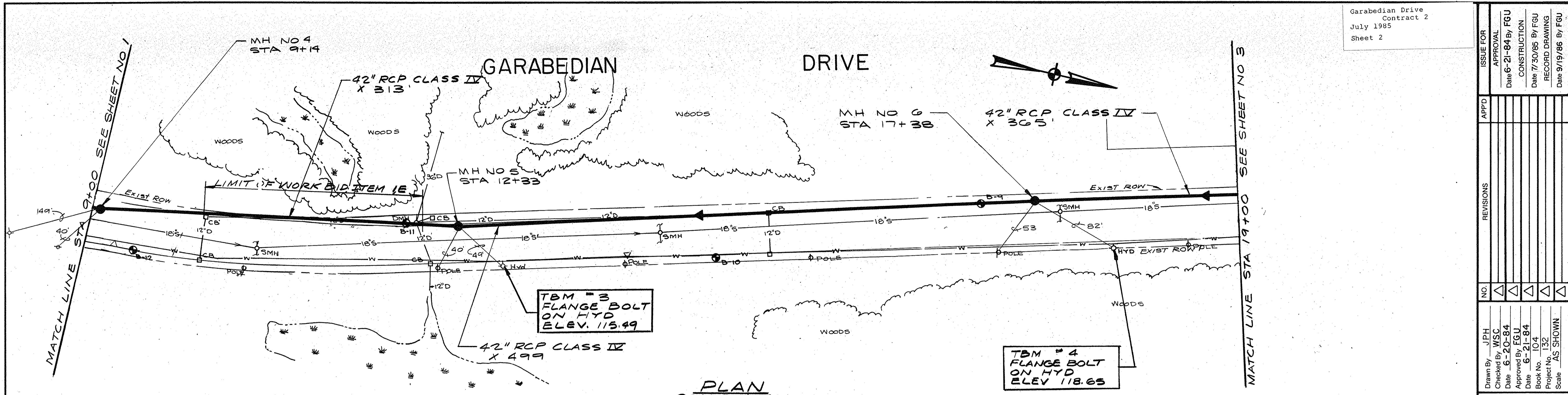
NO.	NO.	NO.	NO.
1	2	3	4

Drawn By: JPH
Checked By: WSC
Date: 6-20-84
Approved By: FGU
Date: 6-21-84
Book No: 104
Project No: 132
Scale: AS SHOWN

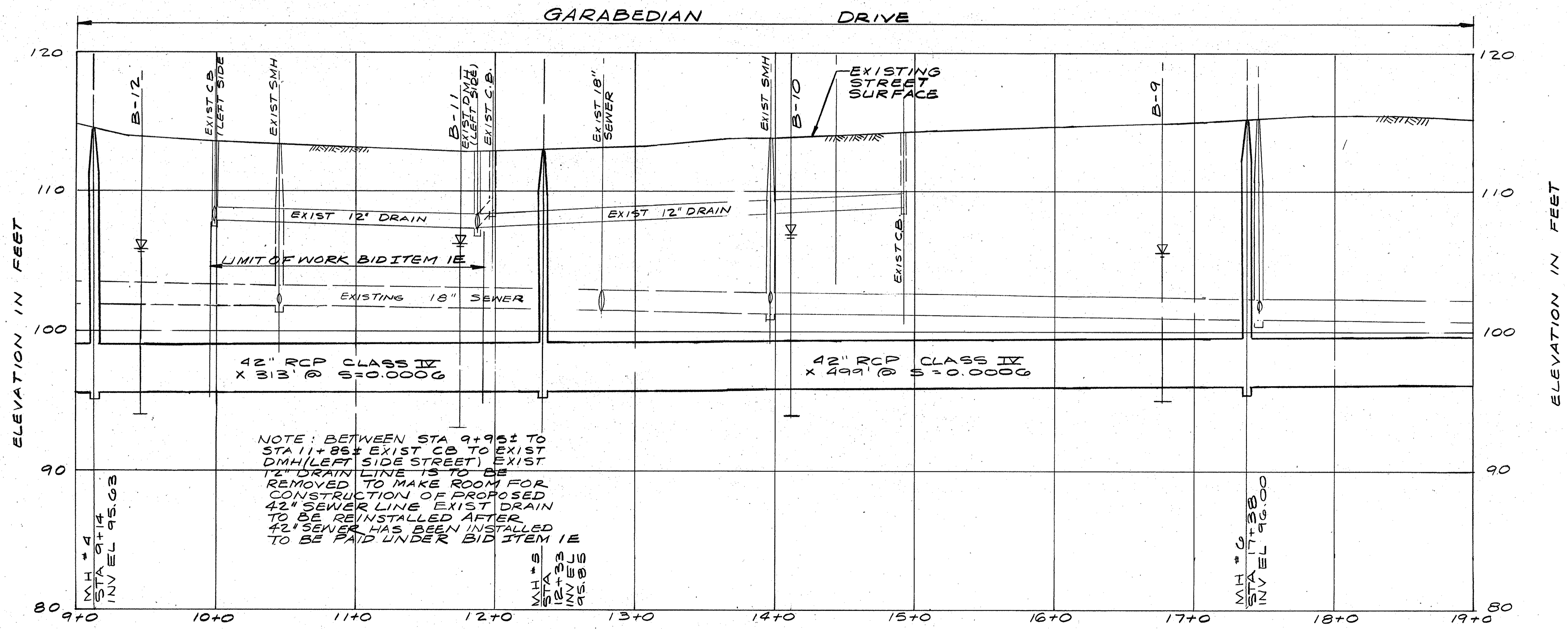
G & Underwood Engineers, Inc.
25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192

TOWN OF SALEM, NEW HAMPSHIRE
SPICKET RIVER PROJECT
G.L.S.D. INTERCEPTOR SEWER
PROJECT A
CONTRACT NO 2
PLAN AND PROFILE
STA. 0+00 TO STA 9+00

1 OF 8



PLAN
 SCALE 1"=40'

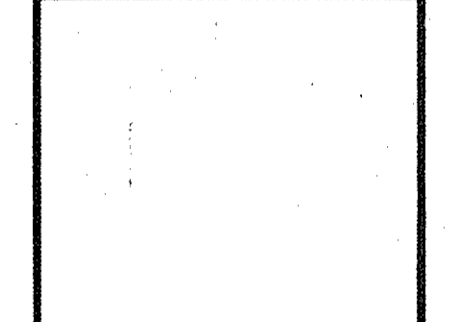


PROFILE
 SCALE 1"=40' HOR
 1"=4' VER

NOTE: BETWEEN STA 9+95± TO STA 11+85± EXIST CB TO EXIST DMH (LEFT SIDE STREET) EXIST 12" DRAIN LINE IS TO BE REMOVED TO MAKE ROOM FOR CONSTRUCTION OF PROPOSED 42" SEWER LINE EXIST DRAIN TO BE REINSTALLED AFTER 42" SEWER HAS BEEN INSTALLED TO BE PAID UNDER BID ITEM 1E

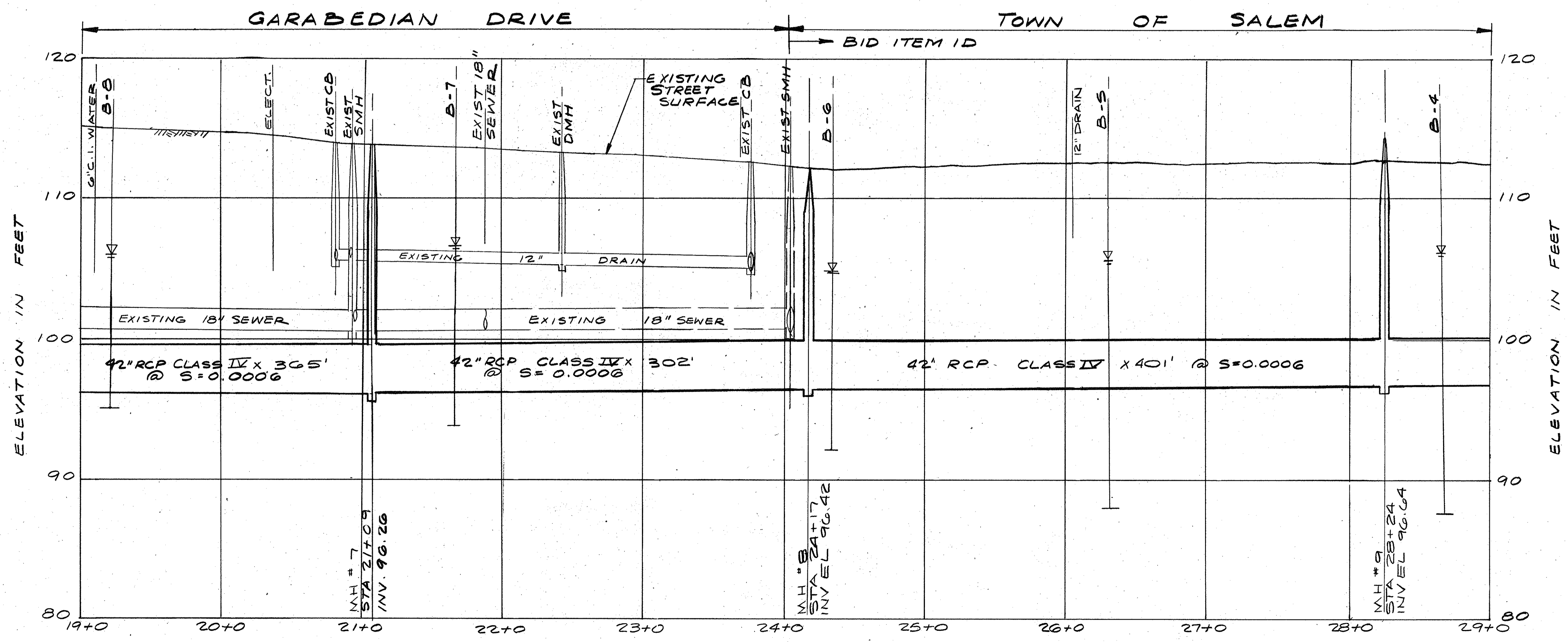
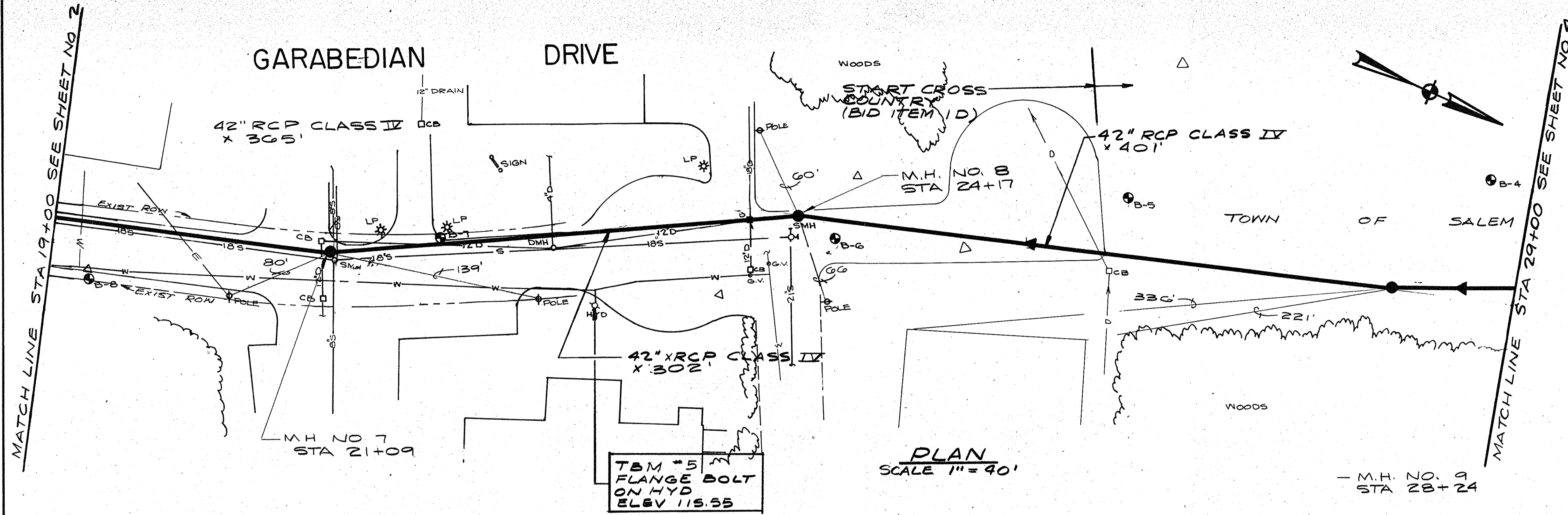
NO.	REVISIONS	APPD	ISSUE FOR APPROVAL
1			Date 6-21-84 By FGU CONSTRUCTION
2			Date 7/30/85 By FGU RECORD DRAWING
3			Date 9/19/86 By FGU

Drawn By	JPH
Checked by	WSC
Date	6-20-84
Approved By	FGU
Date	6-21-84
Book No.	104
Project No.	132
Scale	AS SHOWN



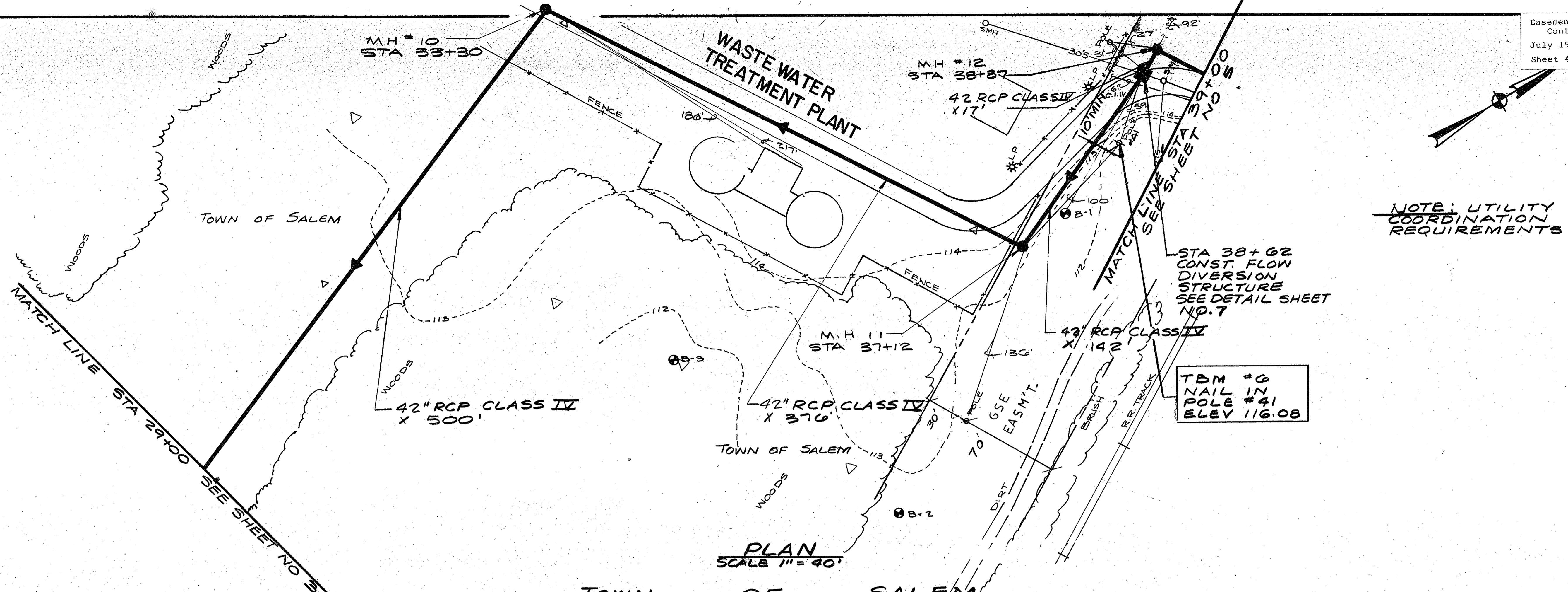
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TOWN OF SALEM, NEW HAMPSHIRE
 SPICKET RIVER PROJECT
GL.S.D. INTERCEPTOR SEWER
 PROJECT A
 CONTRACT NO 2
 PLAN AND PROFILE
STA. 9+00 TO STA. 19+00



ISSUE FOR APPROVAL		DATE	BY
DATE 6-21-84	BY JPH	DATE	BY
CONSTRUCTION	DATE 6-21-84	PROJECT NO.	132
RECORD DRAWING	DATE 7/30/85	SCALE	AS SHOWN
APPROVAL	NO.	NO.	NO.
REVISIONS	NO.	NO.	NO.
TOWN OF SALEM, NEW HAMPSHIRE SPICKET RIVER PROJECT G.L.S.D. INTERCEPTOR SEWER PROJECT A CONTRACT NO 2 PLAN AND PROFILE STA. 19+00 TO STA. 29+00			
G & Underwood Engineers, Inc. 25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192			
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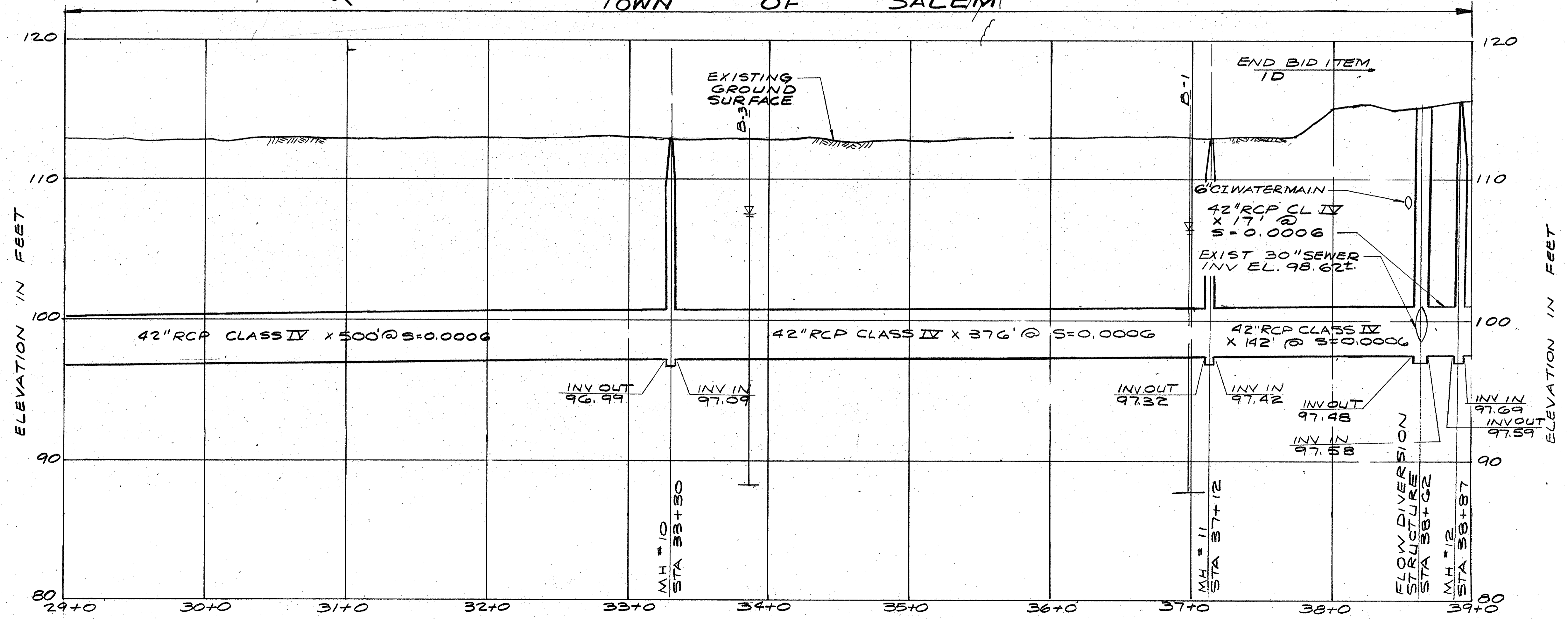
ISSUE	APPROVAL
Date 6-21-84 By FGU	CONSTRUCTION
Date 7/30/85 By FGU	RECORD DRAWING
Date 9/19/86 By FGU	



NOTE: UTILITY COORDINATION REQUIREMENTS

TBM #0
NAIL IN
POLE #41
ELEV 116.08

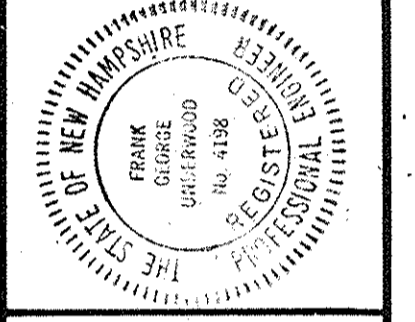
PLAN
SCALE 1" = 40'



PROFILE
SCALE 1" = 40' HOR
1" = 4' VER

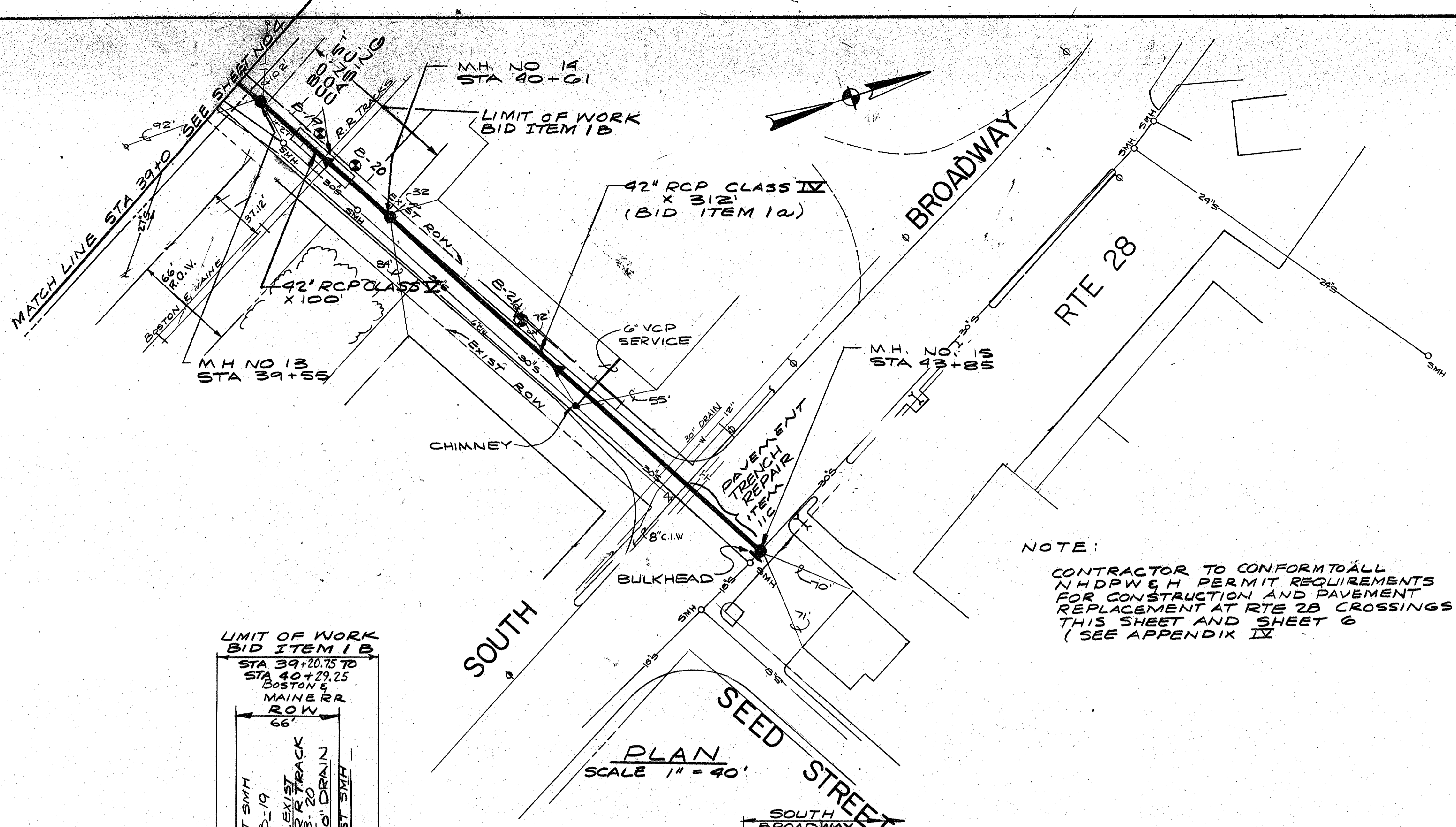
NO.	REVISIONS

Drawn By: JPH
Checked By: WSC
Date: 6-20-84
Approved By: FGU
Date: 6-21-84
Book No.: 104
Project No.: 132
Scale: AS SHOWN

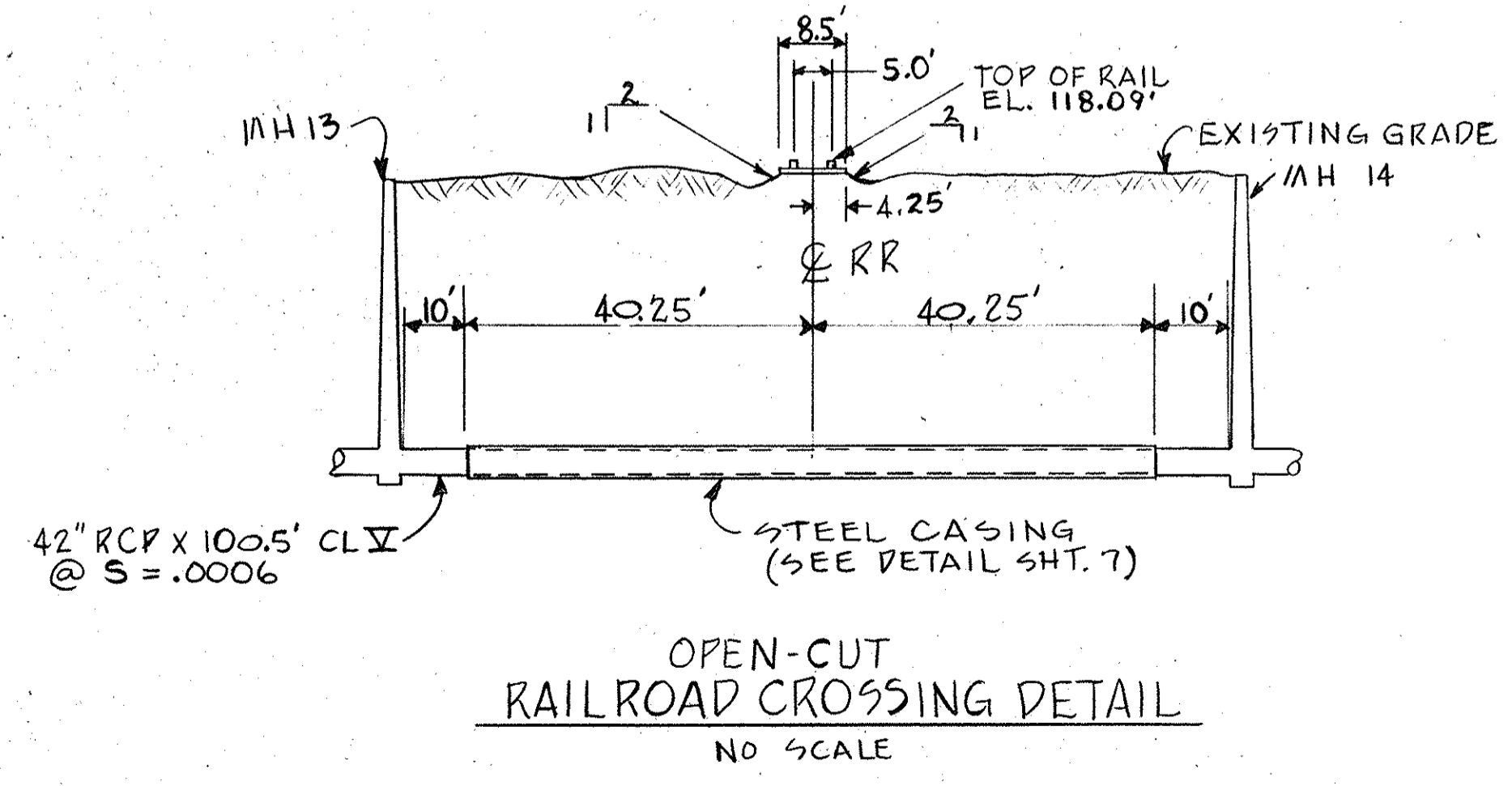
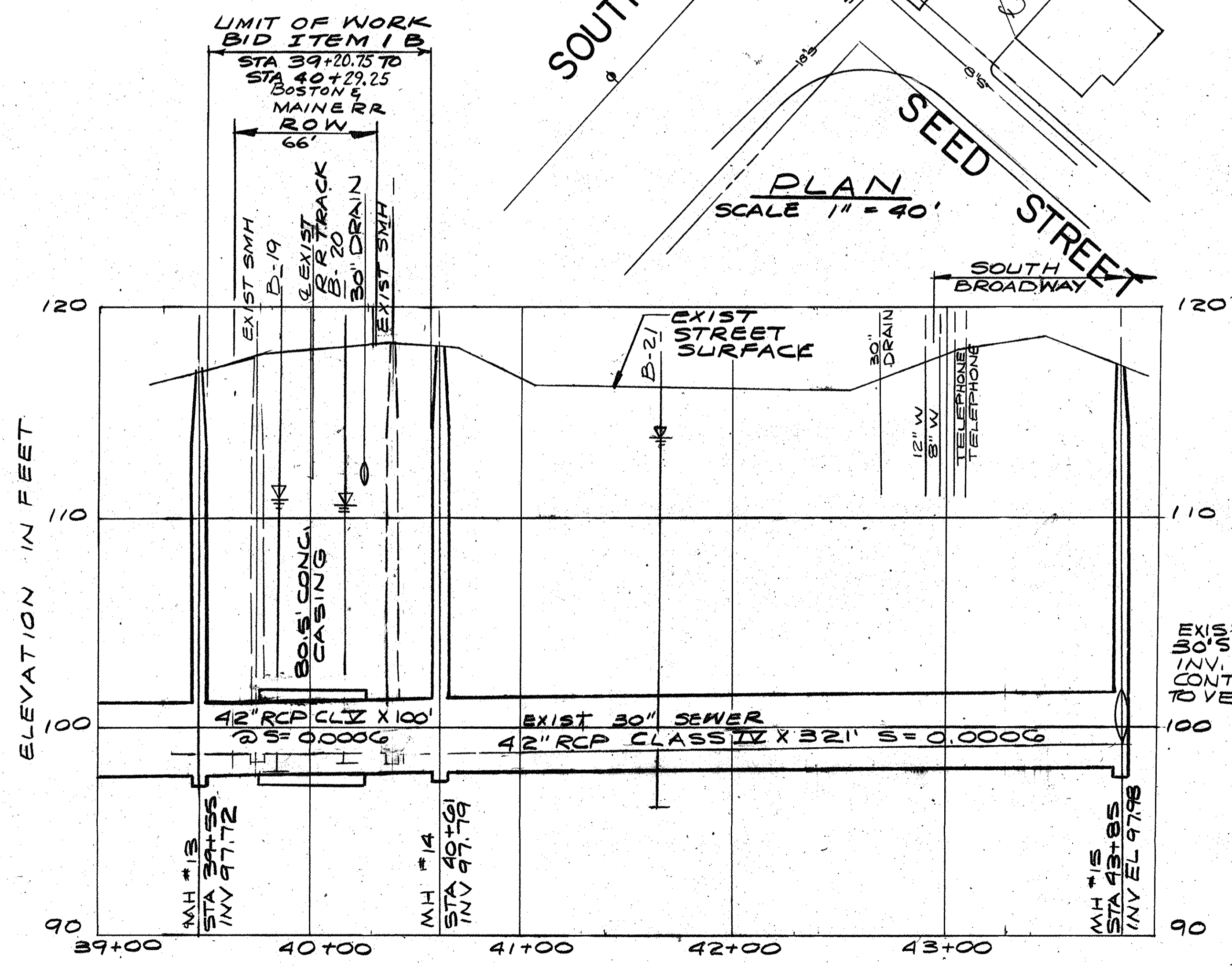


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TOWN OF SALEM, NEW HAMPSHIRE
SPICKET RIVER PROJECT
G.L.S.D. INTERCEPTOR SEWER
PROJECT A
CONTRACT NO. 2
PLAN AND PROFILE
STA 29+00 TO STA. 39+00



NOTE:
 CONTRACTOR TO CONFORM TO ALL
 N.H.D.P.W.G.H. PERMIT REQUIREMENTS
 FOR CONSTRUCTION AND PAVEMENT
 REPLACEMENT AT RTE 28 CROSSINGS
 THIS SHEET AND SHEET 6
 (SEE APPENDIX IX)

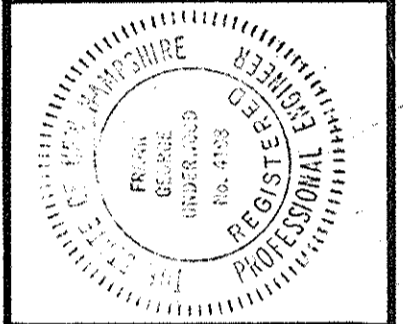


PROFILE
 SCALE 1" = 40' HOR
 1" = 4' VER

**OPEN-CUT
 RAILROAD CROSSING DETAIL**
 NO SCALE

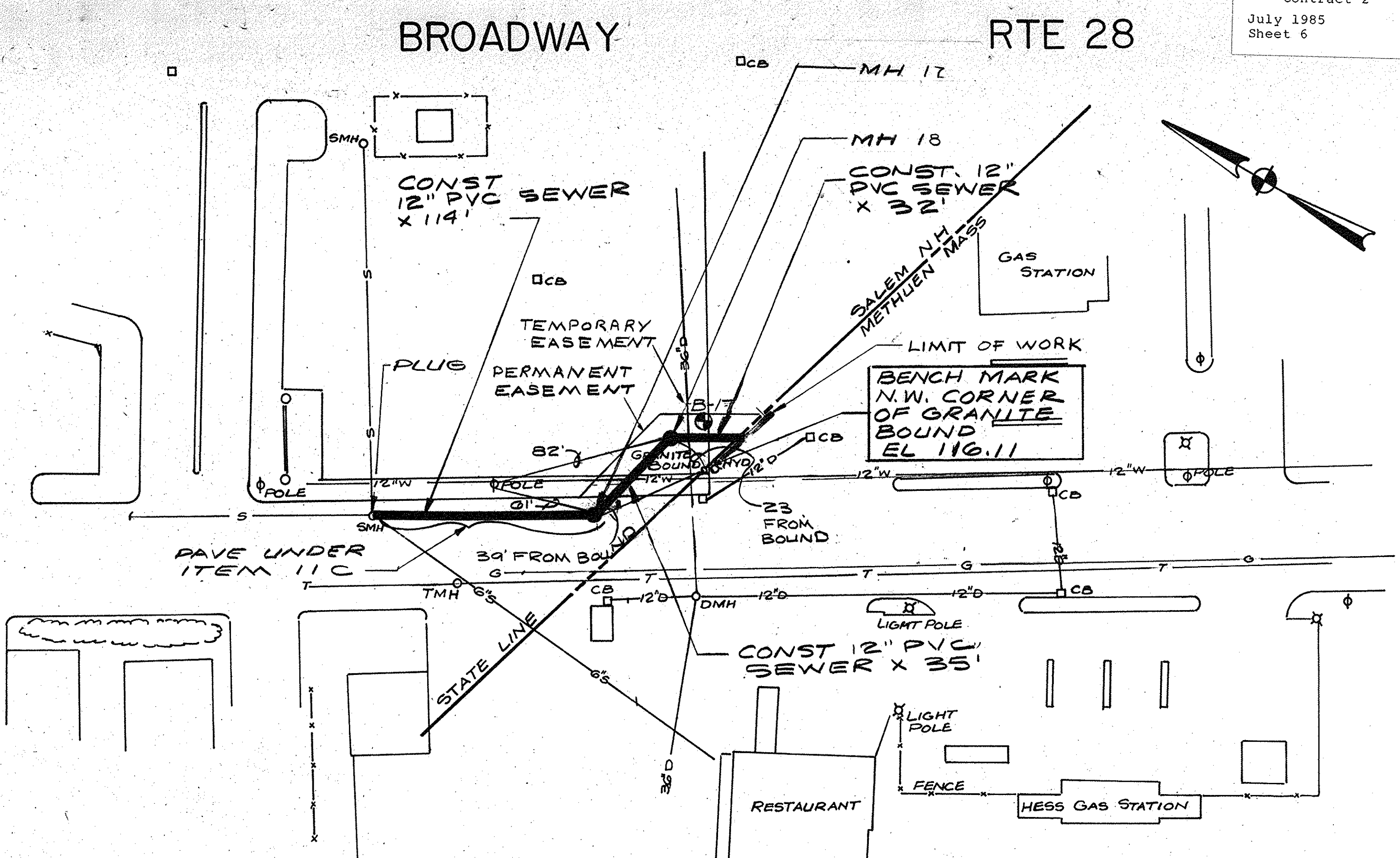
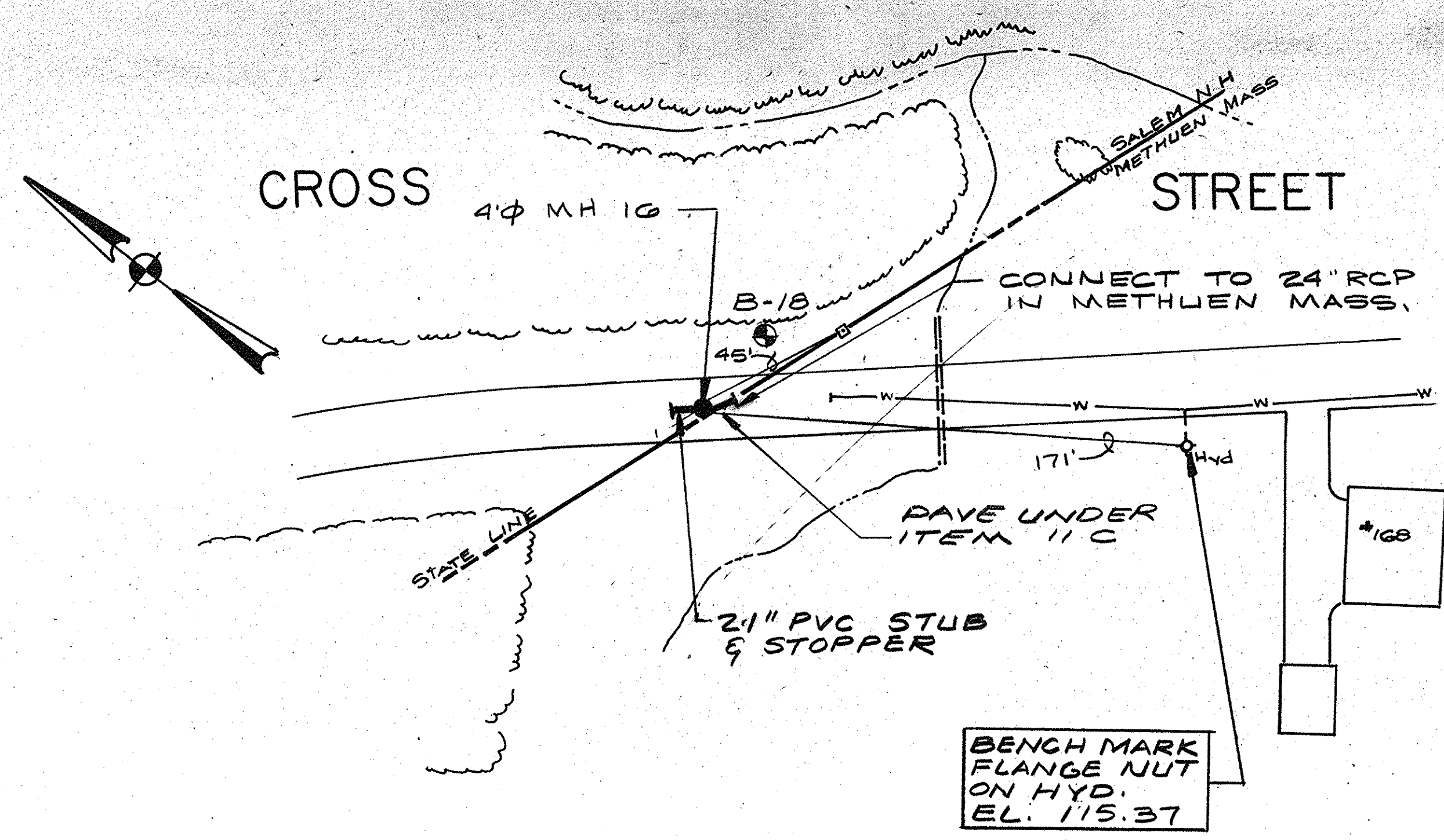
NO.	REVISIONS	APPROVAL	ISSUE FOR
1			CONSTRUCTION
2			RECORD DRAWING

Drawn By: JPH
 Checked By: WSC
 Date: 6-20-84
 Approved By: FGU
 Date: 6-21-84
 Book No: 104
 Project No: 132
 Scale: AS SHOWN



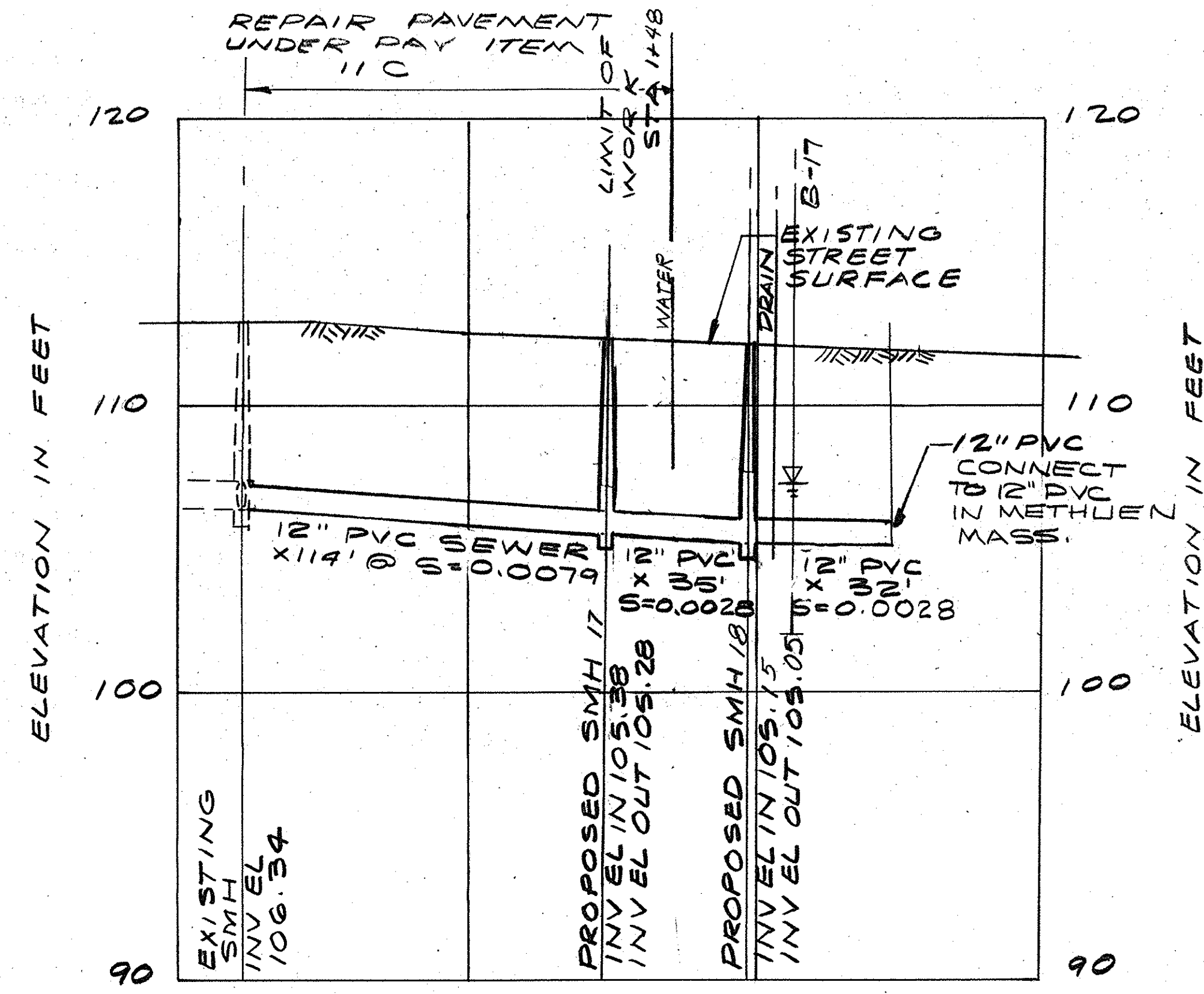
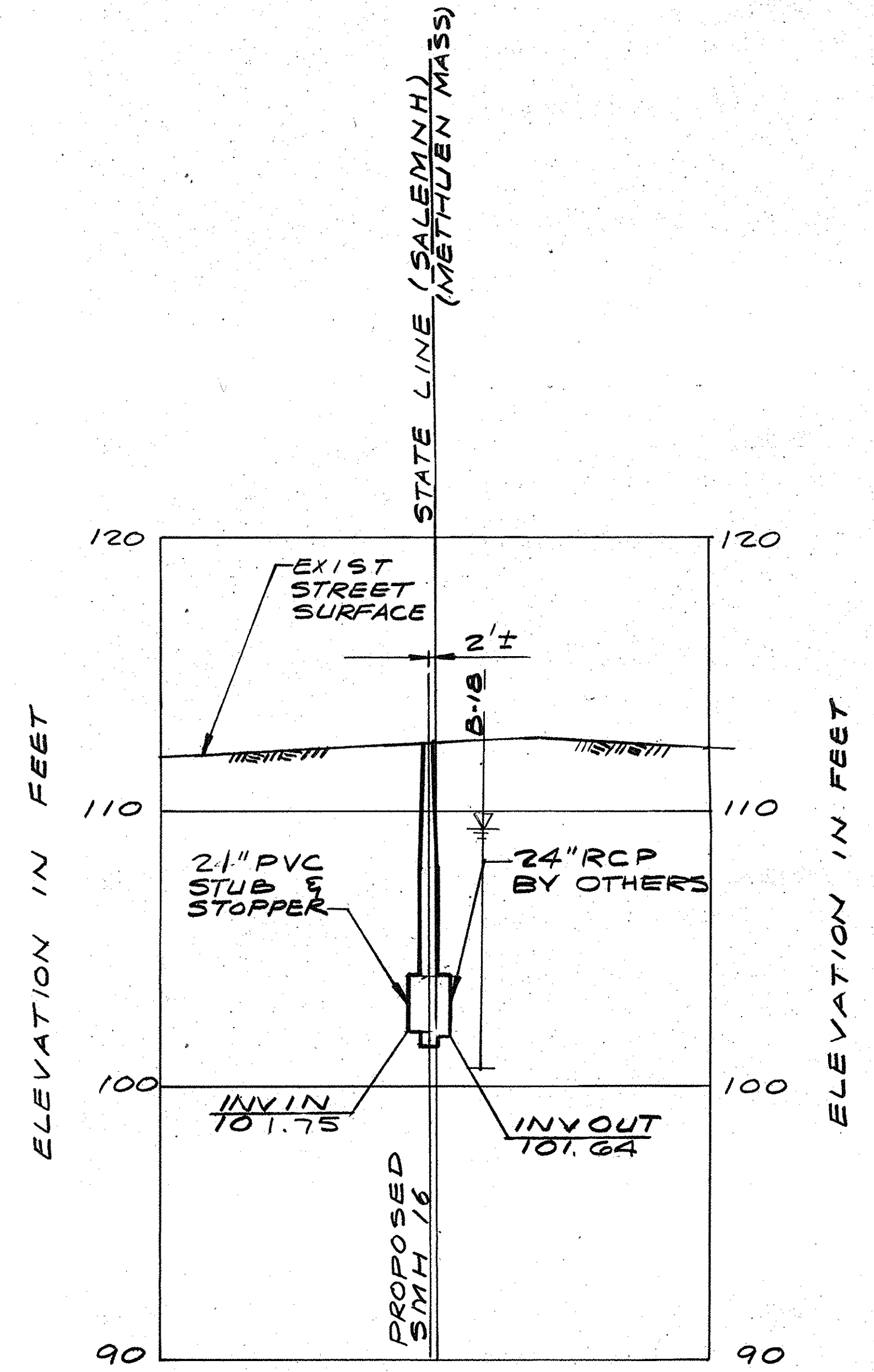
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TOWN OF SALEM, NEW HAMPSHIRE
 SPOTSET RIVER PROJECT
G.L.S.D. INTERCEPTOR SEWER
 PROJECT A
 CONTRACT NO. 2
 PLAN AND PROFILE
STA 39+00 TO END



PLANS
 SCALE 1" = 40'

- 1) CONTRACTOR TO CONFORM TO ALL NHPWEH PERMIT REQUIREMENTS FOR CONSTRUCTION AND PAVEMENT REPLACEMENT (SEE APPENDIX II)
- 2) CONTRACTOR TO MATCH SLOPE AND INVERT OF STUB AT STATE LINE



PROFILES
 SCALE 1" = 40' HOR
 1" = 4' VER

ISSUE FOR APPROVAL	DATE	BY
CONSTRUCTION	6-21-84	FGU
RECORD DRAWING	7-30-85	FGU
	9-19-86	FGU

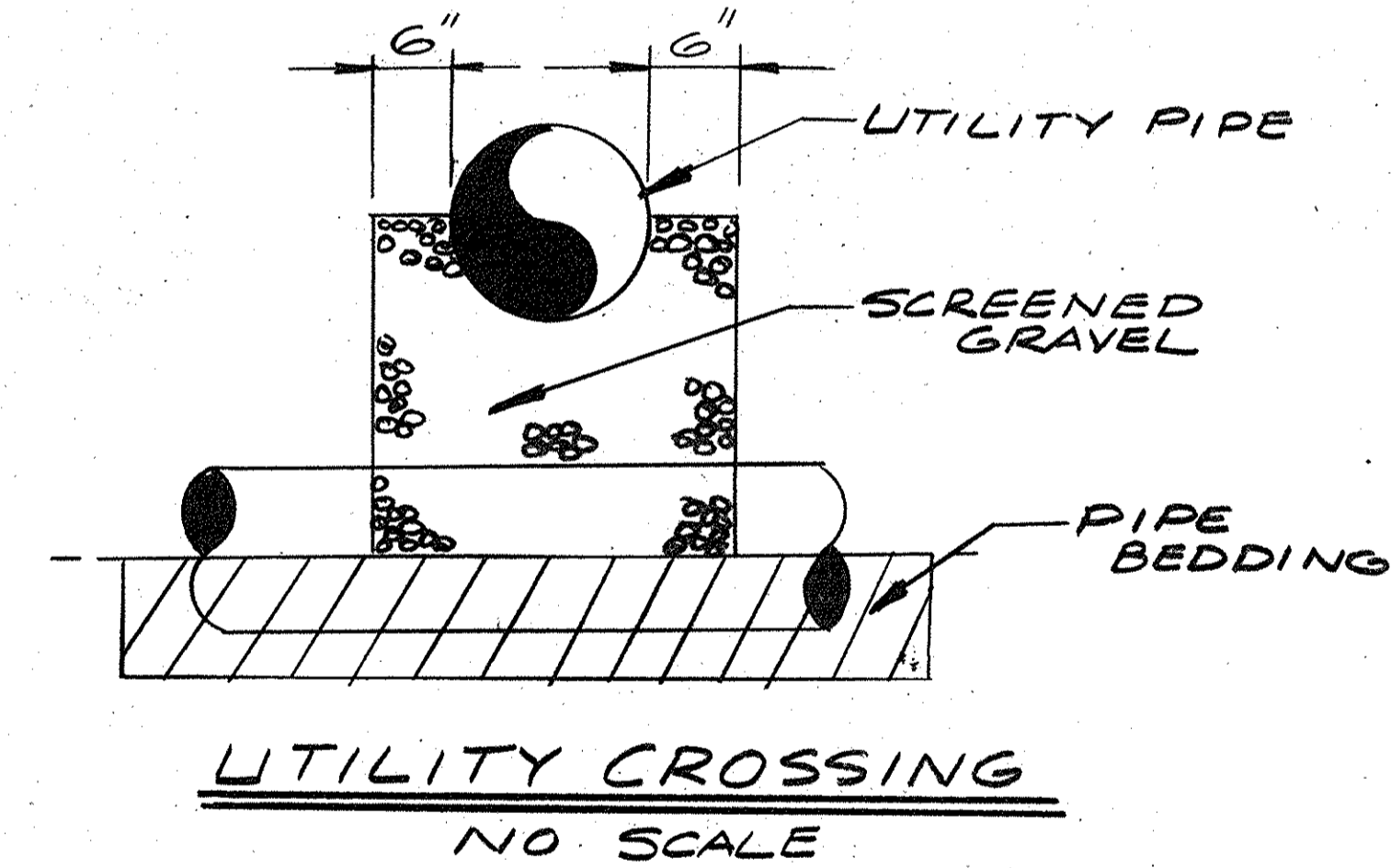
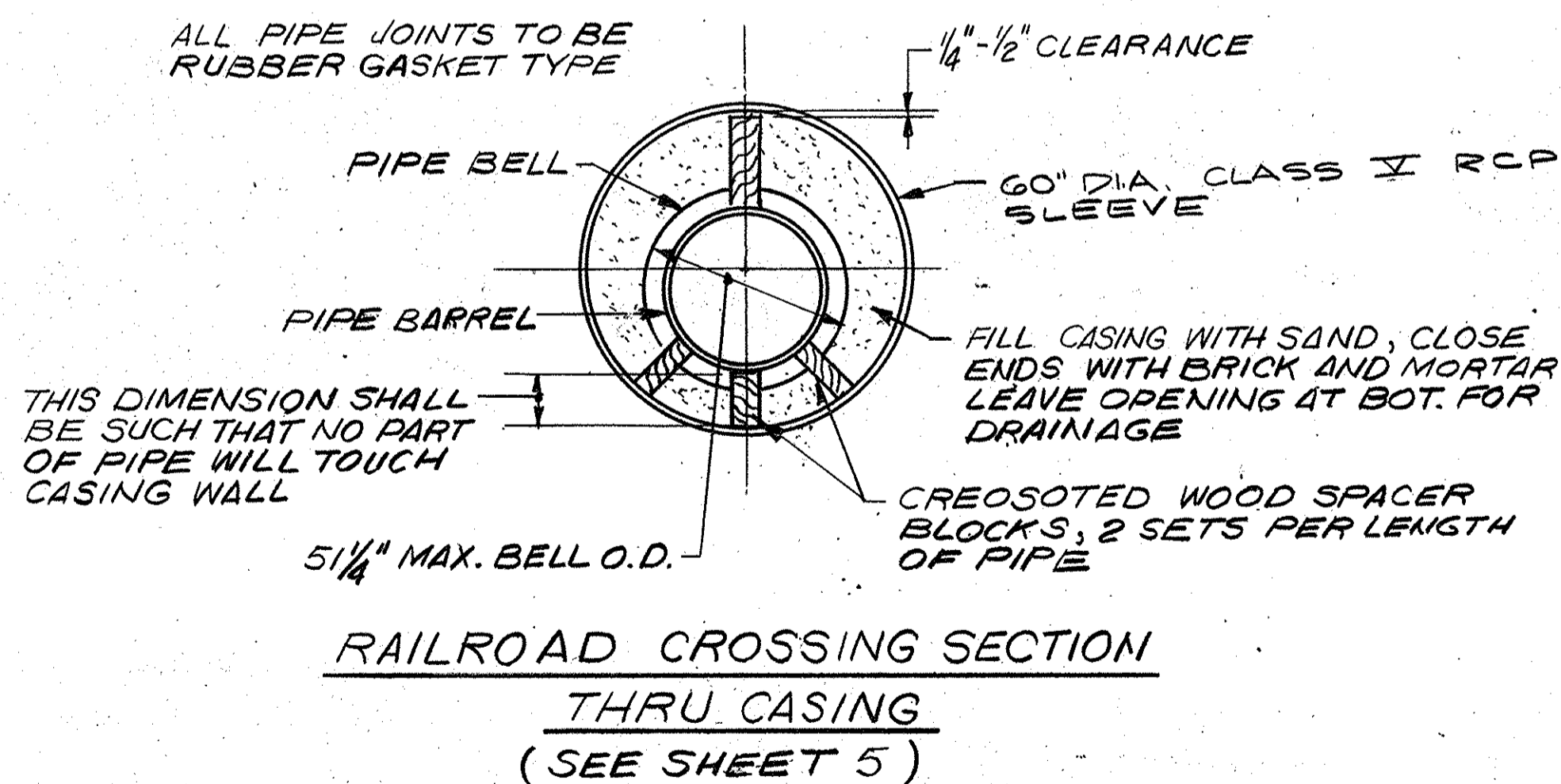
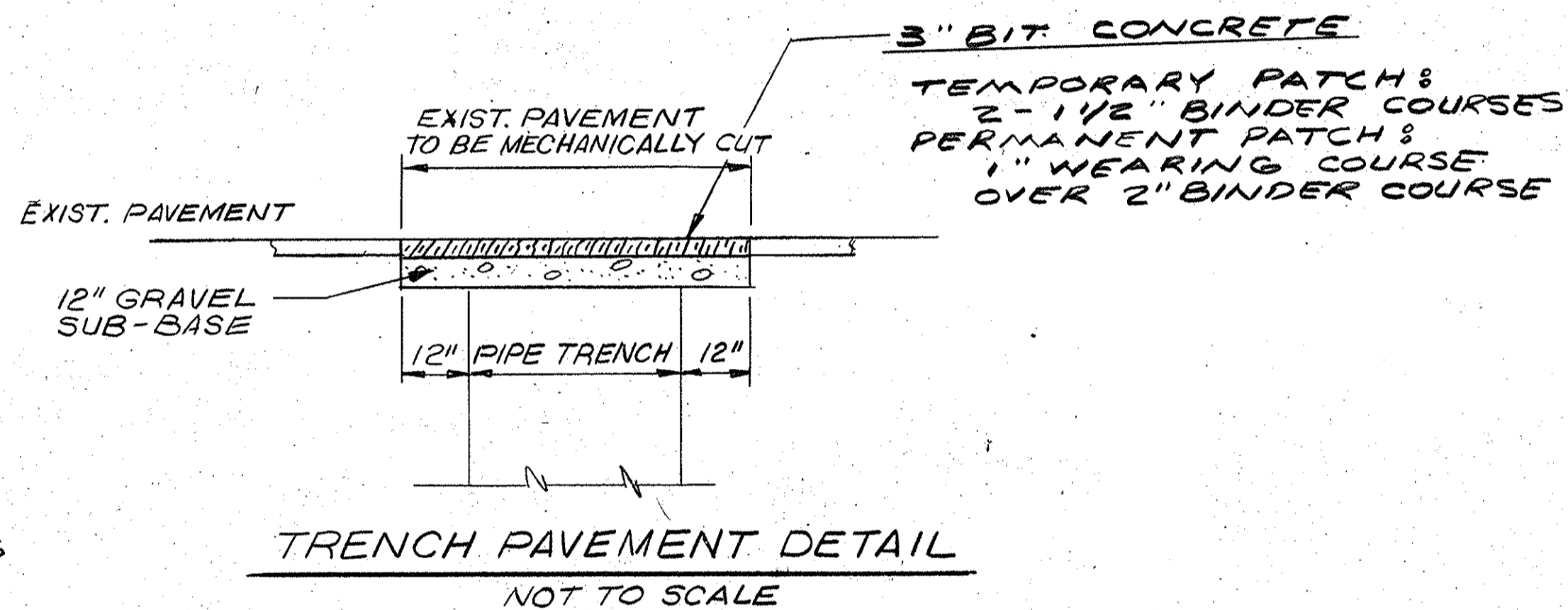
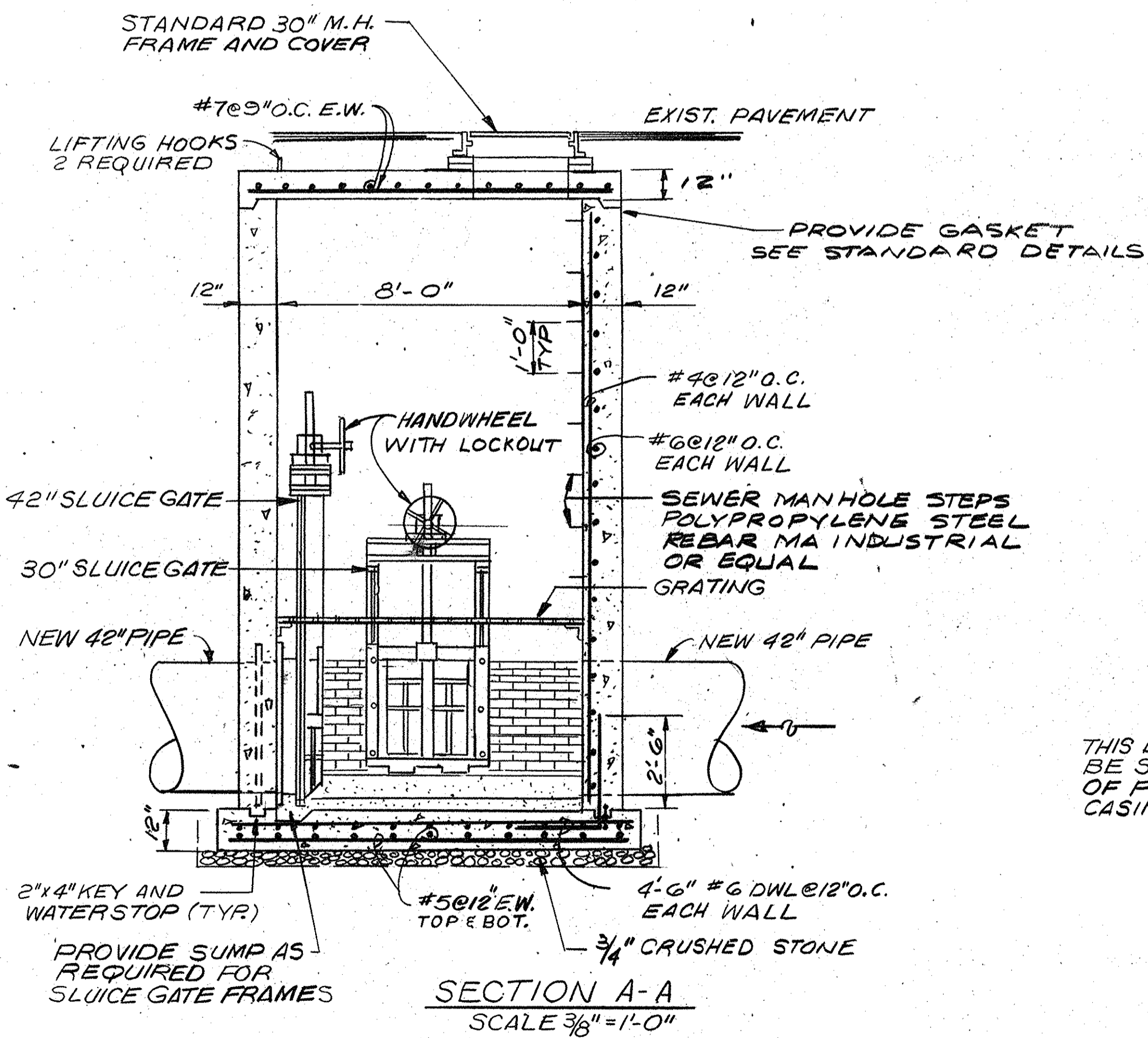
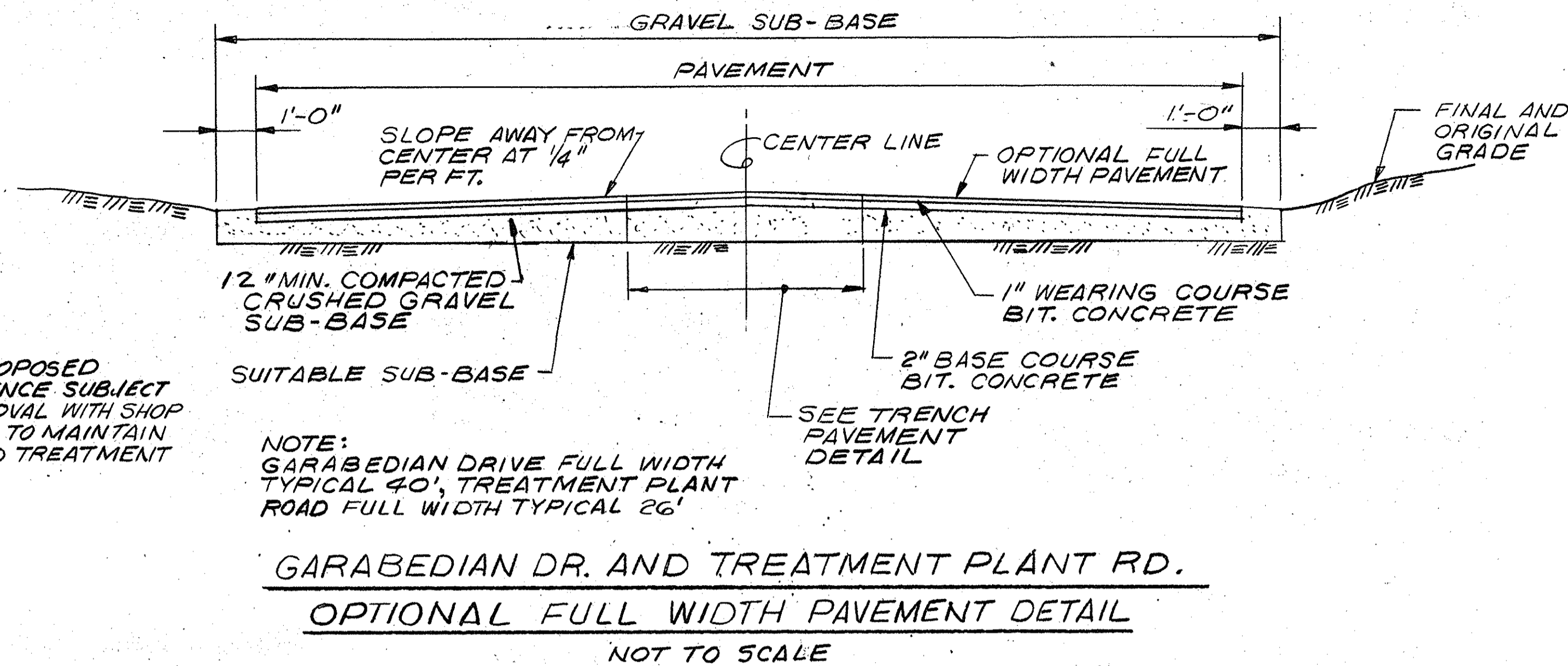
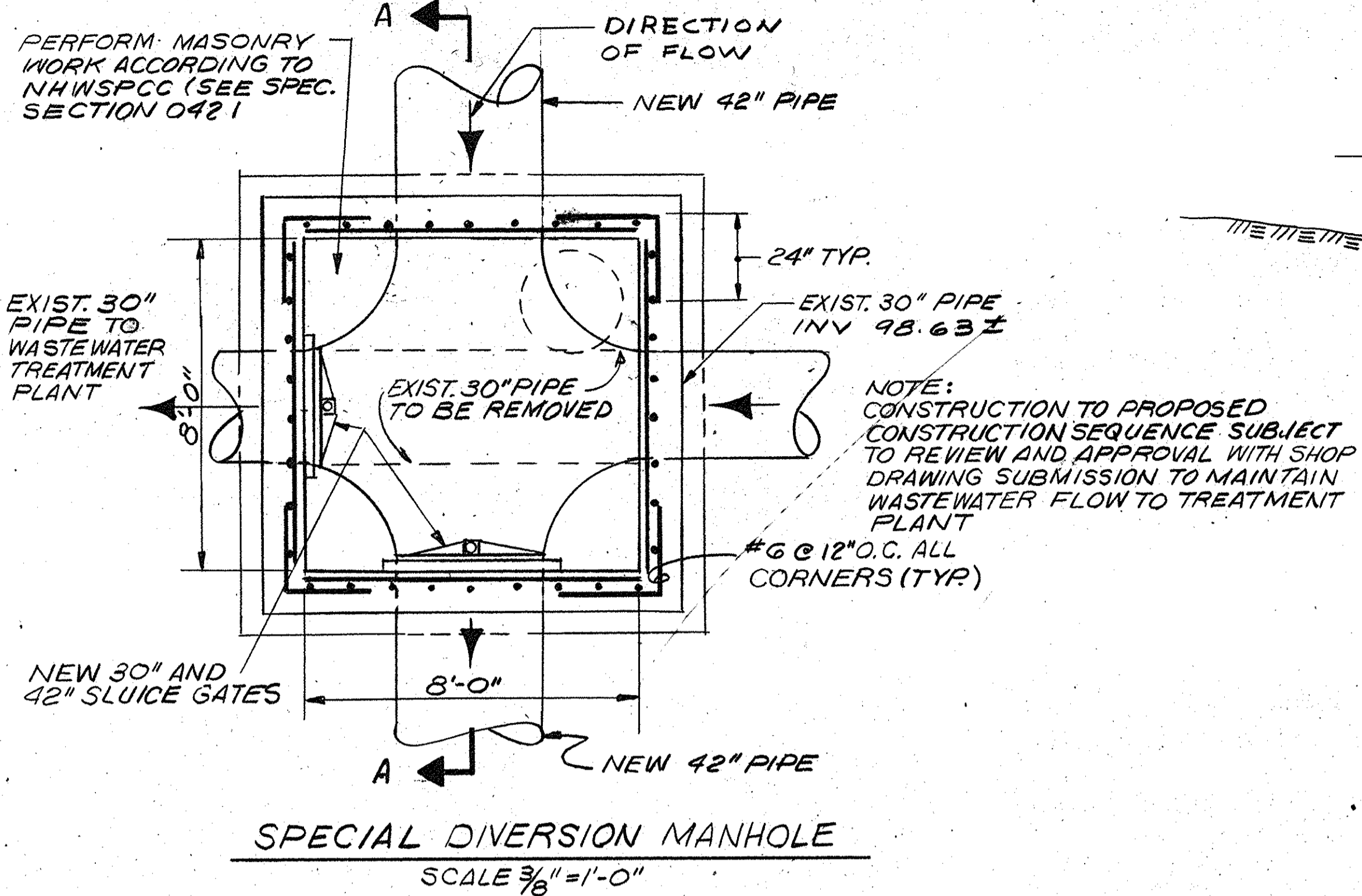
NO.	REVISIONS

Drawn By	JPH
Checked By	WSC
Date	6-20-84
Approved By	EGU
Date	6-21-84
Book No.	104
Project No.	132
Scale	AS SHOWN

THE STATE OF NEW HAMPSHIRE
 PROFESSIONAL ENGINEERS
 REGISTRATION BOARD
 No. 0393

G & Underwood Engineers, Inc.
 25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 803-436-6192

TOWN OF SALEM, NEW HAMPSHIRE
 SPCKET RIVER PROJECT
GL.S.D. INTERCEPTOR SEWER
 PROJECT A
 CONTRACT NO 2
 PLAN AND PROFILE
 CROSS STREET
 BROADWAY



- NOTES:
1. AT ALL OPENINGS PROVIDE 4-#6 BARS 2 TIMES OPENING WIDTH LONG AT 45° TO MAIN REINFORCING.
 2. CONTRACT TO FIELD VERIFY INVERT AND LOCATION OF EXISTING PIPE AND ORIENTATE SPECIAL STRUCTURE WITH SLUICE GATES TO ACCOMMODATE EXIST. PIPE
 3. WITH EACH SLUICE GATE PROVIDE MECHANICAL HANDWHEEL OPERATOR.

ISSUE FOR APPROVAL

Date 6-21-84 By FGU

CONSTRUCTION

Date 7/30/85 By FGU

RECORD DRAWING

Date 9/19/86 By FGU

APPROVAL

NO.

REVISIONS

Drawn By: ALP

Checked By: WSC

Date: 6-20-84

Approved By: FGU

Date: 6-21-84

Book No: 104

Project No: 132

Scale: AS SHOWN

THE STATE OF NEW HAMPSHIRE

SEAL OF THE ENGINEER

REGISTERED PROFESSIONAL ENGINEER

NO. 104

EXPIRES 12/31/85

G & Underwood Engineers, Inc.

25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192

TOWN OF SALEM, NEW HAMPSHIRE

SPICKET RIVER PROJECT

GL.S.D. INTERCEPTOR SEWER

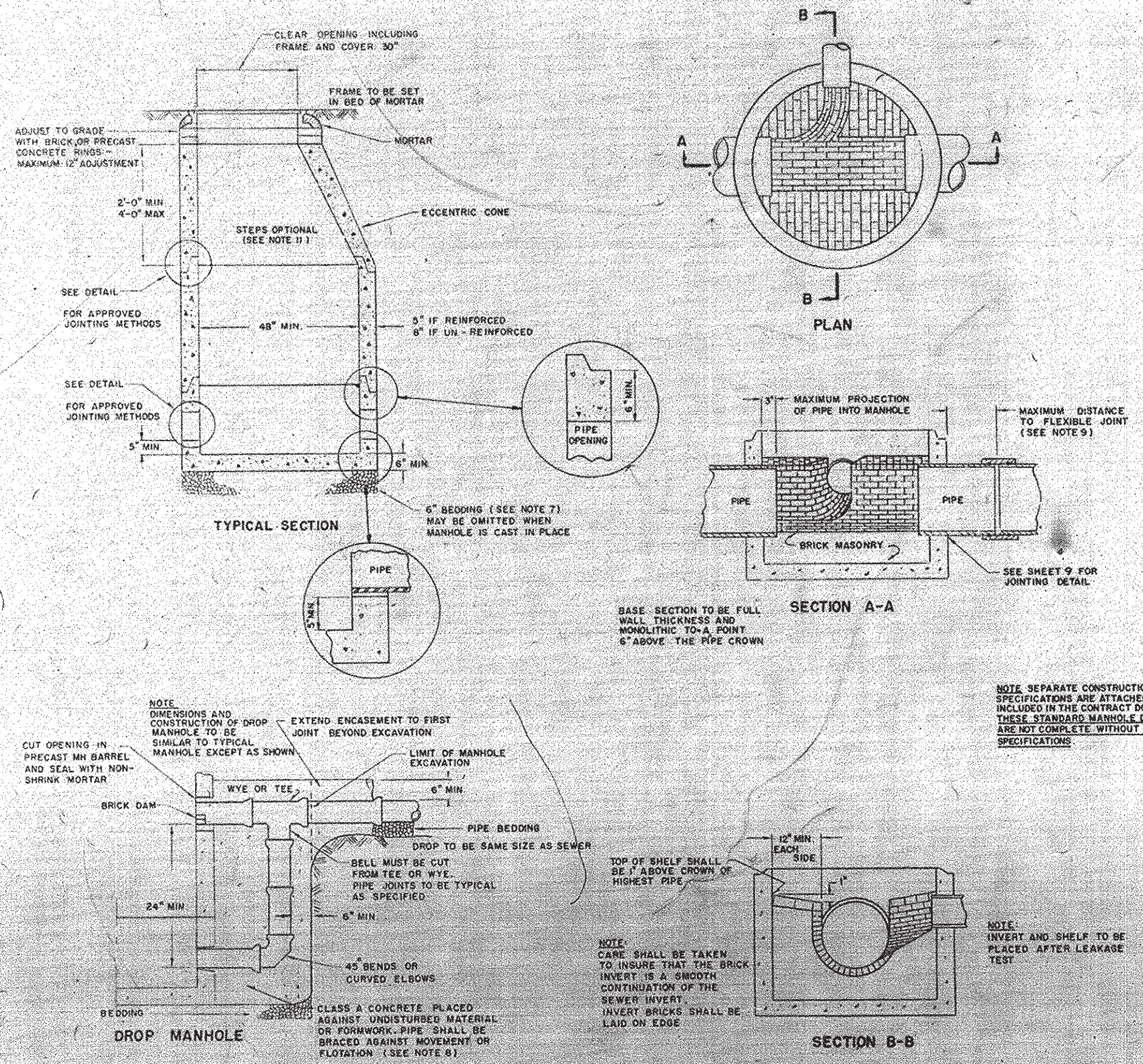
PROJECT A

CONTRACT NO. 2

SPECIAL DIVERSION MANHOLE AND DETAILS

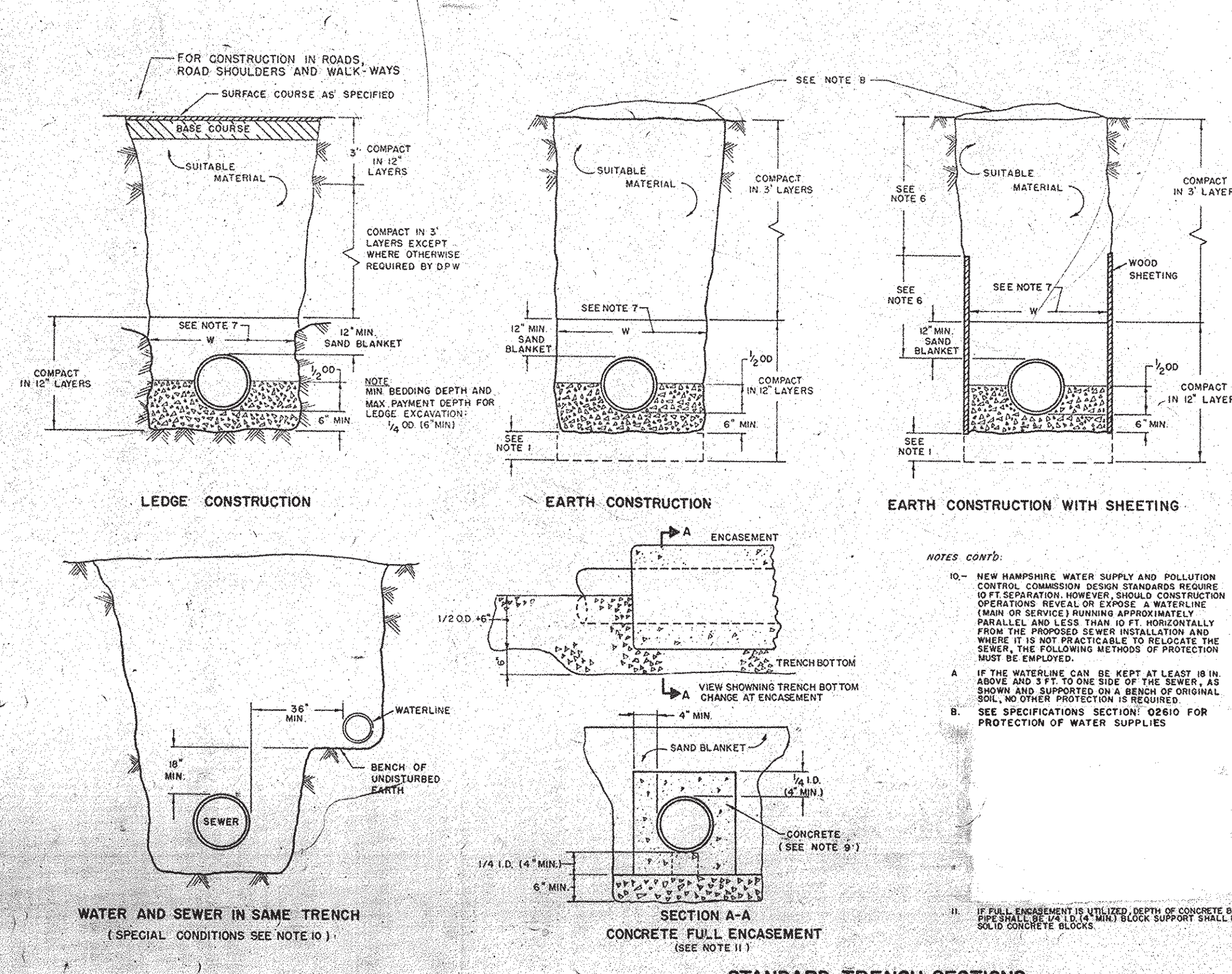
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7 OF 8



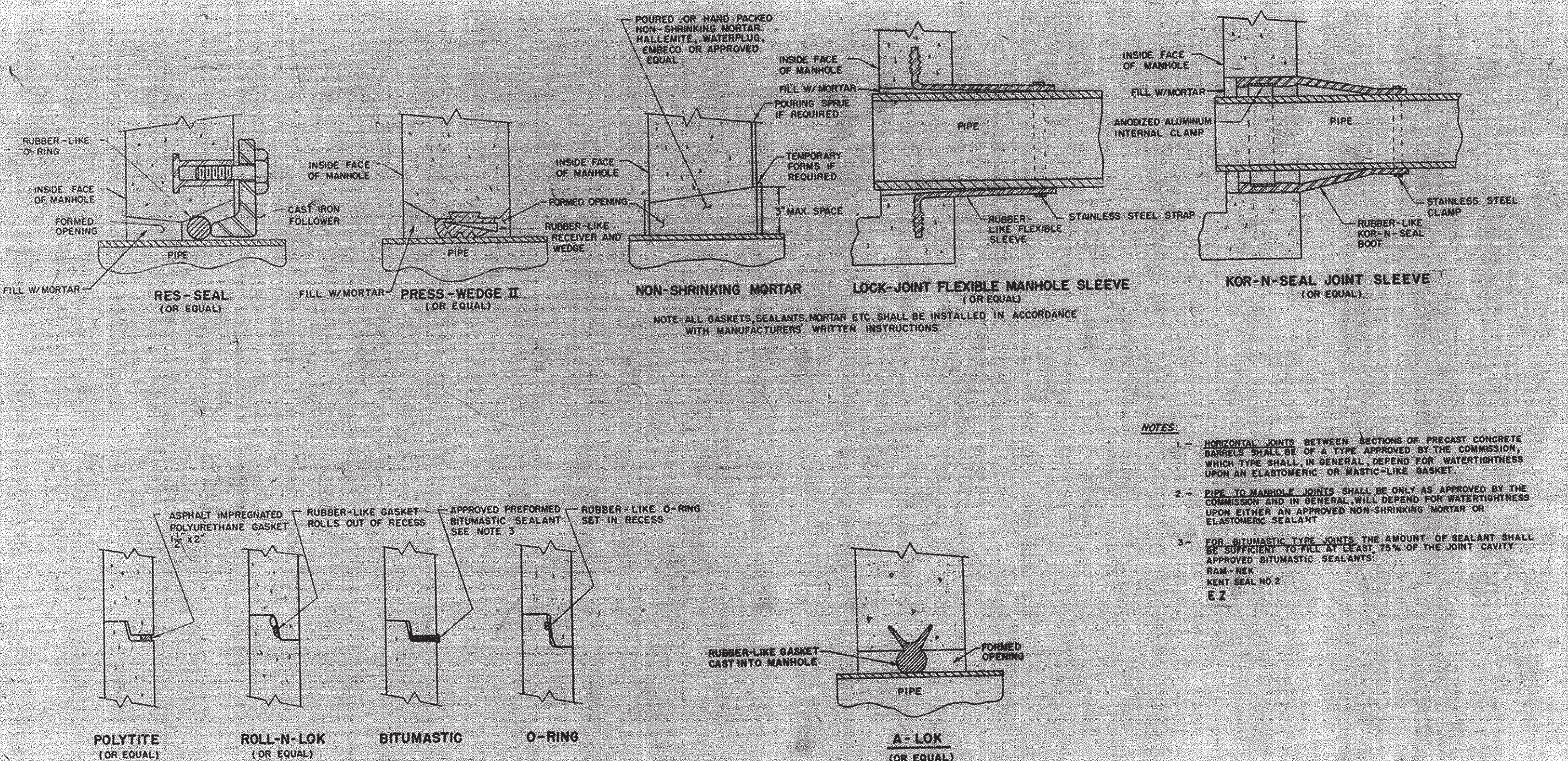
STANDARD MANHOLE DETAILS
NOT TO SCALE

- NOTES:**
- IT IS THE INTENTION OF THE COMMISSION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY BY THE COMMISSION FOR THE INTENDED SERVICE. JOINT REINFORCEMENT AND CONNECTIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH OR WITHOUT STEEL REINFORCEMENT, WITH ELASTIC JOINTS, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH OR WITHOUT REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (14-20 LOADS) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
 - BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED OR NON-REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED OR NON-REINFORCED CONCRETE.
 - PRECAST CONCRETE BARRELS, CONES AND BASES SHALL CONFORM TO ASTM C478.
 - LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS TO ASTM C478.
 - INVERTS AND SHELFS MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLIGHT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LOWEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER. SPIES SHELFS SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
 - FRAMES AND CONES MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING A 3-INCH (MINIMUM HEIGHT) LETTER "W" FOR SEWERS OR "O" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
 - BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND WEETING ASTM C33 100% PASSING 1/2 INCH SCREEN 0-10% PASSING #4 SIEVE 90-100% PASSING 3/8 INCH SCREEN 0-10% PASSING #10 SIEVE 20-50% PASSING 3/8 INCH SCREEN WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1/2 INCH SHALL BE USED.
 - CONCRETE FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENT FOR CLASS A (15000) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS: CEMENT: 6.0 BAGS PER CUBIC YARD WATER: 5.75 GALLONS PER CUBIC YARD CEMENT: 6.0 BAGS PER CUBIC YARD MAXIMUM SIZE OF AGGREGATE: 1 INCH.
 - FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES: RCP B CI PIPE - ALL SIZES - 48" AC B VC PIPE - UP THROUGH 12" DIA - 36" AC B VC PIPE - LARGER THAN 12" DIA - 36"
 - SHALLOW MANHOLES IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.
 - MANHOLES MAY BE PERMITTED UNDERGROUND BY THE OWNER'S SECONDARY SPECIFICATIONS ARE ATTACHED OR INCLUDED IN THE CONTRACT DOCUMENTS. THESE STANDARD MANHOLE SPECIFICATIONS ARE NOT COMPLETE WITHOUT THESE SPECIFICATIONS.
 - THE STEPS SHALL BE MANUFACTURED OF 3/8 INCH ROUND STAINLESS STEEL OR FORMED 1018 CARBON STEEL. THEY SHALL BE SHAPED SO THAT THEY CANNOT BE PULLED OUT OF THE CONCRETE WALL IN WHICH THEY ARE EMBEDDED.
 - JOINTS SHALL BE MANUFACTURED BY THE MANUFACTURER DURING MANUFACTURE OR IMMEDIATELY FOLLOWING REMOVAL OF THE FORMS. SECURING THE STEPS WITH MORTAR IS NOT ALLOWED. JOINTS WILL NOT BE ACCEPTABLE.
 - THE STEPS SHALL BE OF THE DROP TYPE WITH A DEEPENED SECTION FOR HANDHOLD, APPROXIMATELY 1/4" IN DIMENSION.



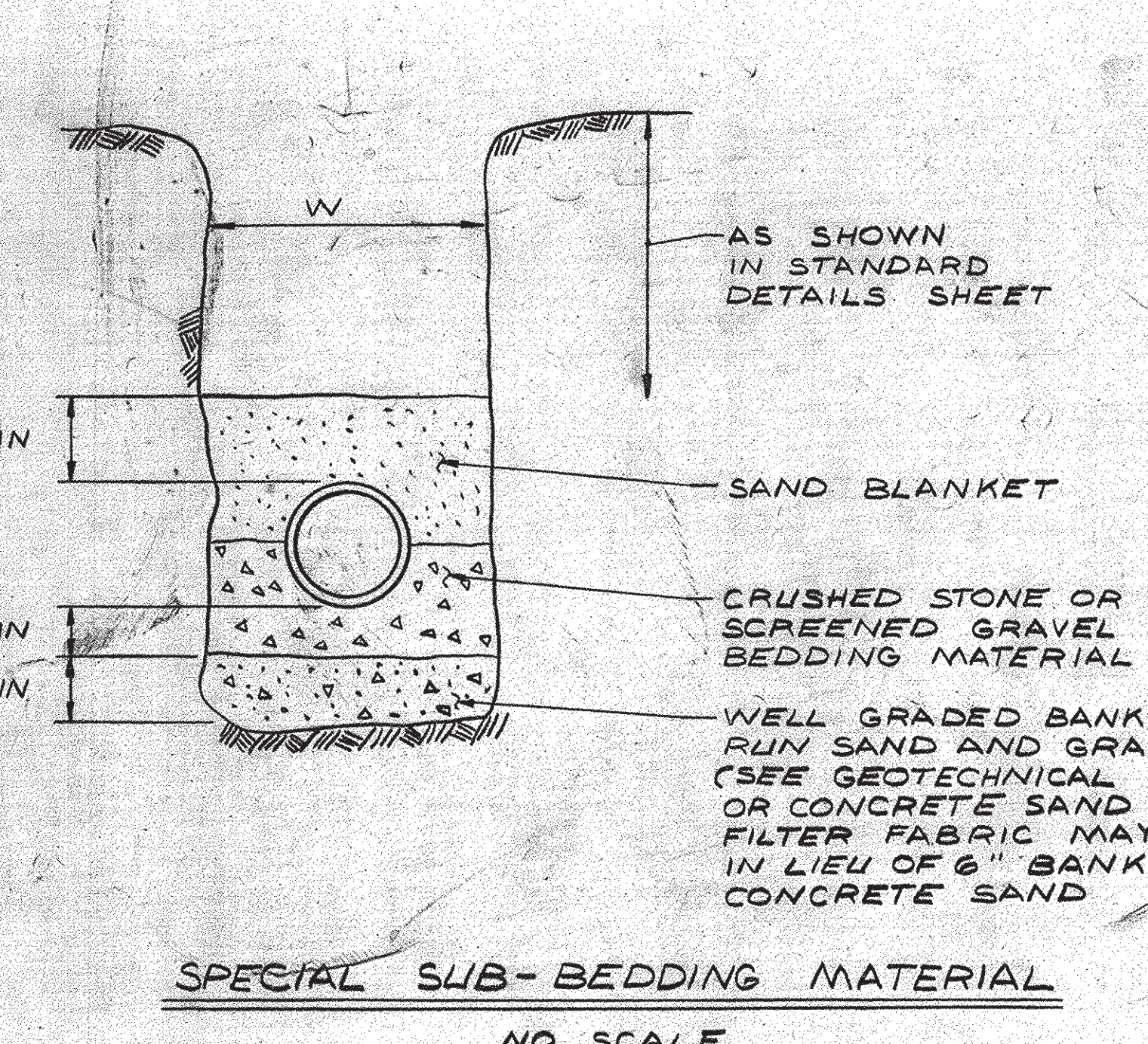
STANDARD TRENCH SECTIONS
NOT TO SCALE

- NOTES:**
- ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE REFILL WITH BEDDING MATERIAL. SEE ALSO NOTE 7.
 - BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND WEETING ASTM C33 STONE SIZE NO. 47. 100% PASSING 1/2 INCH SCREEN 0-10% PASSING #4 SIEVE 90-100% PASSING 3/8 INCH SCREEN 0-10% PASSING #10 SIEVE 20-50% PASSING 3/8 INCH SCREEN WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1/2 INCH SHALL BE USED.
 - SAND BLANKET: CLEAR SAND FREE FROM ORGANIC MATTER SO ORDERED THAT 20-100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 10% PASSES A 200 SIEVE. SAND SHALL BE REINFORCED CONCRETE FOR PROPOSED INVERT, THAT NO SAND SHALL BE PERMITTED THE USE OF TOP SOIL, LOAM, MUCK OR OTHER MATERIALS. SAND SHALL BE PLACED TO AN ELEVATION 1 FOOT ABOVE THE TOP OF THE PIPE, WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
 - SUITABLE MATERIAL IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELWAYS: SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE MATERIAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVED MATERIAL, ORGANIC MATTER, OR OTHER MATERIALS. SAND OR IN LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SURFACE SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE ALL SCREENED GRAVEL EXCEPT THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND REPAIRS RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED.
 - BASE COURSE: IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF SECTION 202 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS.
 - WOOD SHEETING: IF REQUIRED, WHERE SHEETING IS PLACED PARALLEL TO THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF THE PIPE, WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
 - W MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE FOR PIPES 6 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 12 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D. W SHALL ALSO BE THE PERMITTED WIDTH FOR EDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
 - FOR CROSS-COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
 - CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (15000) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS: CEMENT: 6.0 BAGS PER CUBIC YARD WATER: 5.75 GALLONS PER CUBIC YARD CEMENT: 6.0 BAGS PER CUBIC YARD MAXIMUM SIZE OF AGGREGATE: 1 INCH.
 - IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW WATERLINE SHALL BE AT LEAST 18 INCHES. MINIMUM BLOCK SUPPORT SHALL BE 6 INCHES.
 - IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW WATERLINE SHALL BE AT LEAST 18 INCHES. MINIMUM BLOCK SUPPORT SHALL BE 6 INCHES.



STANDARD MANHOLE DETAILS
NOT TO SCALE

- NOTES:**
- JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE SHALL BE OF A TYPE APPROVED BY THE COMMISSION, WHICH TYPE SHALL, IN GENERAL, DEPEND UPON WATER-TIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET.
 - PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE COMMISSION AND IN GENERAL, DEPEND UPON WATER-TIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.
 - IF JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE ARE APPROVED TO BEEL AT LEAST 75% OF THE JOINT CAVITY SHALL BE FILLED WITH SEALANT. SEALANT SHALL BE RAM-NEW MENT SEAL NO. 2.



SPECIAL SUB-BEDDING MATERIAL
NO SCALE

TOWN OF SALEM, NEW HAMPSHIRE SPICER RIVER PROJECT G.L.S.D. INTERCEPTOR SEWER PROJECT A CONTRACT NO. 2	ISSUED FOR	APPROVAL	DATE: 6-21-84	CONSTRUCTION	DATE: 7/30/85	RECORD DRAWING	DATE: 9/19/86
	REVISIONS	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION
	DRAWN BY: JPH	CHECKED BY: WSC	DATE: 6-20-84	APPROVED BY: EGU	DATE: 6-21-84	BOOK NO.: 104	PROJECT NO.: 152
							SCALE AS SHOWN
	C & Underwood Engineers, Inc. 25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6182						
	STANDARD DETAILS						



BARRON AVENUE

FIELDER AVENUE

HAIGH AVENUE

SPENCER AVENUE

HAIGH AVENUE

STREETER AVE

RIVER

BOSTON
MAINE
RAILROAD

WASTEWATER
TREATMENT
FACILITY
STRUCTURES

GZ-1L	DATE
ND	11/8/88
ND	2/1/89

GZ-9L	DATE
1 62	11/8/88
7 32	2/1/89

SLUDGE DRYING BEDS

GZ-9L

GZ-8L

NORTH SOIL PILE

GZ-3L	DATE
86 31	11/8/88
79 76	2/1/89

SOUTH SOIL PILE

GZ-3L

GZ-10L	DATE
ND	11/8/88
ND	2/1/89

GZ-10L

42" RCP SEWER LINE

GZ-4L	DATE
60.17	11/8/88
72.27	2/1/89

GZ-4L

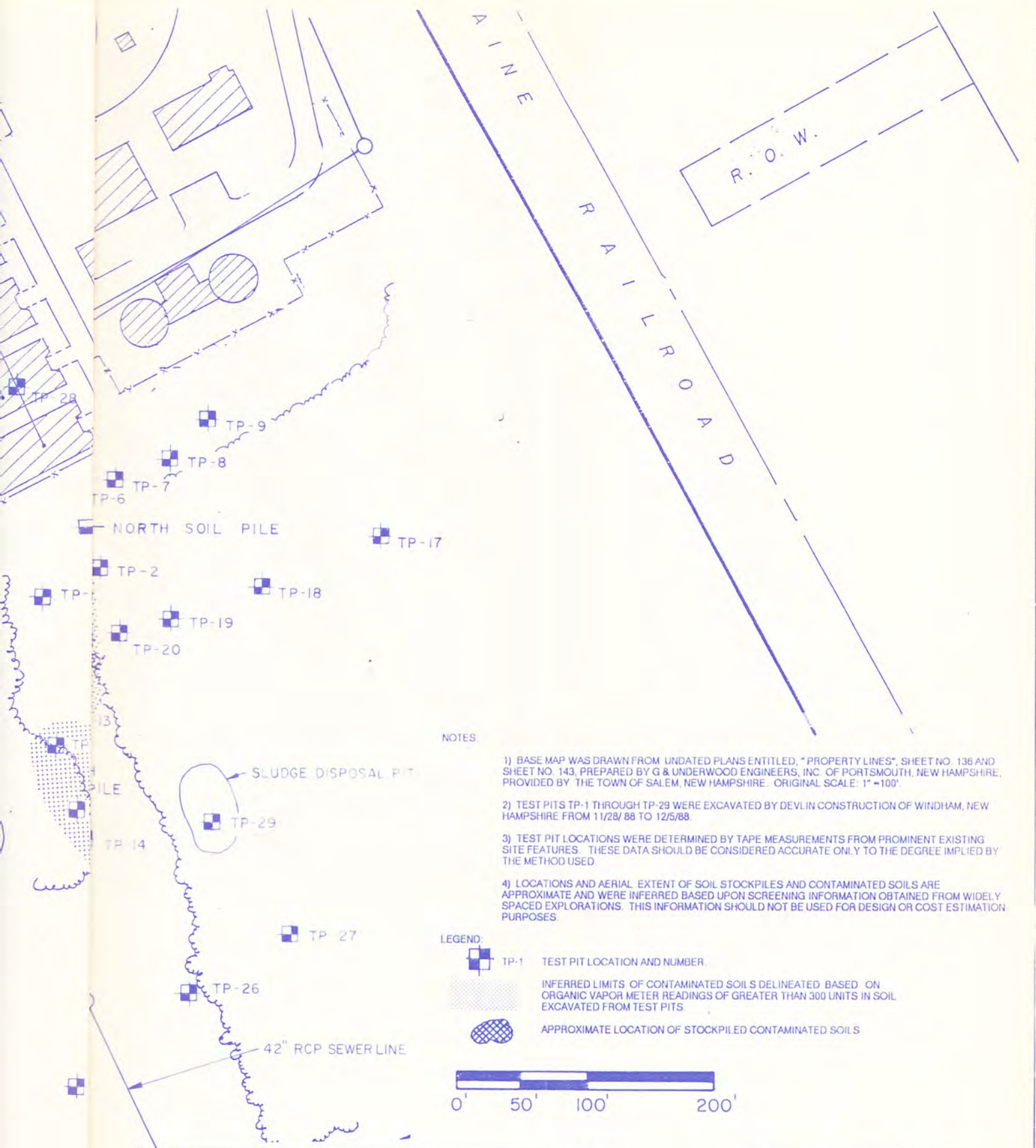
KP-1 KOFFMAN PORT INDUSTRIAL W

GARABEDIAN DR.

UTILITY EASEMENT






11 10 301



NOTES

- 1) BASE MAP WAS DRAWN FROM UNDATED PLANS ENTITLED, "PROPERTY LINES", SHEET NO. 136 AND SHEET NO. 143, PREPARED BY G & UNDERWOOD ENGINEERS, INC. OF PORTSMOUTH, NEW HAMPSHIRE, PROVIDED BY THE TOWN OF SALEM, NEW HAMPSHIRE. ORIGINAL SCALE: 1" = 100'
- 2) TEST PITS TP-1 THROUGH TP-29 WERE EXCAVATED BY DEVLIN CONSTRUCTION OF WINDHAM, NEW HAMPSHIRE FROM 11/28/ 88 TO 12/5/88.
- 3) TEST PIT LOCATIONS WERE DETERMINED BY TAPE MEASUREMENTS FROM PROMINENT EXISTING SITE FEATURES. THESE DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
- 4) LOCATIONS AND AERIAL EXTENT OF SOIL STOCKPILES AND CONTAMINATED SOILS ARE APPROXIMATE AND WERE INFERRED BASED UPON SCREENING INFORMATION OBTAINED FROM WIDELY SPACED EXPLORATIONS. THIS INFORMATION SHOULD NOT BE USED FOR DESIGN OR COST ESTIMATION PURPOSES.

LEGEND

-  TP-1 TEST PIT LOCATION AND NUMBER.
-  INFERRED LIMITS OF CONTAMINATED SOILS DELINEATED BASED ON ORGANIC VAPOR METER READINGS OF GREATER THAN 300 UNITS IN SOIL EXCAVATED FROM TEST PITS.
-  APPROXIMATE LOCATION OF STOCKPILED CONTAMINATED SOILS



<p>HYDROGEOLOGIC STUDY WASTEWATER TREATMENT FACILITY SALEM, NEW HAMPSHIRE</p>	<p>LOCATION PLAN: TEST PIT EXPLORATIONS AND AREAS OF IDENTIFIED SOIL CONTAMINATION DECEMBER, 1989</p>
<p>FIGURE No 9</p>	

ATTACHMENT C
SURFER TOP OF SILTY CLAY UNIT TOPOGRAPHY PLOT

