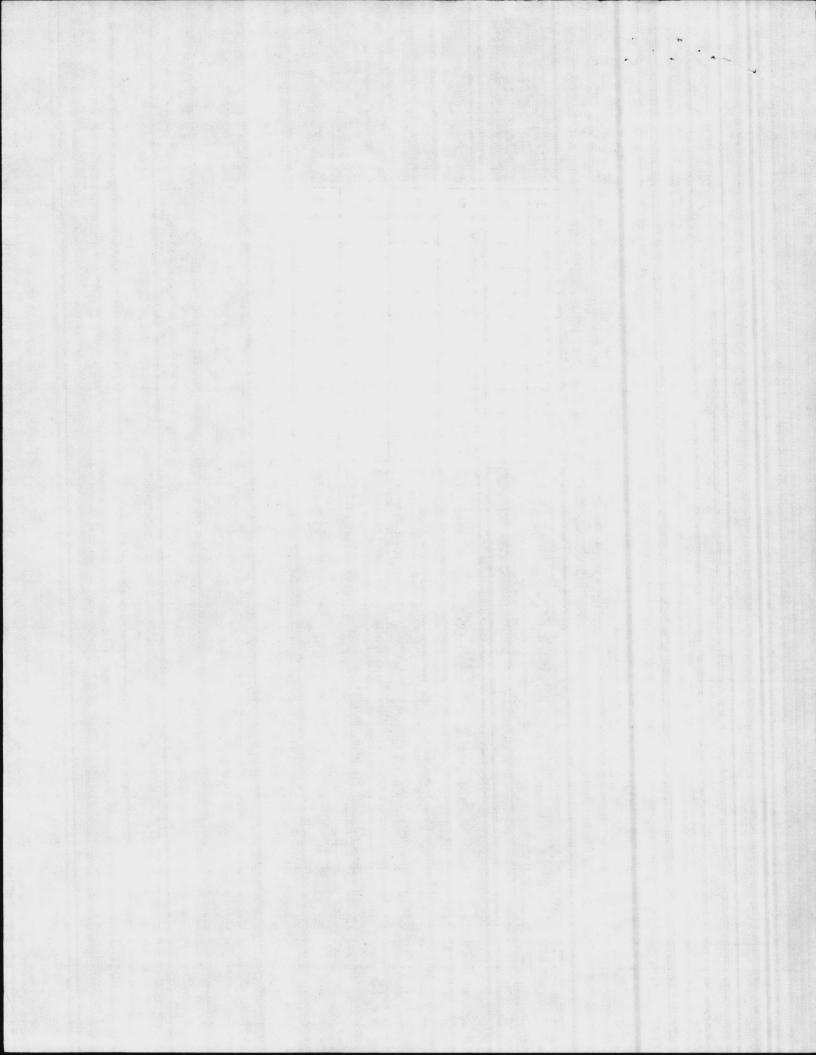
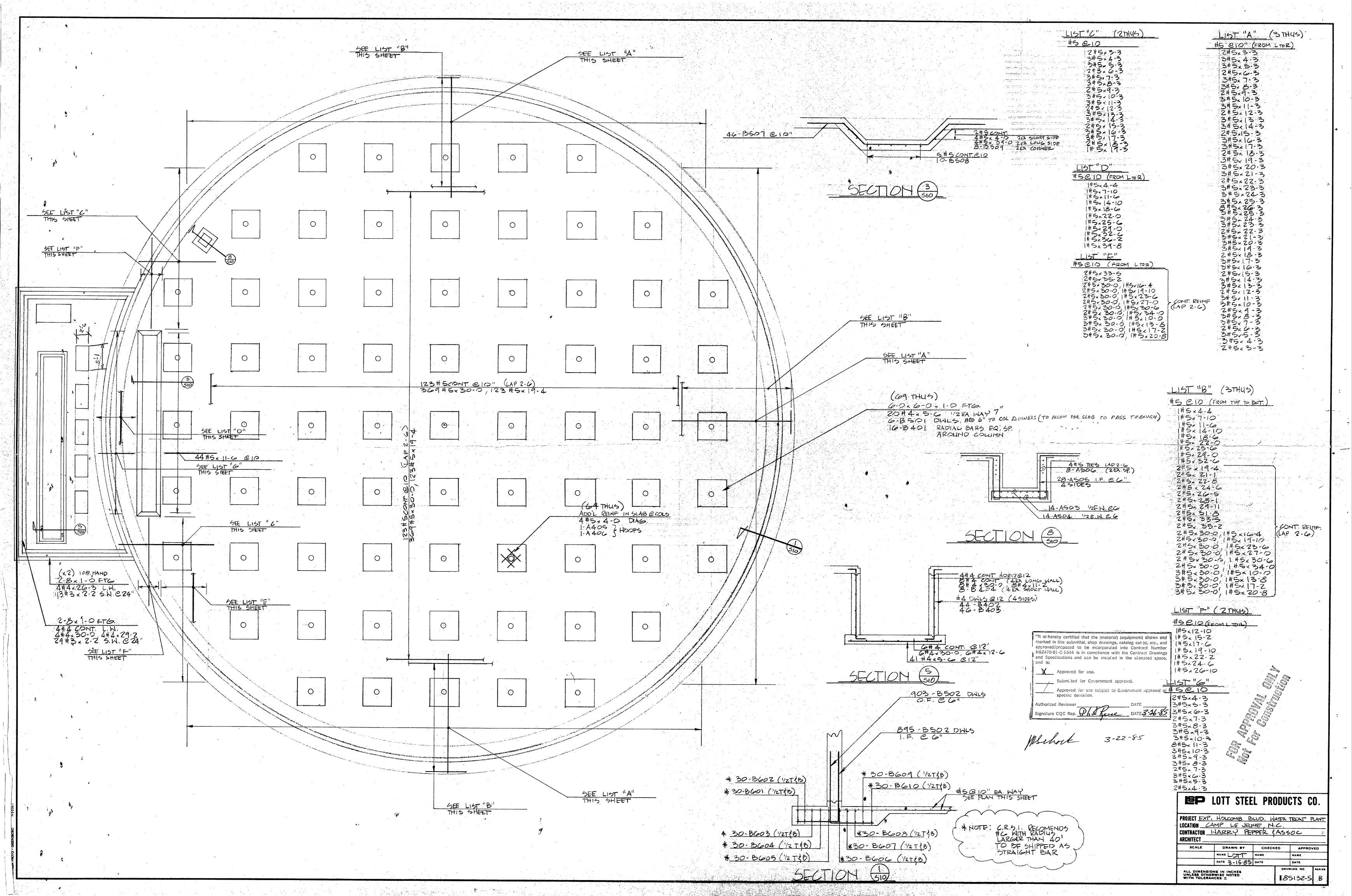
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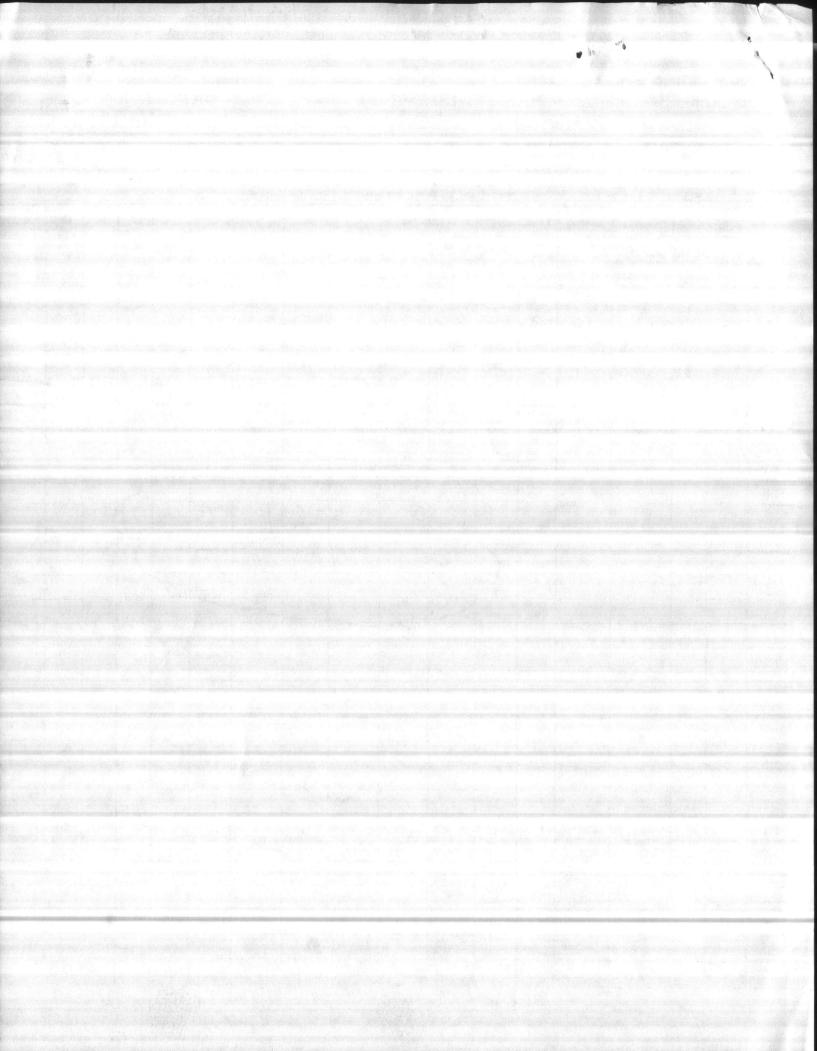
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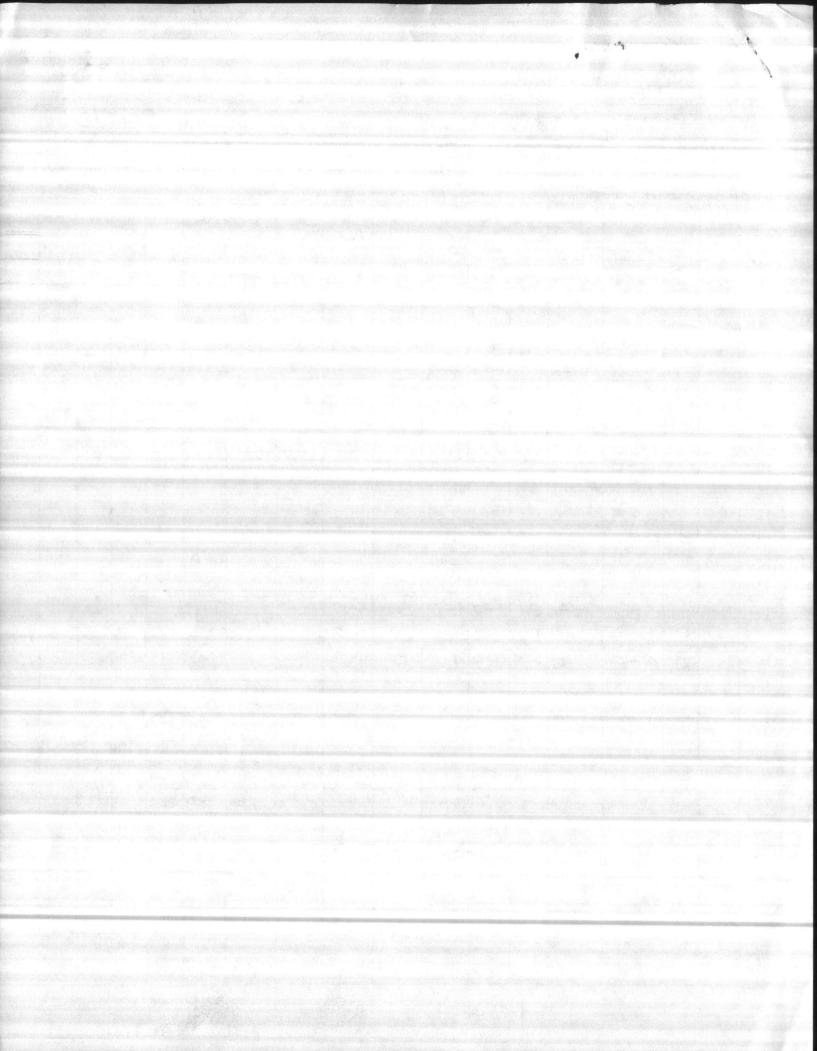
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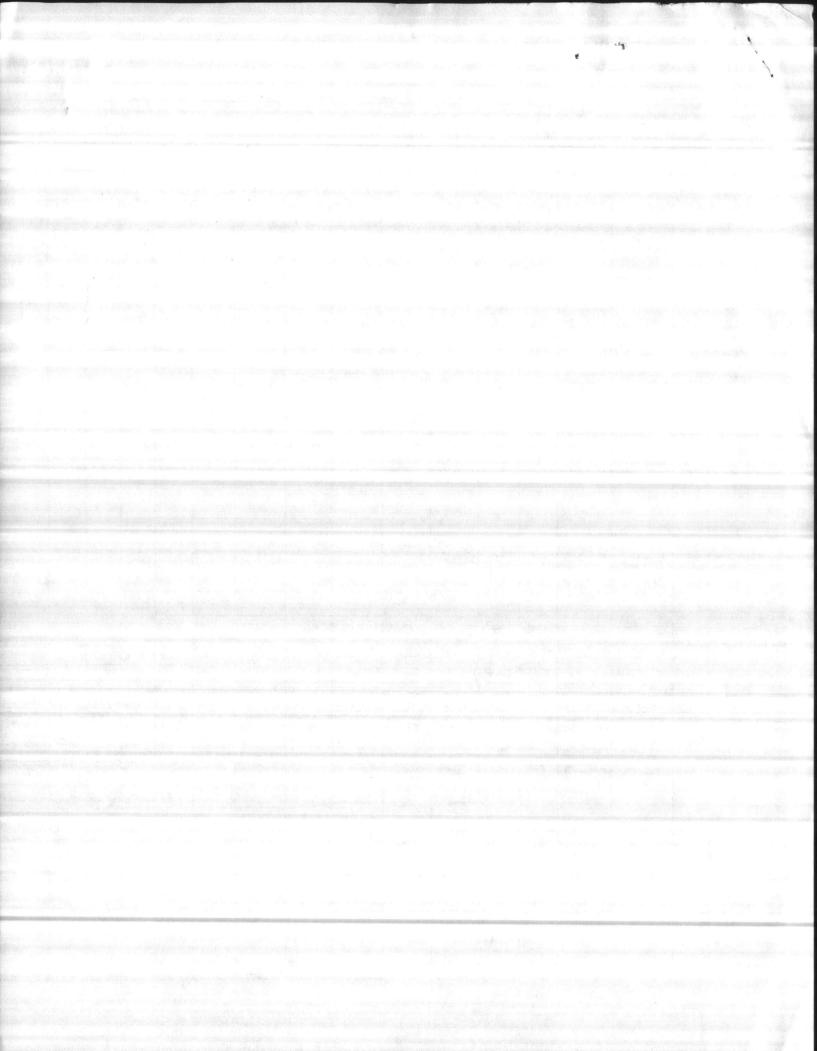


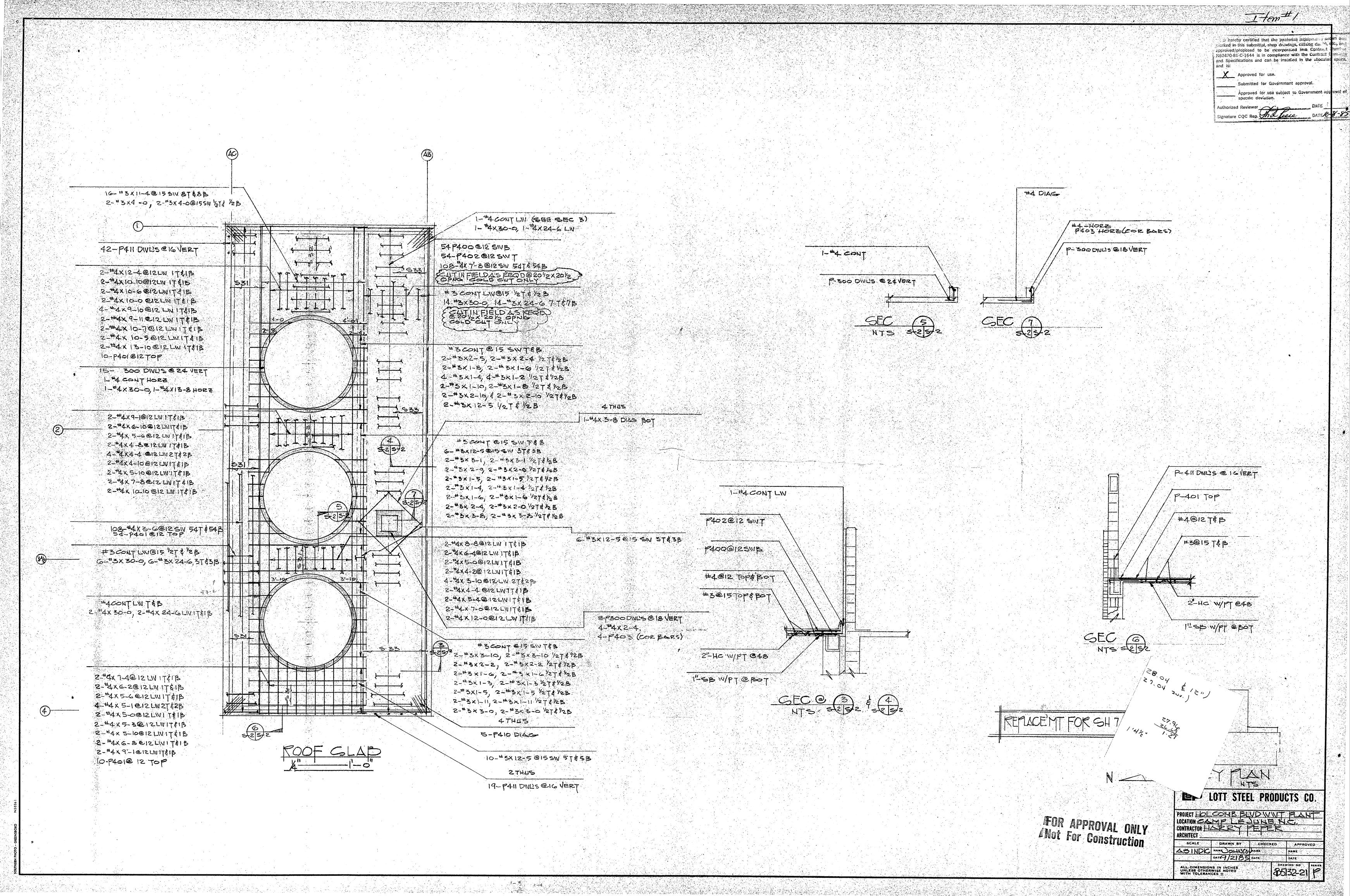
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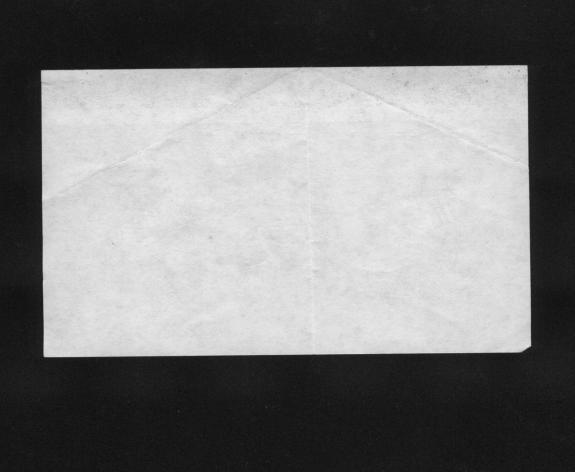
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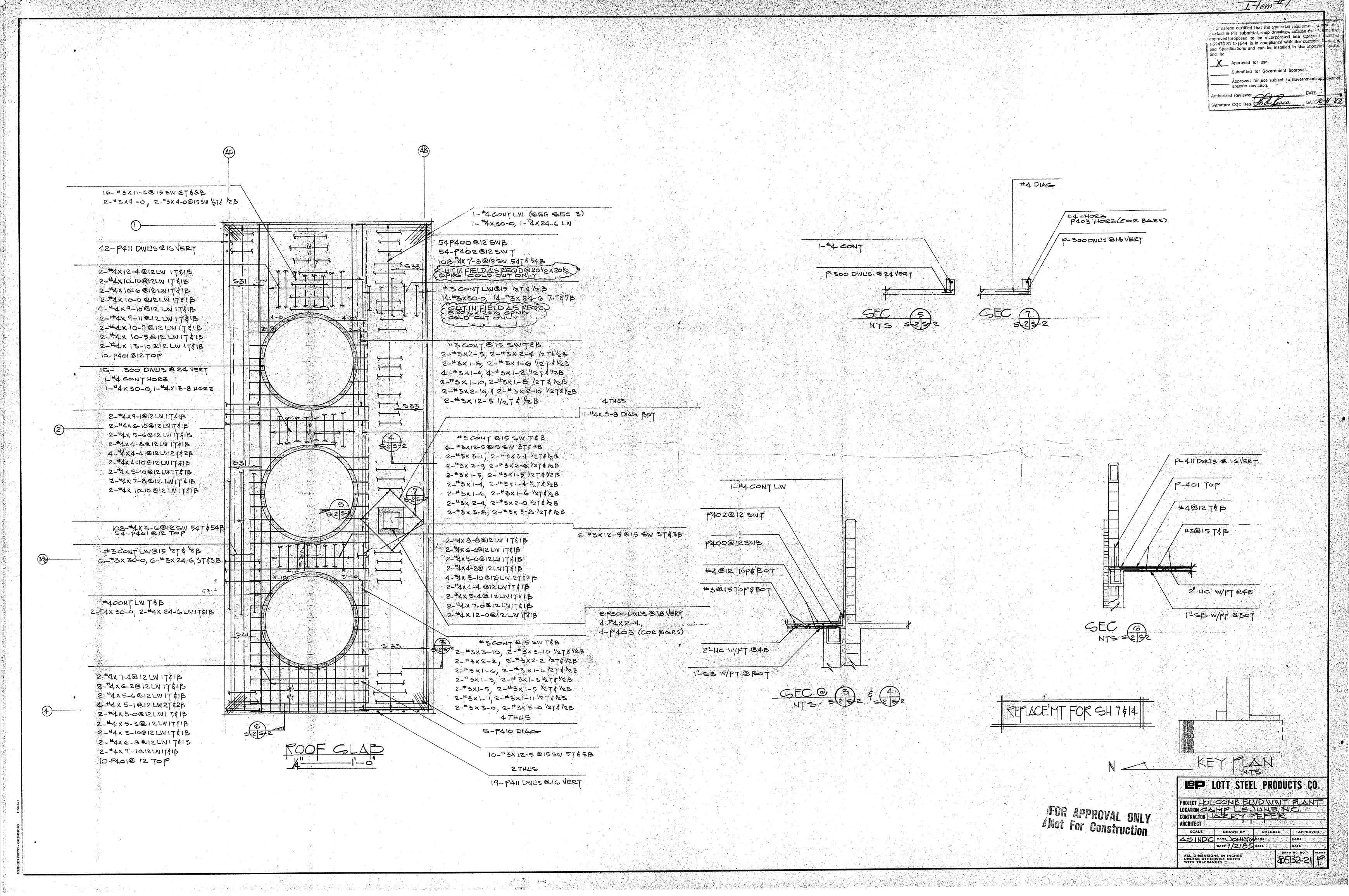
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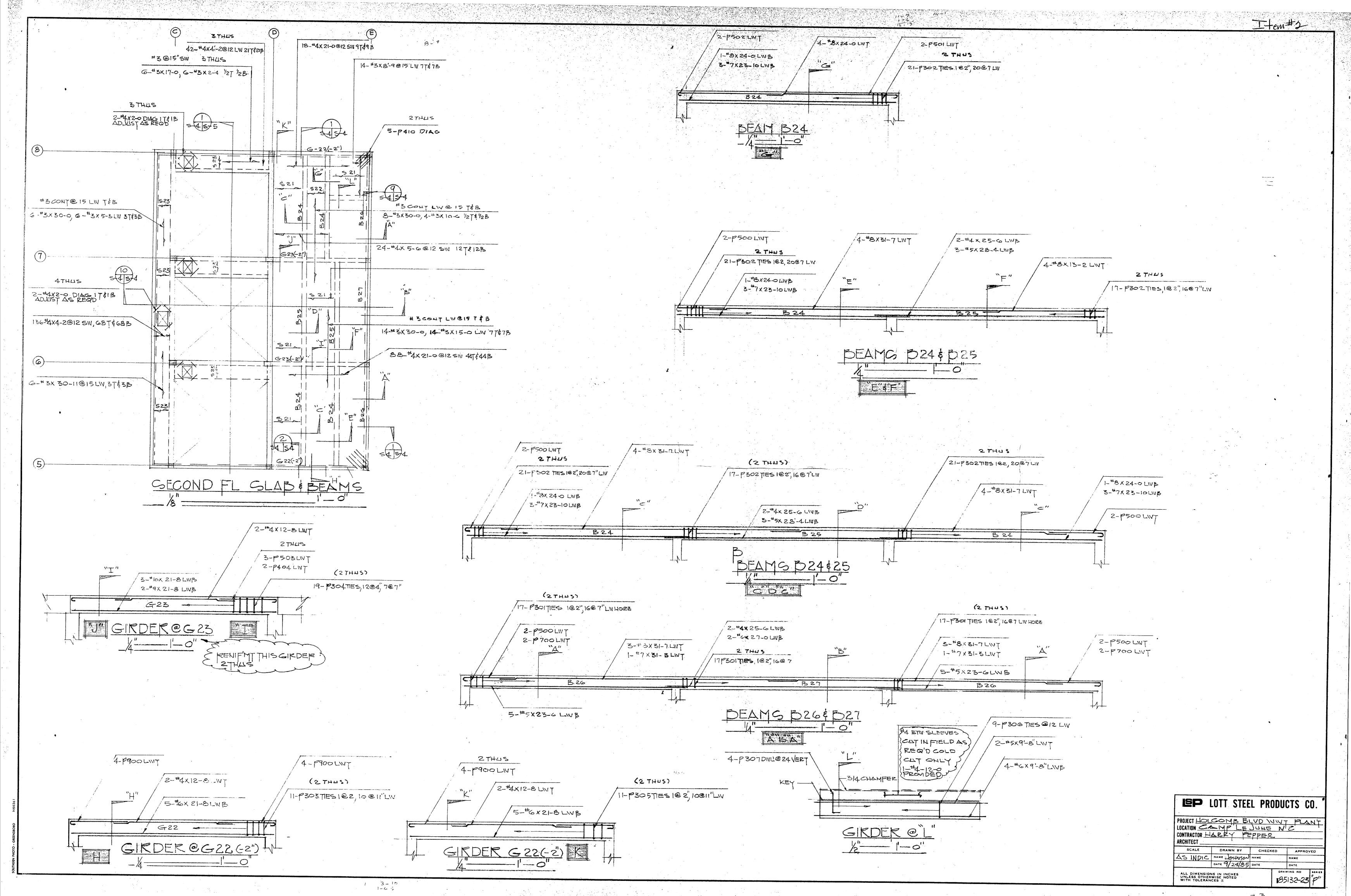
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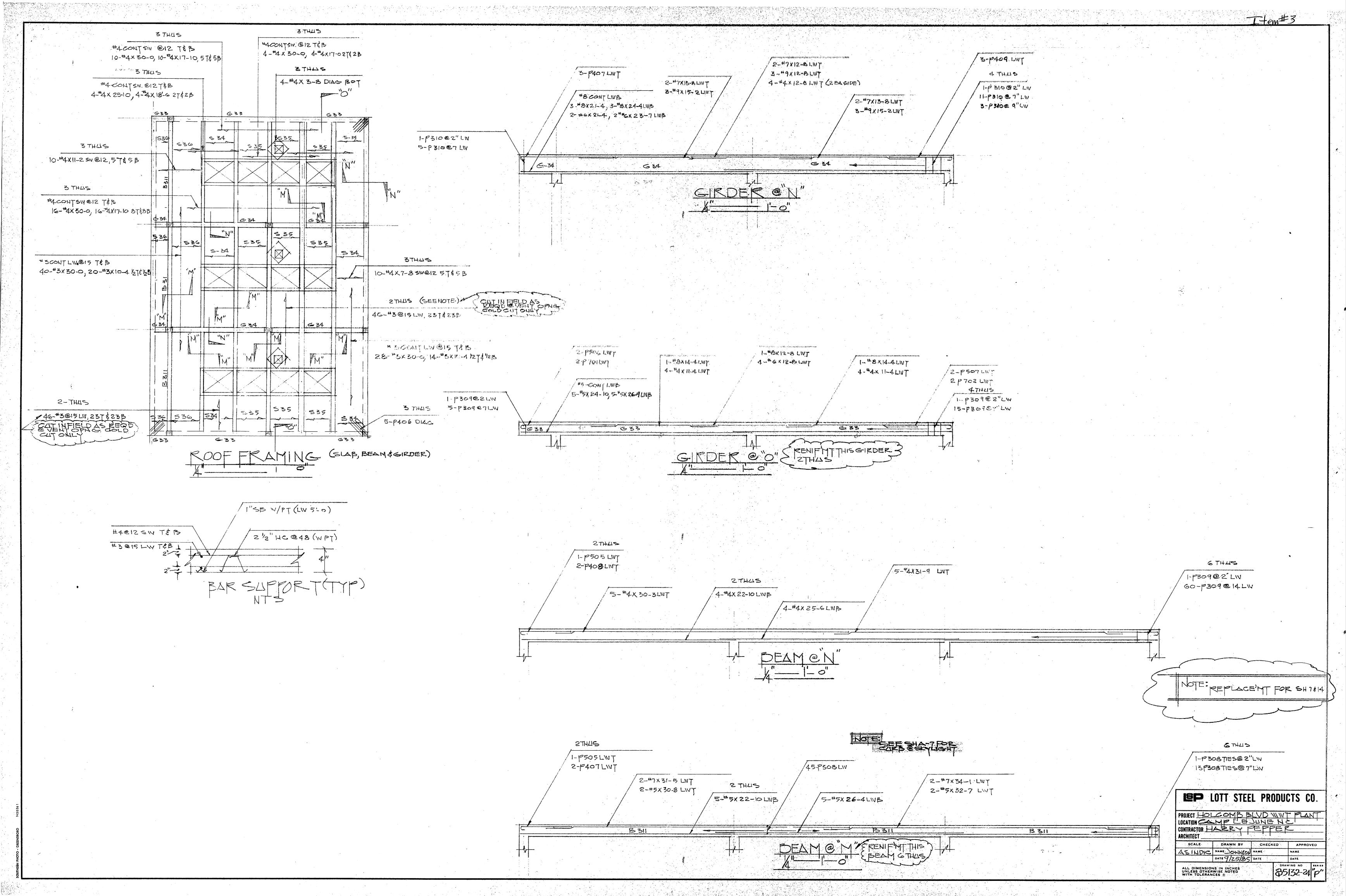
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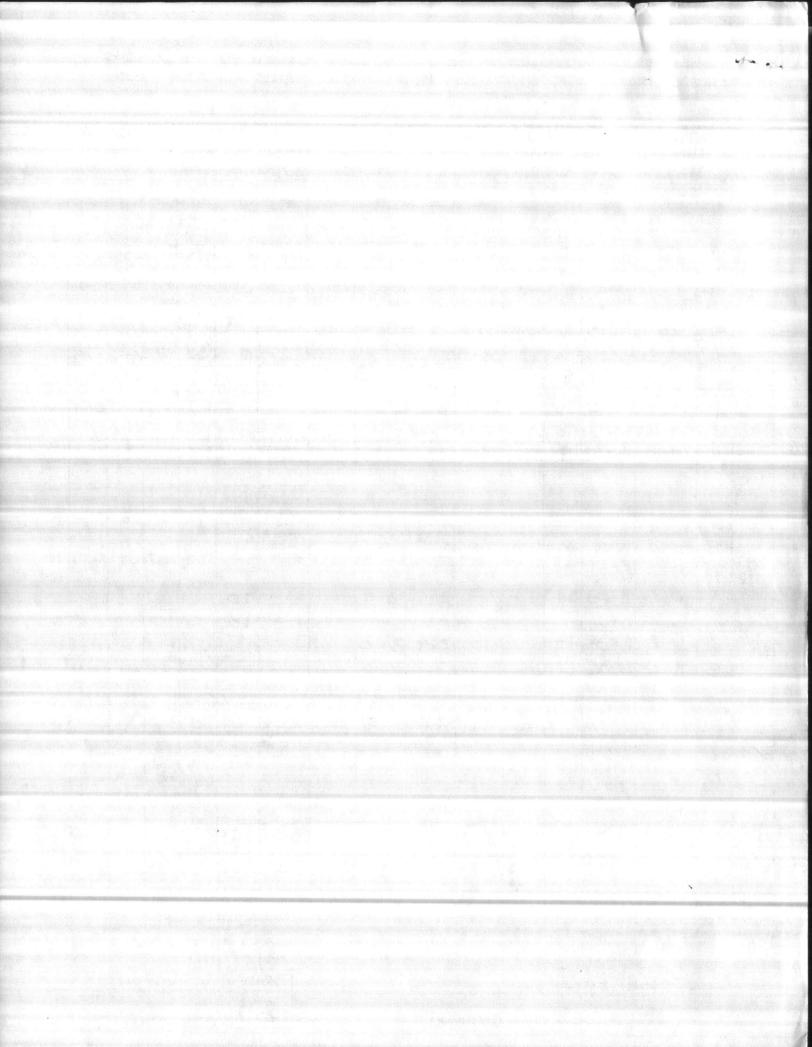
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S 15. 1	M CONTRACTOR			PROJECT TITLE AND LO	[[[[[]		
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He	nry Von Oeser	& Assoc	iates, Inc.	Cp Lejeun	e, North C	arolina	
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REVI	EWER'S COMMENTS	a contract of a					
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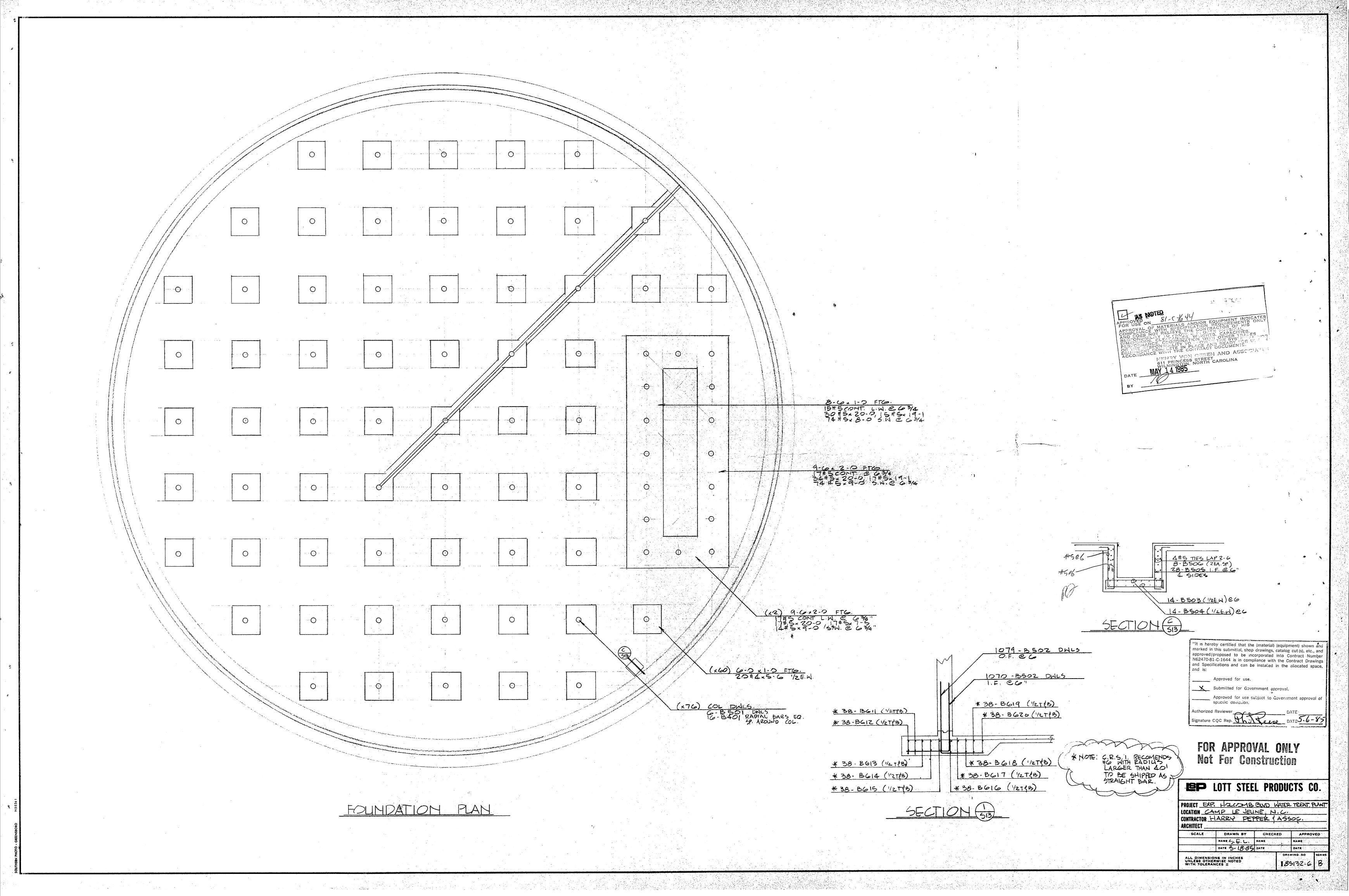
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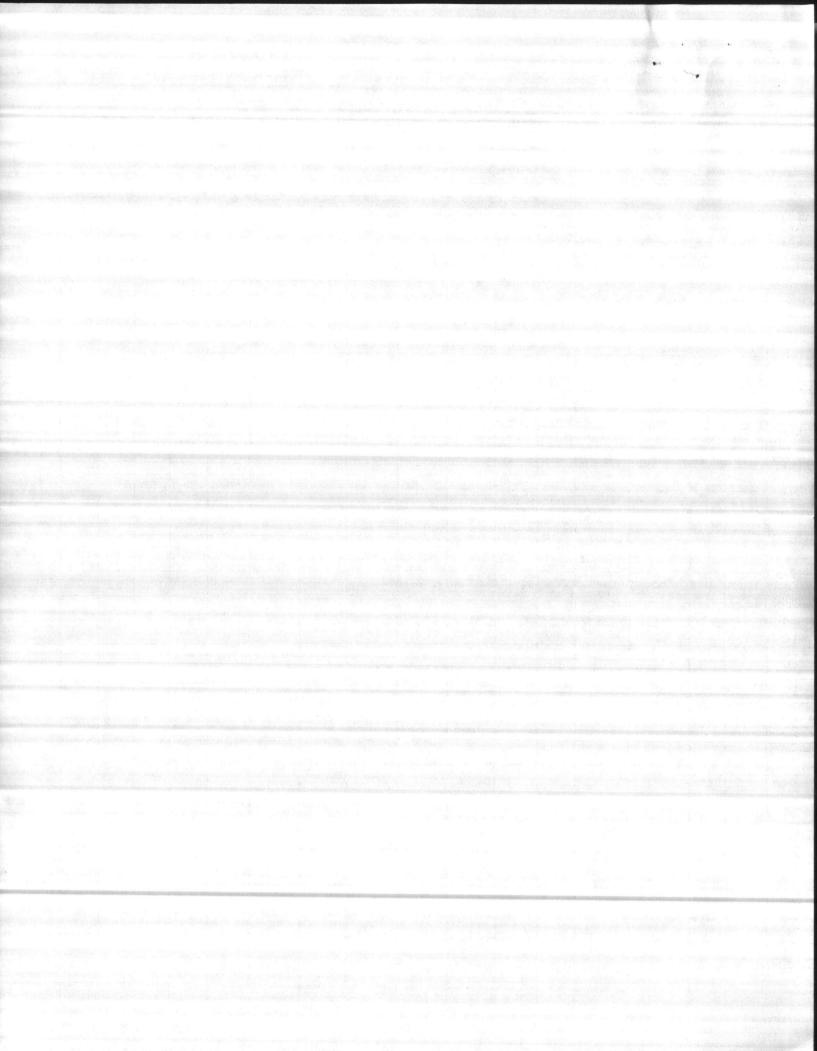
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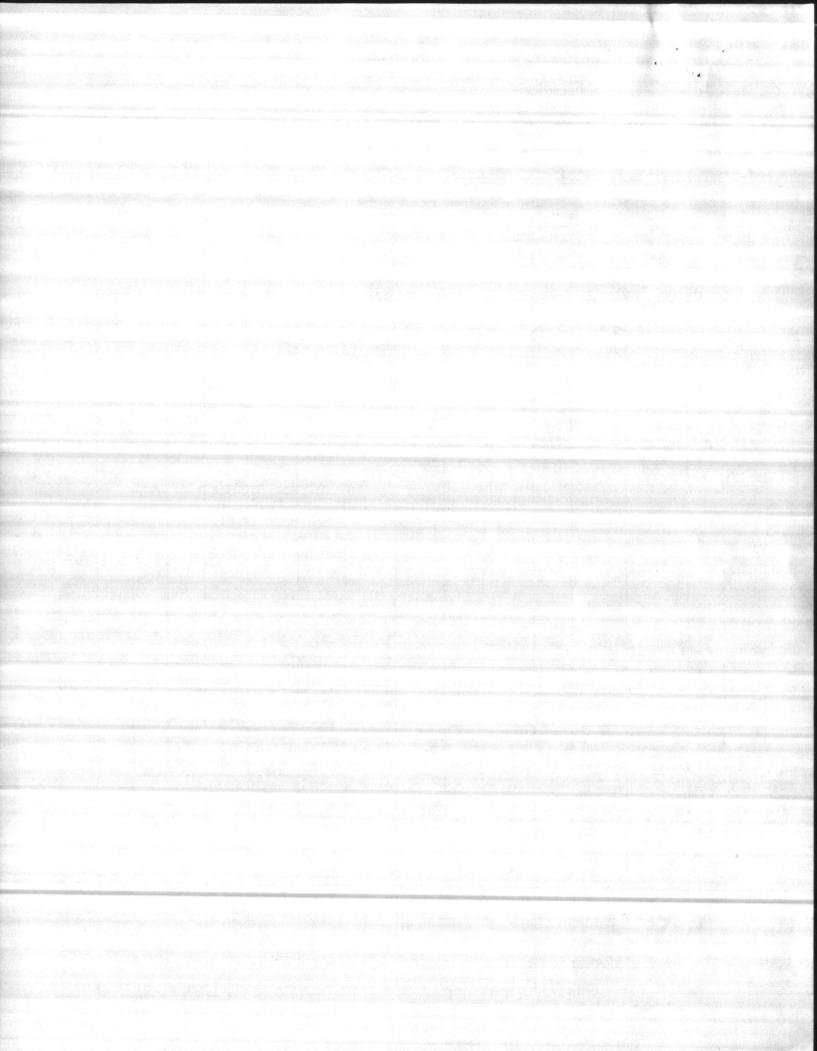


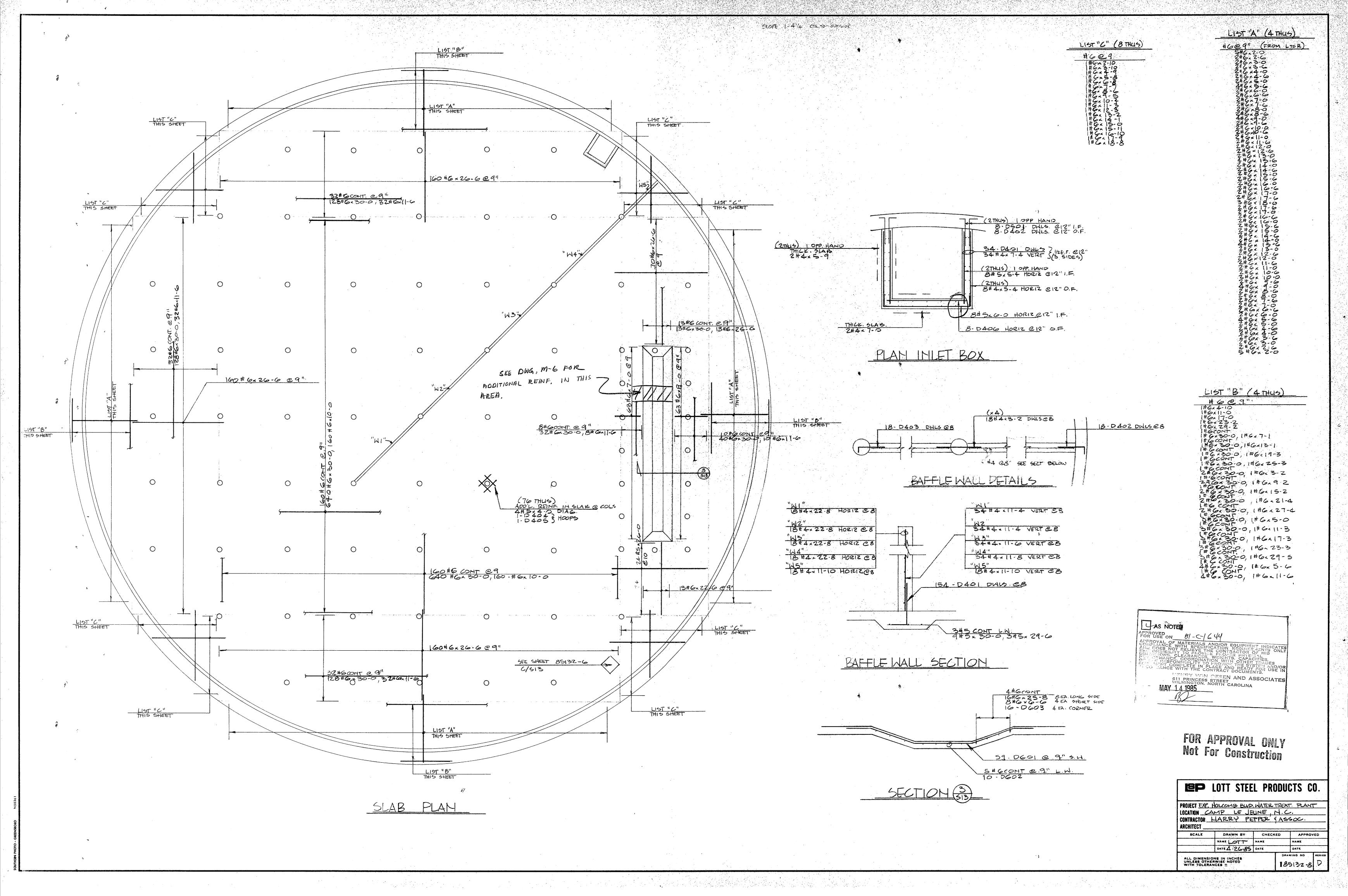
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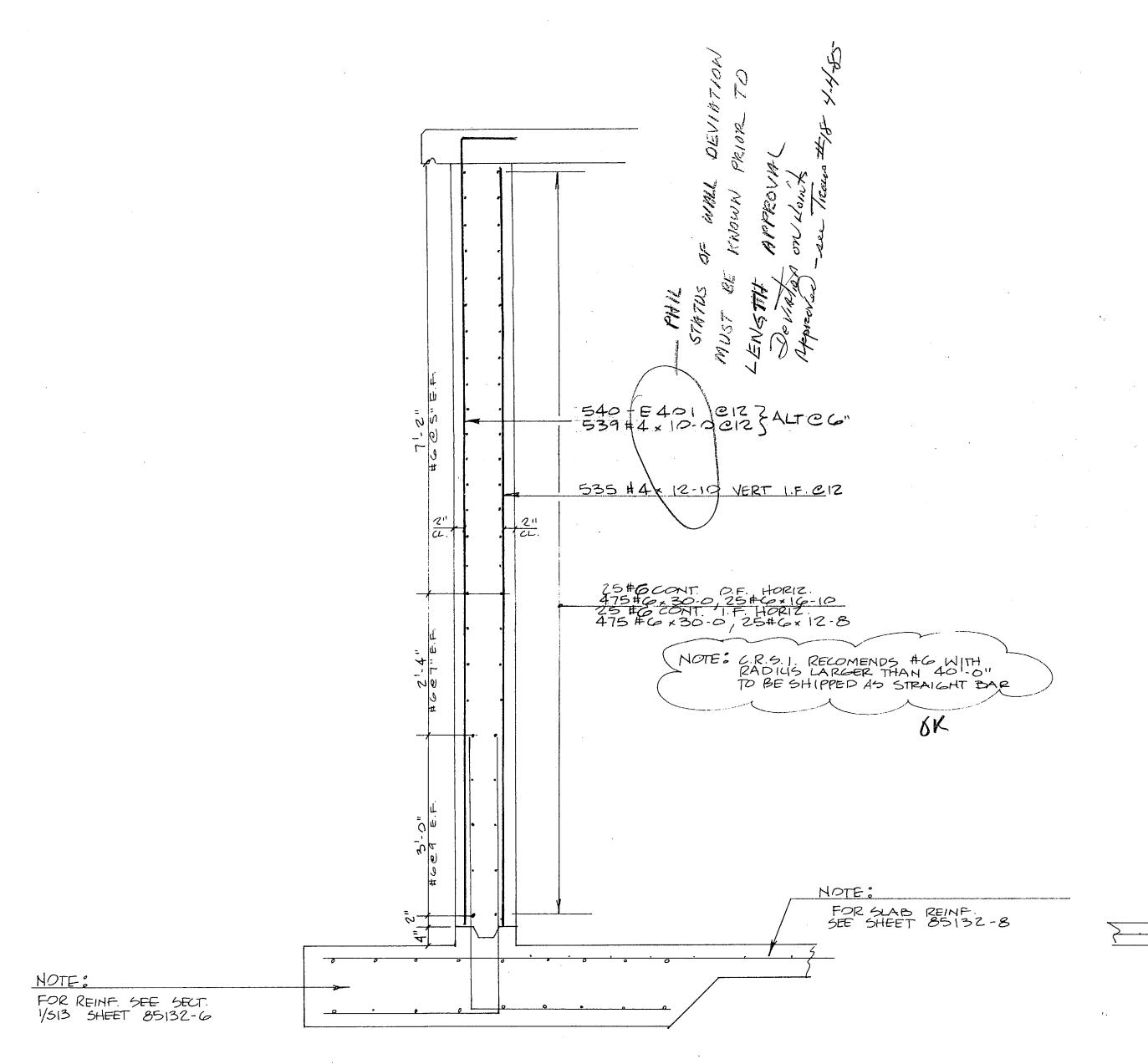


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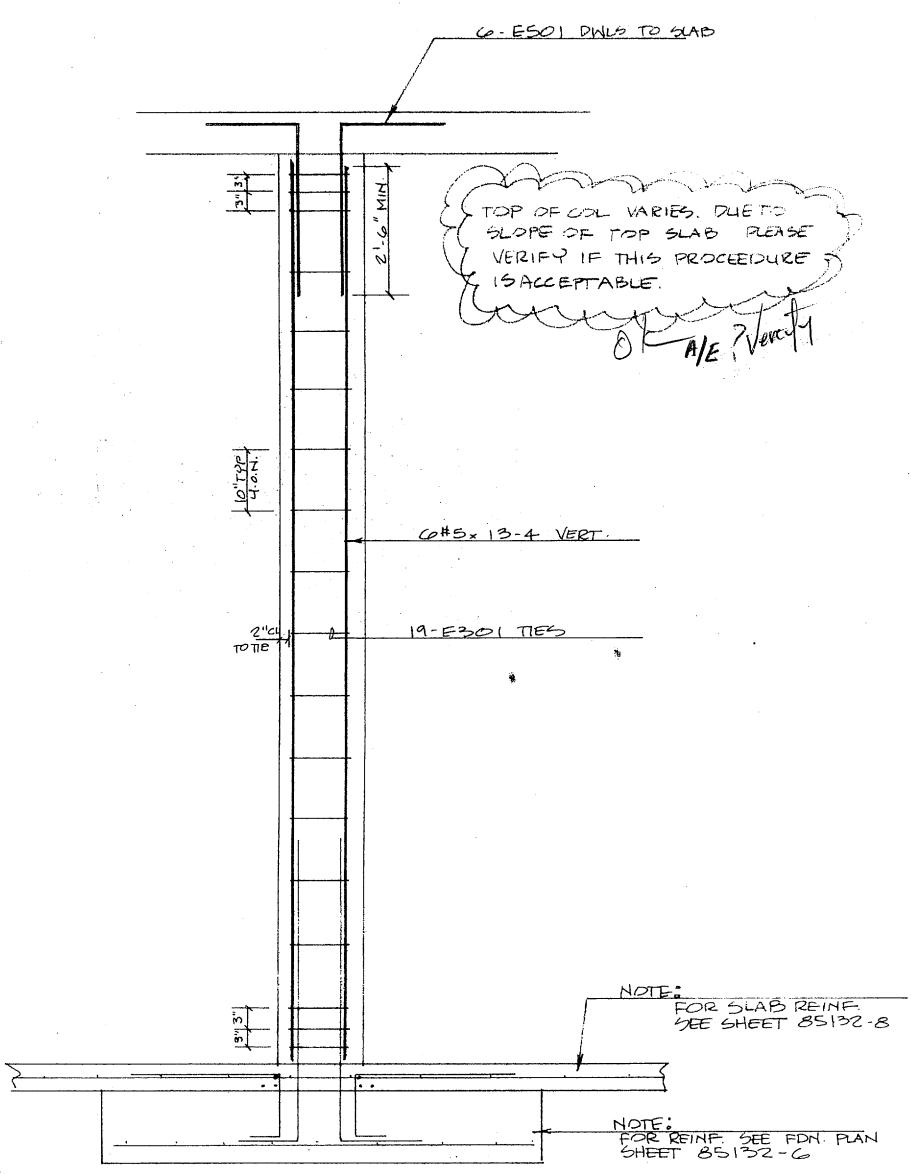




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FOR APPROVAL ONLY Not For Construction

FINISH WATER RESERVOIR

PROJECT HOLOMES BLUD WATER TREAT, PLANT LOCATION CAMP LE JEUNE N.C.,
CONTRACTOR HARRY PEPPER & A SSOC.
ARCHITECT

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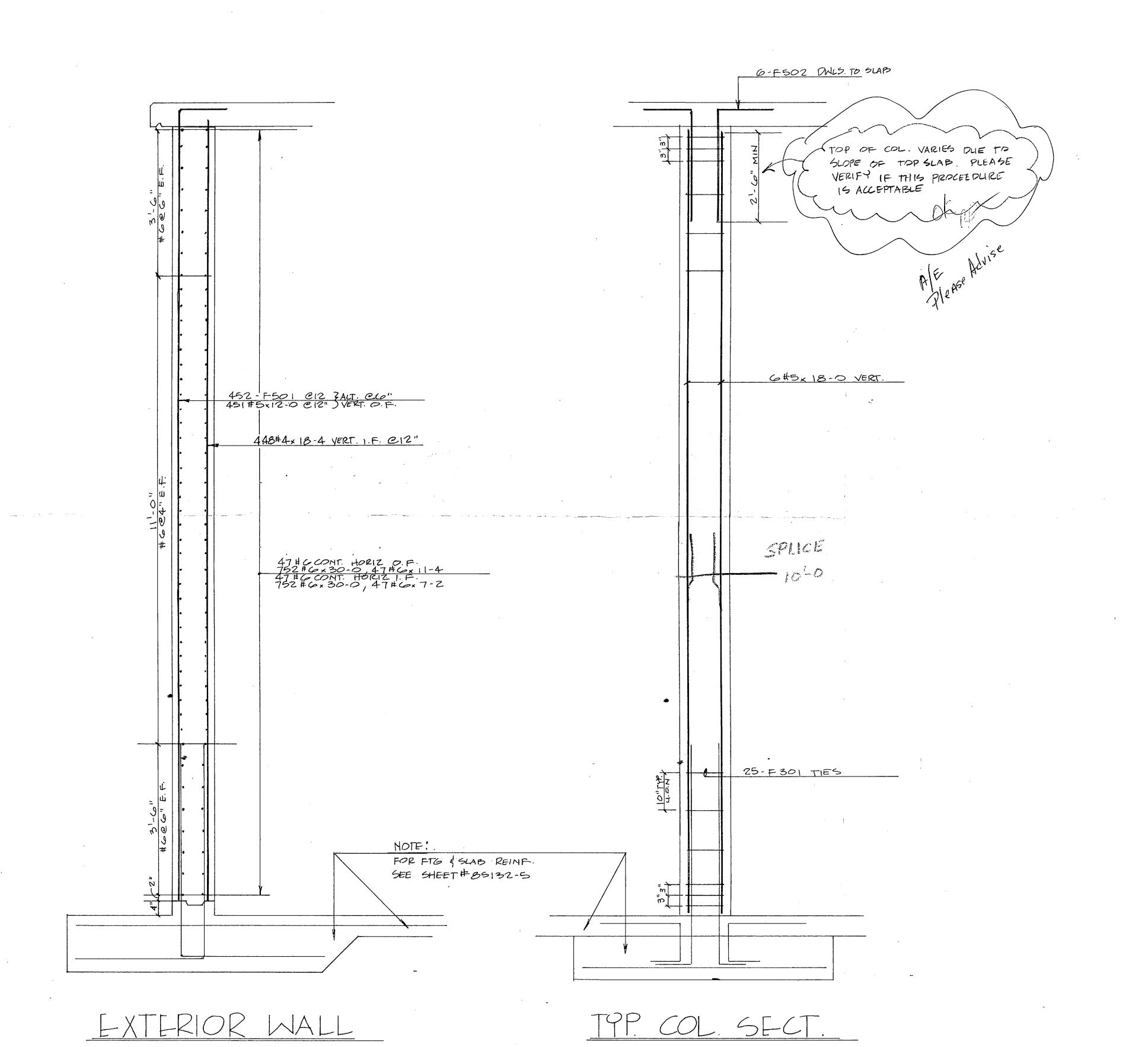
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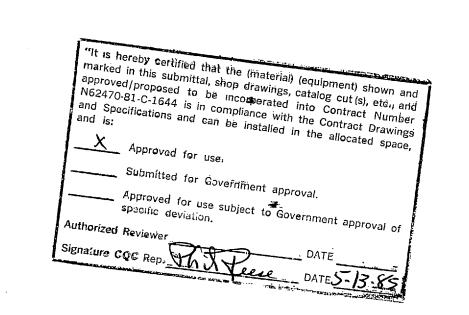
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FOR APPROVAL ONLY Not For Construction

RAW WATER RESERVOIR

PROJECT HOLCOMB BLVD. WATER TREAT, PLANT LOCATION CAMP LE JEUNE, N.C. CONTRACTOR HARRY PEPPER LASSOC.

ARCHITECT

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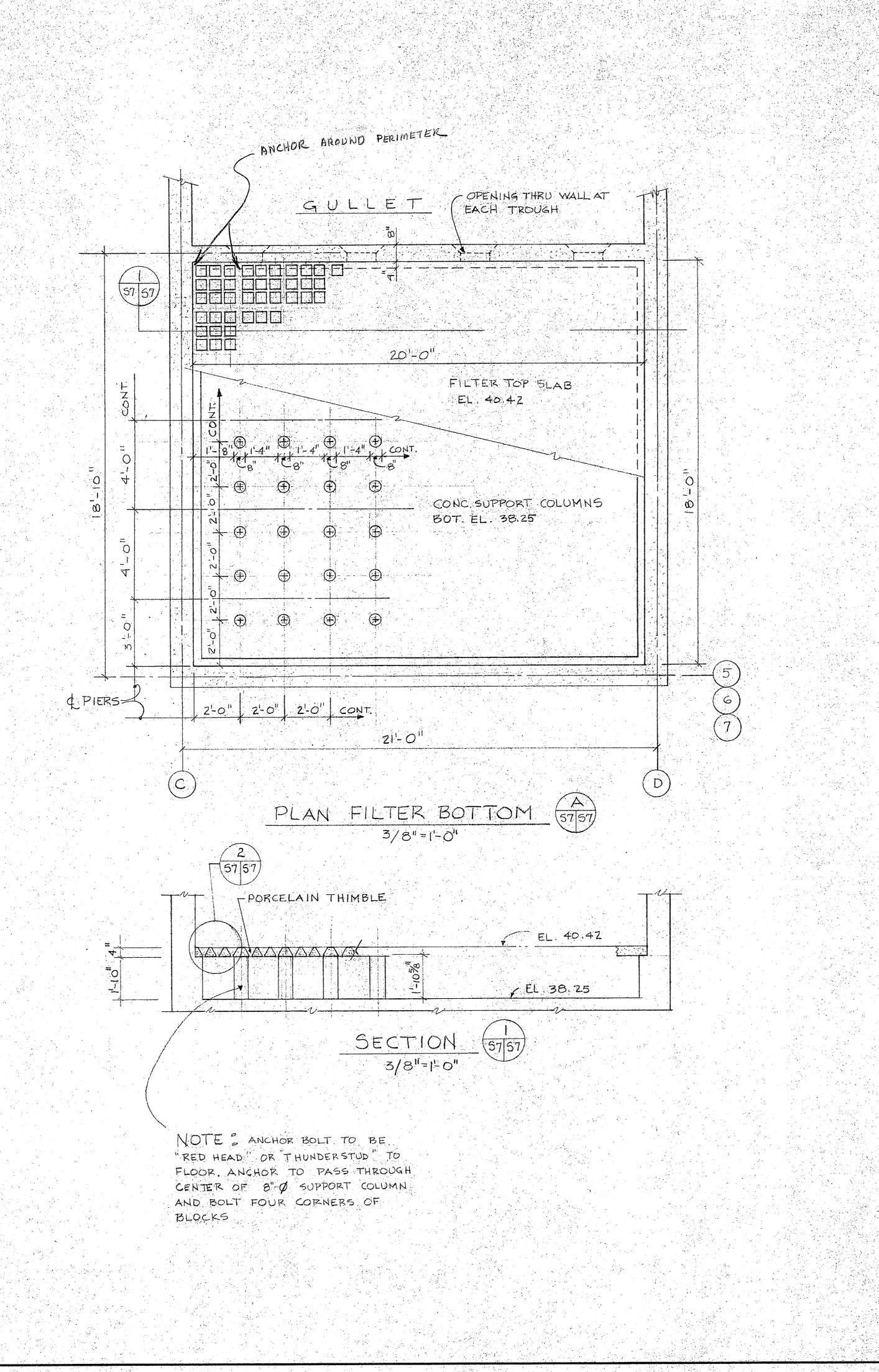
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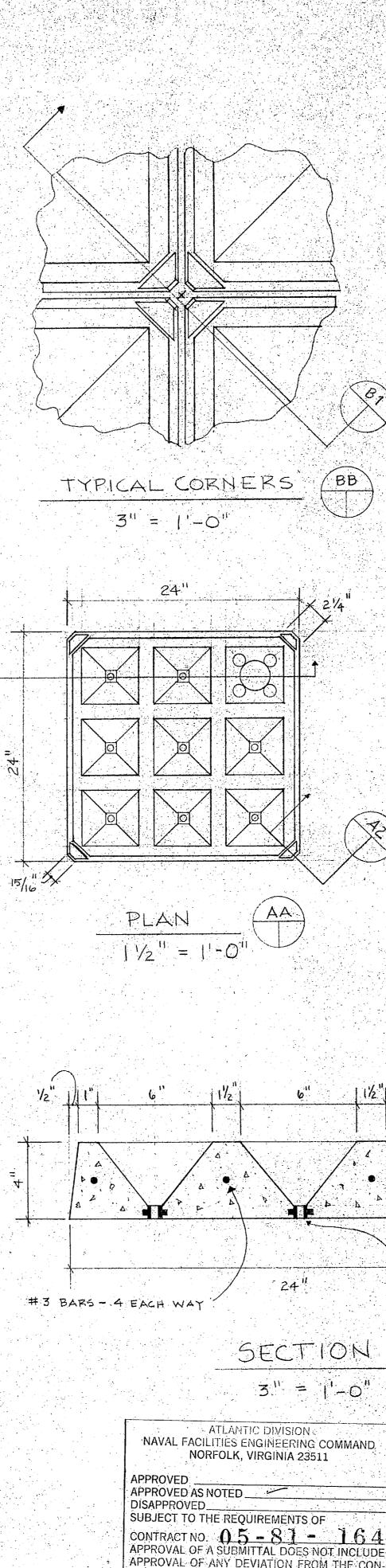
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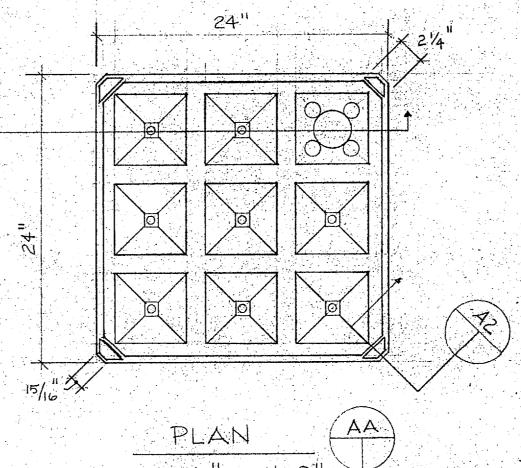
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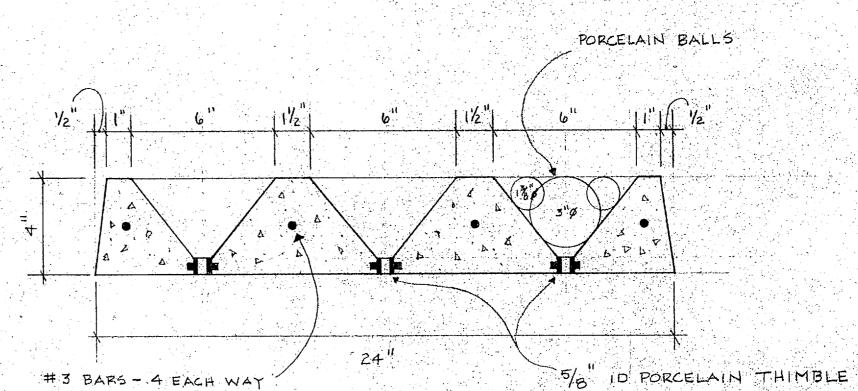
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TYPICAL CORNERS





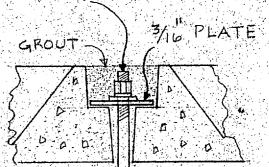
SECTION 3." = |'-0"

NORFOLK, VIRGINIA 23511 APPROVED AS NOTED_ SUBJECT TO THE REQUIREMENTS OF CONTRACT NO. 0.5 - 8.1 - 1.6.4 APPROVAL OF A SUBMITTAL DOES NOT INCLUDE APPROVAL OF ANY DEVIATION FROM THE CON-TOR CALLS ATTENTION TO AND SUPPORTS TH RESPONSIBLE FOR PROVIDING PROPER PHYSICAL DIMENSIONS & WEIGHTS, COORDINATION OF TRADES, ETC., AS REQUIRED.

REVIEWER ACB DATE 21 MAY 1005 FOR OFFICER IN CHARGE OF CONSTRUCTION

TYPICAL HOLD DOWN

1/2 ANCHOR BOLT .



SECTION 3" = 1'-0"

DEVIATION: APPROVED Code 402 ACB LANTDIV REVIEWER 21 MAY 1985

I, ALL ANCHORS AND HARDWARE SHALL BE STAINLESS STEEL

2. THIS IS A STANDARD WHEELER FILTER BOT.

3, ALL CONE, SHALL BE 4000 165 @ 28 DAY

"It is hereby certified that the (material) (equipment) shown and marked in this submittal, shop drawings, catalog cut (s), etc., and approved/proposed to be incorporated into Contract Number N62470-81-C-1644 is in compliance with the Contract Drawings and Specifications and can be installed in the allocated space, Approved for use. Submitted for Government approval. Approved for use subject to Government approval of specific deviation. Signature CQC Rep H. Teeo DATE 5-9-85

4. Provide deviation Detail of reinforce ment in 8" d Support Columns

Michock 5/3/85

EXPANSION OF HOLCOMB, BOULEVARD WATER TREATMENT PLANT DRAWN BY DAH HARRY PEPPER & ASSOC AS JACKSONVILLE FLORIDA SHOWN REVISED FILTER PLAN & SECTION HB 101 4-29-85

ALBANENE® 10 8488 DUNCAN PARNELL, INC.

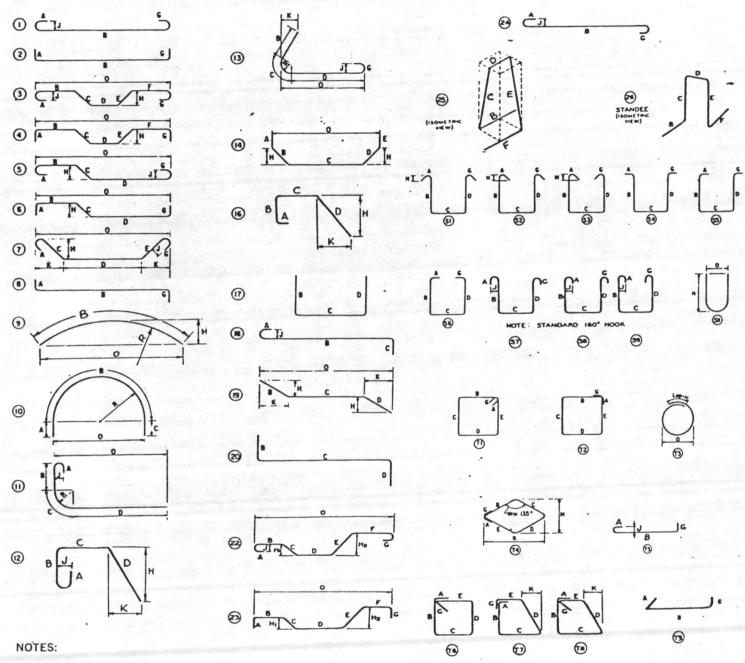
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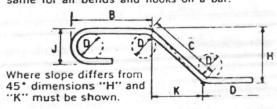
P. O. BOX 879 • WELCOME, NORTH CAROLINA 27374-0879 TELEPHONE (704) 731-6331

TYPICAL BAR BENDS



- All dimensions are out-to-out of bar except "A" and "G" on standard 180° and 135° hooks.
- "J" dimension on 180° hooks to be shown only where necessary to restrict hook size, otherwise standard hooks are to be used.
- 3. Where "J" is not shown, "J" will be kept equal to or less than "H" on truss bars. Where "J" can exceed "H", it should be shown.
- 4. "H" dimension stirrups to be shown where necessary to fit within concrete.
- Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.
- 6. Figures in circles show types.
- 7. For recommended diameter "D", of bends, hooks, etc., see tables, page 6-4.
- 8. Type S1-S9, S11, T1-T9 apply to bar sizes #3 through #8.

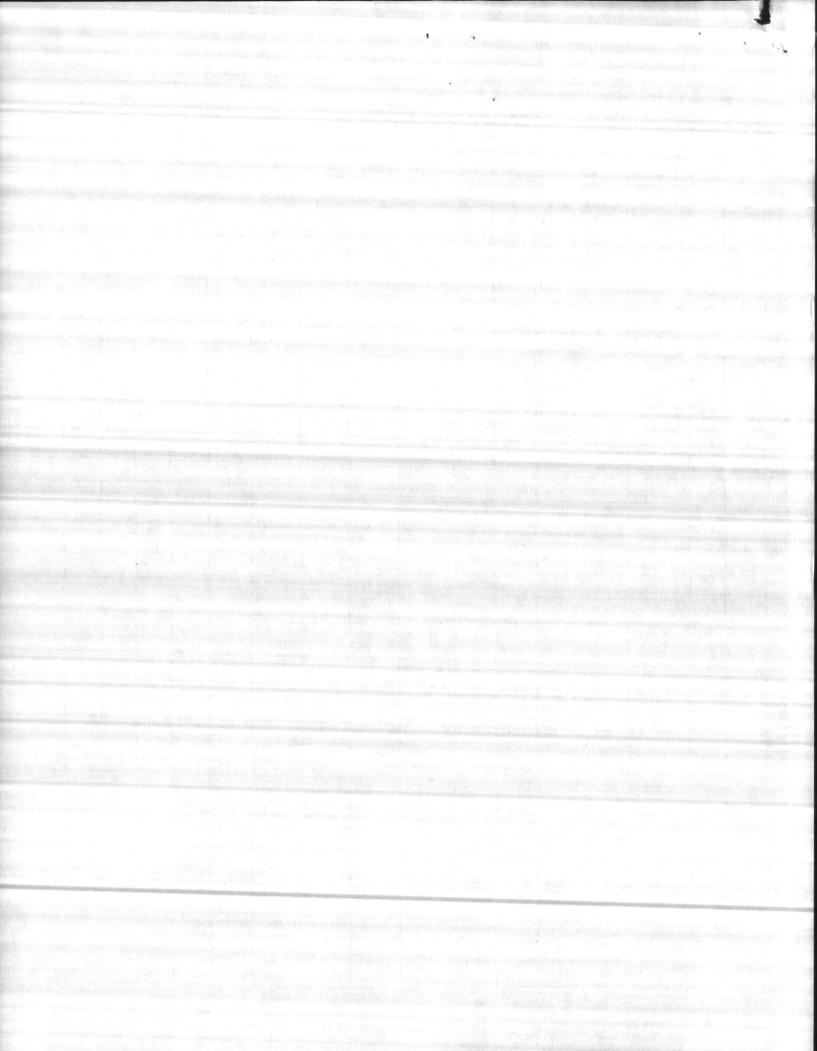
Unless otherwise noted diameter D is the same for all bends and hooks on a bar.

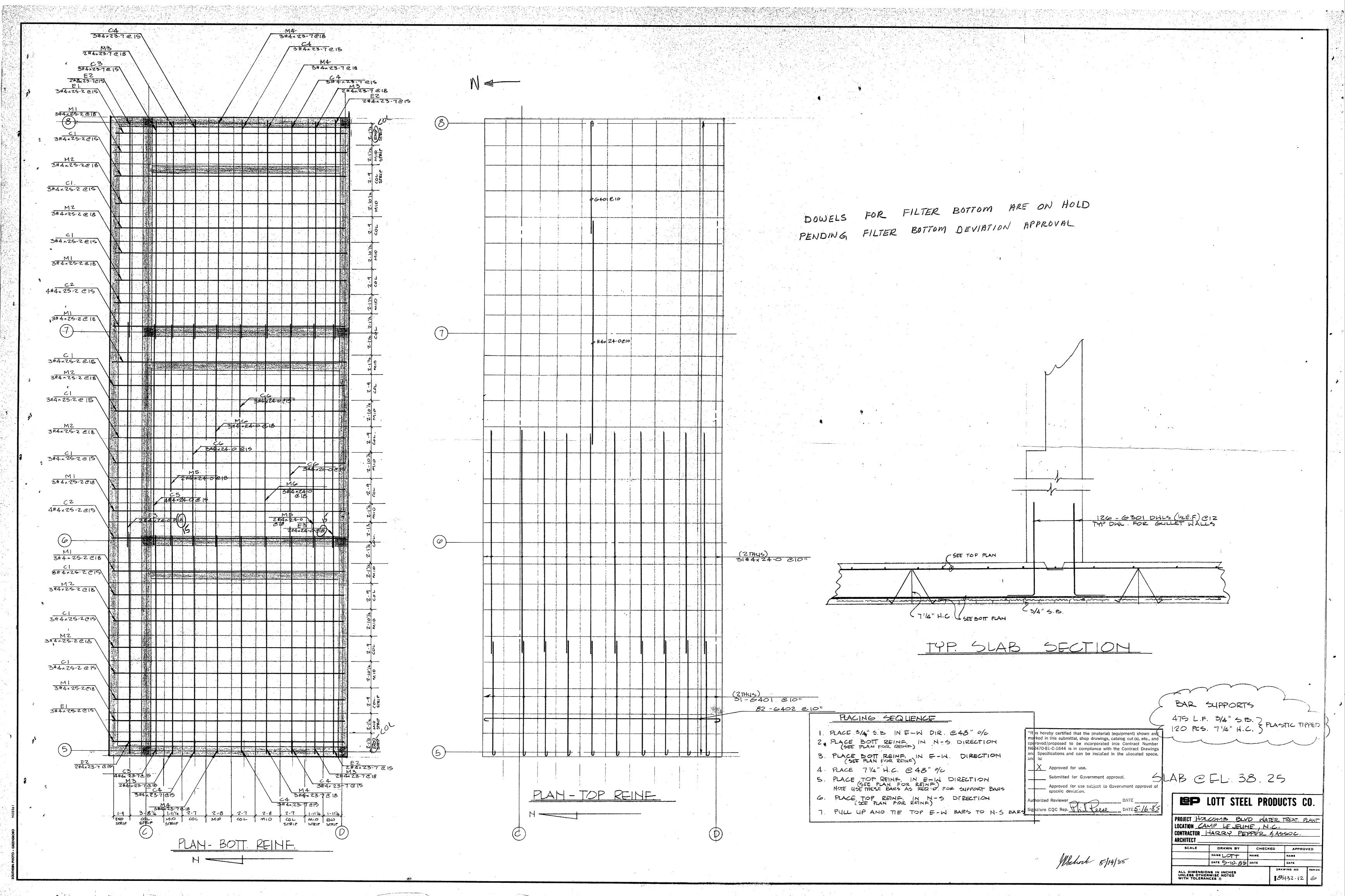


ENLARGED VIEW SHOWING BAR BENDING DETAILS

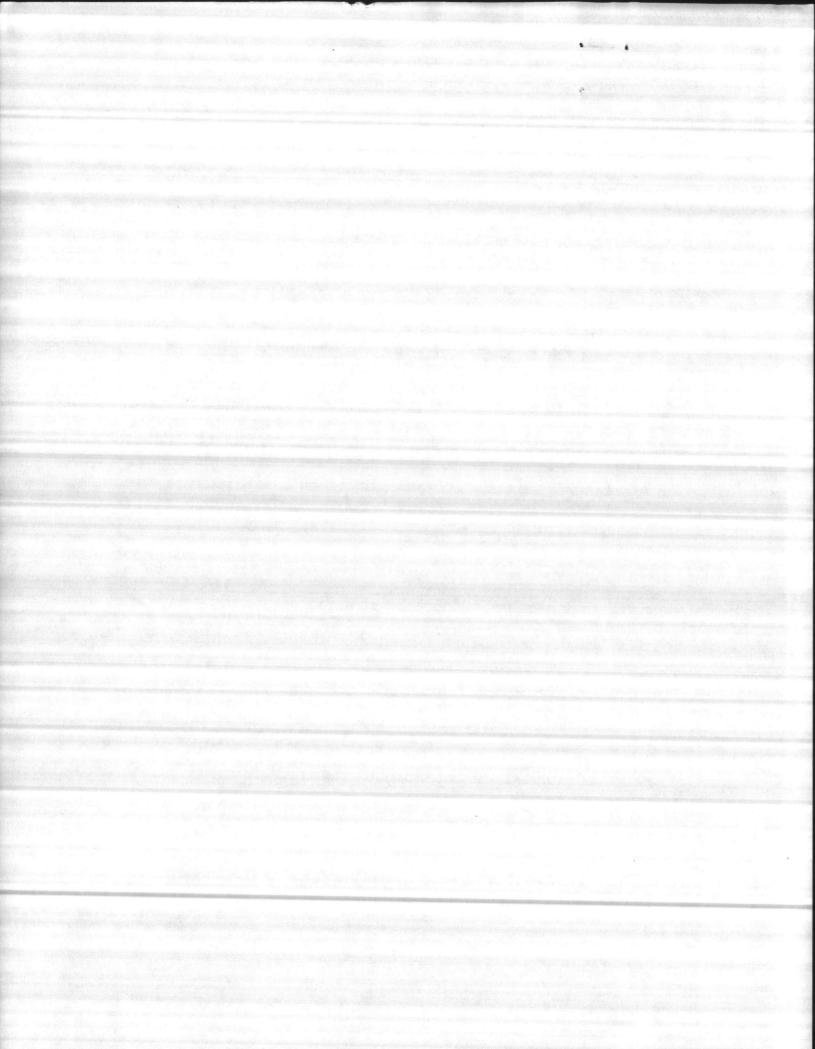
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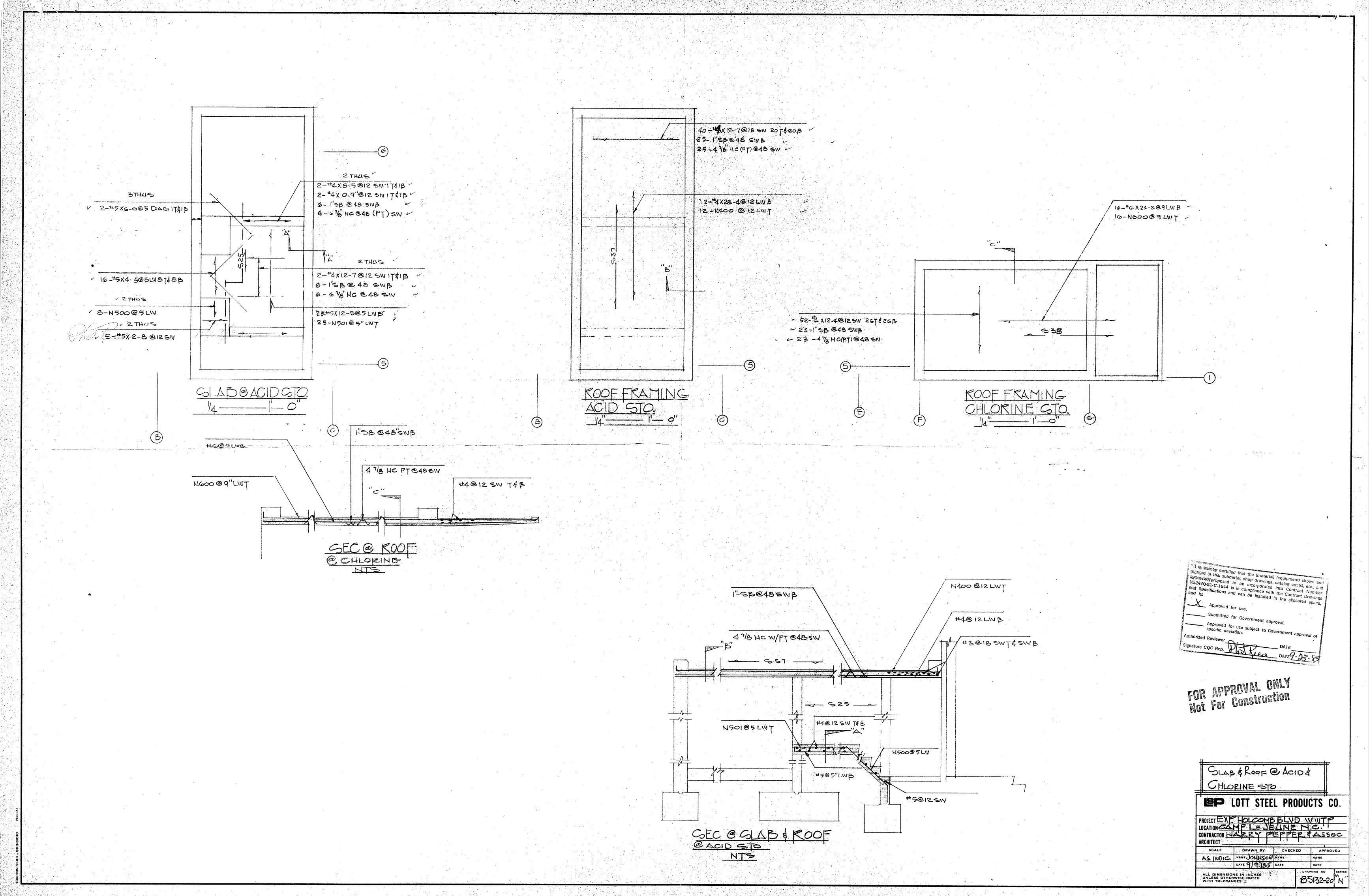
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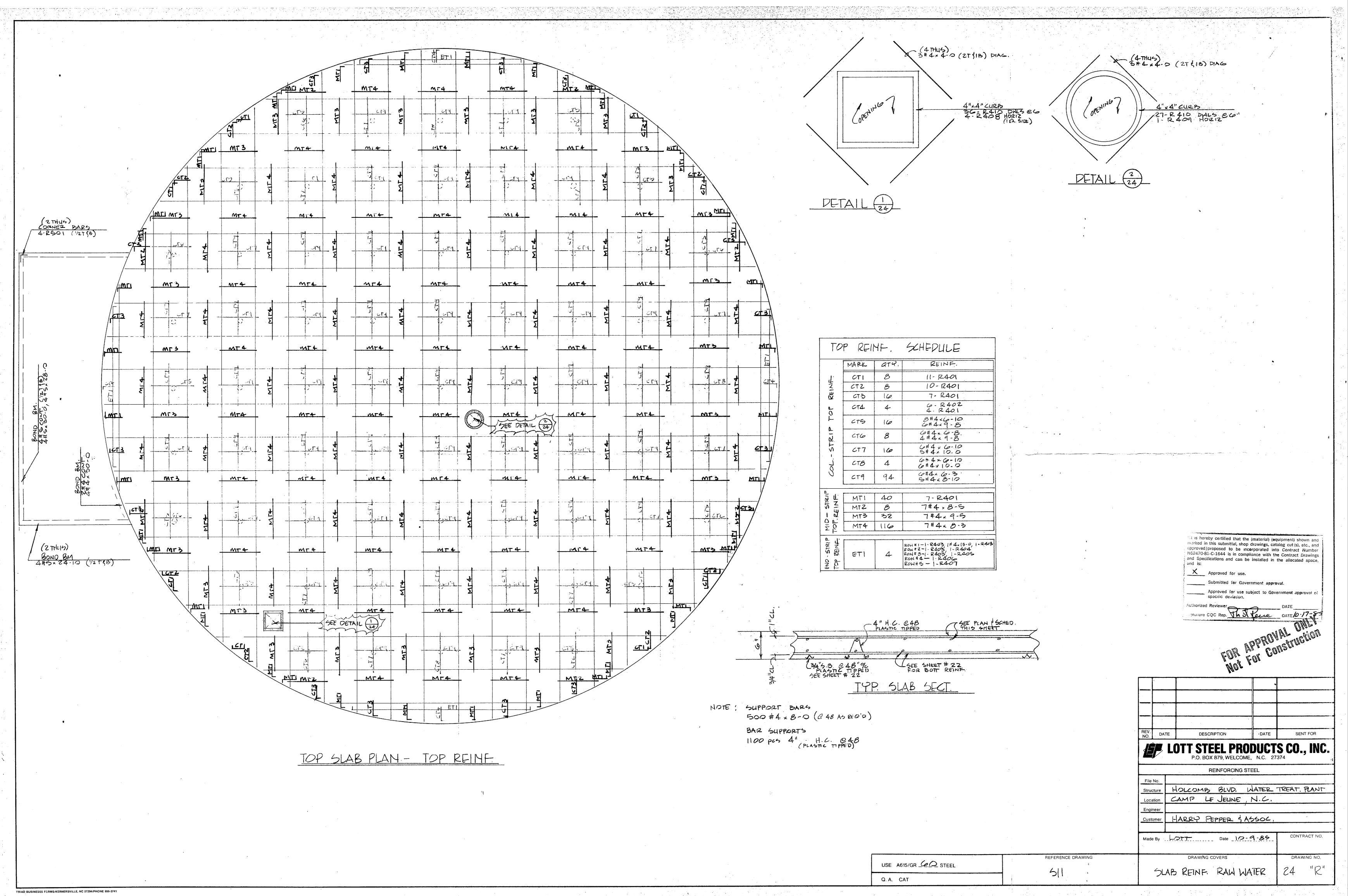
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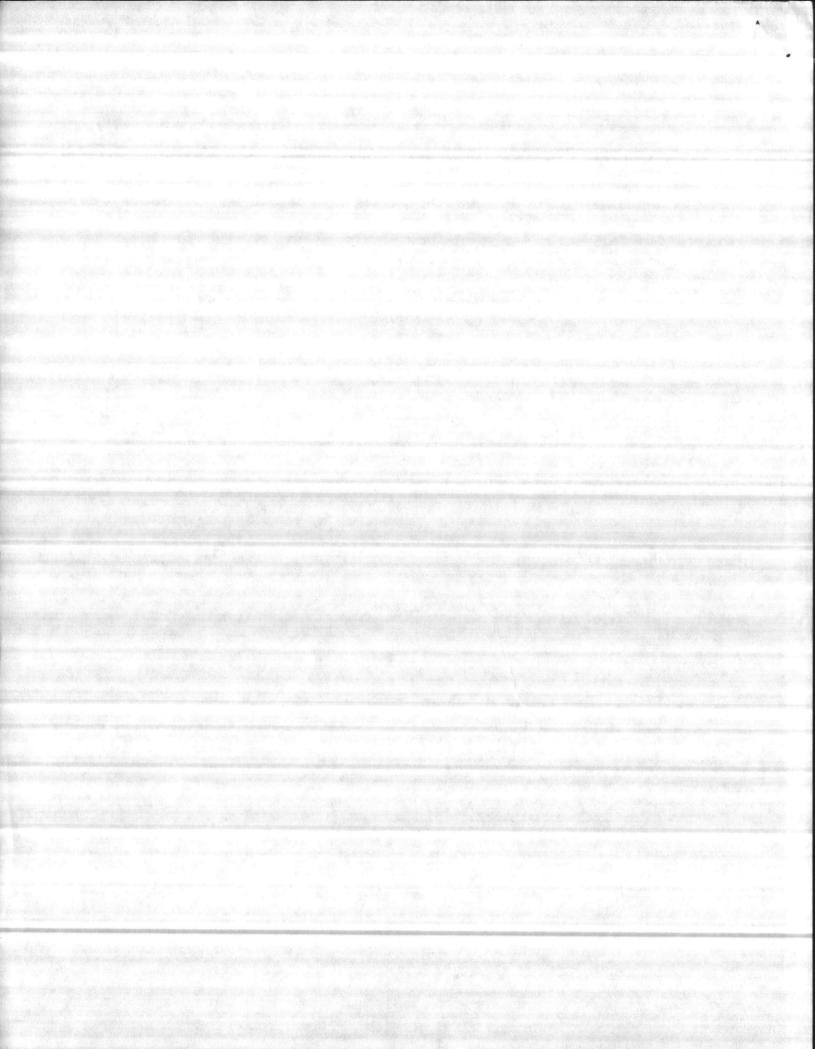
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HARRY PEPPER & ASSOCIATES, INC.

ENGINEERING CONTRACTORS

February 25, 1985

Resident Officer in Charge of Construction Naval Facilities Engineering Command Contracts Marine Corps Base Camp LeJeune, North Carolina 28542

ATTN: Lieutenant P. E. Krug

RE: Contract N62470-81-C-1644

Expansion of Holcomb Boulevard

Water Treatment Plant

Camp LeJeune, North Carolina

Dear Sir:

With reference to Specification Section 03302 "Cast-in-Place Concrete" we wish to request the following no cost change.

In order to provide better appearance, better quality and increased strength, we wish to use an additional admixture called Melment, which is a concrete plasticizer. For wall placements it will allow a highly workable, flowing concrete without segregation or loss of strength.

We anticipate performing a trial mix to assure compatibility with the supplied concrete.

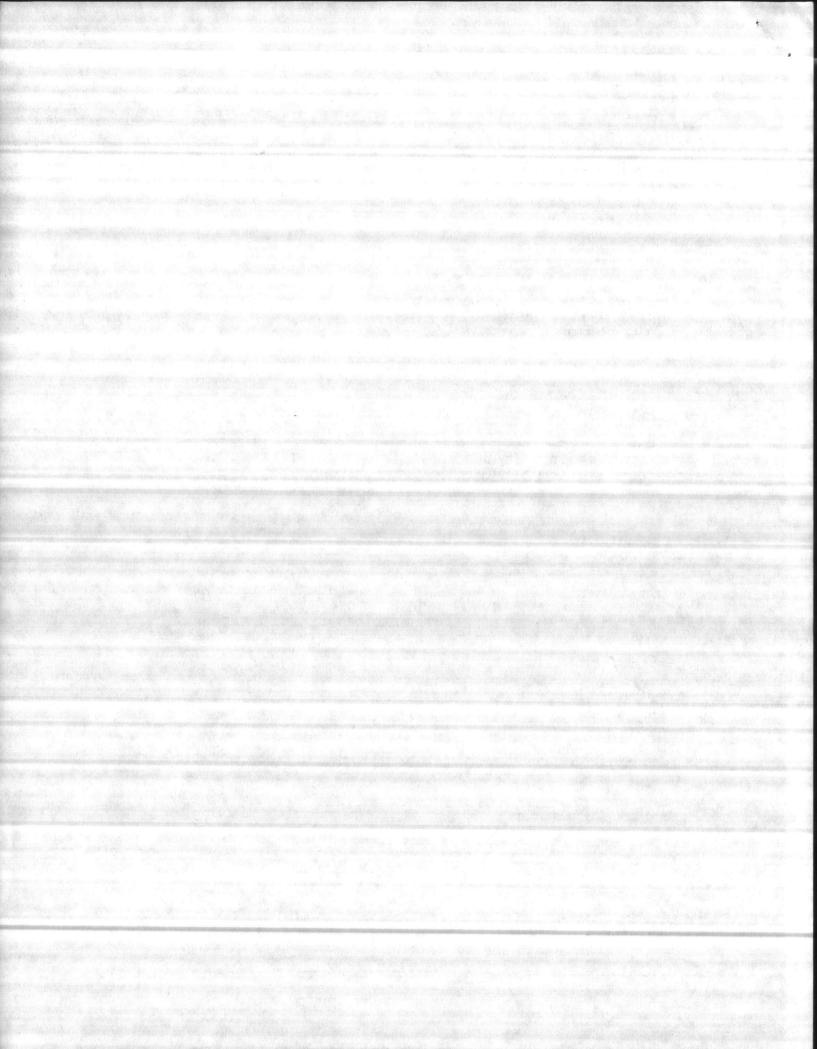
Enclosed is the manufacturer's literature for your evaluation. Please feel free to contact me if you require additional information. Advise me of your decision as soon as possible.

Very truly yours, HARRY PEPPER & ASSOCIATES, Inc.

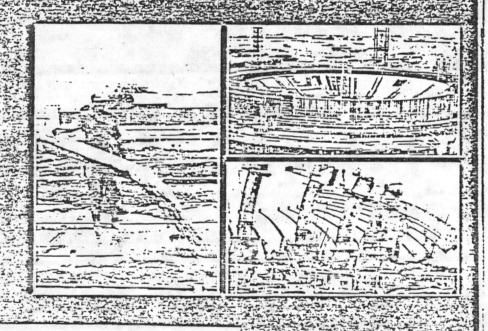
James Schock Project Manager

enc

marked approve N62470	in this submittal, shop drawings, catalog cut (s), etc., and d/proposed to be incorporated into Contract Number -81-C-1644 is in compliance with the Contract Drawings edifications and can be installed in the allocated space,
	Approved for use.
X	Submitted for Government approval.
(1) A 1 (1) A 1 (1)	Approved for use subject to Government approval of specific deviation.
	zed Reviewer DATE
Signatu	re CQC Rep. Phil Loue DATE 3-8-85



This malpie snoe plastering atom conclorings improveds performance; and increased produc tivity to every concrete applications



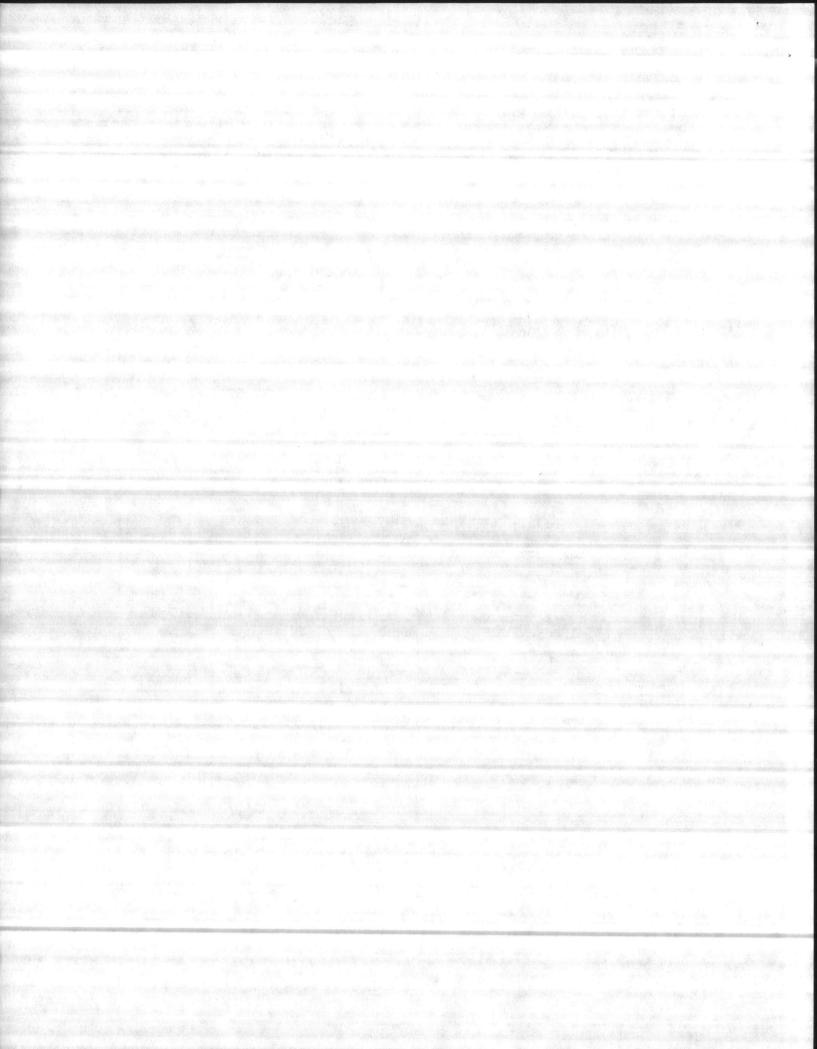
American Admixtures and Chemicals Corporation

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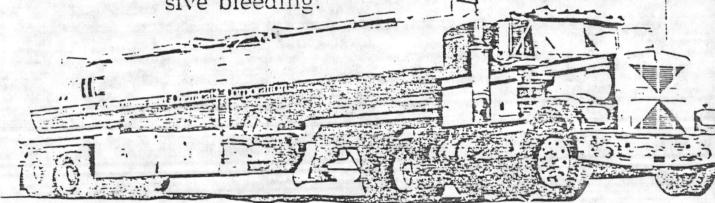
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MELMENT IS...

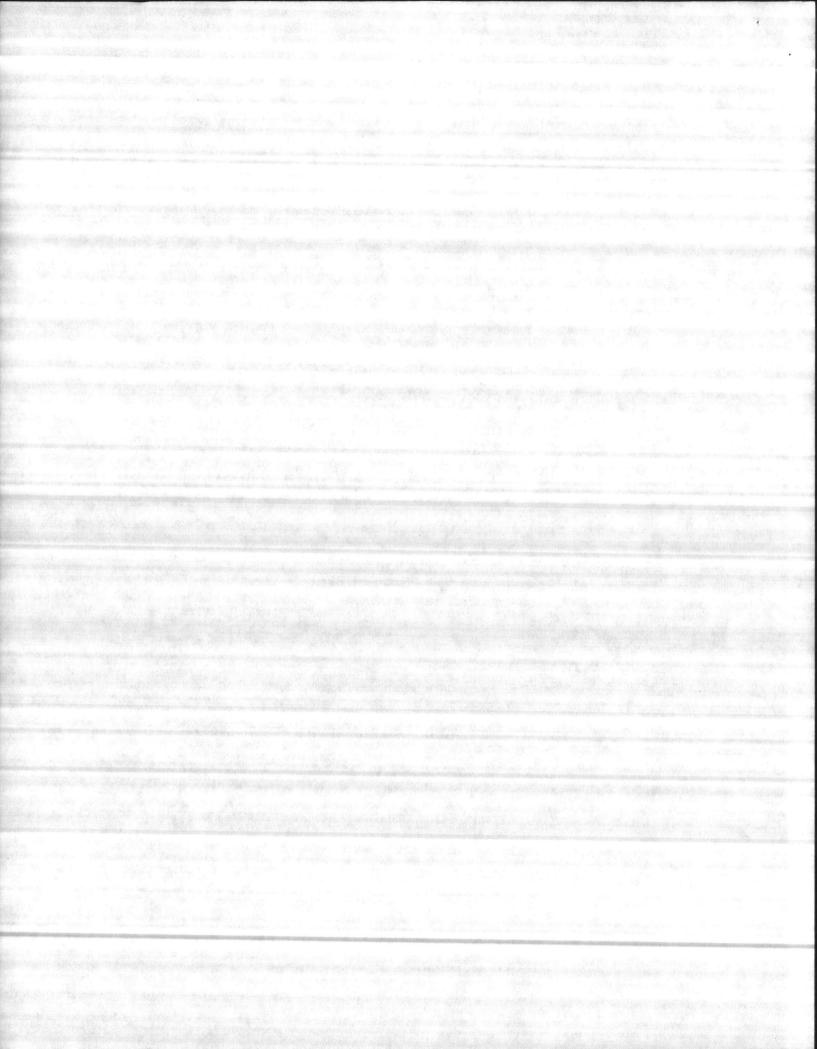
a sulfonated melamine condensate which has a powerful plasticizing effect on concrete without lowering the surface tension. It forms a lubricating film, enveloping both the cement and aggregate to reduce friction between the solids. Melment superplasticizer can be used to produce concrete at: Normal workability but at extremely low water-cement ratio.

e Extreme workability or "flowing" consistency at normal water-cement ratio. This concrete is essentially self-leveling, but without undesirable side effects, such as segregation. low durability, low abrasion resistance, and excessive bleeding.



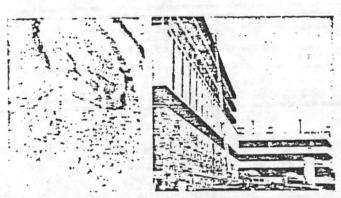
c A combination of better-than-normal workability but at a lower-than-normal water-cement ratio.

Because it is synthetically produced to exacting specifications. Melment assures consistent quality and dependable performance.

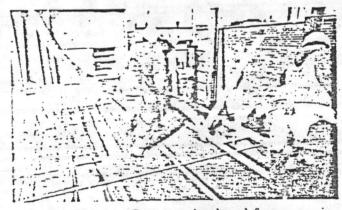


MELMENT FLOWING CONCRETE ...

• Faster, easier placement • Slump tailored to your needs • Easier pumping • Better consolidation • Smoother finish, sharper textures. When Melment is added to increase the slump and workability of concrete without adding water, ordinary concrete becomes Flowing Concrete. In actual concreting comparisons, Melment Flowing Concrete has dramatically reduced time and labor costs.



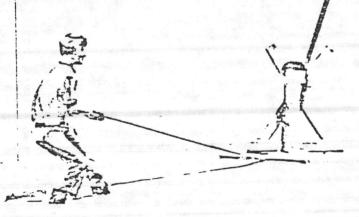
High-slump Melment Flowing Concrete can be pumped into place quickly and easily, allowing for more efficient use of the ready mix truck through faster truck discharge time. Pump pressures can be greatly reduced.

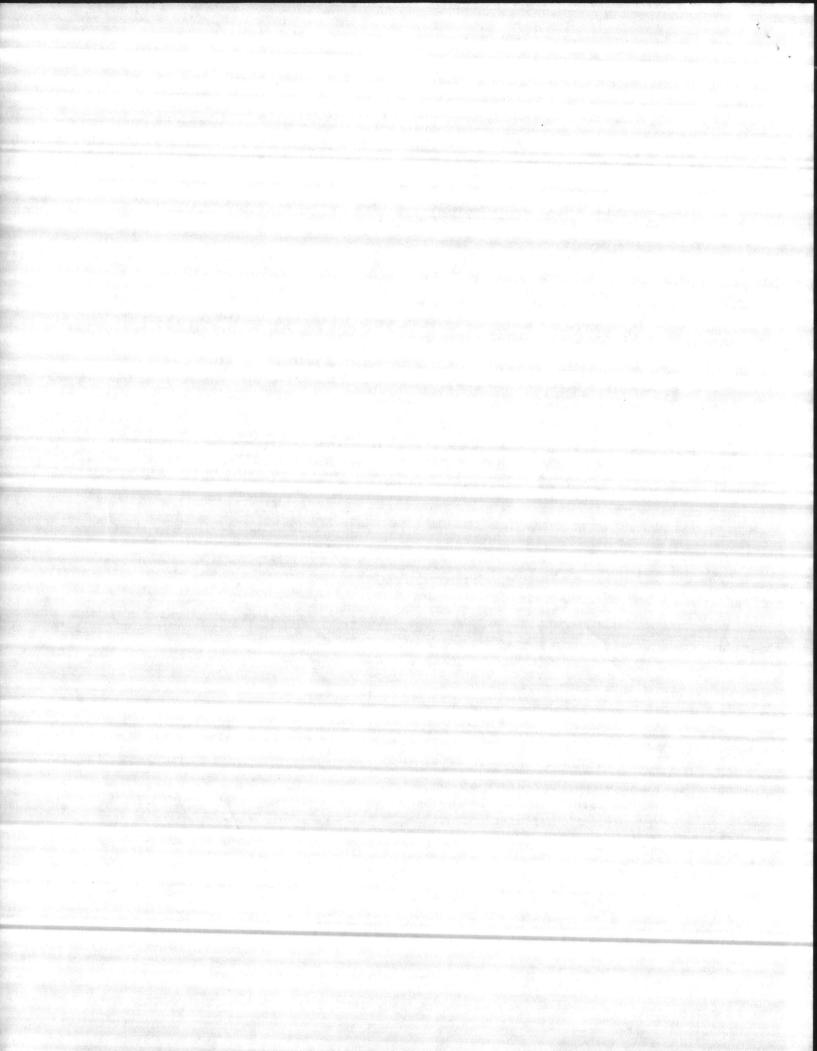


Melment Flowing Concrete is placed faster, easier, and with less manpower and because Melment Flowing Concrete moves so freely, vibration can often be reduced and even eliminated.

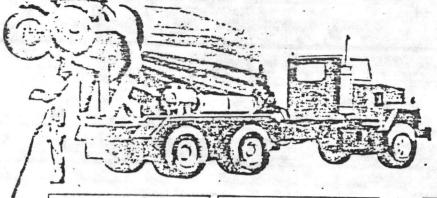


IMPR()VED APPEARANCE
Melment allows architects and engineers to use concrete in interesting new ways as an aesthetic element. Flowing Concrete produces smoother exposed surfaces, sharper corners and detail, and crisper textures.

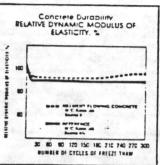








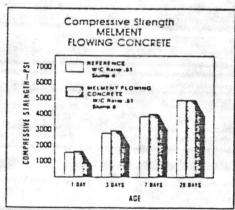




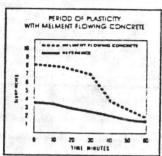
TESTS PROVE SUPERIOR PERFORMANCE

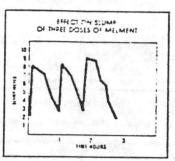
Durability is an important advantage of Melment Concrete. Melment L10A enhances air-void structures so they are not damaged even at high levels of flowability. Melment L10A has proved durable in tests by many independent laboratories and by state and Federal agencies even under the most severe exposure conditions. The graph above shows the average relative dynamic modulus of elasticity of Melment Flowing Concrete as a percentage of reference specimens for 300 cycles of freezing and thawing in water in laboratory tests.* Actual performance of Melment Flowing Concrete used in various applications in the field bears out these test results.

*ASTM C-666. Method A.



Compressive Strength obtained with Melment depends on its dosage and application. As the graph above shows, Melment Flowing Concrete produces slightly higher compressive strengths at all stages of testing.



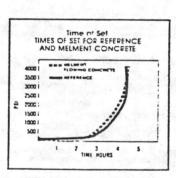


PLASTICITY OF MELMENT FLOWING CONCRETE

The plastic effect of Melment typically lasts from 30-60 minutes. Therefore. Melment is normally added at the point of placement. However, should flowability be lost before all concrete is placed, Melment may be added again to regain high slump without loss of strength.

TIME-OF-SET

Melment has no appreciable effect on the setting characteristics of concrete. The graph at right shows the time-of-set for two concrete mixtures with equal cement and water contents, the only difference is the addition of Melment.

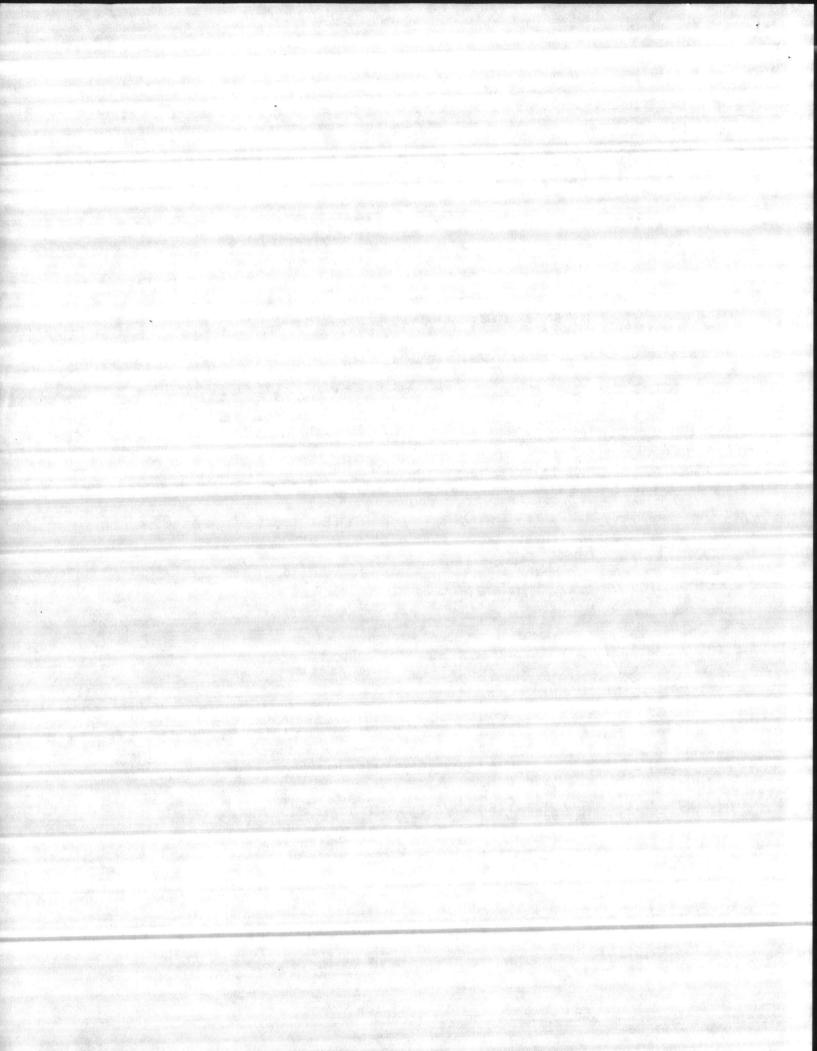


SUGGESTED DIRECTIONS FOR USE .

All concrete should arrive at the jobsite having a slump of 3" ± 1". Melment should be added after the concrete has been thoroughly mixed and the desired initial slump has been achieved. Additional mixing should be given after the addition of Melment to insure good distribution. Melment may be used with all types of cements and admixtures meeting appropriate ASTM specifications. Trial mixes should be produced to ensure compatibility.

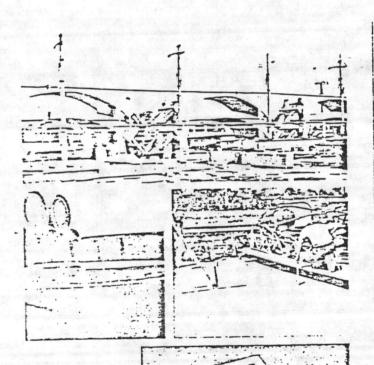
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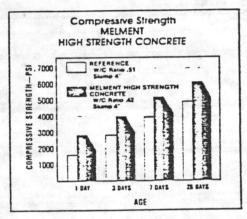
The dosage rate of Melment varies depending upon the amount of plasticity desired. Typically, Melment is batched at 12-30 fl. oz. per cwt of cementitious material (Portland cement + fly ash) for flowing concrete. The dosage rate of Melment, when used in conjunction with a Type A water-reducing admixture may be reduced 25% or more. Admixture compatibility should be ensured by trial batching prior to use.



WELMENT HIGH-STRENGTH CONCRETE...

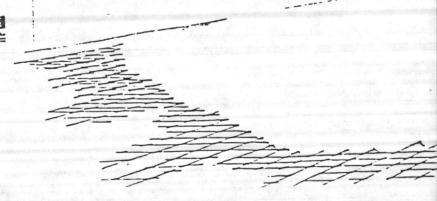
• Far greater strengths at all ages • Better durability • Less shrinkage. Pass bleeding • Increased impermeability • Improved workability. Melment used as a high-range water reducer assures better concrete quality at normal levels of workability. Concrete may be placed at a small slumps, but with 20-30% less water content. Compare that to be water reduction of typical water-reducing admixtures. Melment tablitates accelerated curing to save time, energy and labor costs, as well as earlier turnover of forms. Melment often enables the producer that Type I cement rather than Type III cement because of its beneficial effect on early strength.

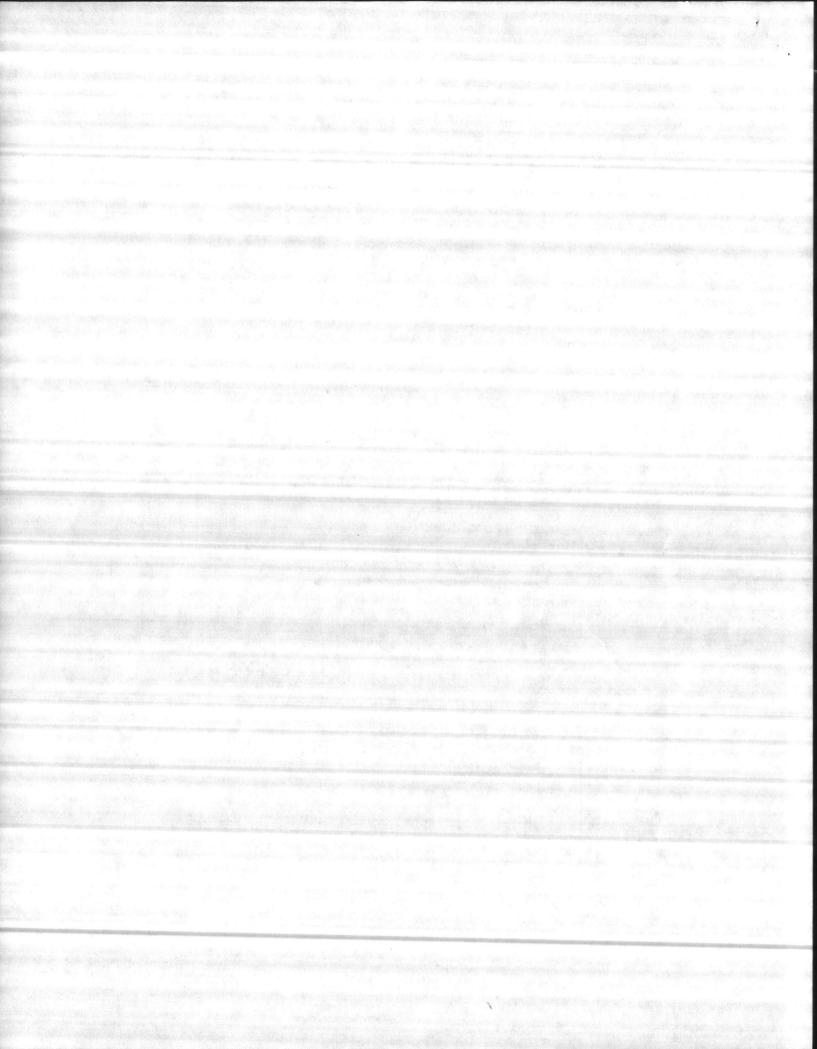




COMPRESSIVE STRENGTH

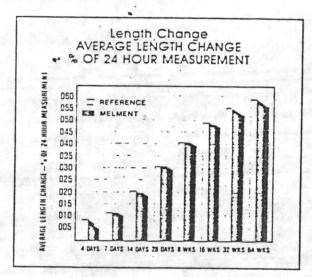
For those applications where higher strength is most important—precast structural elements, bridge supports, slip form concrete, prestressed or post-tensioned concrete, early removal of forms—Melment fills the bill as a high-range water reducer. The graph above illustrates the exceptional higher strength, at all ages, of Melment Concrete compared to a reference mixture.





SERVICEABILITY

Over the long term, strength levels in Melment concrete, with its reduced water content, remain as much as 15-20% greater than those of untreated concrete. Examinations under an electron-microscope and radiographic analysis show that hydration products of Melment High-Strength Concrete are identical to those of untreated concrete. Long-term test data confirms the benefit of Melment Concrete versus time.



Shoundage can be reduced with the addition of Meiment as a high-range water reducer. This reduces the danger of cracking and enhances the overall strength of the concrete product.

DIRECTIONS FOR USE:

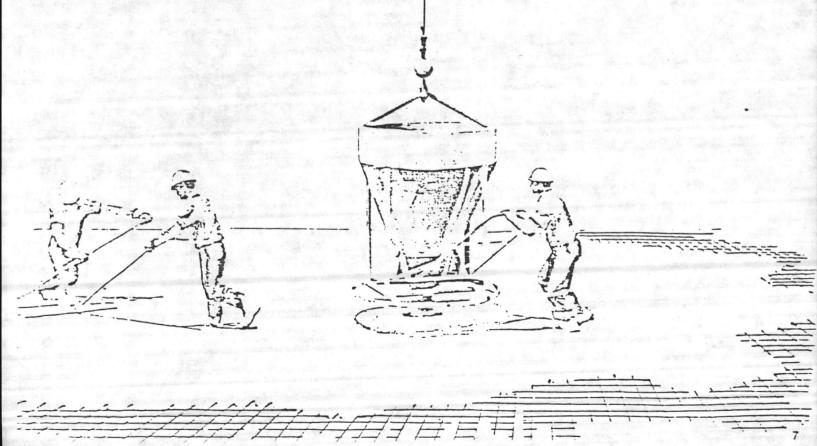
Concrete should be mixed at the water-cement ratio necessary to attain the specified strength. To achieve the desired level of workability, Melment should be added to the concrete as a final ingredient after it has been thoroughly mixed.

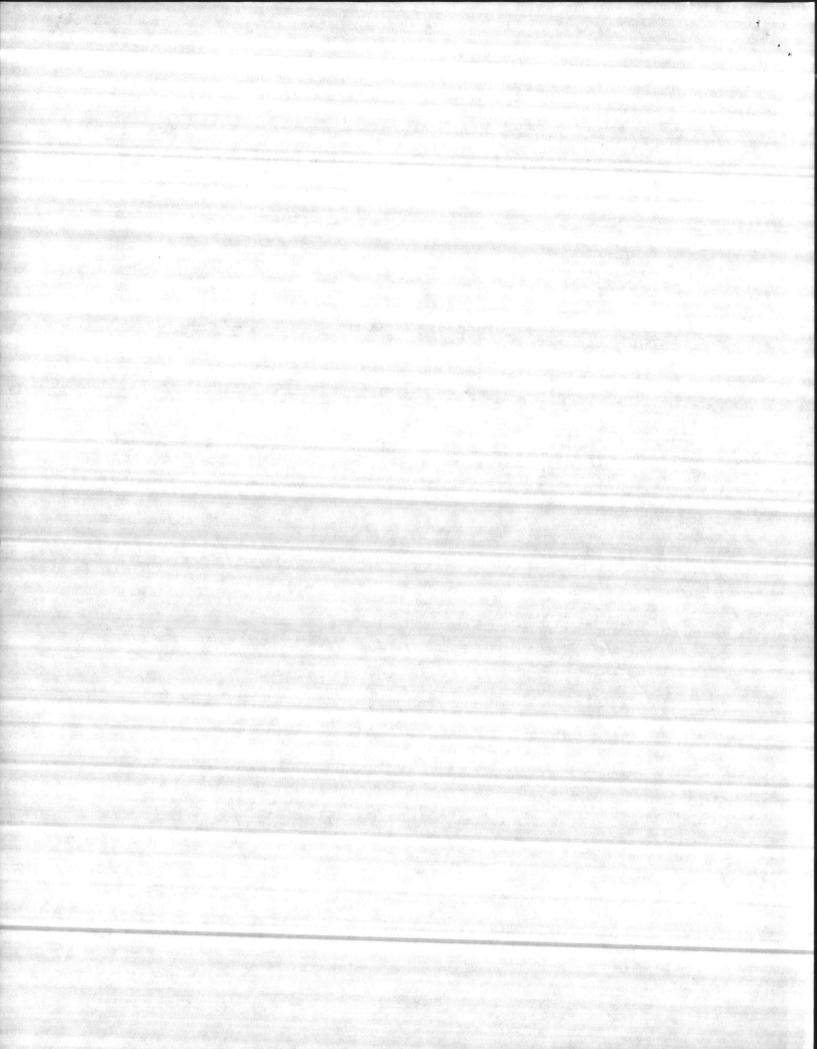
DOSAGE

The dosage rate of Melment varies depending upon the amount of water reduction and workability desired. Typically, Melment is batched at 15-40 fl. oz./cwt of cementitious material (Portland cement + fly ash) for high-strength concrete.

COMBINATION

Melment lets you tailor concrete performance to meet your needs. Melment has a variable dosage rate so you can tailor the strength and workability of concrete to suit the circumstances of the job. Typically, concrete is brought to the jobsite at a 1-3" slump and Melment is added just prior to placement to achieve a 6-8" slump.







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The above general purpose specifical be applied to most jousie situations. It is storation should arise your American torest and Chemicals; Corporation to sales representative will aid in the following period and to individual application. It is not to individual application. It is not to the following period and the following period and the following period and a strong period period and a strong period peri

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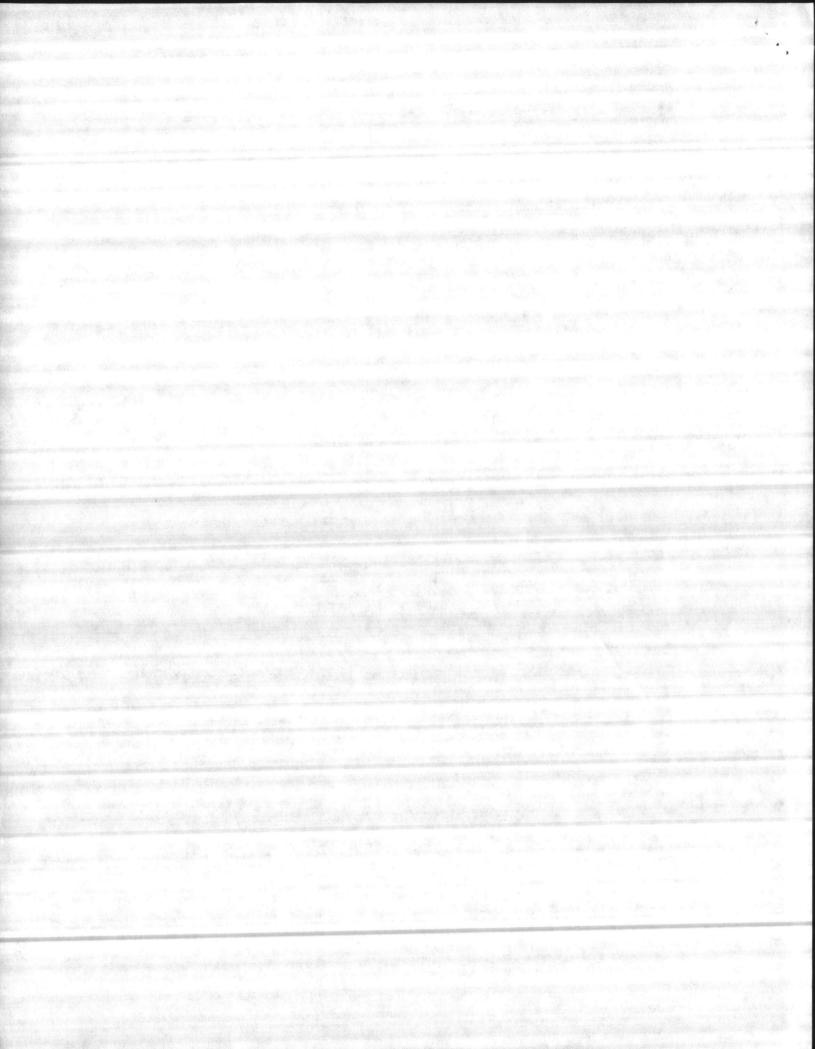
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PRODUCT DATA



GENERAL:

MELMENT is a meiamine formaldehyde, water soluble polymer based, normal-setting Superplasticizer which produces extremely workable "flowing concrete" that is essentially self-leveling without undesirable side effects

ADVANTAGES:

- MELMENT flowing concrete enables easier and faster placement of concrete resulting in a significant savings in appr bosts.
- Through its unique plasticizing effect. MELMENT can provide nightly workable, flowing concrete without segregation at the same water-cement ratio as concrete of normal workability without a loss of strength.
- MELMENT improves pumpability. Pump pressures can be reduced up to 50%.
- The use of vibrators can be eliminated or reduced while giving greater assurance of good consolidation.
- MELMENT adds to reduced permeability to water as well as improved resistance to freezing and thawing and the action of delicing salts.
- MELMENT flowing concrete will produce better architectural concrete without honeycombing. Textured concrete surfaces are enhanced.
- · MELMENT is chloride-free.
- MELMENT may be used with all types of ASTM approved cements and admixtures. Trial mixes should be conducted to ensure compatibility.
- The plastic effect of MELMENT typically lasts from 30 60 minutes. Therefore, MELMENT is normally added at the point of placement.

DIRECTIONS FOR USE:

All concrete should arrive at the jobsite having a slump of 3" ± 1".

MELMENT should be added after the concrete has been thoroughly mixed and the desired initial slump has been achieved. Additional mixing should be given after the addition of MELMENT to insure good distribution.

DOSAGE:

The dosage rate of MELMENT varies depending upon the amount of plasticity desired. Typically, MELMENT is catched at 12 - 30 fl. oz. per cwi of cementitious material (Portland cement + fly asn) in ready mix concrete.

SPECIFICATIONS:

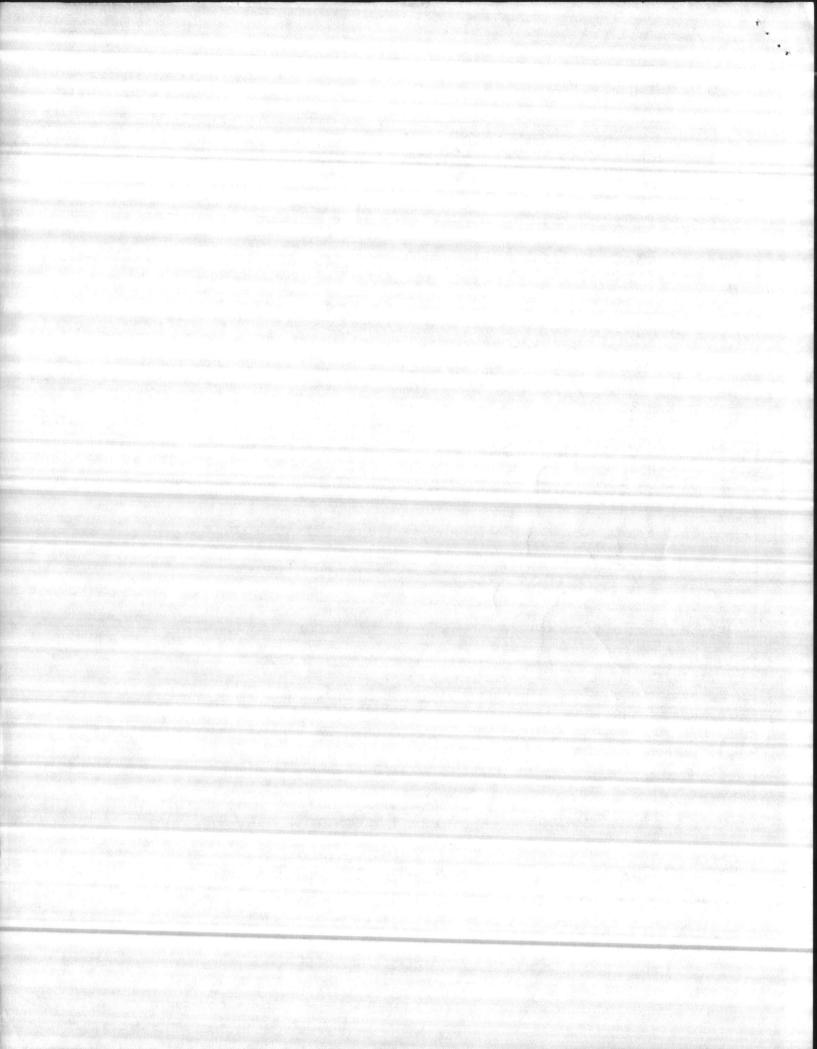
MELMENT is manufactured to conform to the specifications of ASTM C-494. Type A. CRD C-87. Type A. and AASHTO M-194-70, Type A.

SUGGESTED SPECIFICATION FOR GENERAL PURPOSE USE:

All concrete snall be delivered to the jobsite at a slump of $3^{\circ}\pm1^{\circ}$. No additional water shall be added to the concrete at the lobsite. If increased workability is desired, it shall be obtained through use of MELMENT Superblastic zer conforming to ASTM C-494. Type A. as manufactured by American Admixtures and Chemicals Corporation. 5909 North Rogers Avenue, Chicago, Illinois 60646

The above general purpose specification can be applied to most jobsite situations. If a special situation should arise your American Admixtures and Chemicals Corporation technical sales representative will aig in the tailoring of a specification for individual application.

American Admixtures and Chemicals Corporation



CONTRACTOR'S SUBMITTAL TRANSMITTAL CONTRACT NO RANSMITTAL NO DATE LANTDIV NORFOLK 4-4355/3 (Rev. 11-80) 81-C-1644 82 7-18-85 FROM CONTRACTOR PROJECT TITLE AND LOCATION Harry Pepper & Associates. Inc. Holcomb Blvd Water Treatment Plant Henry Von Oesen & Associates, Inc. MCB, Cp Lejeune, North Carolina CONTRACTOR USE ONLY REVIEWER USE ONLY "ACTION CODES *List only one specification division per form A-Approved List only one of the following categories on each transmittal form, D-Disapproved and indicate which is being submitted AN-Approved as noted RA-Receipt acknowledged. Contractor Approved OICC Approval Deviation/Substitution C-Comments For OICC Approval R-Resubmit NO. OF PROJ. SPEC. SECT. ITEM IDENTIFICATION ACTION REVIEWER'S & PARA, and/or (Type, size, model no., Mfg. name, dwg. or CODES INITIALS PROJ. DWG. NO. brochure number) CODE AND DATE 03302 CAST-IN-PLACE CONCRETE 2.2.4.2 Manufacturer's Data on Pozzolith 122-R Certification Request is made by the Contractor to use Pozzolith 122-R for use in pouring concrete when needed for construction purposes, specifically during high temperature periods. This admixture will aide in placing and finishing. If approval for use is given, there will be no additional expense to the Government and any problems caused will be at the expense

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

ONE COPY TO ROTCC

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.

Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

COPIES TO ROICC (2)		DATE	SIGNATURE
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POZZOLITH*122-R

Admixture for Improving Concrete

POZZOLITH 122-R is a ready-to-use, liquid admixture for making more uniform and predictable quality concrete while retarding its setting time to facilitate placing and finishing operations. It meets ASTM C 494 requirements, specifically:

- INCREASED STRENGTH compressive and flexural
- RELATIVE DURABILITY TO DAMAGE FROM FREEZING AND THAWING – well above industry standards
- REDUCED WATER CONTENT REQUÍRED FOR A GIVEN WORKABILITY
- RETARDED SETTING CHARACTERISTICS

ADVANTAGES: The set retarding characteristics of POZZOLITH 122-R admixture aid in the production of concrete with the following special qualities:

- IMPROVED WORKABILITY
- REDUCED SEGREGATION
- SUPERIOR FINISHING CHARACTERISTICS for flatwork and cast surfaces
- MODERATE TO EXTENDED RETARDATION depending on dosage used
- PROVIDES FLEXIBILITY IN THE SCHEDULING OF PLACING AND FINISHING OPERATIONS
- OFFSETS THE EFFECTS OF TOO-EARLY HARDENING DURING EXTENDED DELAYS BETWEEN MIXING AND PLACING
- HELPS ELIMINATE UNWANTED COLD JOINTS
- ALLOWS FOR DEAD LOAD DEFLECTION TO TAKE PLACE (BEFORE CONCRETE SETS) IN EXTENDED POURS for bridge decks, cantilevers, nonshored structural elements, etc.
- LOWERS PEAK TEMPERATURE AND/OR RATE OF TEMPERATURE RISE IN MASS CONCRETE – REDUCES THERMAL CRACKING
- EFFECTIVE AS A SINGULAR ADMIXTURE OR AS A COMPONENT IN A POZZOLITH ADMIXTURE SYSTEM

WHERE TO USE: POZZOLITH 122-R admixture is recommended for use in all types of concrete where moderate to extended retardation of set and improved performance are desired.

This admixture improves pumped concrete, shotcrete (wet mix), and conventionally placed concretes. It improves plain, reinforced, precast, prestressed, lightweight or standard-weight concrete.

POZZOLITH 122-R admixture can be used with airentraining cements and with air-entraining admixtures approved under ASTM, AASHTO and CRD specifications. When air-entrained concrete is desired, Master Builders air-entraining admixtures are recommended for use with POZZOLITH 122-R admixture. By itself, POZZOLITH 122-R admixture does not entrain air. When used in conjunction with another admixture, each admixture must be dispensed separately into the mix.

POZZOLITH 122-R admixture can be used in white or colored concrete and in architectural concrete.

QUANTITY TO USE: POZZOLITH 122-R admixture is recommended for use at the rate of 4 ± 1 fl oz per 100 lb $(260\pm65 \text{ ml per } 100 \text{ kg})$ of cement for most concrete mixes using average concrete ingredients. However, it is appreciated that variations in the job conditions and concrete materials may make usage rates outside the recommended dosage range desirable. In such cases, contact your local Master Builders representative.

RATE OF HARDENING: The temperature of the concrete mix and the ambient temperature (forms, earth, reinforcement, air, etc.) affect the hardening rate of concrete. At higher temperatures, concrete hardens more rapidly which may cause problems with placing and finishing.

A function of POZZOLITH 122-R admixture is to retard the set of concrete. Within the normal dosage range, it will generally extend the vibration limit and delay the set of concrete containing normal portland cement approximately 1 hour to 5 hours over the setting time of a comparable, plain concrete mix, depending on job materials and temperatures. Trial mixes should be made with job materials approximating job conditions to determine the dosage required.

COMPRESSIVE STRENGTH: Concrete produced with POZZOLITH 122-R admixture will have rapid strength development after initial set occurs. Develops higher early (24 hour) and higher ultimate strengths than plain concrete when used within the recommended dosage range and under normal, comparable curing conditions.

When POZZOLITH 122-R admixture is used in heat-cured concrete, the length of the preheating period should be increased until initial set of the concrete is achieved. The actual heat curing period is then reduced accordingly to maintain existing production cycles without sacrificing early or ultimate strengths.

PACKAGING: POZZOLITH 122-R admixture is supplied in 55 U.S. gallon (208 litre) drums and bulk delivery.

CAUTION: If POZZOLITH 122-R admixture has frozen, thaw at 35°F (2°C) or above and completely reconstitute by mild mechanical agitation. **Do not use pressurized air for agitation.**

For additional information on POZZOLITH 122-R admixture or on its use in developing a concrete mix with special performance characteristics, contact your local Master Builders representative.

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marked in this submittal, shop drawings, catalog cut (s), etc., and N62470-81-C-1644 is in compliance with the Contract Number and Specifications and can be installed in the allocated space,	THE RESERVE AND ADDRESS OF THE PARTY OF THE
Approved for use.	
Submitted for Government approval.	
specific deviation.	
Authorized Reviewer	
Signature CQC Rep. DATE	
DATE 2-18-85	

Them#>
MASTER BUILDERS
IMPROVING CONCRETE WORLDWIDE
MARTIN MARIETTA

February 20, 1985

Certificate of Conformance Pozzolith 122-R Master Builders Admixture for Concrete

Re: Job: Expansion of Holcomb Blvd.

Water Treatment Plant Marine Corps Base

Camp Le Jeune Marine Base, North Carolina

Job No. N62470-81-C-1644

General Contractor: Harry Pepper and Associates

Jacksonville, Florida

To Whom It May Concern:

State of Ohio)ss County of Cuyahoga)ss

Before me, a Notary Public, in and for the aforesaid State and County, personally appeared Philip A. Rosskopf, who being duly sworn, deposes and says:

That he is Senior Research Advisor for Master Builders, Cleveland, Ohio; and

That Pozzolith 122-R meets the requirements for a Type B, Retarding, and Type D, Water-Reducing and Retarding Admixture specified in ASTM C 494-82, Corps of Engineers' CRD-C 87-83 and AASHTO M 194-82, Standard Specifications for Chemical Admixtures for Concrete.

Philip A. Rosskopf

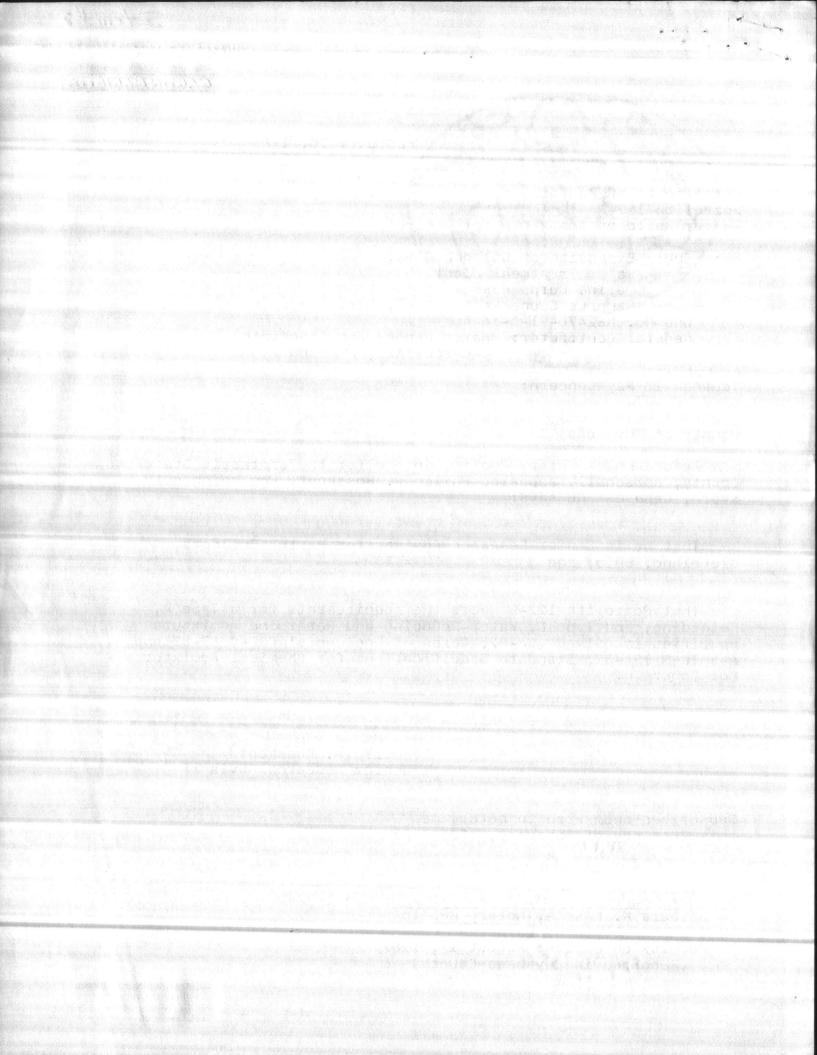
Senior Research Advisor

Subscribed and sworn to before me this 20th day of February, 1985

Barbara K. Leslie, Notary Public

State of Ohio

My Commission Expires August 13, 1989 (Recorded in Cuyahoga County)



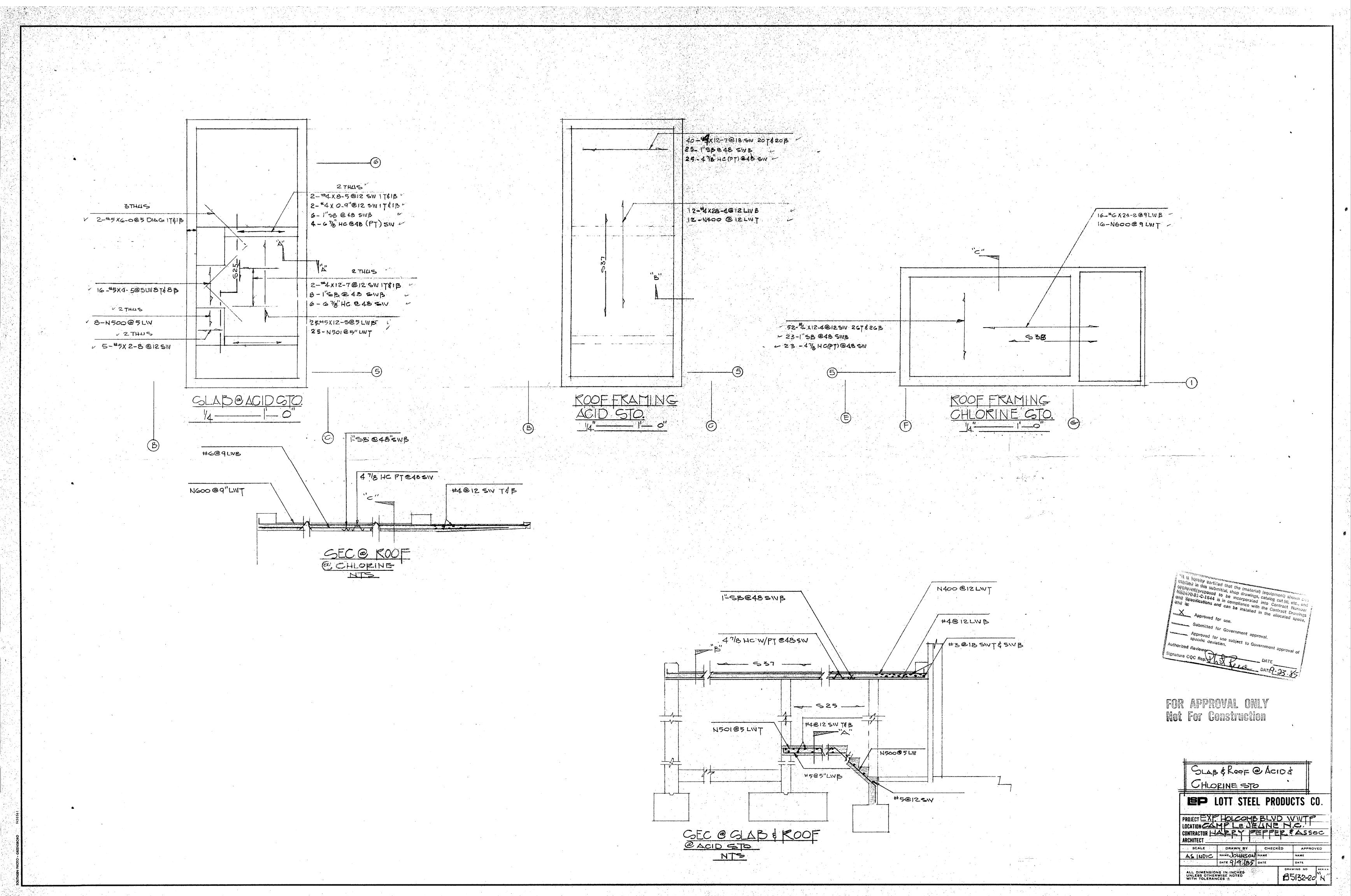
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A!	NTDIV NORFOLK 4-43	355/3 (Rev. 11-80)	81-C-1644	9	8	9-23-85					
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Ia	rry Pepper &	Associates, Inc.	Holcomb B1	vd Water	Treatmen	t Plant					
le	nry Von Oesen	& Associates, Inc.	Cp Lejeune	. North C	arolina						
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7		ist only one of the following categories and indicate which is being	submitted	n/Substitution		pproved proved as noted eipt acknowledged.					
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SIGNATURE

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 CONTRACTOR'S SUBMITTAL TRANSMITTAL CONTRACT NO TRANSMITTAL NO DATE LANTDIV NORFOLK 4-4355/3 (Rev. 11-80) 81-C-1644 1.01 10-7-85 FROM CONTRACTOR PROJECT TITLE AND LOCATION Harry Pepper & Associates Inc Holcomb Blvd Water Treatment Plant TO Henry Von Oesen & Associates, Inc. Cp Lejeune, North Carolina CONTRACTOR USE ONLY REVIEWER USE ONLY "ACTION CODES *List only one specification division per form. A-Approved List only one of the following categories on each transmittal form, D-Disapproved and indicate which is being submitted AN-Approved as noted RA-Receipt acknowledged. Contractor Approved OICC Approval Deviation/Substitution C-Comments For OICC Approval R-Resubmit PROJ. SPEC. SECT. ACTION REVIEWER'S ITEM IDENTIFICATION NO. C & PARA. and/or (Type, size, model no., Mfg. name, dwg. or CODES INITIALS PROJ. DWG. NO. * brochure number) CODE AND DATE 03302 CAST IN PLACE CONCRETE Reinforcement Steel Top Slab Plan- Bottom Reinf - Rawwater 1.2.1 1 CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC CONTRACTOR REPRESENTATIVE (S ONE COPY TO ROICC FROM (Reviewer) TO 10/10/85 Henry von Oesen & Assoc., Inc. Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation. Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form REVIEWER'S COMMENTS

Contractor's approval appears to be appropriate.

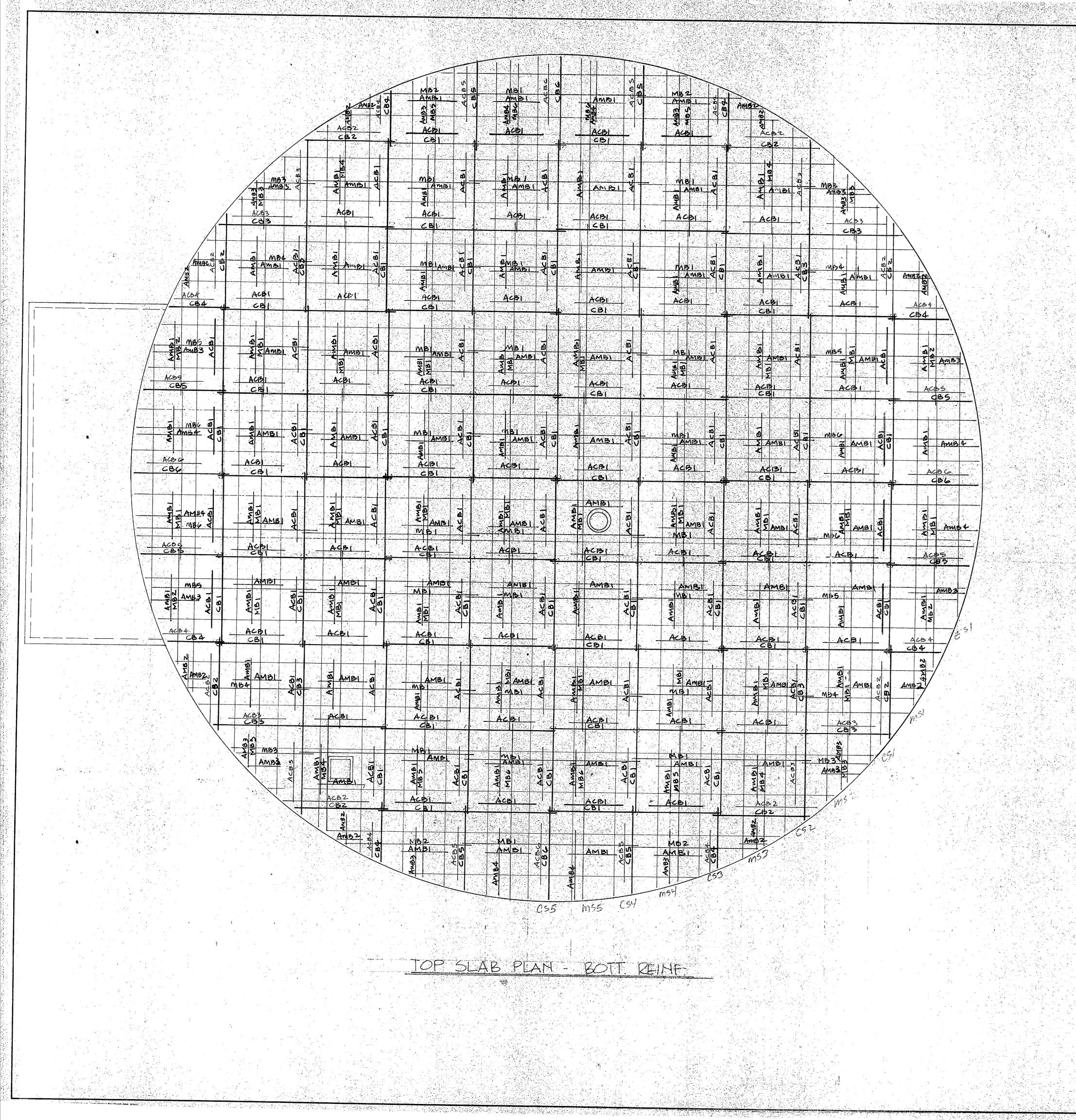
HENRY VON OESEN AND ASSOCIATES, INC.

COPIES TO ROICC (2) LANTDIV (1) A-E (1)	10/11/85 12 D	SIGNATURE
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Agent Action and Asset Asset Action and Company

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O E	AMBI	136	G#3×10·0
MID - STRIP ALT. BOIL REIN	AMBZ	10	5#3×9-9
v. 2	AMB3	16	5)#3×11-9

is hereby certified that the (material) (equipment, shown and marked in this submittel, shop drawings, catalog cuties, etc. and operaved/proposed to be incorporated into Contract Number 132476-81-0-1644 is in compliance with the Confact Drawings and Specifications and can be installed in the allocated space. Approved for use Submitted for Government approval. Approved to use subject to Government approval of Authorized Reviewed DATE DATE DATE 10-7-85

NO.	DATE	DESCRIPTION	DATE	SENT FOR
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P.O. BOX 879, WELCOME, N.C. 27374

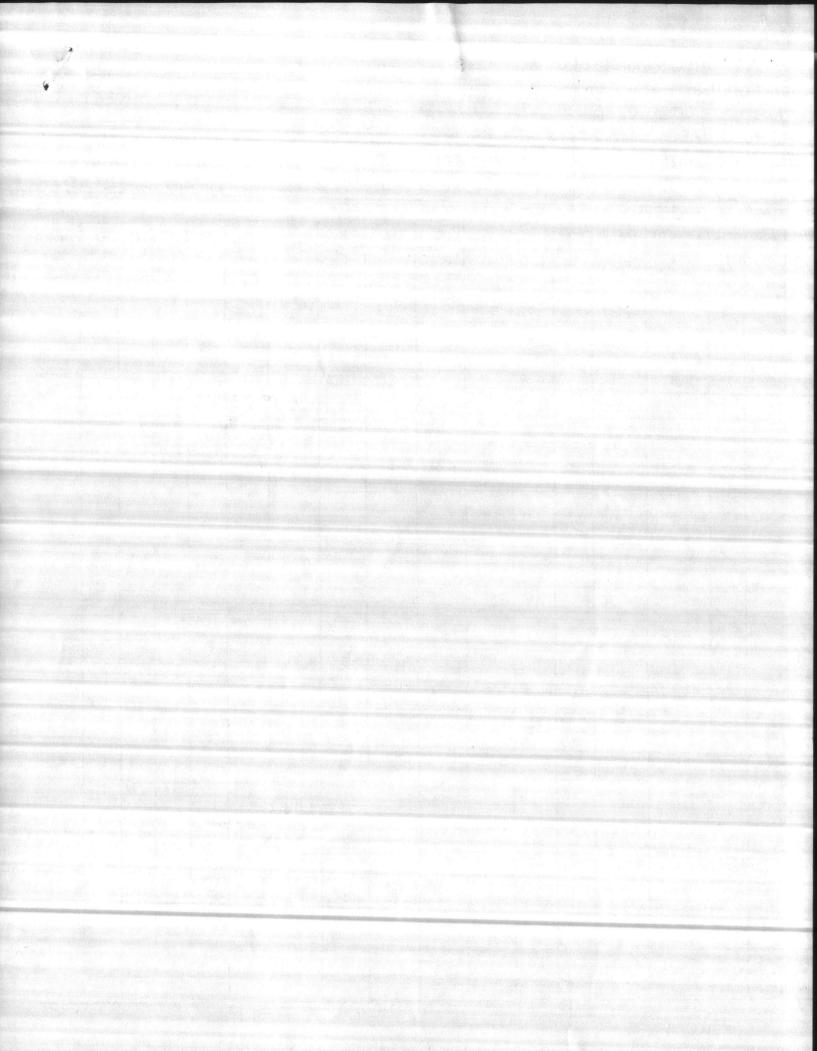
•		REINFORCING STEEL
	File No.	
	Structure	HOLCOMB BLVD. WATER TREAT PLANT
	Location	CAMP LE JEUNE N.C.
7	Engineer	
÷ ÷	Customer	HARRY PEPPER PASSOC
ិច *		
, 	Made By	LOTT Date 9-20-85 CONTRACT NO.

85132 REFERENCE DRAWING USE A615/GR _ GO STEEL DRAWING COVERS DRAWING NO. 511 SLAB REINE RAW WATER Q.A. CAT

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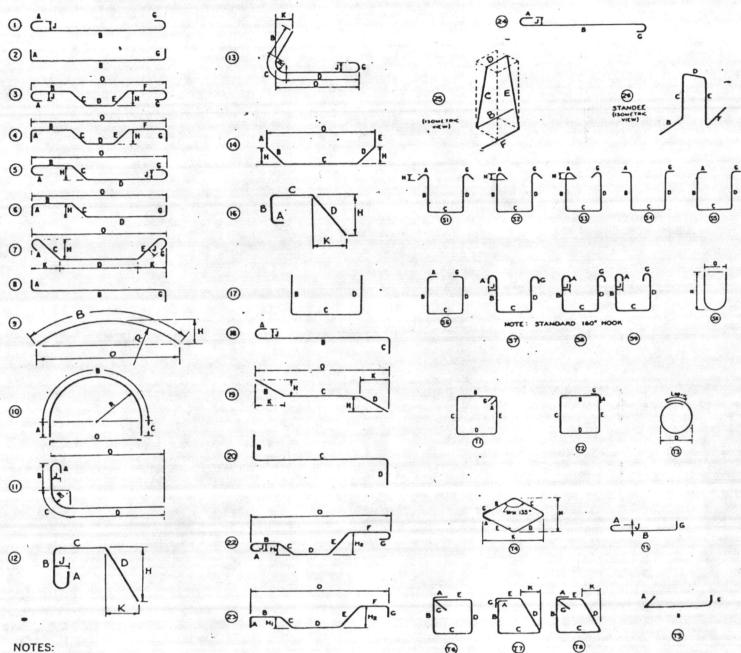
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P. O. BOX 879 • WELCOME, NORTH CAROLINA 27374-0879 TELEPHONE (704) 731-6331

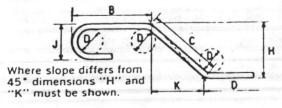
TYPICAL BAR BENDS



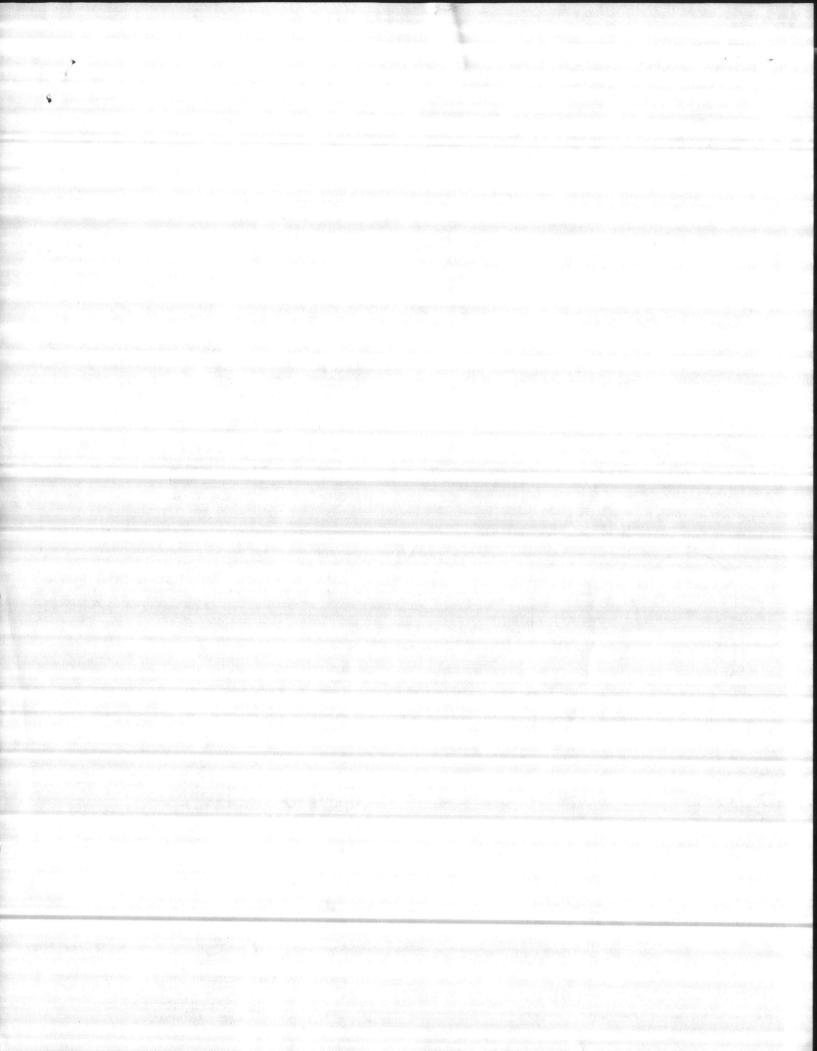
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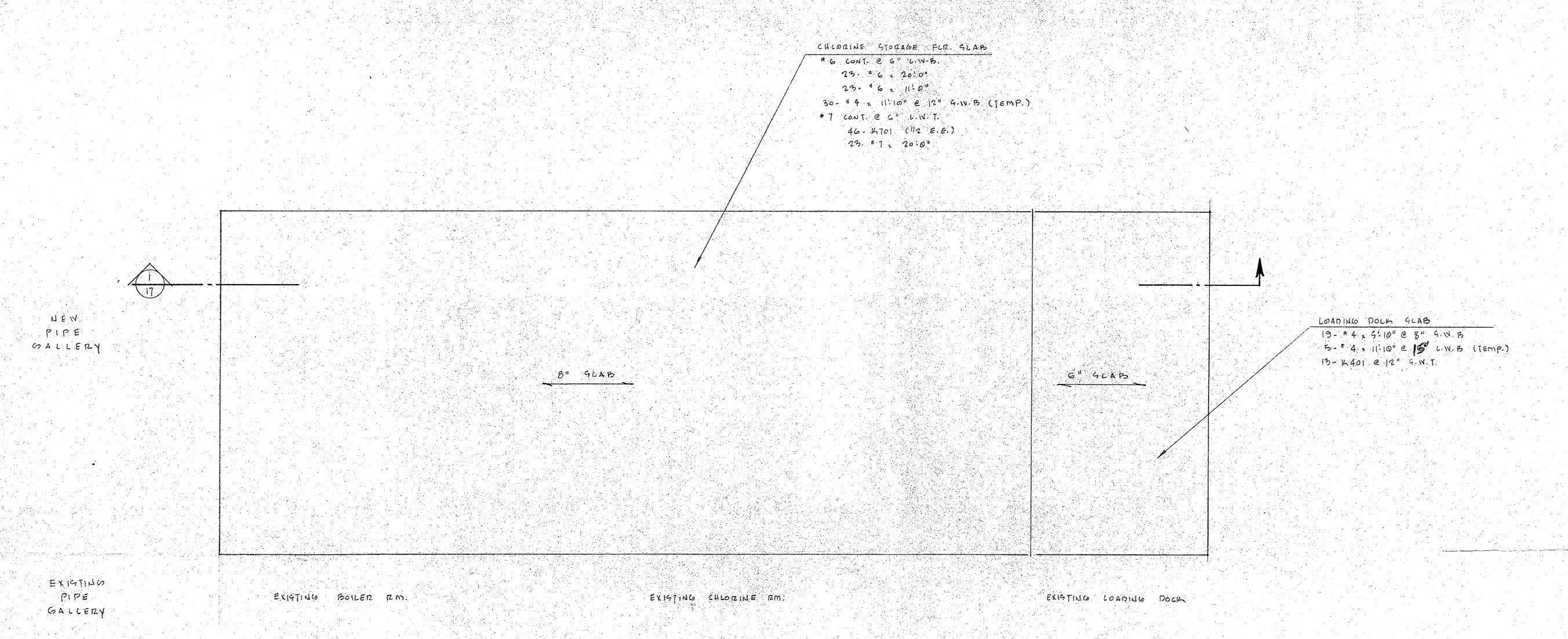
- All dimensions are out-to-out of bar except "A" and "G" on standard 180° and 135° hooks.
- "J" dimension on 180° hooks to be shown only where necessary to restrict hook size, otherwise standard hooks are to be used.
- 3. Where "J" is not shown, "J" will be kept equal to or less than "H" on truss bars. Where "J" can exceed "H", it should be shown.
- 4. "H" dimension stirrups to be shown where necessary to fit within concrete.
- Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.
- 6. Figures in circles show types.
- 7. For recommended diameter "D", of bends, hooks, etc., see tables, page 6-4.
- 8. Type S1-S9, S11, T1-T9 apply to bar sizes #3 through #8.

Unless otherwise noted diameter D is the same for all bends and hooks on a bar.

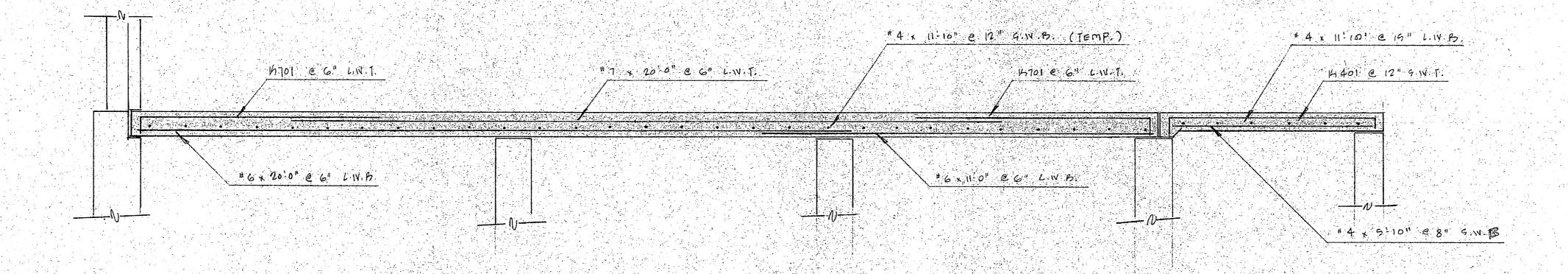


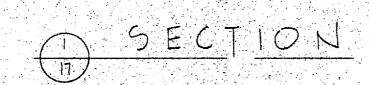
ENLARGED VIEW SHOWING BAR BENDING DETAILS

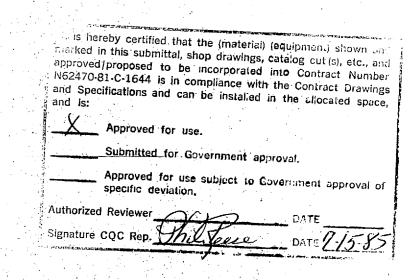




CHLORINE STORAGE FLOOR SLAB







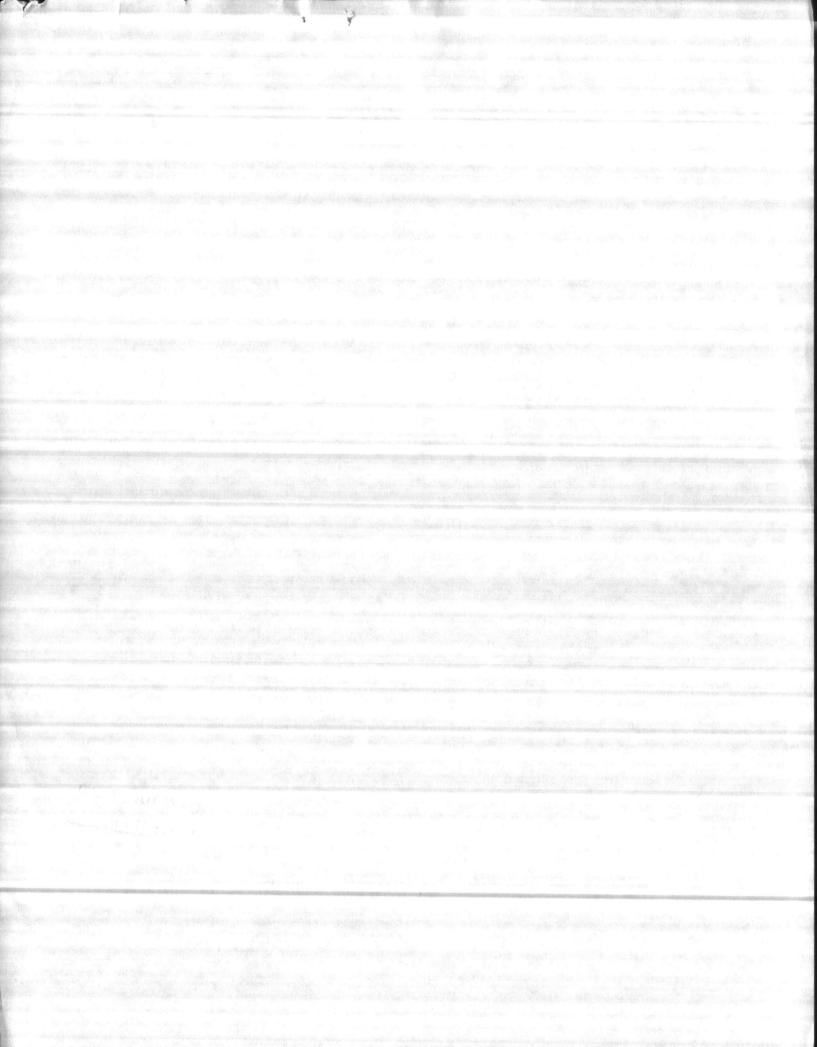


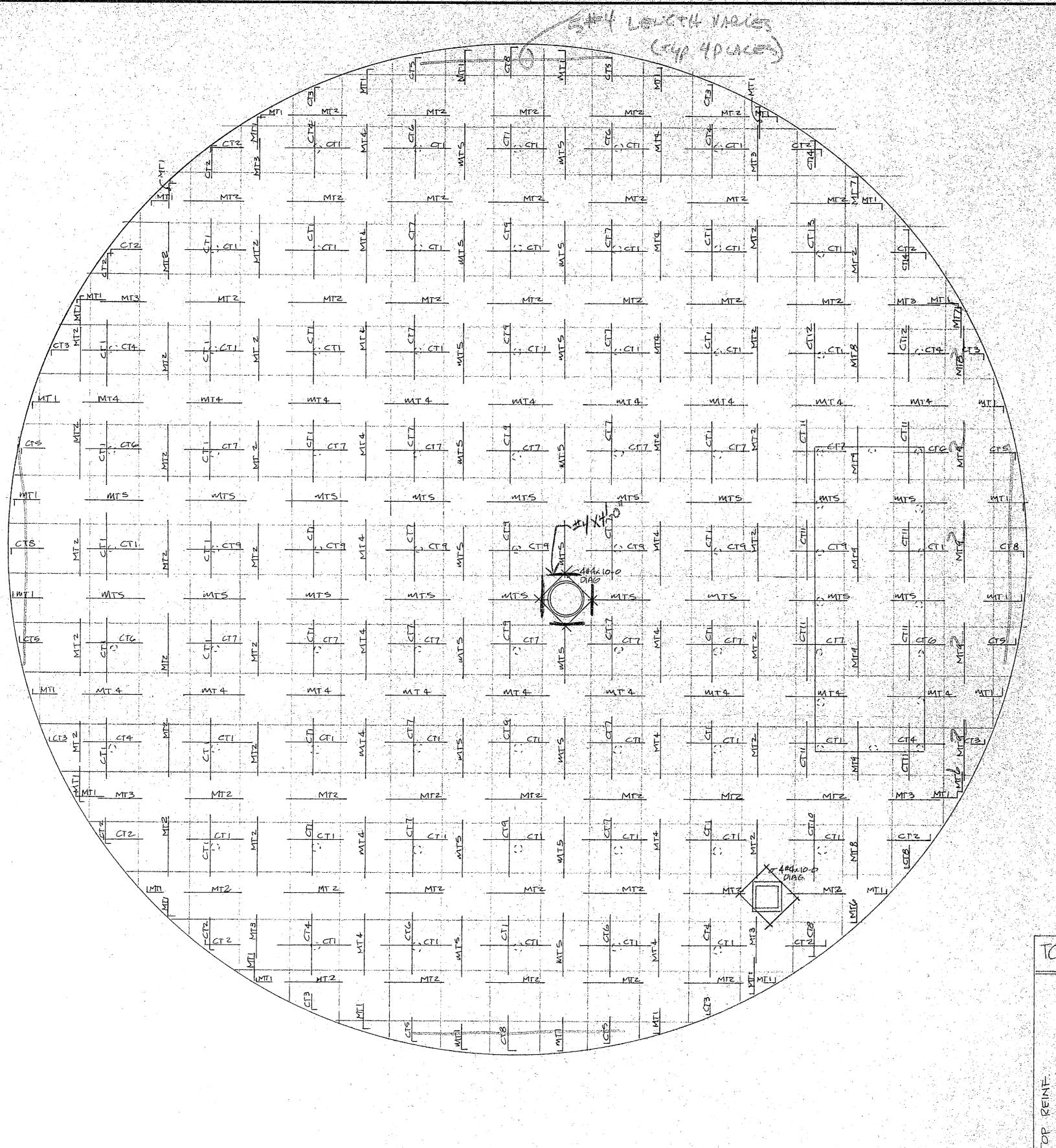
CHLORINE GTORAGE FLR. GLAB

LOTT STEEL PRODUCTS CO.	
PROJECT EXP. HOLCOMB BLVD WATER TOT. PLT. OCATION CAMP LEJUJE, Nov. CAR.	
CONTRACTOR HARRY PEPPER & ASSOC.	-
ARCHITECT	·
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	NTRACTOR'S S	UBMITTAL TRANSMITTAL 355/3 (Rev. 11-80)	CONTRACT NO S1-C-1644		IITTAL NO	DATE
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1.0	nry Von Oeser	a a Associates, Inc.	MCB. Cp Leieun	a, Mor	1	
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	03302	CAST-IN-PLAGE CONCRETE				
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-	1.2.1	Reinforcement Drawings-Top Slab Flan 2.1 Bottom Reinforcement				7 3 24/2
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				OIG., /E Fi		05, H. Pepper,
		ed with action indicated. Approval of an item does	s not include approval of any deviat	tion from t	he contract req	uirements unless the con-
	Submittals are forward transmittal form.	rded to LANTDIV with A-E recommendations indi	cated in REVIEWER USE ONLY Se	ction and	in comments b	elow on ONE COPY of the
REVIE	unda	nor correction were made by ate his copies of this subm ward this submittal to the	ittal, admowledge		ctions b	elow, and
	COR	RECTIONS ACTIONALEDGE:			COP	Y TO: FIELD TE: 8-7-85
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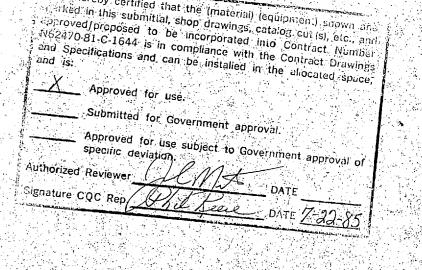


TOP SLAB PLAN - TOP REINE

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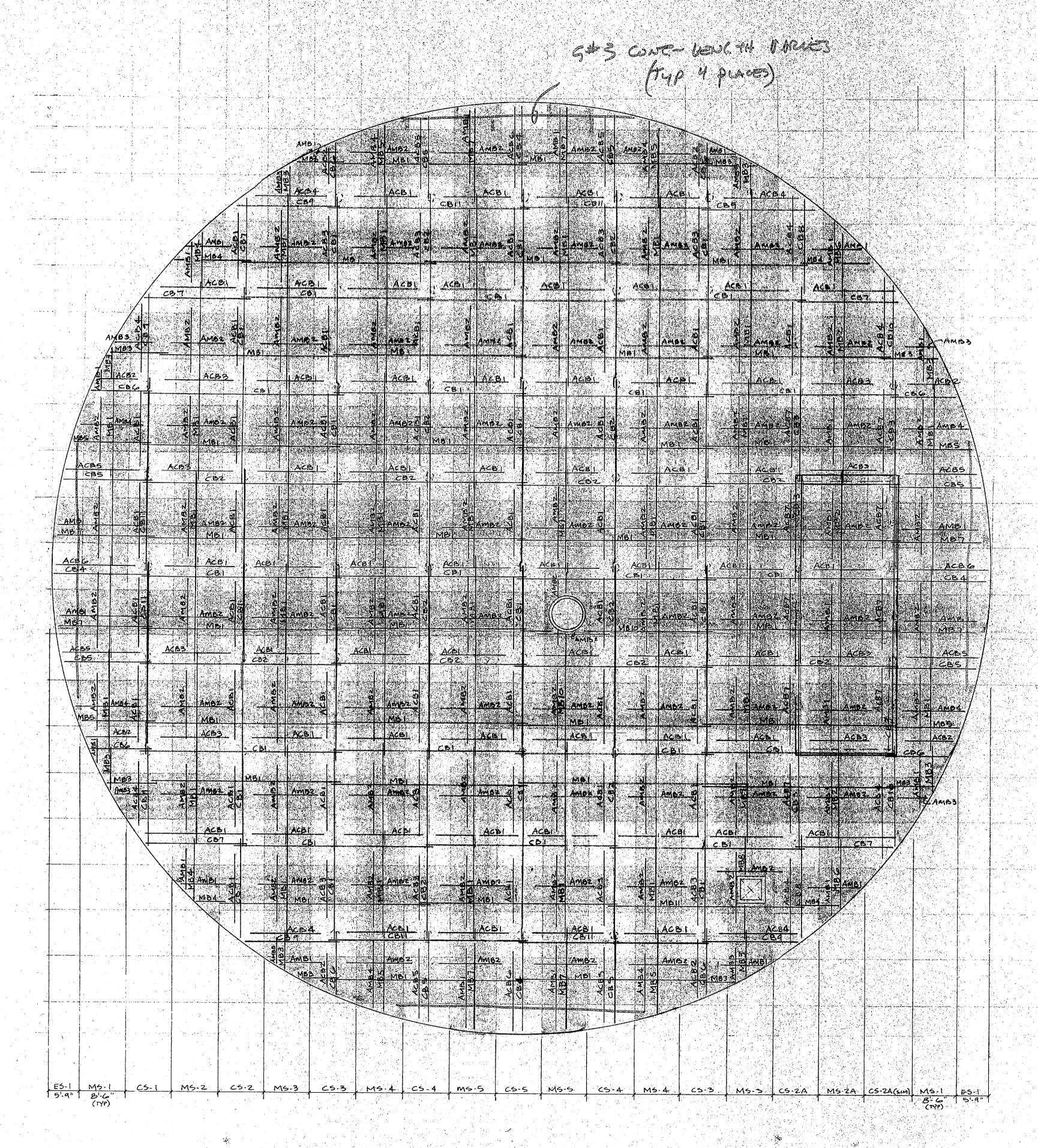
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FOR APPROVAL OWLY Not For Construction

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	HARRY PE		
ARCHITECT			
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TOP SLAB PLAN - BOTTOM REINE.

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	CBS	16	7#3×35-0	
	CB3	8	10#3135-0	
	СВ4	4	8#3×19-3	
	CBS	8	7#3~ 18-3	
	CBG	8	7#313-0	
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170			1#3×17-0	
0	CB8	2	2#3x18-0 °	
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7	CB9	6	243 x 18-0	
苕			#3x20-0	
DUMM			143×24-0	
J			143x12.0	
	CB10	2	145x 16-0 243x 18-0	
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	ACBI	101	P-51 x 6 # 2	
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7.47	ACB 5	 	7#3 12-9	
3	LICO 3	حماا		
		8	7#3×15-2	
12		8	6#3x13-4	
ALT	ACB6	4	7#3~15-1	
∢	ACB7	9	9#3~15.2	
	MBI	61	0#3×35-0	
	MBZ	3	7#3235.0	-
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marked in this submittal, shop drawings, catalog cut (s), etc., and approved/proposed to be incorporated into Contract Number N62470-81-C-1644 is in compliance with the Contract Drawings and Specifications and can be installed in the allocated space, and is:

Approved for use.

Submitted for Government

Approved for use subject to Government approval c specific deviation.

Authorized Reviewer DATE

Signature COC Rep. Phil Tress DATE

FOR APPROVAL ONLY Not For Construction

LEP LOTT STEEL PRODUCTS CO.

PROJECT EXP. HOLCOMB BLYD WATER TREAT. PLANT LOCATION CAMP LE JEUNE, N.C. CONTRACTOR HARRY PEPPER ASSOC.

SCALE DRAWN BY CHECKED APPROVED

NAME LOTT NAME NAME

DATE G-2085 DATE DATE

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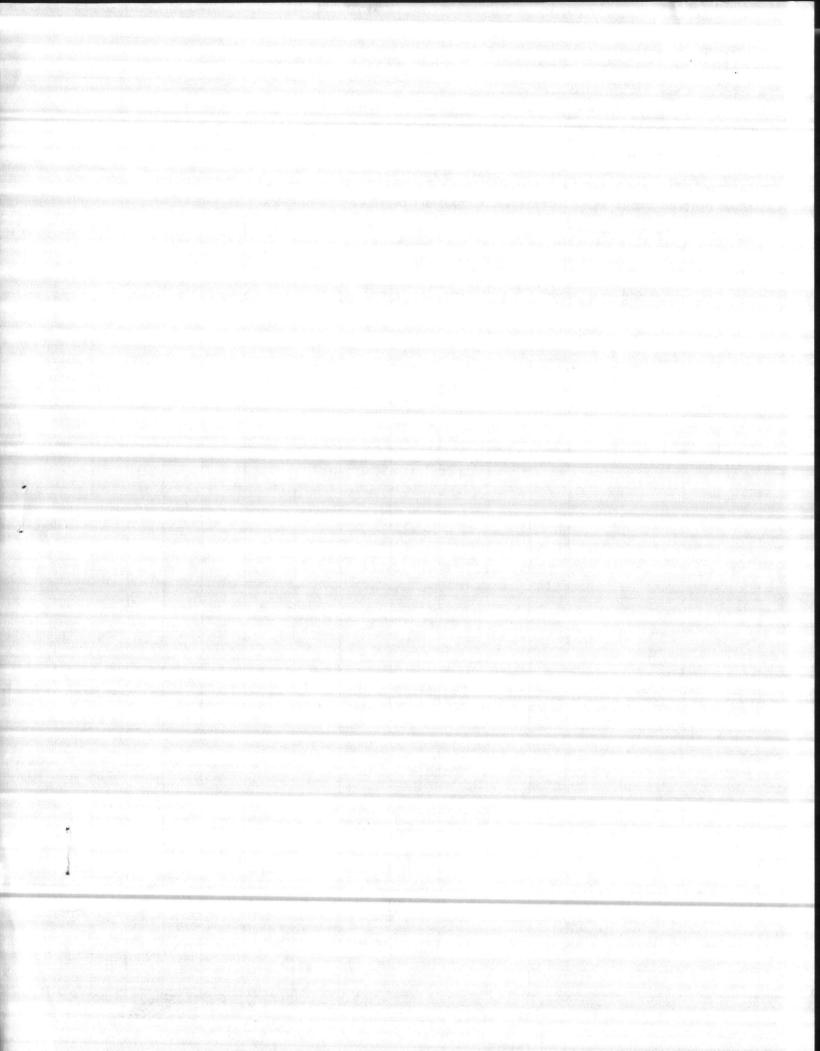
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		ded to LANTDIV with A-E recommendations ind	icated in REVIEWER USE ONLY Se	ection and in	n comments be	elow on ONE COPY of the
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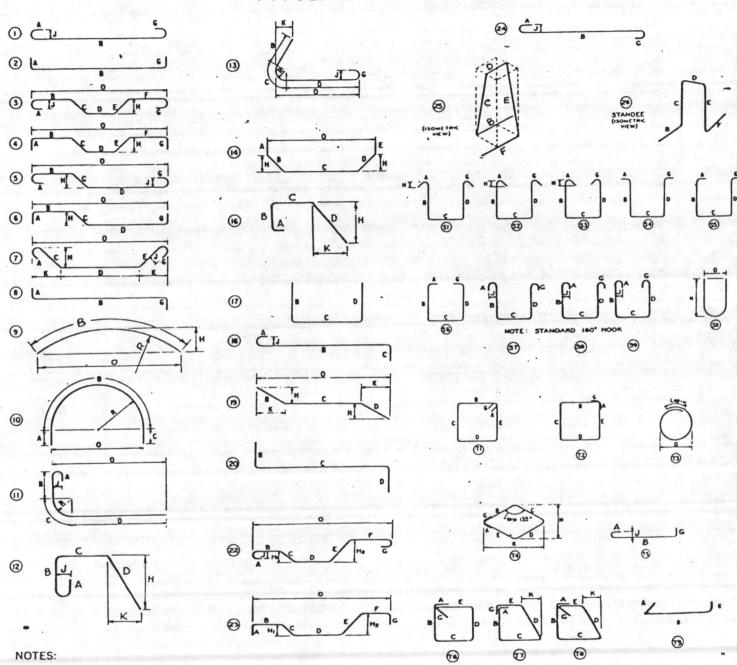
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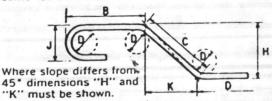
P. O. BOX 879 • WELCOME, NORTH CAROLINA 27374-0879 TELEPHONE (704) 731-6331

TYPICAL BAR BENDS

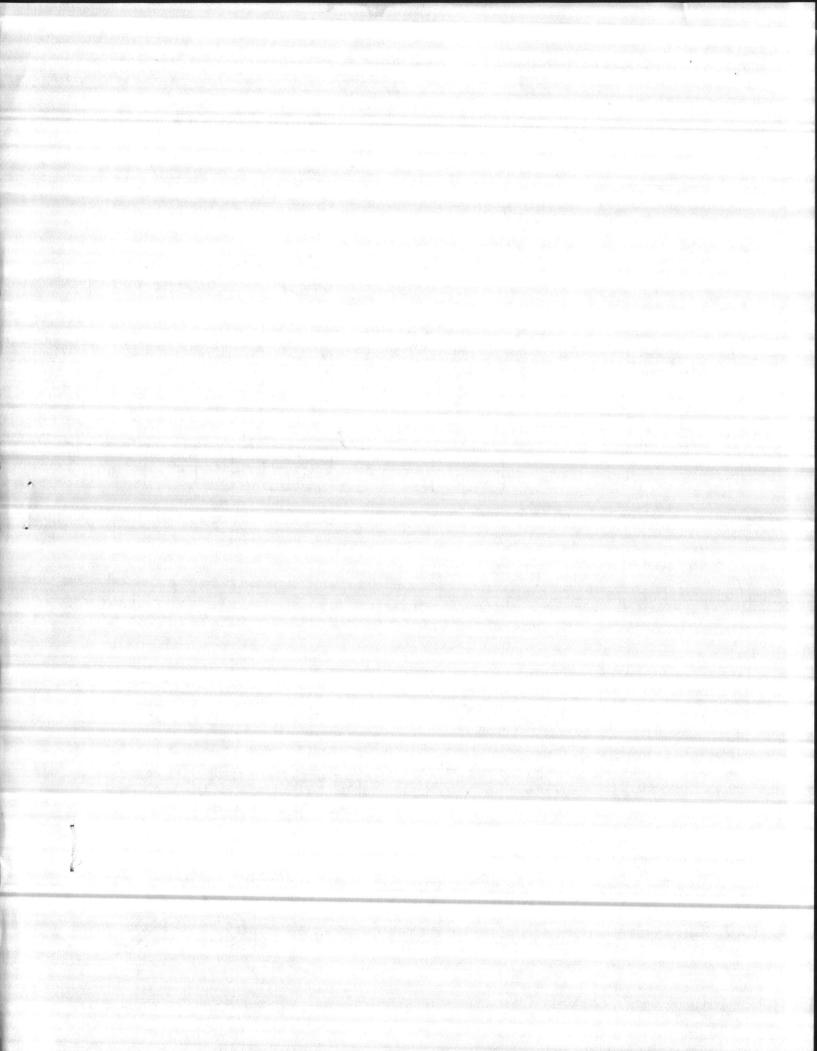


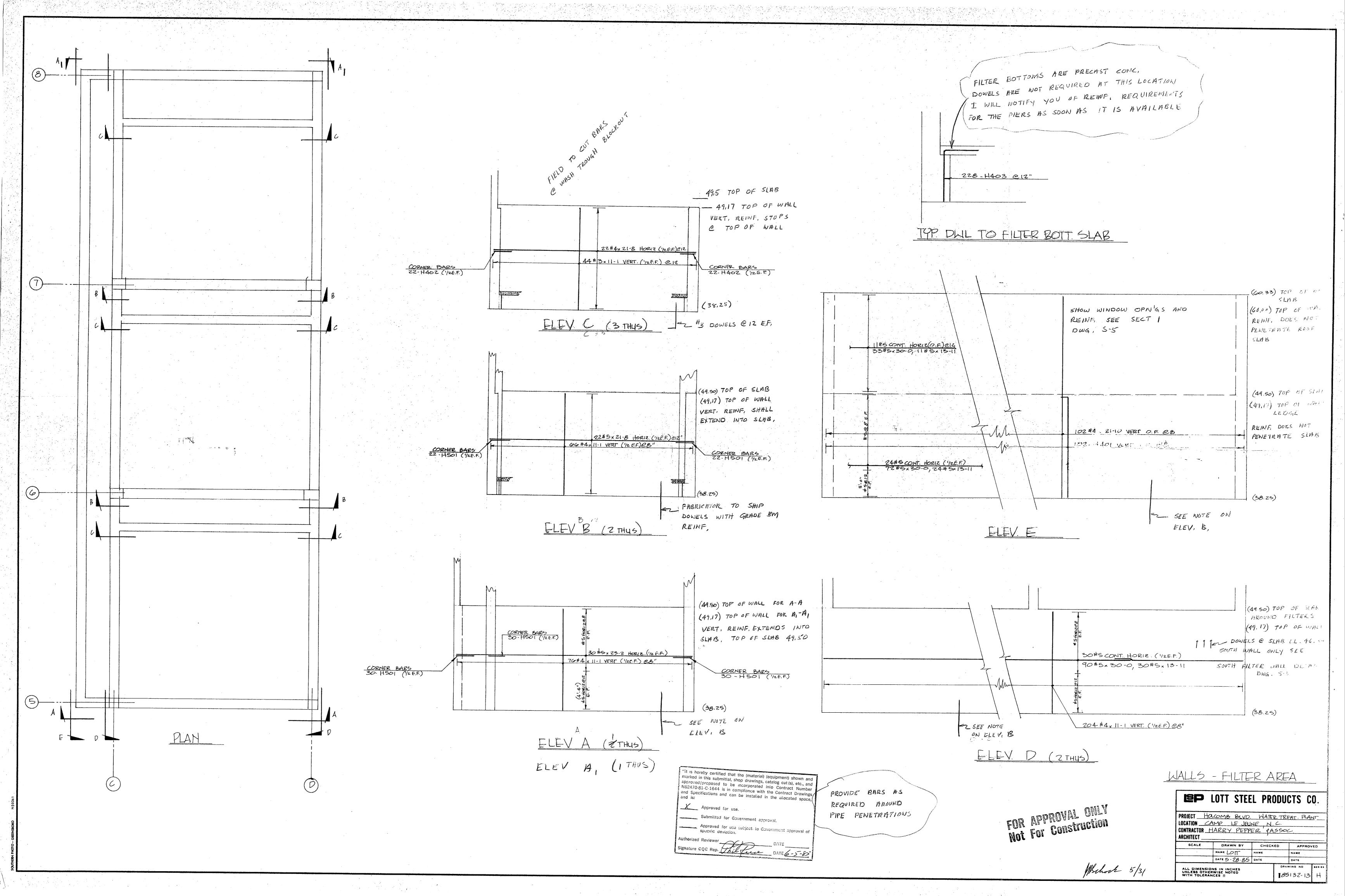
- All dimensions are out-to-out of bar except "A" and "G" on standard 180° and 135° hooks.
- "J" dimension on 180° hooks to be shown only where necessary to restrict hook size, otherwise standard hooks are to be used.
- 3. Where "J" is not shown, "J" will be kept equal to or less than "H" on truss bars. Where "J" can exceed "H", it should be shown.
- 4. "H" dimension stirrups to be shown where necessary to fit within concrete.
- Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.
- 6. Figures in circles show types.
- 7. For recommended diameter "D", of bends, hooks, etc., see tables, page 6-4.
- 8. Type S1-S9, S11, T1-T9 apply to bar sizes #3 through #8.

Unless otherwise noted diameter D is the same for all bends and hooks on a bar.



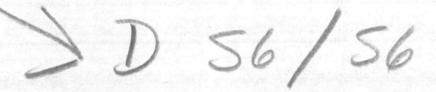
ENLARGED VIEW SHOWING BAR BENDING DETAILS





Note: Request is made to use Vertical Construction Joints as indicated on the attached drawings. The Contractor requests that by useing Vertical Construction Joints, the walls can be placed in sections thereby reducing concrete shrinkage and giving better control over each pour. All Vertical joints will be complete with keyways, dowels and waterstop per detail on Contract Drawings.

If this proposed Deviation is approved, there will be no additional cost to the Government and any changes caused by this Deviation will be at the expense of the Contractor.



	ATLANTIC DIVISION
NAVAL	FACILITIES ENGINEERING COMMAND
	NORFOLK, VIRGINIA 23511

	PROVED
APP	PROVED AS NOTED
DIS	APPROVED
SUE	BJECT TO THE REQUIREMENTS OF
CON	VTRACT NO. 05-81- 164
APP	ROVAL OF A SUBMITTAL DOES NOT INCLUDE
APP	ROVAL OF ANY DEVIATION FROM THE CON.
TRA	CT REQUIREMENTS UNLESS THE CONTRAC-
TOR	CALLS ATTENTION TO AND SUPPORTS THE
DEA	TATION-THE CONTRACTOR SHALL BE
RES	PONSIBLE FOR PROVIDING PROPER
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TION	OF TRADES, ETC., AS REQUIRED.
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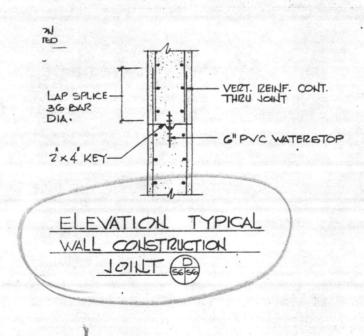
FOR OFFICER IN CHARGE OF CONSTRUCTION

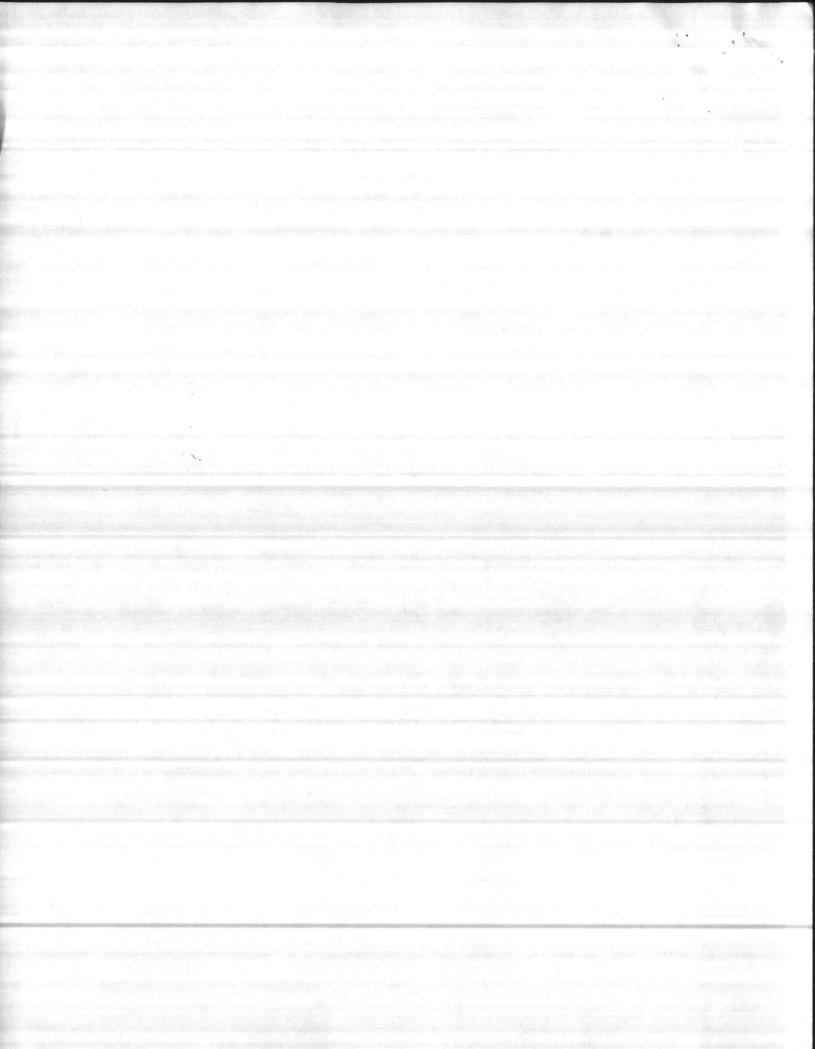
marked approved N62470-	reby certified that the (material) (equipment) shown and in this submittal, shop drawings, catalog cut (s), etc., and d/proposed to be incorporated into Contract Number 81-C-1644 is in compliance with the Contract Drawings edifications and can be installed in the allocated space,
	Approved for use.
X	Submitted for Government approval.
	Approved for use subject to Government approval of specific deviation.
Authorize	ed Reviewer DATE
Signature	e CQC Rep. Shil Leve DATE6-20-85

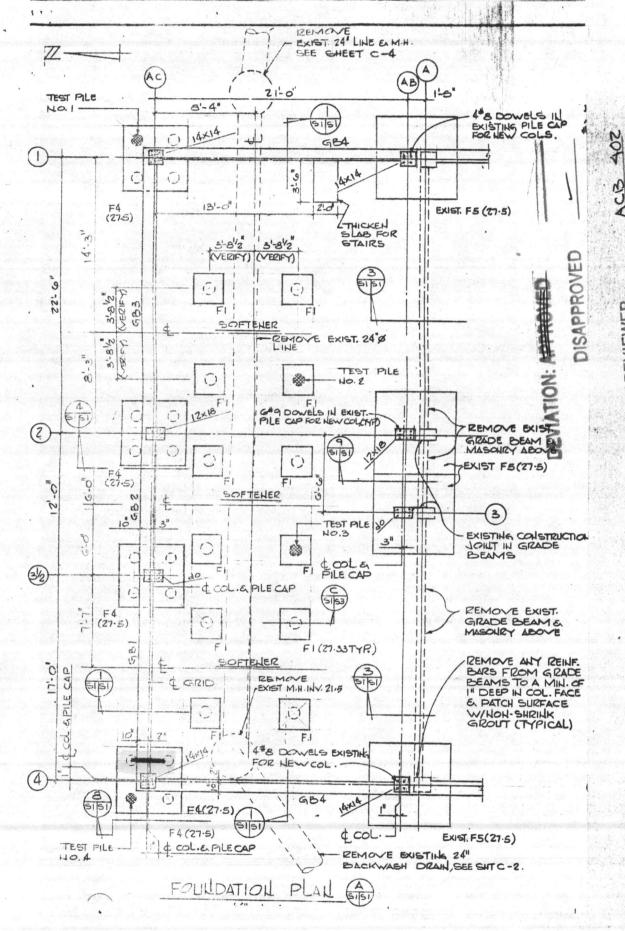
Deviation Approved: Additional vertical joints are required. See sketches from Henry Von Oesen & Assoc. for exact locations of joints

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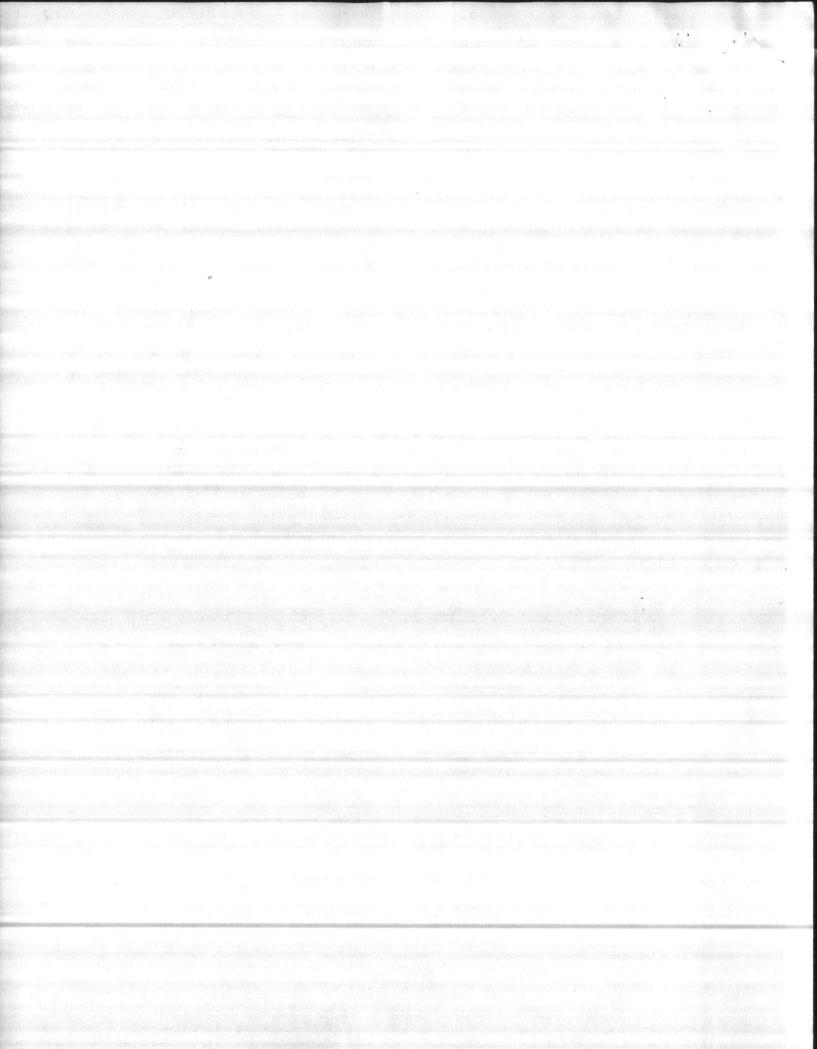




LANTDIV REVIEWER

JUL

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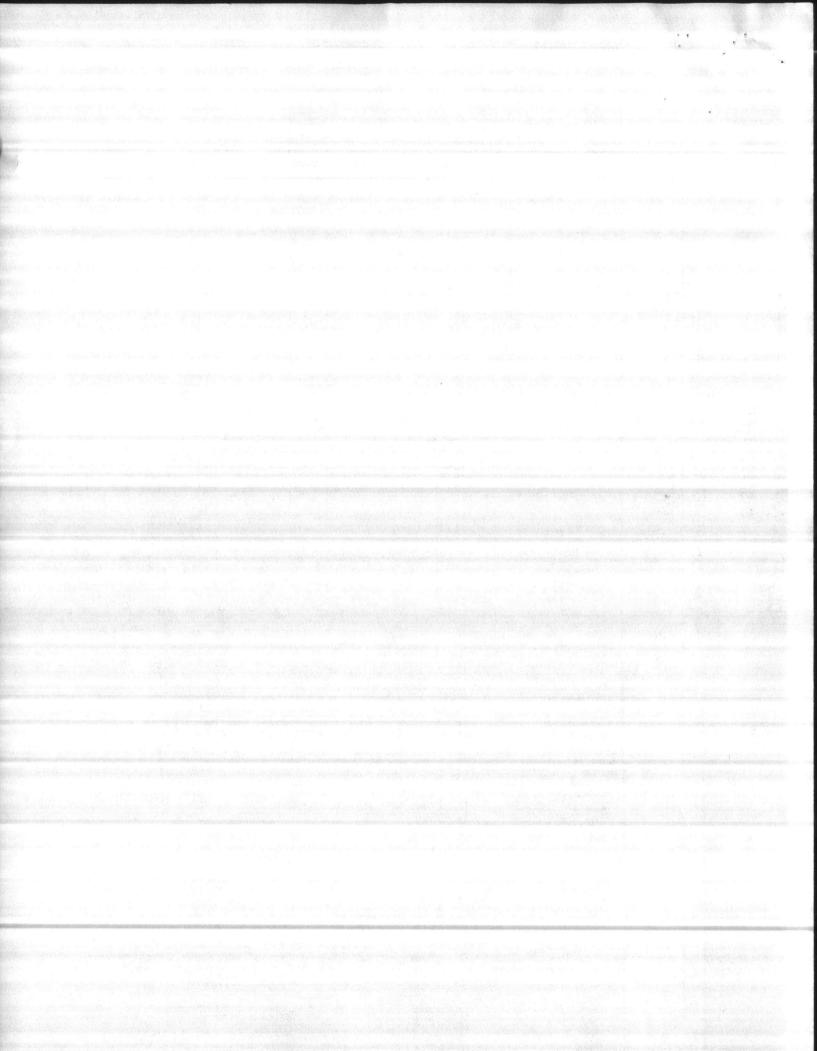
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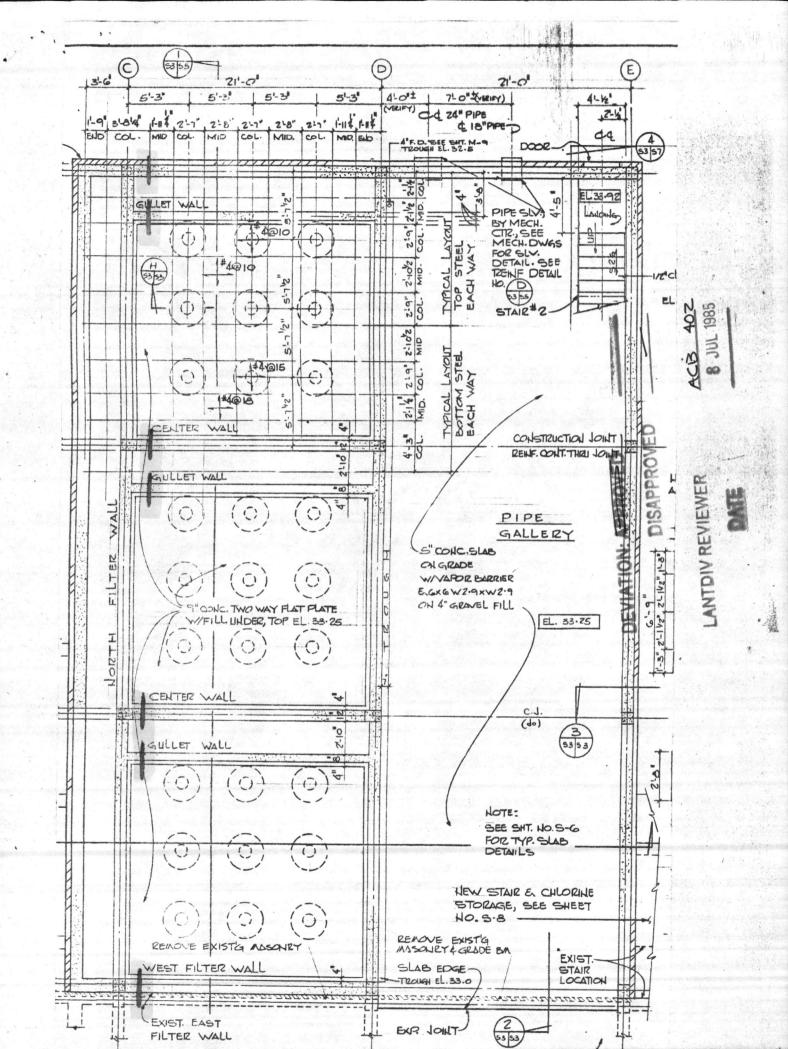
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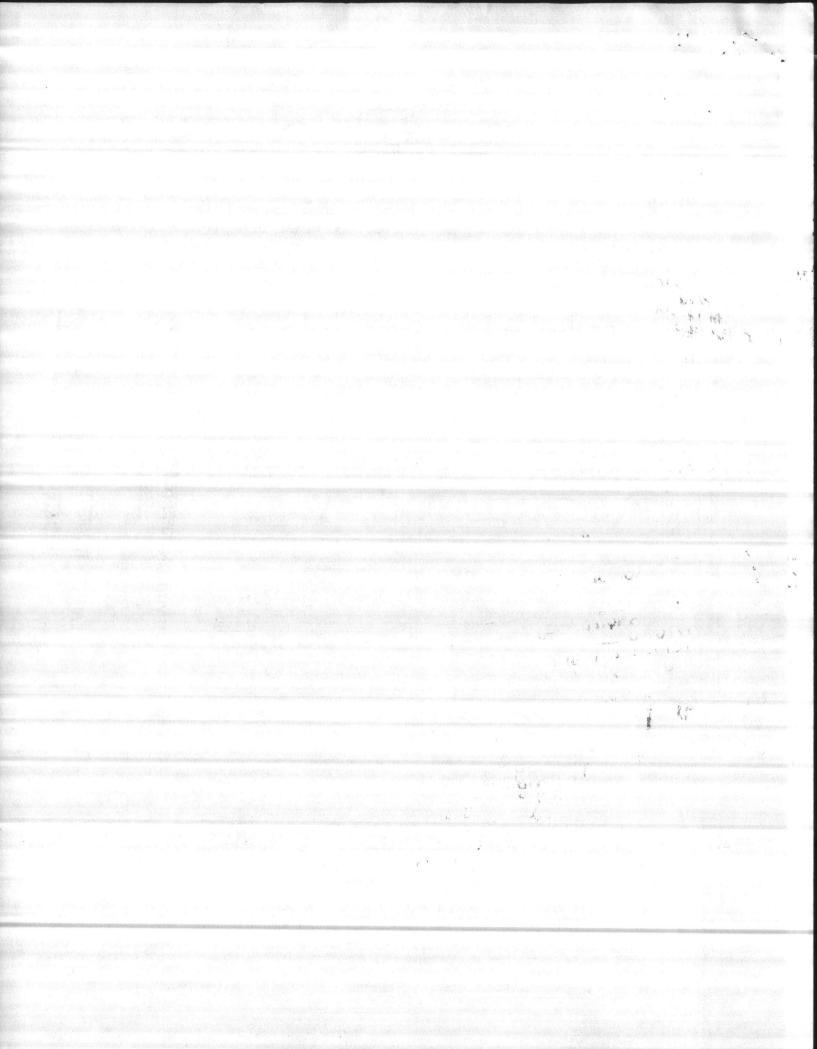
F-1(82.0)

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F-4, (32.33)









HENRY VON OESEN AND ASSOCIATES CONSULTING ENGINEERS AND PLANNERS

Telephone (919) 763-0141

611 PRINCESS STREET

P.O. DRAWER 2087 WILMINGTON, NORTH CAROLINA 28402

July 1, 1985

Code 05 04 Atlantic Division Naval Facilities Eng. Command Building N26 Norfolk, VA 23511

Attn: Mr. Warren Bixler

Structural Department

Holcomb Blvd. Water Treatment Plant Re:

MCB/Camp Lejeune, N. C. Contract No. 81-C-1644

8 JUL 1985

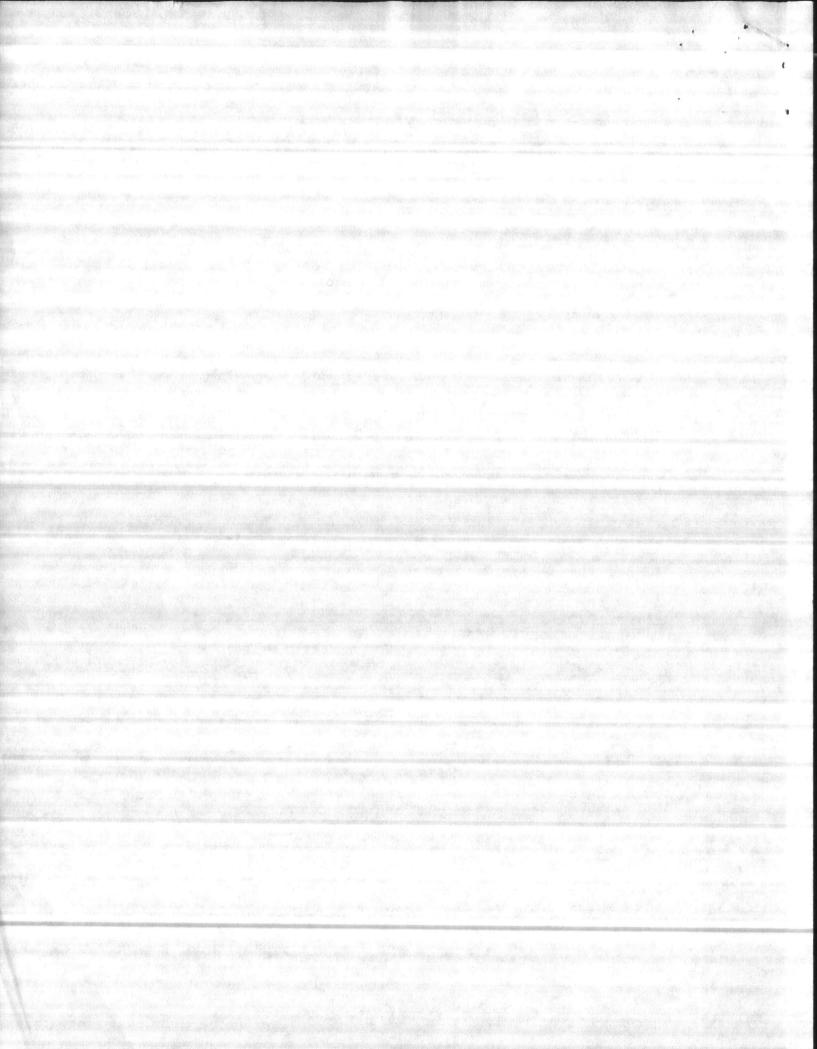
Dear Mr. Bixler:

In accordance with my telephone conversation with you on this date, I am sending herewith a revised set of prints showing construction joint location in grade beams and structural concrete walls. The following working drawing details are copied and marked herein: A/S1-S1, A/S3-S3, B/S3-S3.

In general, the following notes and sketches shall apply for vertical construction joints in concrete grade beams, concrete walls, and elevated concrete slabs.

- Concrete grade beams (below lower floor): Detail A/S1-S1 for horizontal and vertical joints, use 2 x 4 T&G shear key.
- Concrete walls: Detail A/S3-S3. Locate vertical construction joints at mid-point of horizontal span. For horizontal and vertical construction joints, use 2 x 4 or 2 x 6 shear key with continuous waterstop.
- 3. Elevated concrete slabs: Detail A/S4-S4. Locate joints in low shear area within mid-third of span, preferably at the centerline of span. Provide continuous T&G shear key with groove width approximately one-third of slab depth and groove depth 15 inches.

Please void or destroy the approval given by this office on Transmittal No. 69 dated 6-20-85.



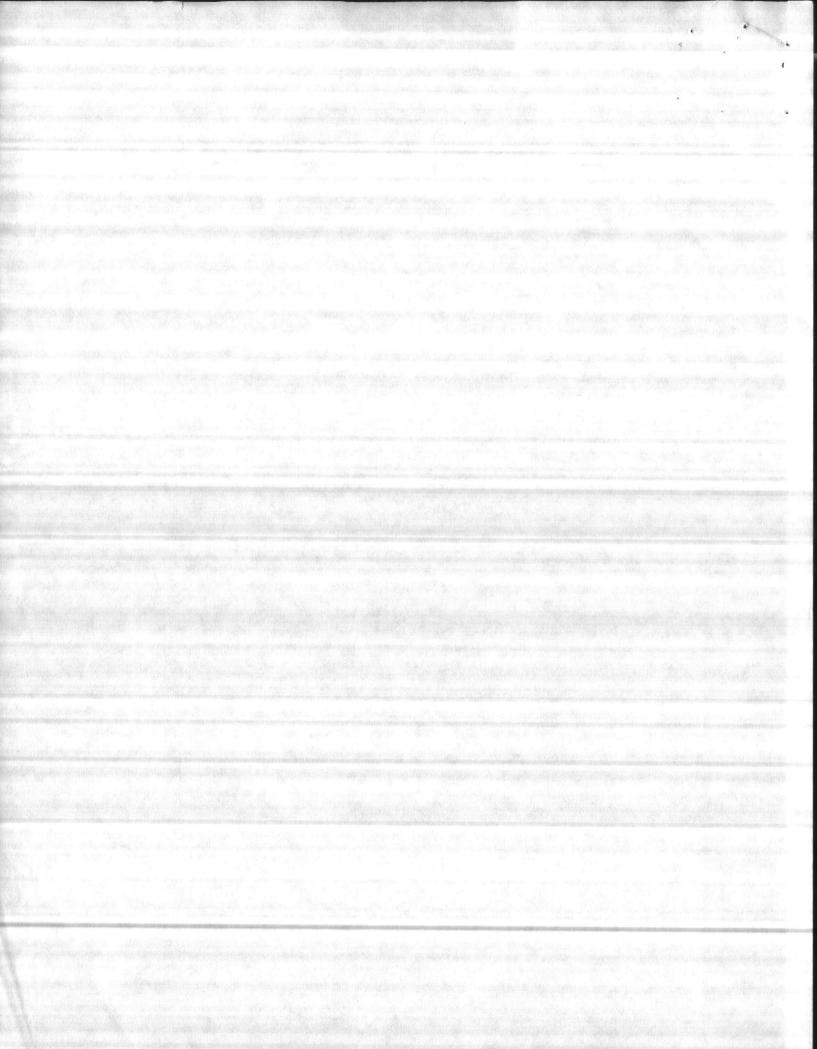
Code 05/LANTDIV July 1, 1985 Page 2

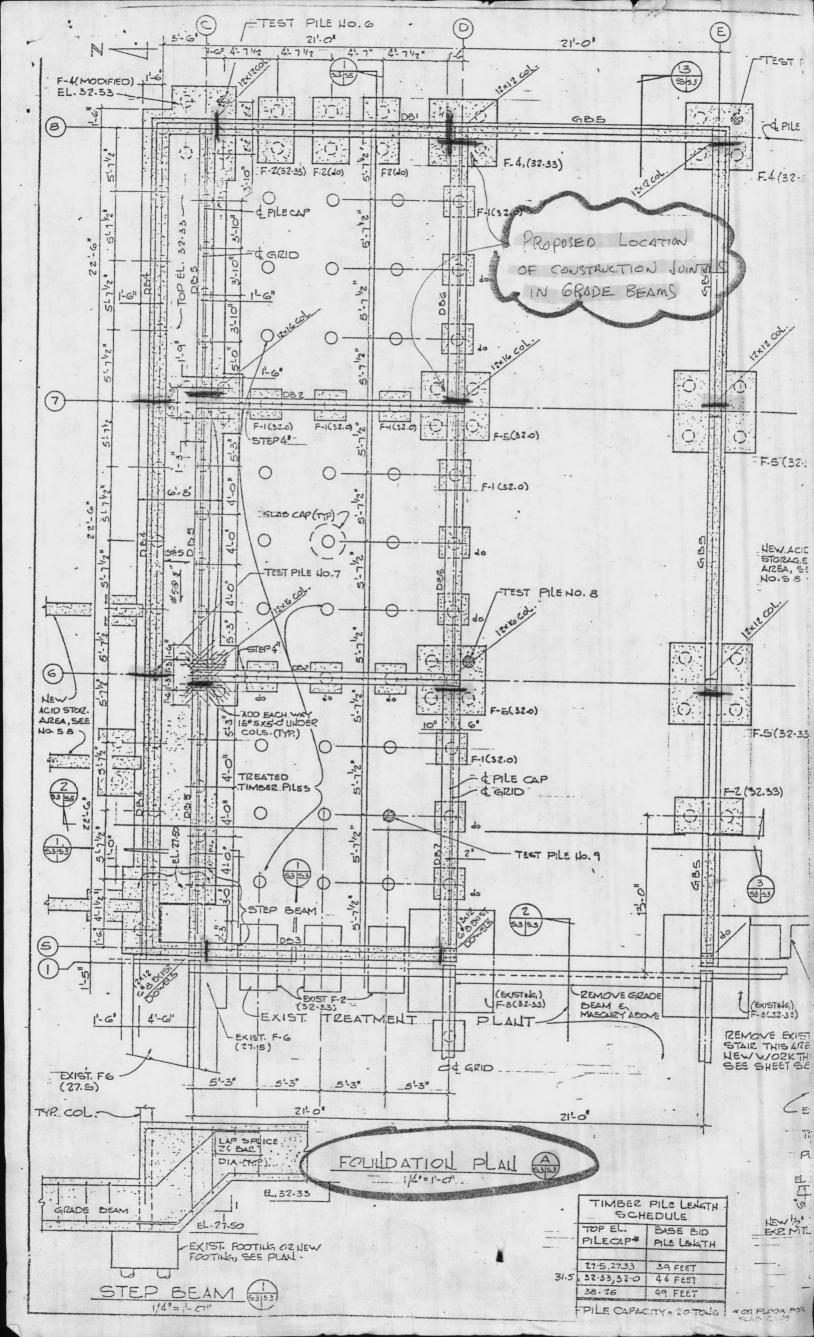
Very truly yours,

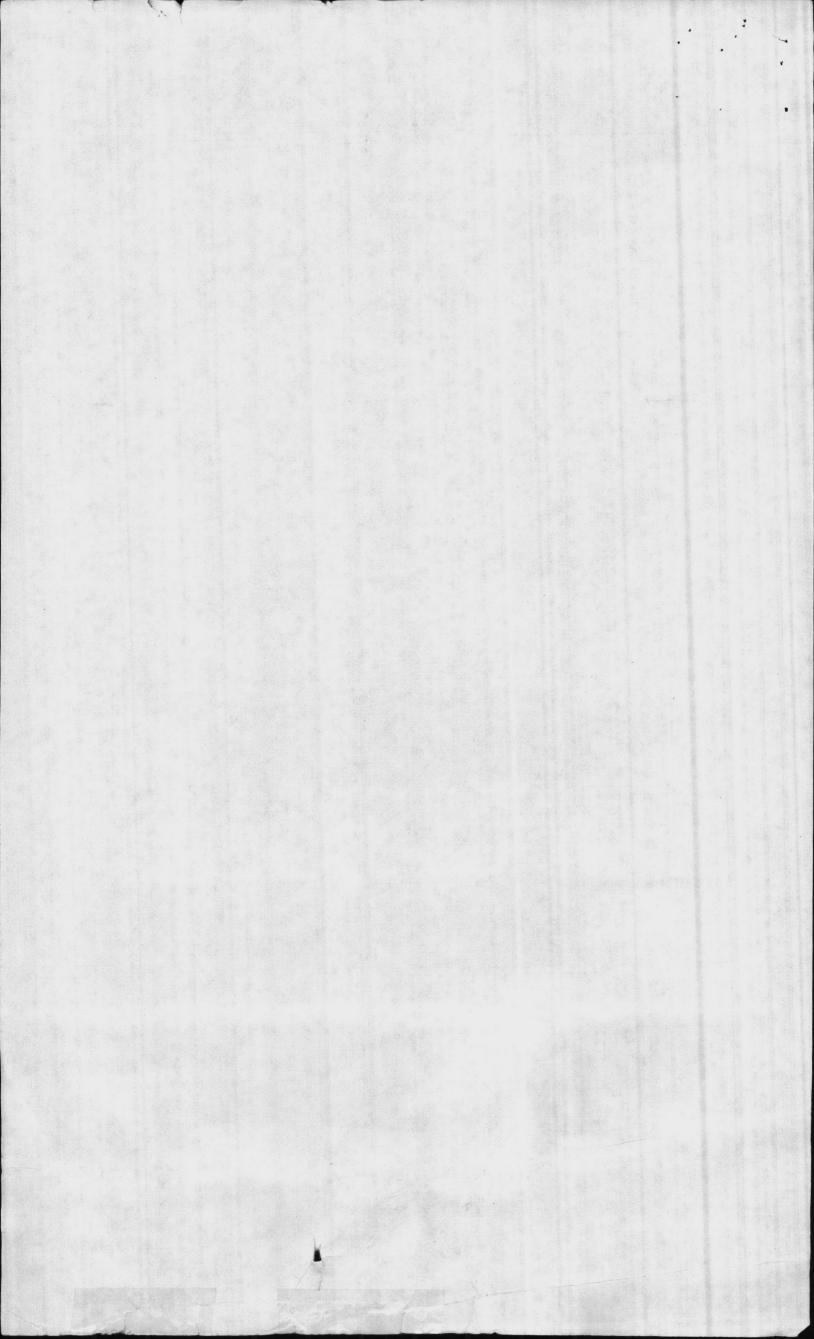
HENRY VON OESEN AND ASSOCIATES, INC.

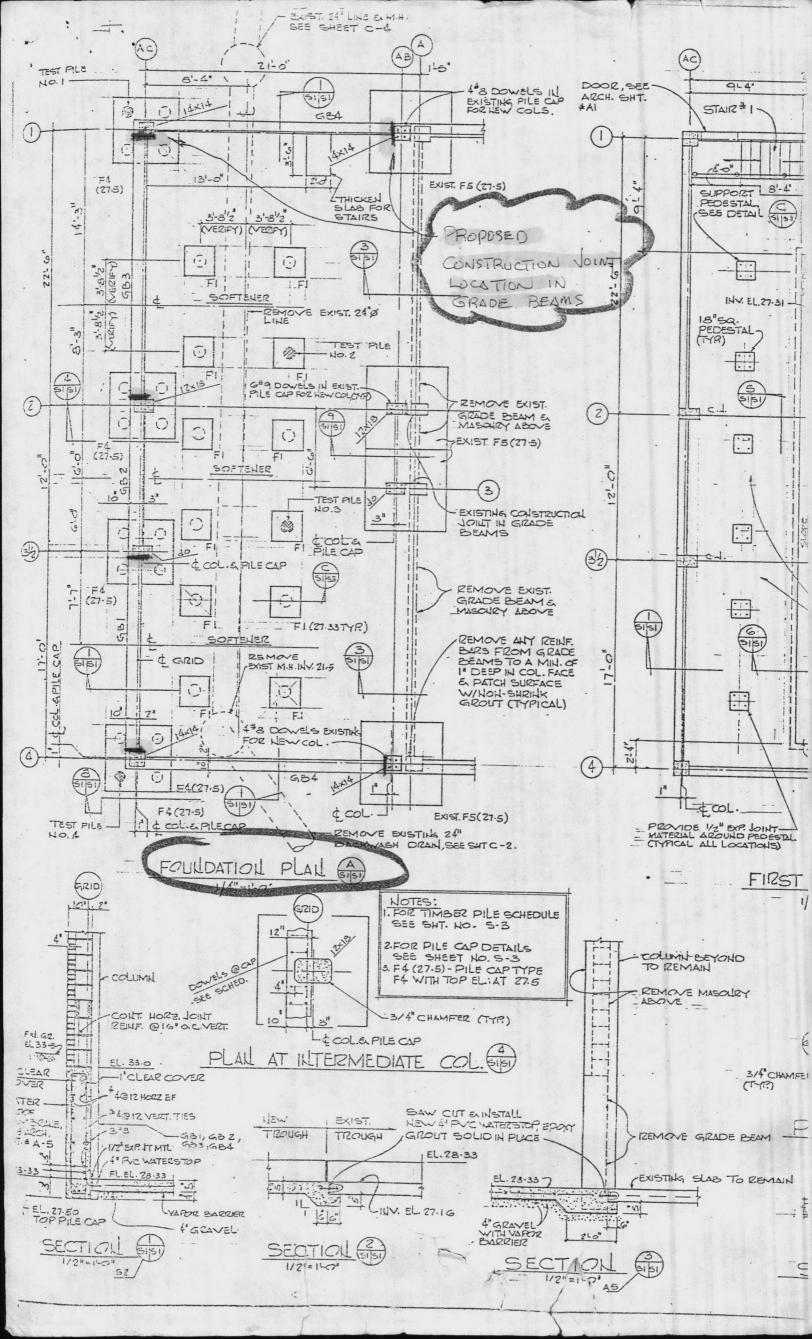
Charles E. Davis, P. E.

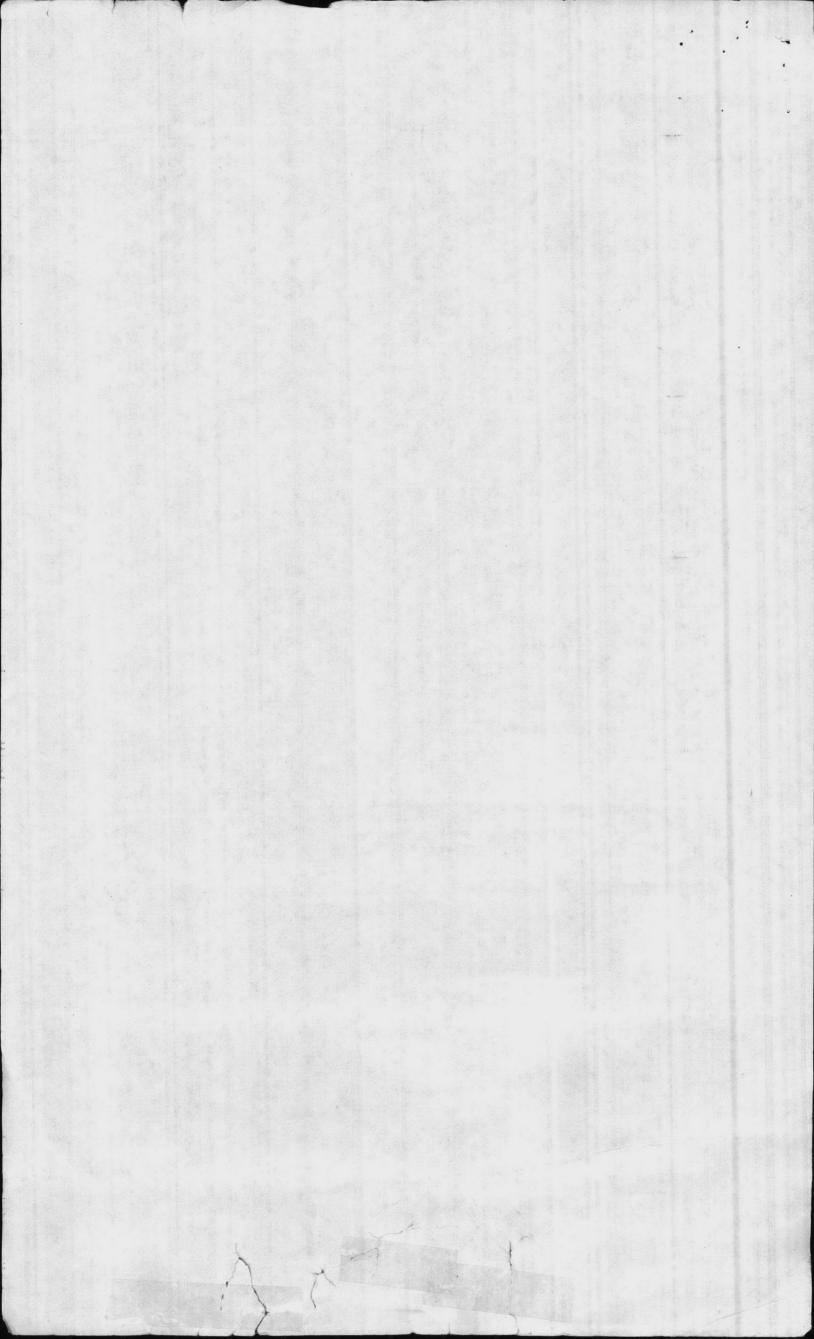
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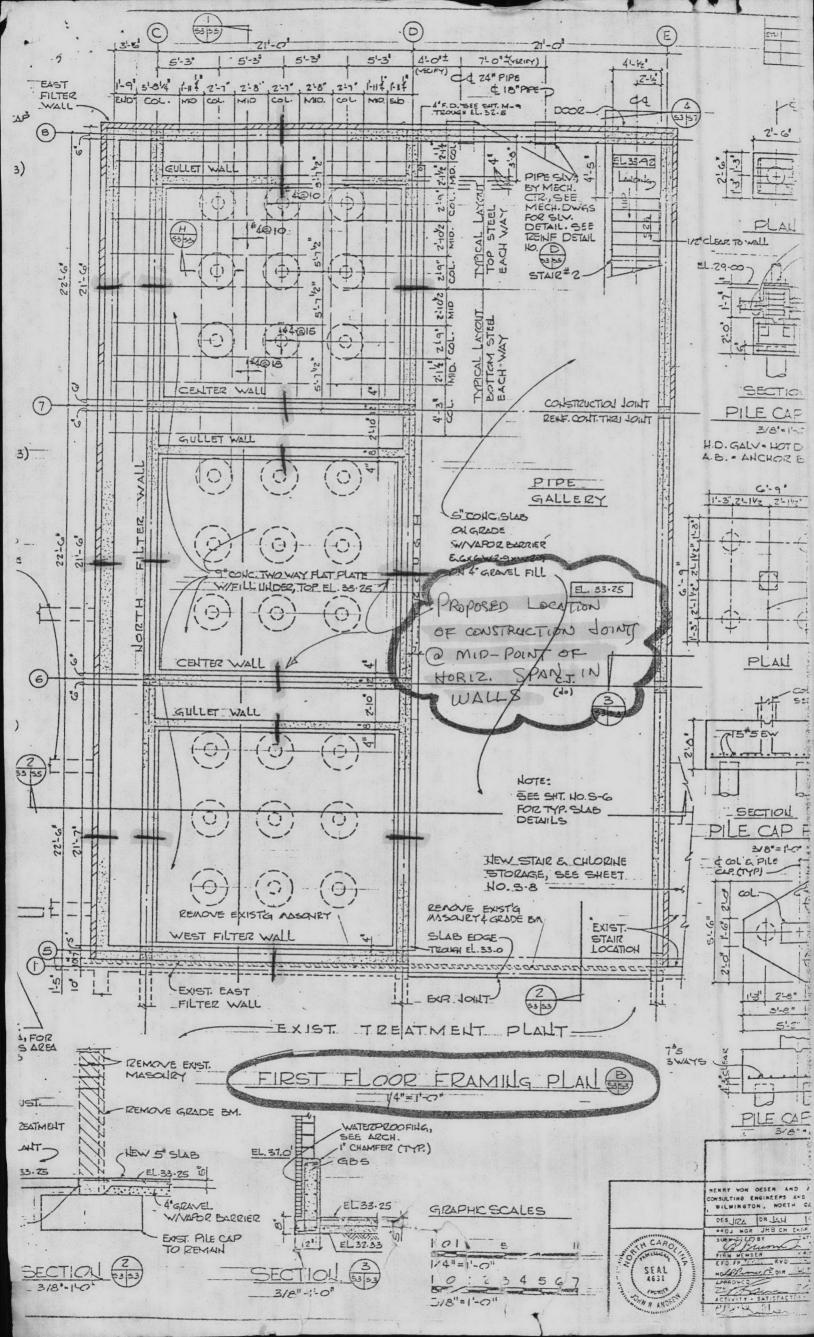


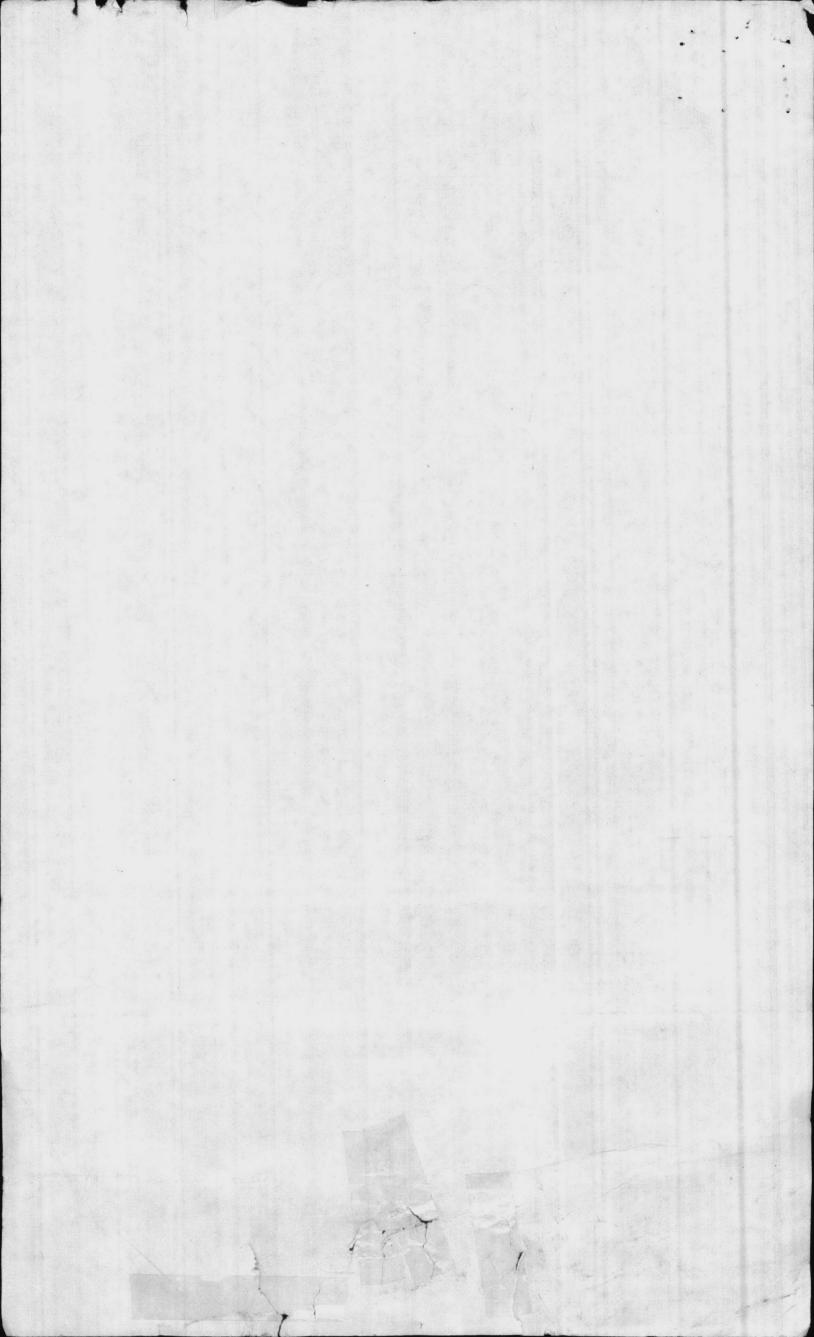


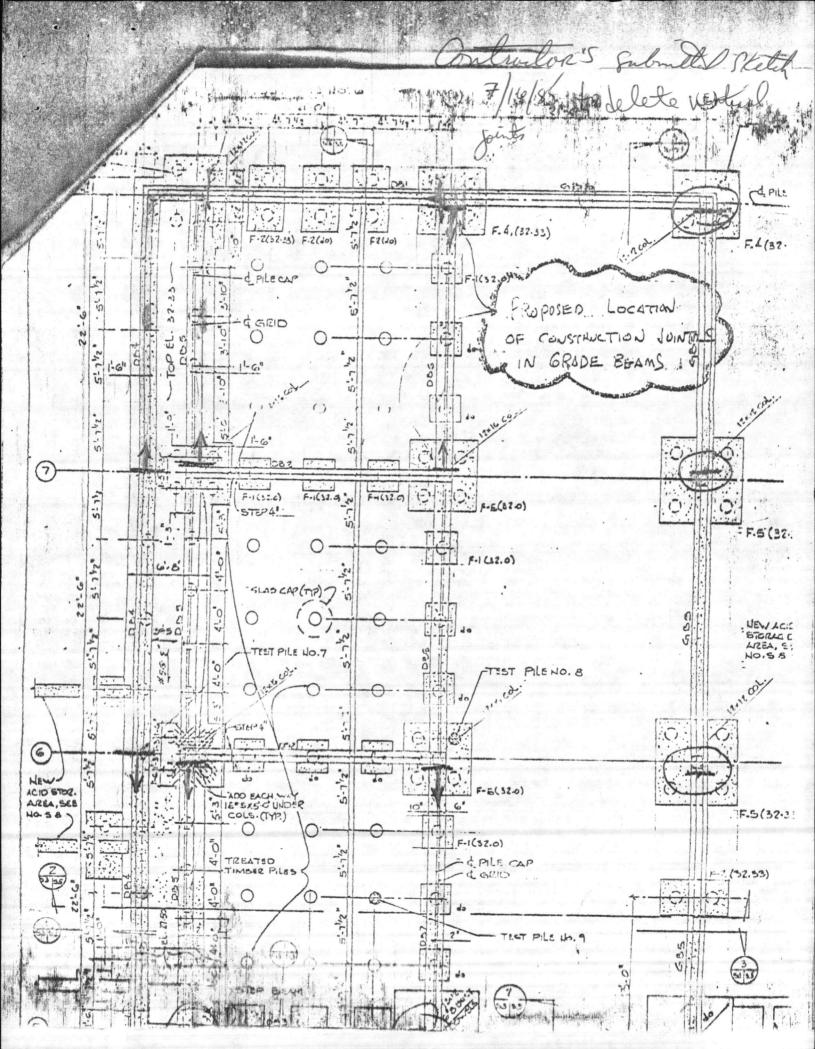


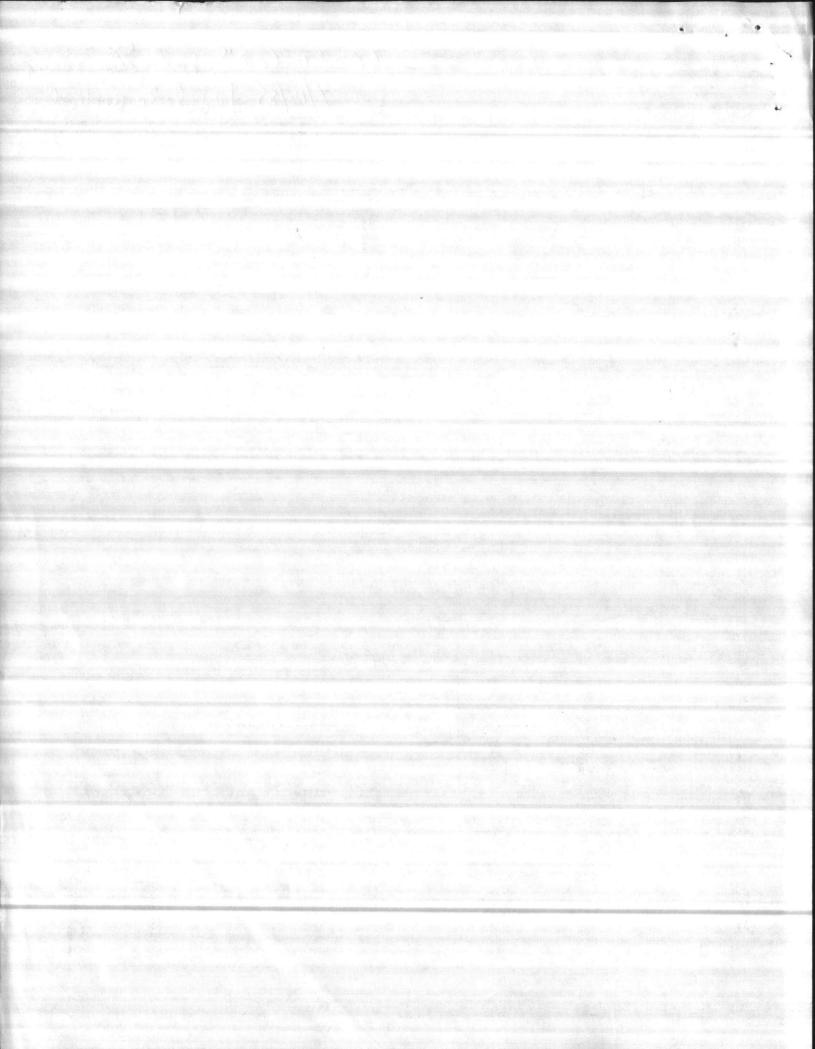


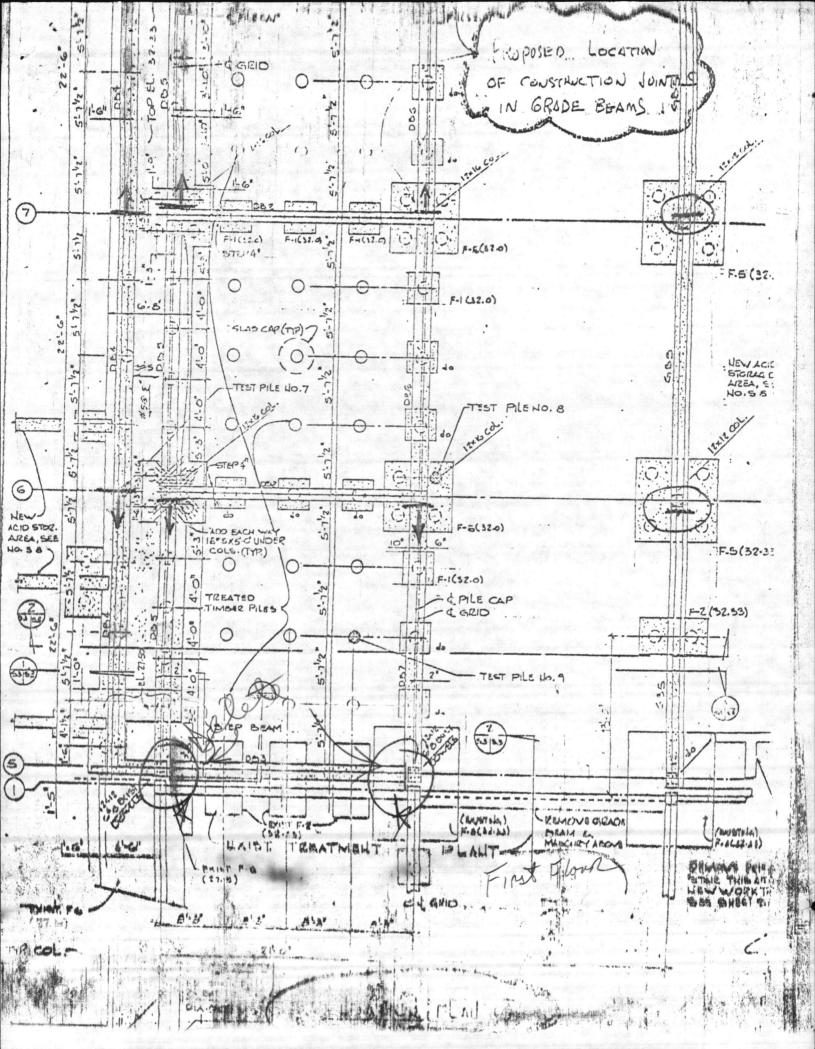


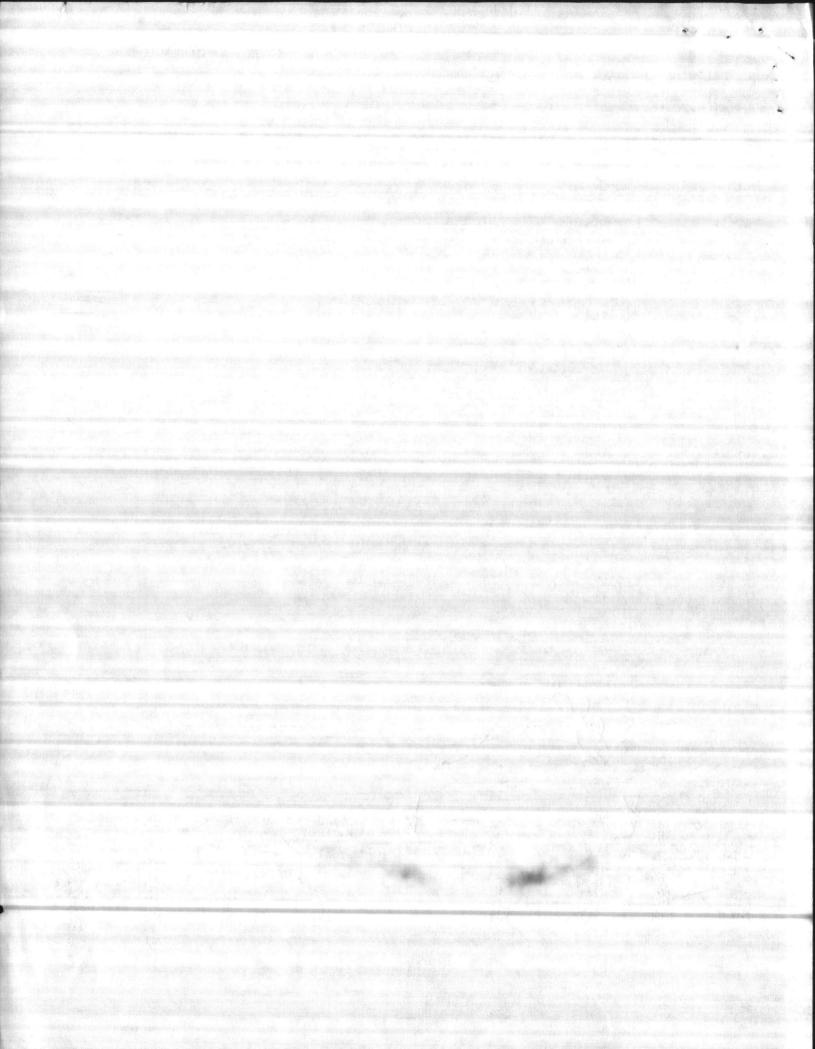


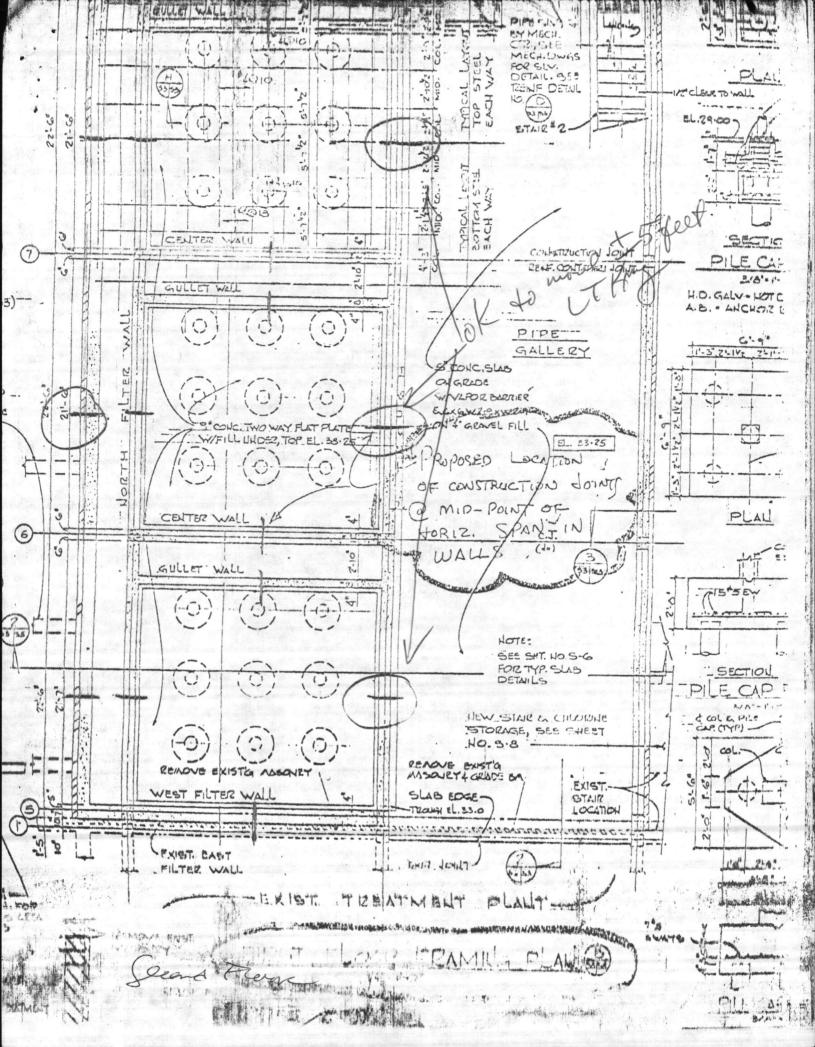


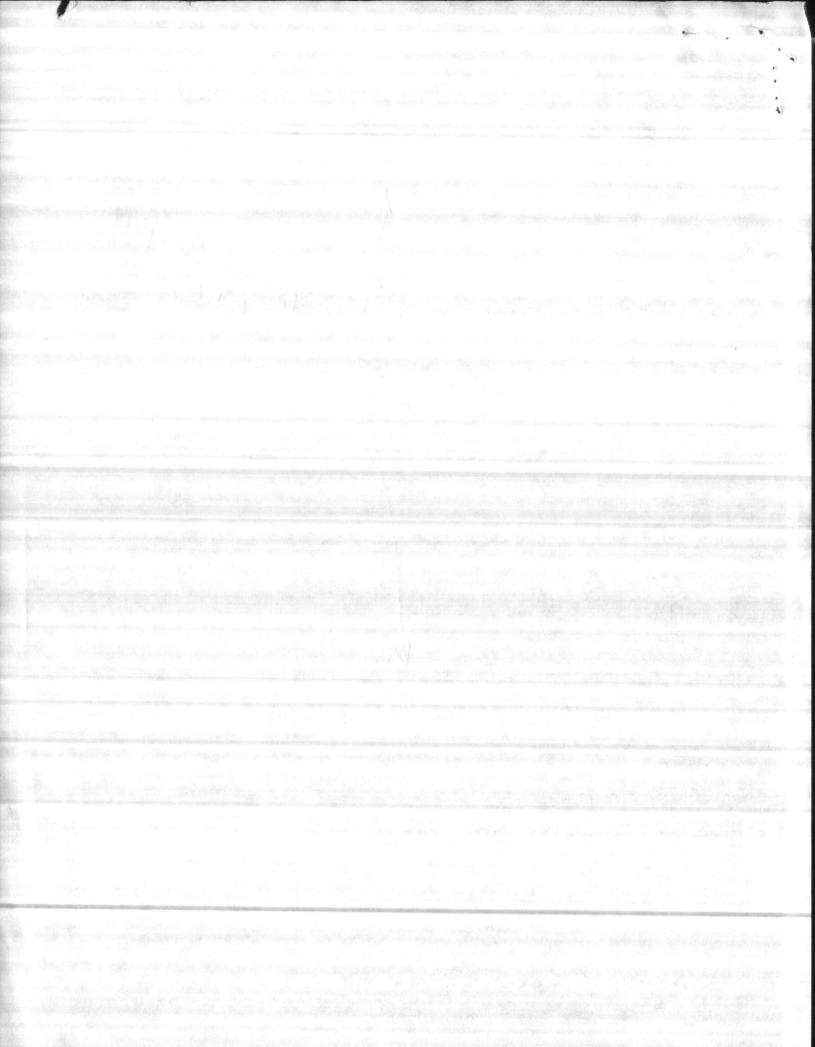












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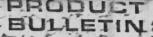
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RES-X** SODIUM SILICATI CURING COMPOUND

2655 Campus Drive • P.O. Box 5818 • San Mateo, CA 94402 • TWX 910-374-2349 (BURKE SMT) • (415) 349-7600

1. PRODUCT NAME: R

Res-X^{NU} Sodium Silicate Curing Compound

Item#1

2. MANUFACTURED BY:

The Burke Company

3. PRODUCT DESCRIPTION

Basic Uses

Res-X^{NU} is an economical curing, hardening and dustproofing compound that can be used on fresh or aged interior or exterior concrete.

It chemically cures, hardens and dustproofs in one easy operation. Res- X^{NU} does not interfere with the bondability of most toppings, coatings or adhesives.

Safe to use, Res- X^{NU} is odorless, non-flammable, non-explosive and may be safely used in areas where petroleum-based materials might be hazardous.

Composition

Res- X^{NU} is a sodium silicate base compound which penetrates the surface chemically. It contains no wax, paraffin or oil. A red fugitive dye is added to provide a visual check of coverage during application. It is also available in white pigmented on request.

Packaging

55 Gallon (208 liter) drums, Order No. (302) 47-007 5 Gallon (19 liter) containers, Order No. (302) 47-008

4. APPLICATION INSTRUCTIONS

Burke Res-X^{NU} is designed for easy application with hand or power spray equipment. Brush roller or squeegee also may be used. Best results are obtained by using a spray application.

Res- X^{NU} is ready to use. Do not thin. Apply a continuous uniform film. If a second coat is applied, allow at least two hours drying time. Surface wear resistance increases with additional coats. Allow 24 hours drying time before permitting heavy traffic. Do not apply at temperatures below 40° F. (4°C).

Coverage Rates

Rough Finish -200 to 300 sq. ft./gallon ($5m^2$ to $7m^2$ /liter).

Finely Textured -300 to 400 sq. ft./gallon (5m² to 10m²/liter).

Hard Troweled — 400 to 500 sq. ft./gallon (10m^2 /liter).

Rates may vary according to specifications and application. Reduce coverage rate for each succeeding coat for best results.

Authorized Reviewer

Signature CQC Rep.

Approved for use.

Submitted for Government schools are compliance with the Contract compliance compliance compliance compliance compliance complianc

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5. CAUTION

Protect Res- X^{NU} from freezing. If subjected to freezing, thaw and stir or agitate before using. If Res- X^{NU} comes in contact with aluminum or glass, rinse thoroughly with water without delay but no later than one hour.

Direct contact of Res- X^{NU} to eyes or skin will cause irritation. Flush thoroughly with clean, cold water. After use, wash skin thoroughly with soap and water.

6. EQUIPMENT CLEAN UP

Clean brushes, tools and equipment with clean water immediately after use.

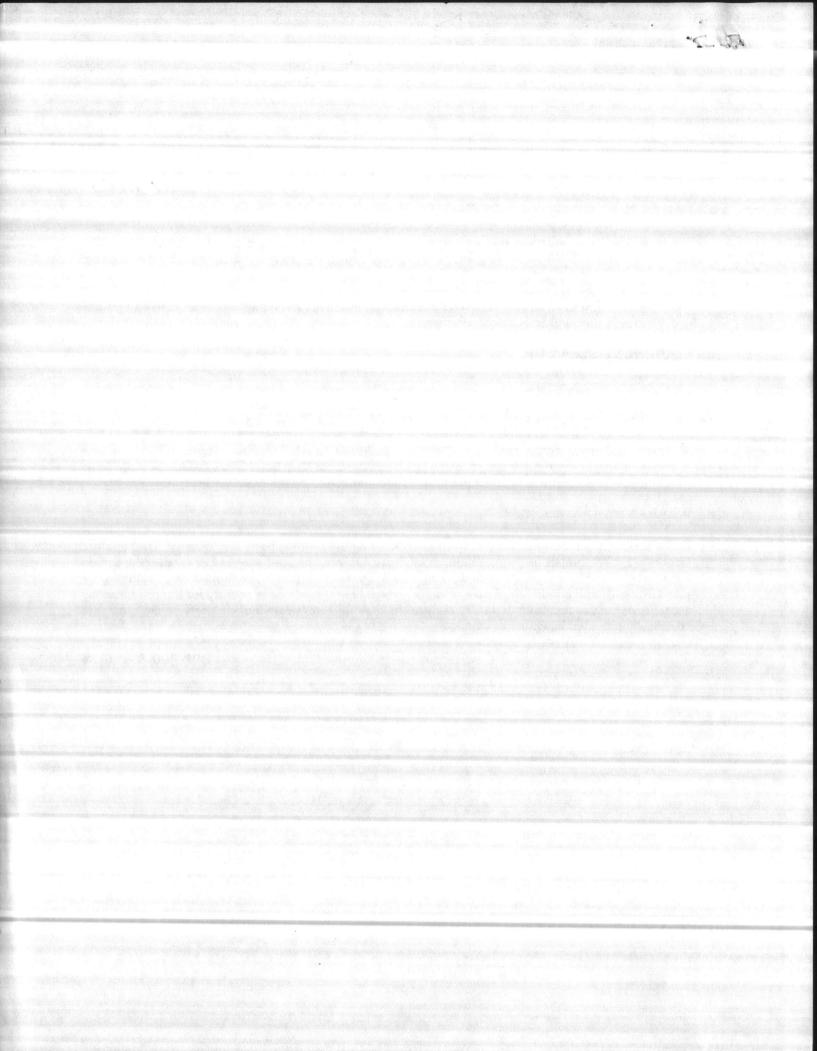
7. SUGGESTED SHORT FORM ARCHITECTURAL SPECIFICATION

All interior and exterior concrete surfaces, where so indicated, shall be cured with Burke Res-X^{NU} Sodium Silicate Curing Compound as manufactured by The Burke Company, San Mateo, California. Applicator should follow instructions and coverage rates as recommended by the manufacturer.

8. WARRANTY

Burke products will perform according to specifications only if directions are followed. Burke is not responsible for improper use, application, or storage of its products or for use of its products in unsafe weather or with unsafe engineering or working conditions. Burke products are supplied subject to Burke's standard terms and conditions of sale or rental, which limit Burke's responsibility for the product. Any warranty of the product is limited to Burke's or the manufacturer's standard warranty unless otherwise specifically provided by Burke in writing.

BPB 300/8 6/84



Two-part, cold-applied, chemicallycuring, self-leveling, horizontal grade, elastomeric polyurethane joint sealant.

2. MANUFACTURER

Pecora Corporation 165 Wambold Road Harleysville, PA 19438 215-723-6051

3. PRODUCT DESCRIPTION

Basic Uses: Sealing horizontal joints in highways, bridge approaches, parking decks, plazas, terraces, sidewalks, driveways, swimming pool decks, reservoirs and sewage treatment plants.

Limitations: Not recommended for joints contaminated with oil, grease, wax, bitumens, curing compounds, concrete sealers, mold release agents, etc. Not for areas subjected to harsh chemicals such as acids, strong alkalis, ketones, etc. Not for use in joints less than 1/4" (6.4mm) wide. Not intended for direct, continuous contact with food products.

Packaging: One and one-half gallon (346 in.3) (5.7 litre) and four gallon (924 in.3) (15 litre) units, when mixed with curing agent.

Colors: #12 Black, #39 Limestone, #403 Redwood Tan, #515 Aluminum Stone.

Applicable Standards: Meets the requirements of ASTMD1850 and Federal Specification TT-S-00227E(3), Class A Type I. ASTM C-920-79, Type S, Grade P. Class 25, Use T.

5. INSTALLATION

Joint Design: The width or depth of the joint should not be less than 1/4" (6.35mm). In joints up to 1/2" (12.7mm) wide, the depth of the sealant should be equal to the width. In joints wider than 1/2" (12.7mm), but not exceeding

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4. TECHNICAL DATA **TYPICAL PHYSICAL PROPERTIES**

	2-part Polyurethane Expansion, 25% Compression, 25%
Practical Joint Design	Minimum of 3 times anticipated movement
Non-volatile Content	
Initial Cure Times:	
@120°F (49°C)	2 hours
@80°F (26.7°C)	5 hours
@40°F (4.4°C)	36 hours
Tack-free to touch	
	48 hours @80°F (26.7°C), 50% RH
Hardness, Shore A	
Initial	
Ultimate	
Adhesion in Peel	Exceeds requirements of TT-S-00227E(3)
(primed concrete)	for 7-day water immersion

(25.4mm), the depth may be maintained at 1/2" (12.7mm). For joints wider than 1" (25.4mm), please consult our Technical Service Department.

Surface Preparation: Surfaces must be clean and dry. The presence of moisture will cause gassing before the sealant achieves ultimate cure. Oil, grease, wax, form release agents, curing compounds, bitumens, laitance and old calking materials must be removed by sandblasting or sawing to sound, virgin concrete surface for optimum sealant performance.

Priming: All joints must be primed before applying NR-200. Pecora P-200 Two-Part Epoxy Primer is recommended.

Primer must be dry before application of the NR-200

Dry Time: 75°F 1 hour 40°F 3 hours

P-200 Primer should not be allowed to dry over 8 hours before application of the NR-200

Joint Backing: Backing rod should be used to control the depth of the sealant. Pecora #92 Green Rod Closed Cell Polyethylene is recommended. Use a size that will compress 25% when inserted into the joint. Do not overcompress or puncture backing rod during installation. Non-porous, semi-rigid backing materials may be used if a bondbreaker tape is applied to prevent adhesion to the joint filler. NR-200 should not be installed over impregnated fiberboard, sand or porous fillers capable of absorbing and retaining

Mixing: Activator and base components are packaged in the exact ratio for use. Mix all of the activator and base as furnished: do not attempt to mix partial units, as the exact ratio of A to B is essential for optimum performance.

Thoroughly blend activator and base for a minimum of five minutes using a slowspeed, heavy-duty drill at 400 r.p.m. maximum speed. Use a Pecora #2 Mixing Paddle for proper blending. Avoid high-speed mixing that will entrain air bubbles. Scrape sides and bottom of container frequently during mixing.

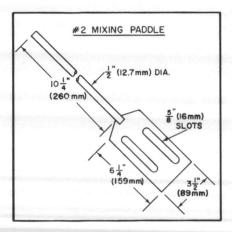
Application: NR-200 flows easily into narrow joints from a calking gun; in wide joints, it can be poured from the container. Joints should be filled to within 1/16" (1.59mm) of the surface. Light tooling, if required, can be done immediately. Protect the sealant from water during the cure cycle. NR-200 is designed to self-level in horizontal joints. If the joint has a severe incline or if the

PECORA CORP. June 1983

profile of the joint is misaligned, a nonsag grade of NR-200 should be used.

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@	80°F	(26.7°C	C) .						2-	3 hr	S.
(a)	40°F	144°C)		1000		rice risk	. Section	6-	7 hr	S

A special accelerator can be supplied if a faster cure rate is desired, particularly in cold-weather applications.



Cleaning: Remove excess sealant promptly using toluene or xylene. These solvents are toxic and flammable; observe solvent manufacturer's precautions

Storage Life: Approximately 6 months, when stored below 80°F (26.7°C) in original sealed containers.

Precautions: Despite its elasticity and abrasion resistance. NR-200 can be damaged by sharp objects such as women's spike heels, snow plow blades, studded tires, etc.

Contains diisocyanates; avoid prolonged breathing of vapors and contact with skin and eyes. Wash hands thoroughly after use and before eating or smoking. Upon accidental contact with eyes, flush thoroughly with water and seek medical attention immediately. KEEP OUT OF REACH OF CHILDREN.

6. AVAILABILITY AND COST

Pecora sealants are available from our plants in Harleysville, PA, Garland, TX, and Atlanta, GA, or from our stocking distributors in major cities. For the name and number of your nearest Pecora representative, call one of our three locations listed below, or call Sweet's "Buyline." Our representatives can give you prices or put you in touch with the nearest stocking distributor.

7. GUARANTEE

Pecora warrants its products to be

manufactured free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when installed in accordance with our published recommendations and in applications considered by us as suitable for this product. This warranty is in lieu of any and all other warranties, expressed or implied, and in no case will Pecora be liable for incidental or consequential damages.

8. MAINTENANCE

If the sealant is damaged and the bond is intact, cut out the damaged area and recalk. No primer is required. If the bond has been affected, remove the sealant, clean and prepare the joint in accordance with the instructions under "Installation."

9. TECHNICAL SERVICES

Local Pecora representatives are available to assist in selecting an appropriate sealant and to provide on-site application instructions. For further technical assistance, please call our Technical Services Department at 215-723-6051.

10. FILING SYSTEMS

Sweet's General Building File Spec-Data® II.



165 Wambold Road, Harleysville, PA 19438 • 215-723-6051 2601 Oakland Avenue, Garland, TX 75041 • 214-278-8158

1741 Tully Circle N.E., Atlanta, GA 30329 • 404-636-1427

Pecora International Corporation:

165 Wambold Road, Harleysville, PA 19438 U.S.A. 215-723-6051 • Telex 846-377 • Cable EXPECORA

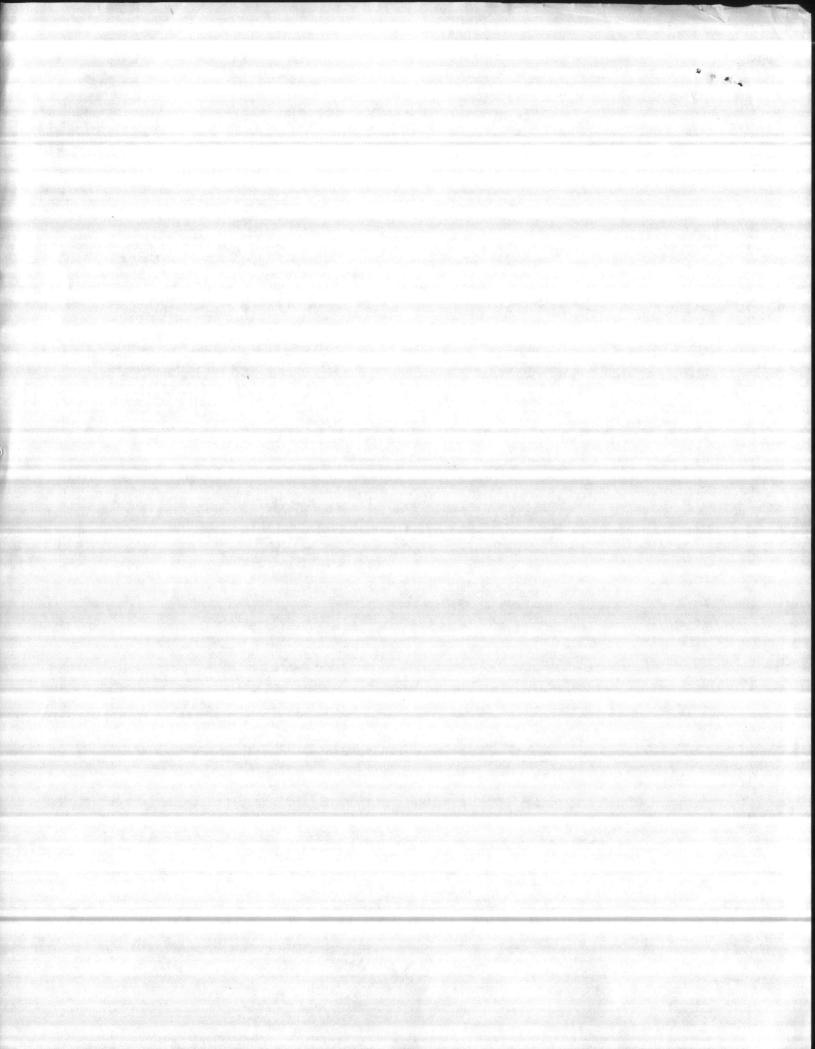
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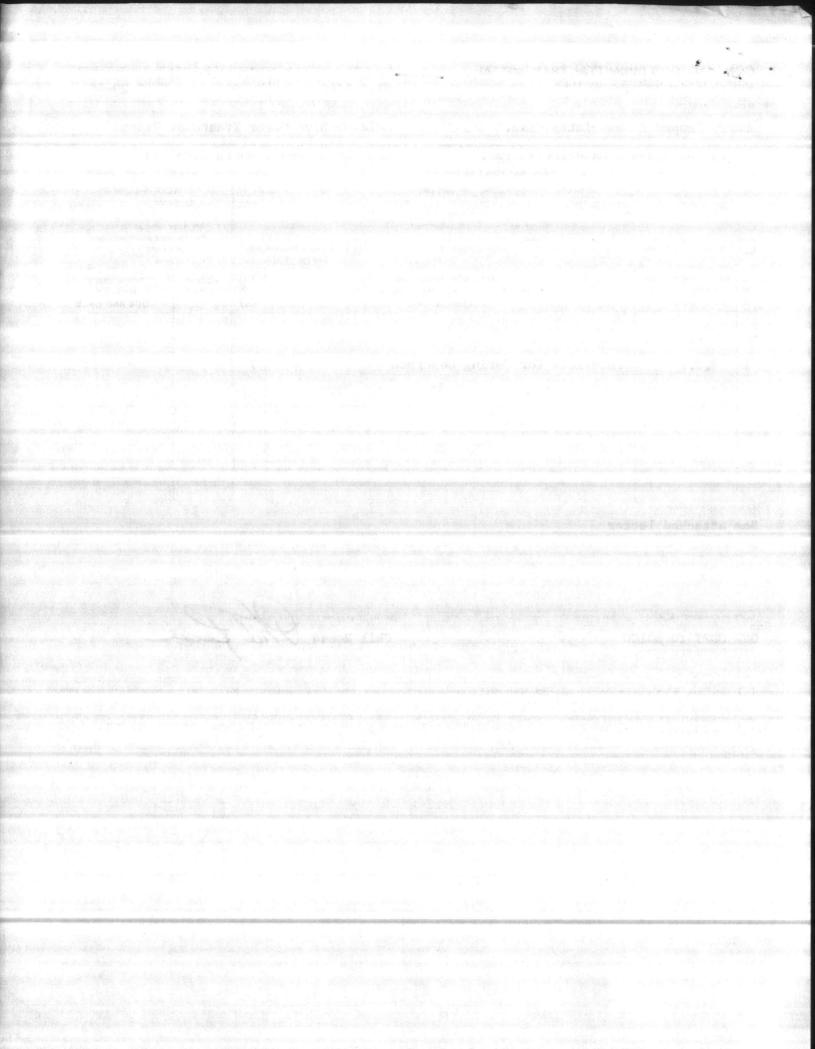
HENRY von OESEN AND ASSOCIATES, INC.
611 Princess Street • Post Office Drawer 2087 • Wilmington, North Carolina 28401
Phone 919 / 763-0141

MEMO-LETTER

TO HARRY POPPER & ASSOC. INC	DATE 9/6/85
JACKSONVINO N.C.	SUBJECT HOLLOMB BLUD WATER
ATTN: Mr. PHIL RUSSE	TROMMONY FACILITY -
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HARRY PEPPER & ASSOCIATES, INC.

ENGINEERING CONTRACTORS

August 21, 1985

Henry Von Oesen & Associates, Inc. P. O. Box 2087 Wilmington, NC 28402

RE: Contract N62470-81-C-1644
Expansion of Holcomb Boulevard
Water Treatment Plant
Camp Lejeune, North Carolina

Gentlemen:

In reference to a curing compound for cast-in-place concrete, Section 03302 paragraph 2.2.7.3, we would like to submitt the following deviation.

Our CQC, Mr. Phil Reese, has contacted several national suppliers of curing compounds regarding the purchase of an EPA approved curing compound. As of this date, Mr. Reese is unable to locate a company which could supply such a product.

As a result of Mr. Reese's findings we would like to submitt a deviation to leave our forms in place for three days. We feel this will provide adequate curing time and should cause no structural problems—Tom Carter and Lt. Krug are in agreement with this.

This deviation will cause no time delays and will be at no additional cost to the government. If you have any questions regarding this deviation please feel free to contact myself or Mr. Phil Reese.

Very truly yours,

HARRY PEPPER & ASSOCIATES, INC.

John Muter

Field Engineer

"It is hereby certified that the (material) (equipment) shown and marked in this submittal, shop drawings, catalog cut (s), etc., and approved/proposed to be incorporated into Contract Number N62470-81-C-1644 is in compliance with the Contract Drawings and Specifications and can be installed in the allocated space, and is:

Approved for use.

Submitted for Government approval.

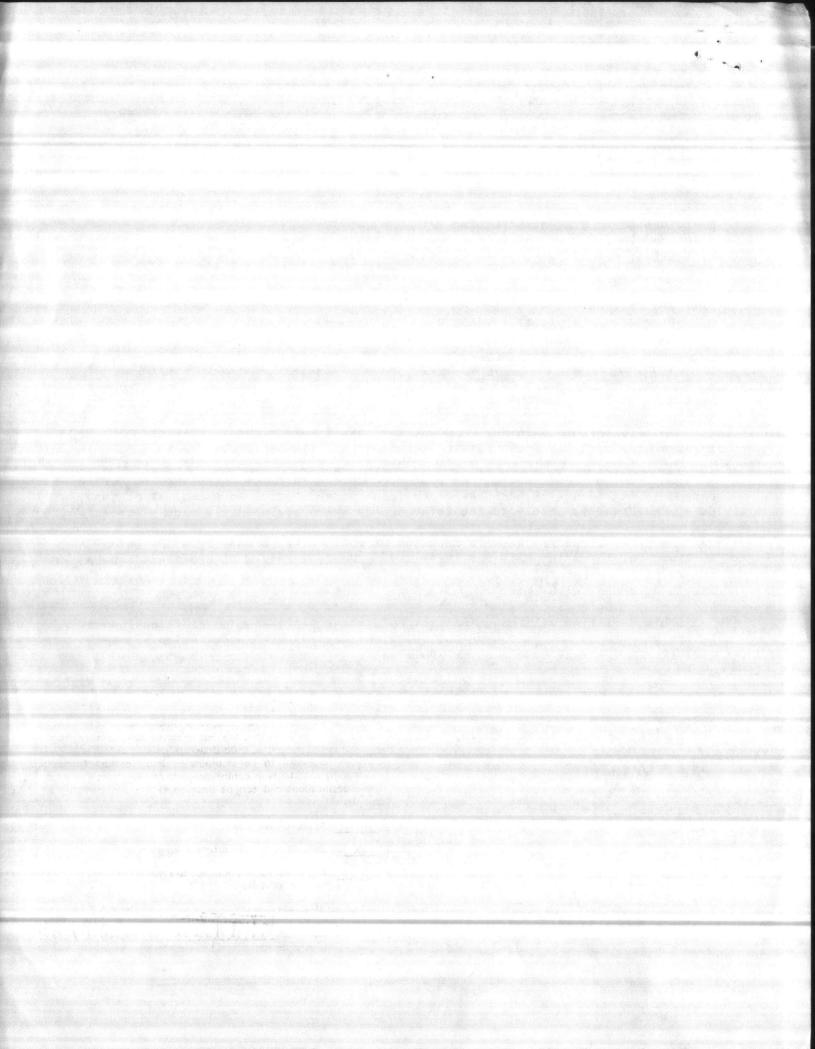
Approved for use subject to Government approval of specific deviation.

Authorized Reviewer

DATE

Signature CQC Rep

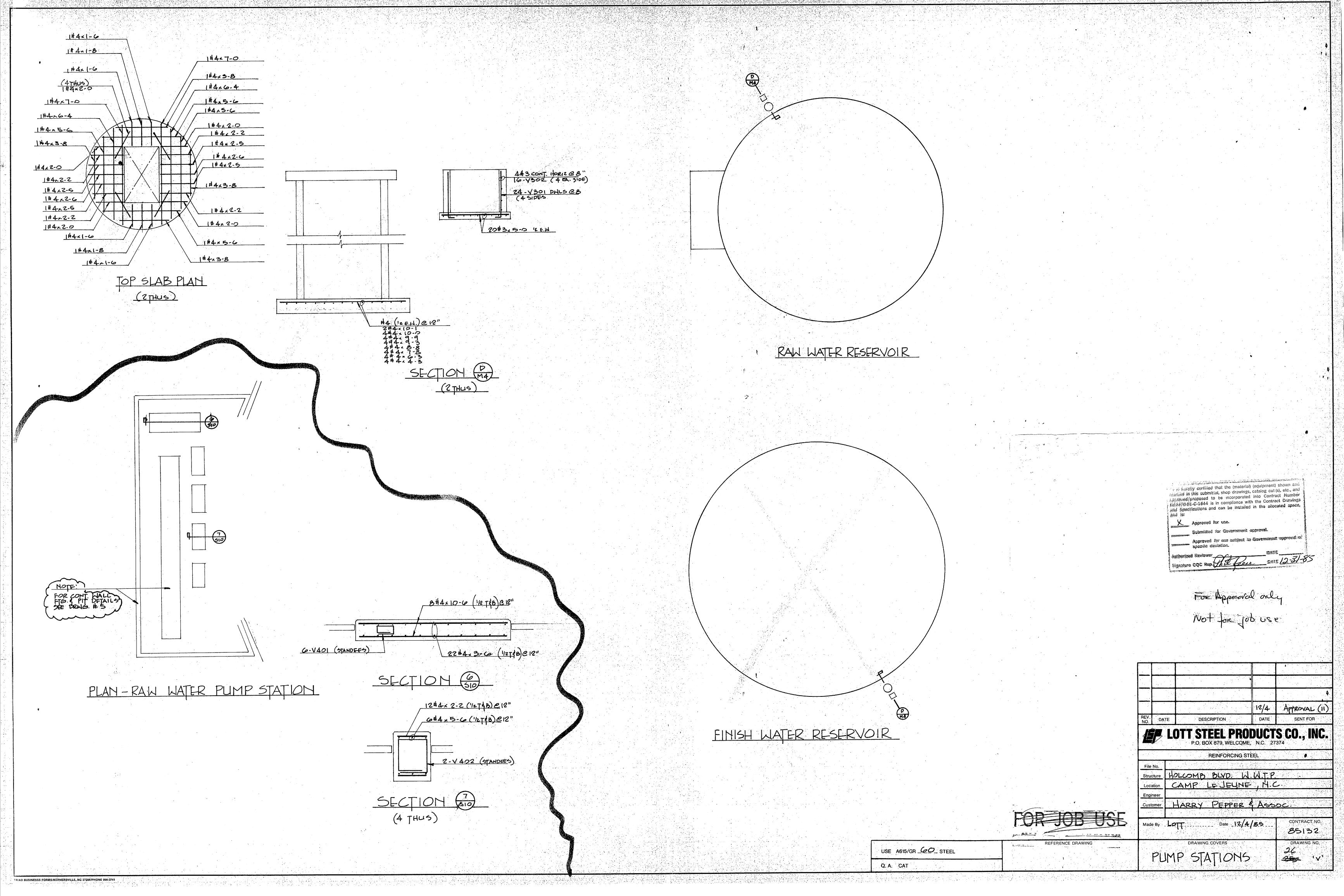
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HARRY PEPPER & ASSOCIATES, INC.

ENGINEERING CONTRACTORS

February 25, 1985

Resident Officer in Charge of Construction Naval Facilities Engineering Command Contracts Marine Corps Base Camp LeJeune, North Carolina 28542

ATTN: Lieutenant P. E. Krug

RE: Contract N62470-81-C-1644

Expansion of Holcomb Boulevard

Water Treatment Plant

Camp LeJeune, North Carolina

Dear Sir:

With reference to Specification Section 03302 "Cast-in-Place Concrete" we wish to request the following no cost change.

In order to provide better appearance, better quality and increased strength, we wish to use an additional admixture called Melment, which is a concrete plasticizer. For wall placements it will allow a highly workable, flowing concrete without segregation or loss of strength.

We anticipate performing a trial mix to assure compatibility with the supplied concrete.

Enclosed is the manufacturer's literature for your evaluation. Please feel free to contact me if you require additional information. Advise me of your decision as soon as possible.

Very truly yours, HARRY PEPPER & ASSOCIATES, Inc.

James Schock Project Manager

enc

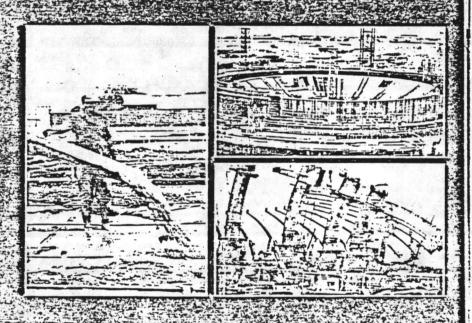
marked approved	reby certified that the (material) (equipment) shown and in this submittal, shop drawings, catalog cut (s), etc., and all proposed to be incorporated into Contract Number 81-C-1644 is in compliance with the Contract Drawings cifications and can be installed in the allocated space,
	Approved for use.
X	Submitted for Government approval.
4	Approved for use subject to Government approval of specific deviation.
	re CQC Rep. DATE DATE DATE DATE 3-8-85

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MELMENI

This unique superplasticizing admixture brings improved performance and increased productivity to every concrete applications.



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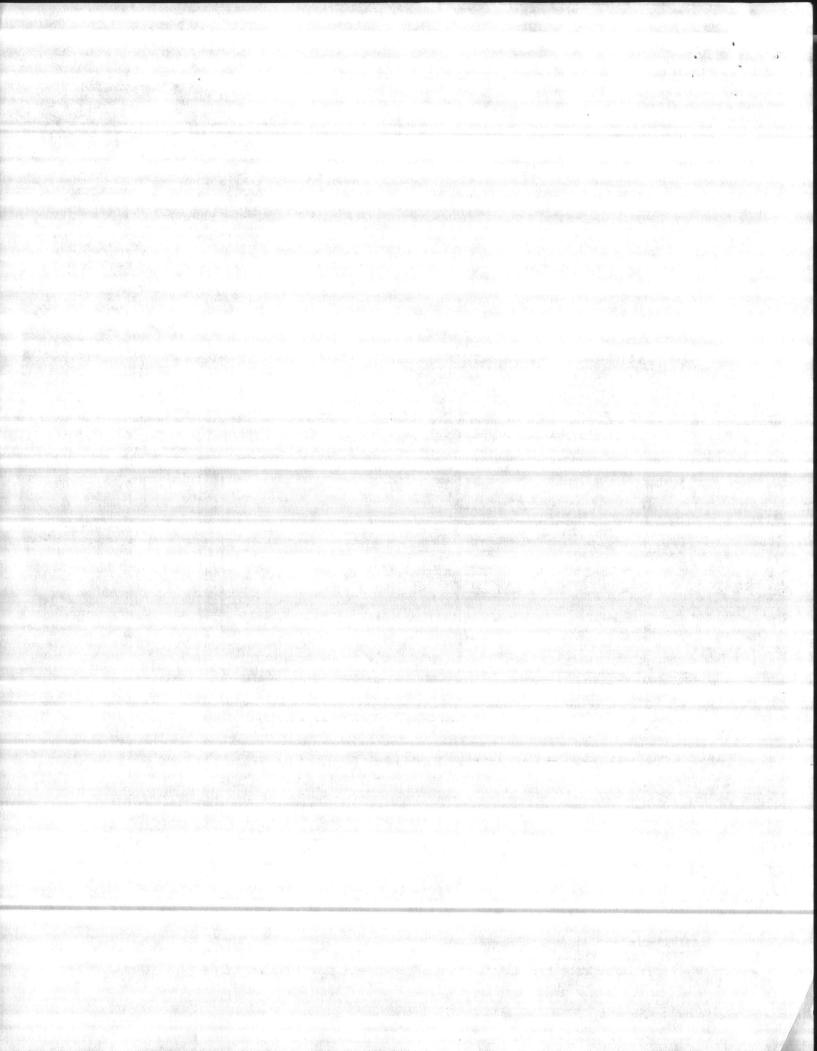
American Admixtures and Chemicals Corporation

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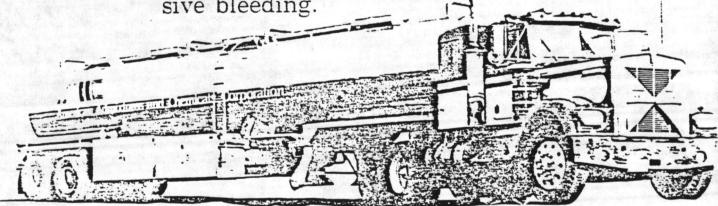
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MELMENT IS...

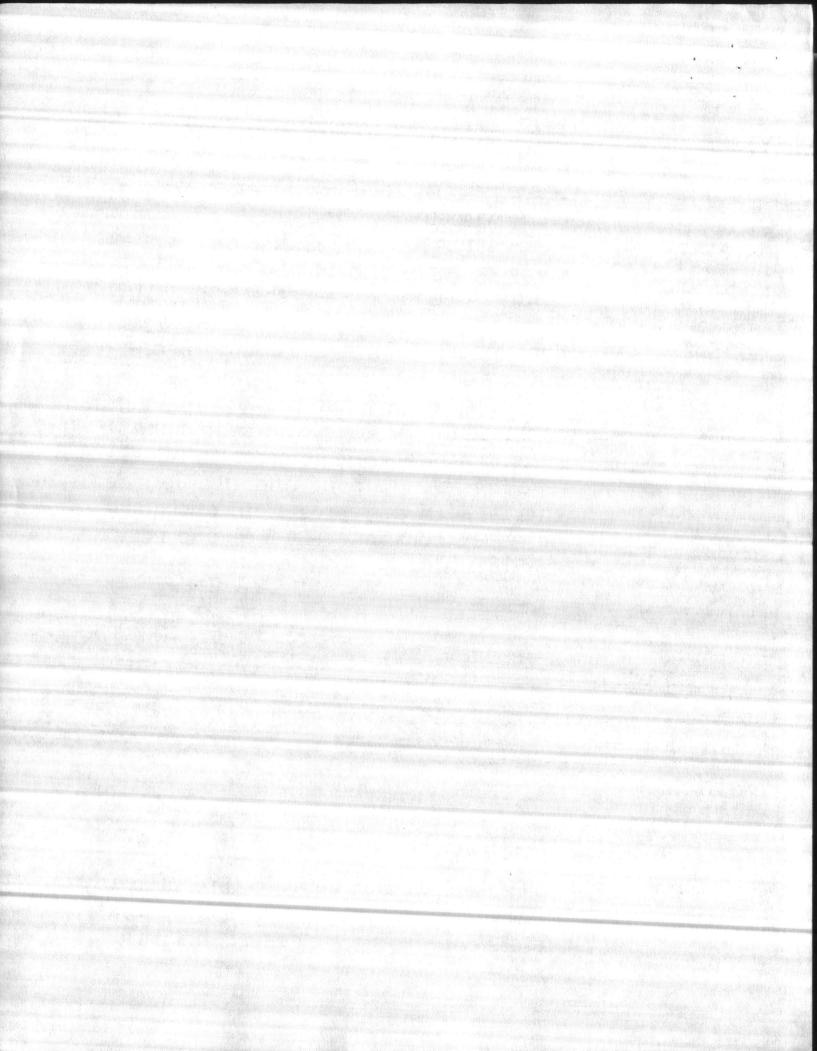
a sulfonated melamine condensate which has a powerful plasticizing effect on concrete without lowering the surface tension. It forms a lubricating film, enveloping both the cement and aggregate to reduce friction between the solids. Melment superplasticizer can be used to produce concrete at: • Normal workability but at extremely low water-cement ratio.

e Extreme workability or "flowing" consistency at normal water-cement ratio. This concrete is essentially self-leveling, but without undesirable side effects, such as segregation, low durability, low abrasion resistance, and excessive bleeding.



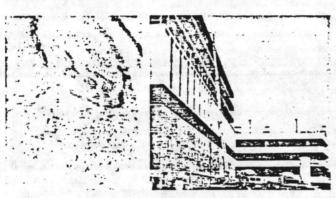
c A combination of better-than-normal workability but at a lower-than-normal water-cement ratio.

Because it is synthetically produced to exacting specifications. Melment assures consistent quality and dependable performance.

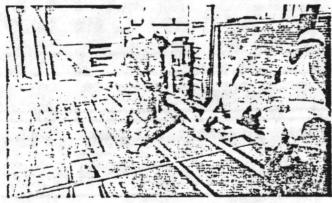


MELMENT FLOWING CONCRETE ...

• Faster, easier placement • Slump tailored to your needs • Easier pumping • Better consolidation • Smoother finish, sharper textures. When Melment is added to increase the slump and workability of concrete without adding water, ordinary concrete becomes Flowing Concrete. In actual concreting comparisons, Melment Flowing Concrete has dramatically reduced time and labor costs.



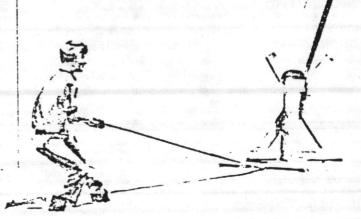
High-slump Melment Flowing Concrete can be pumped into place quickly and easily, allowing for more efficient use of the ready mix truck through faster truck discharge time. Pump pressures can be greatly reduced.

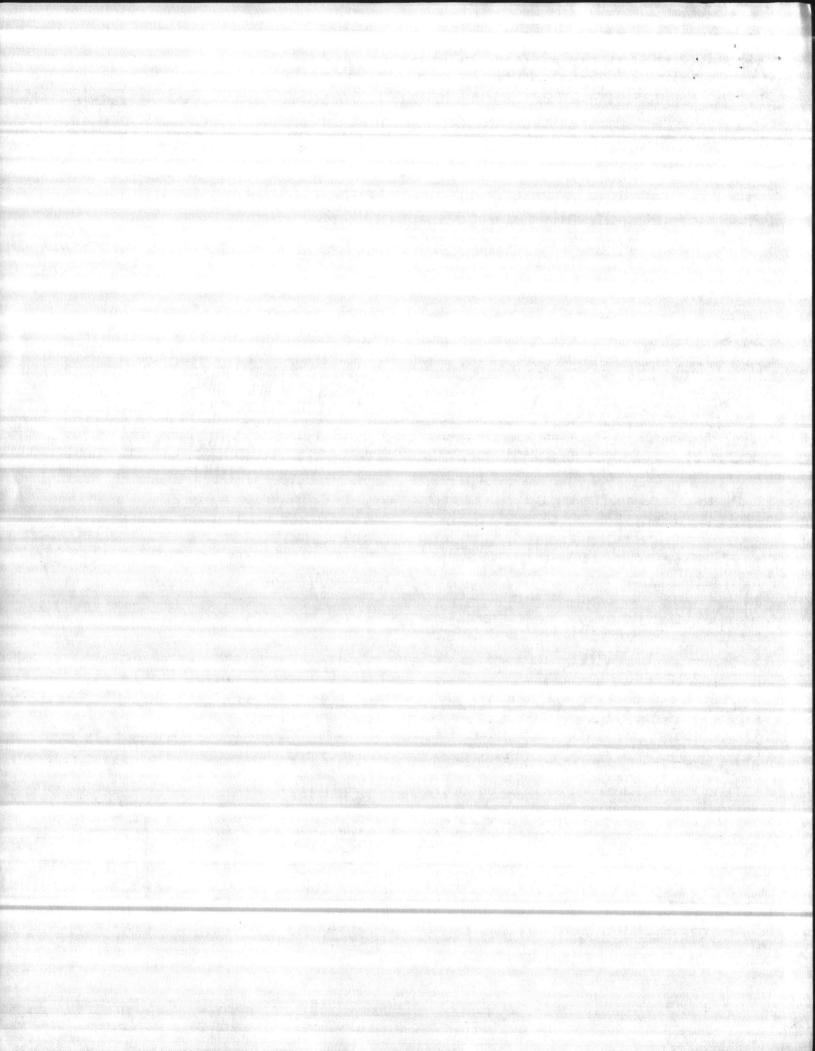


Melment Flowing Concrete is placed faster, easier, and with less manpower and because Melment Flowing Concrete moves so freely, vibration can often be reduced and even eliminated.

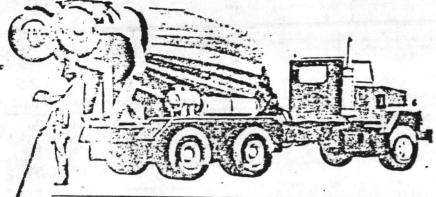


IMPROVED APPEARANCE
Melment allows architects and engineers to use
concrete in interesting new ways as an aesthetic
element. Flowing Concrete produces smoother
exposed surfaces, sharper corners and detail,
and crisper textures.

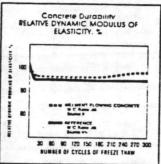








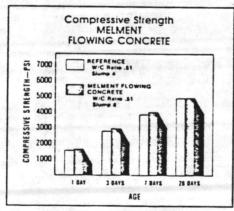




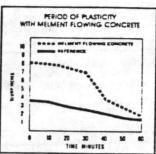
TESTS PROVE SUPERIOR PERFORMANCE

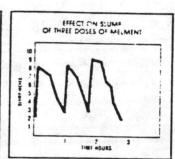
Durability is an important advantage of Melment Concrete. Melment L10A enhances air-void structures so they are not damaged even at high levels of flowability. Melment L10A has proved durable in tests by many independent laboratories and by state and Federal agencies even under the most severe exposure conditions. The graph above shows the average relative dynamic modulus of elasticity of Melment Flowing Concrete as a percentage of reference specimens for 300 cycles of freezing and thawing in water in laboratory tests.* Actual performance of Melment Flowing Concrete used in various applications in the field bears out these test results.

*ASTM C-666. Method A.



Compressive Strength obtained with Melment depends on its dosage and application. As the graph above shows, Melment Flowing Concrete produces slightly higher compressive strengths at all stages of testing.



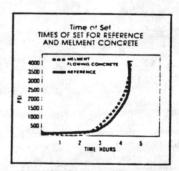


PLASTICITY OF MELMENT FLOWING CONCRETE

The plastic effect of Melment typically lasts from 30-60 minutes. Therefore, Melment is normally added at the point of placement. However, should flowability be lost before all concrete is placed, Melment may be added again to regain high slump without loss of strength.

TIME-OF-SET

Melment has no appreciable effect on the setting characteristics of concrete. The graph at right shows the time-of-set for two concrete mixtures with equal cement and water contents, the only difference is the addition of Melment.

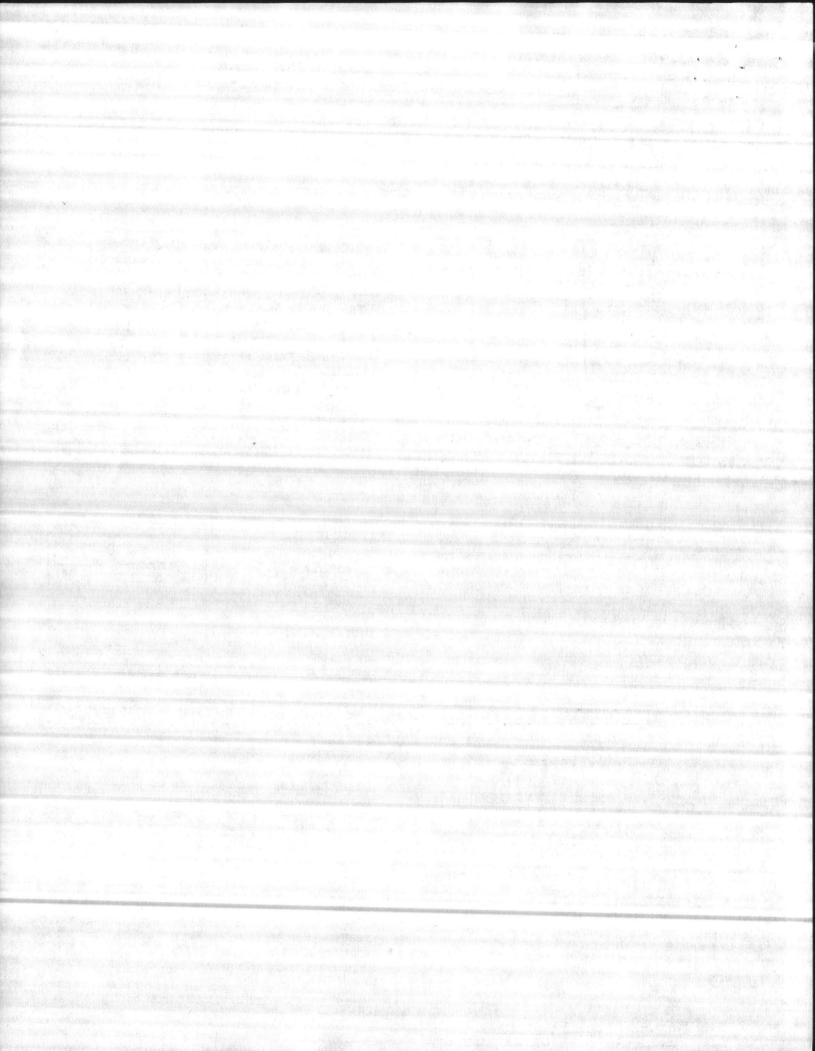


SUGGESTED DIRECTIONS FOR USE .

All concrete should arrive at the jobsite having a slump of 3" ± 1". Melment should be added after the concrete has been thoroughly mixed and the desired initial slump has been achieved. Additional mixing should be given after the addition of Melment to insure good distribution. Melment may be used with all types of cements and admixtures meeting appropriate ASTM specifications. Trial mixes should be produced to ensure compatibility.

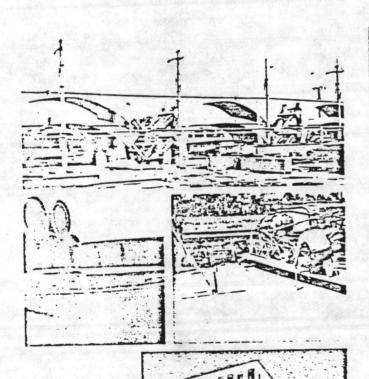
DOSAGE

The dosage rate of Melment varies depending upon the amount of plasticity desired. Typically, Melment is batched at 12-30 fl. oz. per cwt of cementitious material (Portland cement + fly ash) for flowing concrete. The dosage rate of Melment, when used in conjunction with a Type A water-reducing admixture may be reduced 25% or more. Admixture compatibility should be ensured by trial batching prior to use.



MELMENT HIGH-STRENGTH CONCRETE...

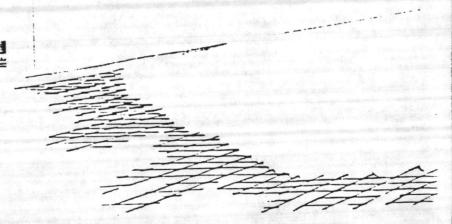
• Far greater strengths at all ages • Better durability • Less shrinkage. Hess bleeding • Increased impermeability • Improved workability. Melment used as a high-range water reducer assures better concrete quality at normal levels of workability. Concrete may be placed at normal slumps, but with 20-30% less water content. Compare that to water reduction of typical water-reducing admixtures. Melment tabilitates accelerated curing to save time, energy and labor costs, as well as earlier turnover of forms. Melment often enables the producer that Type I cement rather than Type III cement because of its beneficial effect on early strength.

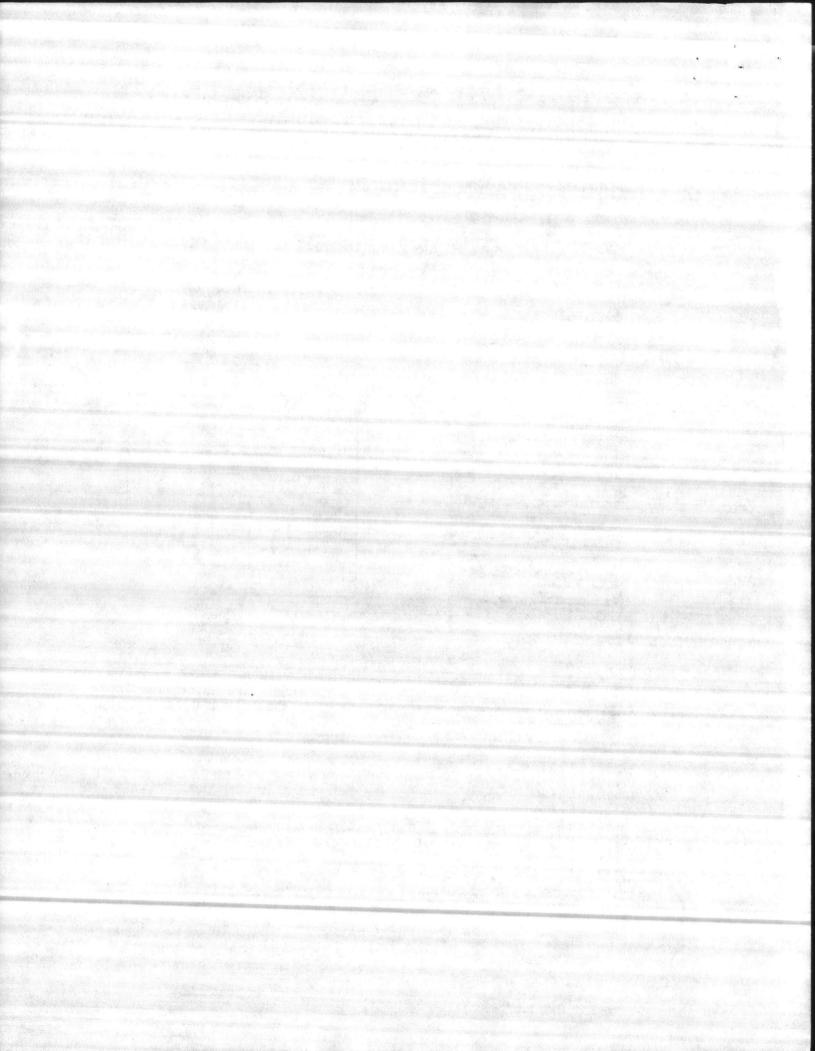


Compressive Strength MELMENT HIGH STRENGTH CONCRETE REFERENCE W.C. Ratio .51 Slump 4* W.C. Ratio .51 Slump 4* W.C. Ratio .25 Slump 4* W.C. Ratio .25 Slump 4* J. DAY J DAYS 7 DAYS 28 BAYS AGE

COMPRESSIVE STRENGTH

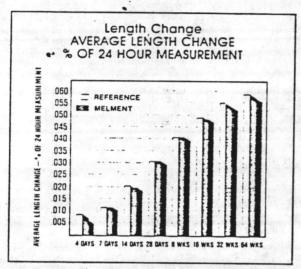
For those applications where higher strength is most important—precast structural elements, bridge supports, slip form concrete, prestressed or post-tensioned concrete, early removal of forms—Melment fills the bill as a high-range water reducer. The graph above illustrates the exceptional higher strength, at all ages, of Melment Concrete compared to a reference mixture.





SERVICEABILITY

Over the long term, strength levels in Melment concrete, with its reduced water content, remain as much as 15-20% greater than those of untreated concrete. Examinations under an electron-microscope and radiographic analysis show that hydration products of Melment High-Strength Concrete are identical to those of untreated concrete. Long-term test data confirms the benefit of Melment Concrete versus time.



Shrinkinge can be reduced with the addition of Meiment as a high-range water reducer. This reduces the danger of cracking and enhances the overall strength of the concrete product.

DIRECTIONS FOR USE:

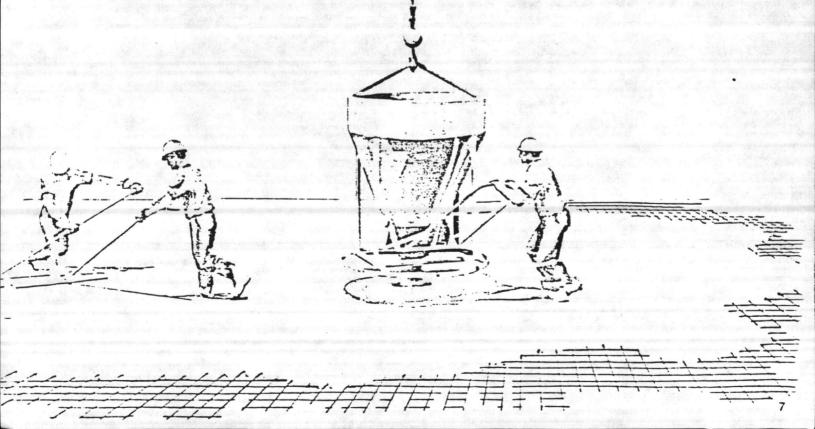
Concrete should be mixed at the water-cement ratio necessary to attain the specified strength. To achieve the desired level of workability, Melment should be added to the concrete as a final ingredient after it has been thoroughly mixed.

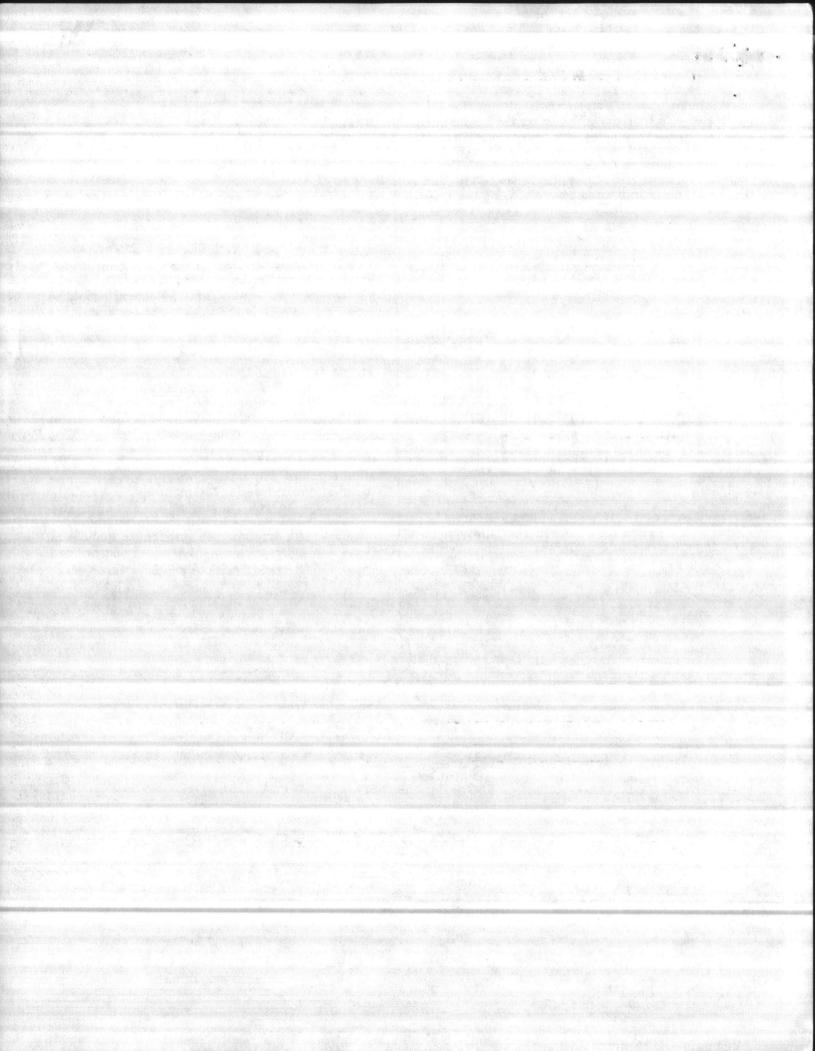
DOSAGE

The dosage rate of Melment varies depending upon the amount of water reduction and workability desired. Typically, Melment is batched at 15-40 fl. oz./cwt of cementitious material (Portland cement + fly ash) for high-strength concrete.

COMBINATION

Melment lets you tailor concrete performance to meet your needs. Melment has a variable dosage rate so you can tailor the strength and workability of concrete to suit the circumstances of the job. Typically, concrete is brought to the jobsite at a 1-3" slump and Melment is added just prior to placement to achieve a 6-8" slump.





every ounce of Melment

On site quality control is another important service of American Admixtures. When needed our technical representatively on the spot to assist you as you place Melment concrete. Suggested Specification for General Purpose Use All concrete shall be delivered to the jobsite at a slimp of 3 to 12 No additional water shall be added to the concrete at the jobsite If increased workability is desired it shall be obtained through use of Melment Superplasticizer conforming to ASTM C 494 Type A (and P) as manufactured; by American Admixtures; and Chemicals Corporations.

(The above general purpose specification can be applied to most jobsite situations. If a special situation should arise your American Admixtures and Chemicals Corporation technical ales representative will ad in the failoring of a specification for individual application.)

Nanatacturing Specifications Melmentia minimum utactured to conform to the specifications of ASTM C 494. Type A and F. CRD C 87: Type A and AASHTO M 194. Type A.

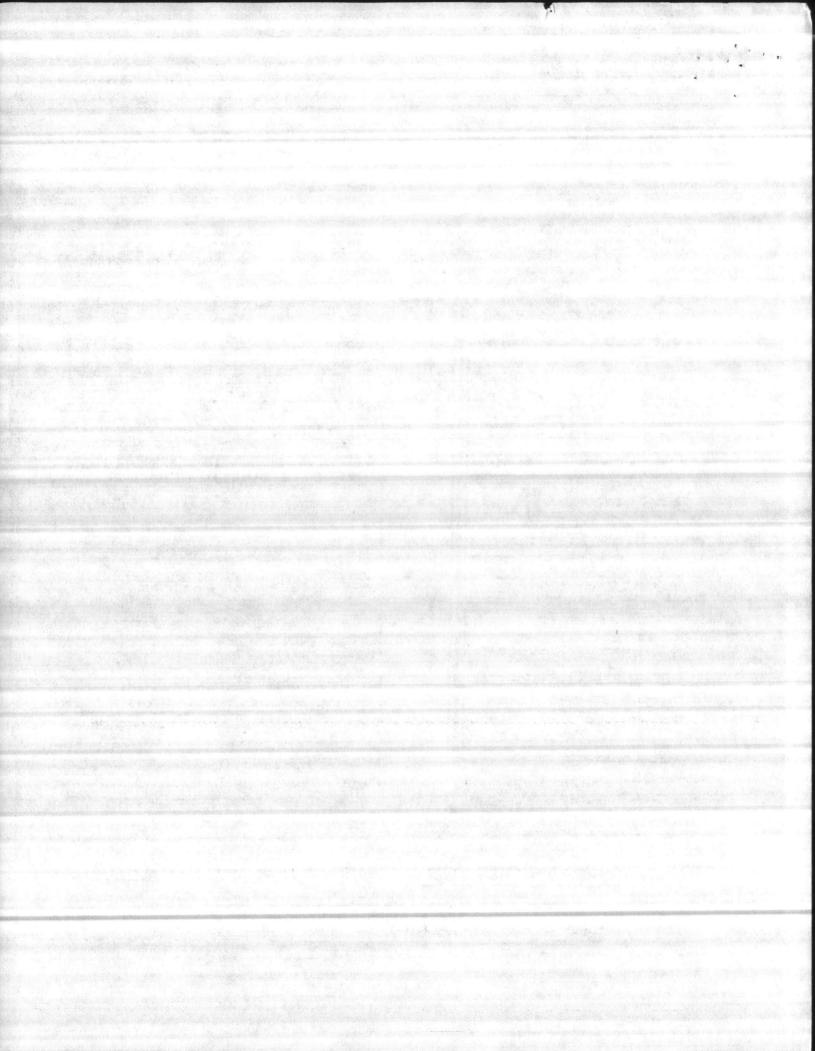
Availability: Melment is available in powder, form in bags weighing approximately 55 lbs. in any quantities Melment is available in powder, form in bags weighing approximately 55 lbs. in any quantities Melment is available in powder.

NEED HELPS Call the American Admixtures
Hotting 800/8215506 (m) Illinois 312/286 3737)
Get immediate information about Melment or

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GENERAL:

MELMENT is a meiamine formaldehyde, water soluble polymer based, normal-setting Superplasticizer which produces extremely workable "flowing concrete" that is essentially self-leveling without undesirable side effects

ADVANTAGES:

- MELMENT flowing concrete enables easier and faster placement of concrete resulting in a significant savings in apprilosts.
- Through its unique plasticizing effect. MELMENT can provide nightly workable, flowing concrete without segregation at the same water-cement ratio as concrete of normal workability without a loss of strength
- MELMENT improves pumpability. Pump pressures can be reduced up to 50%.
- The use of vibrators can be eliminated or reduced while giving greater assurance of good consolidation.
- MELMENT adds to reduced permeability to water as well as improved resistance to freezing and thawing and the action of deicing salts.
- MELMENT flowing concrete will produce better architectural concrete without honeycombing. Textured concrete surfaces are enhanced.
- · MELMENT is chloride-free.
- MELMENT may be used with all types of ASTM approved cements and admixtures. Trial mixes should be conducted to ensure compatibility.
- The plastic effect of MELMENT typically lasts from 30 60 minutes. Therefore, MELMENT is normally added at the point of placement.

DIRECTIONS FOR USE:

All concrete should arrive at the jobsite having a slump of 3" ± 1".

MELMENT should be added after the concrete has been thoroughly mixed and the desired initial slump has been achieved. Additional mixing should be given after the addition of MELMENT to insure good distribution.

DOSAGE:

The dosage rate of MELMENT varies depending upon the amount of plasticity desired. Typically, MELMENT is batched at 12 - 30 fl. oz. per cwt of cementitious material (Portland cement + fly ash) in ready mix concrete

SPECIFICATIONS:

MELMENT is manufactured to conform to the specifications of ASTM C-494. Type A. CRD C-87. Type A. and AASHTO M-194-70, Type A.

SUGGESTED SPECIFICATION FOR GENERAL PURPOSE USE:

All concrete shall be delivered to the jobsite at a slump of $3^{\circ}\pm1^{\circ}$. No additional water shall be added to the concrete at the jobsite. If increased workability is desired, it shall be obtained through use of MELMENT Superplasticizer conforming to ASTM C-494. Type A. as manufactured by American Admixtures and Chemicals Corporation. 5909 North Rogers Avenue. Chicago, Illinois 60646

(The above general purpose specification can be applied to most jobsite situations. If a special situation should arise your American Admixtures and Chemicals Corporation technical sales representative will aid in the tailoring of a specification for individual application.

American Admixtures and Chemicals Corporation to

DEVIATION: AFFINOVED

DISAPPROVED

LANTDIV REVIEWER

DATE

2 1 MAR 1985

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Approved for use.

X Submitted for Government approval.

Approved for use subject to Government approval of specific deviation.

Authorized Reviewer

DATE

Signature CQC Rep.

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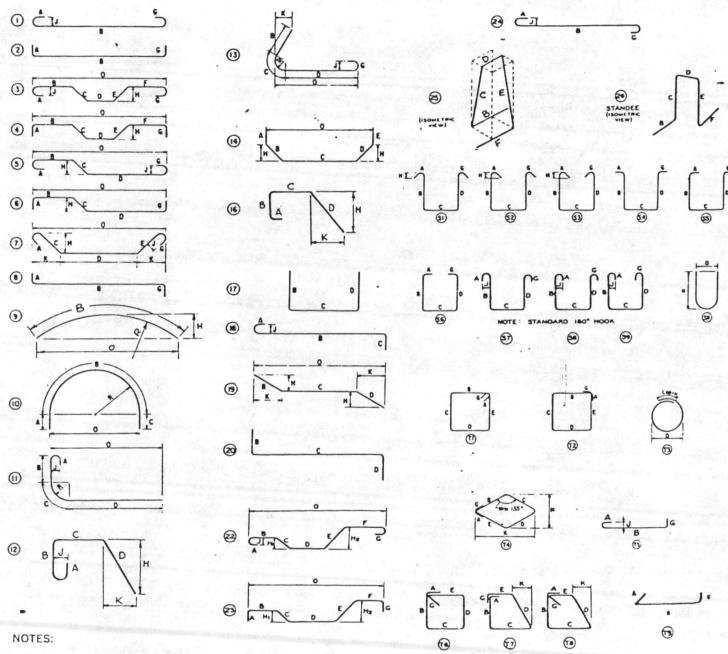
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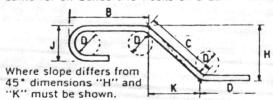
P. O. BOX 879 • WELCOME, NORTH CAROLINA 27374-0879 TELEPHONE (704) 731-6331

TYPICAL BAR BENDS

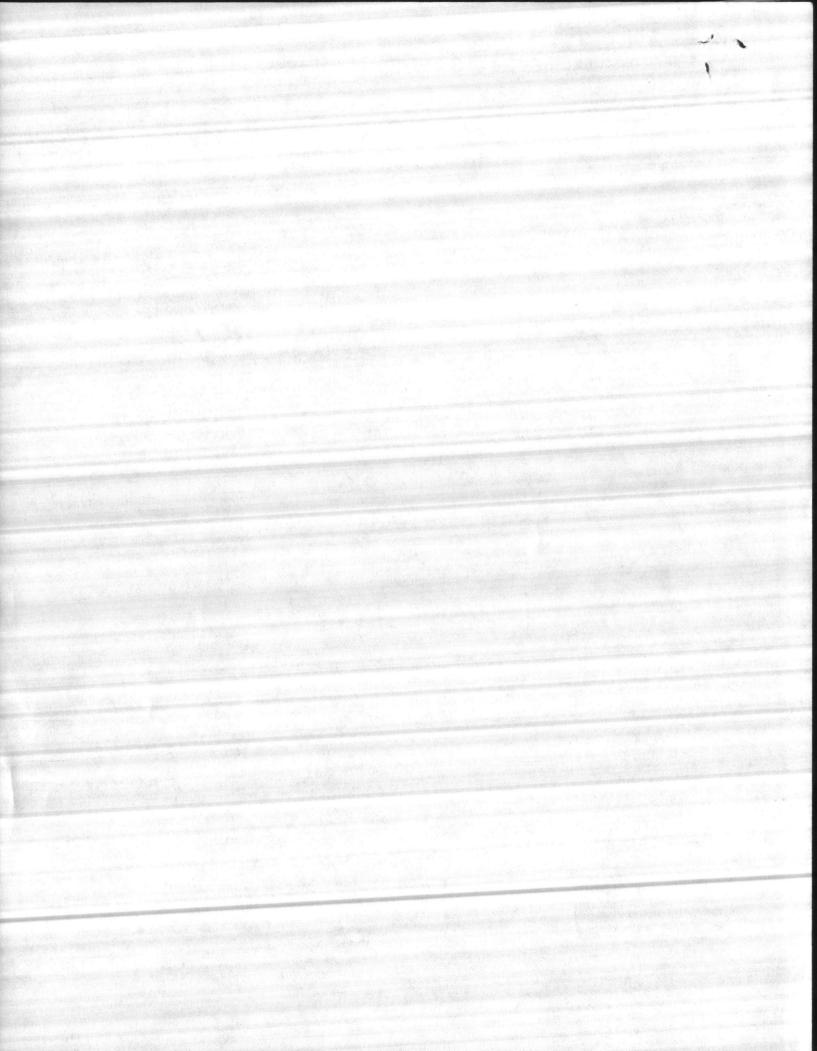


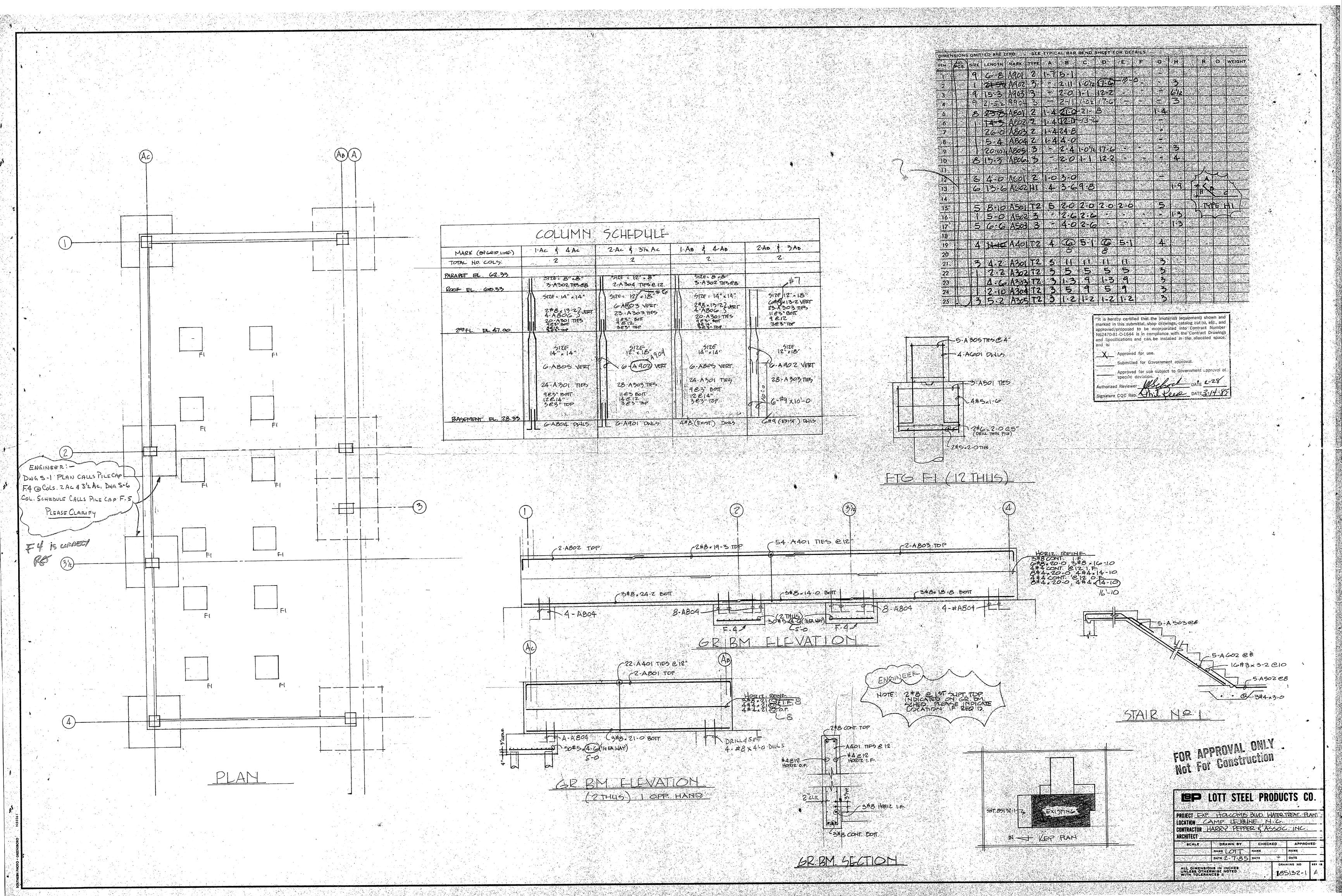
- All dimensions are out-to-out of bar except "A" and "G" on standard 180° and 135° hooks.
- 2. "J" dimension on 180* hooks to be shown only where necessary to restrict hook size, otherwise standard hooks are to be used.
- 3. Where "J" is not shown, "J" will be kept equal to or less than "H" on truss bars. Where "J" can exceed "H", it should be shown.
- 4. "H" dimension stirrups to be shown where necessary to fit within concrete.
- Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.
- 6. Figures in circles show types.
- 7. For recommended diameter "D", of bends, hooks, etc., see tables, page 6-4.
- 8. Type S1-S9, S11, T1-T9 apply to bar sizes #3 through #8

Unless otherwise noted diameter D is the same for all bends and hooks on a bar.



ENLARGED VIEW SHOWING BAR BENDING DETAILS



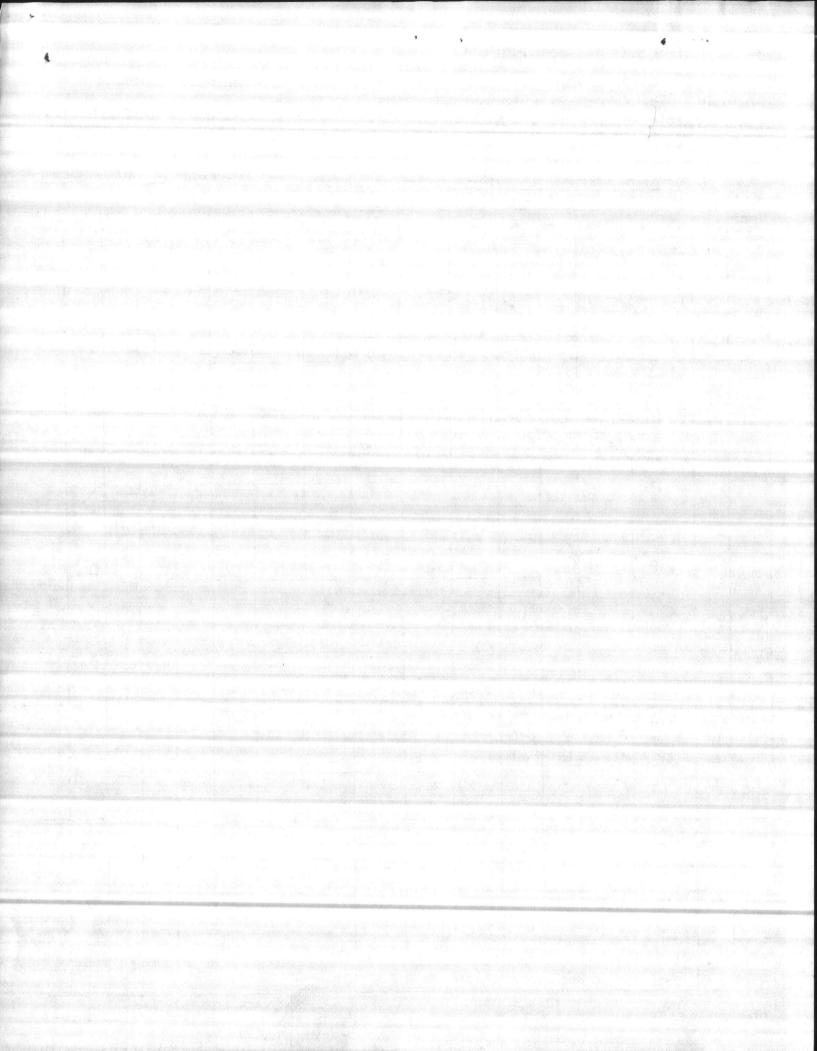


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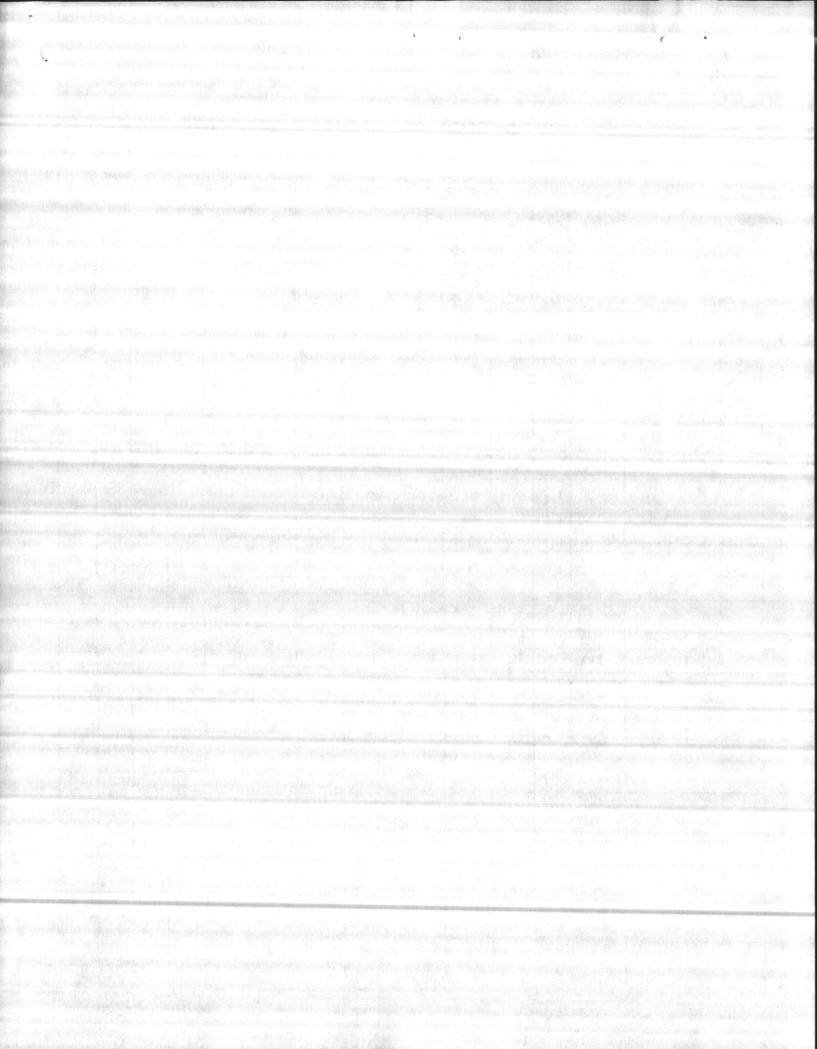
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-	MTRACTOR'S SI	JBMITTAL TRANSMITTAL	CONTRACT NO.			IDATE C	XII				
AN	TDIV NORFOLK 4-43		81-C-1644		MITTAL NO. DATE		85				
O	CONTRACTOR		PROJECT TITLE AND LOCA		A		Janes I				
0	rry Pepper &	Associates, Inc.	Holcomb Bly	d Water T	Treatment Flant						
H	mry Von Oeser	& Associates, Tac.	MCB, Cp Lej	eune, Nor							
	1	*List only one specification of			**ACTION CODES						
	L Contractor Approved	ist only one of the following categorie and indicate which is bei	es on each transmittal form, ing submitted roval Deviatio	n/Substitution	**ACTION CODES A-Approved D-Disapproved AN-Approved as noted RA-Receipt acknowledge C-Comments						
ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	(Type, size, mod	DENTIFICATION lel no., Mfg. name, dwg. or chure number)	O O O O O O O O O O O O O O O O O O O	ACTION CODES	REVIEW INITIA CODE AND	LS				
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ON	RACTOR'S COMMENTS			Mana (S)							
	OF TRANSMITTAL AND SL		CONTRACTOR REPRESEN	ITATIVE (Signature)							
OP*			(Mrs	TATIVE (Signature)							
OP*	OF TRANSMITTAL AND SUBTRECEIVED BY REVIEWER Submittals are returned.	FROM (Reviewer)	(Mrs	L Zee	ne contract req	juirements unle	ess the cor				
OP*	OF TRANSMITTAL AND SUBTRIBUTE OF TRA	FROM (Reviewer) and with action indicated. Approval of art o and supports the deviation.	1 GAS	TO deviation from the							
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2		9	4-4	A907	2	1.6	2-10	-	-	-	1	-					
3		9	11-0	A908	2	1-6	9-6	-	-	-	- 10	-	100				
4		9	9-0	A909	20	-	2-6	4-0	2-6	-	-	-					
5		9	4-10	APIO	2	1-6	3.4	-	15	-		-					
6		9	8-4	A911	20	-	2-6	3-4	2-6	-	-	-					
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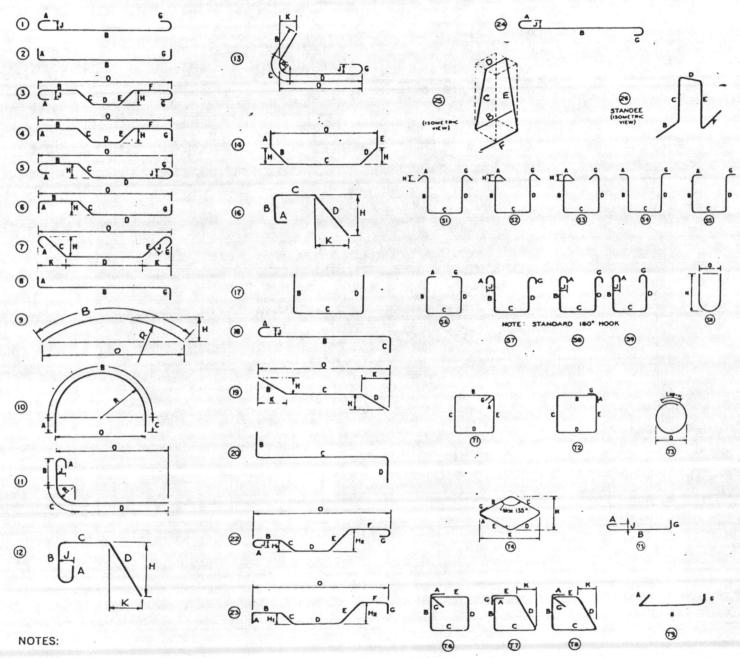


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ITEM	NO. PCS.	SIZE	LENGTH	MARK	TYPE	A	В	С	D	E	F	G	н		R	0	WEIGHT
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3		5	4.0	A513	2	10"	2-4	-		-	-	10"					1
4		5	3.5	A514	2	10"	1-9	-	-	-	# - F	10"					
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10		4	9-11	A402	T2	32"	4-4	4"	4-4	4"	•	31/2"					
11		4	1-8	A403	17	1	8"	4"	8"	-	-	-		100			
12		4	8-11	A413	T2			3-10	4"	3-10	-	31/2"	10 AR				
13		4	4-11	A414	T2	31/2"		1-10	4"	1-10	-	31/2"					100
14		4	10-7	A415		351	-	4-8	4"	4-8	_	34"					
15		4	9-4	A416	T2	4"	8"	3.8	8"	3-8	-	4"					
16		4	8-7	4417	T2	31/2"				3.8	-	31/2"				ng.	
17		4	19-7	AAIB	T2	31/2"	4"	9-2	4"	9-2	7	31/2"					
18		4	11-7	A419	T2	31/2"	4"	5-2	4"	5-2	10. <u>1</u>	312"					
19	later manife	4	10-3	A420	T2	34"	4"	4-6	4"	4.6	10 to	34"					
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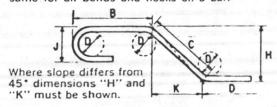
P. O. BOX 879 • WELCOME, NORTH CAROLINA 27374-0879 TELEPHONE (704) 731-6331

TYPICAL BAR BENDS

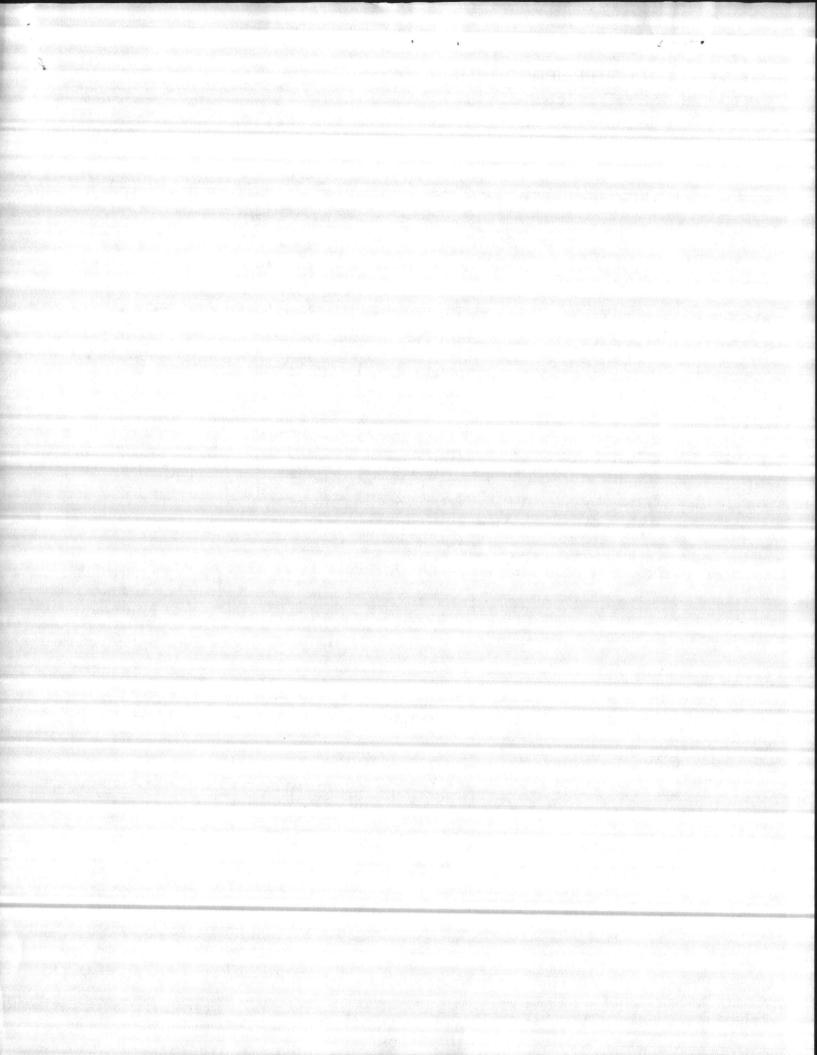


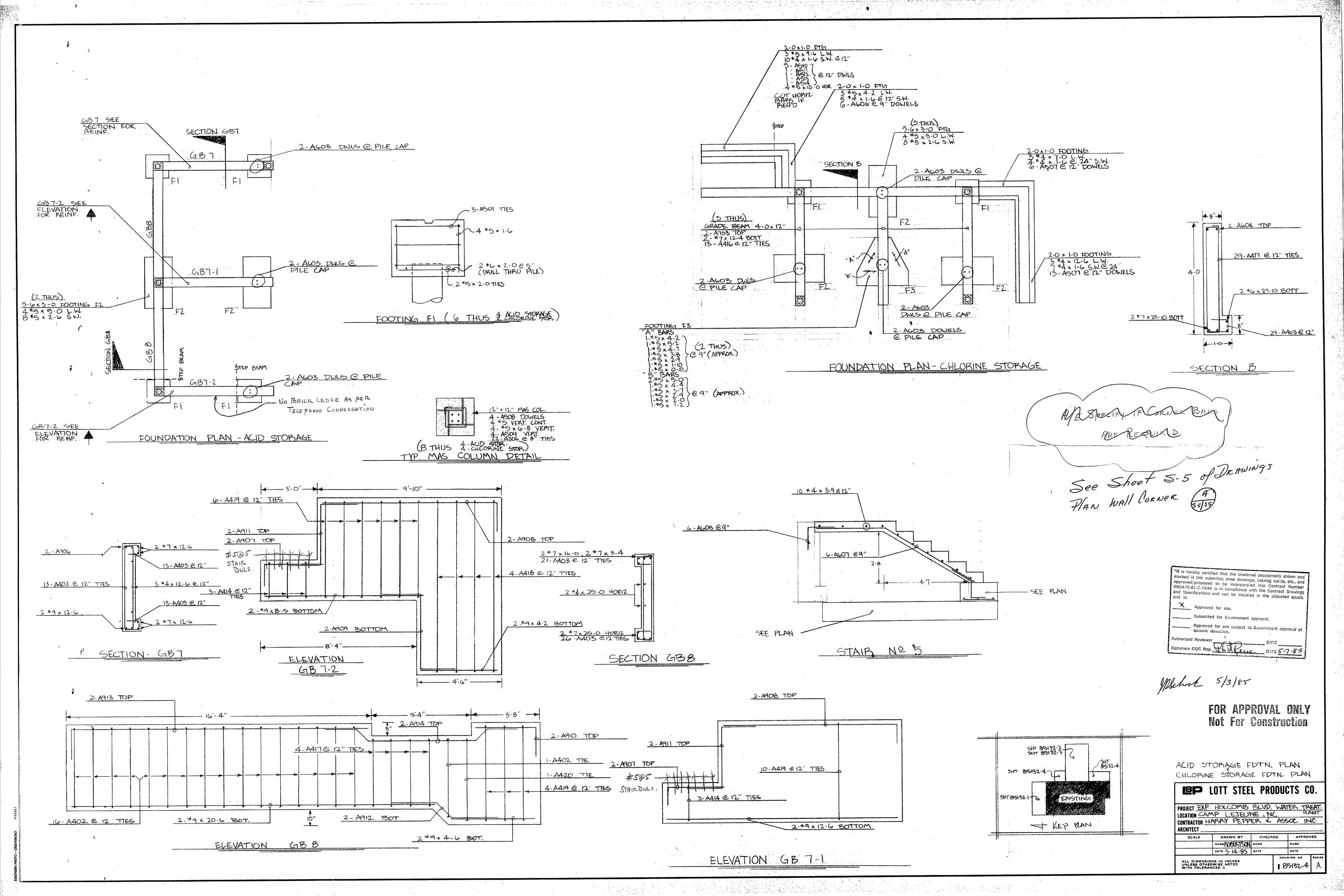
- All dimensions are out-to-out of bar except "A" and "G" on standard 180° and 135° hooks.
- "J" dimension on 180° hooks to be shown only where necessary to restrict hook size, otherwise standard hooks are to be used.
- 3. Where "J" is not shown, "J" will be kept equal to or less than "H" on truss bars. Where "J" can exceed "H", it should be shown.
- 4. "H" dimension stirrups to be shown where necessary to fit within concrete.
- Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.
- 6. Figures in circles show types.
- 7. For recommended diameter "D", of bends, hooks, etc., see tables, page 6-4.
- 8. Type S1-S9, S11, T1-T9 apply to bar sizes #3 through #8.

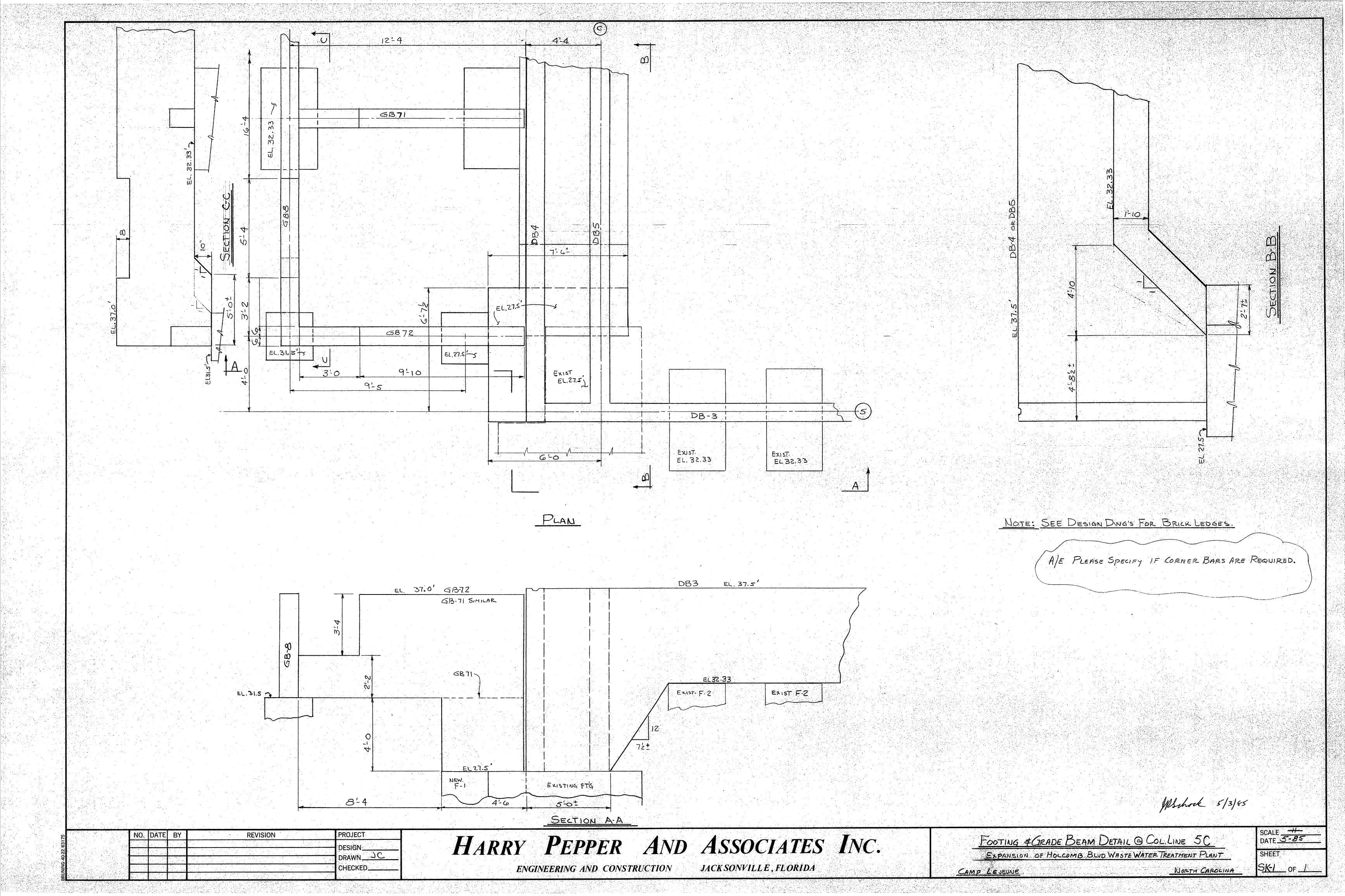
Unless otherwise noted diameter D is the same for all bends and hooks on a bar.



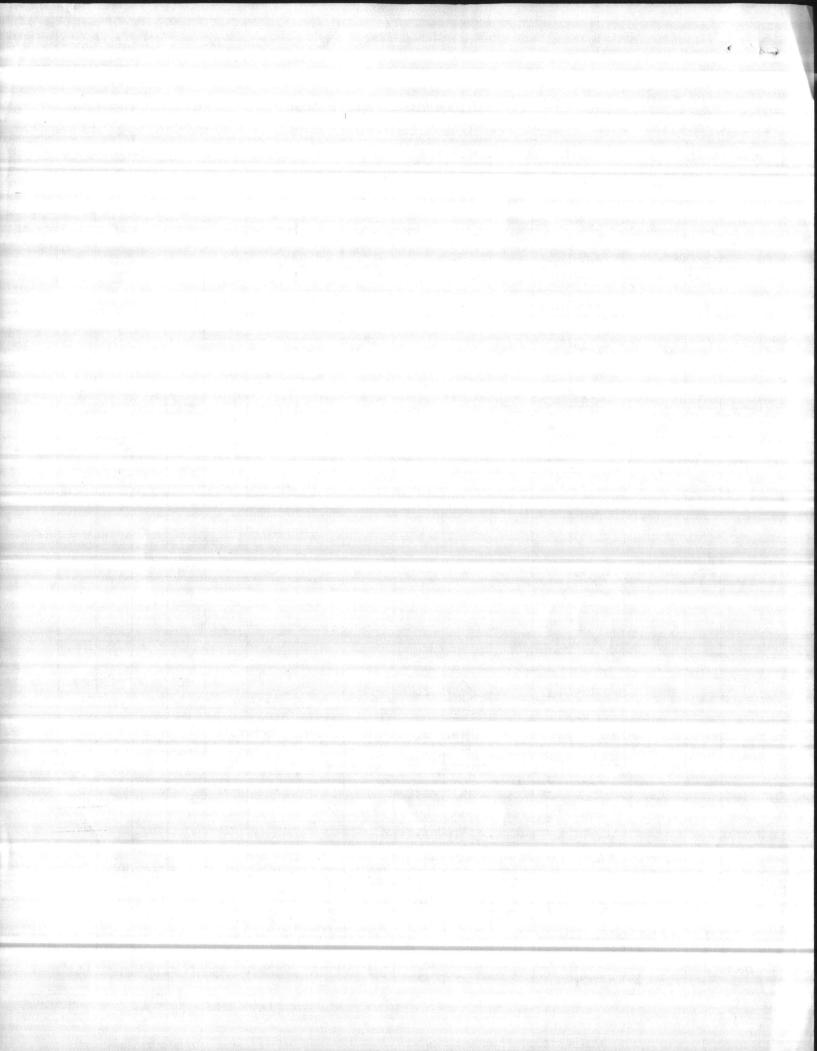
ENLARGED VIEW SHOWING BAR BENDING DETAILS



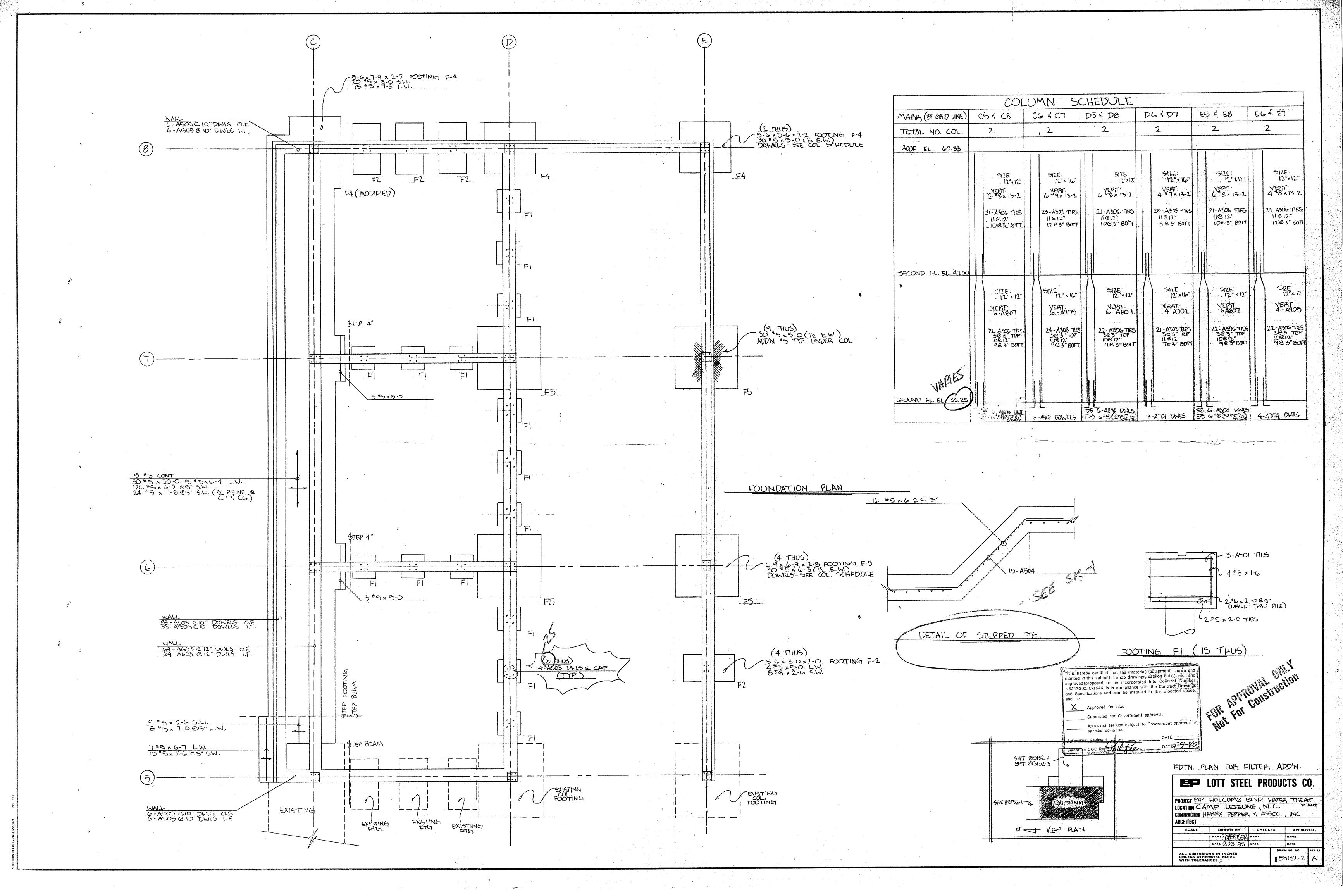


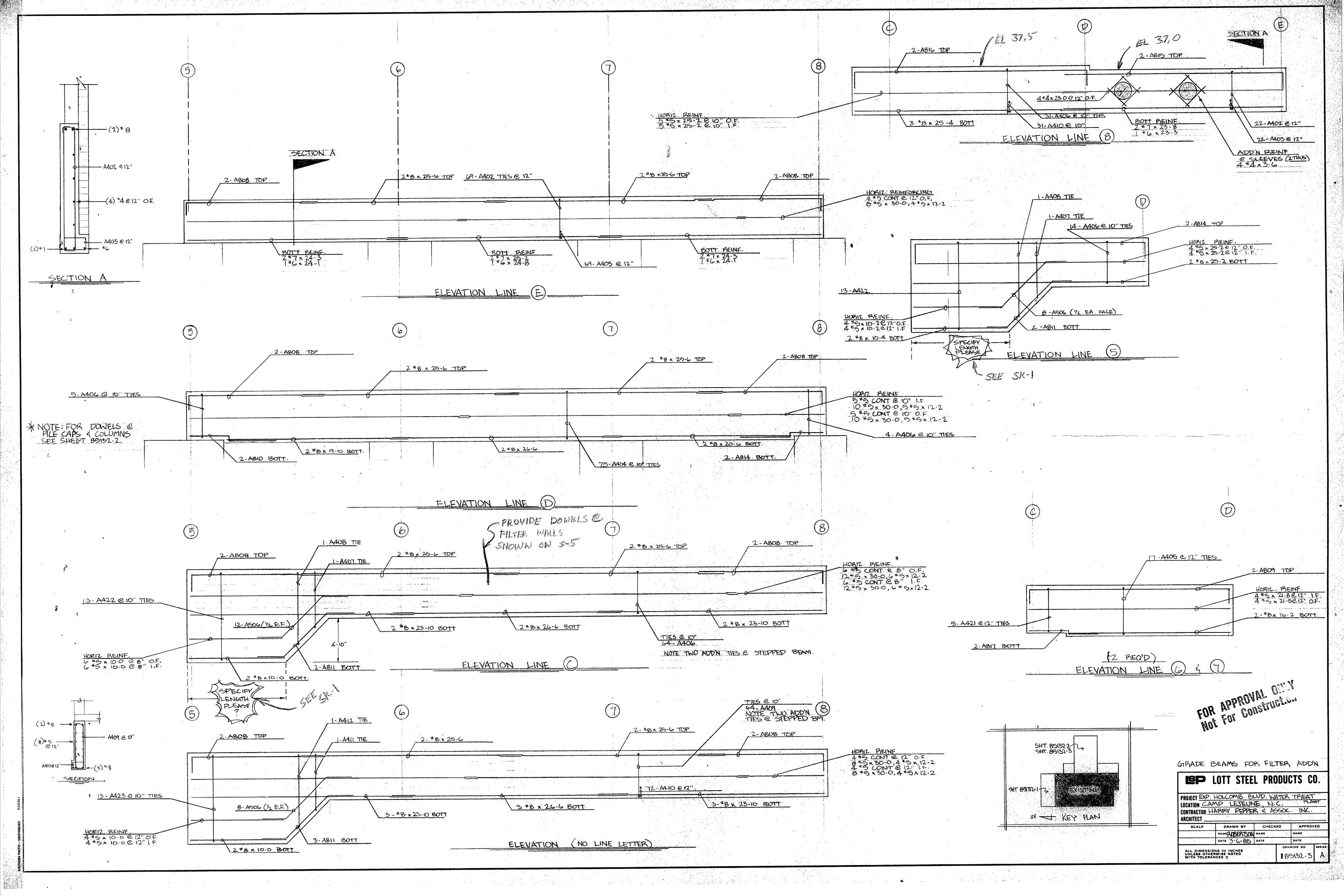


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ITEM	NO. PCS.	SIZE	LENGTH	MARK	TYPE	A	В	С	D	E	F	G	н	R	0	WEIGH
1		8	14-5	ASOB	2	1-4	13-1	-	-	-	-	-				
2		8	24-4						-	-	-	1-4				
3		8	7-4	A810	20	-	4.0	4"	3-0	-	-	-			666	
4		8	12-10	A811	3	-	3-0	6-10	3-0	-	-	-	410			
5		8	8-10	A812	2	1-4	7-6	_	-	-	٠	-				
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8		8	25-4	A815	2	1-4	24.0	-	1	- ·	-	-				
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23	- Ular	4	14-2	A407	T2	4"	5.9	1-0	5-9	1-0	-	4"				
24		4	17-8	A408	T2	4"	7-6	1-0	7.6	1-D		4"	er er de a d esse	energy work to	tools the	
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26		4	2-9	A410	17	- 1	1-0	9"	1-0	-	-	-				1,01
27		4	13-6	A411	12	4"	5-9	8"	5.9	8"	_	4"				
28		4	17-0	A412	T2	4"	7-6	8"	7-6	8"		4"				
29		4	11-0	A421	T2	4"	4-6	8"	4-6	8"	-	4"				
30		4	22-0	A422	T2	4"	9-8	1-0	9-8	1-0	-	4"				
31	este serve e	4	21-4	A423	12	4"	9-8	8"	9-8	8"		4"				



RI	INFO	RCI	NG SHO	P OR	DER					S	. O. N	UMB	ER_2	2013	52		
ST	RUCT	URE	EXP-	HOLLO	WB	BL	VD. T	REAT	MEN	I P	LANT	SHE	ET_		DF		
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31												ADE					





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ONTRACTOR'S SL ANTDIV NORFOLK 4-43	JBMITTAL TRANSMITTAL	CONTRACT NO.	TRANSMIT	TAL NO.	DATE		
OM CONTRACTOR	33/3 (Nev. 11-30)	PROJECT TITLE AND LOCATION					
7.		Holcomb Llvd Water Treatment Plant					
rev Zannar & A	ssociares 170	MCB, Cp Lajaun					
TU DOWN Dagan	S Associares Toc	non, op majour			AL LA		
	CONTRACTOR USE ONLY				EWER USE ONLY		
Lo Contractor Approved	*List only one specification division ist only one of the following categories on ea and indicate which is being subr	nch transmittal form, mitted Deviation/S	Substitution CC Approval	**ACTION CODES A-Approved D-Disapproved AN-Approved as noted RA-Receipt acknowledged. C-Comments R-Resubmit			
PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIF (Type, size, model no., I brochure n	Mfg. name, dwg. or	NO. OF	ACTION	REVIEWER'S INITIALS CODE AND DATE		
03302	CAST IN PLACE CONCRUTE				BR.		
Drove S-76	Vertical Construction	Joint	7	AH	402 4-23		
Request is m Horizontal Co is approved	ade to use Vertical Const onstruction Joints. See a there will be no cost to deviation will be the re	ttached statement. the Government and	If this any cha	propos mges ca	ed deviation used by		
Request is m Horizontal Co is approved the proposed to the Govern	onstruction Joints. See a there will be no cost to deviation will be the renment.	ttached statement. the Government and sponsibility of th	If this any che contra	propos mges ca	ed deviation used by		
Request is m Horizontal Co is approved the proposed to the Govern	onstruction Joints. See a there will be no cost to deviation will be the renment.	ttached statement. the Government and sponsibility of th	If this any character contractive (Signature)	propos mges ca	ed deviation used by		
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Request is me Horizontal Code is approved the proposed to the Government of the Gove	onstruction Joints. See a there will be no cost to deviation will be the renment. BMITTALS TO ROICE FROM (Reviewer) ARS FROM (Reviewer) ANTO I ad with action indicated. Approval of an item de to and supports the deviation.	ttached statement. the Government and sponsibility of the Contractor Representation of the Contract	If this any character and contracter (Signature) HA eviation from the	propos inges ca ictor at	PEIDIDER		

Note # I just below Detail E on Drawing S-I6, states that no vertical construction joints are permitted in the Raw Water or Fresh Water tanks. The Contractor requests that be useing vertical construction joints in 1the of horizontal joints, the walls can be placed in four section, thereby reducing concrete shrinkage and giving better control over each pour. The four vertical joints will be complete with keyways and waterstep. All reinforcement will be car ied through the joints. This procedure is in accordance with ACI Committee Report 350 "Concrete Sanitary Engineering Structures.

If this proposed deviation is approved, there will be no addition cost to the Government and any changes caused by this deviation will be at the expense of the contractor.

> - PER DETAIL E/516/516 OF CONTRACT DWGS.

by certified that the (material) (equipment) shown and this submittal, shop drawings, catalog cut (s), etc., and
reposed to be incorporated into Contract Number
-C-1644 is in compliance with the Contract Drawings
cations and can be installed in the allocated space,
Approved for use.
Submitted for Government approval.
Approved for use subject to Government approval of specific deviation,
Reviewer DATC
COC Rep. Thil Torse DATE 4-4-85

	NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA 23511
out (s), etc., and out (s), etc., and nitract Drawings "focated space, ent approval of	APPROVAL OF A SUBJUILT ANY DEVIATION FROM THE CON- APPROVAL OF ANY DEVIATION FROM THE CONTRACT TOR CALLS ATTENDION OF AND SUPPORTS THE DEVIATION THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PROPER PHYSICAL DIMENSIONS & WEIGHTS, COORDINA- TION OF TRADES, ETC., AS REQUIRED.
ATE of State	FOR OFFICER IN CHARGE OF CONSTRUCTION

DISAPPROVED

LANTDIV REVIEWER

DATE

BRJ

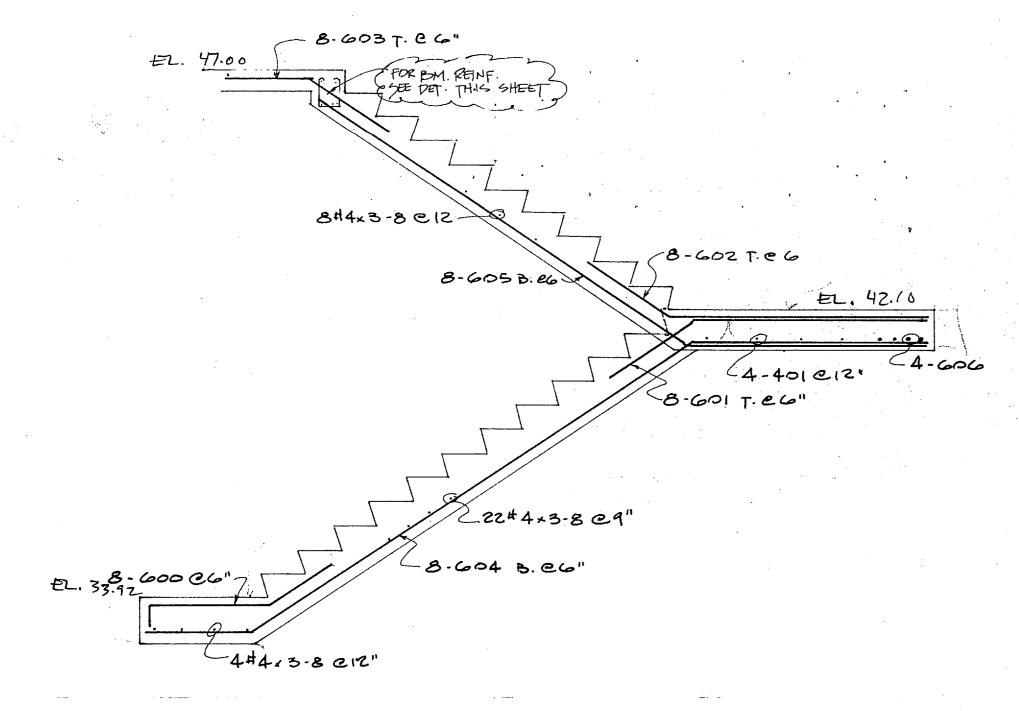
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	TDIV NORFOLK 4-4		> 15 CONTROL TO SECTION SOLD SELECTION OF THE PERSON OF TH	CONTRACT NO.	TR	ANSMI	TTAL NO.	DATE	yr
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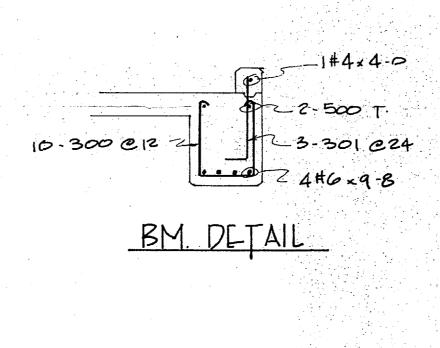
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TRIAD BUSINESSS FORMS/KERNERSVILLE, NC 27284/PHONE 996-3741

SECTION - STAIR NO. 2



marked in this submittal, shop drawings, catalog cut (s), etc., and approved/proposed to be incorporated into Contract Number N62470-81-C-1644 is in compliance with the Contract Drawings and Specifications and can be installed in the allocated space, and is: X Approved for use. Submitted for Government approval.

DESCRIPTION DATE

LOTT STEEL PRODUCTS CO., INC. P.O. BOX 879, WELCOME, N.C. 27374

REINFORCING STEEL HOLCOMB BLVD. W.W.T.P. HARRY PEPPER ASSOC.

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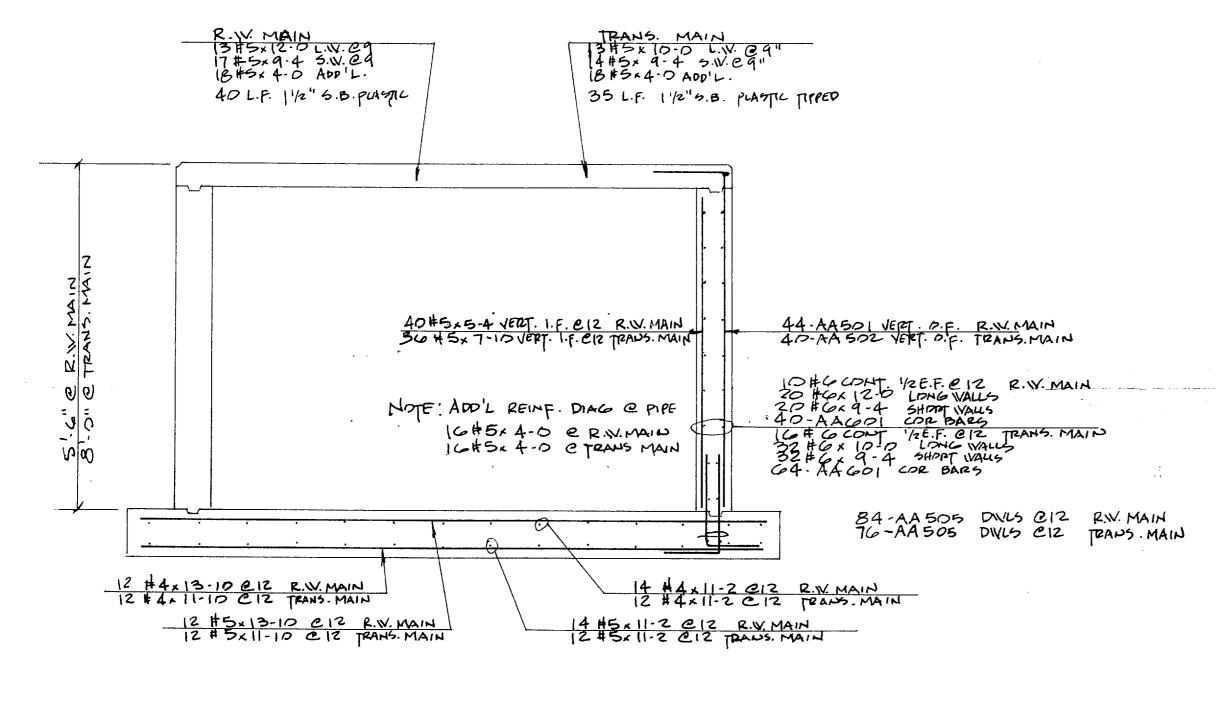
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FOR APPROVAL ONLY Not For Construction Made By LOTT Date 1-21-86 REFERENCE DRAWING USE A615/GR GO STEEL STAIR NO. 2 57

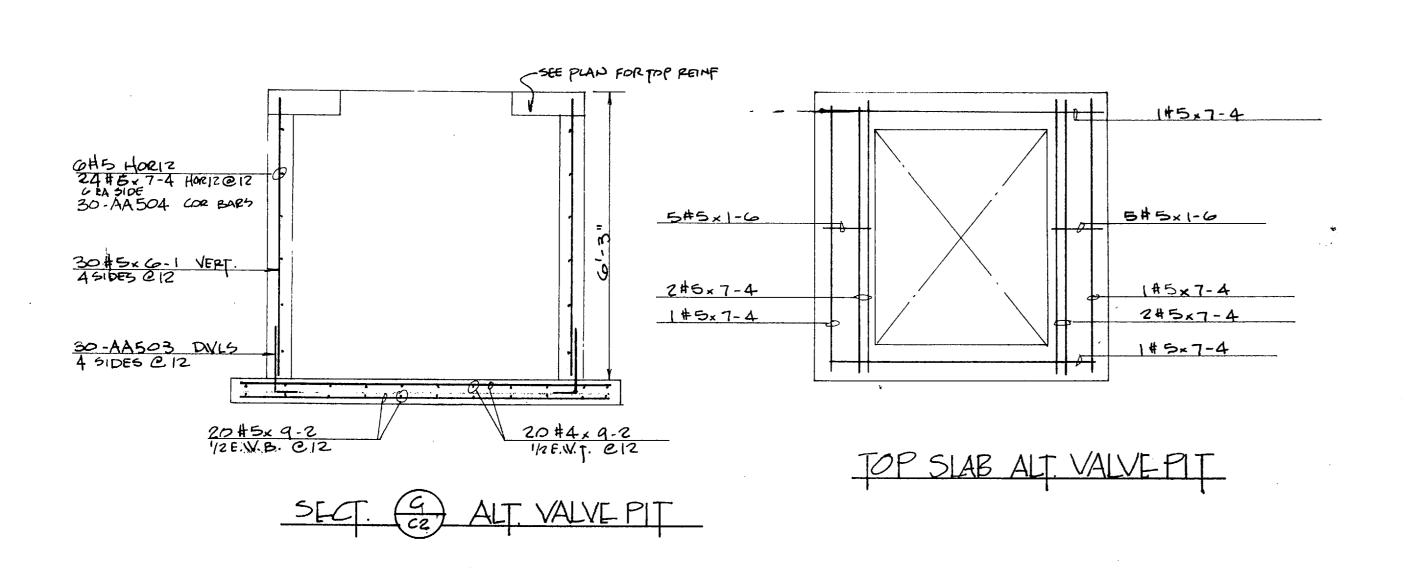
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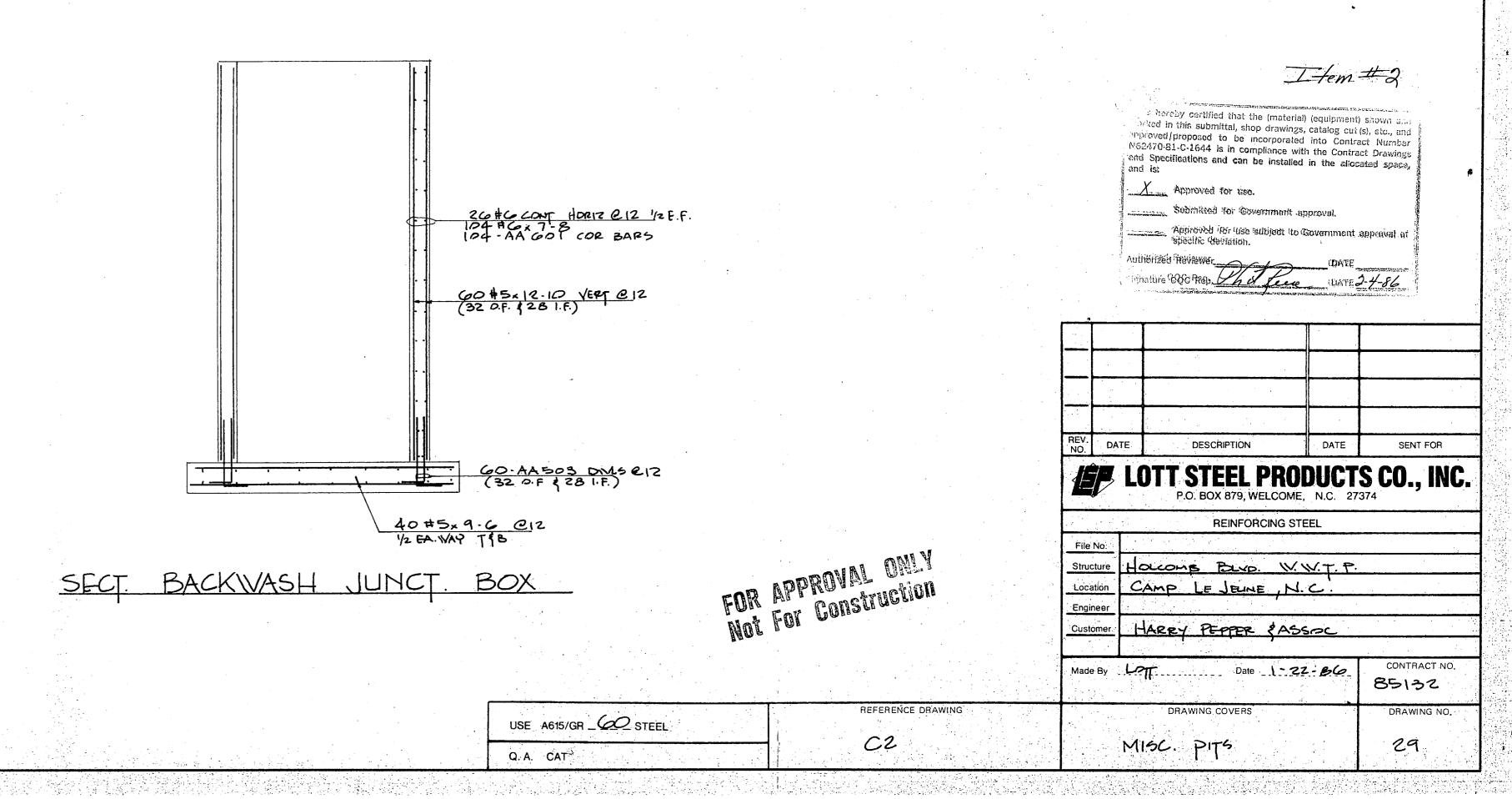
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SECTION - METER PITS

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SOUTHERN METER & SUPPLY CO.

TECHNICAL DATA 510 INDUSTRIAL AVE. AND AVAILABILITY EENSBORD, N. C. 27406 #

Flange material

Manufactured from Ductile Iron ASTM A536 Grade 65 - 45 - 12 Drilling to ANSI B16.1 - 125 lb. & 250 lb.

Design

Uni-Flange has been designed to meet the test requirements of ANSI B16.1 - 125 lb. - 250 lb. Set Screw Material

AISI 4140 Steel. Tensile 190,000 psi minimum. Heat treated and zinc plated.

Gasket Availability

Standard Gasket supplied with the Uni-flange is SBR (BUNA-S), suitable for water and wastewater. and most moderate chemicals. Temperature range -65°F to 212°F. The following alternative gaskets are also available, and color coded as indicated:

EPDM (Ethylene Propylene) - green suitable for -65°F to 350°F. CR (Neoprene) - vellow suitable for -65°F to 212°F.

NBR (Buna-N, Nytril, Hycar) orange suitable for -65°F to 300°F. FPM (Viton) - red suitable for -50°F to 450°F.

Hydrostatic Test Pressure

Uni-flanges are capable of withstanding the following hydrostatic test without leakage:

SERIES 200 - 125 lb./150 lb.

2 in. 8 in. 600 psi 10 in. - 12 in. 525 psi

SERIES 400 - 125 lb./150 lb.

2 in. - 12 in. 750 psi

14 in. · 24 in. 450 psi

30 in. - 48 in. 300 psi

SERIES 420 - 250 lb./300 lb.

2 in. - 12 in. 800 psi

Applications

Uni-Flanges are designed to handle the following water working pressures at a temperature of -20 F to 150 F. SERIES 200 - 125 lb./150 lb.

2 in. - 8 in. 200 psi

10 in. - 12 in. 175 psi

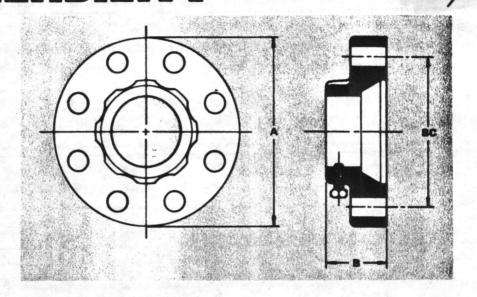
SERIES 400 - 125 lb./150 lb.

2 in. - 12 in. 250 psi

14 in. - 24 in. 150 psi 30 in. - 48 in. 100 psi

SERIES 420 - 250 lb./300 lb.

2 in. - 12 in. 400 psi



SERIES 200 - S /150 lb

SERIES 200 - C /125 lb.

	200 07	100 10.			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
NOM. PIPE	STEEL PIPE	CAST IRON	A	8	B B.C. BOLT SET SC OIA. NO.	T SCREWS	WGT. APPROX		
SIZE	O.D. 200-S	0.D. 200-C	36			UIA.	NO.	SIZE	(LBS.)
2	2.375	2.50	6	1 13/16	4 3/4	3/4	2	1/2 x 1	3.5
2%	2.875	*N/A	7	1 13/16	5 1/2	3/4	4	1/2 x 1	4.0
3	3.500	3.96	7%	1 13/16	6	3/4	4	1/2 x 1	5.0
4	4.500	4.80	9	1 7/8	7 1/2	3/4	4	1/2 x 1	7.7
5	5.563	*N/A	10	1 7/8	8 1/2	7/8	8	1/2 x 1	8.7
6	6.625	6.90	11	1 7/8	9 1/2	7/8	8	1/2 x 1	10.0
8	8.625	9.05	13%	2 1/4	11 3/4	7/8	8	5/8 x 1 1/4	16.5
10	10.750	11.10	16	2 1/4	14 1/4	1	12	5/8 x 1 1/4	22.0
12	12.750	13.20	19	2 1/4	17	1	12	5/8 x 1 1/4	31.0

B.C.

4 3/4

5 1/2

7 1/2

8 1/2 9 1/2

14 1/4

18 3/4

21 1/4

22 3/4

29 1/2

42 3/4 49 1/2

25

17

SERIES 400 - S /150 lb. STEEL

PIPE

24

3%

5

12

14 16 18

20

30

42

PIPE O.D.

2.375

2 875

4.000

5.563

6.625

8.625

12.750

14.000

16.000

20,000

24.000

30.000

36,000

42.000

CAST IRON

O.D.

400-C

2.50

"N/A 3.96 *N/A

4.80

*N/A

6.90

9.05

11.10 13,20

15.30

17.40

19.50

21.60

25.80

32.00

38.30 44 50

SERIES 400 - C /125lb

2 1/16

2 1/16 2 1/18

2 1/8

2 1/8

2 1/8

2 1/4

2 5/8

2 11/16

2 13/16

2 15/16

3 1/8

4 1/2

4 7/8

2 3/16

8%

11

13%

16 19

21

234

25 27%

381

2	HOLE	SE	T SCREWS	WGT.
	DIA.	NO,	SIZE'	(LBS.)
۱	3/4	4	1/2 x 1	5
	3/4	4	1/2 x 1	7
1	3/4	4	1/2 x 1	8
	3/4	8	. 1/2 x 1	9
	3/4	8	1/2 x 1	11
	7/8	8	5/8 x 1 1/4	13
1	7/8	8	5/8 x 1 1/4	14
1	7/8	8	5/8 x 1 1/4	21
1	1	12	5/8 x 1 1/4	38
	1	12	5/8 x 1 1/4	56
	1 1/8	12	5/8 x 1 1/4	70
	1 1/8	16	5/8 x 1 1/4	79
	1 1/4	16	3/4 x 2	90
1	1 1/4	20	3/4 x 2	145
	1,3/8	20	3/4 x 2	175
	1 2/0	20	1 - 2 1/4	270

32 36

15/8

SERIES 420 - C /250 lb.

PIPE F	STEEL	CAST IRON	. Z 1888	ela sed	8.C	BOLT HOLE DIA.	8	ET SCREWS	WGT. APPROX: (LBS.)
	0.D. 420-S	0.D. 420-C	•	3			NO	SIZE	
2	2.375	2.50	615	2 1/4	5	3/4	8	1/2 x 1	7
2%	2.875	*N:A	7',	2 3/8	5 7/8	7/8	8	1/2 x 1	10
3	3.500	3.96	8'4	2 7/16	6 5/8	7/8	8	1/2 x 1	13
3%	4.000	*N/A	9	2 7/16	7 1/4	. 7/8	8	1/2 x 1	16
4	4.500	4.80	10	2 7/16	7 7/8	7/8	8	5/8 x 1 1/4	21
5	5.563	"N'A	11	2 9/16	9 1/4	7/8	8	5/8 x 1 1/4	27
6	6 625	6.90	12%	2 9/16	10 5/8	7/8	12	5/8 x 1 1/4	38
8	8.625	9 05	15	2 5/8	13	1	12	5/8 x 1 1/4	57
10	10.750	11 10	17%	2 7/8	15 1/4	1 1/8	16	5/8 x 1 1/4	74
12	12.750	13.20	20'5	3	17 3/4	1 1/4	16	5/8 x 1 1/4	104

Dimensions in inches

The hardby certified that the (material) (equipment) shown and marked in this submittal, shop drawings, catalog cut (s), etc., and approved proposed to be incorporated into Contract Number N52470-81-C-1644 is in compliance with the Contract Drawings and Specifications and can be installed in the allocated space, and is:

Approved for use.

Submitted for Government approval.

Approved for use subject to Government approval of specific deviation.

Authorized Reviewer.

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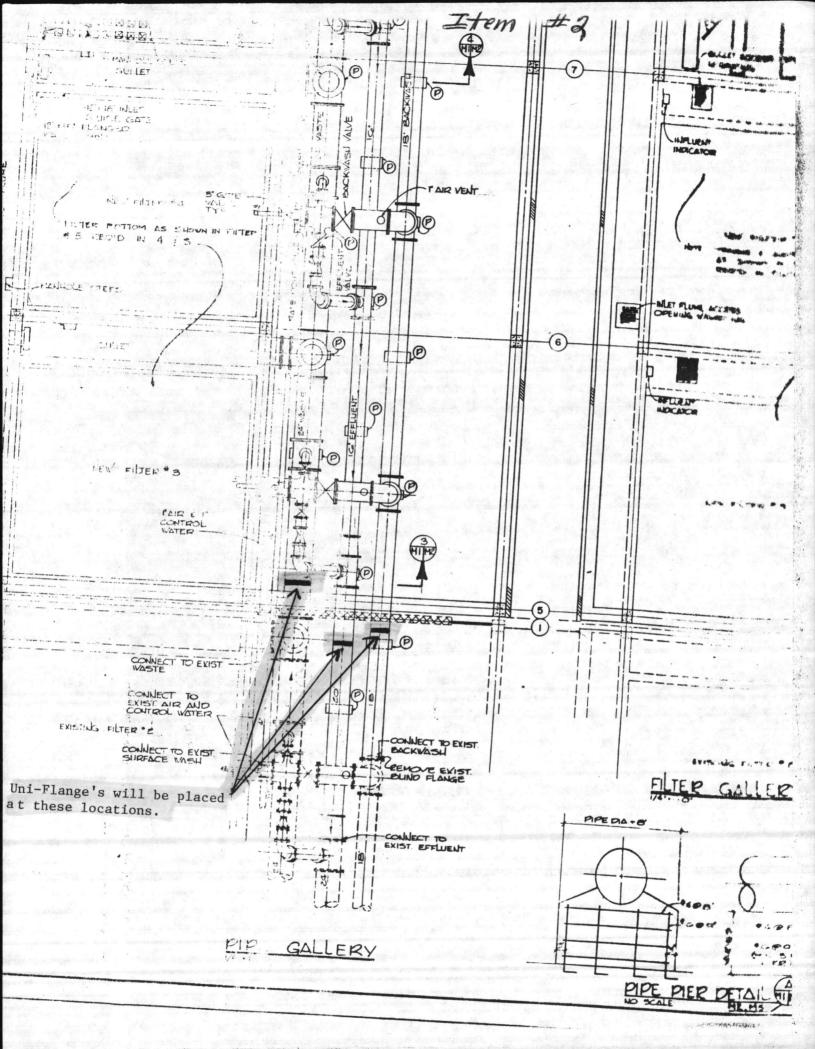
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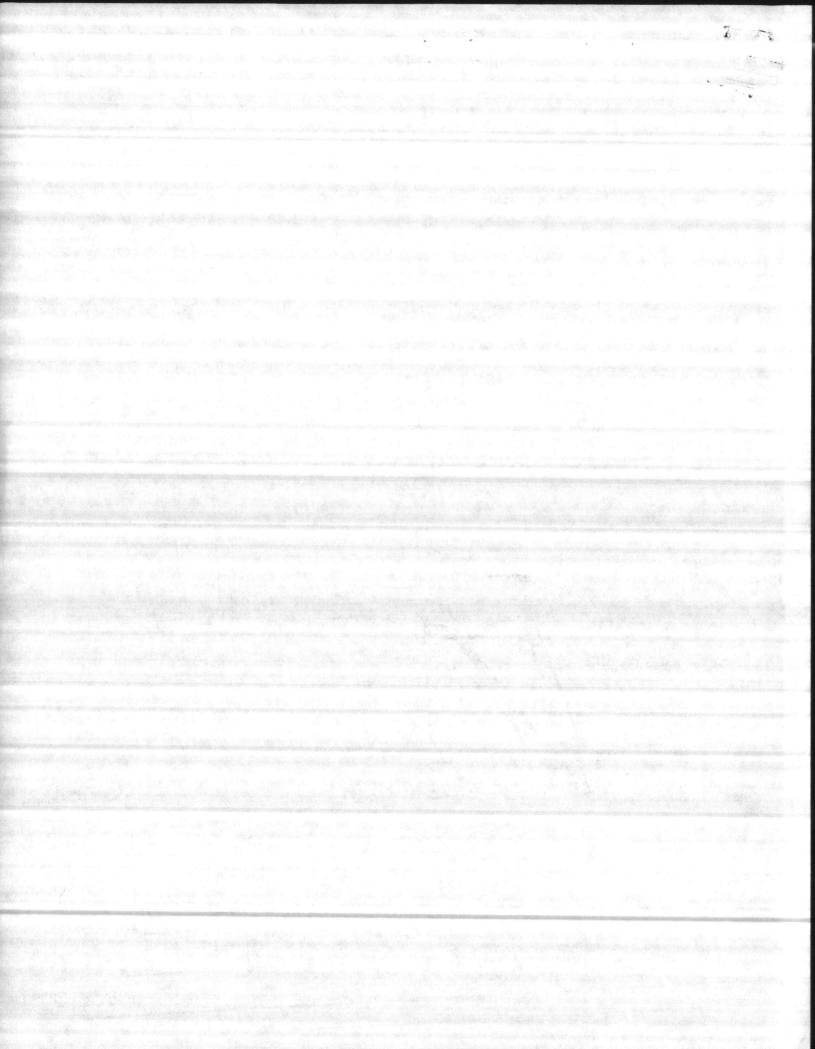
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T	RACT REQUIREMENTS LIMITESS THE CHARLES
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D	EVIATION-THE CONTRACTOR SHALL BE
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P	HYSICAL DIMENSIONS & WEIGHTS COMPROMA
T	ION OF TRADES, ETC., AS REQUIRED
	1 1 FEB 1986
R	EVIEWER CCS DATE

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F : 5-CONTRACTOR'S SUBMITTAL TRANSMITTAL CONTRACT NO TRANSMITTAL NO LANTDIV NORFOLK 4-4355/3 (Rev. 11-80) 81-C-1644 FROM CONTRACTOR PROJECT TITLE AND LOCATION Harry Pepper & Associates, Inc. Holcomb Blvd Water Treatment Plant Henry Von Oesen & Associates. Inc. MCB, Cp Lejeune, North Carolina CONTRACTOR USE ONLY REVIEWER USE ONLY *List only one specification division per form. "ACTION CODES A-Approved List only one of the following categories on each transmittal form, D-Disapproved and indicate which is being submitted AN-Approved as noted RA-Receipt acknowledged. Contractor Approved OICC Approval Deviation/Substitution C-Comments For OICC Approval R-Resubmit NO. OF PROJ. SPEC. SECT. ITEM IDENTIFICATION ACTION REVIEWER'S & PARA. and/or CODES INITIALS (Type, size, model no., Mfg, name, dwg, or PROJ. DWG. NO. CODE AND DATE brochure number) 04200 Unit Masonry 2.3.5 a Manufacturer's Data on Coated Copper Flashin CONTRACTOR'S COMMENTS COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC CONTRACTOR REPRESENTATIVE (Signa DATE RECEIVED BY REVIEWER 1/30/86 Henry von Oesen & Assoc., Inc.

ONE COPY TO ROTCC

DATE RECEIVED BY REVIEWER

1/30/86

FROM (Reviewer)

Henry von Oesen & Assoc., Inc.

Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.

Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

Contractor's approval appears to be appropriate.

HENRY VON OESEN AND ASSOCIATES, INC.

COPIES TO ROICC (2) LANTDIV (1) A-E (1)

DATE

SIGNATURE

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copper - fabric

FCO Copper Fabric

A full sheet of copper between two layers of fiberglass or cotton fabric. The copper is bonded to both layers of fabric. Size: up to 48" wide x 25-ft. long Copper weight: 2, 3, 5 or 7 ozs. per sq. ft.

The flashing that combines the permanency of copper with the excellent mortar bonding qualities of fabric. It is flexible and tough. Drainage facilitated by crimped grooves. Acid and alkali resistant.



copper - paper

AFCO Cop-A-Bond:

Copper bonded on one side by asphalt to a waterproofed creped kraft paper. Size: 60" wide x 120-ft long Copper weight: 1, 2 or 3 ozs. per sq. ft.

Copper flashing in its most economical form.



AFCO Cop-A-Bond Duplex:

Copper bonded with asphalt to and copper - paper between two layers of waterproofed creped kraft paper.

Size: 60" wide x 60-ft. long Copper weight: 2, 3 or 5 ozs. per sq. ft.

A tough flexible economical copper flashing.



AFCO Cop-A-Cote:

A full sheet of copper coated on both copper - coated sides with a flexible, rubbery bituminous compound.

Size: up to 60" wide x 25-ft. long Copper weight: 2, 3, 5 or 7 ozs. per sq. ft. The permanence of copper plus protection against electrolysis by its rubbery bituminous coating Acid and alkali resistant. AFCO's exclusive compound offers greater flexibility and firmness.



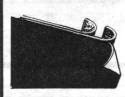
copper - lead fabric

AFCO Cop-A-Lead Fabric

A combination consisting of a sheet of electrolytically deposited copper bonded with asphalt to a sheet of lead and this assemblage is bonded between 2 layers of asphalt impregnated cotton or fiberglass fabric.

Sizes: 40" x 25' long Total metal weight: 2 oz., 3 oz., 5 oz., & 7 oz.

Flexible, rugged, with the permanency of copper and lead. Maintains quality features of an all copper product at a lower cost. Fabric affords excellent mortar bonding qualities. Draining facilitated by crimped grooves.



copper - lead

AFCO Cop-A-Lead Bond

A combination consisting of a sheet of electrolytically deposited copper bonded with asphalt to a sheet of lead and this assemblage bonded on one side to a fiberglass reinforced heavy creped kraft backing.

Size: 60" x 120' long Total metal Weight: 2 oz., 3 oz., per sq. ft.

AFCO Cop-A-Lead® Duplex

A combination consisting of a sheet of copper electrolytically deposited bonded with asphalt to a sheet of lead and this asssemblage bonded with asphalt between 2 layers of heavy creped kraft backing with a ply of fiber-

glass reinforcing. Size: 2 and 3 oz. – 60" wide x 60'-ft. long 5 oz. - 60" wide x 40'-ft. long

A copper-lead flashing in its most economical form, featuring a fiberglass reinforced lamination with asphalt of copper-lead and kraft paper.



copper - lead

The time proven features of copper and lead incorporating the permanence and alkali resistance of copper plus the acid resistance of lead.

marked in this submittal, shop drawings, catalog cut (s), etc., and approved/proposed to be incorporated into Contract Number N62470-31-C-1644 is in compliance with the Contract Drawings and Specifications and can be installed in the allocated space, and is:

Approved for use.

Submitted for Government approval.

Approved for use subject to Government approval of specific deviation.

Authorized Reviewer

Signature CQC Rep.

DATE 37-86

AFCO Specification

Copper-Fabric Copper Lead Fabric

- 1. MATERIAL shall be AFCO copperfabric or AFCO Cop-A-Lead® Fabric* Flashing all as manufactured by AFCO Products Inc., Somerville, Mass. 02143. It shall consist of a sheet of copper or a lamination of copper and lead weighing (2, 3, 5 or 7 ozs. per sq. ft.) bonded to and between two layers of asphalt impregnated cotton fabric or fiberglass by means of an asphalt mastic and the combination shall be crimped with crosswise parallel grooves.
- 2. Installation: All surfaces to receive the flashing shall be reasonably smooth, free from irregularities. On all horizontal surfaces the flashing shall be laid either in a fresh bed of mortar above and below or a trowel coat of mastic. Vertical surfaces shall be spotted with asphalt mastic to hold flashing in place.
- 3. Over Concrete Foundations: The flashing shall be laid either in a fresh bed of mortar above and below or a trowel coat of mastic. At the intersection with column, the flashing should be brought a minimum of 10" up the column only and not on sides of column and secured with asphalt mastic.
- **4. SPANDRELS:** Flashing shall start at the outside toe of the shelf angle, go up the face of the beam and then thru the wall turning up on the inside face of the wall not less than 2".
- **5. HEADS & SILLS:** Flashing shall start ½" from outside face of wall, then thru the wall turning up at the inside not less than 2" and extend 6" on each side of the opening. It shall be turned at the ends forming a 2" deep pan running entirely thru the wall.
- **6. THRUWALL:** Flashing shall start ½" from the outside face of wall, then go thru wall turning up at the inside not less than 2".
- 7. COPING: Flashing shall be laid in a fresh bed of mortar above and below and shall come within ½" of the faces of the wall.
- **8. JOINTS:** shall be made by lapping which is accomplished by (1) rolling back the top layer of fabric 4" (2) interlocking the pieces, and (3) coating all contacting surfaces with plastic cement.

Copper-Coated

9. MATERIAL: shall be AFCO Cop-A-Cote as manufactured by AFCO Products Inc., Somerville, Mass. 02143 consisting of a sheet of copper weighing (2, 3, 5 or 7 oz. per sq. ft.) coated on both sides with a flexible rubbery bituminous compound weighing a minimum of 6 ozs. per sq. ft.

10. Joints: use paragraph 27.

Copper-Paper

11. Material: shall be AFCO Cop-A-Bond as manufactured by AFCO Products Inc., Somerville, Mass. 02143, consisting of a sheet of copper weighing (1, 2, 3 oz. per sq. ft.) bonded on one side by asphalt to a waterproofed creped kraft paper. (3 oz. wgt. is reinforced with fibers to meet Government Specifications).

12. Joints: use paragraph 27.

13. Material: shall be AFCO Cop-A-Bond Duplex as manufactured by AFCO Products Inc., Somerville, Mass. 02143 consisting of a sheet of copper weighing (2, 3, 5 oz. per sq. ft.) bonded with asphalt to and between two layers of waterproofed creped kraft paper.

14. Joints: use paragraph 27

Copper-Lead Paper

15. Material: shall be AFCO Cop-A-Lead* Bond as manufactured by AFCO Products Inc., Somerville, Mass. 02143 consisting of a sheet of electrolytically deposited copper bonded with asphalt to a sheet of lead totalling 2 or 3 ozs. per sq. ft. and this assemblage bonded on one side to a fiberglass reinforced creped kraft backing.

16. Joints: use paragraph 27

17. Material: shall be AFCO Cop-A-Lead® Duplex as manufactured by AFCO Products Inc., Somerville, Mass. 02143, consisting of a sheet of electrolytically deposited copper bonded with asphalt to a sheet of lead totalling 2, 3, 5 or 7 ozs. per sq. ft. and this assemblage bonded with asphalt between 2 layers of creped kraft backing with a ply of fiberglass reinforcing.

18. Joints: use paragraph 27

Fabric-Flashing

19. Material: shall be AFCO Cloth-Cote or Glass CLoth-Cote as manufactured by AFCO Products Inc., Somerville, Mass. 02143, consisting of a woven cotton fabric (or glass) impregnated and heavily coated with an elastic rubbery asphalt compound to 40 ozs. per sq. yd.

20. Joints: use paragraph 27

21. Material: shall be AFCO Fabric Flashing as manufactured by AFCO Products Inc., Somerville, Mass. 02143 consisting of 15# asphalt saturated felt bonded to and between two layers of asphalt impregnated cotton fabric by means of an asphalt mastic and the combination crimped with crosswise parallel grooves.

22. Joints: use paragraph 8

Aluminum-Flashing

23. Material: - Shall be AFCO Aluminum Fabric Flashing as manufactured by AFCO Products Inc., Somerville, Mass. 02143, consisting of .004" or .005" thick aluminum bonded to and between two layers of asphalt impregnated cotton fabric by means of an asphalt mastic and the combination crimped with cross-wise parallel grooves.

24. Joints: use paragraph 8

25. Material: - shall be AFCO Aluminum Coated Flashing as all manufactured by AFCO Products Inc. Somerville, Mass. 02143, consisting of a sheet of .004" or .005" thick aluminum coated on both sides with a flexible rubbery asphalt compound weighing a minimum of 6 ozs. per sq. ft.

26. Joints: use paragraph 27

27. Joints: — The material shall be lapped at least 4" and cemented with an asphalt mastic.



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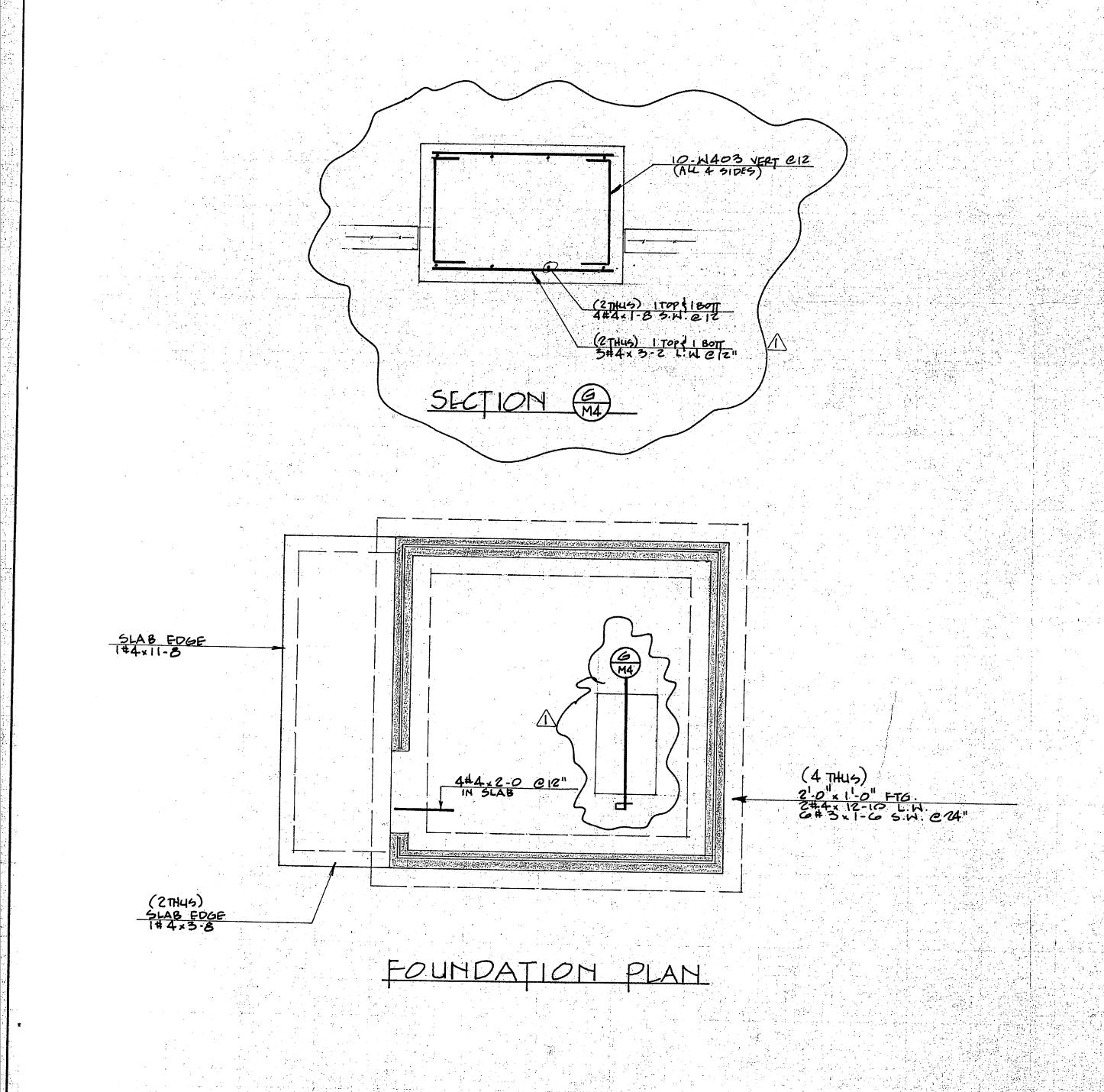
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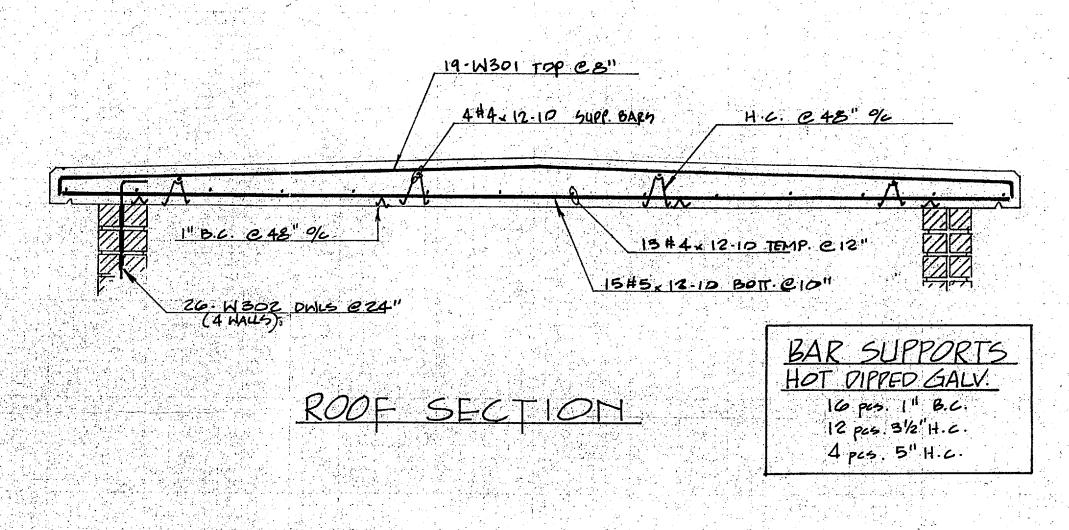
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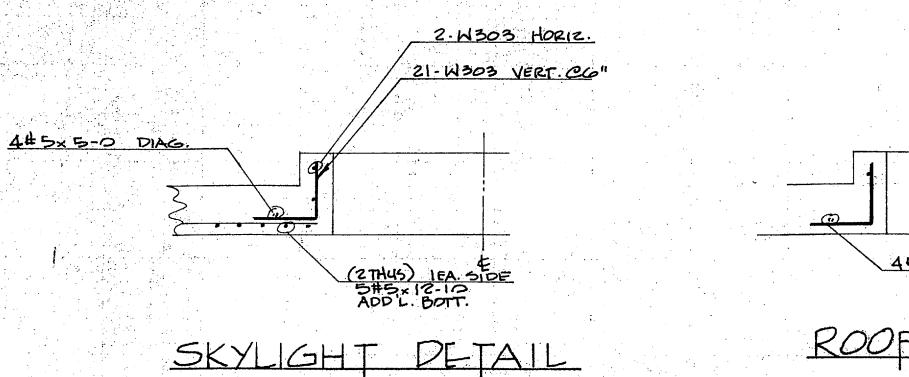
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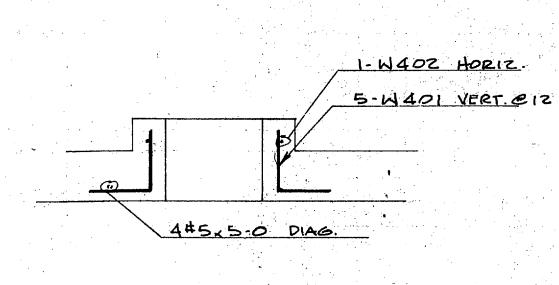
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- 5		*List only one specification division p	per form			CTION CODES	
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ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFIC (Type, size, model no., Mi brochure nun	fg. name, dwg. or	NO. OF COPIES	ACTION CODES	REVIEWER'S INITIALS CODE AND DATE	
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ROOF VENT

II/25 JOB USE

II/11 APPROVAL

REV DATE DESCRIPTION DATE SENT FOR

LOTT STEEL PRODUCTS CO., INC.
PO BOX 879, WELCOME, N.C. 27374

notes) certified that the (material) (equipment) shown and the in this submittal, shop drawings, catalog cut (s), etc., and interved/prepared to be incorporated into Contract Number and Specifications and can be installed in the allocated space,

FOR JOB HER

POR JOB USE
Not for Llot Use

USE A615/GR GO_STEEL

C3, C4, C5, C6, M4

Q.A. CAT

REINFORCING STEEL

File No.
Structure EXP. HOLCOMB BLVD. W. W.T.P.
Location CAMP LEJEUNE, N.C.
Engineer
Customer HARRY PEPPER ASSOCI

Made By LOTT Date 11-9-85 85132

DRAWING COVERS DRAWING NO 25 L

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