

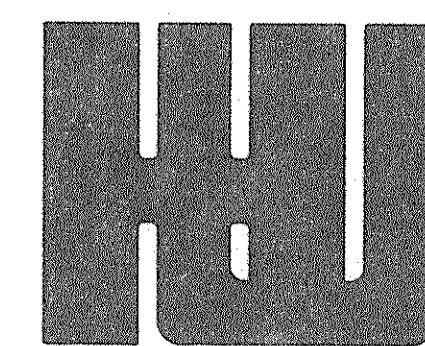
GRAND STRAND WATER & SEWER AUTHORITY
SURFACE WATER TREATMENT PROJECT

CONTRACT VII

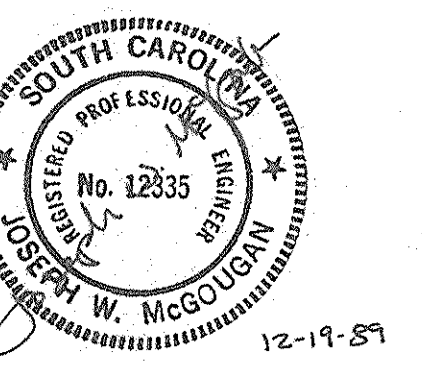
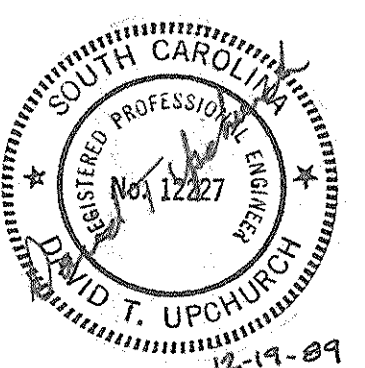
FINISHED WATER CLEARWELL (500,000 GALLON)

SOUTH RESERVOIR (5,000,000 GALLON)

CONWAY RESERVOIR (2,000,000 GALLON)



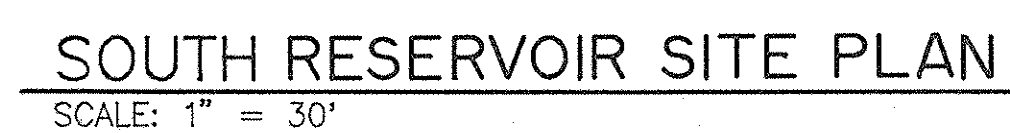
HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387



RECORD DRAWING / I-14-92 / RAC

REVISED 12-22-89

33-03-001/12w
AS BUILT
3 RESERVOIRS



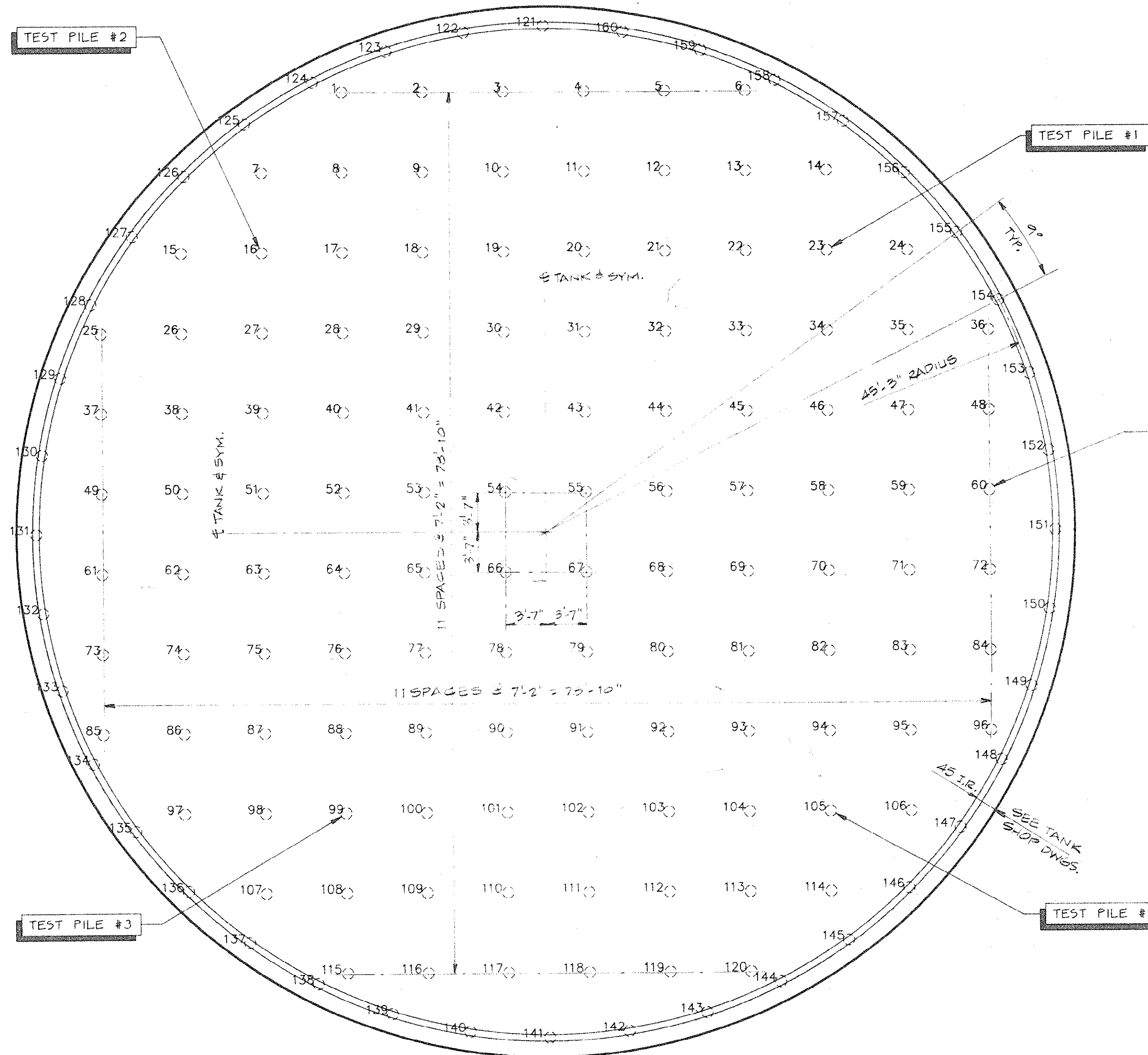
- [illegible]

A circular professional engineer seal for the State of South Carolina. The outer ring contains the text "SOUTH CAROLINA" at the top and "DAVID T. UPCHURCH" at the bottom, separated by two stars. The inner ring contains the text "REGISTERED PROFESSIONAL ENGINEER". In the center, the number "No. 12227" is printed. The seal is stamped over a document, and the date "12-19-88" is handwritten below it.

A circular professional engineer seal for the State of South Carolina. The outer ring contains the text "SOUTH CAROLINA" at the top and "JOSEPH W. MCGOUGH" at the bottom, separated by two stars. The inner ring contains the text "REGISTERED PROFESSIONAL ENGINEER". In the center, the license number "No. 32335" is printed, with a handwritten signature "J. McGough" written over it. Below the seal, the date "12-19" is handwritten.

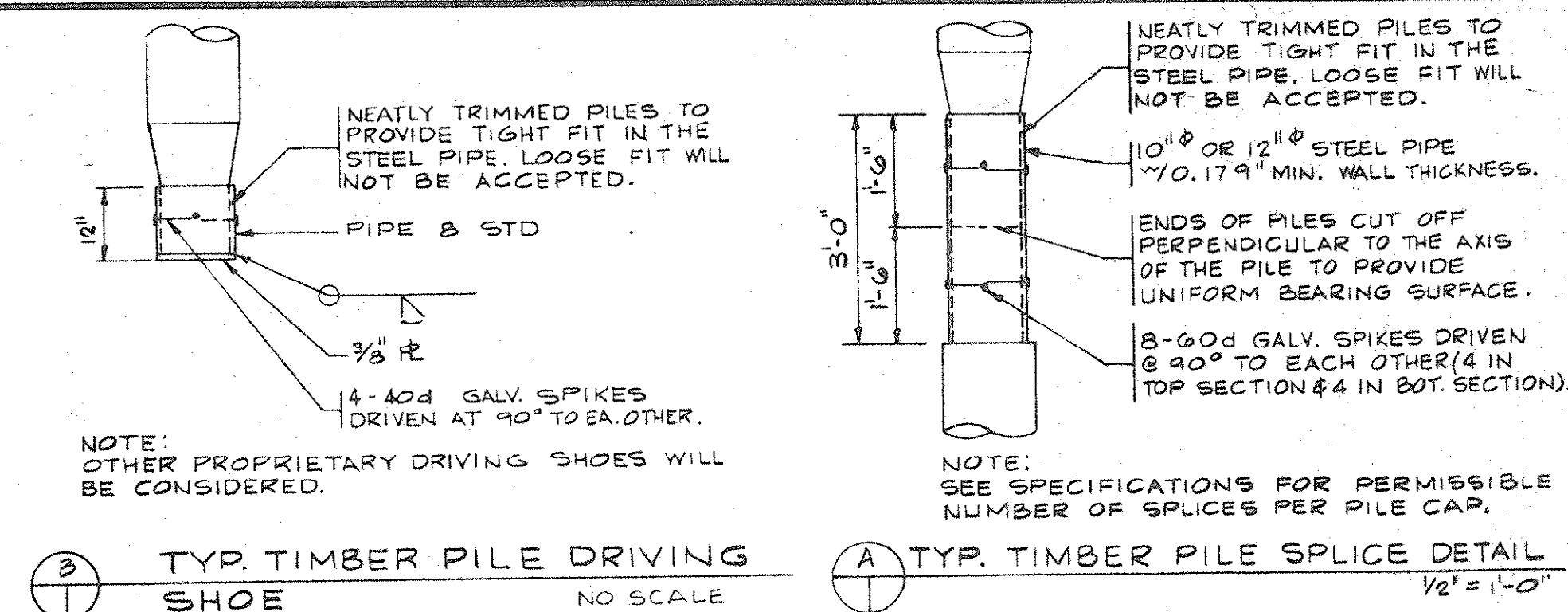
RESERVOIR SITE PLANS

DATE:	DEC., 1989
DESIGNED:	JWM
DRAWN:	DC
CHECKED:	DTU
SCALE:	AS SHOWN
SHEET NO.	VII-3
NOF:	12



PILE PLAN - 500,000 GALLON CLEARWELL 1/8" = 1'-0"

- NOTE:
1. PILE LOCATIONS AND NUMBERS ARE FOR BIDDING PURPOSES ONLY. PILE LOCATIONS MAY VARY SLIGHTLY AS REQUIRED BY TANK MANUFACTURER TO ACCOMMODATE PILING.
 2. VERIFY TANK AND PILE PLAN ORIENTATION WITH SITE PLAN AND TANK SHOP DRAWINGS.
 3. TIMBER PILES SHALL CONFORM TO ASTM D25.
 4. TIMBER PILES SHALL HAVE A NET CREOSOTE RETENTION OF NOT LESS THAN 12 POUNDS PER CUBIC FOOT BY ASSAY.
 5. EXCAVATE TO PLAN DEPTH OF TANK SLAB PRIOR TO COMMENCING PILE DRIVING. CONFIRM W/TANK SHOP DRAWING.



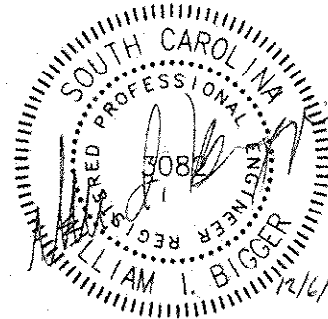
DRAWING RELEASED FOR BIDDING OF FOUNDATIONS FOR CIRCULAR CONCRETE TANKS ONLY (12-8-89).

33-03-004w

REVISIONS			
SYM.	DESCRIPTION	DATE	BY
1	RECORD DRAWING	1-14-92	K/P

HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

Greiner
GREINER, INC.
Raleigh, North Carolina



SURFACE WATER TREATMENT PLANT
GRAND STRAND WATER AND SEWER AUTHORITY

PILE PLAN - CLEARWELL
PILING DETAILS

DATE	NOV., 1989
DESIGNED	WPD
DRAWN	LAW
CHECKED	WPD
SCALE	AS NOTED
SHEET NO.	VII-4
OF	12

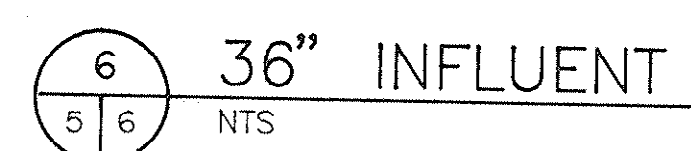
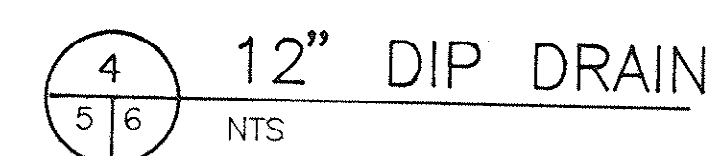
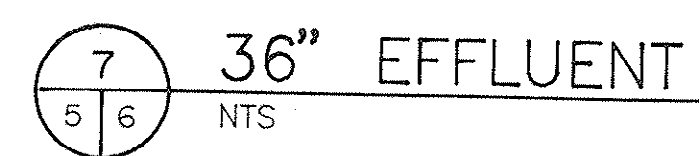
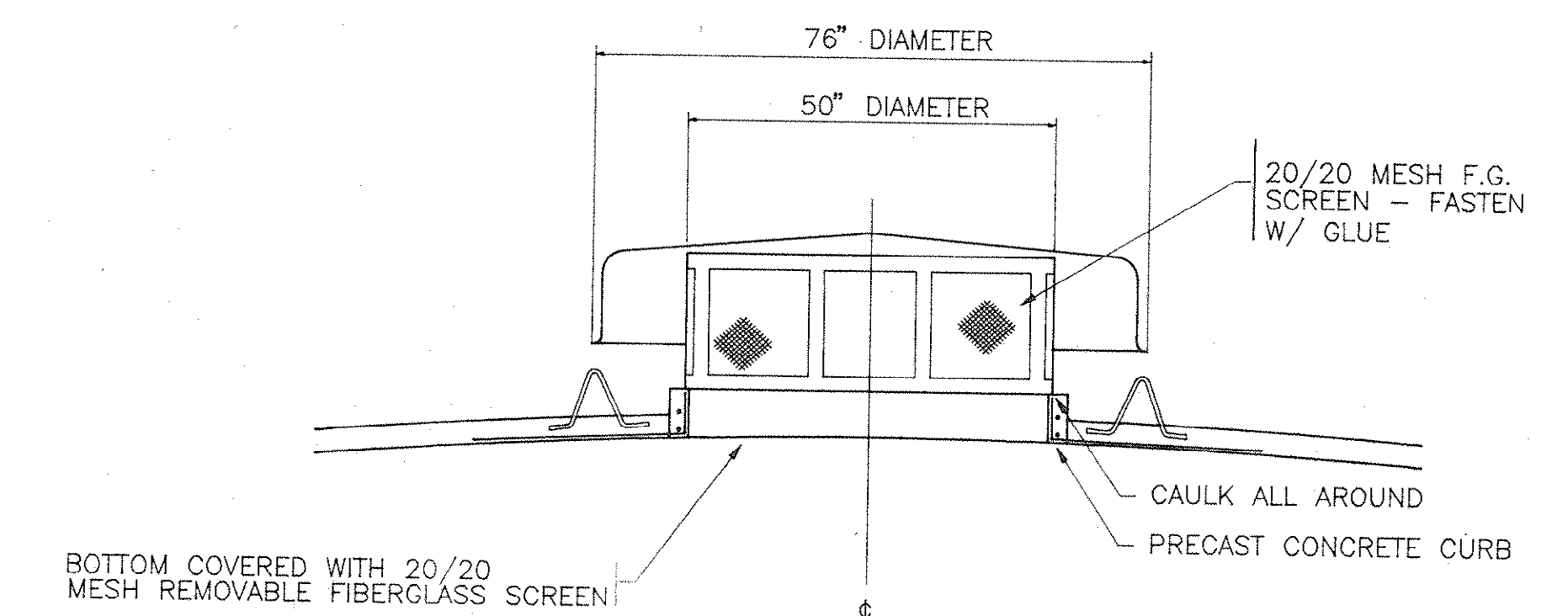
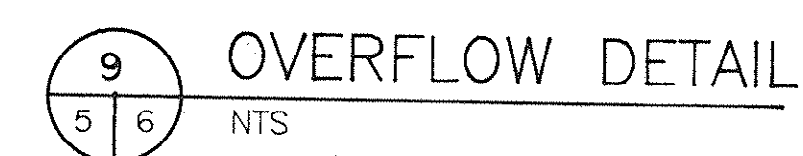
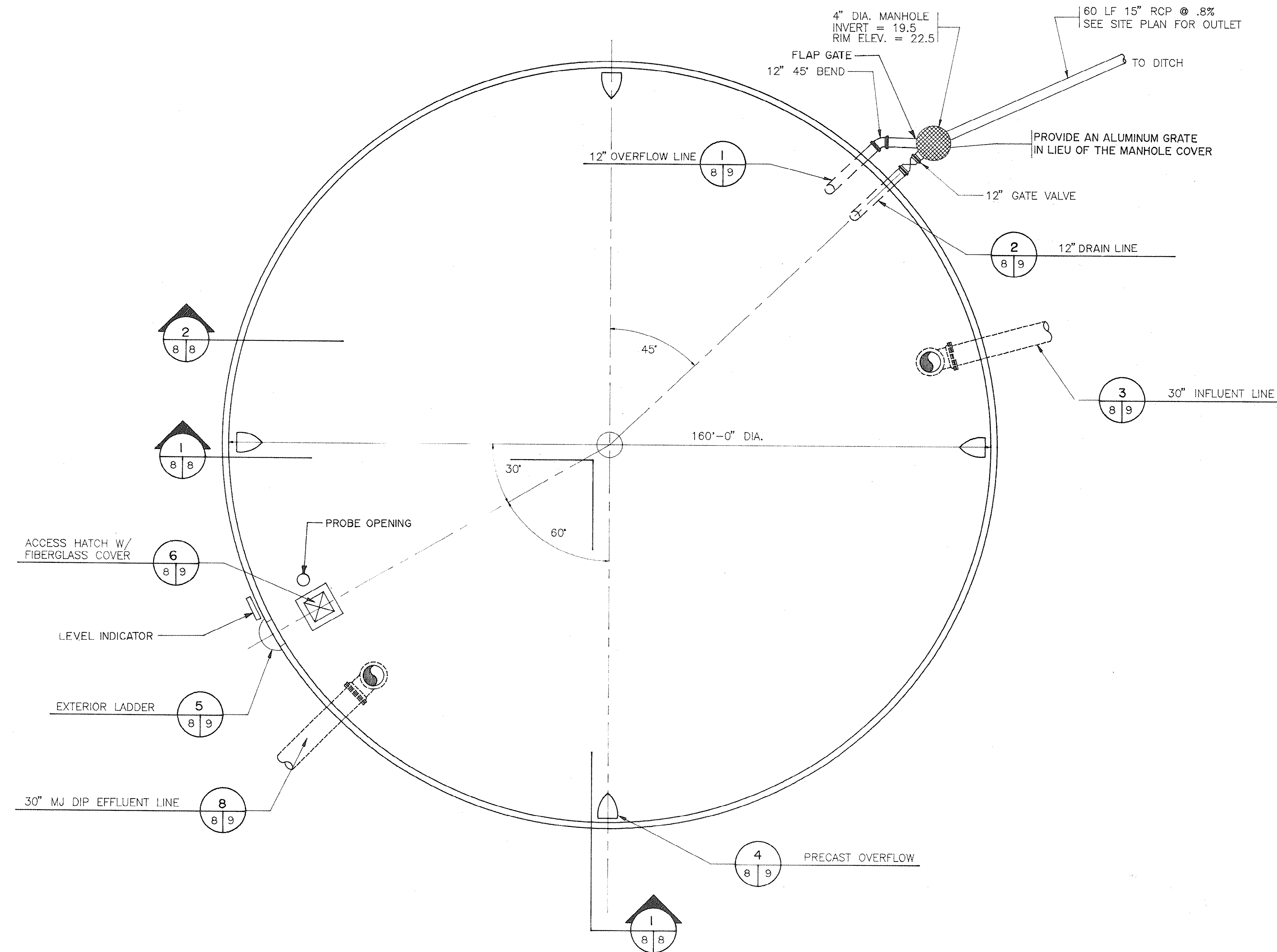


Diagram illustrating the installation of a fiberglass screen in a precast overflow structure. The diagram shows a cross-section of the structure with a screen installed inside. Labels indicate the following components and actions:

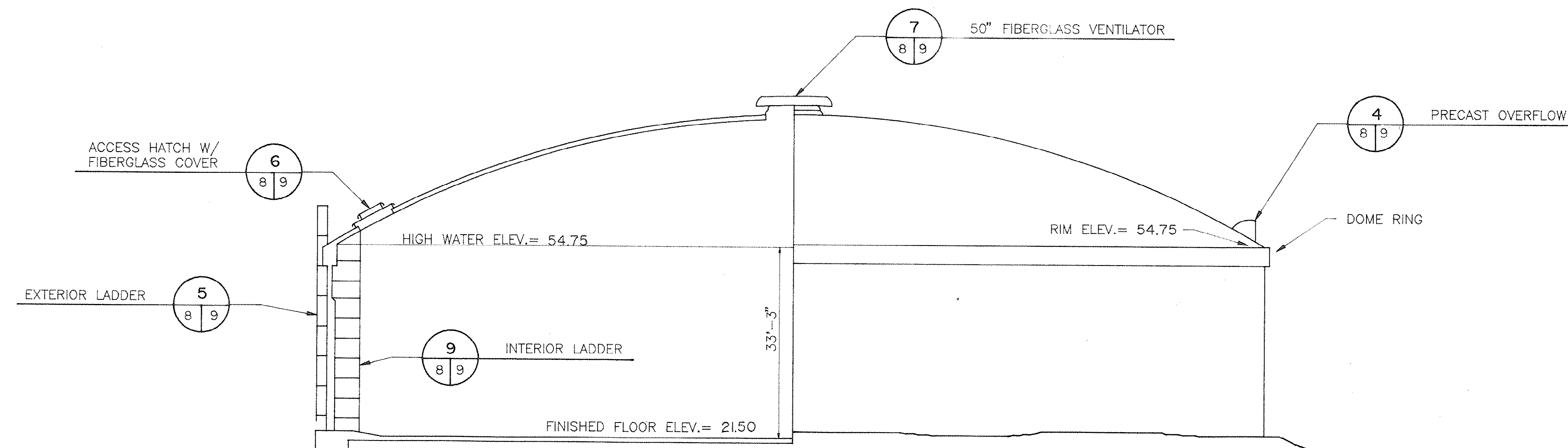
- PRECAST OVERFLOW
- CAULK ALL AROUND
- 20/20 MESH REMOVABLE FIBERGLASS SCREEN



		HOBBS, UPCHURCH & ASSOCIATES, P.A. CONSULTING ENGINEERS SOUTHERN PINES, NORTH CAROLINA 28387		DATE NOV. 1989
		SURFACE WATER TREATMENT PROJECT GRAND STRAND WATER AND SEWER AUTHORITY		DESIGNED JWM DRAWN DC CHECKED DTU SCALE AS SHOWN
		500,000 GALLON CLEARWELL DETAILS		SHEET NO. VII-6 OF 12



5,000,000 GALLON CLEARWELL - PLAN
NTS

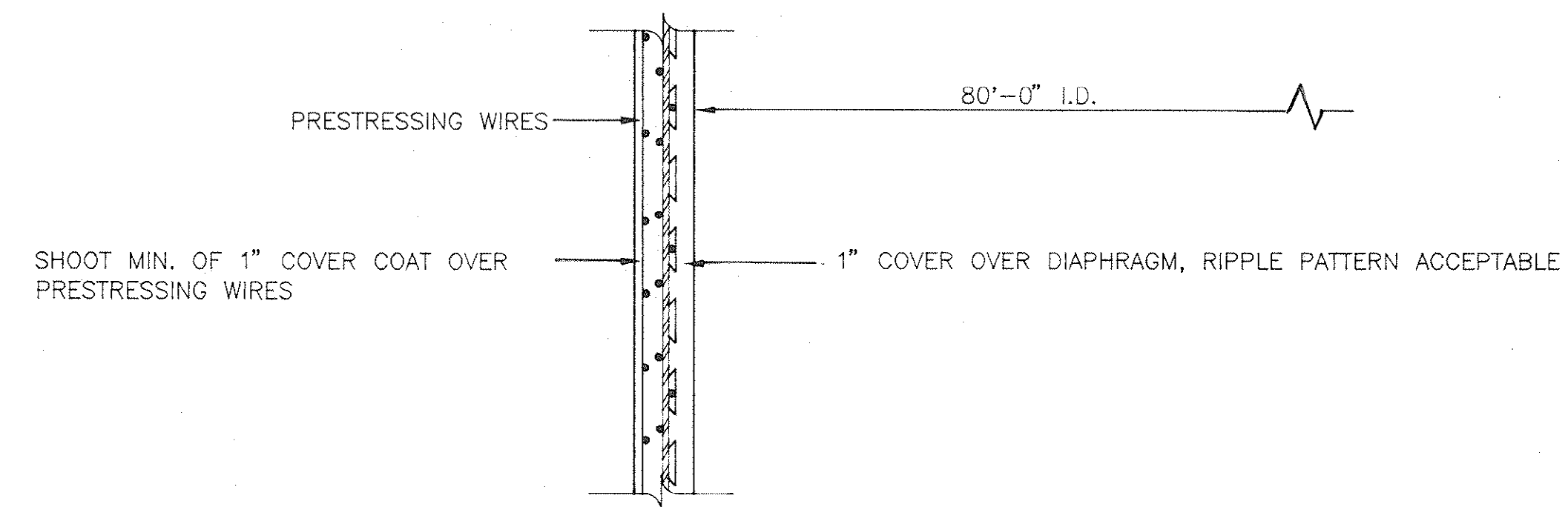


5,000,000 GALLON CLEARWELL - SECTION
NTS

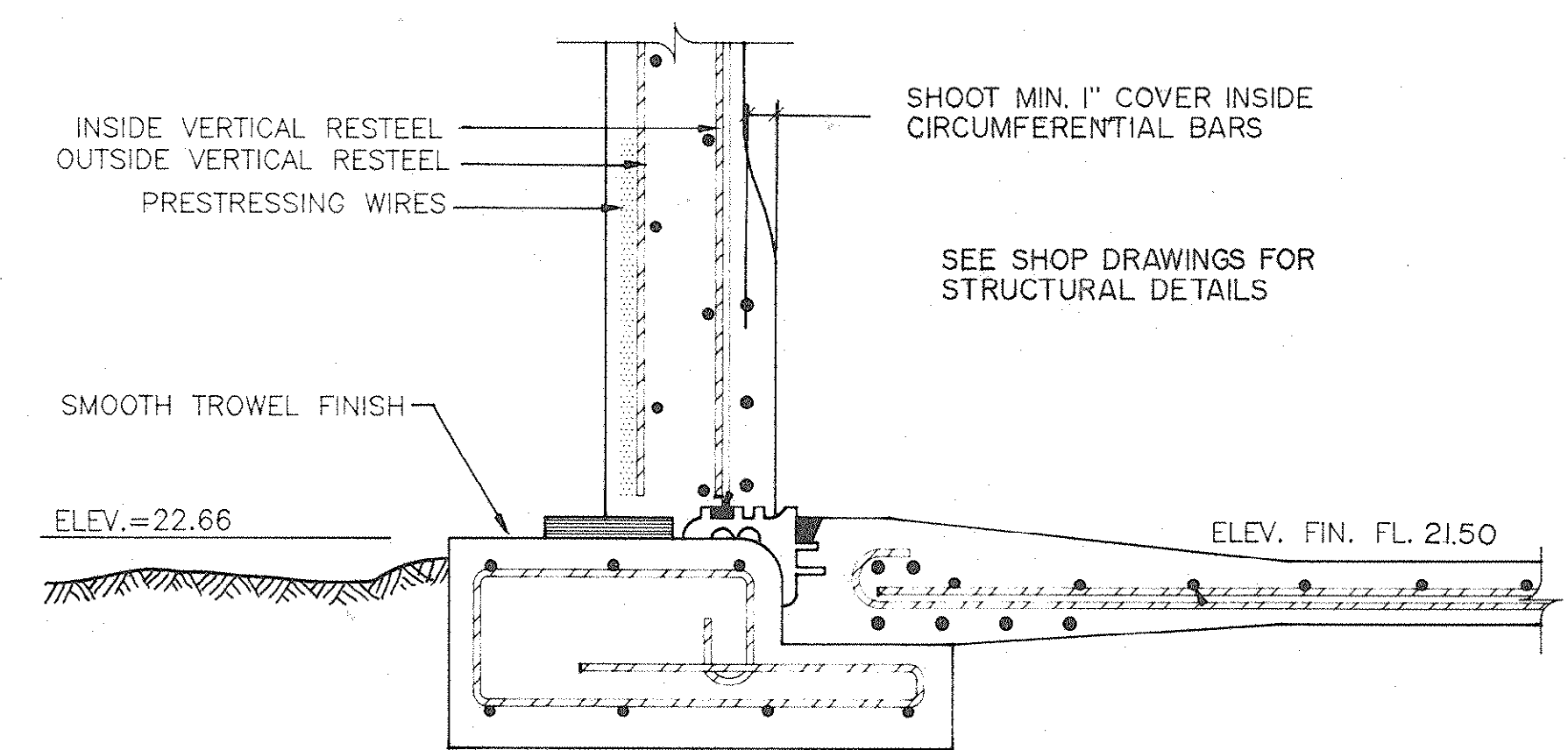
ELEV. 56.25 TOP OF WALL
TOP OF STEEL
SHELL DIAPHRAGM
SPRINGLINE
LIMIT OF DOME BAND
PRESTRESSING WIRES

SHOOT MIN. 1" COVER COAT
OVER PRESTRESSING WIRE
OUTSIDE VERTICAL RESTEEL

2 DOME RING DETAIL
8/8 NTS



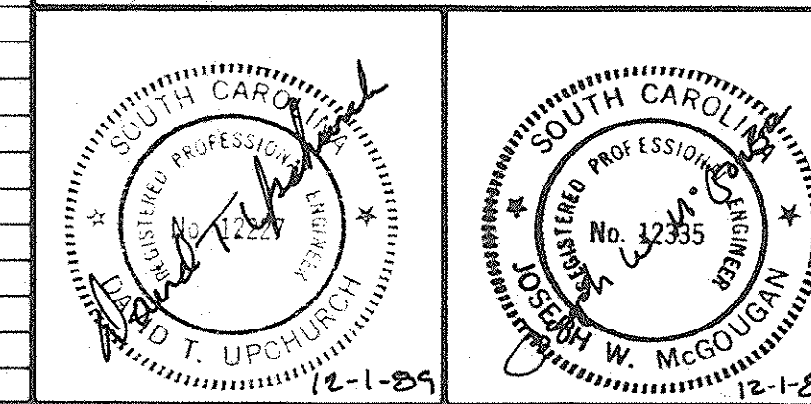
2 HORIZONTAL WALL SECTION
8/8 NTS



2 FLOOR-WALL DETAIL
8/8 NTS

REVISIONS			
SYM.	DESCRIPTION	DATE	BY
	CONTRACT V.I. '89 DOCUMENTS	12-19-89	JWM
	RECORD DRAWING	1-14-92	RAC

HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387



**SURFACE WATER TREATMENT
PLANT PROJECT**
GRAND STRAND WATER AND SEWER
AUTHORITY
SOUTH PUMP STATION
RESERVOIR PLANS AND DETAILS
5,000,000 GALLON

DATE: NOV., 1989
DESIGNED: JWM
DRAWN: DC
CHECKED: DTU
SCALE: NONE
SHEET NO. VII-8
OF 12

33-03-008w

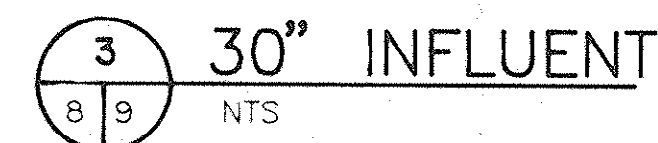
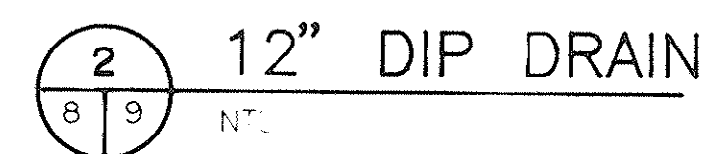
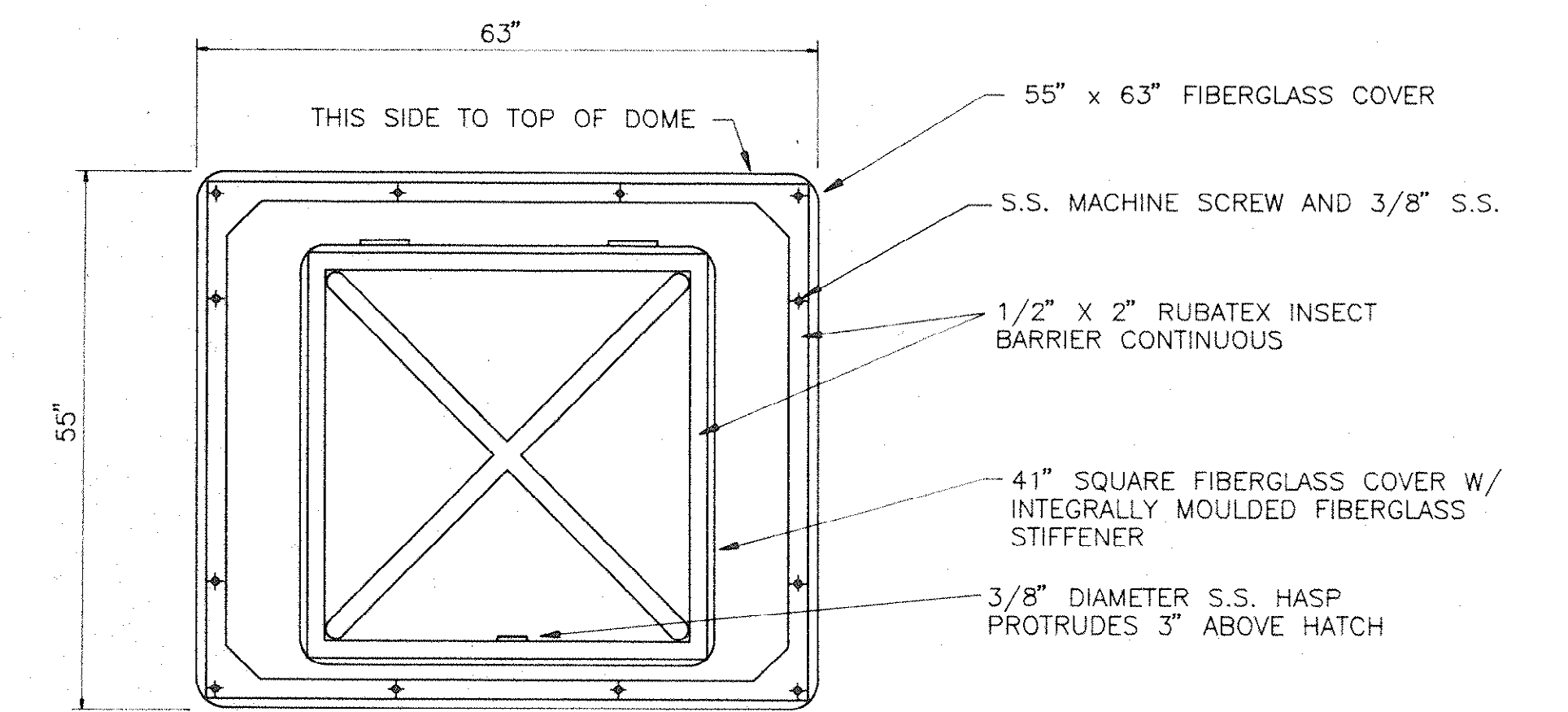
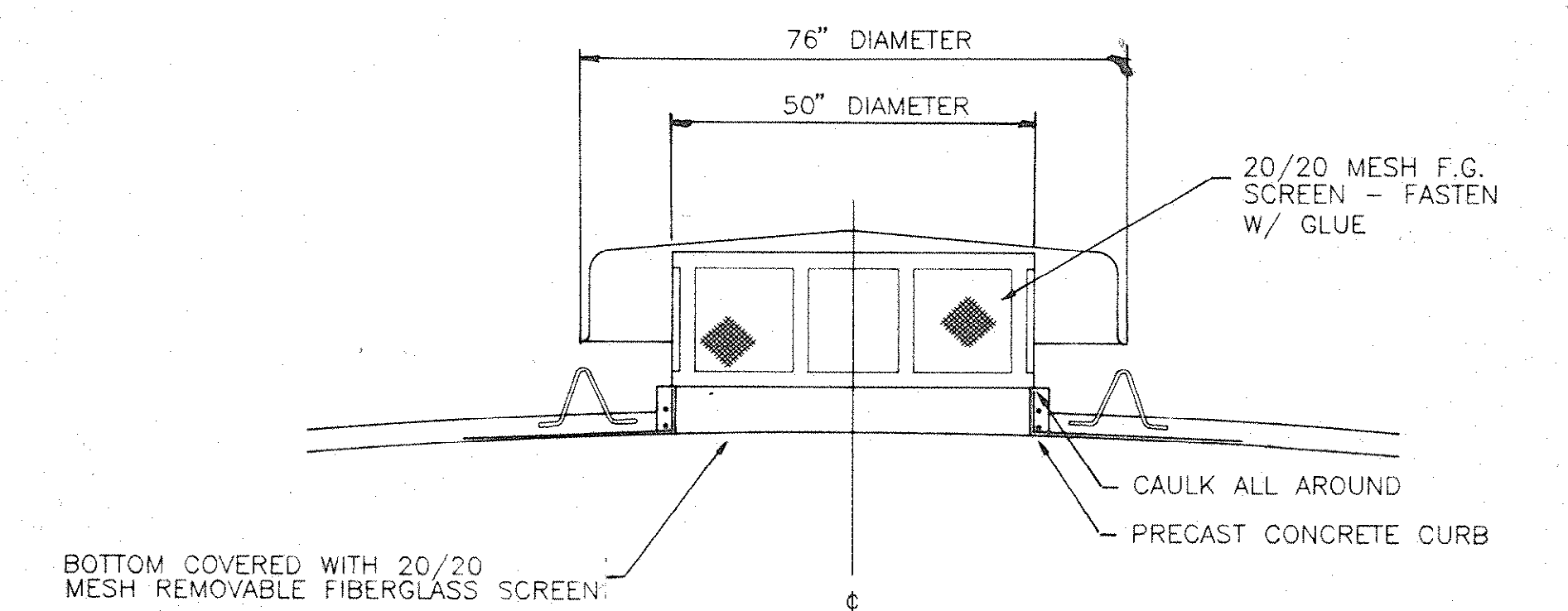


Diagram illustrating the construction of a precast overflow structure. The structure is shown in cross-section, featuring a curved top and a central opening. The following components are labeled:

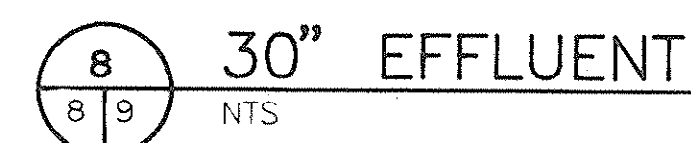
- PRECAST OVERFLOW
- CAULK ALL AROUND
- 20/20 MESH REMOVABLE FIBERGLASS SCREEN



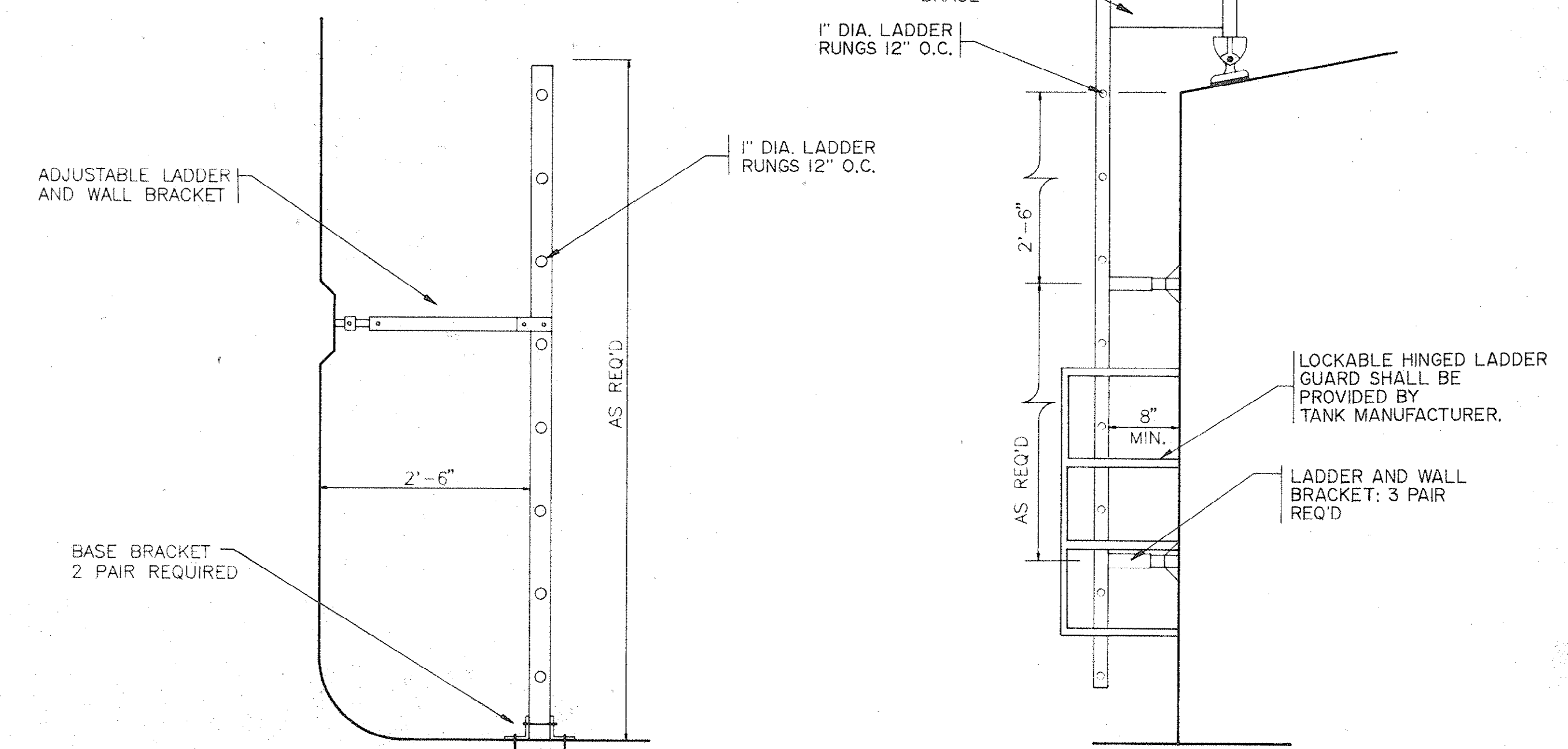
6 FIBERGLASS HATCH COVER
8 9 NTS



7 50" FIBERGLASS VENTILATOR
8 9 NTS



4 OVERFLOW DETAIL
8 9 NTS



9
8 9 INTERIOR ALUMINUM LADDER
NTS

5 EXTERIOR ALUMINUM LADDER
8 9 NTS

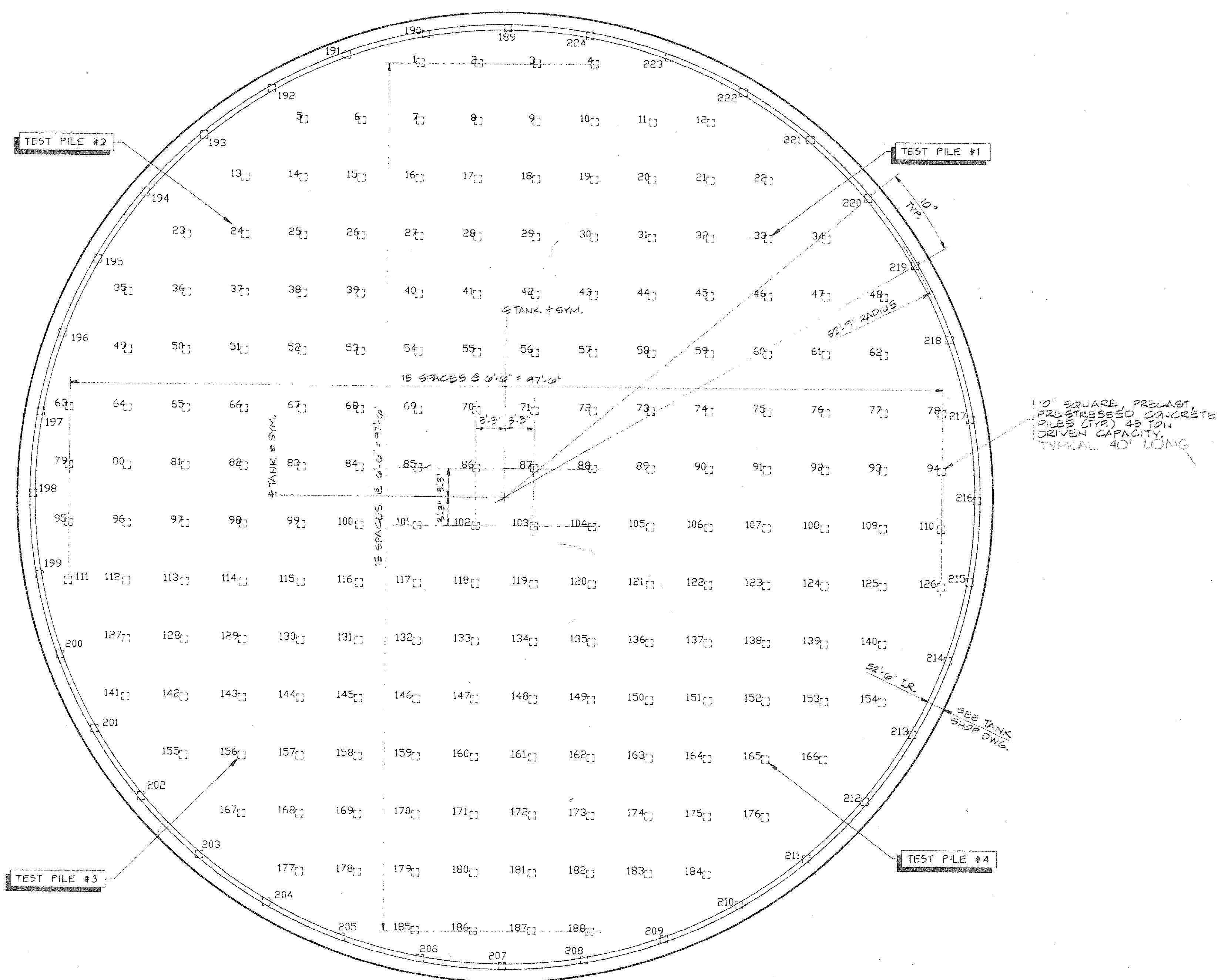
[illegible]

HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

**SURFACE WATER TREATMENT
PLANT PROJECT**
GRAND STRAND WATER AND SEWER
AUTHORITY

SOUTH PUMP STATION
RESERVOIR DETAILS
5,000,000 GALLON

DATE:	APR., 1989
SIGNED:	JWM
OWN:	DC
CHECKED:	DTU
FILE:	NONE
SET NO.	II-9
	12



PILE PLAN - 2 MILLION GALLON RESERVOIR
CONWAY RESERVOIR 1/8" = 1'-0"

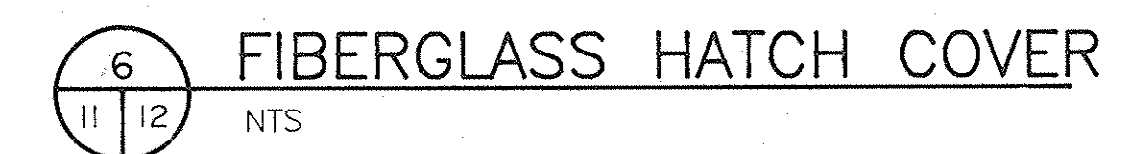
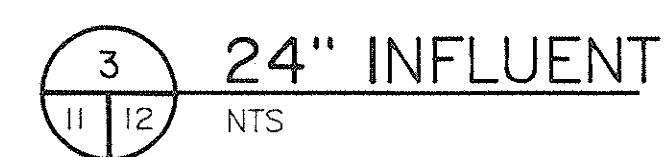
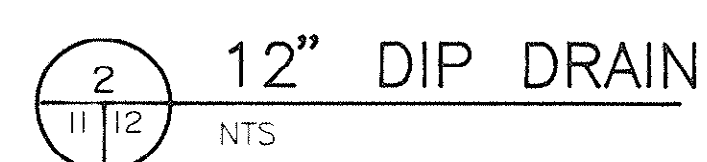
- NOTE:
1. PILE LOCATIONS AND NUMBER ARE FOR BIDDING PURPOSES ONLY.
2. PILE LOCATIONS MAY VARY SLIGHTLY AS REQUIRED BY TANK MANUFACTURER TO ACCOMMODATE PIPING.
3. VERIFY TANK AND PILE ORIENTATION WITH SITE PLAN AND TANK SHOP DRAWINGS.
4. EXCAVATE TO PLAN DEPTH OF TANK SLAB PRIOR TO COMMENCING PILE DRIVING.
5. CONFIRM W/ TANK SHOP DRAWINGS.

DRAWING RELEASED FOR BIDDING OF FOUNDATIONS FOR
CIRCULAR CONCRETE TANKS ONLY (12-6-87). 33-03-010w

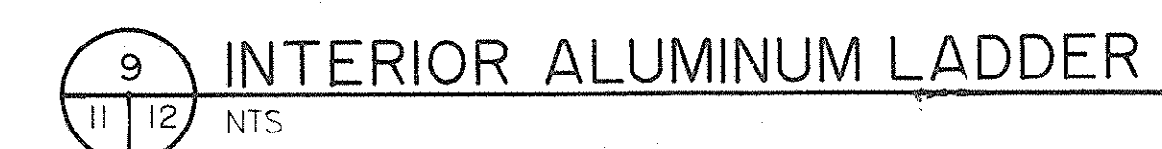
REVISIONS			
SYM.	DESCRIPTION	DATE	BY
1	RECORD DRAWING	1/14/92	WAC

Greiner GREINER, INC. Raleigh, North Carolina R0075.00		HOBBS, UPCHURCH & ASSOCIATES, P.A. CONSULTING ENGINEERS SOUTHERN PINES, NORTH CAROLINA 28387	DESIGNED: WPD DRAWN: LAW CHECKED: WPD SCALE: AS NOTED SHEET NO. VII-10 OF 12
		SURFACE WATER TREATMENT PLANT GRAND STRAND WATER AND SEWER AUTHORITY	
		PILE PLAN - 2MG RESERVOIR CONWAY RESERVOIR	
		DATE:	

CONWAY PUMP STATION
RESERVOIR PLANS AND DETAILS
2,000,000 GALLON



8 24" EFFLUENT
11 12 NTS



DATE:	NOV., 1989
SIGNED:	JWM
AWN:	DC
CHECKED:	DTU
SCALE:	NONE
SHEET NO.	VII-12
	12

33-03-012w