WASTEWATER TREATMENT PLANT IMPROVEMENTS
CONWAY, SOUTH CAROLINA

3.2 MILLION GALLONS PER DAY WASTEWATER TREATMENT CAPACITY

PREPARED FOR
GRAND STRAND WATER AND SEWER AUTHORITY
PO BOX 1537
CONWAY, SOUTH CAROLINA 29526

SRF PROJECT #
SRF 381-43

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.

REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

PREPARED BY
JOHN C. HAWKINS, P.E.
P.O. BOX 566
MURRELLS INLET, SOUTH CAROLINA 29576

GENERAL ABBREVIATIONS

AL	ALUMINUM
ATTACH	ATTACHMENT
APPROS	APPROXIMATE
BOT	BOTTOM
BHP	BREAK HORSE POWER
CAT	CATALOG
CI	CAST IRON
CJ	CONSTRUCTION JOINT
CL	CENTERLINE
CLR	CLEARAGE
CO	CLEANOUT
CONC	CONCRETE
CONT	CONTINUATION
CL2	CHLORINE
DES	DESIGNED
DRN	DRAWN
DET	DETAIL
DI	DUCTILE IRON
SCDHEC	SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DR	DRAIN
EA	EACH
ELEC	ELECTRICITY
ELEV	ELEVATION
EW	EACH WAY
EXP	EXPANSION
FIG	FIRURE
FIN GR	FINISHED GRADE
FLG. END	FLANGE END
FTG	FOOTING
FT	FOOT, FEET
G. GND	GROUND
GA	GAGE
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
HORIZ	HORISONTAL
HYDSCR	HYDROSCREEN
IDIM	INSIDE DIMENSION
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INSTR	INSTRUMENT
INV. INVT	INVERT
IP	IRON PIPE
IPN	IRON PIPE, NEW
IPO	IRON PIPE, OLD
JT	JOINT
MATL	MATERIAL
MAX	MAXIMUM
MB	MOUNTING BOLT
MFR	MANUFACTURER
MGD	MILLIONS GALLONS PER DAY
MIN	MINIMUM
MJ	MECHANICAL JOINT
MTD	MOUNTED
MIX	MIXERS
NO'S	NUMBERS
N.T.S.	NOT TO SCALE
OCC	ON CENTER
OD	OUTSIDE DIAMETER
PE	PERMANENT EASEMENT
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PLT	PLATE
PLE	PLANT EFFLUENT
PT	POINT
PVC	POLYVINYL CHLORIDE
R	RADIUS
RD	ROAD
REINF	REINFORCED
REQD	REQUIRED
QTY	QUANTITY
RS	RAW SEWAGE
SCSHD	SOUTH CAROLINA STATE HIGHWAY DEPARTMENT
SDR	STANDARD DIMENSION RATIO
SCFM	STANDARD CUBIC FT PER MINUTE
SE	SECONDARY EFFLUENT
SH, SHT	SHEET
SECT	SECTION
SPEC	SPECIFIED, SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STA	STATION
STRUC	STRUCTURE
TBM	TEMPORARY BENCH MARK
THK	THICK
TJB	TERMINAL JUNCTION BOX
TS	TUBULAR STEEL
TYP	TYPICAL
VERT	VERTICAL
VIB	VIBRATION
W/	WITH
W/P	WATERPROOF
H2O	WATER

FLOW STREAM IDENTIFICATION

BYP	BYPASS
CGV	CHLORINE GAS VACUMN
CS	CHLORING SOLUTION
PLE	PLANT EFFLUENT
RS	RAW SEWAGE
SA	SAMPLE
SDS	SULFUR DIOXIDE SOLUTION
SDV	SULFUR DIOXIDE VACUUM
SE	SECONDARY EFFLUENT
SPD	SEPTAGE PUMP DISCHARGE
SOF	EMERGENCY OVERFLOW
SR	SUPERNATE RETURN
WSS	WASTESLUDGE
MLS	MIXED LIQUOR SOLIDS
NZC 1&2	NITRIFICATION CELL SETTLING CELL
EC	EQUALIZATION CELL
PP	POLISHING POND
ST	SLUDGE TREATMENT
RO	RAINWATER OVERFLOW
MLSS	MIXED LIQUOR SUSPENDED SOLIDS

SITE AND PIPING LEGEND

PROPERTY LINE / RIGHT-OF-WAY

FENCE

GRAVEL OR COQUINA SURFACE

DRAINAGE DITCH

×1000 EXISTING GRADE SPOT ELEV

x 1000 FINISH GRADE SPOT ELEV

1000 EXISTING CONTOUR

1000 NEW CONTOUR

SURVEY CONTROL POINT

4:1 NEW EMBANKMENT - SLOPE AS INDICATED

D BACKFILL CLASSIFICATION

8"@0.0040 SIZE AND SLOPE OF PIPE (8" PIPE AT 0.0040 FT/FT)

PVC-SDR35 PIPE MATERIAL DESIGNATION

I.P.O. IRON PIN (OLD)
I.P.N. IRON (NEW)

5 STATIONING (IN 100'S OF FEET)

GATE VALVE

BALL VALVE

BALL CHECK VALVE

NON-FREEZE HOSE VALVE WITH HOSE RACK (V-X) X-NO. IN SPECIFICATIONS

SEATING
FLOW PORT
ECCENTRIC PLUG VALVE

B-1 BORING LOCATION

CHECK VALVE

DUCKBILL CHECK VALVE

MECHANICAL AIR INDEX	PAGE #
TITLE SHEET	1 OF 20
NOTES	2 OF 20
STAKING & GRADING	3 OF 20
PLAN SHEET-MECHANICAL AIR	4 OR 20
DESIGN CRITERIA SUMMARY	5 OF 20
PROFILE SHEET	6 OF 20
HEADWORKS	7 OF 20
CONTROL STRUCTURES	8 OF 20
AERATION & PIPING	9 OF 20
EFFLUENT PUMP STATIONS	10 OF 20
DECANTER DETAILS	11 OF 20
BAFFLES EC &PP	12 OF 20
MECH. AERATION BAFFLE DETAIL	13 OF 20
PROPELLER PUMP STATION	14 OF 20
MOORING DETAILS	15 OF 20
CONTROL SHEET SUMMARY	16 OF 20
BULKHEAD - HEADWORKS	17 OR 20
GRAV. SLUD. PIPING & MOOR. DET.	18 OF 20
CHEMICAL FEED SYSTEM	19 OF 20
FILTERS	20 OF 20

GENERAL PIPING NOTES

1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
2. SIZE OF FITTINGS SHOWN ON PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE. UNLESS OTHERWISE INDICATED, TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADDJACENT STRAIGHT FUN OF PIPE.
3. ALL JOINTS SHALL BE WATERTIGHT. STANDARD WALL PIPE DETAIL SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
4. SET UP BASELINE THROUGH THE CENTERLINE OF THE CELLS USE CENTERLINE FOR ALL DIMENSIONS. SHOP DRAWINGS TO BE SUBMITTED FOR ALL SUPPLIED MATERIALS BASED ON CENTERLINE. DIMENSIONS.
5. REMOVE ALL EXISTING PIPES BETWEEN CELLS.
6. REMOVE EXISTING INLET PIPES FROM THE EQUALIZATION CELL.

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ OPERATIONS & MAINTENANCE DEPT. DATE

REVIEWED BY: _____ DATE

GRAND STRAND WATER AND SEWER AUTHORITY

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-651-5163.

DES. BY JCH
DRN. BY FGH

DATE	REVISION	INITIAL
01/04/96	REVISED SHEET NUMB.	JCH
02/20/97	ASBUILTS	

CONWAY TREATMENT PLANT
JOHN C. HAWKINS, PE
NOTES

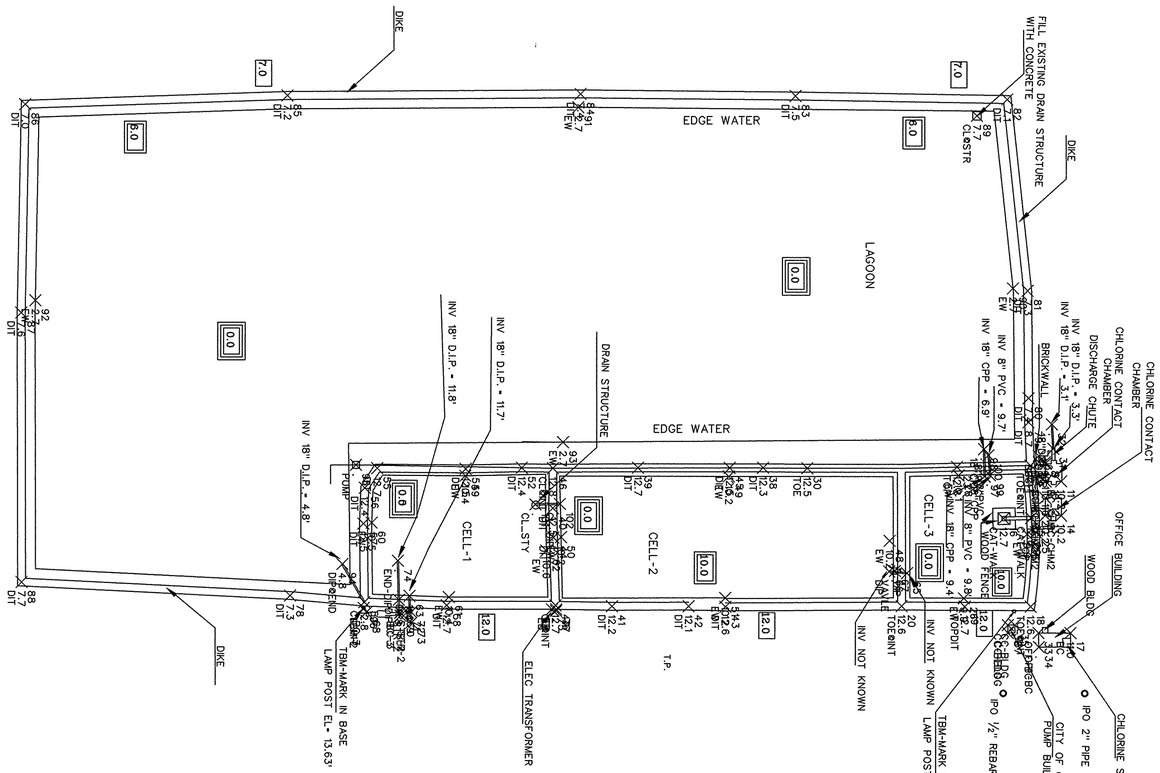
DATE: 10/10/95 | SCALE: N.T.S. | SHEET 2 OF 20

NOTE: LEGEND APPLIES TO THIS PAGE ONLY

LEGEND

X 12.2	SPOT ELEVATION
	IRON PIN (OLD OR NEW)
	LIGHT POLE
S	SEWER MANHOLE
WV	WATER VALVE
WM	WATER METER
CB	CATCH BASIN
TV.P.	TEL. PEDESTAL
E.T.	ELEC. TRANSFORMER
	TV PEDESTAL
WM	WATER VALVE MARKER
	POWER POLE
	DIKE
	EDGE OF WATER
	6" PVC
	WOOD FENCE

12.5	PROPOSED ELEVATION
12.0	PROPOSED TOP BANK
10.0	PROPOSED WATER LEVEL
0.0	PROPOSED BOTTOM



NOTES

1. DATE OF FIELD SURVEY WAS JULY 20, 1995.
2. REFERENCE MAP: "A PARTIAL ASBUILT SURVEY" OF CONWAY WASTE TREATMENT PLANT PREPARED BY ETS, PAWLEYS ISALAND, S.C. FOR GRAND STRAND WATER & SEWER AUTHORITY DATED JULY 24, 1995
3. LARGER SCALE COPY AVAILABLE FOR CLARITY.
4. FINISHED ELEVATIONS ESTABLISHED AT THE SAME DEGREE OF ACCURACY AS FIELD WORK.

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.

REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-651-5163.

DES. BY JCH
DRN. BY EGH

DATE	REVISION	INITIAL
02/20/97	ASBUILTS	

CONWAY TREATMENT PLANT

JOHN C. HAWKINS, PE

STAKING & GRADING PLAN

DATE: 10/10/95 | SCALE: N.T.S. | SHEET 3 OF 20

MONITORING WELL

GRAVITY 8" PIPE PVC

MONITORING WELL

MONITORING WELL

IE 4

IE 5

8" GATE VALVE W/ VALVE BOX

8" GATE VALVE W/ VALVE BOX

IE 5

FILL EXISTING DISCHARGE STRUCTURE WITH CONCRETE.

RO 6

SECTION C-C

SECTION D-D

SECTION E-E

VALVE BOX
6" PINCH VALVE BY RED VALVE OR APPROVED EQUAL
WL 5'
6" PVC SLUDGE LINE

VALVE BOX
6" PINCH OR PLUG VALVE BY RED VALVE OR APPROVED EQUAL
WL 5'
6" PVC BACKWASH LINE

EXPOSE PIPE AND DETERMINE FITTINGS

12" DRESSLER COUPLINGS
12"x24" TEE
12" DRESSLER COUPLINGS
12"x24" TEE
EXISTING HEADWORKS
24"x24" ELBOW
18"x24" TEE
6"x24" TEE
12"x24" TEE
24" BLIND FLANGE
6", 18", 24" DRESSLER COUPLINGS
BLOW UP OF INLET PIPING

ST 5

ST 4

NOTE:
THE WORK UNDER THIS CONTRACT TO CONSIST OF THE CONSTRUCTION OF TWO 558' DIKES IN THE WET. GRAND STRAND WATER AND SEWER AUTHORITY WILL LOWER THE WATER LEVEL A MINIMUM OF 2'. THE STABILITY OF THE DIKES WILL BE TESTED BY RUNNING A LOADED DUMP TRUCK ACROSS THE DIKES. THE DUMP TRUCK CAN BE SINGLE AXLE OR AS APPROVED BY THE ENGINEER PRIOR TO START OF WORK. CONTRACTOR TO SPECIFY WHICH DUMP TRUCK HE WISHES TO USE. GRASSING TO BE IN ACCORDANCE WITH GSW&SA SPECIFICATIONS.
FILL EXISTING DISCHARGE STRUCTURE WITH CONCRETE.

558.00'

3 REMOVE WOODEN BAFFLE FROM AROUND THE OUTLET STRCTURE IN THE POLISHING POND (PP)

1 2 - 6" PINCH OR PLUG VALVES BY RED VALVE OR APPROVED EQUAL

2 - 6" PINCH OR PLUG VALVES BY RED VALVE OR APPROVED EQUAL

6" BACKWASH LINE

EFFLUENT PUMP STATION

EFFLUENT PUMP STATION B

8" PVC STORMWATER LINE

PROPELLER PUMP STATION

PROPELLER PUMP STATION

BULKHEAD

BULKHEAD

EC 1

SC 1

NC 2

SC 2

PP 3

EXISTING CL2 CONTACT CHAMBERS

HOSE BIBB

1½" WATERLINE

FILTERS

1" CL2 PIPE FROM CHLORINATOR

EXISTING PUMP STATION

10' X 6' OPENING IN BAFFLE

STORMWATER OVERFLOW

GSW&SA OWNED STATIC SCREENS

EXISTING HEADWORKS

EXISTING PIPE LINES

PROPELLER PUMPS

3HP

10' BAFFLE

BAFFLE

36" FLOATING PIPE

36" FLOATING PIPE

DECANTER

PP

16" LINE

10' ROADWAY

6" LINE SLUDGE LINE

EL 9.0

SEE DETAIL SHEET 18

NOTE:
PAVE ROADWAY W/ 4" BASE & 1½" ASPHALT
NEW 10' WIDE DIKES TO BE CONSTRUCTED

SECTION A-A

SECTION B-B

CELL	EC 1	NC 2	PP 3	ST 4,5	RO 6
VOLUME	2,858,856	5,624,362	1,948,839	10,236,342	8,878,969
LENGTH	210'	444'	133'	490.5'	522'
WIDTH	128'	128'	128'	558'	758'
DEPTH	10-11'(VARIES)	10-11'(VARIES)	10-11'(VARIES)	5'	3 - 6' LEVEL STORAGE

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-237-8607.

THESE DRAWINGS REFLECT AS-BUILT CONDITIONS

REVIEWED BY: _____ OPERATIONS & MAINTENANCE DEPT. DATE

REVIEWED BY: _____ DATE

GRAND STRAND WATER AND SEWER AUTHORITY

DATE	REVISION	INITIAL
01/04/96	1 ADDED SECTION E-E	JCH
02/07/96	2 ADDED PAVING	JCH
02/07/96	3 ADDED NOTES	JCH
05/22/96	4 BACKWASH	JCH

DES. BY JCH
DRN. BY EGH

CONWAY TREATMENT PLANT

JOHN C. HAWKINS, PE

PLAN SHEET-MECHANICAL AIR

DATE: 02/12/96 | SCALE: N.T.S. | SHEET 4 OF 20

02/20/97 ASBUILTS

WASTEWATER FLOW, gpd	3.2 MILLION GALLONS DAY
WASTEWATER CHARACTERISTICS, MG/l	WASTEWATER CHARACTERISTICS
BOD5	200
TSS	250
VSS	180
TKN	40
NH3-N	30
TOTAL P	15
DESIGN LOADINGS, lbs/day	DESIGN LOADINGS, lbs/day
BOD - ULT (1.5) 3.2 MGD (200 MG/l) 8.34	8006.4
TSS 250 MG/l x 3.2 MGD x 8.34	6672
VSS 180 MG/l x 3.2 MGD x 8.34	4803.8
TKN 4.57 (40 MG/L) 3.2 MGD X 8.34	4878.6
AERATED LAGOONS FLOW EQUALIZATION & NITRIFICATION	
EA CELLS (EQUALIZATION)	
NUMBER	4 (BAFFLED)
BOTTOM DIMENSIONS (LxW), ft.	210 x 128
SIDE WATER DEPTH, ft.	10
FREEBOARD, ft.	2
INSIDE SLOPE	3:1
VOLUME, gal.	2,858,856
DETENTION, hrs.	21.44
EQUALIZATION CELL	
OXYGEN REQUIREMENT, lbs/lb BOD5	1.0
AERATOR TYPE	MECHANICAL, HIGH SPEED, FLOAT
NUMBER	4 - 25 hp, 1 - 5 hp
ASSUMED FTR, lbs/hp-hr	2
POWER REQUIREMENT, hp	94.52 ULT (THEORETICAL)
POWER FURNISHED, hp	105 UTL (1.11% THEORETICAL)
MIXING INTENSITY, hp/MG	36.8
NITRICATION CELL (NC)	
NC CELL	
NUMBER	1
BOTTOM BASIN DIMENSIONS (LxW), ft.	444 x 128
BASIN DIMENSIONS @ HWL (LxW), ft.	504 x 188
SIDE WATER DEPTH, ft.	10
FREEBOARD, ft.	2
INSIDE SLOPE	3:1
OVERALL VOLUME, gal.	5,624,362
OVERALL DETENTION, hrs.	42.2
CELL BAFFLING	YES (AS SHOWN ON PLANS)
POLISHING POND (PP)	
PP CELL	
NUMBER	1
BOTTOM BASIN DIMENSIONS (LxW), ft.	133 x 128
BASIN DIMENSIONS @ HWL (LxW), ft.	193 x 188
SIDE WATER DEPTH, ft.	10
FREEBOARD, ft.	2
INSIDE SLOPE	3:1
OVERALL VOLUME, gal.	1,948,839
OVERALL DETENTION, hrs.	14.6
CELL BAFFLING	YES (AS SHOWN ON PLANS)
SUPPLEMENTAL CHLORINE TO PP	1" FEED LINE

CHLORINATION / DECHLORINATION

DETENTION TIME = 15 MINUTES AT PEAK FLOW

CHLORINATORS / SULFONATORS

NUMBER	2 (1 STANDBY)
DESIGN DOSAGE , mg/l	10
SOLUTION WATER	POTABLE SUPPLY
CHEMICAL STORAGE	CHEMICAL STORAGE
TYPE	ONE TON CYLINDER
NUMBER	2 CHLORINE 150 LB SULFUR DIOXIDE
SCALES	YES
HEATED / VENTILLATED ENCLOSURE	YES
CHLORINE DETECTOR / ALARM	YES

EFFLUENT FLOW MEASUREMENT

TYPE	"PARSHALL" FLUME
NUMBER	1

INFLUENT / EFFLUENT SAMPLERS

TYPE	ISCO

SLUDGE DISGESTION

2 - 7.05 ACRES EACH / MAX. DEPTH IS 5 FEET
VOLUME = 7.05 x 5 = 35.25 AC FT EACH

FLOW EQUATION WET WEATHER FLOW

3 FEET OF STORAGE
OPERATING LEVEL 6 FEET = 8,029,073 GAL.

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.

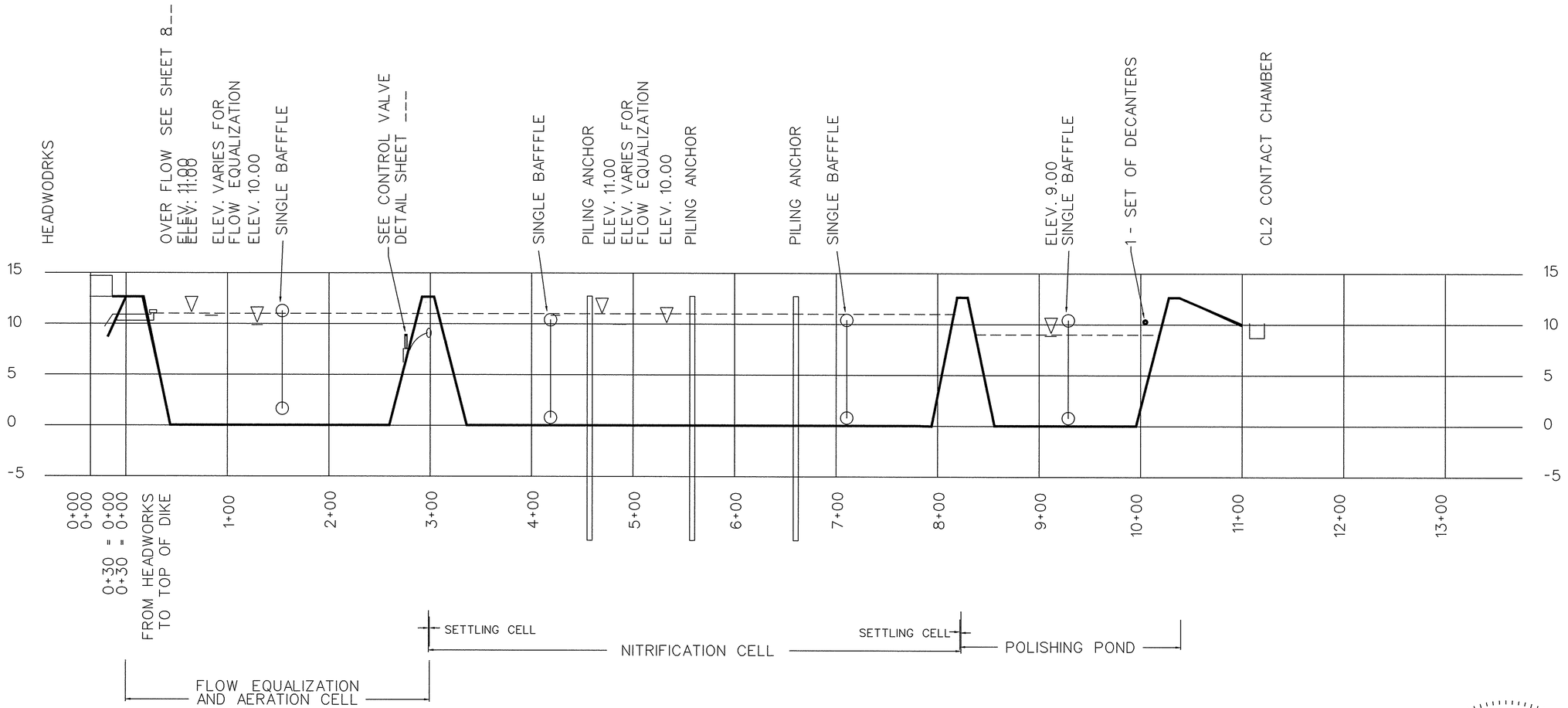
REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-651-5163.

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

DES. BY JCH
DRN. BY EGH

DATE	REVISION	INITIAL	CONWAY TREATMENT PLANT
02/20/97	ASBUILTS		JOHN C. HAWKINS, PE
			DESIGN CRITERIA SUMMARY
			DATE: 10/10/95 / SCALE: N.T.S. / SHEET 5 OF 20



PROFILE SHEET

SCALE ——— = 100 FEET
——— = 10 FEET

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.

REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

FOR INFORMATION REGARDING THIS
PROJECT, PLEASE CONTACT CLIF HAWKINS
AT 803-651-5163.

DES. BY JCH
DRN. BY EGH

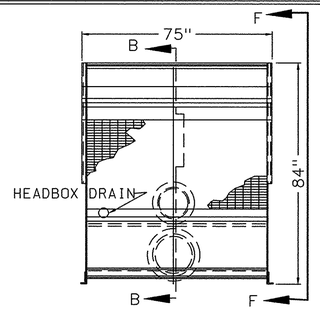
DATE		REVISION	INITIAL
02/20/97		ASBUILTS	

CONWAY TREATMENT PLANT

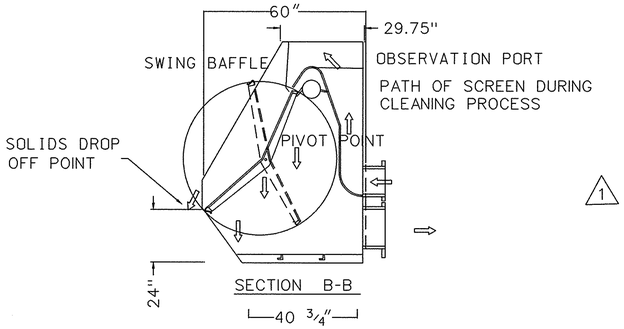
JOHN C. HAWKINS, PE

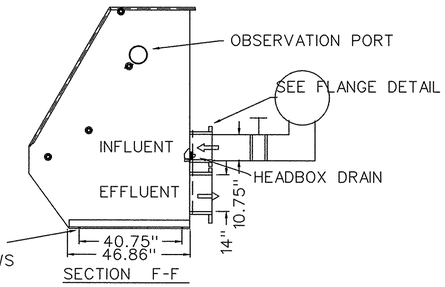
MECH. AIR PROFILE

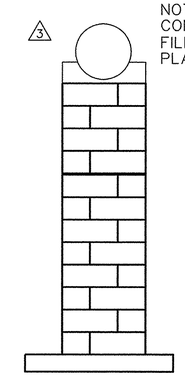
DATE: 10/10/95 | SCALE: N.T.S. | SHEET 6 OF 20



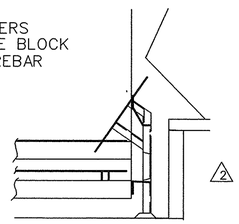
FRONT ELEV. STATIC SCREEN







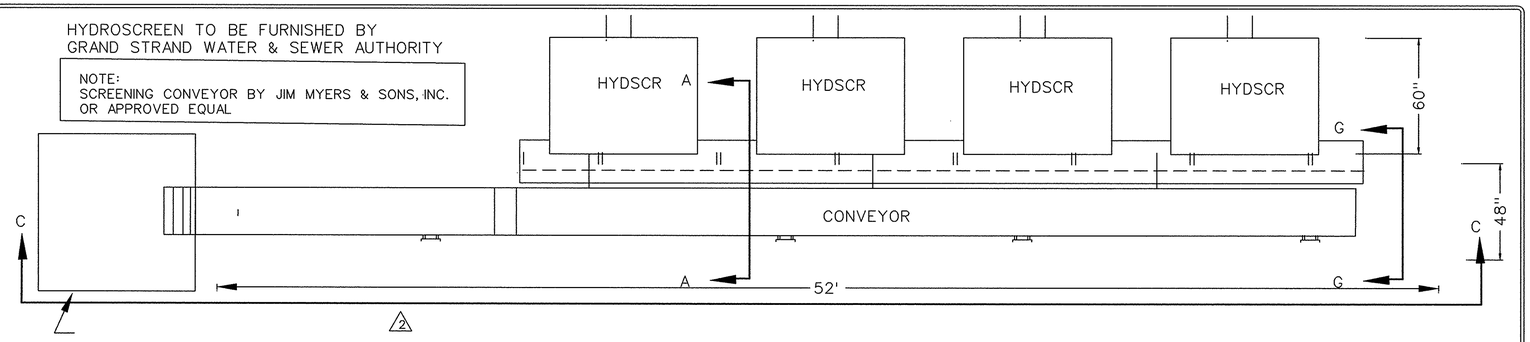
NOTE: PUT THE 24" PIPE ON PIERS
CONSTRUCT PIERS OF CONCRETE BLOCK
FILL VOIDS WITH GROUT & #5 REBAR
PLACE ON CONCRETE FOOTINGS

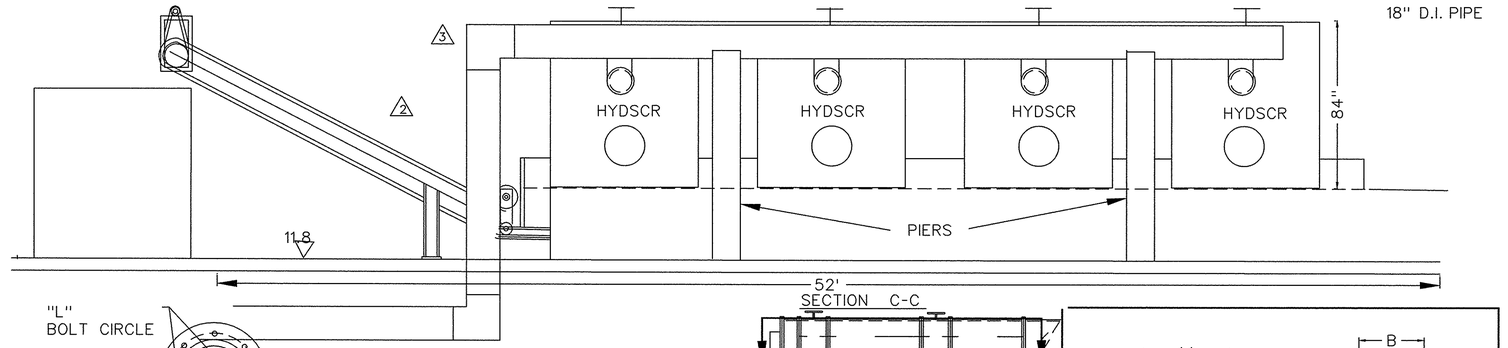


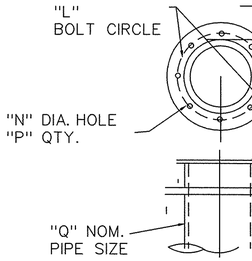
SECTION G-G

HYDROSCREEN TO BE FURNISHED BY
GRAND STRAND WATER & SEWER AUTHORITY

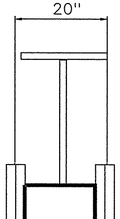
NOTE:
SCREENING CONVEYOR BY JIM MYERS & SONS, INC.
OR APPROVED EQUAL



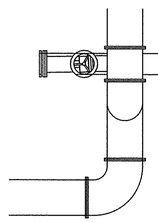




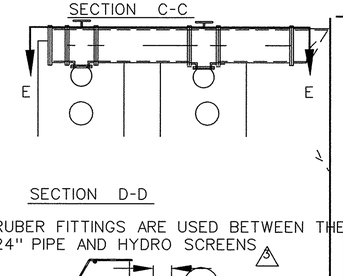
CARBON STEEL FLANGE DETAIL



SERIES 70 PINCH VALVE OR PLUG VALVE
WITH ANSI CLASS 125 FLANGE
BY RED VALVE OR
APPROVED EQUAL



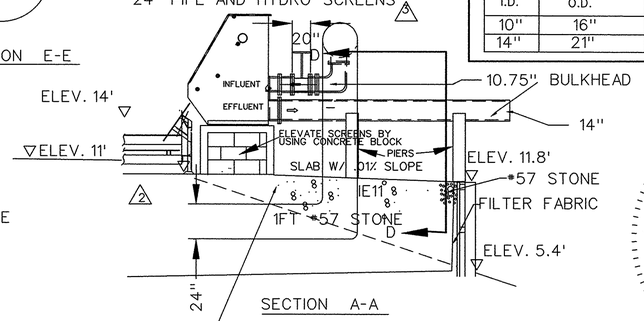
SECTION E-E



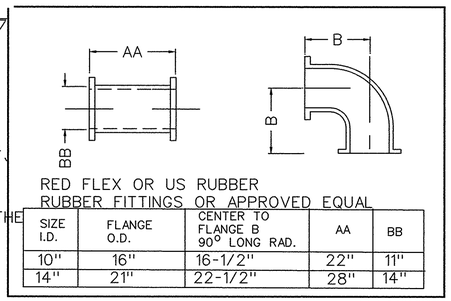
SECTION C-C

SECTION D-D

RUBER FITTINGS ARE USED BETWEEN THE
24" PIPE AND HYDRO SCREENS

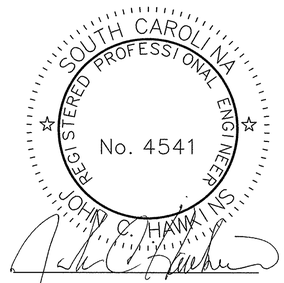


SECTION A-A



RED FLEX OR US RUBBER
RUBBER FITTINGS OR APPROVED EQUAL

SIZE I.D.	FLANGE O.D.	CENTER TO FLANGE B 90° LONG RAD.	AA	BB
10"	16"	16-1/2"	22"	11"
14"	21"	22-1/2"	28"	14"



THE DESIGN HEREON IS THE PROPERTY OF JOHN C. HAWKINS, PE
AND MAY NOT BE USED IN ANY FORM WITHOUT WRITTEN PERMISSION

FOR INFORMATION REGARDING THIS
PROJECT, PLEASE CONTACT CLIF HAWKINS
AT 803-237-8607.

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ OPERATIONS & MAINTENANCE DEPT. DATE

REVIEWED BY: _____ DATE

GRAND STRAND WATER AND SEWER AUTHORITY

DES. BY JCH
DRN. BY EGH

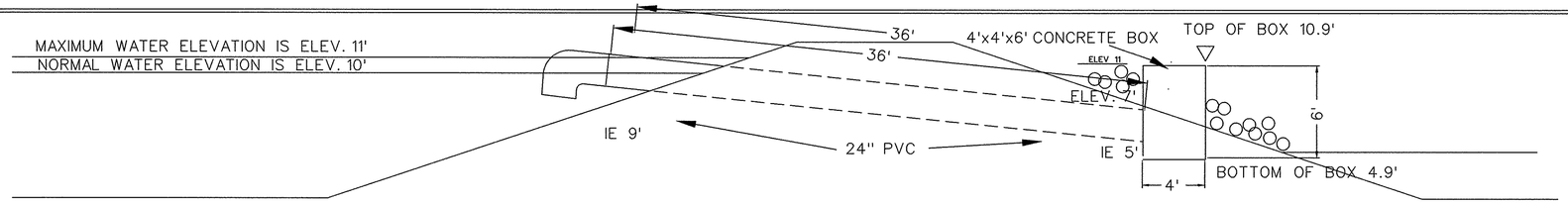
DATE	REVISION	INITIAL
01/04/96	1 REVISED SLAB	JCH
05/21/96	2 REVISED CONVEYER	JCH
05/21/96	3 REVISED PIPING	JCH
02/20/97	ASBUILTS	

CONWAY TREATMENT PLANT

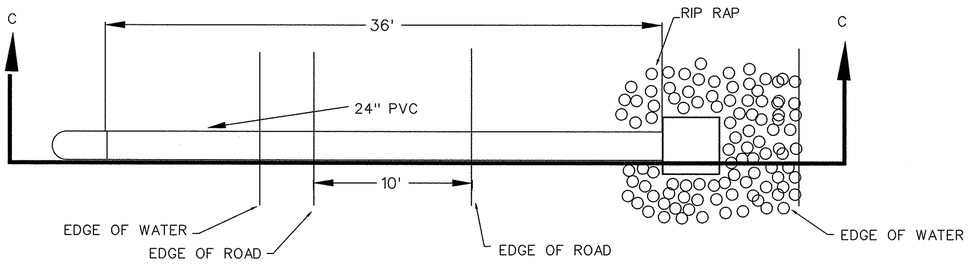
JOHN C. HAWKINS, PE

HEADWORKS

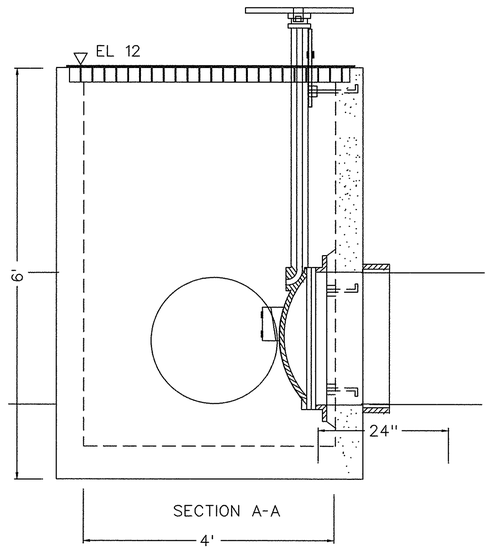
DATE: 10/10/95 | SCALE: N.T.S. | SHEET 7 OF 20



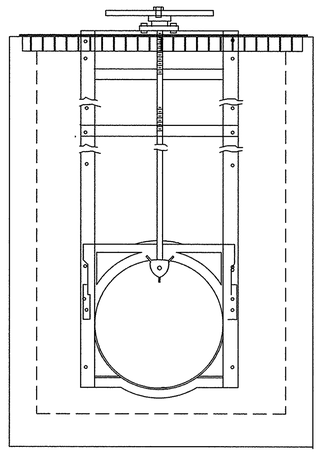
SECTION C-C



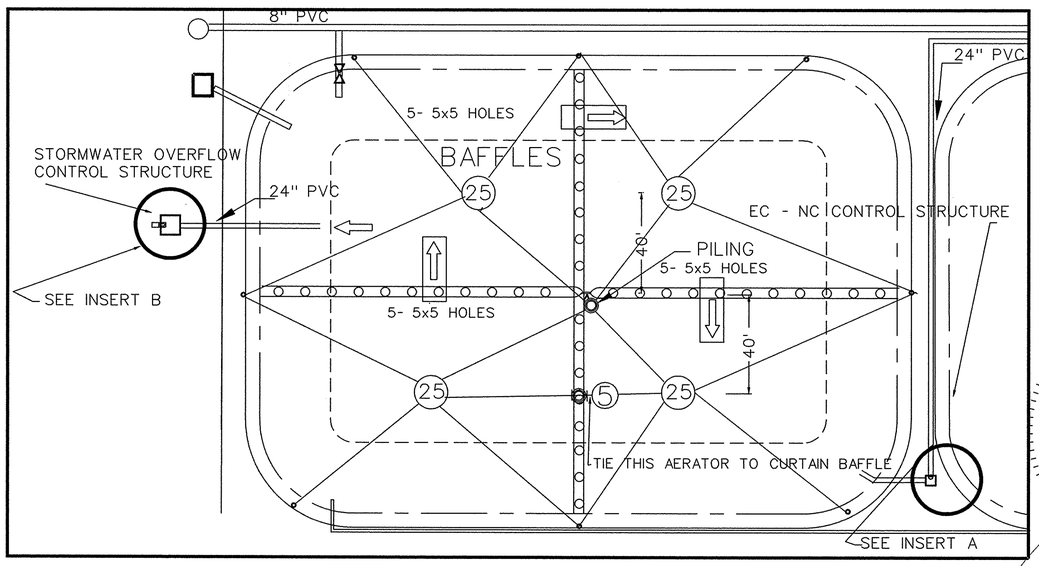
STORMWATER CONTROL OVERFLOW STRUCTURE
INSERT B - PLAN VIEW

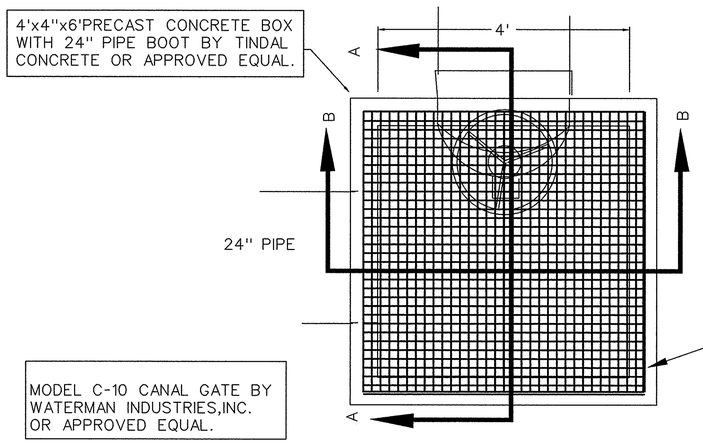


SECTION A-A



SECTION B-B





MODEL C-10 CANAL GATE BY
WATERMAN INDUSTRIES,INC.
OR APPROVED EQUAL.

EC - NC CONTROL STRUCTURE
INSERT A - PLAN VIEW

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS
REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.
REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

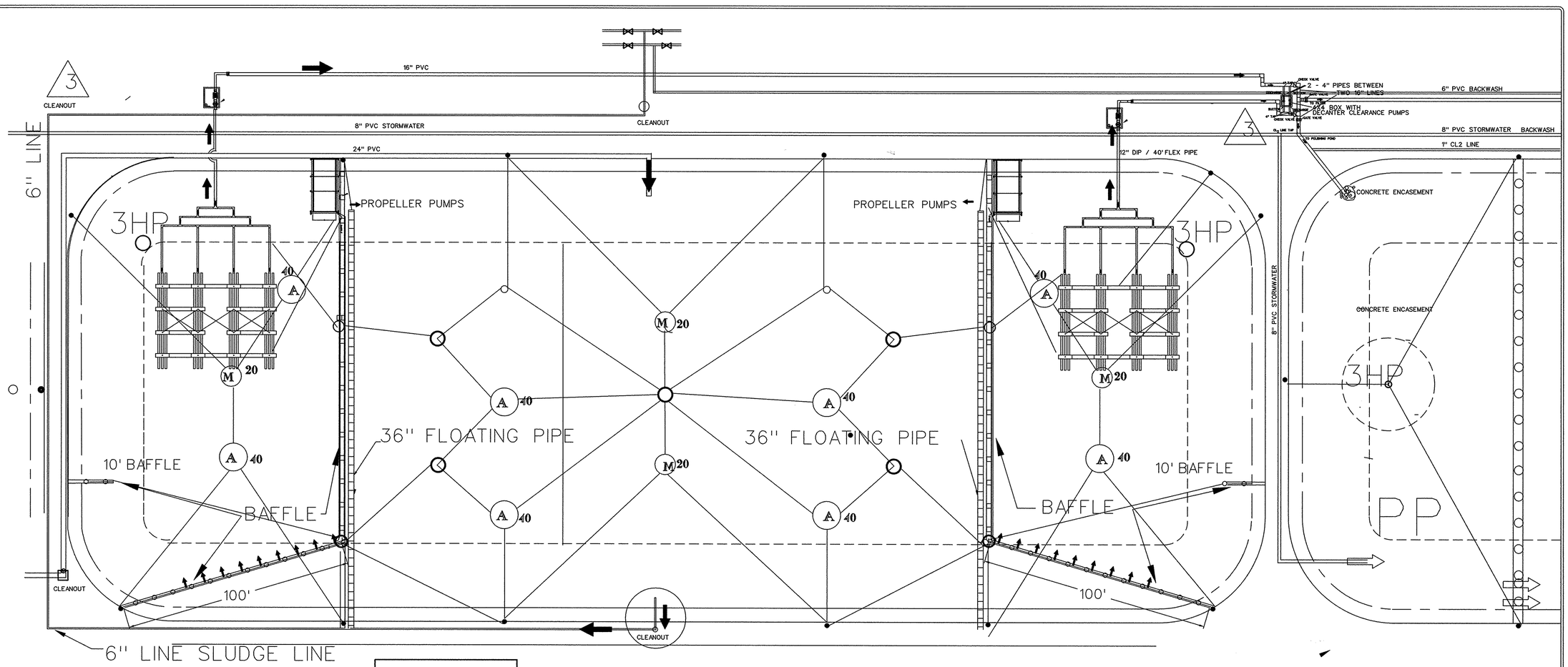
3 - EXISTING 25HP AERATORS
1 - NEW 25HP AERATOR
1 - EXISTING 5HP AERATORS

DES. BY JCH
DRN. BY EGH

FOR INFORMATION REGARDING THIS
PROJECT, PLEASE CONTACT CLIF HAWKINS
AT 803-651-5163.

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

DATE	REVISION	INITIAL	CONWAY TREATMENT PLANT
02/20/97	ASBUILTS		JOHN C. HAWKINS, PE
			MECH. AIR CONTROL STRUCTURES
			DATE: 10/10/95 | SCALE: N.T.S. | SHEET 8 OF 20



○ PILINGS

1) AERATORS AND MIXERS SHALL BE MODEL SS MANUFACTURED BY AQUA AEROABICS, INC. OR APPROVED EQUAL.
2) MOTOR SHALL UTILIZE TAPERED- NOT THREADED- SHAFTS FOR PROPER ATTACHMENT TO PERMIT BACKFLUSHING.
3) AERATOR MANUFACTURER MUST DEMONSTRATE THE ABILITY TO PROVIDE 16' FIBERGLASS SPRAY COVERS FOR THE AERATORS SHOULD TEMPERATURE CONTROL BE REQUIRED IN THE FUTURE.
4) MIXERS SHALL INCLUDE INTEGRAL SKIMMING WEIRS, CONSISTING OF A CIRCULAR WEIR TROUGH WITH ADJUSTABLE V-NOTCH WEIR PLATE, AN INTEGRAL DROP BOX, CONTROL VALVE, AND A NEMA 4 CONTROL PANEL.
5) FILTERS SHALL BE AQUA-AEROBICS SYSTEMS, INC. AQUA DISK FILTER, OR APPROVED EQUAL.

2

NITRIFICATION CELL

- ○ 8 - 40HP AERATORS - NEW
- ○ 4 - 20HP MIXERS - NEW
- ○ 12 TOTAL

POLISHING POND

- ○ 1 - EXISTING 3HP AERATORS
- 1 TOTAL

AERATORS AND MIXERS TO BE STAINLESS STEEL ESS SERIES BY AQUA-AEROBICS OR APPROVED EQUAL
MIXERS TO BE FURNISHED WITH ANTIEROSION PLATE

THESE DRAWINGS REFLECT AS-BUILT CONDITIONS

REVIEWED BY: _____ OPERATIONS & MAINTENANCE DEPT. DATE

REVIEWED BY: _____ DATE

GRAND STRAND WATER AND SEWER AUTHORITY

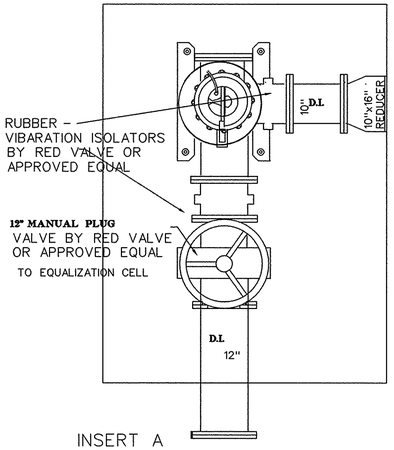
FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-237-8607.

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 4541 JOHN C. HAWKINS

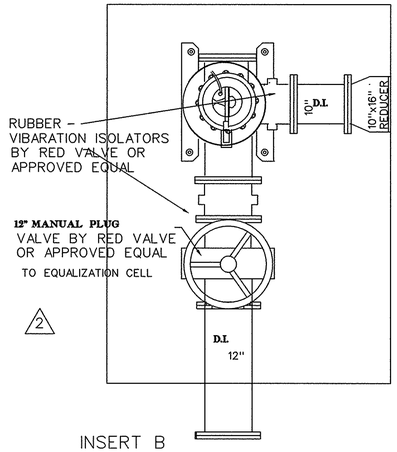
DES. BY JCH
DRN. BY EGH

DATE	REVISION	INITIAL
01/04/96	1 MOVED EFF. PUMP TO SHEET 10	JCH
01/04/96	2 ADDED MONITORING WELL	
05/21/96	3 MOVED EFF. PUMP OUTSIDE POND	
02/20/97	ASBUILTS	

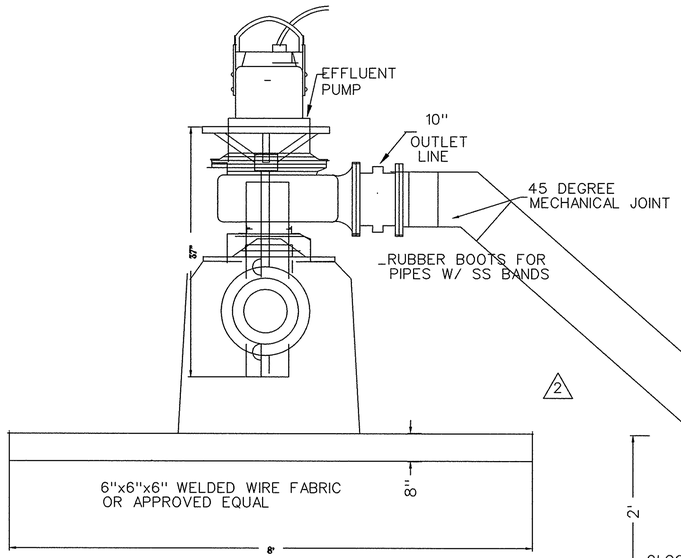
CONWAY TREATMENT PLANT
JOHN C. HAWKINS, PE
AERATION & PIPING PLAN
DATE: 10/10/95 | SCALE: N.T.S. | SHEET 9 OF 20



INSERT A
EFFLUENT PUMP STATION A

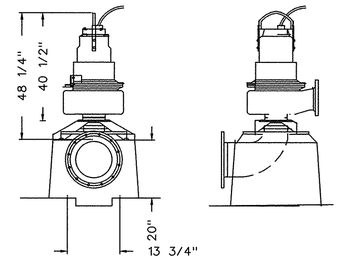


INSERT B
EFFLUENT PUMP STATION A

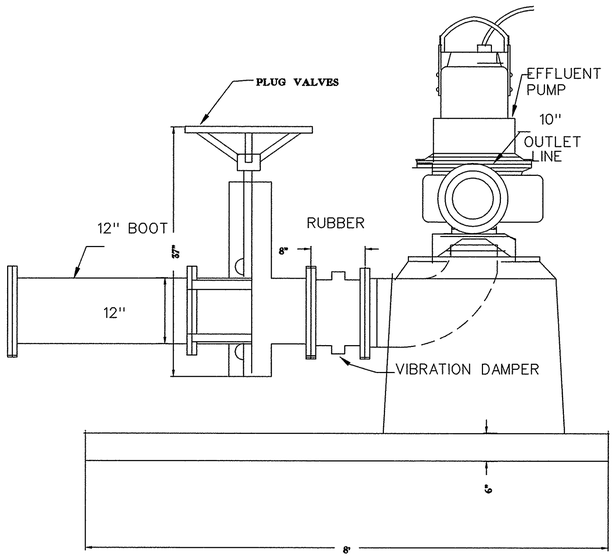


SECTION A-A

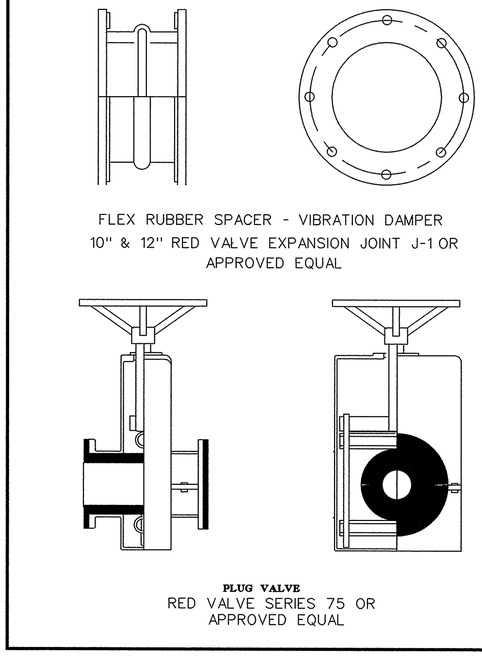
EFFLUENT PUMPS
FLYGT 3152 CT
620 IMPELLER
12" INTAKE 10" OUTLET
2222GPM AT 13.5TDH
480V OR
APPROVED EQUAL



EFFLUENT PUMP



SECTION A-A



AN EXTRA EFFLUENT PUMP TO BE INCLUDED IN THE CONSTRUCTION CONTRACT COST, WHICH WILL BE MAINTAINED ON SITE FOR EMERGENCY REPLACEMENT.

6'x8'x7' CONCRETE BOX
BY TINDAL CONCRETE PRODUCTS
OR APPROVED EQUAL
EQUIPMENT CAN BE
ASSEMBLED AT TINDAL IN
SPARTANBURG, SC

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.

REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-237-8607.

DES. BY JCH
DRN. BY EGH

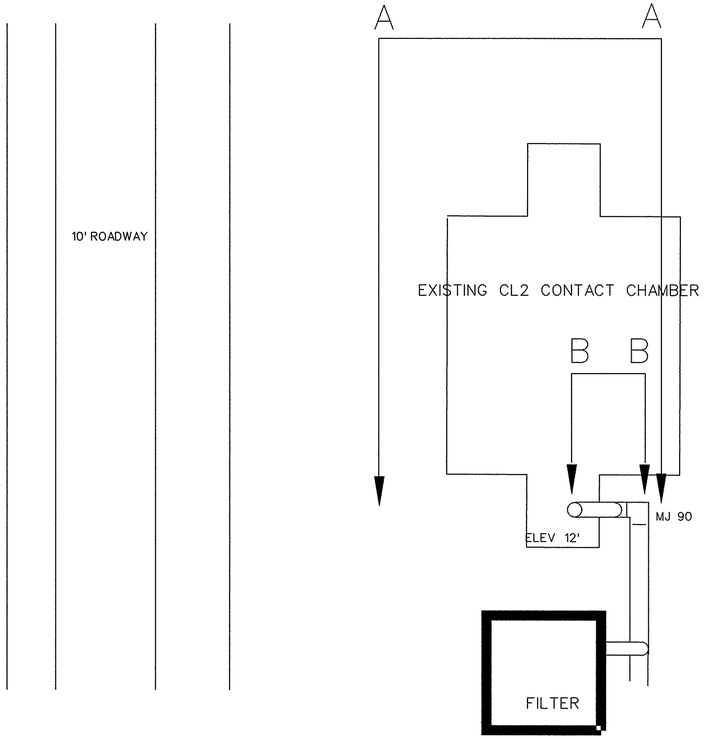
DATE	REVISION	INITIAL
01/04/96	1 ADDED THIS SHEET MOVED EFF. PUMP HERE	JCH
05/21/96	2 REVISED AND MOVED EFF. PUMP STATIONS	JCH
02/20/97	ASBUILTS	

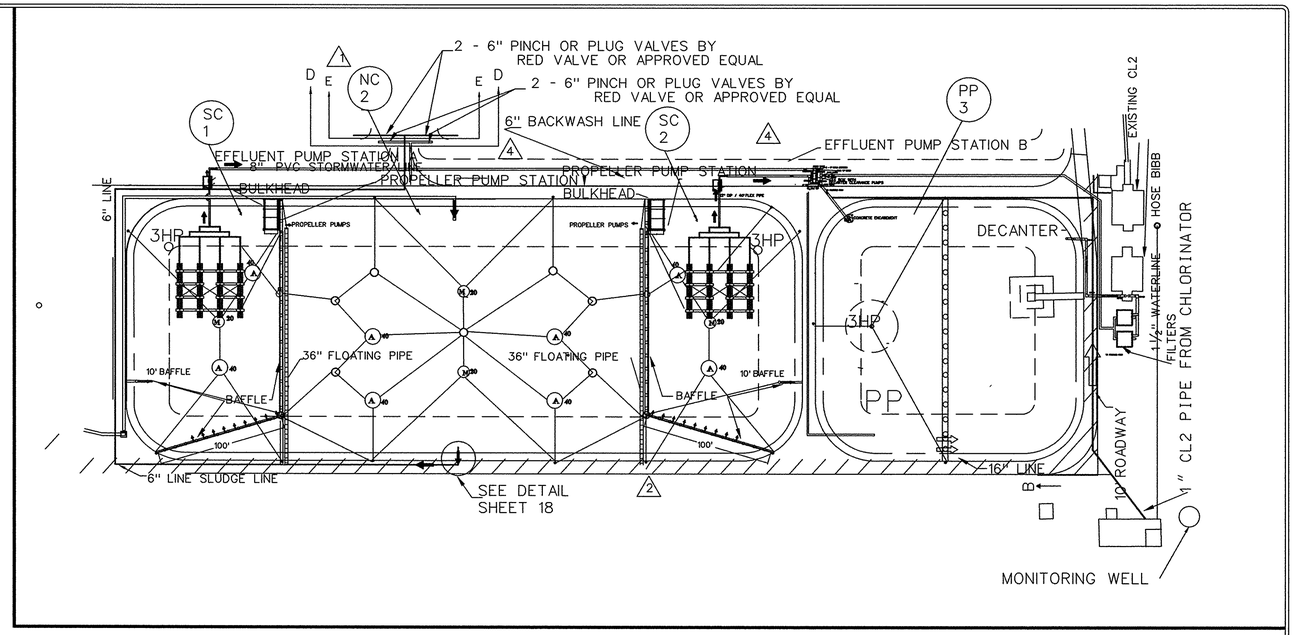
CONWAY TREATMENT PLANT

JOHN C. HAWKINS, PE

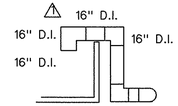
EFFLUENT PUMP STATIONS

DATE: 10/10/95 | SCALE: N.T.S. | SHEET 10 OF 20



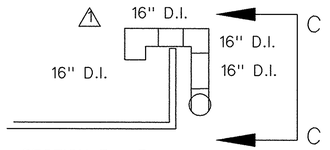


ALL UNDERGROUND PIPING CAN BE PVC.
TRANSITION TO D.I. FOR ABOVE GROUND PIPING



SECTION A - A

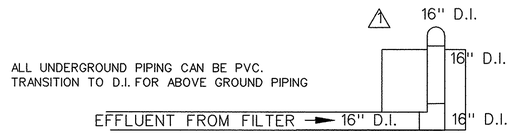
EXISTING CL2 CONTACT CHAMBER



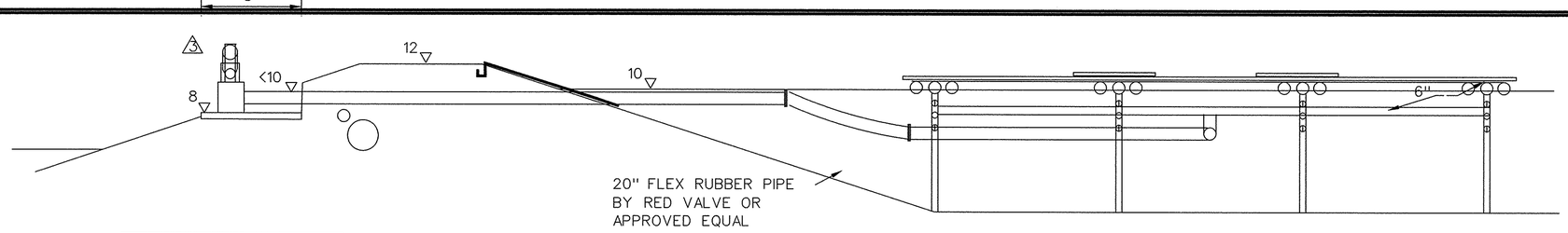
SECTION B - B

EXISTING CL2 CONTACT CHAMBER

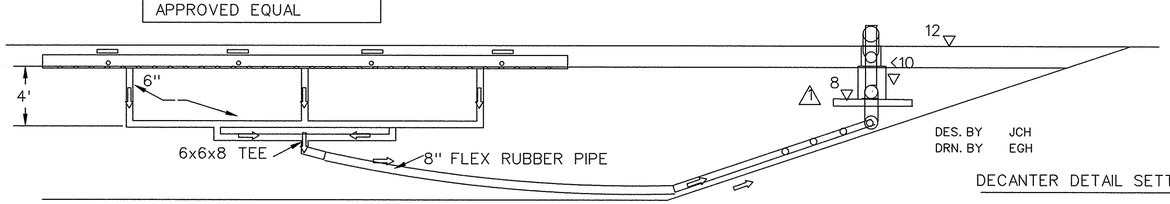
ALL UNDERGROUND PIPING CAN BE PVC.
TRANSITION TO D.I. FOR ABOVE GROUND PIPING



SECTION C - C



DECANTERS TO BE FABRICATED BY EGH OR APPROVED EQUAL



DES. BY JCH
DRN. BY EGH

DECANTER DETAIL SETTLING CELLS

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.

REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-237-8607.

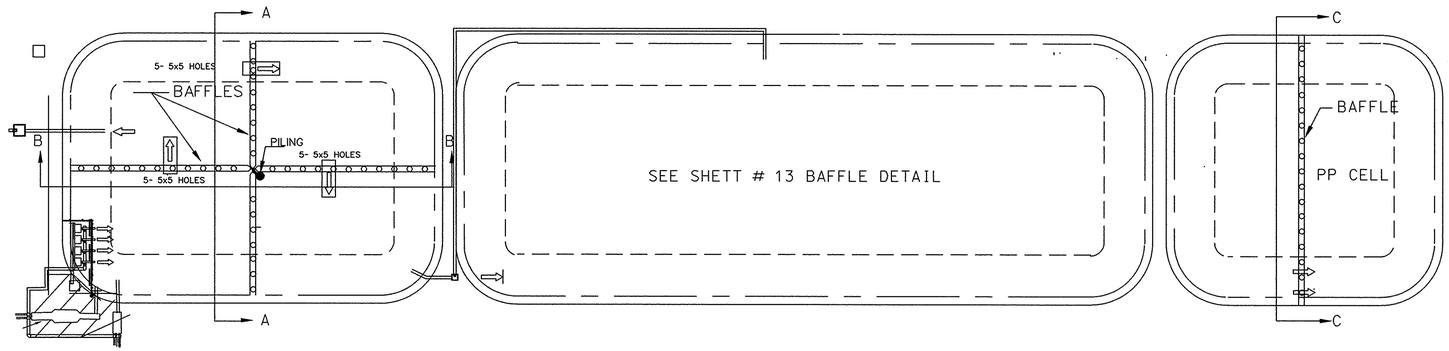
DATE	REVISION	INITIAL
01/04/96	1 REVISED DECAN. PIPE	JCH
05/21/96	2 REVISED DECAN. PIPE	
05/21/96	3 REVISED DECAN. PUMP LOC.	
02/20/97	ASBUILTS	

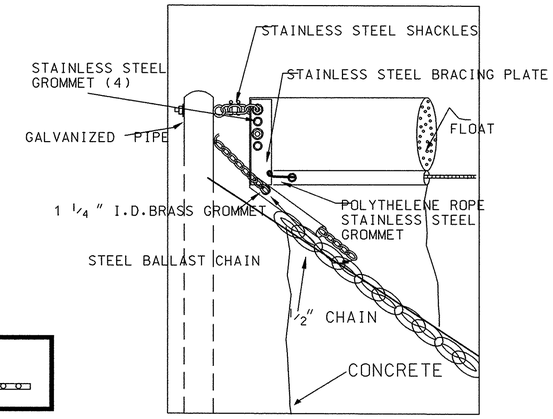
CONWAY TREATMENT PLANT

JOHN C. HAWKINS, PE

MECH. AIR - DECANTER DETAILS

DATE: 10/10/95 | SCALE: N.T.S. | SHEET 11 OF 20



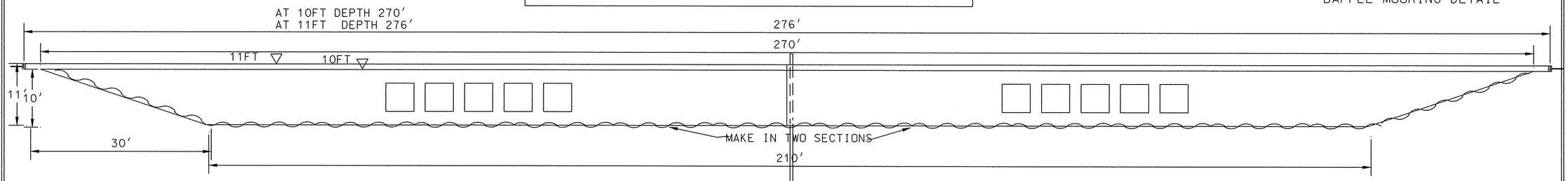


BAFFLE MOORING DETAIL

THE CROSS BAFFLE IS TO BE ONE PIECE.
THE LONGITUDINAL BAFFLE TO BE MADE IN TWO SECTIONS.

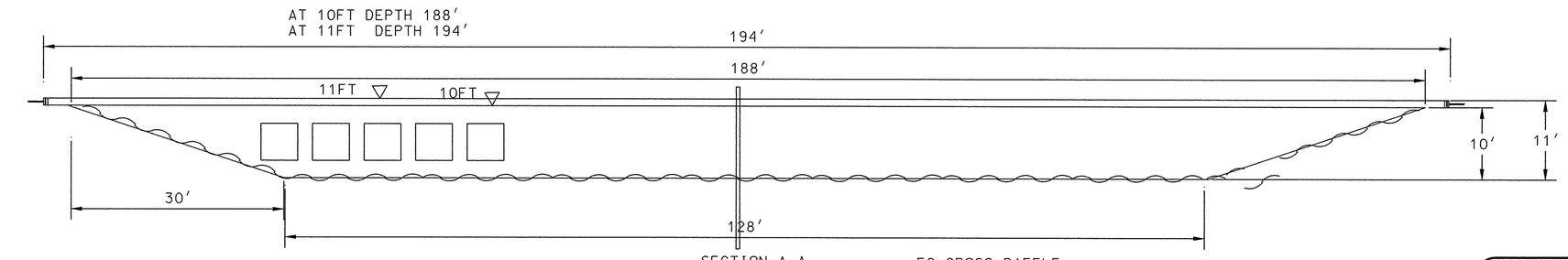
NOTE:
CURTAIN SUPPLIER TO TAKE ACTUAL MEASUREMENTS OF THE LAGOON, INCLUDING SOUNDINGS FOR DEPTH TO DETERMINE BAFFLE SIZE.
LET CURTAIN RISE AND FALL 1FT
PUT 5 5' X 5' HOLES IN THE CURTAIN

BAFFLES



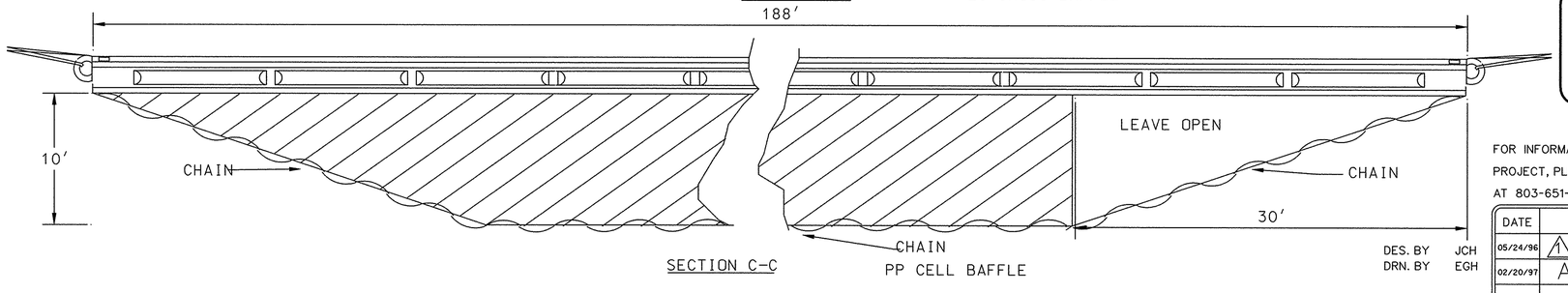
SECTION B-B

EC LONGITUDINAL BAFFLE



SECTION A-A

EC CROSS BAFFLE



SECTION C-C

PP CELL BAFFLE

DES. BY JCH
DRN. BY EGH

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.

REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-651-5163.

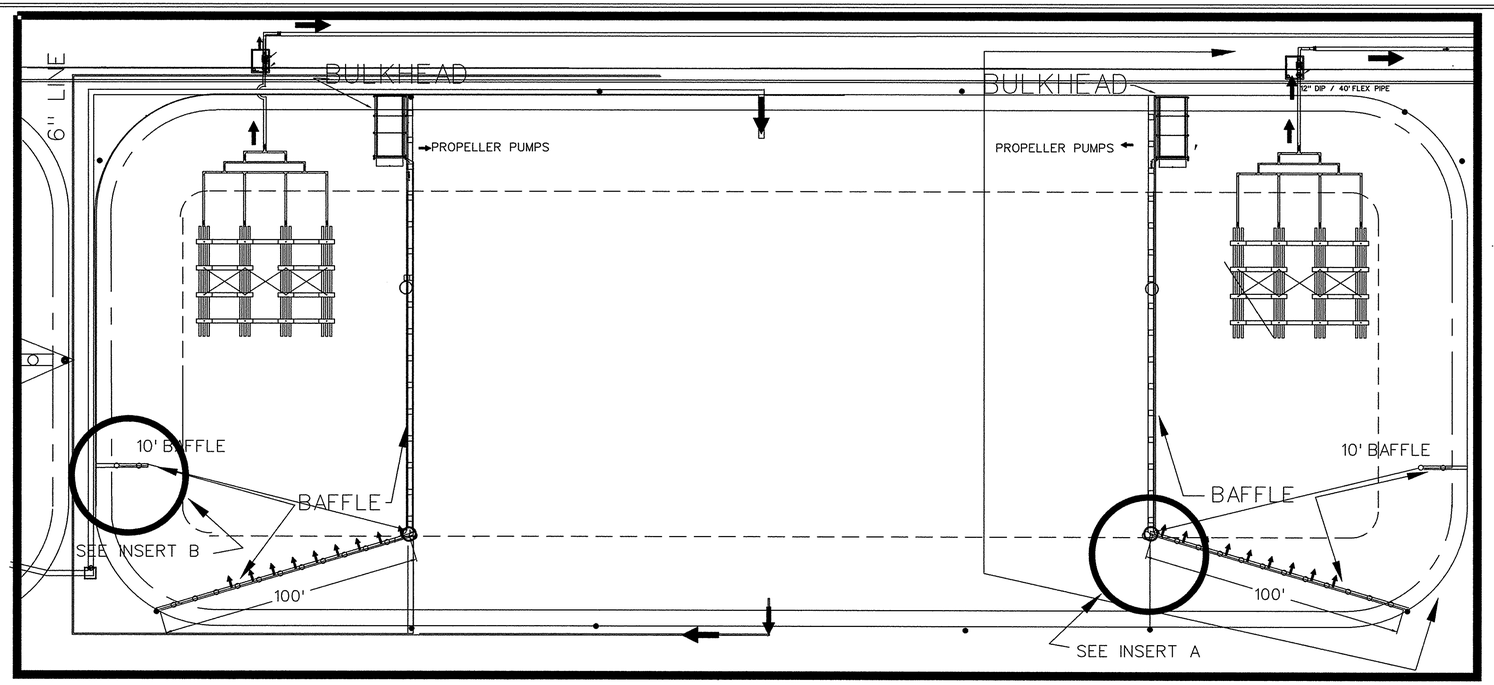
DATE	REVISION	INITIAL
05/24/96	1 ONLY ONE OPENING IN BAFFLE	JCH
02/20/97	ASBUILTS	

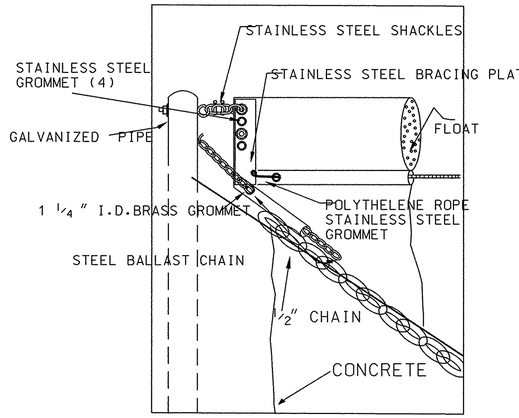
CONWAY TREATMENT PLANT

JOHN C. HAWKINS, PE

MECH. AIR - BAFFLES EC & PP

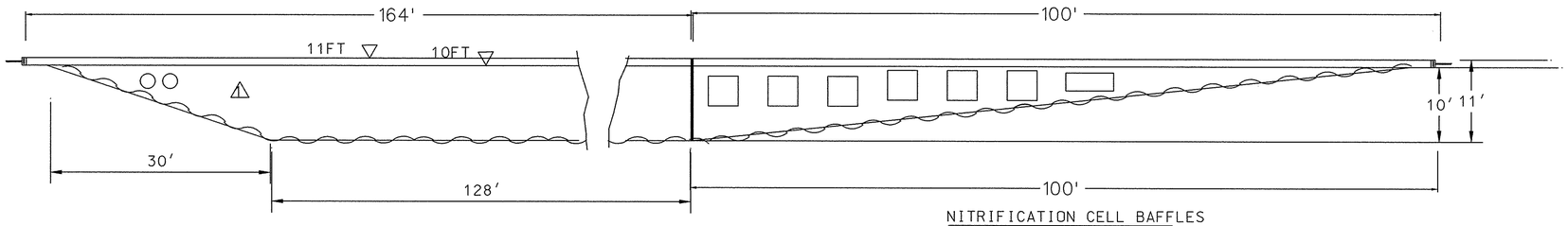
DATE: 10/10/95 | SCALE: N.T.S. | SHEET 12 OF 20



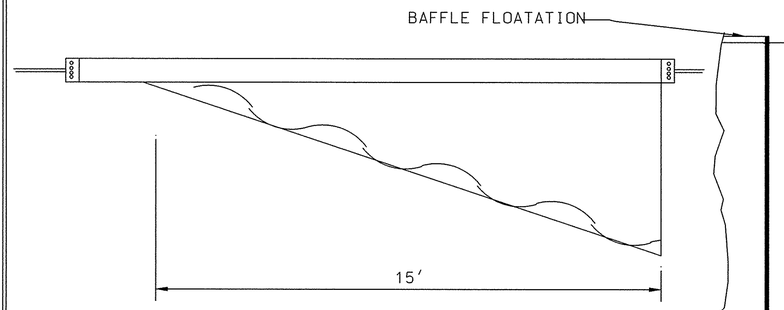


BAFFLE MOORING DETAIL

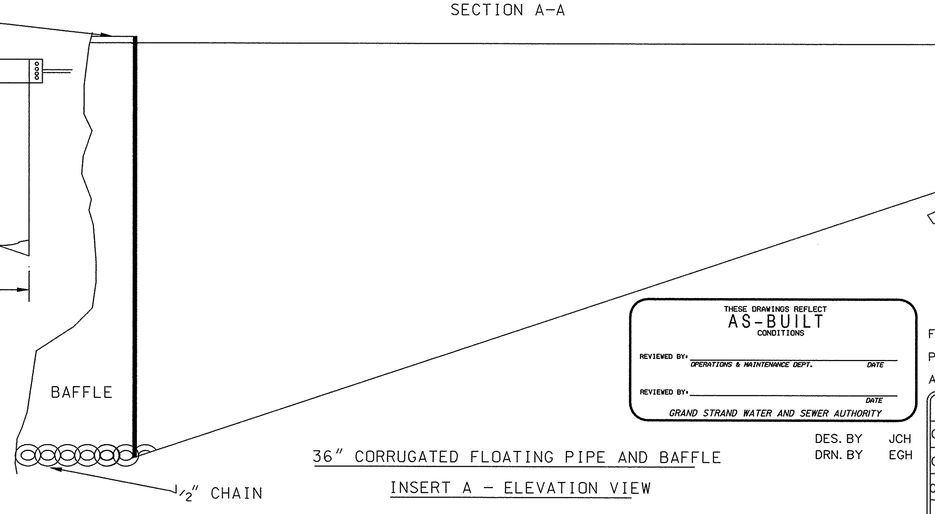
BAFFLES



NITRIFICATION CELL BAFFLES
SECTION A-A



15' BAFFLE
INSERT B - ELEVATION VIEW



36" CORRUGATED FLOATING PIPE AND BAFFLE
INSERT A - ELEVATION VIEW

NOTE:
CURTAIN SUPPLIER TO TAKE ACTUAL MEASUREMENTS OF THE LAGOON, INCLUDING SOUNDINGS FOR DEPTH TO DETERMINE BAFFLE SIZE, AND SUBMIT SHOP DRAWINGS FOR APPROVAL.
LET CURTAIN RISE AND FALL 1FT
PUT 6- 5' X 5' & 1- 3' X 8' HOLES IN THE CURTAIN

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS
REVIEWED BY: OPERATIONS & MAINTENANCE DEPT. DATE
REVIEWED BY: DATE
GRAND STRAND WATER AND SEWER AUTHORITY

DES. BY JCH
DRN. BY EGH

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

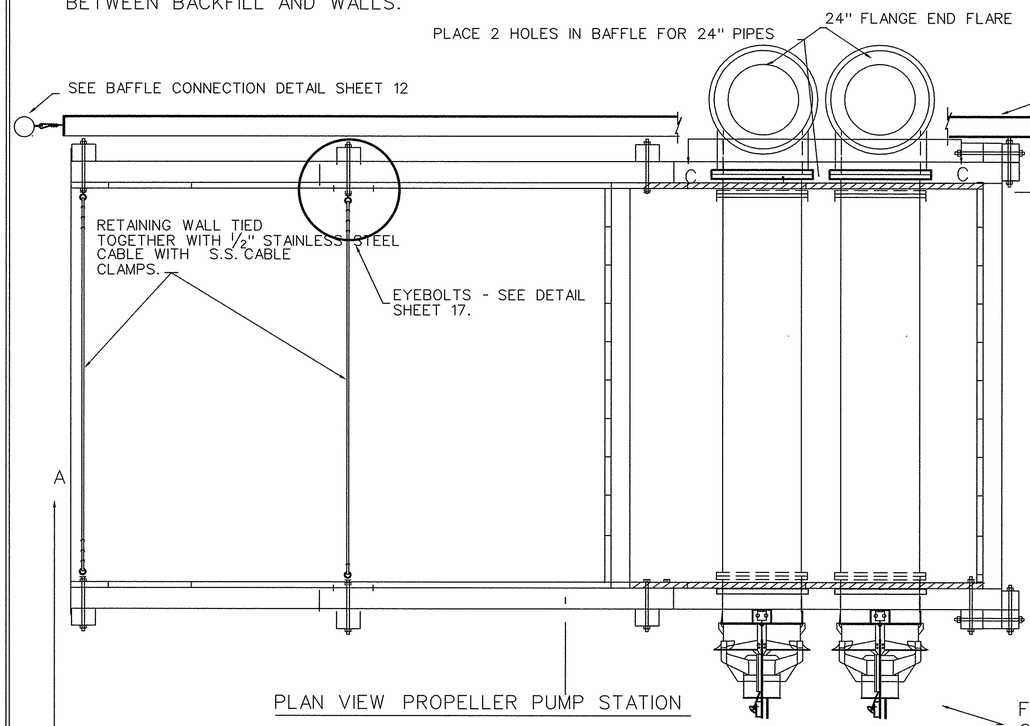
FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-651-5163.

DATE	REVISION	INITIAL
01/04/96	⚠1 REVISED HOLE/PP	JCH
01/04/96	⚠2 REVISED BAFFLE	JCH
02/20/97	ASBUILTS	

CONWAY TREATMENT PLANT
JOHN C. HAWKINS, PE
MECHANICAL AIRATION BAFFLE DETAIL
DATE: 10/10/95 | SCALE: N.T.S. | SHEET 13 OF 20

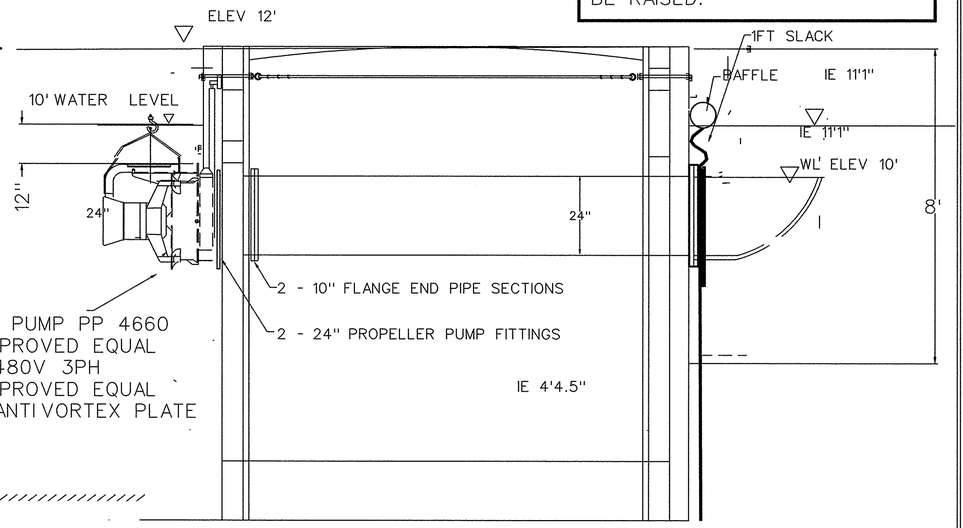
NOTE:
BACKFILL WITH SELECTED MATERIAL.
PLACE FILTER FABRICBY MIRATH- 140 N
BETWEEN BACKFILL AND WALLS.

BAFFLE TO BE ABLE TO RISE 1 FT TO ELEV. 11.0 FT. HOLES IN BAFFLE FOR PIPES ARE TO ALLOW 1.0 FT OF SLACK SO THE LEVEL CAN BE RAISED.



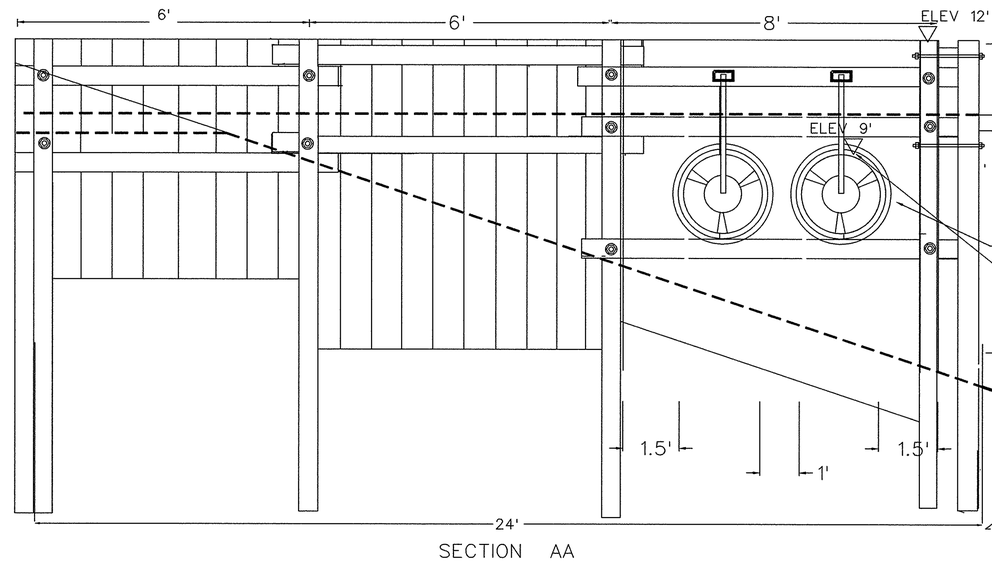
PLAN VIEW PROPELLER PUMP STATION

FLYGT PUMP PP 4660
OR APPROVED EQUAL

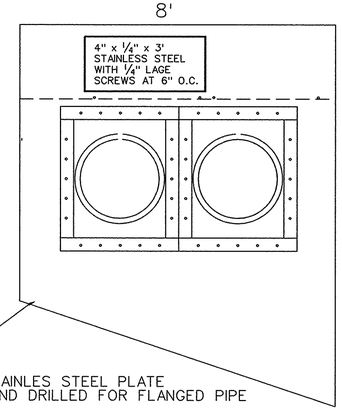


FLYGT PUMP PP 4660
OR APPROVED EQUAL
15HP 480V 3PH
OR APPROVED EQUAL
WITH ANTI VORTEX PLATE

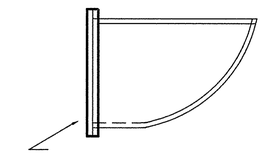
SECTION BB



SECTION AA



SECTION CC



A-30308 24" SHORT RADIUS FLANGED FLAR END BY AMERICAN DUCTILE IRON PIPE

9.66'

SOUTH CAROLINA REGISTERED PROFESSTONAL ENGINEER No. 4541 JOHN C. HAWKINS

THESE DRAWINGS REFLECT AS-BUILT CONDITIONS

REVIEWED BY: _____ OPERATIONS & MAINTENANCE DEPT. DATE

REVIEWED BY: _____ DATE

GRAND STRAND WATER AND SEWER AUTHORITY

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-651-5163.

DES. BY JCH
DRN. BY EGH

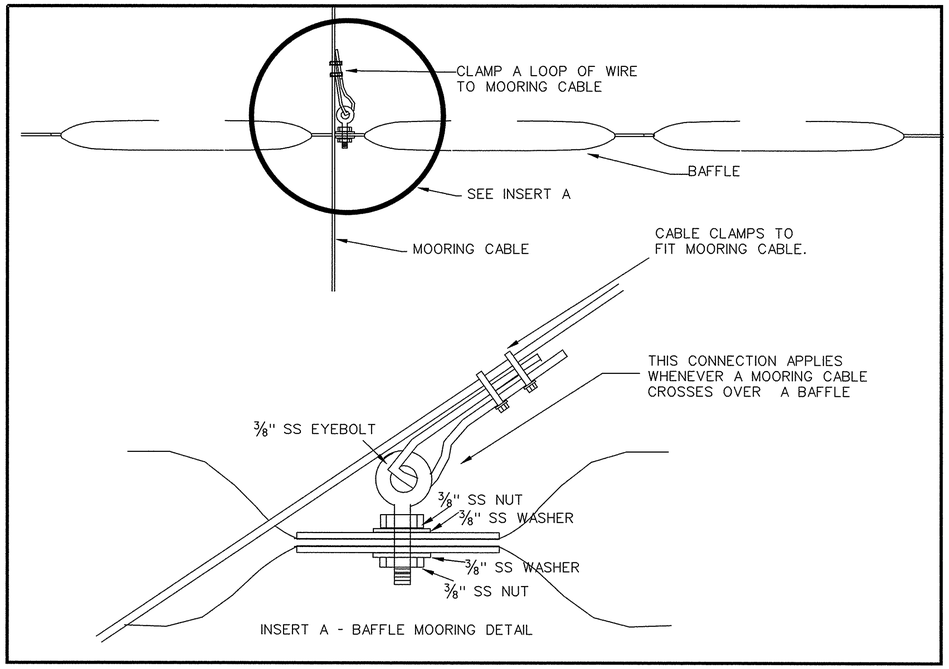
DATE	REVISION	INITIAL
01/04/96	ADDED SECOND PROPELLER PUMP	JCH
02/20/97	ASBUILTS	

CONWAY TREATMENT PLANT

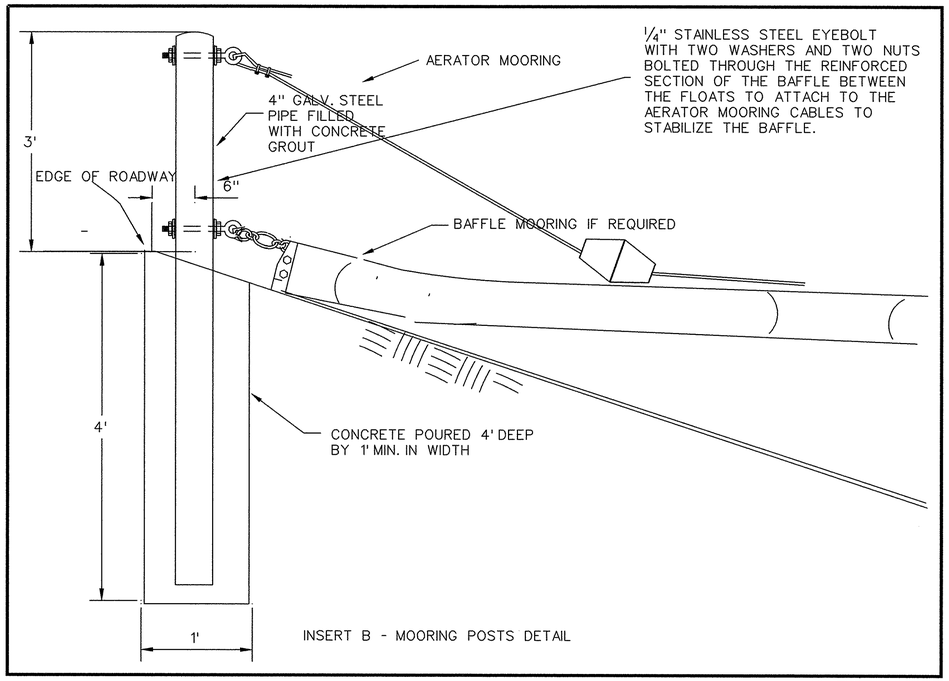
JOHN C. HAWKINS, PE

PROPELLER PUMP STATION

DATE: 10/10/95 | SCALE: N.T.S. | SHEET 14 OF 20



INSERT A - BAFFLE MOORING DETAIL

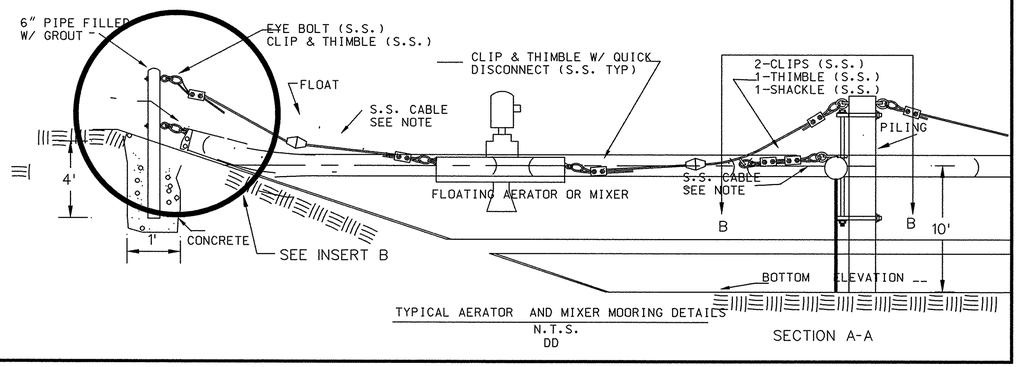


INSERT B - MOORING POSTS DETAIL

SPAN DIRECT MOORING SYSTEMS ACCOMMODATE UP TO A 3 FOOT WATER LEVEL FLUCTUATION. STAINLESS STEEL MULTI-STRAND MOORING CABLE IS STRUNG ACROSS THE LENGTH AND OR WIDTH OF A BASIN AND IS ANCHORED TO A GALVANIZED RING W/SHACKLES AND WITH MOORING POSTS AS SHOWN IN SECTION A-A. ELECTRICAL CABLE IS TO BE LOCATED ALONG THE MOORING CABLE AND THEN TO CONTROL PANEL AS SHOWN ON PLANS.

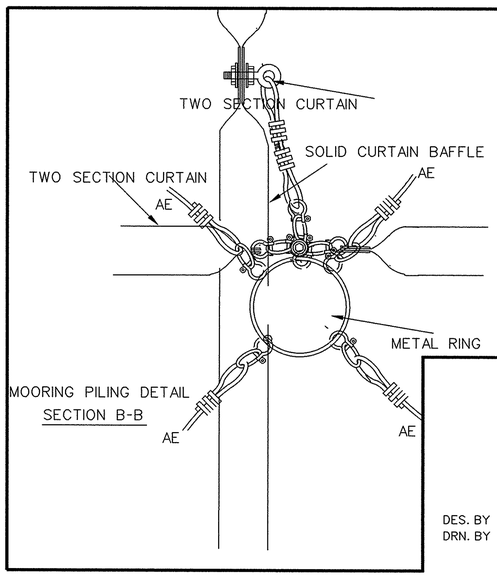
ALL FLOATING AERATORS TO BE SUPPLIED BY AQUA AEROBICS OR AN APPROVED EQUAL

NOTE:
EXISTING STAINLESS STEEL CABLE TO BE USED ONE CABLE PER AERATOR TO BE DESIGNED TO SUPPORT ELECTRICAL CABLE.

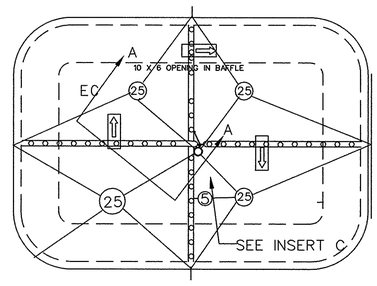


TYPICAL AERATOR AND MIXER MOORING DETAILS
N.T.S.
DD

SECTION A-A



MOORING PILING DETAIL
SECTION B-B



SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.

REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-651-5163.

DES. BY JCH
DRN. BY EGH

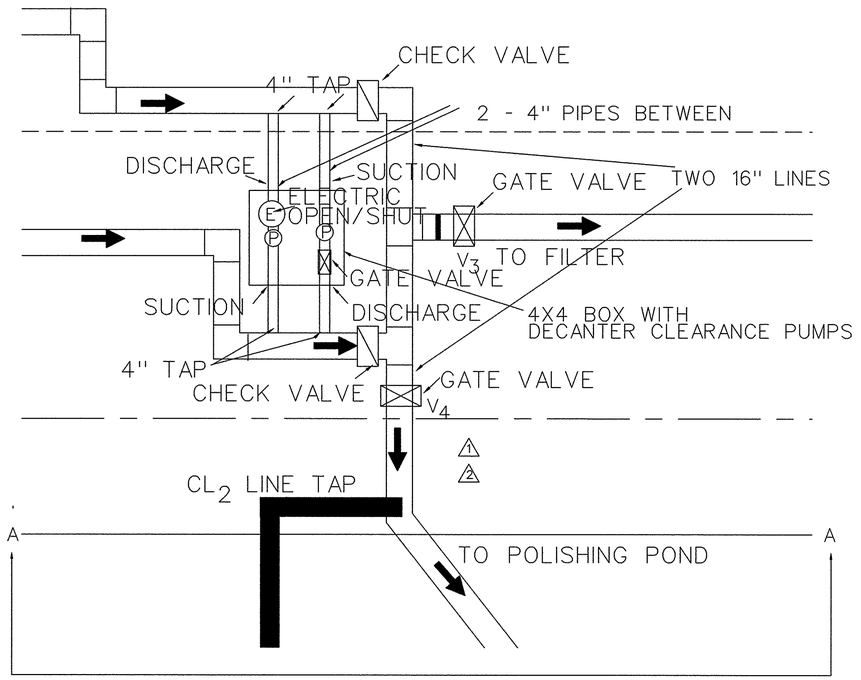
DATE	REVISION	INITIAL
02/20/97	ASBUILTS	

CONWAY TREATMENT PLANT

JOHN C. HAWKINS, PE

MOORING DETAILS

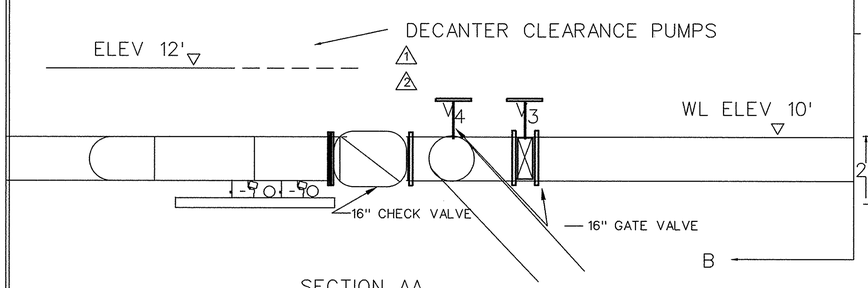
DATE: 10/10/95 | SCALE: N.T.S. | SHEET 15 OF 20



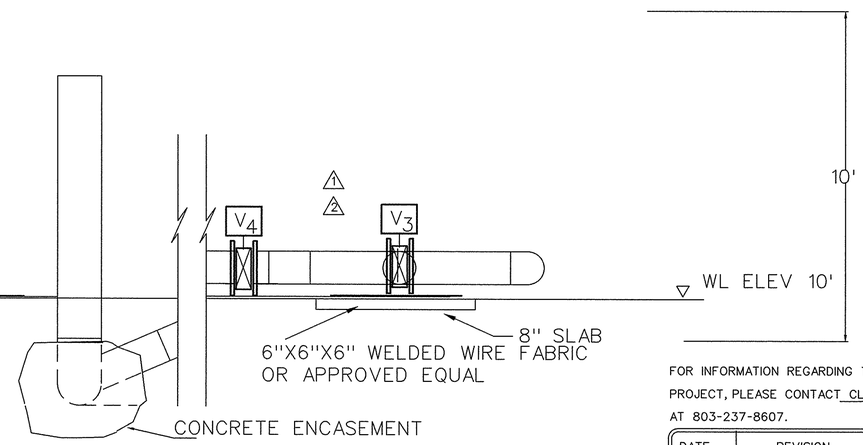
2 - DEZURRIK
RESILIENT SEATED
BUTTERFFLY VALVES
OR APPROVED EQUAL

2 - FLYGT PUMPS
CT 3085
434 IMPELLER
3 PHASE
2.3 HP

PLAN VIEW

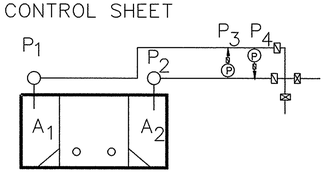


SECTION AA



SECTION BB

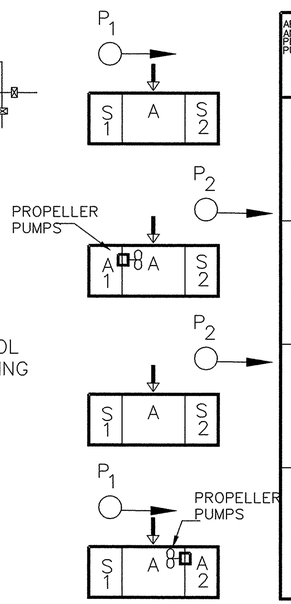
CONTROL SHEET



P_1 & P_2 > 10' ON
≈ 10' OFF

PUT 10 MIN. TIME
DELAY ON LEVEL CONTROL
TP PREVENT OVER CYCLING
OF PUMPS P_1 & P_2

PROPELLER
PUMPS



△3

AERATORS AND PROPELLER PUMPS SC1	AERATORS AND PROPELLER PUMPS SC2	P_1	P_2	P_3	P_4	TIME
OFF	OFF	ON	OFF	OFF	ON 15 MIN.	1 HR
ON	OFF	OFF	ON	OFF	OFF	4 HR
OFF	OFF	OFF	ON	ON 15 MIN.	OFF	1 HR
OFF	ON	ON	OFF	OFF	OFF	4 HR

1) STORMWATER RETURN PUMP TO HAVE LEVEL CONTROL WHEN LEVEL HITS OVERFLOW OF 10.9 THE PUMP IS TO SHUT OFF. PUT TIME DELAY ON THIS LEVEL CONTROL TO PREVENT OVER CYCLING OF THE PUMP.

2) TO OPERATE FILTER, CLOSE V4 AND OPEN V3.

3) TO OPERATE POLISHING POND, CLOSE V3 AND OPEN V4.

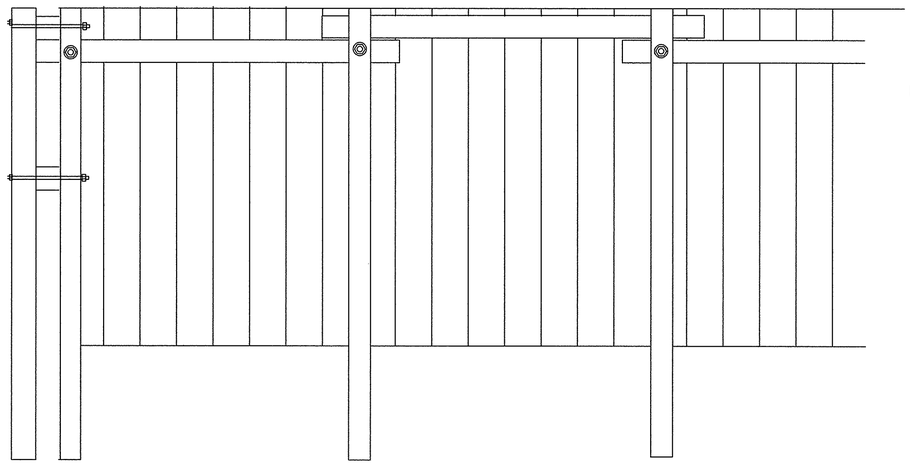
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS
REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.
REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

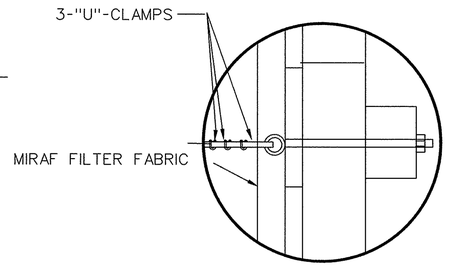
FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-237-8607.

DES. BY JCH
DRN. BY EGH

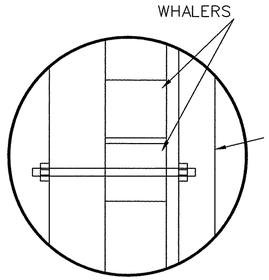
DATE	REVISION	INITIAL	CONWAY TREATMENT PLANT
01/04/96	△1 REVISED PIPING	JCH	JOHN C. HAWKINS, PE
05/21/96	△2 REVISED PIPING	JCH	CONTROL SHEET - MECH. AIR
05/21/96	△3 ADDED PUMPS	JCH	
02/20/97	ASBUILTS		DATE: 10/10/95 SCALE: N.T.S. SHEET 16 OF 20



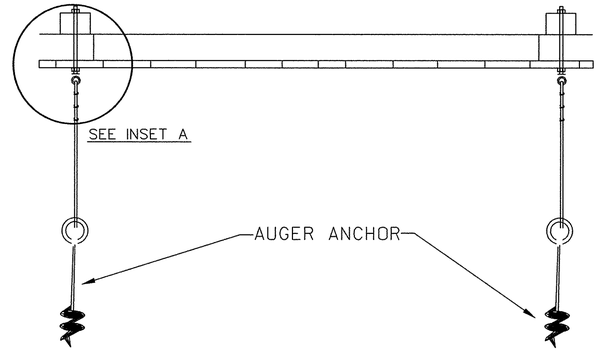
SIDE - HEADWORKS SINGLE BULKHEAD



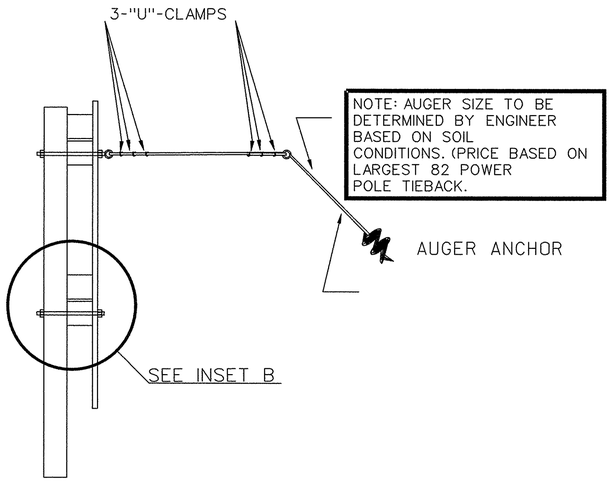
INSET A
N.T.S.



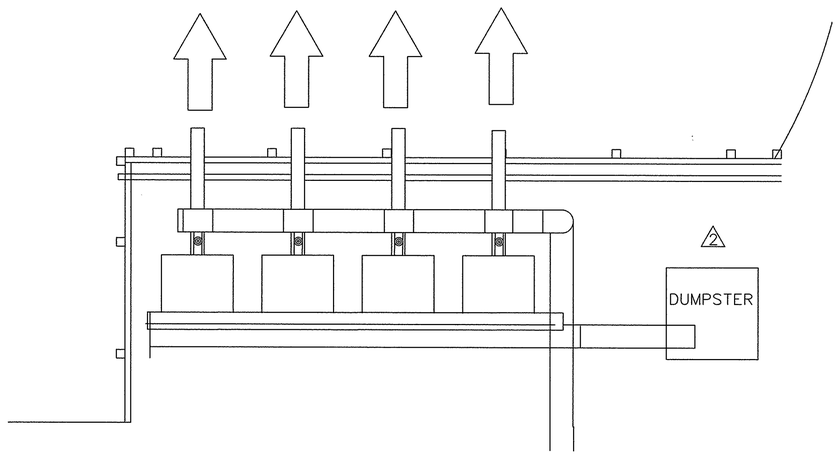
INSET B
N.T.S.



PLAN - HEADWORKS SINGLE BULKHEAD



CROSS SECT. - HEADWORKS SINGLE BULKHEAD



MATERIAL SCHEDULE

BOLTS SIZE: 3/4" GALV.

WHALER SIZE: 6"X6"X12' SALT TREATED

SOLDIER SIZE:8"X8"X14' SALT TREATED

SHEETING SIZE2"X10"X(AS NEEDED)' SALT TREATED

FILTER FABRIC TO LINE BULKHEAD:MIRAF - 140 N FABRIC PROPERTY

1/2" STEEL CABLES - GALV.

1/2" STEEL CABLE CLAMPS - GALV.

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.

REVIEWED BY: _____ DATE

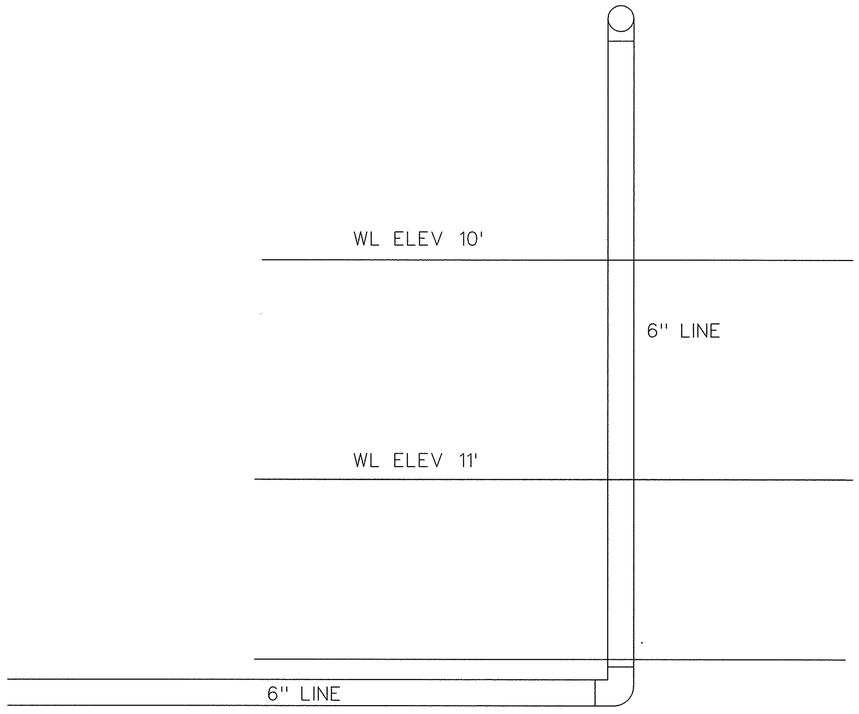
GRAND STRAND WATER AND SEWER AUTHORITY

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

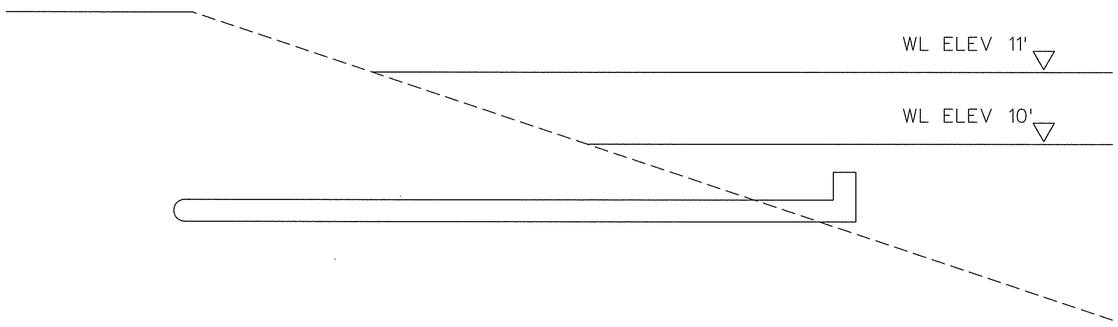
FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-237-8607.

DES. BY JCH
DRN. BY EGH

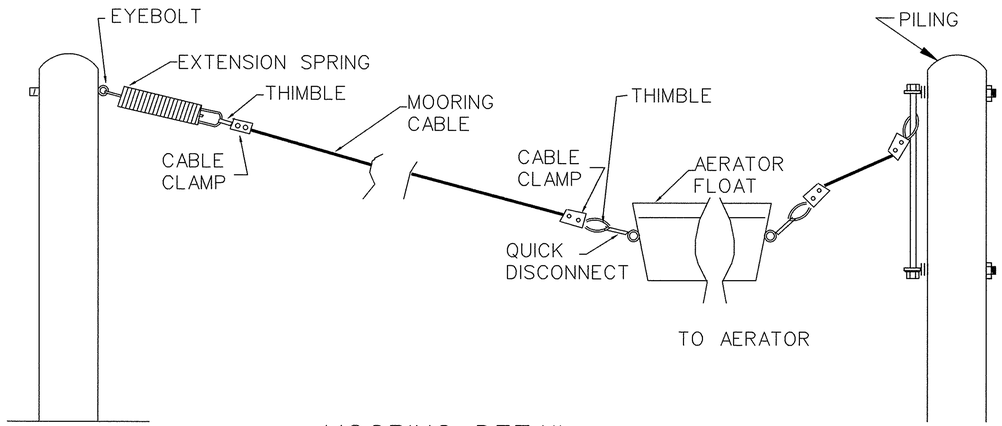
DATE	REVISION	INITIAL	CONWAY TREATMENT PLANT
01/04/96	1 ADDED SLAB DRAIN	JCH	JOHN C. HAWKINS, PE
05/21/96	2 REVISED BULKHEAD	JCH	BULKHEAD - HEADWORKS
02/20/97	ASBUILTS		
			DATE: 10/10/95 | SCALE: N.T.S. | SHEET 17 OF 20



GRAVITY SLUDGE PIPING - PLAN VIEW

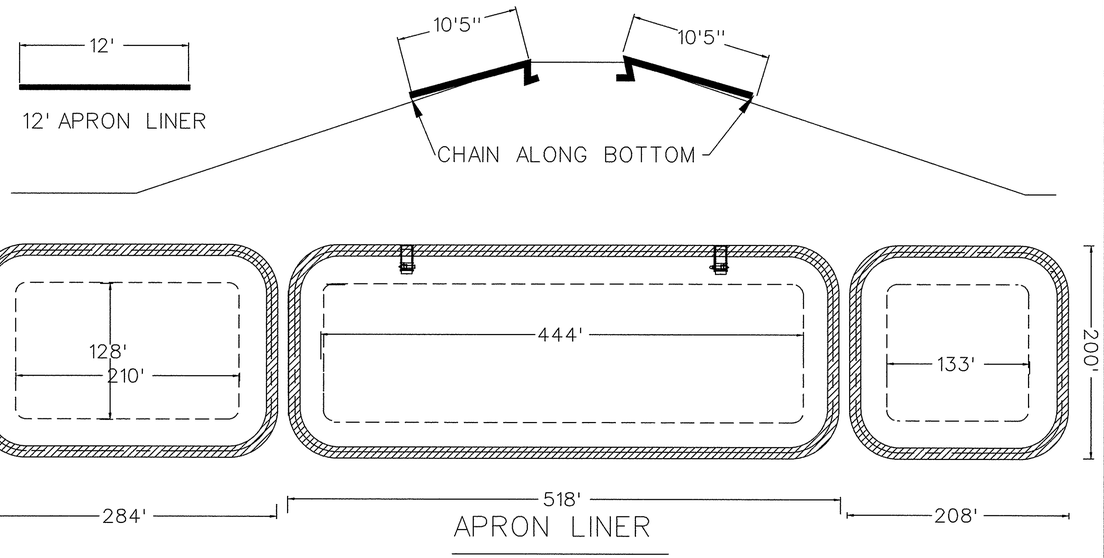


GRAVITY SLUDGE PIPING - ELEVATION VIEW



MOORING DETAIL

ELEVATION VIEW



APRON LINER

THESE DRAWINGS REFLECT
AS-BUILT
CONDITIONS

REVIEWED BY: _____ DATE
OPERATIONS & MAINTENANCE DEPT.

REVIEWED BY: _____ DATE
GRAND STRAND WATER AND SEWER AUTHORITY

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-651-5163.

DES. BY JCH
DRN. BY EGH

DATE	REVISION	INITIAL
01/04/96	ADDED ANCHOR DETAIL	JCH
02/20/97	ASBUILTS	

CONWAY TREATMENT PLANT

JOHN C. HAWKINS, PE

GRAVITY SLUDGE PIPING & MOORING DETAILS

DATE: 10/10/95 | SCALE: N.T.S. | SHEET 18 OF 20

GENERAL DESIGN CONSIDERATIONS

Liquid caustic soda is received in bulk shipments, transferred to storage and diluted necessary for feeding to the points of application. Caustic soda is poisonous and is dangerous to handle. U.S. Department of Transportation Regulations for "White Label" materials must be observed. However, if handled properly caustic soda poses no particular industrial hazzard. To avoid accidental spills, all pumps, valves and lines should be checked regularly for leaks. Workmen should be thoroughly instructed in the precautions related to the handling of caustic soda. The eyes should be protected by goggles at all times when exposure to mist or splashing is possible. Other parts of the body should be protected as necessary to prevent alkali burns. Areas exposed to caustic soda should be washed with copious amounts of water for 15 min. to 2 hr. A physician should be called when exposure is severe. Caustic soda taken internally should be diluted with water or milk and then neutralized with dilute vinegar or fruit juice. Vomiting may occur spontaneously but should not be induced except on the advice of a physician.

STORAGE

Liquid caustic soda may be stored at the 50 percent concentration. However, at this solution strength, it crystallizes at 53 F. Therefore, storage tanks must be located indoors or provided with heating and suitable insulation if outdoors. Because of its relatively high crystalization temperature, liquid caustic soda is often diluted to a concentration of about 20 percent NaOH for storage. A 20 percent solution of NaOH has a crystallization temperature of about -20 F. Recommendations for dilution of both 73 percent and 50 percent solution should be obtained from the manufacturer, because special considerations are necessary.

Storage tanks for liquid caustic soda should be provided with an air vent for gravity flow. The storage capacity should be equal to 1 1/2 times the largest expected delivery, with an allowance for dilution water, if used, or 2-weeks supply at the anticipated feed rate. whichever is greater. Tanks for storing 50% solution at a temperature 75 F and or above need to be provided. Lesser concentration can be stored at lower temperatures.

FEEDING EQUIPMENT

Metering pumps, currently available, allow a wide range of capacity compared with the rotodip and rotameter systems. Hydraulic diaphragm type pumps are preferable to other type pumps and should be protected with an internal or external relief valve. A back pressure valve is usually required in the pump discharge to provide efficient check valve action. Materials of construction for feeding equipment should be as recommended by the manufacturer for the service, but depending on the type of system, will generally include type 316 stainless steel, FRP, plastics, and rubber.

PACING AND CONTROL

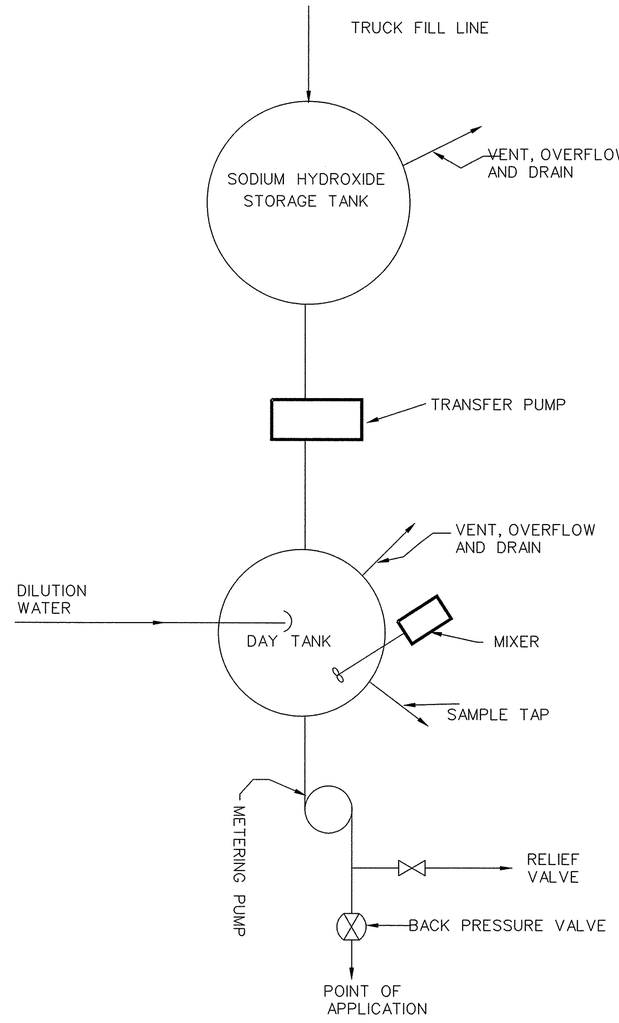
The feeding systems described above are volumetric, and the feeders generally available can be adapted to receive standard instrument pacing signals. The signals can be used to vary motor speed, variable-speed transmission setting, stroke speed and stroke length where applicable. A totalizer is usually furnished with a rotodip-type feeder, and remote instruments are available. Instrumentation is rarely used with rotameters and metering pumps.

PIPING AND ACCESSORIES

Transfer lines from the shipping unit to the storage tank should be spiral-wire-bound neoprene or rubber hose, solid steel pipe with swivel joints, or steel hose. Because caustic soda attacks glass, use of glass material should be avoided. Other miscellaneous materials for use with liquid caustic soda feeding and handling equipment are listed below:

COMPONENTS	Recommended Materialas For Use With 50% NaOH UP to 140 °F
Rigid pipe	Standard Weight Black Iron
Flexible Connections	Rigid Pipe with Ells or Swing Joints, Stainless Steel or Rubber Hose
Diluting Tees	Type 304 Stainless Steel
Fittings	Steel
Permanent Joints	Welded or Screwed Fittings
Unions	Screwed Steel
Valves-Non-leaking (Plug)	
Body	Steel
Plug	Type 304 Stainless Steel
Pumps (Centrifugal)	
Body	Steel
Impeller	Ni-Resist
Packing	Blue Asbestos
Storage	Steel

SHOULD NaOH BE NEEDED - THE CHEMICAL SUPPLIER SHALL PROVIDE THE PROPER CHEMICAL FEED SYSTEM SIMILAR TO THAT DESCRIBED.



SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 4541
JOHN C. HAWKINS

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-651-5163.

THESE DRAWINGS REFLECT AS-BUILT CONDITIONS

REVIEWED BY: _____ OPERATIONS & MAINTENANCE DEPT. DATE

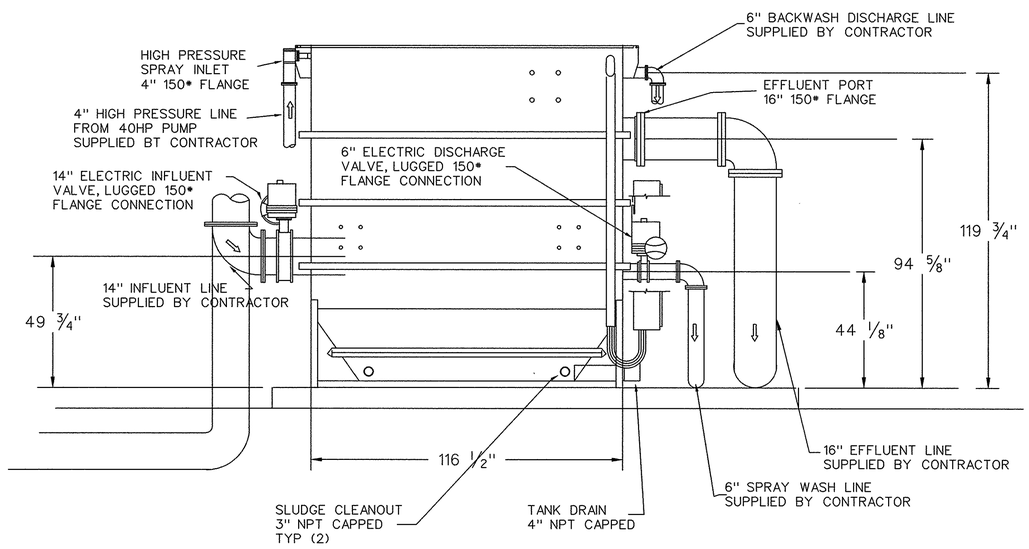
REVIEWED BY: _____ DATE

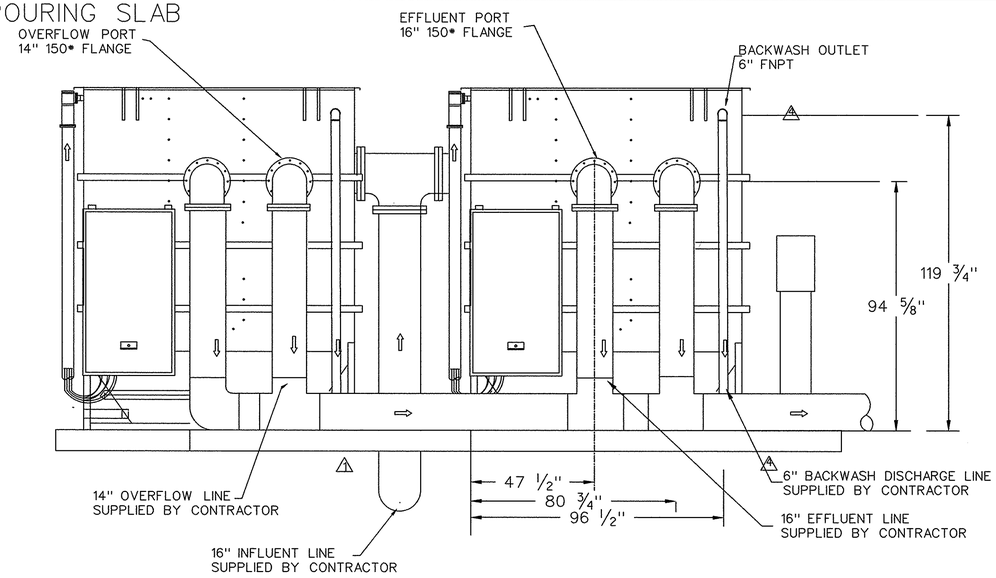
GRAND STRAND WATER AND SEWER AUTHORITY

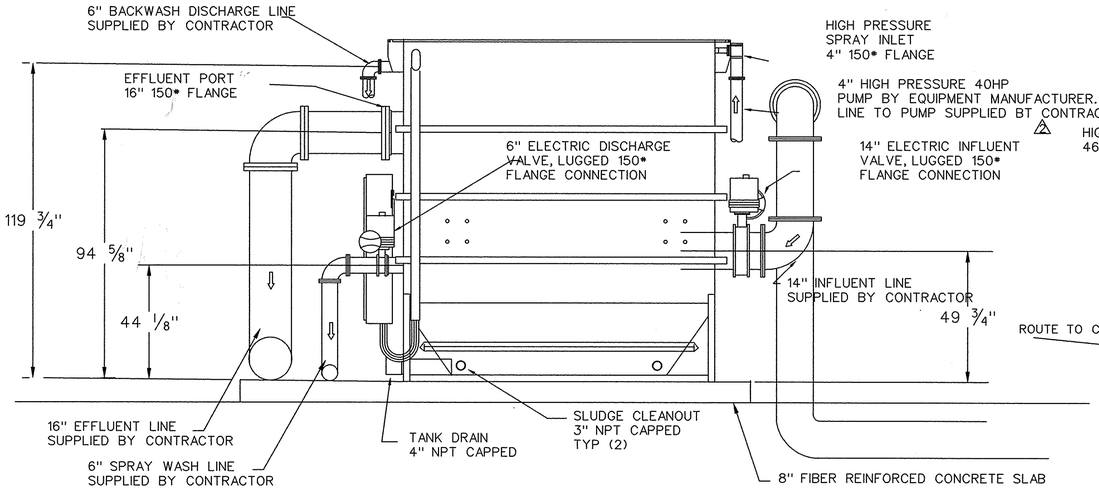
DES. BY JCH
DRN. BY EGH

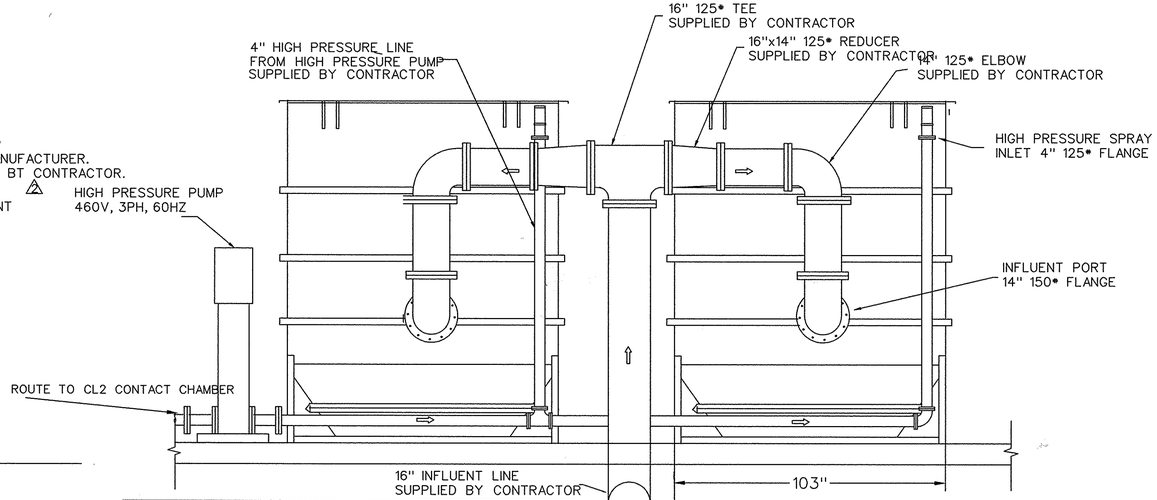
DATE	REVISION	INITIAL	CONWAY TREATMENT PLANT
02/20/97	ASBUILTS		JOHN C. HAWKINS, PE
			CHEMICAL FEED SHEET
			DATE: 10/10/95 | SCALE: N.T.S. | SHEET 19 OF 20

NOTE: ELEVATIONS TO BE FURNISHED TO CONTRACTOR BY ENGINEER PRIOR TO POURING SLAB









GENERAL NOTE:

ENTIRE TANK ASSEMBLY WILL BE FACTORY ASSEMBLED WITH CENTER TUBE ASS'Y, INTERNAL PIPING, & ELECTRICAL COMPONENTS AS SHOWN.

THE TANK FABRICATION WILL BE FACTORY PREPARED AND COATED: BLAST CLEAN INTERIOR TO SP-10, EXTERIOR TO SP-6, INTERIOR: TNEMEC 66 EPOSILINE. (TWO COATS, 4-6 MILS DFT PER COAT) TOTAL OF 8-12 MILS DFGT. EXTERIOR: TNEMEC SERIES 66 (2 COATS 3-4 MILS DFT\COAT) TOTAL OF 6-8 MILS DFT, THEN ONE COAT OF TNEMEC SERIES 175 ENDURASHIELD AT 2-3 MILS DFT TOTAL.

AN ELECTRIC CONTROL PANEL WILL BE SUPPLIED BY EQUIPMENT MANUFACTURER AND SHALL BE SQUARE D.

ELECTRIC ACTUATED VALVES FOR THE SPRAY WASH DISCHARGE AND THE INFLUENT FLANGE WILL BE SUPPLIED.

ALL WETTED COMPONENTS WILL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

ALL INFLUENT, EFFLUENT, OVERFLOW, & DRAIN PIPING WILL BE SUPPLIED BY THE CONTRACTOR.

POWER AND ELECTRICAL CONNECTIONS TO THE CONTROL PANEL WILL BE SUPPLIED BY THE CONTRACTOR.

1. REVISED PIPING LAYOUT
2. REVISED NOTE FROM SUPPLIED BY OTHERS TO CONTRACTOR
3. ADDED GENERAL NOTE
4. REVISED BACKWASH, 4" TO 6"

NOTE: ALL UNDERGROUND PIPING CAN BE PVC. TRANSITION TO D.I. FOR ABOVE GROUND PIPING.

FILTERS HAVE FLANGE FITTINGS. PIPE FROM THE FLANGE OUTWARD TO BE SUPPLIED BY CONTRACTOR.

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 4541 JOHN C. HAWKINS

THESE DRAWINGS REFLECT AS-BUILT CONDITIONS

REVIEWED BY: _____ OPERATIONS & MAINTENANCE DEPT. DATE

REVIEWED BY: _____ DATE

GRAND STRAND WATER AND SEWER AUTHORITY

FOR INFORMATION REGARDING THIS PROJECT, PLEASE CONTACT CLIF HAWKINS AT 803-237-8607.

DES. BY JCH
DRN. BY EGH

DATE		REVISION	INITIAL
01/04/96	1	PIPING	JCH
01/04/96	2	NOTES	JCH
01/04/96	3	GENERAL NOTES	JCH
05/22/96	4	BACKWASH	JCH

CONWAY TREATMENT PLANT

JOHN C. HAWKINS, PE

FILTER BY AQUA-AEROBIC

DATE: 11/20/95 | SCALE: N.T.S. | SHEET 20 OF 20

02/20/97 ASBUILTS