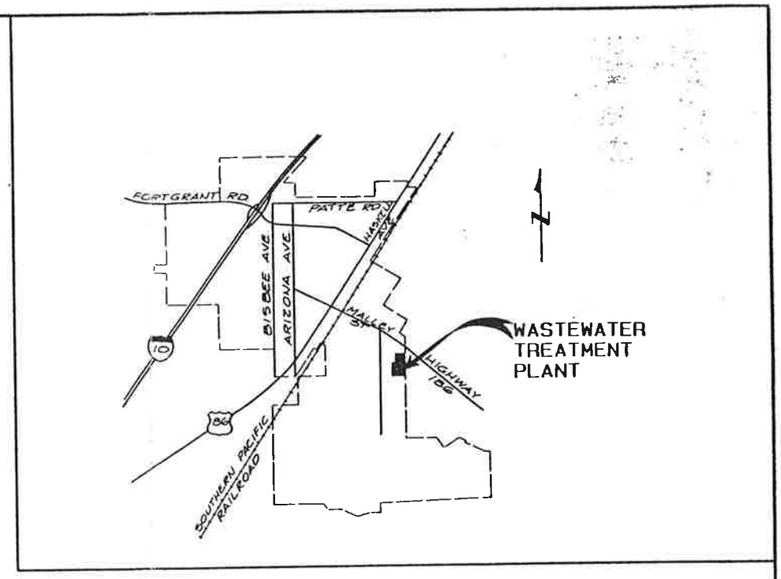
CITY OF WILLCOX

1988

WASTEWATER TREATMENT PLANT IMPROVEMENTS



PROJECT SITE
CITY OF WILLCOX, COCHISE CO., ARIZONA

SHEET INDEX

1 COVER SHEET
2 IMPROVEMENTS PLAN POND No. 1
3 IMPROVEMENTS PLAN POND No. 2
4 MAIN LIFT STATION & WET-WELL PLAN
5 MAIN LIFT STATION & WET-WELL SECTION
6 EFFLUENT LIFT STATION & WET-WELL
7 WET-WELL COVER DETAILS

GENERAL NOTES

1. EQUIPMENT AND LAYOUT SHALL BE AS PER SPECIFICATIONS AND DETAILS EXCEPT AS NOTED.
2. ALL SOILS UNDER NEW EQUIPMENT TO BE COMPACTED TO 24" BELOW SUBGRADE LEVEL TO 95%, 90% ELSEWHERE AS DETERMINED BY A.S.T.M. D698.
3. EXCESSIVE DAMAGE AS DETERMINED BY THE FIELD ENGINEER TO ANY EXISTING VEGETATION OUTSIDE PROPERTY SITE SHALL BE RESTORED BY CONTRACTOR AT NO EXPENSE TO "CITY OF WILLCOX" OR OWNER.
4. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS.
5. THE ENGINEER SHALL REVIEW ALL SHOP DRAWINGS AND EQUIPMENT SUBMITTALS FOR GENERAL COMPLIANCE WITH PLANS.
6. PRECONSTRUCTION PROCEDURE: NO WORK WILL COMMENCE UNTIL A "NOTICE TO PROCEED" HAS BEEN ISSUED BY CITY OF WILLCOX AND UNTIL A CERTIFICATE OF "APPROVAL TO CONSTRUCT" HAS BEEN ISSUED FROM THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY.
7. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR CONSTRUCTION AND EQUIPMENT INSTALLATION FOR THIS PROJECT.

"AS-BUILT"
2-20-90

Jerry R. Jones & Associates, Inc.
ENGINEERS, PLANNERS AND SURVEYORS
35 E. TOOLE AVE., TUCSON, AZ 85701
(602) 624-2391

DATE	REVISION	BY
12-8-88	4 & 6 ON SHTS. 2 to 4 SHEET 7 ADDED	RAB
11-28-88	3 ELEV. REV. ON SHEET 5	RAB
9-14-88	DELETIONS, ADDITIONS & REV'S. TO SHTS. 2 TO 6	RAB

CITY OF WILLCOX, ARIZONA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
FEB 22 1990

1 OF 7

DRWN. BY BLB 1988
DSGN. BY EZ 1988
CHKD. BY EZ 1988
APPD. BY [signature] 19__
REF. ____ SCALE: N/A
PLAN NO. 88-037

MOVED AS SHOWN

NEW FLOOD LIGHT SEE DET. SHT. 6

NEW 1" CONDUIT

2-12" GATE VALVES

2-2" ELECTRIC CONDUIT FROM LIFT STATION & FLOW METER TO PANEL

2" ELECTRIC CONDUIT FROM EFFLUENT LIFT STATION & CHLORINE INJECTION SYSTEM & FLOOD LIGHTS TO PANNEL

SEPARATE CONDUIT WAS RUN FOR FLOW METER RECORDERS' WIRING TO CORRECT FOR ELEC. FIELD INTERFERENCE.

WET WELL (EXIST.) SEE SHEET 4

MANHOLE (EXIST.)

CLEANOUT (EXIST.)

ABANDON EXIST 8" PIPE

REMOVE WIRE FENCE (SEE BELOW)

NEW CHAIN LINK FENCE

POWER POLE

POWER POLE & BOXES

OVERHEAD LINES

CONCRETE JUNCTION BOX (REMOVE)

ELECTRICAL JUNCTION BOX

EXIST. 8" A.C. PIPE (ABANDON)

NEW FLOOD LIGHTS SEE DET. SHT. 6

ELECTRICAL JUNCTION BOX

EXIST. CHLORINE INJECTION SYSTEM

ELECTRICAL JUNCTION BOX

2-6" VALVES

2-6" PVC (EXIST)

8" VALVE

SEE DETAIL SHEET # 5

NEW LIFT STATION W/ FLOW METER SEE SHEET 4

NEW 12" D.I. PIPE 24" MIN. COVER

EXIST. 10" PVC

1-12"x12"x10" TEE
1-12" GATE VALVE, B&C
1-10" GATE VALVE, B&C
THRUST BLOCK PER MAG. STD. DET. 380

NEW 12" PVC PIPE 36" MIN. COVER

BREAK EXIST. 10" PIPE & CONNECT TO NEW VALVED TEE

EXIST. CONC. JUNCTION BOX PLUG 8" ENTRANCE EAST SIDE

2-10" PVC (EXIST)

BF VALVES (EXIST.)

163.60'

NEW 6" PIPE

NEW DUMPING STATION SEE DETAIL, SHEET 6

10 HP SURFACE AERATORS (EXIST.)

POND #1

10 HP SURFACE AERATORS (EXIST.)

2-10" PVC (CAPPED)

BF VALVES (EXIST)

MATCHLINE SEE SHT 3

REMOVE EXISTING FENCE

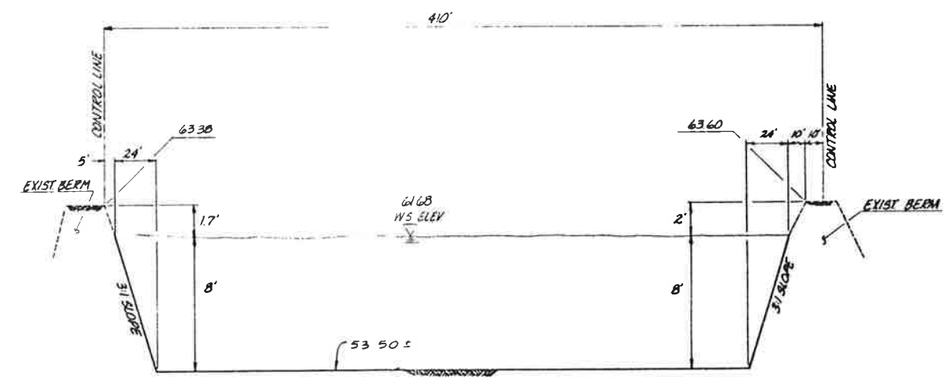
TOP OF BANK

REMOVE OLD

NEW CHAIN LINK FENCE

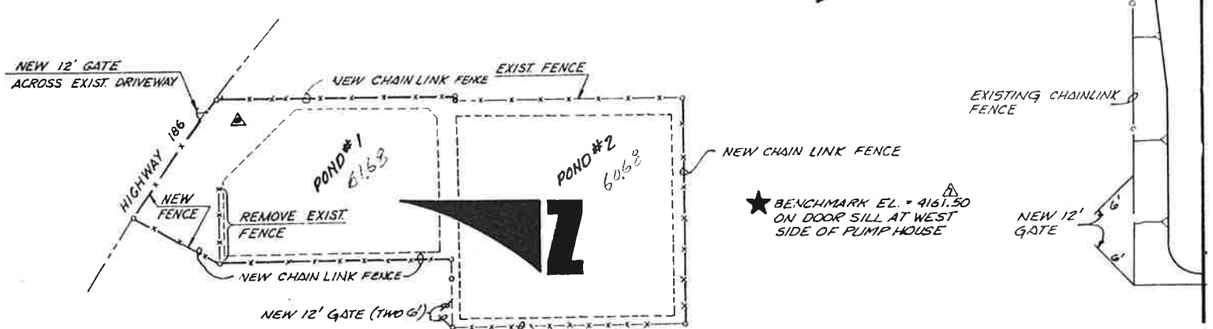
NEW CHAIN LINK FENCE

SURFACE AREA AT 2' FREEBOARD 53 ACRES
VOLUME AT 6' DEPTH 9.3 MG 23 DAYS DETENTION
VOLUME AT 8' DEPTH 12.7 MG 31 DAYS DETENTION
INFLUENT FLOW 0.4 MGD



A CROSS-SECTION

"AS-BUILT" 2-20-90



BENCHMARK EL. = 4161.50 ON DOOR SILL AT WEST SIDE OF PUMP HOUSE

NEW FENCE TO BE 6' HIGH CHAIN LINK

FENCING DIAGRAM
NTS.

Jerry R. Jones & Associates, Inc.
ENGINEERS, PLANNERS AND SURVEYORS
35 E. TOOLE AVE., TUCSON, AZ 85701
(602) 624-2381

DATE	REVISION	BY
1-24-89	1 BENCHMARK ELEV. CORRECTED	RAB
12-8-88	2 WET-WELL FENCE REMOVED	RAB
12-8-88	3 DISTRIB. BOX REPLACED BY VALVED TEE	RAB
9-14-88	4 DELETE 12" DIP EFFLUENT TO GOLF COURSE	RAB
9-14-88	5 BUTTERFLY CHANGED TO GATE VALVES	RAB

CITY OF WILLCOX, ARIZONA
Wastewater Treatment Plant Improvements Plan Pond No. 1

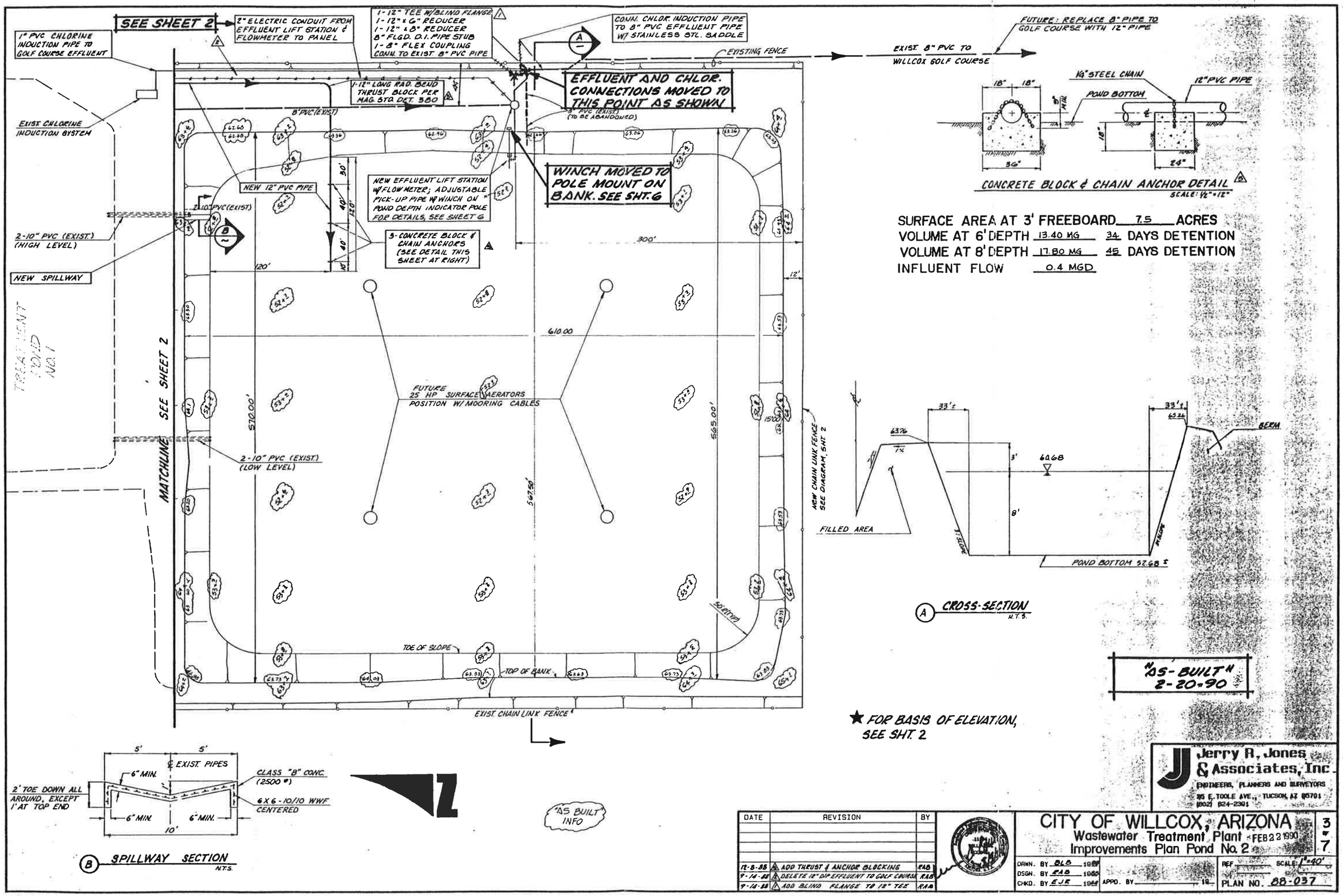
FEB 22 1990

2 of 7

DRAWN. BY BLB 1988
DSGN. BY RAB 1988
CHKD. BY EJR 1988
APPD. BY _____ 19__

REF. _____ SCALE: 1" = 40'

PLAN NO. 88-037


SEE SHEET 2
1" PVC CHLORINE INDUCTION PIPE TO GOLF COURSE EFFLUENT
2" ELECTRIC CONDUIT FROM EFFLUENT LIFT STATION & FLOWMETER TO PANEL
1-12" TEE W/BLIND FLANGE
1-12" x 6" REDUCER
1-12" x 8" REDUCER
8" FLGD. D.I. PIPE STUB
1-8" FLEX COUPLING
CONN. TO EXIST. 8" PVC PIPE
CONN. CHLOR. INDUCTION PIPE TO 8" PVC EFFLUENT PIPE W/ STAINLESS STL. SADDLE
EXISTING FENCE
EXIST. 8" PVC TO WILLCOX GOLF COURSE
FUTURE: REPLACE 8" PIPE TO GOLF COURSE WITH 12" PIPE
1-12" LONG RAD. BEND THRUST BLOCK PER MAG. STD. DET. 380
EFFLUENT AND CHLOR. CONNECTIONS MOVED TO THIS POINT AS SHOWN
8" PVC (EXIST.)
8" PVC (EXIST.) (TO BE ABANDONED)
EXIST. CHLORINE INDUCTION SYSTEM
NEW 12" PVC PIPE
NEW EFFLUENT LIFT STATION W/FLOWMETER; ADJUSTABLE PICK-UP PIPE W/WINCH ON POND DEPTH INDICATOR POLE FOR DETAILS, SEE SHEET 6
WINCH MOVED TO POLE MOUNT ON BANK. SEE SHT. 6
2-10" PVC (EXIST.)
2-10" PVC (EXIST.) (HIGH LEVEL)
NEW SPILLWAY
3-CONCRETE BLOCK & CHAIN ANCHORS (SEE DETAIL THIS SHEET AT RIGHT)
300'
120'
12'
610.00
570.00'
565.00'
567.50'
FUTURE 25 HP SURFACE AERATORS POSITION W/MOORING CABLES
MATCHLINE SEE SHEET 2
2-10" PVC (EXIST.) (LOW LEVEL)
TREATMENT POND NO. 1
NEW CHAIN LINK FENCE SEE DIAGRAM, SHT. 2
TOE OF SLOPE
TOP OF BANK
EXIST. CHAIN LINK FENCE
1/4" STEEL CHAIN
12" PVC PIPE
POND BOTTOM
36"
24"
CONCRETE BLOCK & CHAIN ANCHOR DETAIL
SCALE: 1/2" = 12"
SURFACE AREA AT 3' FREEBOARD 7.5 ACRES
VOLUME AT 6' DEPTH 13.40 MG 34 DAYS DETENTION
VOLUME AT 8' DEPTH 17.80 MG 45 DAYS DETENTION
INFLUENT FLOW 0.4 MGD
33'±
63.76
60.68
3'
8'
FILLED AREA
BERM
POND BOTTOM 52.68 ±
CROSS-SECTION
N.T.S.
"AS-BUILT" 2-20-90
★ FOR BASIS OF ELEVATION, SEE SHT. 2
5'
5'
℄ EXIST. PIPES
6" MIN.
CLASS "B" CONC. (2500 #)
2' TOE DOWN ALL AROUND, EXCEPT 1' AT TOP END
6 X 6 - 10/10 WWF CENTERED
6" MIN.
6" MIN.
10'
SPILLWAY SECTION
N.T.S.
"AS BUILT" INFO
Jerry R. Jones & Associates, Inc.
ENGINEERS, PLANNERS AND SURVEYORS
35 E. TOOLE AVE., TUCSON, AZ 85701
(602) 624-2391
DATE
REVISION
BY
12-8-88 ADD THRUST & ANCHOR BLOCKING RAB
9-14-88 DELETE 12" DIP EFFLUENT TO GOLF COURSE RAB
9-14-88 ADD BLIND FLANGE TO 12" TEE RAB
CITY OF WILLCOX, ARIZONA
Wastewater Treatment Plant
Improvements Plan Pond No. 2
FEB 22 1990
3 of 7
DRWN. BY BLB 1989
DSGN. BY RAB 1988
CHKD. BY EJR 1988
APPD. BY 19
REF.
SCALE: 1" = 40'
PLAN NO. 88-037

NOTE
STATION TOP REINFORCING PATTERN IS APPROXIMATE. MANHOLE SUPPORT CONCEPT SHOWN MAY NEED FIELD ALTERATION PER ENGINEERS APPROVAL.

MANHOLE SUPPORT
8" STL L, 13.75 #/FT CLIPPED & BENT AS SHOWN w/ TAIL LAYING ON STATION TOP. BOLTED TO TOP REINFORCING AS SHOWN.

(2) 5/8" BOLTS, NUTS & LOCKWASHERS

℄ MANHOLE
℄ DISCHARGE

MANHOLE & COVER

ENTRANCE TUBE

1" CONDUIT FROM DISCHARGE FLOWMETER TO RECORDER

AUXILIARY TOP VIEW
NTS

EXIST 8" SEWER

EXIST 10" SEWER

FENCE TO REMAIN
MANHOLES.

THESE 2 HOLES NOT USED.

NEW 6' HIGH CHAIN LINK FENCE

REMOVED FROM THIS CONTRACT

FOR WET-WELL COVER DETAILS SEE SHEET 7

NOT USED

(3) 8" SUCTION PIPES

FLEX COUPLINGS AS SHOWN

STEPS DOWN

℄ CHAMBER & 18" HOLE - SEE SHT. 5

(3) 8" SUCTION HOLES

18" HOLE SEE SHT. 5

WET-WELL AREAS

℄ DISCHARGE

1 1/4" SUMP DISCHARGE LINE w/ 3"x3"x1/4" STL L COVER

JOH BOUNDARY LINE FENCE

3/4" AIR BUBBLER LINE w/ 3"x3"x1/4" STL L COVER

2" CONDUIT TO SERVICE PANEL

10" DISCHARGE PIPE

BRANCH FITTINGS
1- 10"x10"x10" LATERAL
2- 10"x10"x12" INCREASERS
2-12" BUTTERFLY VALVES

PIPE SADDLE SUPPORT

PIPE SADDLE SUPPORT

NOT USED

INSTALL PIPE SADDLE SUPPORTS WHERE SHOWN W/ ADDITIONAL SUPPORTS @ 10' MAX INTERVALS WHERE PIPE IS EXPOSED. SEE DETAIL, SHEET 5

12" PIPE

12"x22 1/2° ELLS

12"x45° ELL W/BLIND FLG.

FUTURE 12" TO COCHISE LAKE

PIPE SADDLE SUPPORT

12" TO PONDS

LIFT STATION & WET-WELL PLAN
NTS

FOR FURTHER DETAILS & INFO, SEE SHEET 5.

PUMP CAPACITY CHART				CONTROL SET POINTS	
PUMP NO	CAP(G.P.M)	T.D.H.	HP	HIGH SET	LOW SET
1	350	35'	5	47.75	44.75
2	350	35'	5	48.75	44.75
3	350	35'	5	49.75	44.75
TOTAL	1050				

"AS-BUILT"
2-20-90

8'-0" SQ.
6" 1'-6" 1'-6" 6"

12" INLET FR. LIFT STATION

FLEX COUPLING

12" OUTLET TO POND No. 2

12" PVC PIPE

FLEX COUPLING

12" STL PIPE

NOTES
1 ALL PIPES & CONDUIT THRU BOX WALLS ARE TO BE EPOXY SEALED & GROUTED
2 ALL EPOXY SHALL BE A 2 PART BURKE CO. 88 L.P.L. NON-SAG PATCH & BOND EPOXY, ORDER NO. 56-802, OR APPROVED EQUAL.
3 ALL GROUTING SHALL BE BY USE OF BURKE CO. NON-SHRINK, NON-METALIC GROUT OR APPROVED EQUAL
4 BOX SHALL BE TOTALLY LEAK PROOF.
5 FOR BENCHMARK LOCATION AND ELEVATION, SEE SHEET 2.

10" STL PIPE
FLEX COUPLING
10" PVC PIPE

10" OUTLET TO POND No. 1 SLOPE DOWN @ 1% & EXTEND TO MEET GRADE OF EXIST. 10" PIPE

PLAN VIEW

THIS HOLE MOVED TO LOCATION SHOWN

(1) 10" DIA & (1) 12" DIA MODEL C-20 C FLAT BACK CANAL GATES AS MFD BY WATERMAN INDUSTRIES INC., OR APPVD EQUAL

ELEV = 4164.67 TOP OF BOX

EL = 4163.75± NAT. GROUND

REBAR @ 10" C-C BOTTOM (L) 66" LG, BOTH ENDS BENT @ 90° LAID BOTH DIRECTIONS. WALL (□) HOOPS w/VERT. BARS, TIED

EPOXY ALL SURFACES, GROUT & BOLT GATE FRAMES TO WALLS

ELEV = 4161.10 12" INLET FROM LIFT STATION

EPOXY ALL PIPE CONTACT SURFACES JUST BEFORE POURING CONCRETE

ELEV = 4159.50 12" OUTLET TO POND 2

ELEV = 4159.40 10" OUTLET TO POND 1

ELEV = 4158.67 TOP OF BOX

6 EQ. SPACED #4 x 3' REBAR RETAINERS WELDED TO EA PIPE

CLASS "B" CONC.

COMPACTED SUBGRADE

SECTION

DISTRIBUTION BOX
SCALE 1"=1'

REMOVED FROM THIS CONTRACT

Jerry R. Jones & Associates, Inc.
ENGINEERS, PLANNERS AND SURVEYORS
315 E. TOOLE AVE., TUCSON, AZ 85701
(602) 624-2391

DATE	REVISION	BY
12-8-88	WET-WELL COVER SUBSTITUTED FOR FENCE	RAB
12-8-88	DISTRIB. BOX NOTES ADDED & REVISED	RAB
9-14-88	12" OUTLET CHANGED TO "FUTURE"	RAB
9-14-88	HOLES INFO ADDED TO THIS SHEET	RAB

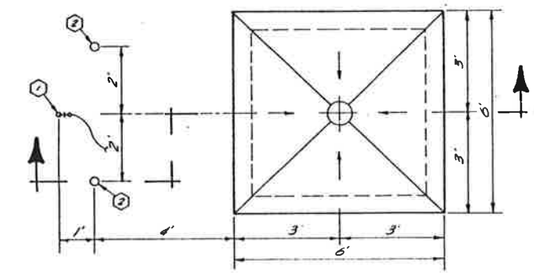
CITY OF WILLCOX, ARIZONA
Wastewater Treatment Plant
Main Lift Station & Wet-Well Plan

FEB 22 1990

4 of 7

DRWN. BY DAR 1988
DSGN. BY RAB 1988
CHKD. BY EJR 1988
APPD. BY _____ 19__
APPD. BY _____ 19__
REF. _____ SCALE: _____
PLAN NO. 88-037

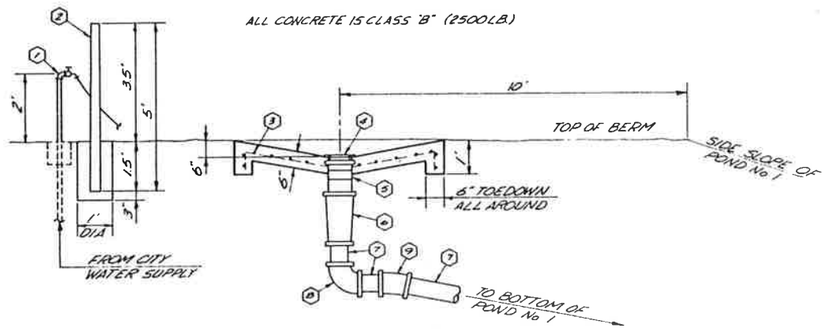
100 - COT TITLE BLOCK - 3200 (0.5) PR PLOTS 100 17-May-88 07:48 PM 999-3



ALL CONCRETE IS CLASS "B" (2500LB.)

CALLOUTS

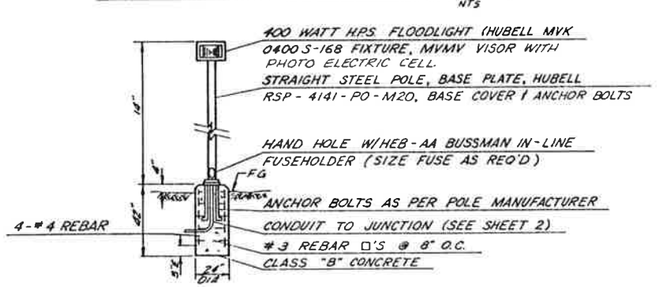
1. 1" PIPE, ELL, HOSE BIBB & 25' HEAVY DUTY GARDEN HOSE. POUR 8" DIA x 8" DEEP CONC COLLAR AROUND PIPE @ TOP OF BERM ELEV.
2. 3" DIA CONC. FILLED STL PIPE IN CONC. BASE.
3. 6"x6"-10/10 WWF CENTERED.
4. 8" CAST IRON COVER ONLY, PER MAG SD-270
5. 8" BELL END OF PVC GRAVITY SEWER PIPE CAST INTO APRON
6. 8"x6" REDUCER
7. 6" PVC GRAVITY SEWER PIPE
8. 6" x 90° ELL
9. 6" x 11¼° BEND



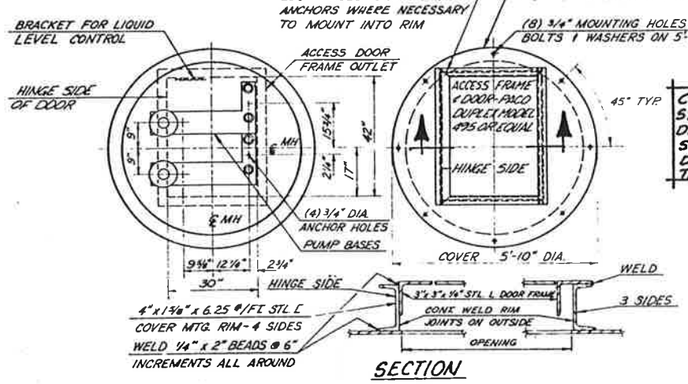
SECTION

SEPTIC DUMPING STATION

NTS



FLOOD LIGHT

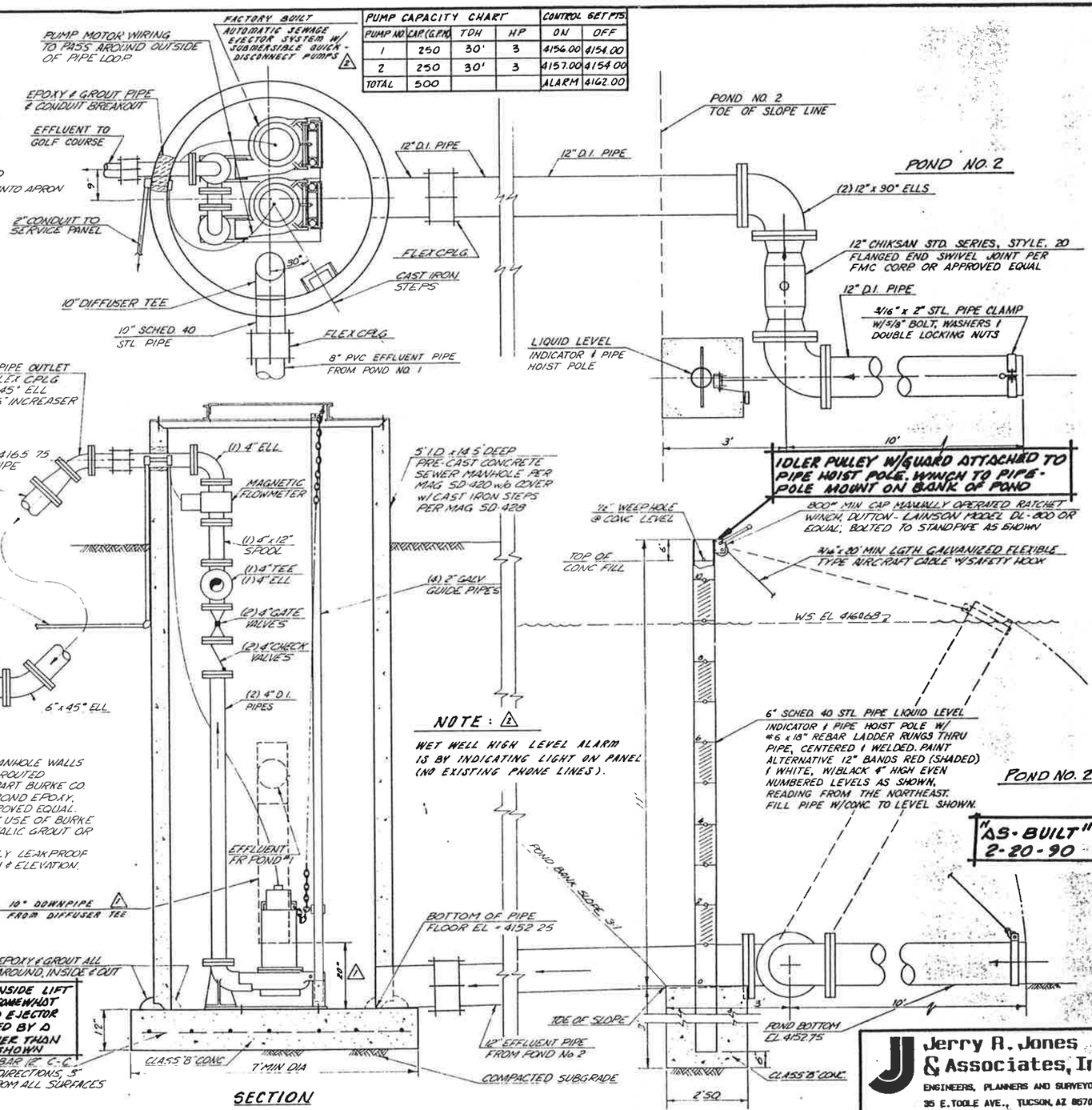


SECTION

BASE, COVER & ACCESS DOOR MOUNTING DETAILS

NTS

PUMP CAPACITY CHART				CONTROL SET PTS	
PUMP NO	CAP. (G.P.M)	TDH	HP	ON	OFF
1	250	30'	3	4154.00	4154.00
2	250	30'	3	4157.00	4154.00
TOTAL	500			ALARM	4162.00



SECTION

EFFLUENT LIFT STATION, PIPING & WET-WELL

N.T.S.

DATE	REVISION	BY
9-14-88	△1 NOTES ADDED	RAB
9-14-88	△2 ADDED DIFFUSER TEE DOWNPIPE	RAB

Jerry R. Jones & Associates, Inc.
ENGINEERS, PLANNERS AND SURVEYORS
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(602) 624-2391

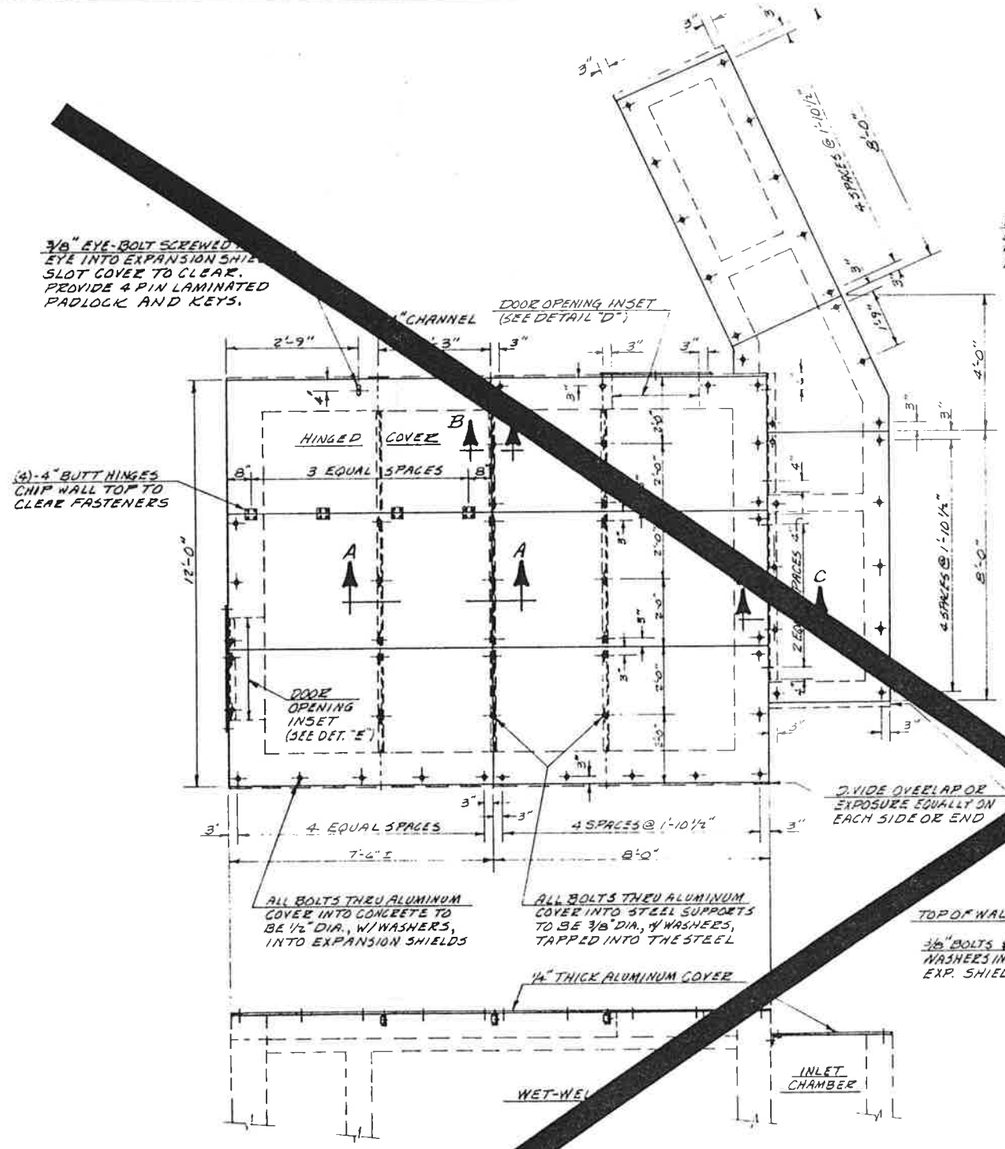
CITY OF WILLCOX, ARIZONA
Wastewater Treatment Plant
Effluent Lift Station & Wet-Well

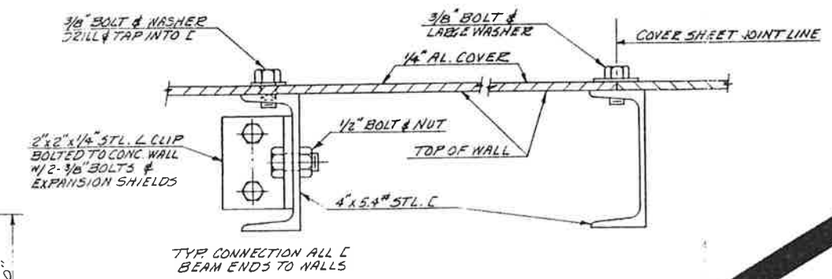
FEB 22 1990

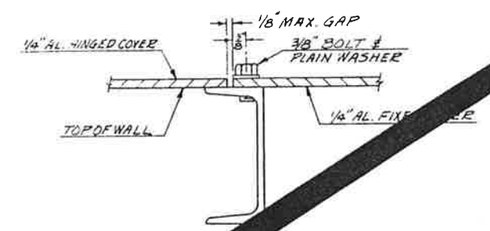
6 of 7

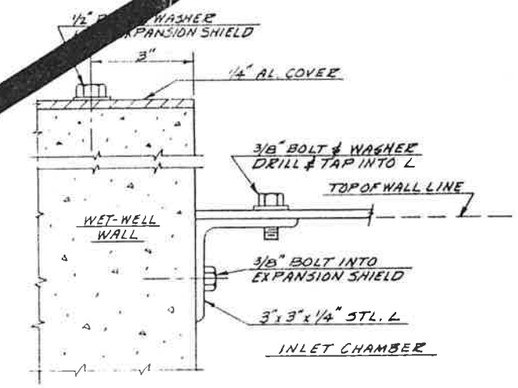
DRWN. BY DAR 1988 APPD. BY _____ 19__ REF _____ SCALE _____
DSGN. BY RAB 1988 APPD. BY _____ 19__
CHKD. BY EJR 1988 PLAN NO. 88-037

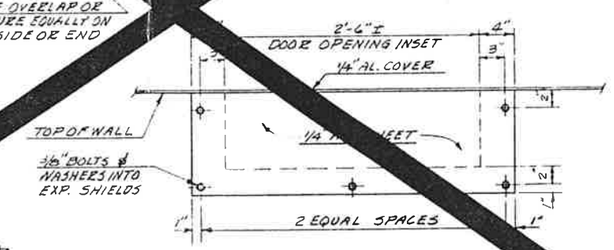
TITLE BLOCK - 3200(0.51)P - PLOTS 100 17-May-88 07:48 PM / 999-3

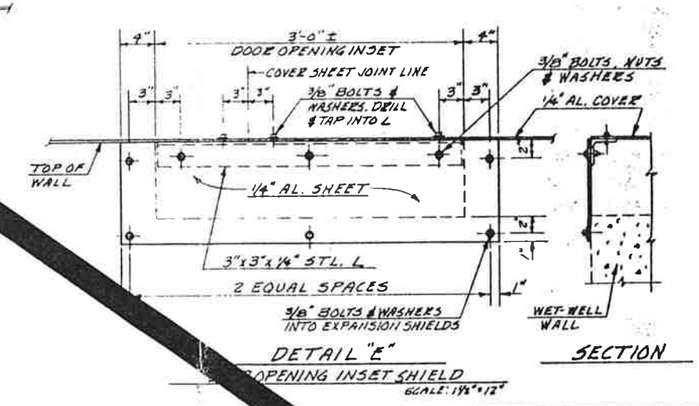












NOTE:
THIS SHEET NOT A
PART OF THIS CONTRACT.

WET-WELL COVER DETAILS

"AS-BUILT"
2-20-90

GENERAL NOTES:

1. CONTRACTOR IS TO FURNISH ALL MATERIALS AND LABOR FOR THE INSTALLATION AS SHOWN ON THESE PLANS.
2. ALL COVER SHEETS TO BE FROM 1/4"x4'x8' ALUMINUM.
3. ALL HINGES, BOLTS, NUTS, WASHERS AND EXPANSION SHIELDS ARE TO BE STAINLESS STEEL.
4. ALL STRUCTURAL STEEL MEMBERS ARE TO BE PAINTED AS PER THE SPECIFICATIONS BEFORE COVER SHEETS ARE INSTALLED.
5. CONTRACTOR IS TO VERIFY ALL FIELD CONDITIONS & DIMENSIONS BEFORE CONSTRUCTION.

Jerry R. Jones & Associates, Inc.
ENGINEERS, PLANNERS AND SURVEYORS
35 E. TOOLE AVE., TUCSON, AZ 85701
(602) 624-2391

DATE	REVISION	BY

CITY OF WILLCOX, ARIZONA
Wastewater Treatment Plant
Wet-Well Cover Details

FEB 22 1990

7 OF 7

DRWN. BY RAB 19 88
DSGN. BY RAB 19 88
CHKD. BY EJR 19 88
APPD. BY _____ 19__ CITY ENGINEER
APPD. BY _____ 19__
REF. _____ SCALE: AS SHOWN
PLAN NO. 88-037