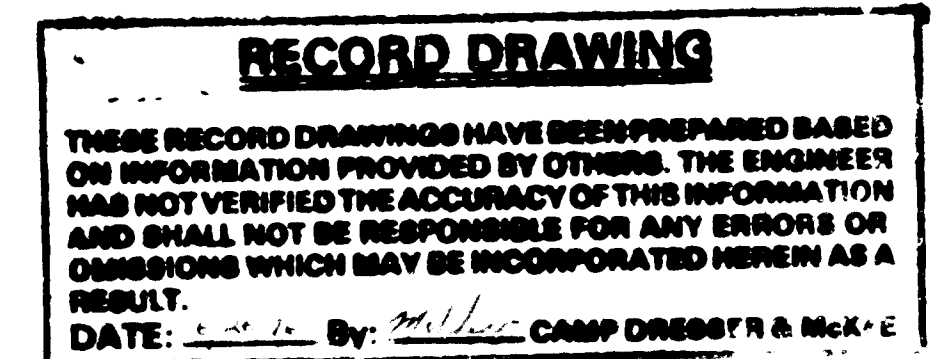
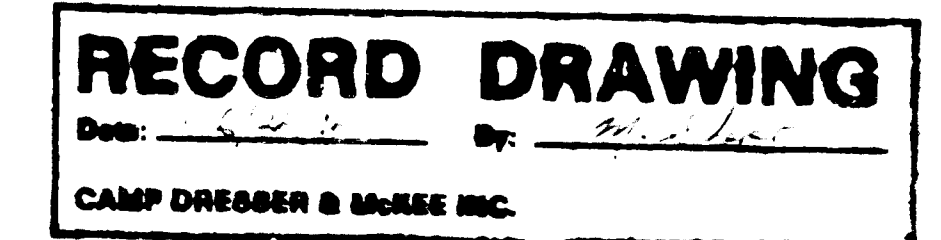
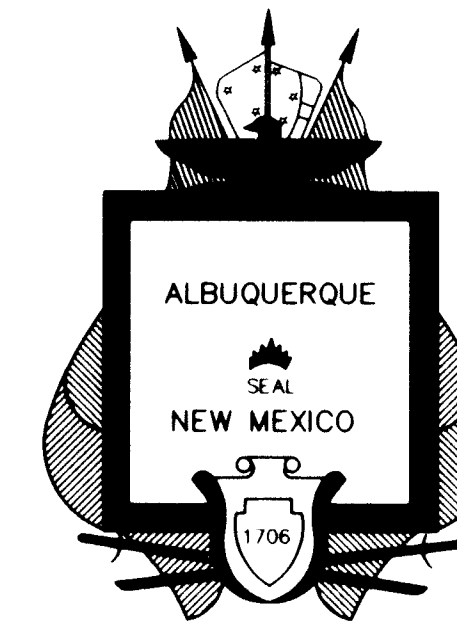


LIST OF DRAWINGS

SHEET NO.	DRAWING	DRAWING TITLE
1 OF 30	G-1	VICINITY MAP, SITE PLAN AND GENERAL NOTES
2 OF 30	G-2	GENERAL LAYOUT, LEGEND AND ABBREVIATIONS
3 OF 30	C-1	CIVIL PLANS, SECTION AND DETAILS
4 OF 30	M-1	MECHANICAL PLAN-NORTH
5 OF 30	M-2	MECHANICAL PLAN-CENTRAL
6 OF 30	M-3	MECHANICAL PLAN-SOUTH
7 OF 30	M-4	MECHANICAL SECTIONS
8 OF 30	M-5	MECHANICAL PLAN, SECTIONS AND DETAILS
9 OF 30	M-6	MECHANICAL PLANS, SECTIONS AND DETAILS
10 OF 30	M-7	MECHANICAL PLANS, SECTION AND DETAILS
11 OF 30	M-8	MECHANICAL DETAILS
12 OF 30	S-1	STRUCTURAL PLAN
13 OF 30	S-2	STRUCTURAL SECTIONS
14 OF 30	S-3	STRUCTURAL DETAILS
15 OF 30	S-4	STRUCTURAL DETAILS
16 OF 30	S-5	STRUCTURAL DETAILS
17 OF 30	E-1	ELECTRICAL LEGEND AND SYMBOLS
18 OF 30	E-2	ELECTRICAL ABBREVIATIONS AND LETTER SYMBOLS
19 OF 30	E-3	ELECTRICAL 480 VOLT POWER PLAN - NORTH
20 OF 30	E-4	ELECTRICAL 480 VOLT POWER PLAN - CENTRAL
21 OF 30	E-5	ELECTRICAL 480 VOLT POWER PLAN - SOUTH
22 OF 30	E-6	ELECTRICAL 120 VOLT POWER PLAN - NORTH
23 OF 30	E-7	ELECTRICAL 120 VOLT POWER PLAN - CENTRAL
24 OF 30	E-8	ELECTRICAL 120 VOLT POWER PLAN - SOUTH
25 OF 30	E-9	ELECTRICAL CONTROL WIRING PLAN -NORTH
26 OF 30	E-10	ELECTRICAL CONTROL WIRING PLAN - CENTRAL
27 OF 30	E-11	ELECTRICAL CONTROL WIRING PLAN - SOUTH
28 OF 30	I-1	INSTRUMENTATION AND CONTROL LEGEND AND SYMBOLS
29 OF 30	I-2	INSTRUMENTATION AND CONTROL ABBREVIATIONS AND LETTER SYMBOLS
30 OF 30	I-3	INSTRUMENTATION AND CONTROL PROCESS AND INSTRUMENTATION DIAGRAM AND RISER DIAGRAM



CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT

SOUTHSIDE WATER RECLAMATION PLANT  
ALBUQUERQUE, NEW MEXICO  
ACTIVATED SLUDGE EXPANSION PHASE III,  
CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT  
SYSTEM

PREPARED BY:

CAMP DRESSER & MCKEE  
2400 LOUISIANA BOULEVARD, N.E., SUITE 740  
AMERICAN FINANCIAL CENTER, BUILDING FIVE  
ALBUQUERQUE, NEW MEXICO 87110  
505 881-3077

ACCEPTED FOR CONSTRUCTION

DATE

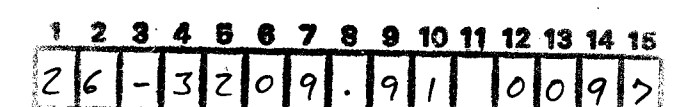
*Gene Leyendecker*  
GENE LEYENDECKER  
MANAGER, WASTEWATER UTILITIES DIVISION  
PUBLIC WORKS DEPARTMENT

12/13/93



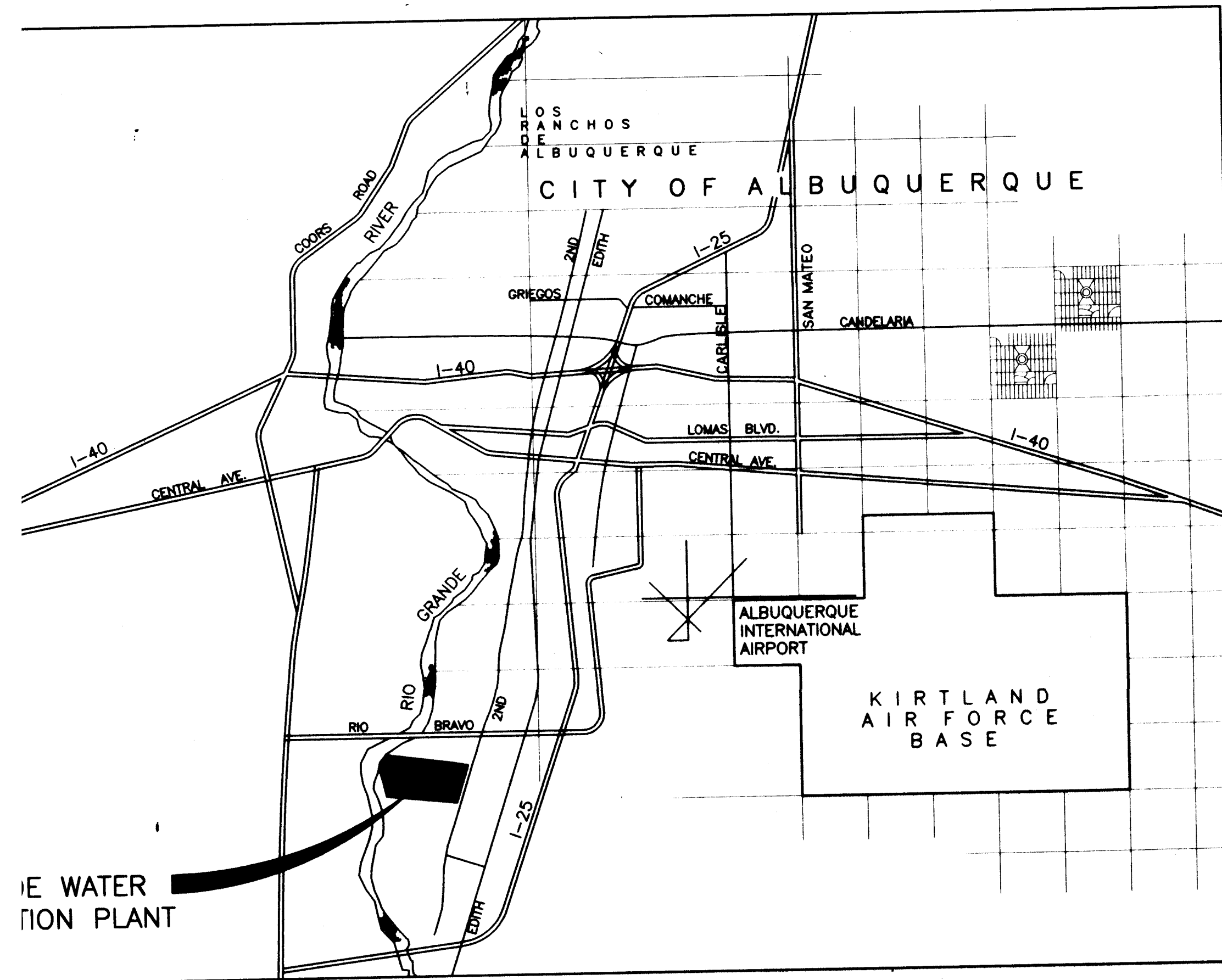
CDM

environmental engineers, scientists  
planners, & management consultants



SET No. \_\_\_\_\_

CITY PROJECT NO. 3209.91



## VICINITY MAP

NO SCALE

### CONSTRUCTION NOTES:

THIS CONTRACT IS REQUIRED TO FOLLOW THE CONSTRUCTION SEQUENCE STATED IN THE CONTRACT SPECIFICATIONS, FOR ALL TASKS AND ACTIVITIES LISTED IN THE SEQUENCE. REFER TO SECTION 01041 OF THE SPECIFICATIONS.

ALL WORK SHALL BE COORDINATED PRIOR TO COMMENCEMENT, INCLUDING BUT NOT NECESSARILY LIMITED TO THE ACTIVITIES LISTED IN THE CONTRACT SPECIFICATIONS OR NOTED ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR PROJECT COORDINATION ARE STATED IN THE SPECIFICATIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DEPTH, AND TYPE OF ALL EXISTING UTILITIES, ABOVE OR BELOW GROUND, AND ANY UNDERGROUND STRUCTURES OR LINES SHOWN ON THESE DRAWINGS ARE NOT WARRANTED TO BE EXACT. NOR IS IT WARRANTED THAT THE DEPTHS AND UNDERGROUND STRUCTURES ARE SHOWN. ELEVATIONS OF UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY. WHERE POTENTIAL CONFLICT IS KNOWN OR ANTICIPATED OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL INFORMATION AND CONDITIONS IN THE FIELD, BY WHATEVER MEANS NECESSARY, AS REQUIRED FOR CONSTRUCTION OF THE WORK.

ALL WORK SHALL BE PERFORMED UNDER THIS CONTRACT SHALL, EXCEPT AS OTHERWISE SPECIFIED, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 AND UPDATES (REFERRED TO HEREIN AS THE STANDARD SPECIFICATIONS) AND THE CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE BY CONTRACTOR AND SUBCONTRACTOR PERSONNEL WITH ALL STATE, FEDERAL, AND LOCAL REGULATIONS AND STANDARDS REGARDING SAFETY, HEALTH, AND ENVIRONMENTAL PROTECTION, AND TRENCH SAFETY REQUIREMENTS.

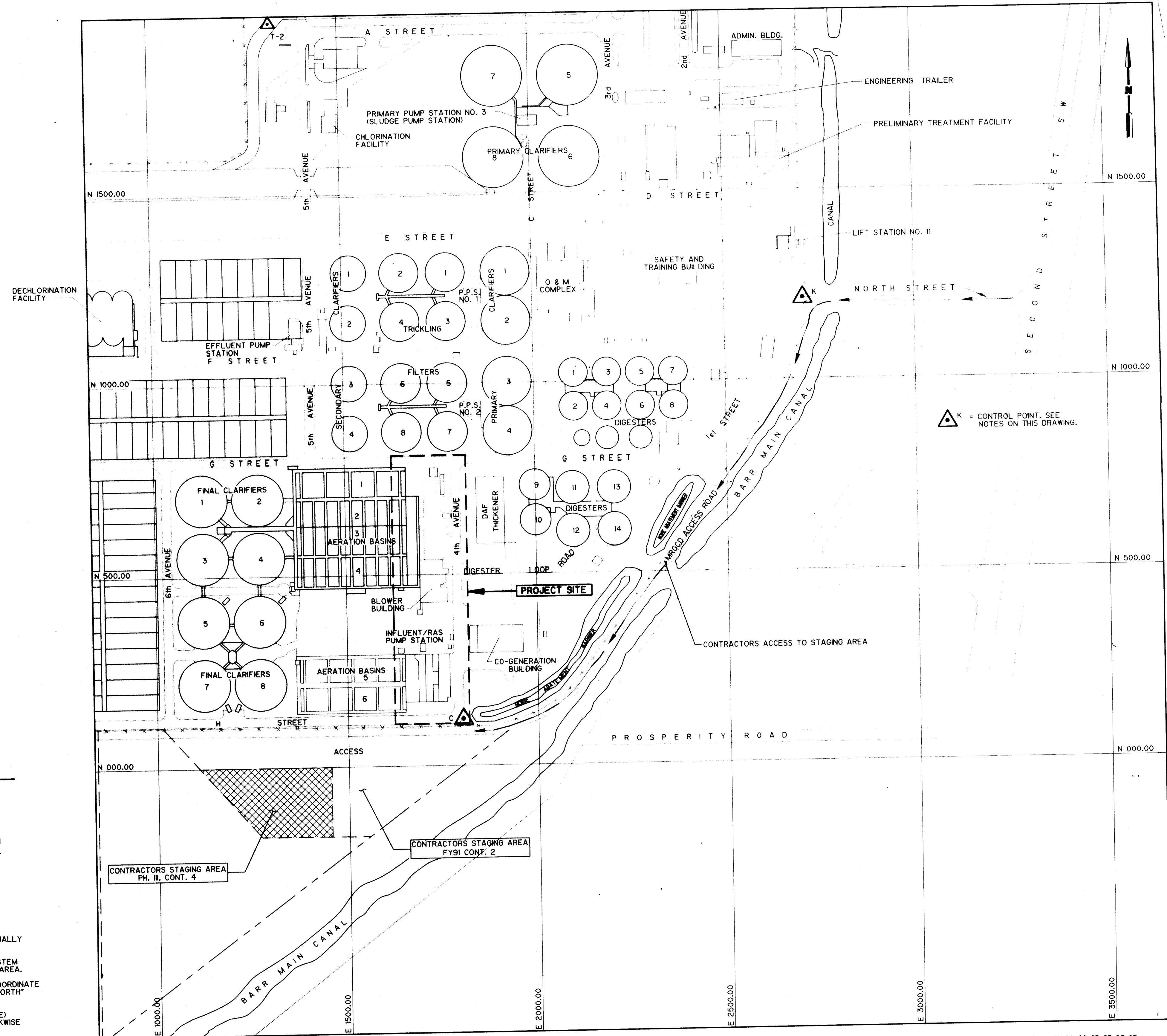
THE CONTRACTOR SHALL MAINTAIN ACCESS FOR OWNER'S PLANT PERSONNEL TO ALL OPERATING AND/OR STANDBY UTILITIES THROUGHOUT THE CONSTRUCTION PERIOD. WHERE THE WORK REQUIRES TEMPORARY OR PERMANENT CLOSURE OR RELOCATION OF EXISTING ACCESS FEATURES, THE CONTRACTOR SHALL PROVIDE ACCESS, ACCEPTABLE TO OWNER, AND IN ACCORDANCE WITH CODES, REGULATIONS, AND STANDARDS, UNTIL NEW PERMANENT ACCESS IS CONSTRUCTED OR EXISTING ACCESS IS REINSTATE. REFER TO THE CONTRACT SPECIFICATIONS FOR COORDINATION AND SCHEDULING REQUIREMENTS FOR STREET OUTAGE AND CLOSURE.

### CONTROL POINT NOTES:

1. COORDINATES OF FACILITIES FROM DECEMBER, 1987 SURVEY BY ALBUQUERQUE SURVEYING CO., INC. AND FEBRUARY, 1989 SURVEY BY SANTIAGO ROMERO, JR. AND ASSOCIATES, INC. MASTER CONTROL POINTS ESTABLISHED BY WILLIAM MATOTAN AND ASSOCIATES RESURVEY IN OCTOBER, 1986.

CONTROL POINT	COORDINATES NORTH	COORDINATES EAST	ELEVATION
C	117.82	1796.87	4927.11
K	1223.63	2709.04	4936.80
T2	1965.00	1325.00	4924.29

- ELEVATIONS ARE BASED ON SEA LEVEL DATUM. ELEVATIONS GIVEN AS TWO DIGITS PRIOR TO DECIMAL INFER HEIGHT ABOVE DATUM 4900; I.E. EL 24.53 ACTUALLY EL 4924.53.
- PLANT COORDINATE SYSTEM IS ARBITRARY LOCAL SYSTEM TO FACILITATE STRUCTURE LOCATIONS WITHIN PLANT AREA.
- TO CONVERT "PLANT GRID NORTH" TO NEW MEXICO COORDINATE GRID NORTH, CENTRAL ZONE, ROTATE "PLANT GRID NORTH" COUNTER-CLOCKWISE 0°16'09".
- TO CONVERT "PLANT GRID NORTH" TO GEODETIC (TRUE) NORTH, ROTATE "PLANT GRID NORTH" COUNTER-CLOCKWISE 0°01'50".
- ALL CONTROL POINTS AND SURVEY MONUMENTS SHALL BE PRESERVED. IF CONTRACTOR(S) OPERATIONS RESULT IN DISTURBANCE OF ANY SUCH POINT, THE REESTABLISHMENT OF POINT WILL BE AT CONTRACTOR(S) EXPENSE PER SECTION 4.4.1 OF THE GENERAL CONDITIONS.
- TO CONVERT HORIZONTAL GROUND DISTANCES TO N.M. COORDINATE GRID DISTANCES, MULTIPLY HORIZONTAL GROUND DISTANCES BY FACTOR 0.999682.

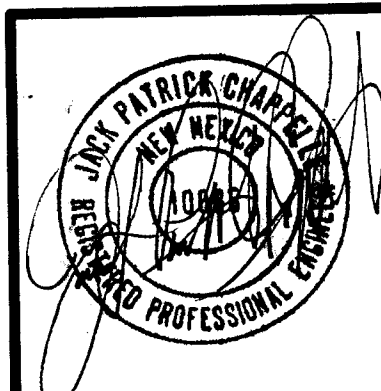


## SITE PLAN

1" = 150'

**RECORD DRAWING**  
 Date: 6/26/96 By: [Signature]  
 CAMP DRESSER & MCKEE INC.

**RECORD DRAWING**  
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
 DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE



REVISION	NO.	DATE	APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
 ACTIVATED SLUDGE EXPANSION  
 PHASE III, CONTRACT 4  
 MODIFICATIONS TO ACTIVATED SLUDGE  
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
 NEW MEXICO  
 PUBLIC WORKS  
 DEPARTMENT



Designed By: MLD  
 Drawn By: EAC  
 Checked By: MJS  
 Approved By: JPC

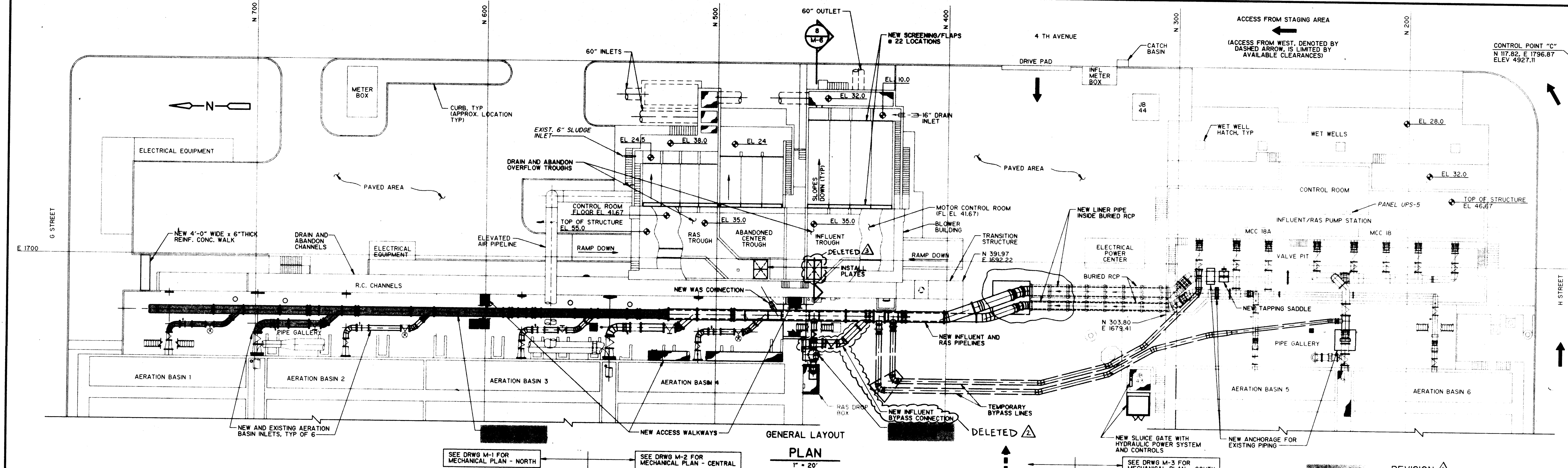
Date: DEC. 1993  
 Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
 ALBUQUERQUE, NEW MEXICO  
 environmental engineers, scientists  
 planners, & management consultants

VICINITY MAP, SITE PLAN  
 AND GENERAL NOTES

DRAWING  
 G-1  
 SHEET NUMBER  
 1 OF 30





LEGEND

GENERAL		VALVES		PIPE JOINTS AND FITTINGS		
DESCRIPTION	SYMBOL	TYPE	SYMBOL	TYPE	DOUBLE LINE	SINGLE LINE
PIPING		GATE VALVE		WELDED JOINT		
PIPING		BUTTERFLY VALVE		GROOVED OR SHOULDERED TYPE COUPLING		
MEASUREMENT (DISTANCE OR ELEVATION) TO BE FIELD VERIFIED BY CONTACTOR		PLUG VALVE		FLANGED JOINT		
TO BE REMOVED		SWING CHECK VALVE		MECHANICAL JOINT		
CONCRETE		BALL VALVE		BELL AND SPIGOT JOINT		
GRATING		SOLENOID VALVE		SLEEVE-TYPE COUPLING		
METAL PLATE				MITRED BEND		
HANDWHEEL OPERATOR				ANCHOR RING		
VERTICAL ELEVATION ON PLAN				REDUCER		
EARTH						

SECTION IDENTIFICATION NUMBER

SYMBOL WHERE SECTION IS TAKEN

SHEET NUMBER WHERE SECTION IS DRAWN

SECTION 1

SUBTITLE FOR SECTION OR DETAIL DRAWING

SCALE

SHEET NUMBER WHERE SECTION IS TAKEN

NORTH ARROW

FUNCTION DESIGNATION OF DETAIL

DETAIL NUMBER ON PARTICULAR SHEET

STANDARD DETAIL SHEET WHERE DETAIL MAY BE FOUND 1 FOR 1st DETAIL SHEET 2 FOR 2nd, etc.

NOTE: EACH FUNCTION DESIGNATION IN THIS PLAN SET HAS STANDARD DETAIL SHEETS, I.E., C, M, etc., WHICH ARE LOCATED AT THE END OF THE PARTICULAR FUNCTION DRAWING GROUP.

STANDARD DETAIL DESIGNATION

NEW EXISTING

DISTINGUISHING CHARACTERISTICS OF LINE TYPES USED ON DRAWINGS

ABBREVIATIONS

Apply to Drawings Only  
(G, C, M and S Sheets only)

AB	AERATION BASIN	FTG	FOOTING	PE	PLAIN END
ALUM	ALUMINUM	GRTG	GRATING	PV	PLUG VALVE
APPROX	APPROXIMATE	GALV STL	GALVANIZED STEEL	PW	POTABLE WATER
AS	ACTIVATED SLUDGE	GSP	GALVANIZED STEEL PIPE	Q	FLOW
BLDG	BUILDING	HORIZ	HORIZONTAL	R	RADIUS
BOT	BOTTOM	H P	HIGH POINT	RAS	RETURN ACTIVATED SLUDGE
BTWN	BETWEEN	INFL	INFLUENT	RC	REINFORCED CONCRETE
BFV	BUTTERFLY VALVE	INSUL	INSULATE, INSULATION	RCP	REINFORCED CONCRETE PIPE
C TO C, C-C	CENTER TO CENTER	INV	INVERT	REINF	REINFORCE
CI	CAST IRON	JB	JUNCTION BOX	REQD	REQUIRED
C	CENTER LINE	JT	JOINT	SCH	SCHEDULE
CML	CEMENT-MORTAR LINED	LG	LONG	RM	ROOM
CMP	CORRUGATED METAL PIPE	LOC	LOCATION	SECT	SECTION
CO	CLEAN OUT	LF	LINEAL FEET	SPEC	SPECIFIED
CONC	CONCRETE	MAX	MAXIMUM	SPECS	SPECIFICATIONS
CTR	CENTER	MCC	MOTOR CONTROL CENTER	SQ	SQUARE
CW	CHAINWHEEL	MFR	MANUFACTURER	SS	STAINLESS STEEL
DAF	DISSOLVED AIR FLOTATION	MH	MANHOLE	STD	STANDARD
DI	DUCTILE IRON	MIN	MINIMUM	STL	STEEL
DIA	DIAMETER	MISC	MISCELLANEOUS	SUPP	SUPPORT
DN	DOWN	MJ	MECHANICAL JOINT	SYMM	SYMMETRICAL
DR	DRAIN	MTL	METAL	TEMP	TEMPORARY
DRWG	DRAWING	N-S	NORTH-SOUTH DIRECTION	TOW	TOP OF WALL
E-W	EAST-WEST DIRECTION	NO	NUMBER	TYP	TYPICAL
EA	EACH	NOM	NOMINAL	UON	UNLESS OTHERWISE NOTED
ECC	ECCENTRIC	NTS	NOT TO SCALE	V	VERTICAL
ELEV, EL	ELEVATION	OC	ON CENTER	WAS	WASTE ACTIVATED SLUDGE
EXIST	EXISTING	OD	OUTSIDE DIAMETER	WW	WASH WATER
FDN	FOUNDATION	OPNG	OPENING		
FIN	FINISH/FINAL	PSP	POUNDS PER SQUARE FOOT		
FIN GR	FINISHED GRADE	PSI	POUNDS PER SQUARE INCH		
FL	FLANGED				
FRP	FIBER REINFORCED PLASTIC				
FT	FEET				

6/16/94	MJS	CHANGE REQUEST NO. 1			
6/16/94	MJS	CORRECTED COORDINATES			
SEP 94	MJS	CHANGE REQUEST NO. 2			
OCT 95	MJS	AS-BUILT CONDITION			
NO.	DATE	APP.	REVISION	NO.	DATE

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE II, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: MLD  
Drawn By: STAFF  
Checked By: MJS  
Approved By: JPC

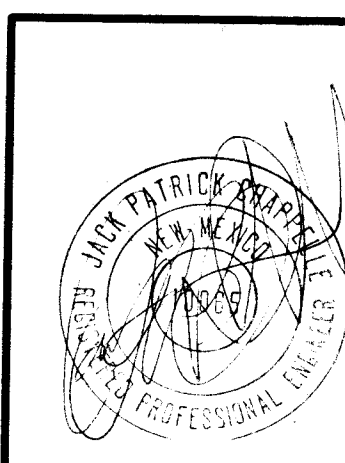
Date: DEC. 1993  
Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

**RECORD DRAWING**  
Date: 6/26/96 By: [Signature]  
CAMP DRESSER & MCKEE INC.

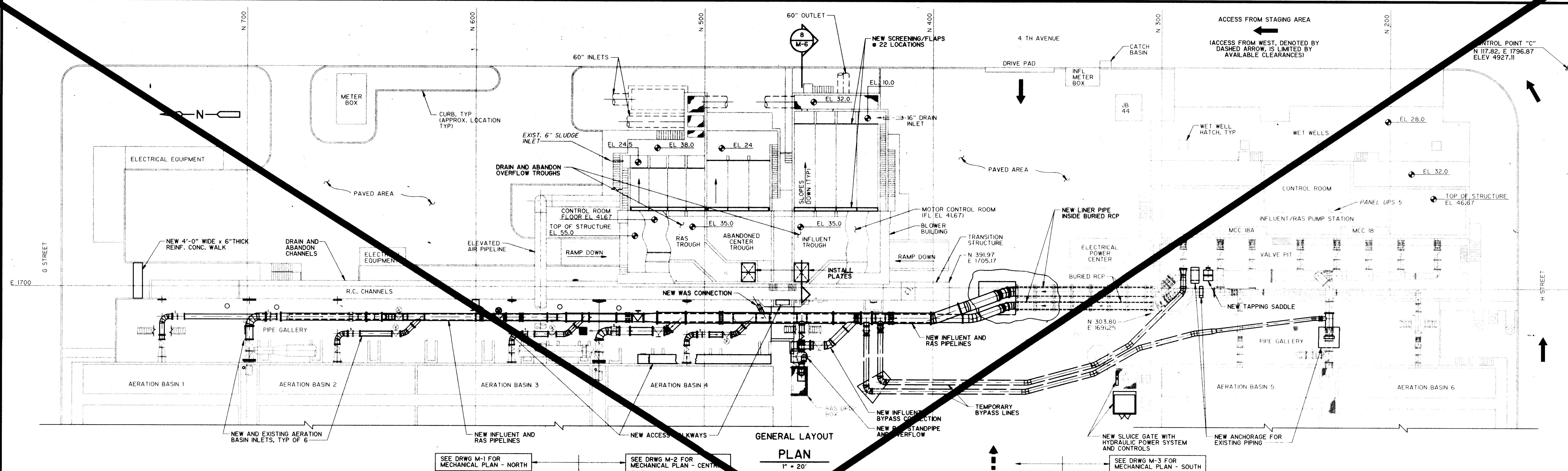
GENERAL LAYOUT,  
LEGEND AND  
ABBREVIATIONS  
REVISED

**RECORD DRAWING**  
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
By: [Signature] CAMP DRESSER & MCKEE



DRAWING  
**G-2-R**  
SHEET NUMBER  
2 OF 30





LEGEND

GENERAL		VALVES		PIPE JOINTS AND FITTINGS	
DESCRIPTION	SYMBOL	TYPE	SYMBOL	TYPE	SYMBOL
PIPING		GATE VALVE		WELDED JOINT	
PIPING		BUTTERFLY VALVE		GROOVED OR SHOULDERED TYPE COUPLING	
MEASUREMENT (DISTANCE OR ELEVATION) TO BE FIELD VERIFIED BY CONTRACTOR		PLUG VALVE		FLANGED JOINT	
TO BE REMOVED		SWING CHECK VALVE		MECHANICAL JOINT	
		BALL VALVE		BELL AND SPIGOT JOINT	
CONCRETE		SOLENOID VALVE		SLEEVE-TYPE COUPLING	
GRATING				MITRED BEND	
METAL PLATE				ANCHOR RING	
HANDWHEEL OPERATOR				REDUCER	
VERTICAL ELEVATION ON PLAN					
EARTH					

SECTION IDENTIFICATION NUMBER

SYMBOL WHERE SECTION IS TAKEN

SECTION 1

SCALE

SHEET NUMBER WHERE SECTION IS TAKEN

NORTH ARROW

FUNCTION DESIGNATION OF DETAIL

DETAIL NUMBER ON PARTICULAR SHEET

STANDARD DETAIL DESIGNATION

STANDARD DETAIL SHEET WHERE DETAIL MAY BE FOUND 1 FOR 1st DETAIL SHEET 2 FOR 2nd, etc.

NOTE: EACH FUNCTION DESIGNATION IN THIS PLAN SET HAS STANDARD DETAIL SHEETS, i.e., C, M, etc., WHICH ARE LOCATED AT THE END OF THE PARTICULAR FUNCTION DRAWING GROUP.

NEW EXISTING

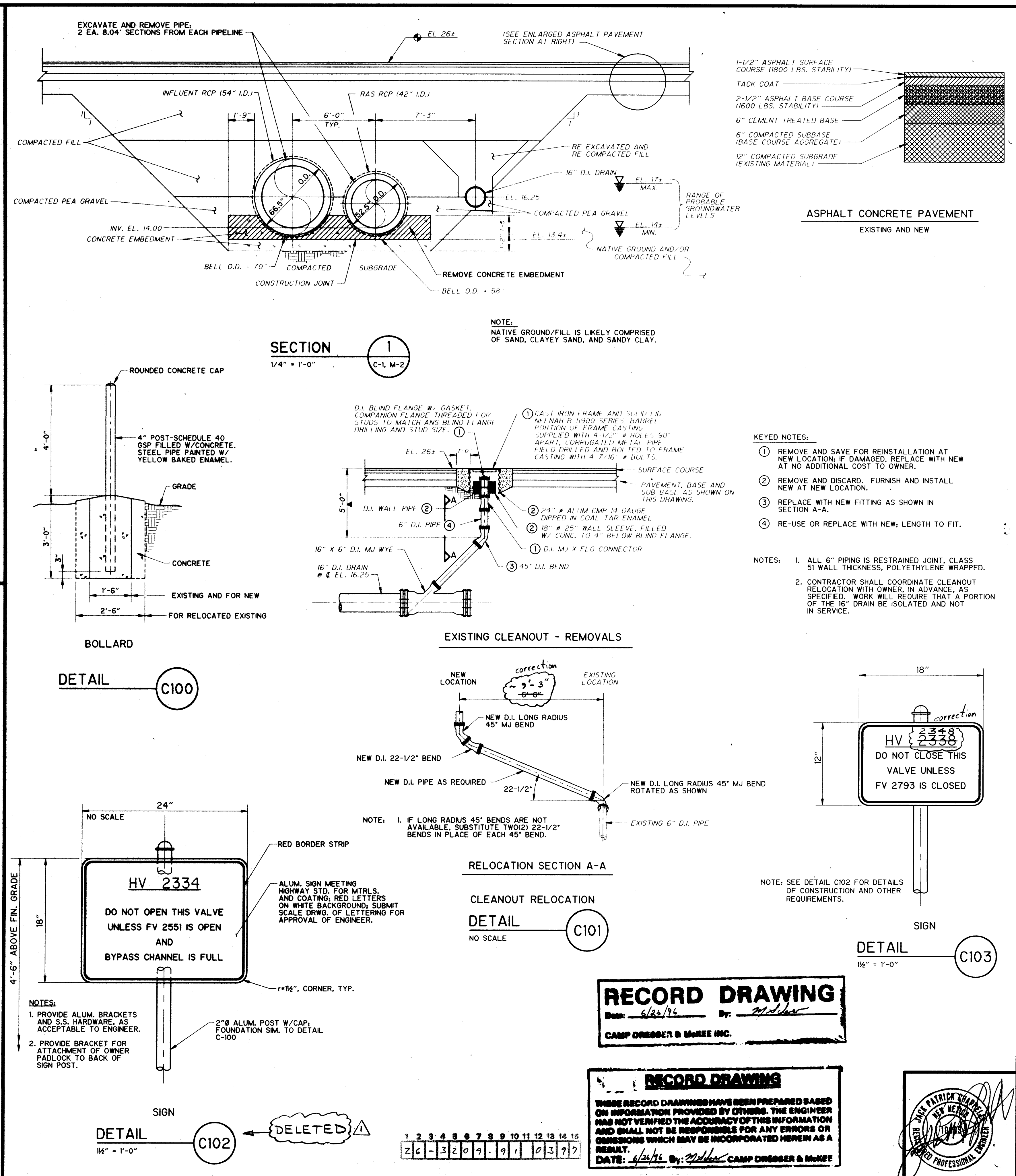
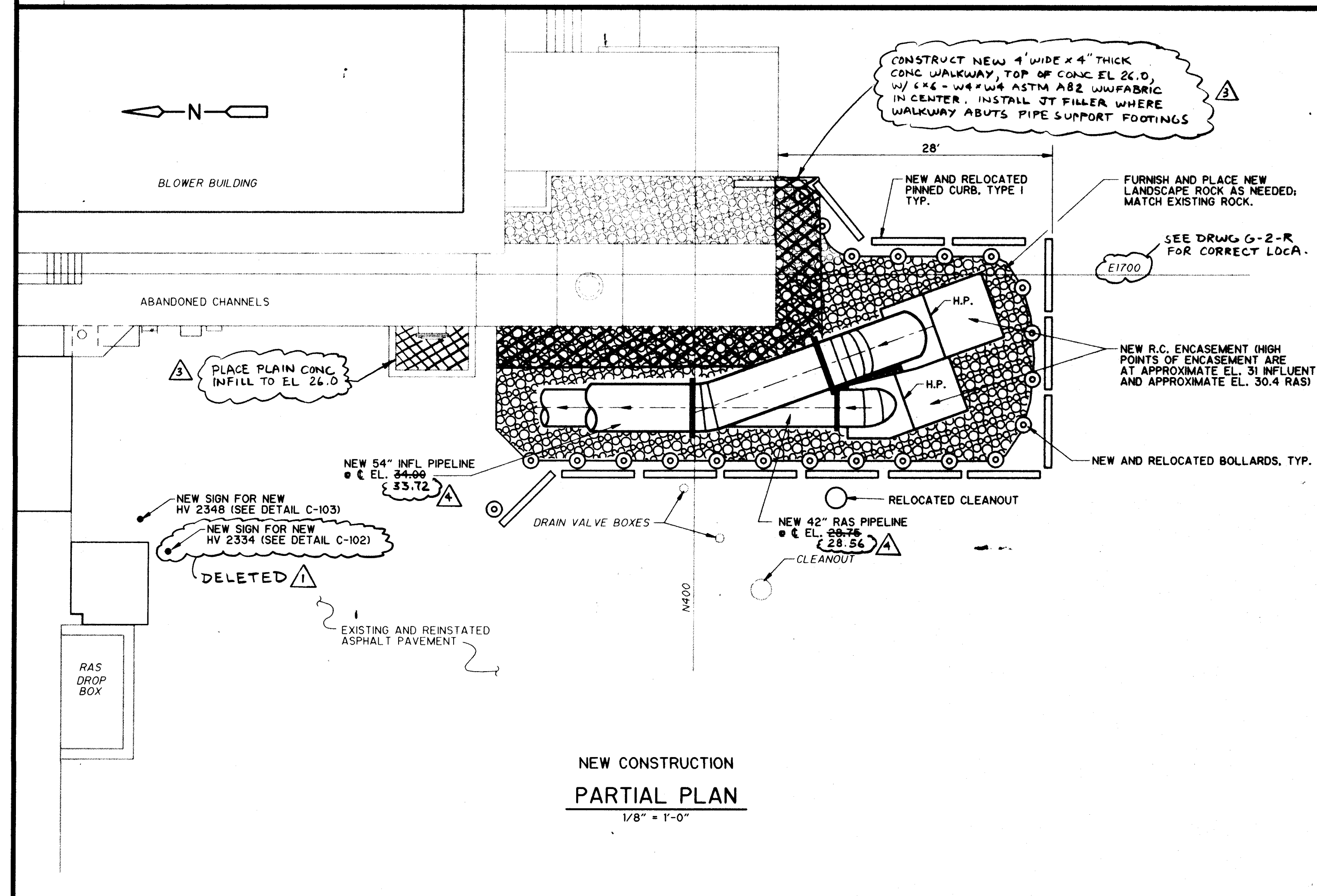
DISTINGUISHING CHARACTERISTICS OF LINE TYPES USED ON DRAWINGS





ABBREVIATIONS

Apply to Drawings Only (G, C, M and S Sheets only)

AB	AERATION BASIN	FTG	FOOTING	PE	PLAIN END
ALUM	ALUMINUM	GRTG	GRATING	PV	PLUG VALVE
APPROX	APPROXIMATE	GALV STL	GALVANIZED STEEL	PW	POTABLE WATER
AS	ACTIVATED SLUDGE	GSP	GALVANIZED STEEL PIPE	Q	FLOW
BLDG	BUILDING	HORIZ	HORIZONTAL	R	RADIUS
BOT	BOTTOM	H P	HIGH POINT	RAS	RETURN ACTIVATED SLUDGE
BTWN	BETWEEN	INFL	INFLUENT	RC	REINFORCED CONCRETE
BFV	BUTTERFLY VALVE	INSUL	INSULATE, INSULATION	RCP	REINFORCED CONCRETE PIPE
C TO C, C-C	CENTER TO CENTER	INV	INVERT	REINF	REINFORCE
CI	CAST IRON	JB	JUNCTION BOX	REQD	REQUIRED
CL	CENTER LINE	JT	JOINT	SCH	SCHEDULE
CML	CEMENT-MORTAR LINED	LG	LONG	RM	ROOM
CMP	CORRUGATED METAL PIPE	LOC	LOCATION	SECT	SECTION
CO	CLEAN OUT	LF	LINEAL FEET	SPEC	SPECIFIED
CONC	CONCRETE	MAX	MAXIMUM	SPECS	SPECIFICATIONS
CTR	CENTER	MCC	MOTOR CONTROL CENTER	SQ	SQUARE
CW	CHAINWHEEL	MFR	MANUFACTURER	SS	STAINLESS STEEL
DAF	DISSOLVED AIR FLOTATION	MH	MANHOLE	STD	STANDARD
DI	DUCTILE IRON	MIN	MINIMUM	STL	STEEL
DIA	DIAMETER	MISC	MISCELLANEOUS	SUPP	SUPPORT
DN	DOWN	MJ	MECHANICAL JOINT	SYMM	SYMMETRICAL
DR	DRAIN	MTL	METAL	TEMP	TEMPORARY
DRWG	DRAWING	N-S	NORTH-SOUTH DIRECTION	TOW	TOP OF WALL
E-W	EAST-WEST DIRECTION	NO	NUMBER	TYP	TYPICAL
EA	EACH	NOM	NOMINAL	UON	UNLESS OTHERWISE NOTED
ECC	ECCENTRIC	NTS	NOT TO SCALE	VERT	VERTICAL
ELEV, EL	ELEVATION	OC	ON CENTER	WAS	WASTE ACTIVATED SLUDGE
EXIST	EXISTING	OD	OUTSIDE DIAMETER	WW	WASH WATER
FDN	FOUNDATION	OPNG	OPENING		
FIN	FINISH/FINAL	PSF	POUNDS PER SQUARE FOOT		
FIN GR	FINISHED GRADE	PSI	POUNDS PER SQUARE INCH		
FL	FLANGED				
FRP	FIBER REINFORCED PLASTIC				
FT	FEET				





	SEP 94	MJS	CHANGE REQUEST NO. 2				
	MAR 94	MJS	ADDENDUM NO. 1				
	SEP 95	MJS	CHANGE REQUEST NO. 13				
	OCT 95	MJS	AS-BUILT CONDITION				
NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION

**SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM**

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO

PUBLIC WORKS  
DEPARTMENT



Designed By: MLD  
 Drawn By: STAFF  
 Checked By: MJS  
 Approved By: JPC

Date: DEC. 1993

Scale: AS NOTED

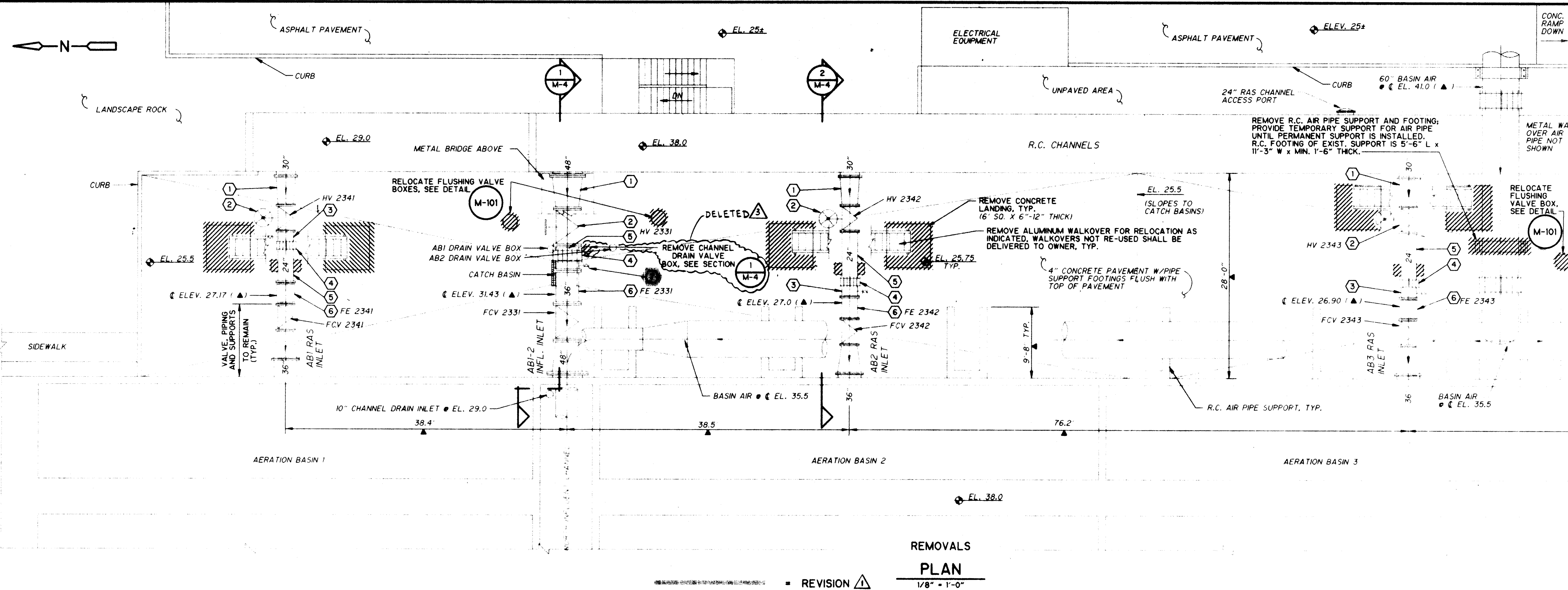
**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO

environmental engineers, scientists  
planners, & management consultants

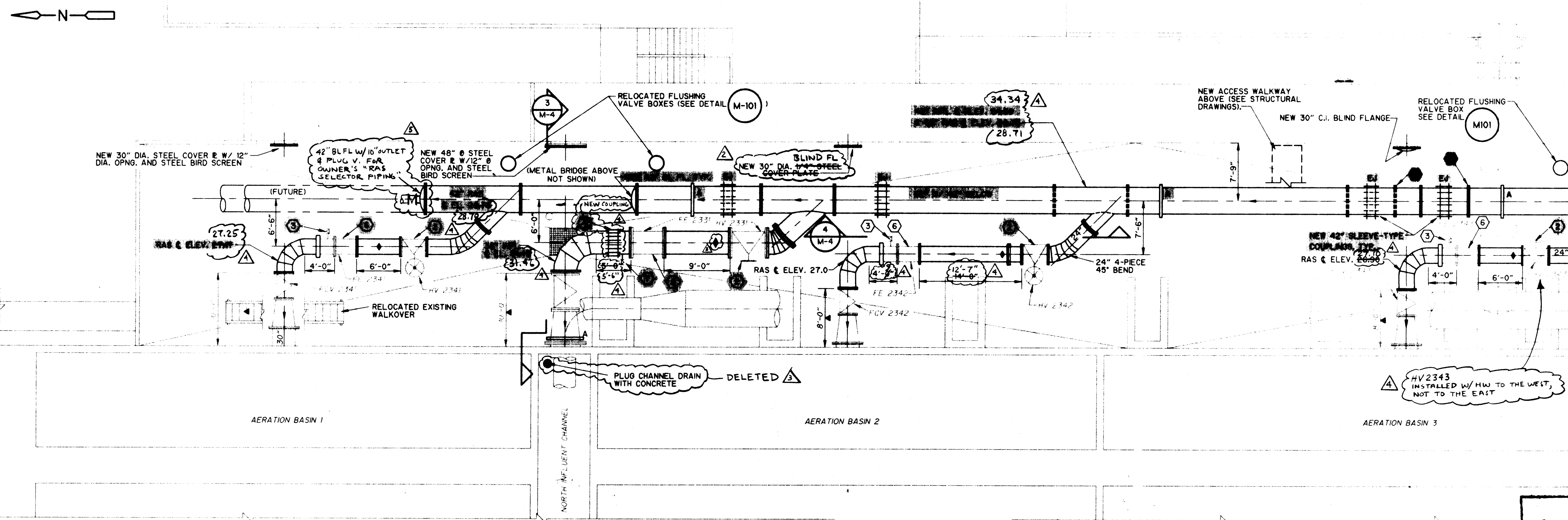
CIVIL PLANS, SECTION  
AND DETAILS

DRAWING  
C-1  
SHEET NUMBER  
6 OF 30





- KEYED NOTES:**
- 1 REMOVE C.M.L. STEEL FL X FL REDUCER; DELIVER TO OWNER.
  - 2 REMOVE VALVE FOR RELOCATION; ALSO REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
  - 3 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF, FOR MODIFICATION AND RELOCATION.
  - 4 REMOVE SLEEVE-TYPE COUPLING, FOR RELOCATION AS SHOWN ON DRAWINGS. COUPLINGS NOT RE-USED SHALL BE DELIVERED TO OWNER.
  - 5 REMOVE C.M.L. STEEL FL X PE SPOOL, FOR RELOCATION OR DELIVERY TO OWNER; ALSO, FOR RAS LINES ONLY, REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
  - 6 REMOVE MAGNETIC FLOW METER AND GROUNDING RINGS & STRAPS, FOR RELOCATION. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL REMOVALS AND RELOCATIONS.
  - 7 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF; DISATTACH 4\"/>
- GENERAL NOTES:**
1. ELECTRICAL CONDUITS AND BOXES NOT SHOWN. CONTRACTOR IS ADVISED THAT A NUMBER OF CONDUITS ARE ROUTED ALONG METAL BRIDGES ABOVE AB INFLUENT INLETS.
  2. NOT ALL PIPE SUPPORTS ARE SHOWN. REFER TO SECTIONS AND DETAILS.
  3. ALL DAMAGED PAVEMENT SHALL BE REPLACED WITH NEW. REINFORCE WITH 6 X 6-W4xW4 ASTM A82 WELDED WIRE FABRIC, IN CENTER.
  4. BASIN AIR LINES WILL REMAIN IN SERVICE AT ALL TIMES.
  5. GUARDRAIL NOT SHOWN.
  6. BURIED PIPING NOT SHOWN. SEE SECTIONS.
  7. SEE STRUCTURAL DRAWINGS FOR LOCATIONS OF NEW PIPE SUPPORTS; PAVEMENT REMOVAL AND EXCAVATION WILL BE REQUIRED AT THOSE LOCATIONS. REINSTATE PAVEMENT AS REQUIRED, INCLUDING NEW WELDED WIRE FABRIC.
- LEGEND:**
- HV = HAND VALVE; THIS IS A MANUALLY OPERATED PLUG VALVE; HANDWHEEL POSITION AS SHOWN.
- FCV = FLOW CONTROL VALVE; THIS IS A MOTOR-OPERATED PLUG VALVE.
- FE = FLOW ELEMENT; THIS IS A MAGNETIC FLOW METER.
- REFER TO SPECIFICATIONS FOR DESCRIPTION OF EXISTING AND NEW ITEMS DESCRIBED IN THIS LEGEND.



- KEYED NOTES:**
- 2 RELOCATED EXISTING HAND VALVE; HANDWHEEL POSITION AS SHOWN; SEATING END IS DOWNSTREAM.
  - 3 MODIFIED AND RELOCATED EXISTING FL X PE SPOOL WITH TANGENT BLOWOFF. SEE DETAIL M-102 FOR MODIFICATION WORK.
  - 4 RELOCATED EXISTING SLEEVE-TYPE COUPLING. SEE DETAIL M-103.
  - 5 RELOCATED EXISTING FL X PE SPOOL.
  - 6 RELOCATED EXISTING MAGNETIC FLOW METER.
- GENERAL NOTES:**
- PIPE SUPPORTS NOT SHOWN. REFER TO STRUCTURAL DRAWINGS.
- GUARDRAIL NOT SHOWN.
- LEGEND:**
- SEE REMOVALS PLAN.
- ADDITIONAL LEGEND:**
- EU = SLEEVE-TYPE COUPLING EMPLOYED AS EXPANSION JOINT; REFER TO DETAIL M-103 FOR DETAILS.
- A = ANCHOR RING OR RINGS; FIELD WELDED AT SOME LOCATIONS (REFER TO SECTIONS AND STRUCTURAL DETAILS).
- ◆ = NEW 2\"/>

NEW CONSTRUCTION  
PLAN  
1/8" = 1'-0"

**RECORD DRAWING**

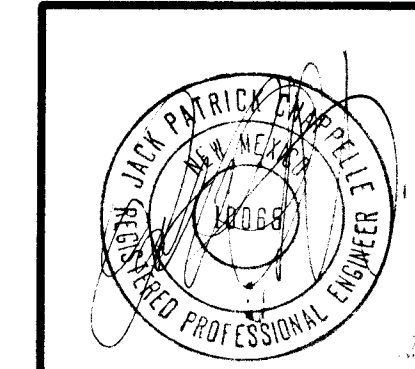
Date: 6/26/96 By: M. J. S.






CAMP DRESSER & MCKEE INC.

**RECORD DRAWING**

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

DATE: 6/26/96 By: M. J. S. CAMP DRESSER & MCKEE



	6/16/94	MJS	CHANGE REQUEST NO. 1		SEP 95	MJS	CHANGE REQUEST NO. 5
	DEC 94	MJS	CHANGE REQUEST NO. 7				
	SEP 95	MJS	CHANGE REQUEST NO.13				
	OCT 95	MJS	AS-BUILT CONDITION				
NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: MLD  
Drawn By: STAFF  
Checked By: MJS  
Approved By: [Signature]

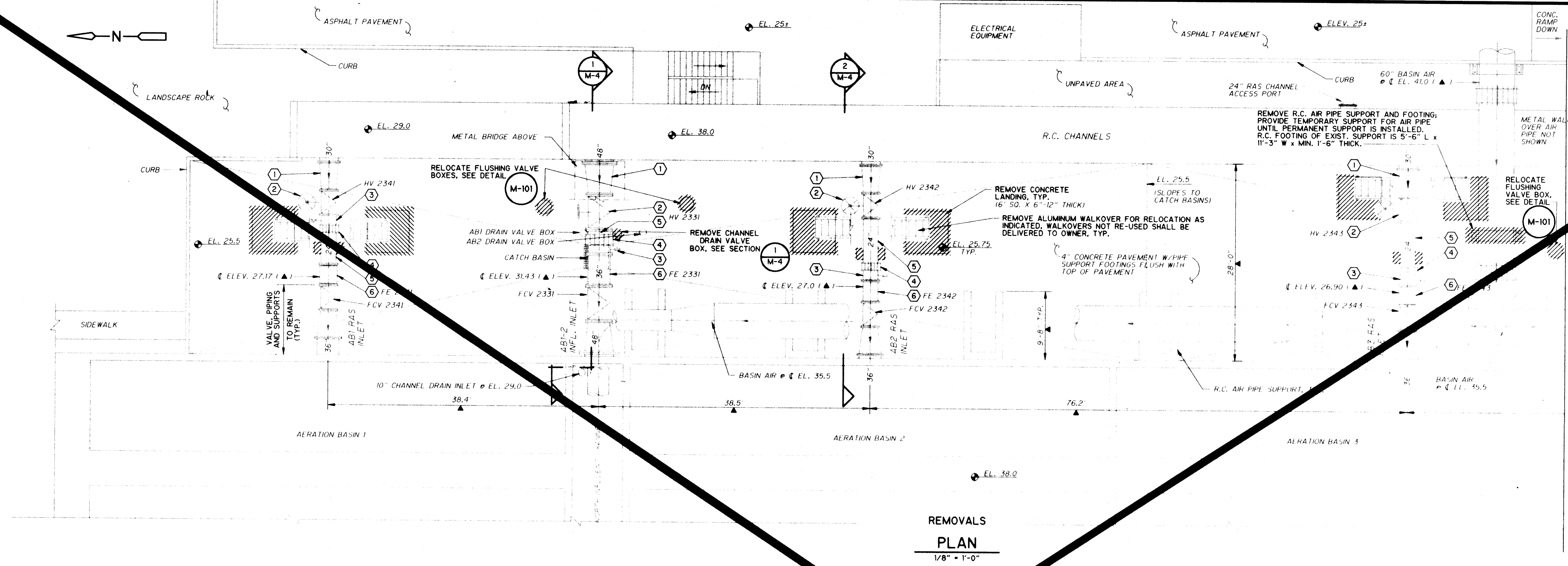
Date: DEC. 1993  
Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

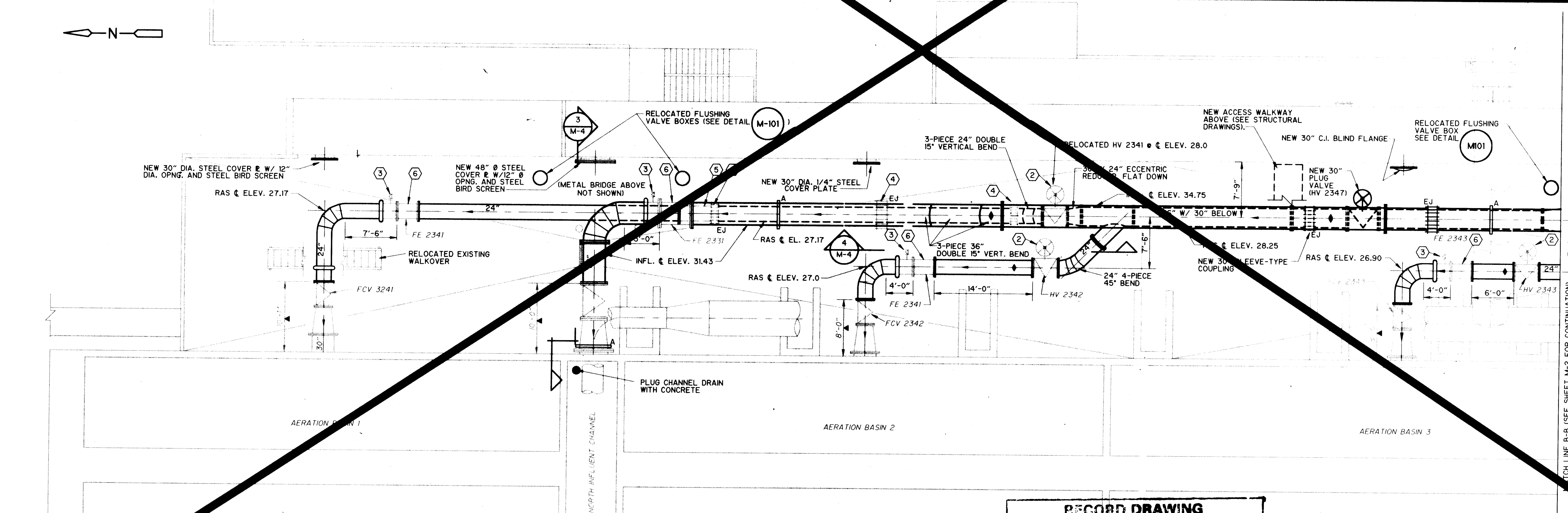
**MECHANICAL PLAN  
-NORTH  
REVISED**

DRAWING  
M-1-R  
SHEET NUMBER  
4 OF 30





- KEYED NOTES:**
- 1 REMOVE C.M.L. STEEL FL X FL JOINDER; DELIVER TO OWNER.
  - 2 REMOVE VALVE FOR RELOCATION; ALSO REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
  - 3 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF, FOR MODIFICATION AND RELOCATION.
  - 4 REMOVE SLEEVE-TYPE COUPLING, FOR RELOCATION AS SHOWN ON DRAWINGS. COUPLINGS NOT RE-USED SHALL BE DELIVERED TO OWNER.
  - 5 REMOVE C.M.L. STEEL FL X PE SPOOL, FOR RELOCATION OR DELIVERY TO OWNER; ALSO, FOR RAS LINES ONLY, REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
  - 6 REMOVE MAGNETIC FLOW METER AND GROUNDING RINGS & STRAPS, FOR RELOCATION. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL REMOVALS AND RELOCATIONS.
- GENERAL NOTES:**
1. ELECTRICAL CONDUITS AND BOXES NOT SHOWN. CONTRACTOR IS ADVISED THAT A NUMBER OF CONDUITS ARE ROUTED ALONG METAL BRIDGES ABOVE AB INFLUENT INLETS.
  2. NOT ALL PIPE SUPPORTS ARE SHOWN. REFER TO SECTIONS AND DETAILS.
  3. ALL DAMAGED PAVEMENT SHALL BE REPLACED WITH NEW. REINFORCE WITH 6 X 6-W4XW4 ASTM A82 WELDED WIRE FABRIC, IN CENTER.
  4. BASIN AIR LINES WILL REMAIN IN SERVICE AT ALL TIMES.
  5. GUARDRAIL NOT SHOWN.
  6. BURIED PIPING NOT SHOWN, SEE SECTIONS.
  7. SEE STRUCTURAL DRAWINGS FOR LOCATIONS OF NEW PIPE SUPPORTS; PAVEMENT REMOVAL AND EXCAVATION WILL BE REQUIRED AT THOSE LOCATIONS. REINSTATE PAVEMENT AS REQUIRED, INCLUDING NEW WELDED WIRE FABRIC.
- LEGEND:**
- HV = HAND VALVE; THIS IS A MANUALLY OPERATED PLUG VALVE; HANDWHEEL POSITION AS SHOWN.
- FCV = FLOW CONTROL VALVE; THIS IS A MOTOR-OPERATED PLUG VALVE.
- FE = FLOW ELEMENT; THIS IS A MAGNETIC FLOW METER.
- REFER TO SPECIFICATIONS FOR DESCRIPTION OF EXISTING AND NEW ITEMS DESCRIBED IN THIS LEGEND.



- KEYED NOTES:**
- 2 RELOCATED EXISTING HAND VALVE; HANDWHEEL POSITION AS SHOWN; SEATING END IS DOWNSTREAM.
  - 3 MODIFIED AND RELOCATED EXISTING FL X PE SPOOL WITH TANGENT BLOWOFF. SEE DETAIL M-102 FOR MODIFICATION WORK.
  - 4 RELOCATED EXISTING SLEEVE-TYPE COUPLING. SEE DETAIL M-103.
  - 5 RELOCATED EXISTING FL X PE SPOOL.
  - 6 RELOCATED EXISTING MAGNETIC FLOW METER.
- GENERAL NOTES:**
1. PIPE SUPPORTS NOT SHOWN. REFER TO STRUCTURAL DRAWINGS.
  2. GUARDRAIL NOT SHOWN.
- LEGEND:**
- SEE REMOVALS PLAN.
- ADDITIONAL LEGEND:**
- EJ = SLEEVE-TYPE COUPLING EMPLOYED AS EXPANSION JOINT; REFER TO DETAIL M-103 FOR DETAILS.
- A = ANCHOR RING OR RINGS; FIELD WELDED AT SOME LOCATIONS (REFER TO SECTIONS AND STRUCTURAL DETAILS).
- ◆ = NEW 2" OUTLET @ CROWN OF PIPE WITH BALL VALVE
- ◆ = DITTO, FOR LOWER PIPE

NEW CONSTRUCTION  
PLAN  
1/8" = 1'-0"

**RECORD DRAWING**  
THIS RECORD DRAWING HAS BEEN REPAIRED BASED ON THE ORIGINAL DRAWING BY DTL'S. THE CONTRACTOR HAS NO LIABILITY FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 6/26/96 BY: M. J. CAMP DRESSER & MCKEE

**RECORD DRAWING**  
DATE: 6/26/96 BY: M. J. CAMP DRESSER & MCKEE INC.

NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
1	5/21/96	MJS	SHEET DELETED BY CHANGE REQUEST NO. 1				

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: MLD  
Drawn By: STAFF  
Checked By: MJS  
Approved By: JPC

Date: DEC. 1993  
Scale: AS NOTED

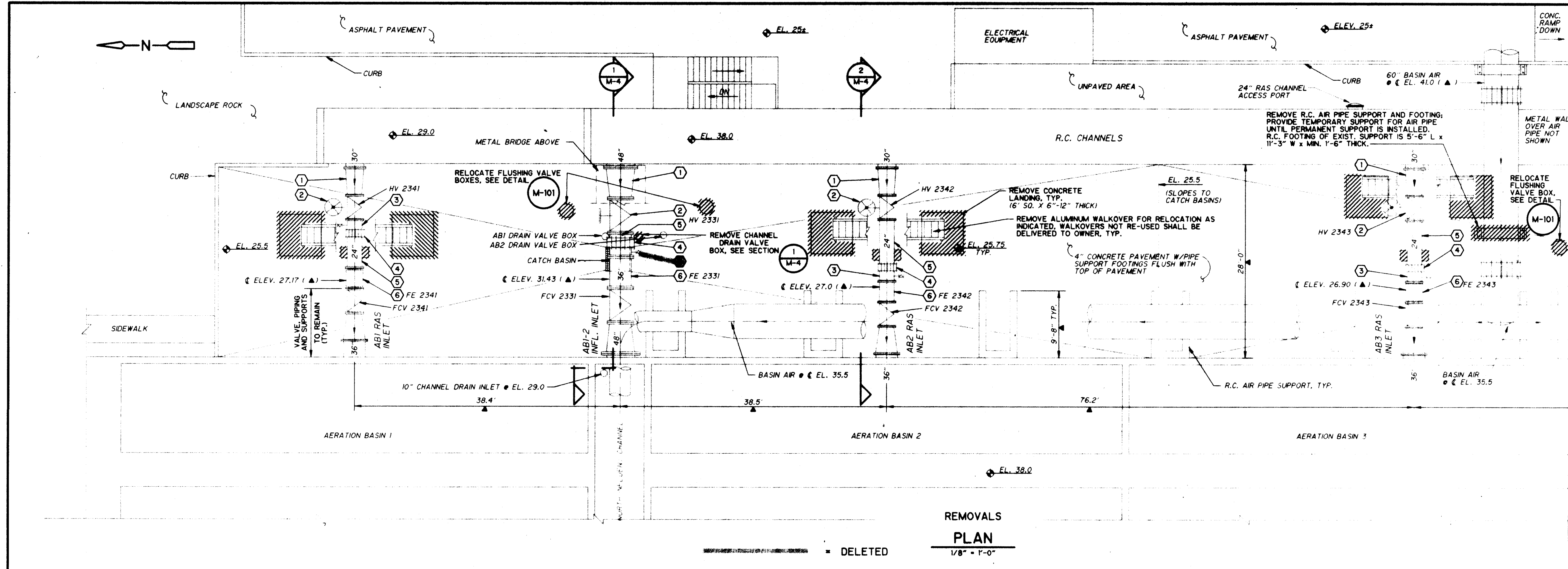
**CDM**  
CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

**MECHANICAL PLAN  
-NORTH**

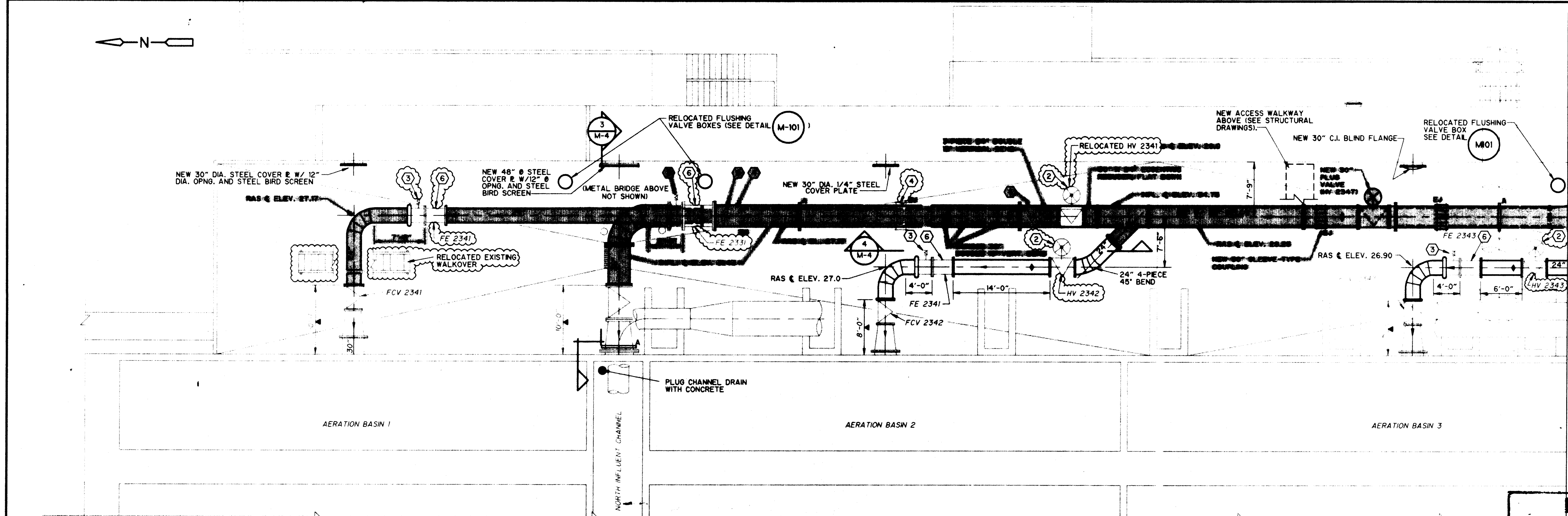
DRAWING  
M-1  
SHEET NUMBER  
4 OF 30

Professional Engineer Seal: JACK PATRICK CAMP DRESSER & MCKEE INC. 10007





- KEYED NOTES:**
- 1 REMOVE C.M.L. STEEL FL X FL REDUCER; DELIVER TO OWNER.
  - 2 REMOVE VALVE FOR RELOCATION; ALSO REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
  - 3 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF, FOR MODIFICATION AND RELOCATION.
  - 4 REMOVE SLEEVE-TYPE COUPLING, FOR RELOCATION AS SHOWN ON DRAWINGS. COUPLINGS NOT RE-USED SHALL BE DELIVERED TO OWNER.
  - 5 REMOVE C.M.L. STEEL FL X PE SPOOL, FOR RELOCATION OR DELIVERY TO OWNER; ALSO, FOR RAS LINES ONLY, REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
  - 6 REMOVE MAGNETIC FLOW METER AND GROUNDING RINGS & STRAPS, FOR RELOCATION. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL REMOVALS AND RELOCATIONS.
- GENERAL NOTES:**
1. ELECTRICAL CONDUITS AND BOXES NOT SHOWN. CONTRACTOR IS ADVISED THAT A NUMBER OF CONDUITS ARE ROUTED ALONG METAL BRIDGES ABOVE AB INFLUENT INLETS.
  2. NOT ALL PIPE SUPPORTS ARE SHOWN. REFER TO SECTIONS AND DETAILS.
  3. ALL DAMAGED PAVEMENT SHALL BE REPLACED WITH NEW. REINFORCE WITH 6 X 6-W4-W4 ASTM A62 WELDED WIRE FABRIC, IN CENTER.
  4. BASIN AIR LINES WILL REMAIN IN SERVICE AT ALL TIMES.
  5. GUARDRAIL NOT SHOWN.
  6. BURIED PIPING NOT SHOWN, SEE SECTIONS.
  7. SEE STRUCTURAL DRAWINGS FOR LOCATIONS OF NEW PIPE SUPPORTS; PAVEMENT REMOVAL AND EXCAVATION WILL BE REQUIRED AT THOSE LOCATIONS. REINSTATE PAVEMENT AS REQUIRED, INCLUDING NEW WELDED WIRE FABRIC.
- LEGEND:**
- HV = HAND VALVE; THIS IS A MANUALLY OPERATED PLUG VALVE; HANDWHEEL POSITION AS SHOWN.
- FCV = FLOW CONTROL VALVE; THIS IS A MOTOR-OPERATED PLUG VALVE.
- FE = FLOW ELEMENT; THIS IS A MAGNETIC FLOW METER.
- REFER TO SPECIFICATIONS FOR DESCRIPTION OF EXISTING AND NEW ITEMS DESCRIBED IN THIS LEGEND.



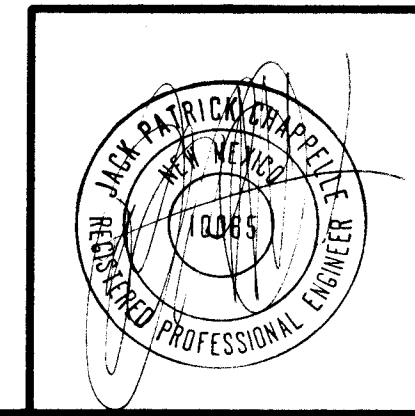
- KEYED NOTES:**
- 2 RELOCATED EXISTING HAND VALVE; HANDWHEEL POSITION AS SHOWN; SEATING END IS DOWNSTREAM.
  - 3 MODIFIED AND RELOCATED EXISTING FL X PE SPOOL WITH TANGENT BLOWOFF. SEE DETAIL M-102 FOR MODIFICATION WORK.
  - 4 RELOCATED EXISTING SLEEVE-TYPE COUPLING. SEE DETAIL M-103.
  - 5 RELOCATED EXISTING FL X PE SPOOL.
  - 6 RELOCATED EXISTING MAGNETIC FLOW METER.
- GENERAL NOTES:**
1. PIPE SUPPORTS NOT SHOWN. REFER TO STRUCTURAL DRAWINGS.
  2. GUARDRAIL NOT SHOWN.
- LEGEND:**
- SEE REMOVALS PLAN.
- ADDITIONAL LEGEND:**
- EL = SLEEVE-TYPE COUPLING EMPLOYED AS EXPANSION JOINT; REFER TO DETAIL M-103 FOR DETAILS.
- A = ANCHOR RING OR RINGS; FIELD WELDED AT SOME LOCATIONS (REFER TO SECTIONS AND STRUCTURAL DETAILS).
- ◆ = NEW 2" OUTLET @ CROWN OF PIPE WITH BALL VALVE
- ◆ = DITTO, FOR LOWER PIPE

**RECORD DRAWING**  
 Date: 6/26/94 By: MJS  
 CAMP DRESSER & MCKEE INC.

NEW CONSTRUCTION  
**PLAN**  
 1/8" = 1'-0"

- = DELETED
- = RETAINED, BUT IN NEW LOCATION OR DIFFERENT ORIENTATION

**RECORD DRAWING**  
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHER. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
 DATE: 6/26/94 By: MJS CAMP DRESSER & MCKEE



1	6/15/94	MJS	CHANGE REQUEST NO. 1				
NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
 ACTIVATED SLUDGE EXPANSION  
 PHASE III, CONTRACT 4  
 MODIFICATIONS TO ACTIVATED SLUDGE  
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
 NEW MEXICO  
 PUBLIC WORKS  
 DEPARTMENT



Designed By: MLD  
 Drawn By: STAFF  
 Checked By: MJS  
 Approved By: [Signature]

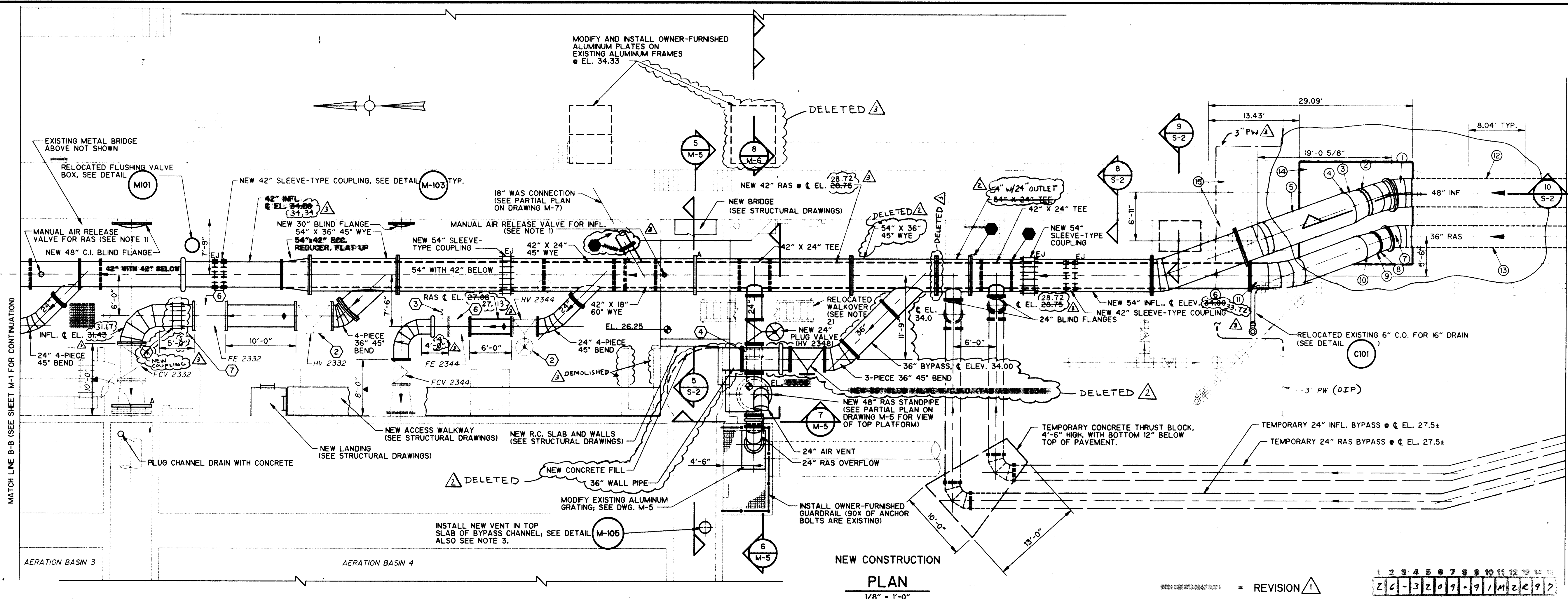
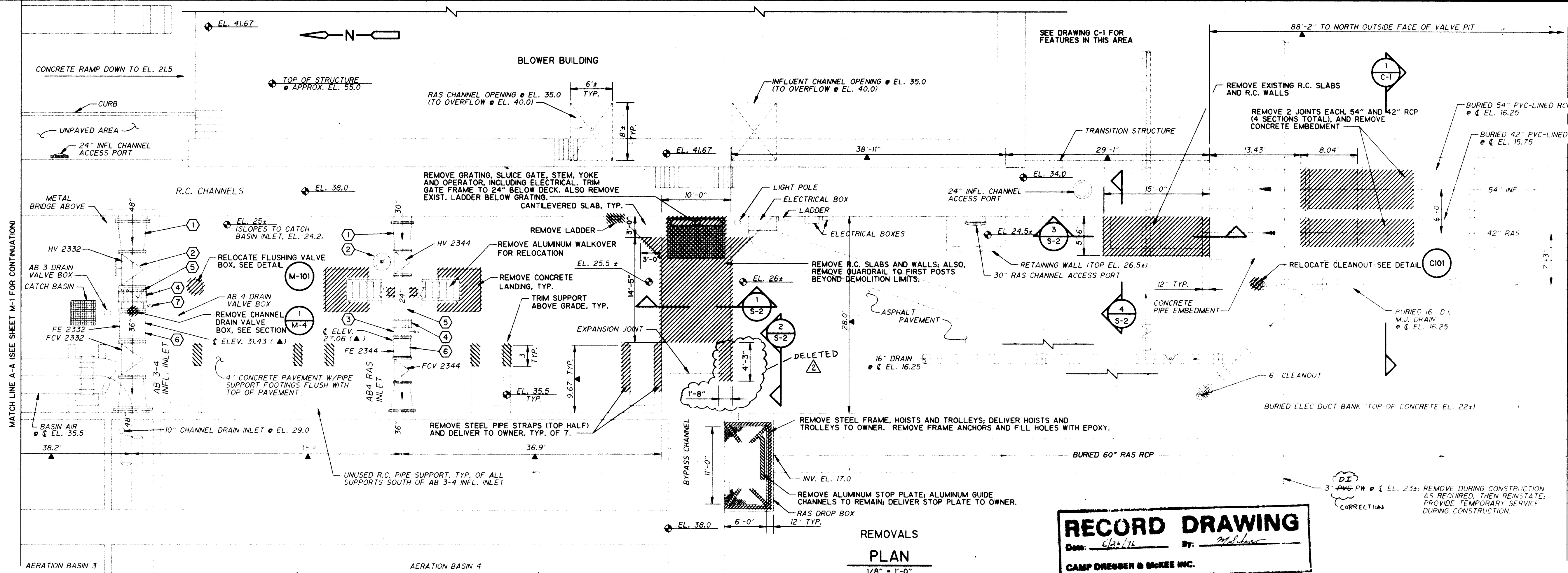
Date: JUNE, 1994  
 Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
 ALBUQUERQUE, NEW MEXICO  
 environmental engineers, scientists  
 planners, & management consultants

**MECHANICAL PLAN**  
**-NORTH**  
 CHANGE REQUEST NO. 1 DELETIONS

DRAWING  
**M-1-D**  
 SHEET NUMBER  
**4 OF 30**





6/17/94	MJS	CHANGE REQUEST NO.1			
SEP 94	MJS	CHANGE REQUEST NO.2			
OCT 94	MJS	AS-BUILT CONDITION			
NO.	DATE	APP	REVISION	NO.	DATE

SOUTHSIDE WATER RECLAMATION PLANT  
 ACTIVATED SLUDGE EXPANSION  
 PHASE III, CONTRACT 4  
 MODIFICATIONS TO ACTIVATED SLUDGE  
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
 NEW MEXICO  
 PUBLIC WORKS  
 DEPARTMENT



Designed By: MLD  
 Drawn By: STAFF  
 Checked By: MJS  
 Approved By: [Signature]

Date: DEC. 1993  
 Scale: AS NOTED

**CDM**  
 CAMP DRESSER & MCKEE INC.  
 ALBUQUERQUE, NEW MEXICO  
 environmental engineers, scientists  
 planners, & management consultants

**MECHANICAL PLAN**  
**-CENTRAL**  
 REVISED

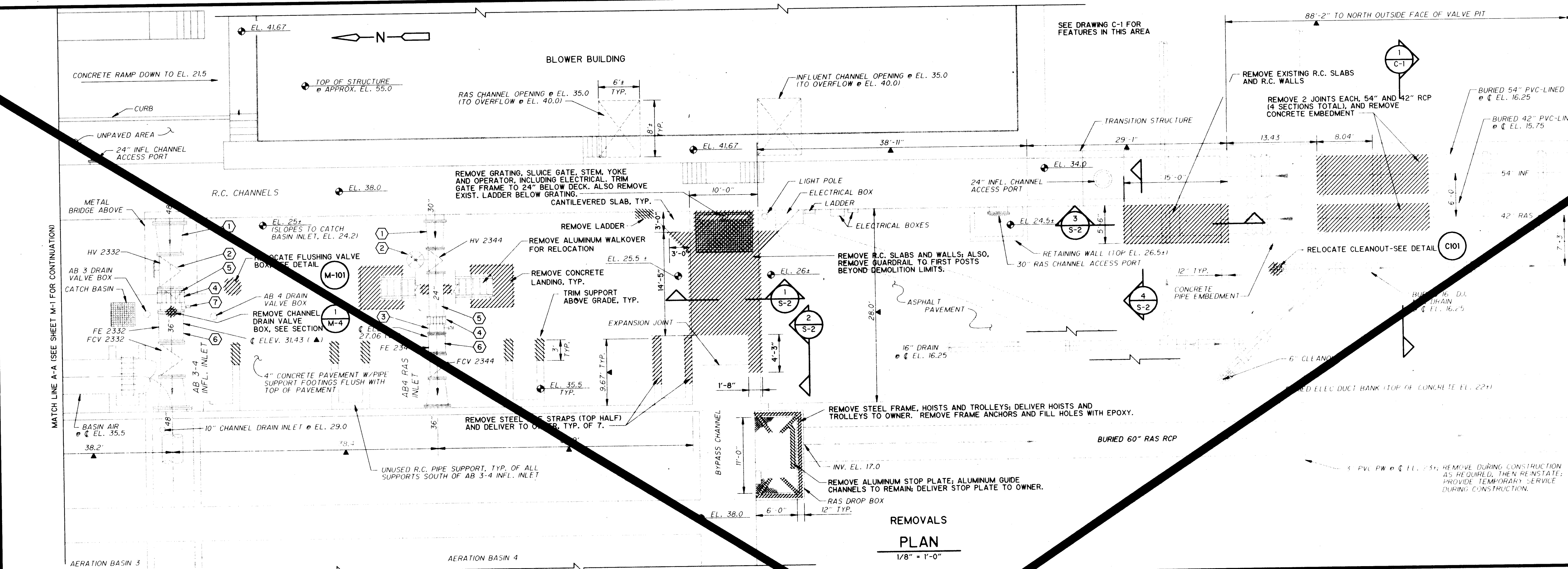
DRAWING  
**M-2-R**  
 SHEET NUMBER  
**5 OF 30**







C:\ACAD\66BPHQ2\SWP\1  
SWP\1-2  
03/04/94 10:57:42



KEYED NOTES:

- 1 REMOVE C.M.L. STEEL FL X FL REDUCER; DELIVER TO OWNER.
- 2 REMOVE VALVE FOR RELOCATION; ALSO REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
- 3 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF, FOR MODIFICATION AND RELOCATION.
- 4 REMOVE SLEEVE-TYPE COUPLING, FOR RELOCATION AS SHOWN ON DRAWINGS. COUPLINGS NOT RE-USED SHALL BE DELIVERED TO OWNER.
- 5 REMOVE C.M.L. STEEL FL X PE SPOOL, FOR RELOCATION OR DELIVERY TO OWNER; ALSO, FOR RAS LINES ONLY, REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
- 6 REMOVE MAGNETIC FLOW METER AND GROUNDING RINGS & STRAPS, FOR RELOCATION; SEE ELECTRICAL DRAWINGS FOR ELECTRICAL REMOVALS AND RELOCATIONS.
- 7 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF; SPOOL TO OWNER.

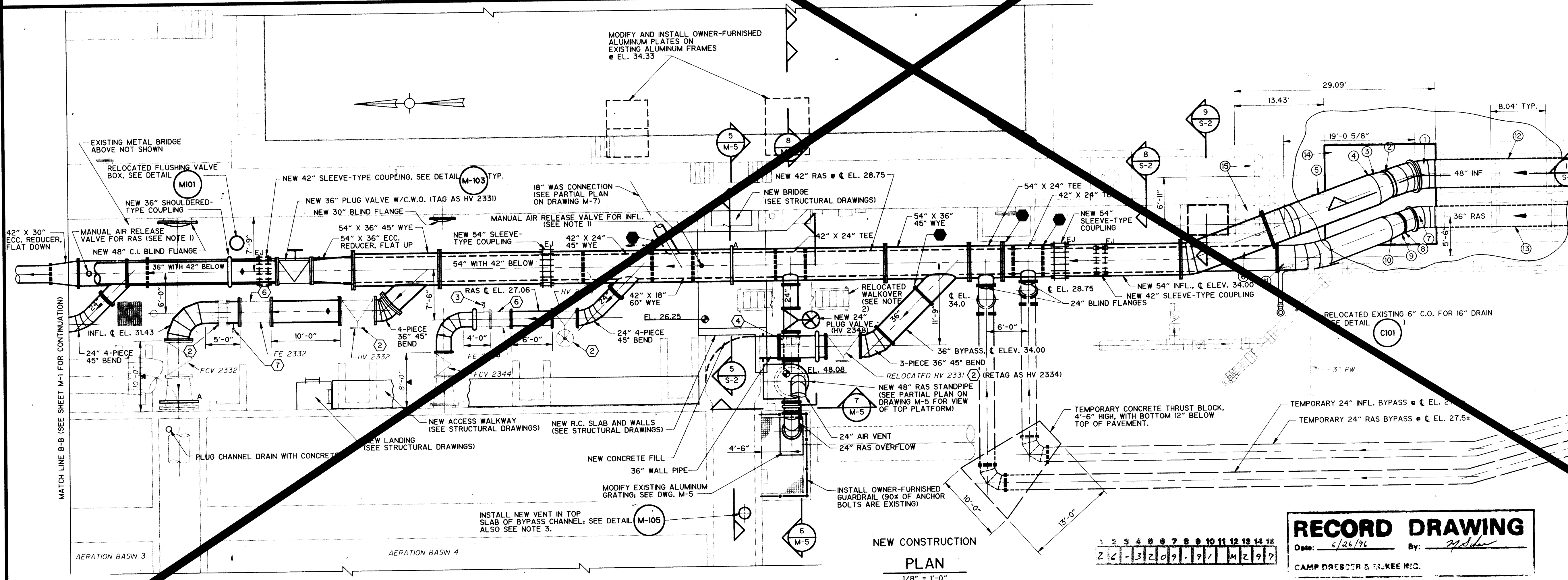
FOR GENERAL NOTES AND LEGEND, SEE DRAWING M-1.

ADDITIONAL NOTES:

1. EXISTING BURIED RCP ARE LOW SPOTS IN THE EXISTING CONDUIT SYSTEM AND MUST BE DRAINED. ALL DEPOSITED MATERIAL REMOVED FROM WITHIN, AND INTERIOR WALLS CLEANED OF ADHERENT MATERIAL AS SPECIFIED PRIOR TO LINER PIPE INSTALLATION.

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 6/26/96 BY: J. CAMP DRESSER & MCKEE



KEYED NOTES:

- 1 48" - 45° BEND (5-PIECE), W/ANCHOR RING, ROTATED 21° ± WEST
- 2 48" SHOULDERED-TYPE COUPLING.
- 3 54" X 48" REDUCER
- 4 BUTT WELDED JOINT (FIELD)
- 5 54" PIPE W/4-PIECE 41° ± VERT. BEND
- 6 54" PIPE W/3-PIECE 20° HORIZ. BEND
- 7 36" 45° BEND (5-PIECE), W/ANCHOR RING, ROTATED 17.5° ± WEST
- 8 36" SHOULDERED-TYPE COUPLING
- 9 42" X 36" REDUCER
- 10 BUTT WELDED JOINT (FIELD)
- 11 42" PIPE W/5-PIECE 45° BEND ROTATED 17.5° EAST
- 12 NEW 48" C.M.L. STEEL OR FRP LINER PIPE @ EL. 16.25
- 13 NEW 36" C.M.L. STEEL OR FRP LINER PIPE @ EL. 15.75
- 14 NEW ANCHOR BLOCK FOUNDATION, ANCHOR BLOCK NOT SHOWN, (SEE STRUCTURAL DRAWINGS)
- 15 EXISTING RCP TO REMAIN (PLUG WITH CONCRETE)

- 2 RELOCATED EXISTING HAND VALVE; HANDWHEEL POSITION AS SHOWN; SEATING END IS DOWNSTREAM.
- 3 MODIFIED AND RELOCATED EXISTING FL X PE SPOOL WITH TANGENT BLOWOFF. SEE DETAIL M-102 FOR MODIFICATION WORK.
- 4 RELOCATED EXISTING SLEEVE-TYPE COUPLING. SEE DETAIL M-103.
- 5 RELOCATED EXISTING MAGNETIC FLOW METER.
- 6 RELOCATED EXIST. 4" PLUG VALVE ON NEW TANGENT BLOWOFF, ON NEW SPOOL. TANGENT BLOWOFF PER AWWA M-11, THIRD EDITION, FIG. 9-1, FL END TO ACCEPT 4" VALVE.

GENERAL NOTES:

FOR GENERAL NOTES SEE DRAWING M-1.

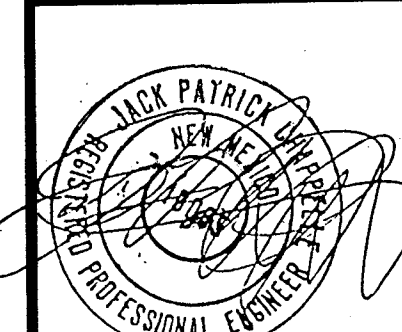
LEGEND:

SEE DRAWING M-1.

● = LOCATION OF TEMPORARY BLIND FLANGE, FOR STAGED CONSTRUCTION. REFER TO SPECIFICATIONS.

ADDITIONAL NOTES:

1. SEE DETAIL M-104 FOR NEW MANUAL AIR RELEASE VALVES.
2. NEW HANDLING REQ'D. ONLY SOUTH OF NEW SLAB AT EL. 26.25. SEE DETAIL M-105.
3. ALSO INSTALL ANOTHER NEW TANGENT BLOWOFF, PER DETAIL M-105, LOCATED 2' WEST TO THE EAST.



RECORD DRAWING

Date: 6/26/96 By: J. Camp Dresser & McKee Inc.  
CAMP DRESSER & MCKEE INC.

NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
1	5/21/96	MJS	SHEET DELETED BY CHANGE REQUEST NO. 1				

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: MLD  
Drawn By: STAFF  
Checked By: MJS  
Approved By:

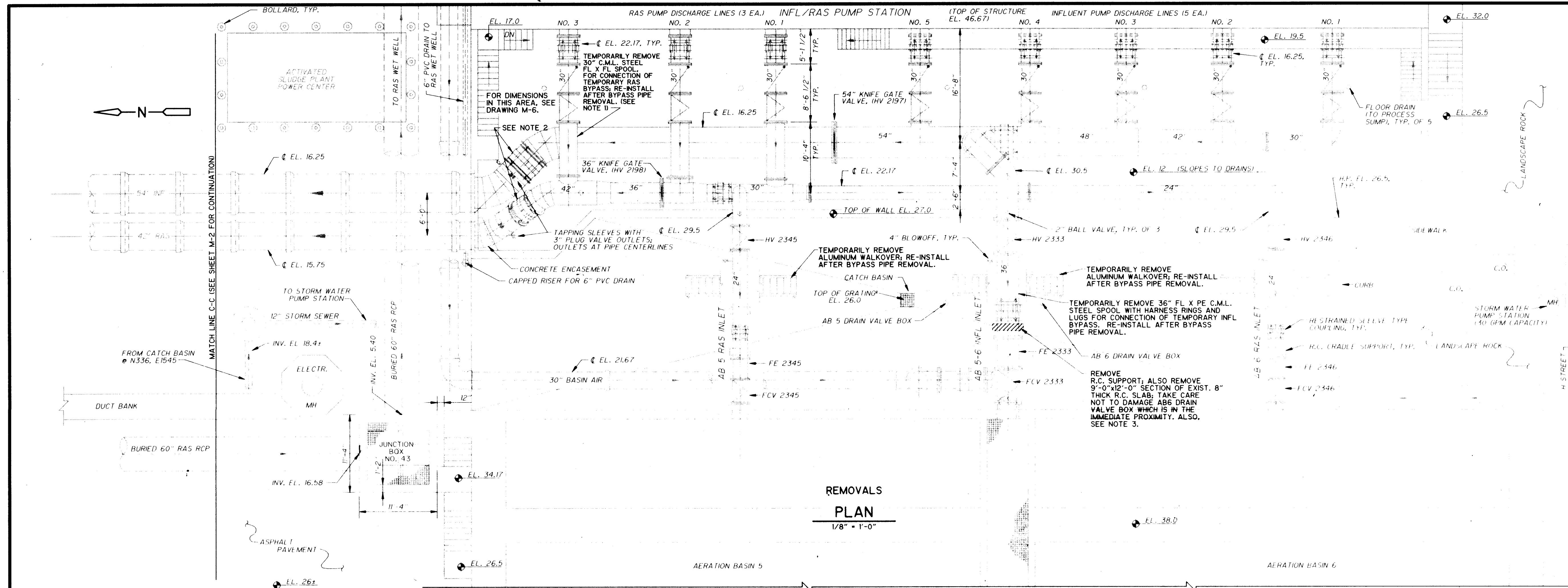
Date: DEC. 1993  
Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

MECHANICAL PLAN  
-CENTRAL

DRAWING  
M-2  
SHEET NUMBER  
5 OF 30

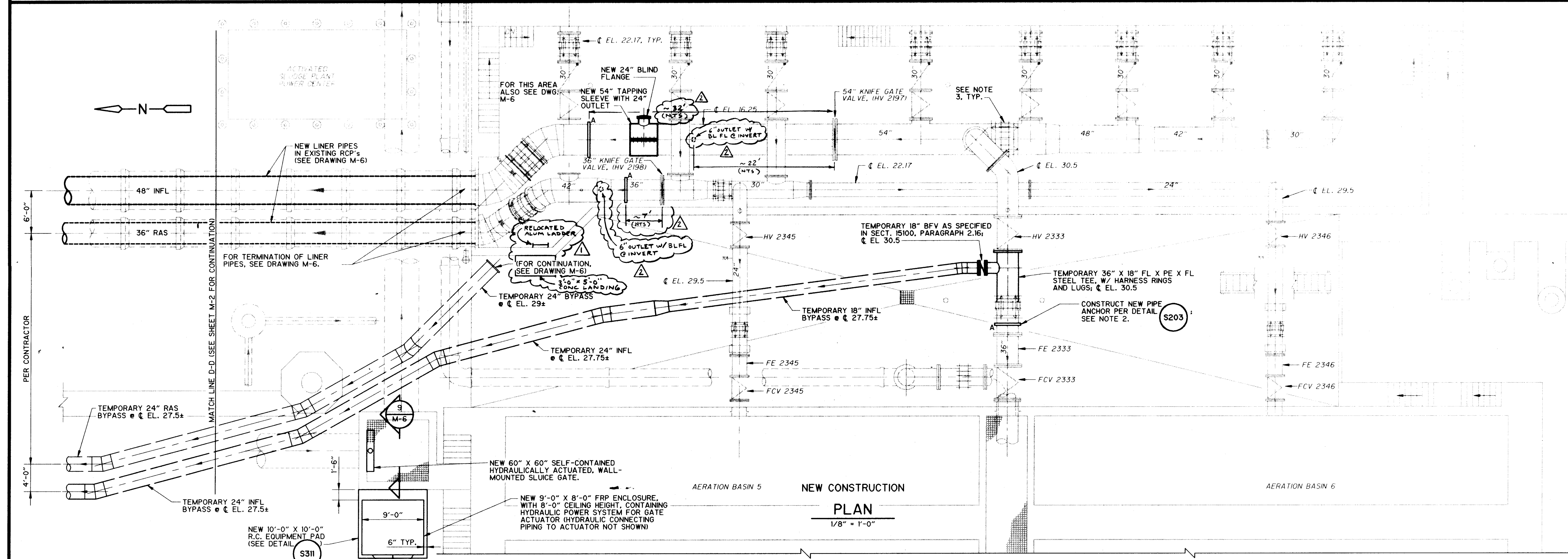






- SEE DRAWING M-1 FOR GENERAL NOTES AND LEGEND.
- ADDITIONAL NOTES:
1. REMOVAL AND REINSTALLATION OF EXISTING 30" SPOOL WILL EACH REQUIRE TEMPORARY DISASSEMBLY OF 30" HARNESS- COUPLING JOINT TO THE EAST, AND TEMPORARY REMOVAL OF 30" PLUG VALVE AND CHECK VALVE. APPROXIMATE COMBINED WEIGHT OF VALVES = 10,500 LB. TEMPORARY REMOVAL OF CHECK VALVE WILL REQUIRE TEMPORARY ELECTRICAL DISCONNECT AT VALVE LIMIT SWITCH.
  2. RELEASE HARNESS RODS AT EXISTING COUPLINGS BY LOOSENING NUTS WHILE PIPES ARE EMPTY DURING CONSTRUCTION, AND PROVIDE SHADE OVER PIPES BETWEEN HV2197 AND HV2198 AND NORTH WALL OF VALVE PIT. RETIGHTEN HARNESSES BEFORE RETURNING PIPES TO SERVICE. ENSURE THAT HARNESSES ARE SNUG WHEN PIPE IS REFILLED WITH LIQUID AND AT NORMAL OPERATING TEMPERATURE.
  3. REMOVALS MUST BE PERFORMED WITH EXISTING AB 5-6 INFLUENT INLET IN SERVICE. PROVIDE TEMPORARY SUPPORT UNTIL NEW PIPE ANCHOR IS COMPLETED. SEE SPECIFICATION SECTION 01041 FOR COORDINATION AND CONSTRUCTION STAGING REQUIREMENTS.
  4. CONTRACTOR IS ADVISED TO ANTICIPATE LEAKAGE PAST THE EXISTING KNIFE GATE VALVES (HV 2197 AND HV 2198). CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SUCH LEAKAGE FROM INTERFERING WITH THE SUCCESSFUL PROSECUTION OF THE WORK, BY TEMPORARY BULKHEADS OR OTHER ACCEPTED MEANS, AS PROVIDED IN THE SPECIFICATIONS. CONTRACTOR SHALL REQUEST OWNER ASSISTANCE IN PROVIDING FOR PLANT SHUTDOWNS TO ENABLE CONTRACTOR TO INSTALL AND REMOVE TEMPORARY MEASURES. SHUTDOWNS, IF NEEDED, WILL BE OF LIMITED DURATION, AND WILL BE CONFINED TO PERIODS OF LOW PLANT FLOW (NORMALLY EARLY MORNING HOURS). ALL COSTS IN CONNECTION WITH NECESSARY TEMPORARY MEASURES SHALL BE INCLUDED IN THE BID PRICE.

**RECORD DRAWING**  
 Date: 6/26/96 By: MJS  
 CAMP DRESSER & MCKEE INC.

**RECORD DRAWING**  
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
 DATE: 6/26/96 By: MJS CAMP DRESSER & MCKEE



- SEE DRAWING M-1 FOR GENERAL NOTES AND LEGEND.
- ADDITIONAL NOTES:
1. CONTRACTOR RESPONSIBLE FOR EXACT ROUTING AND SUPPORT OF TEMPORARY BYPASS LINES, WITHIN GENERAL CONCEPTS SHOWN. CONTRACTOR ALSO RESPONSIBLE FOR SELECTION OF JOINTS AND RESTRAINTS, FOR THERMAL CONSIDERATIONS, AND FOR FITTING DESIGN, ALL FOR THE TEMPORARY BYPASS LINES, UNLESS SPECIFICALLY CALLED OUT ON THE DRAWINGS OR SPECIFIED. BYPASS LINES TO MEET PRESSURE REQUIREMENTS STATED IN THE SPECIFICATIONS. TEMPORARY BYPASS LINES MUST NOT TRANSMIT STRESSES TO EXISTING AND NEW PERMANENT PIPELINES FROM THERMAL EXPANSION OR CONTRACTION OF THE BYPASS LINES.
  2. NEW PIPE ANCHOR TO BE CONSTRUCTED WITH AB 5-6 INFL. INLET IN SERVICE, AND PRIOR TO CONNECTION AND OPERATION OF TEMPORARY INFL. BYPASS. SEE SPECIFICATION SECTION 01041 FOR COORDINATION AND CONSTRUCTION STAGING REQUIREMENTS.
  3. ENSURE THAT HARNESSES AT EXISTING COUPLINGS ARE SNUG WHEN PIPES ARE FULL OF LIQUID AND AT NORMAL OPERATING TEMPERATURES.

	SEP 95	MJS	CHANGE REQUEST NO.13				
	OCT 95	MJS	AS-BUILT CONDITION				
NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
 ACTIVATED SLUDGE EXPANSION  
 PHASE III, CONTRACT 4  
 MODIFICATIONS TO ACTIVATED SLUDGE  
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
 NEW MEXICO  
 PUBLIC WORKS  
 DEPARTMENT



Designed By: MLD  
 Drawn By: STAFF  
 Checked By: MJS  
 Approved By: \_\_\_\_\_

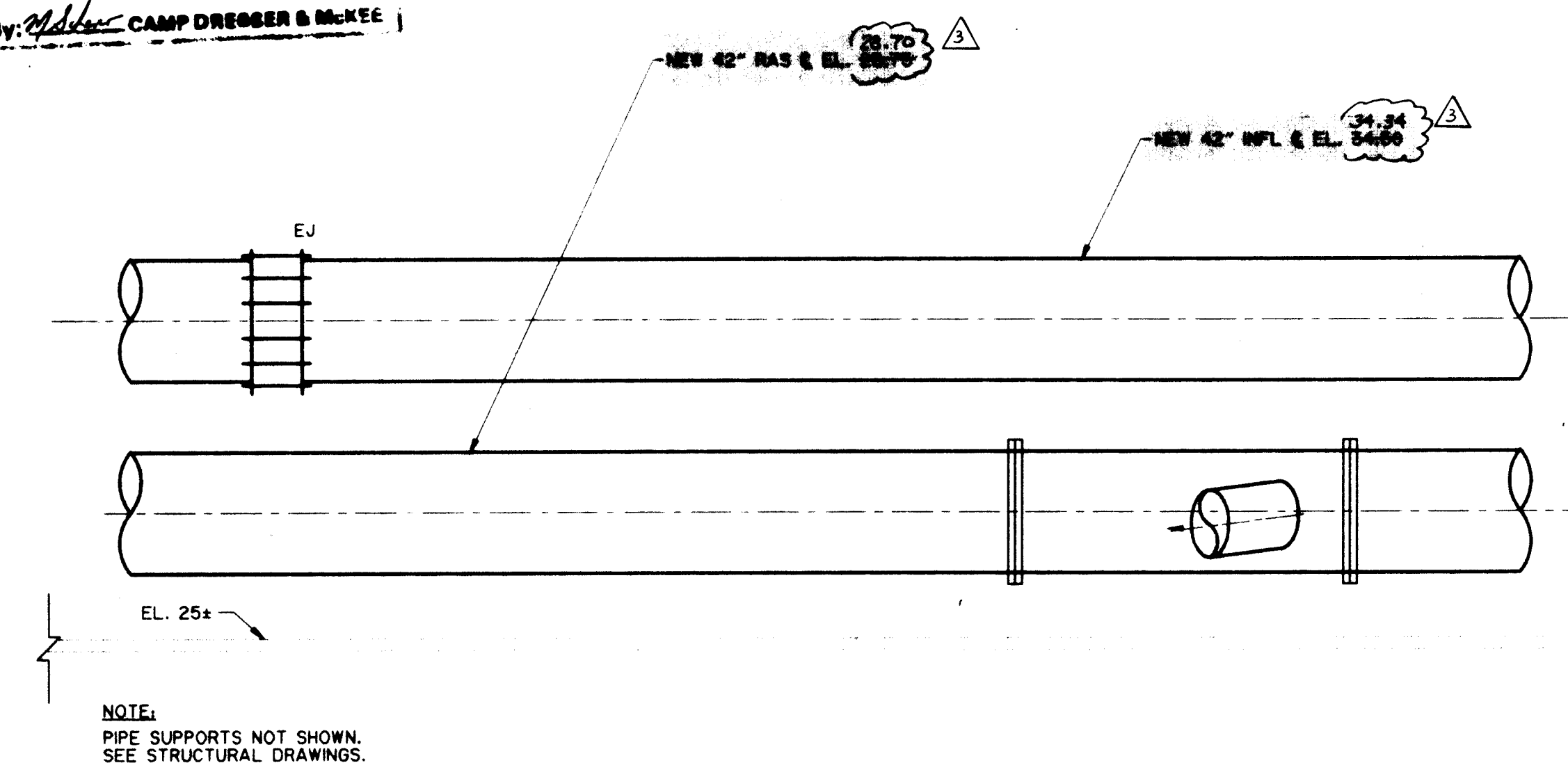
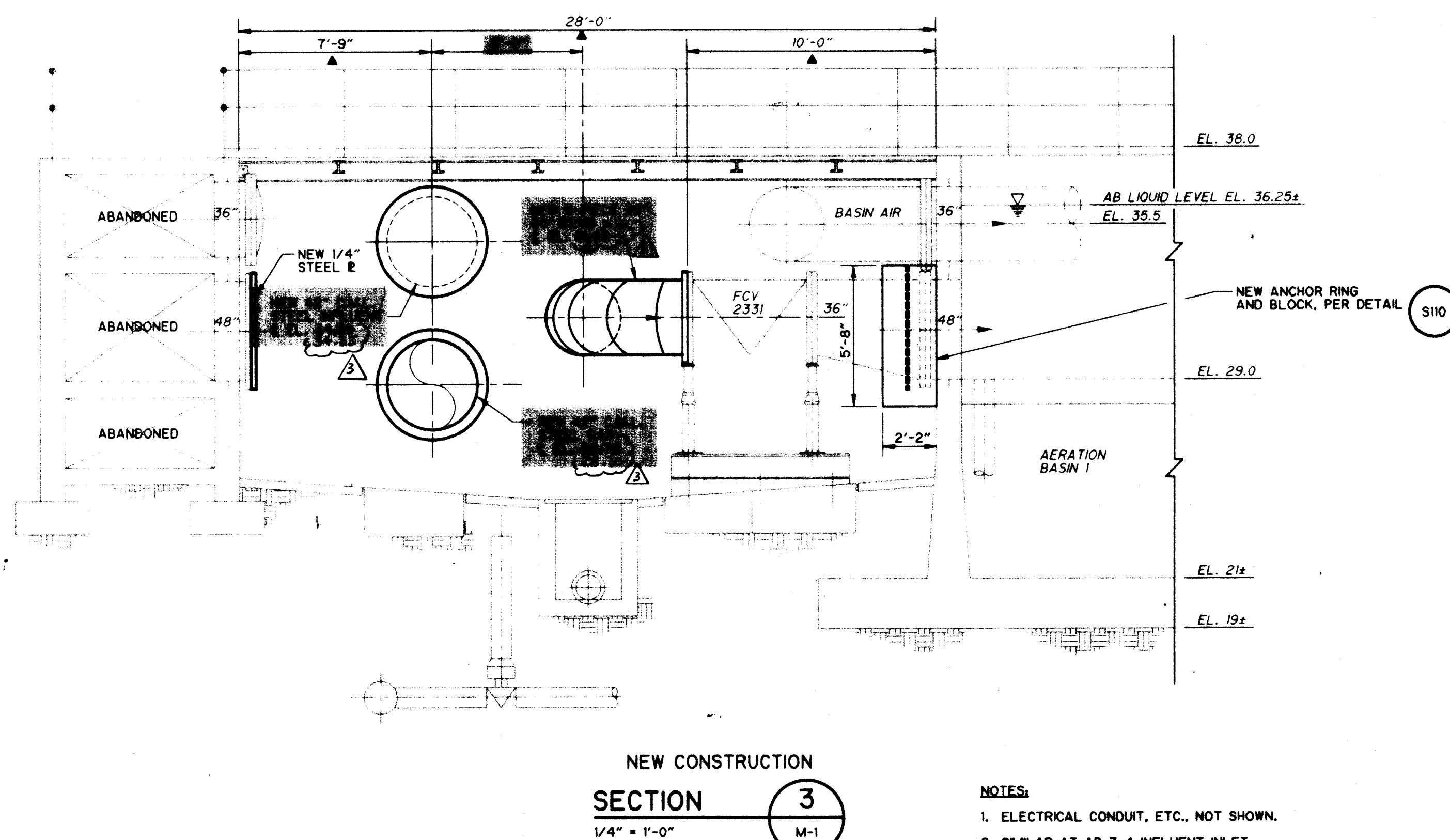
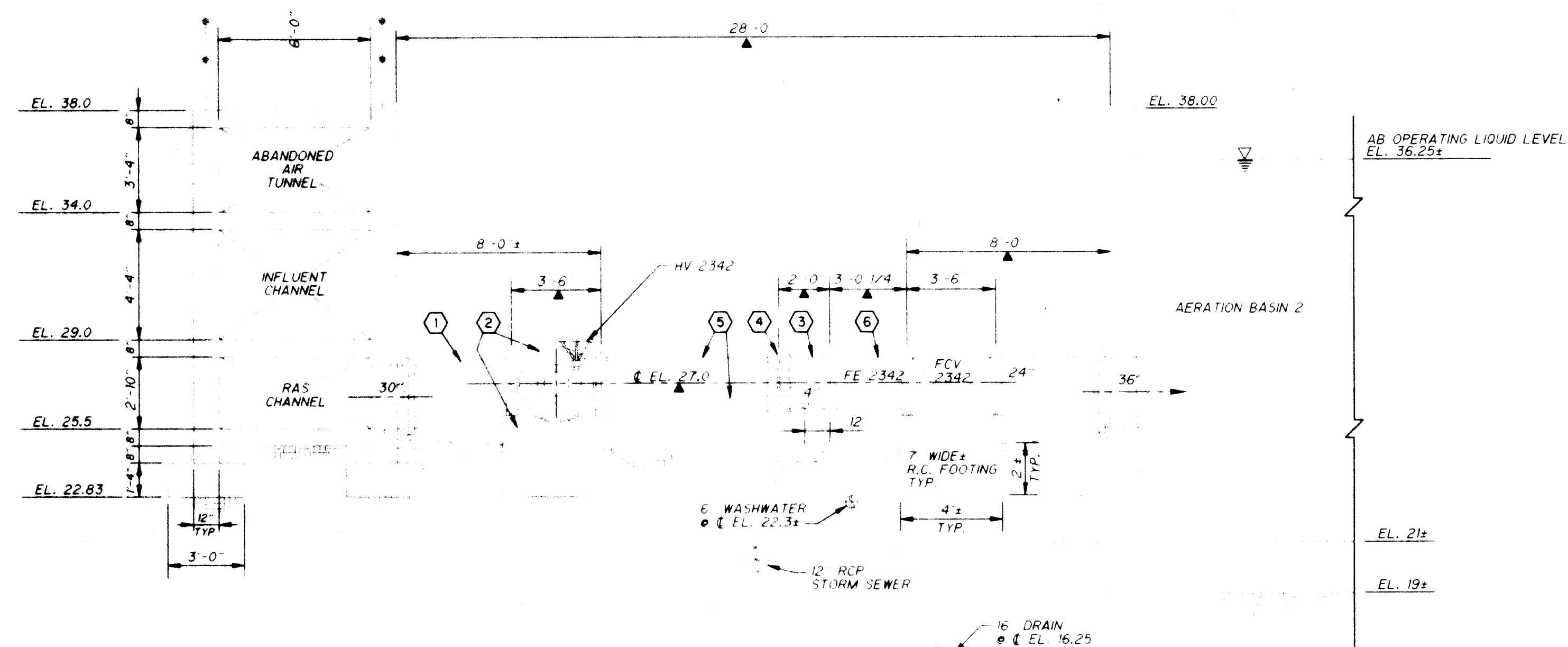
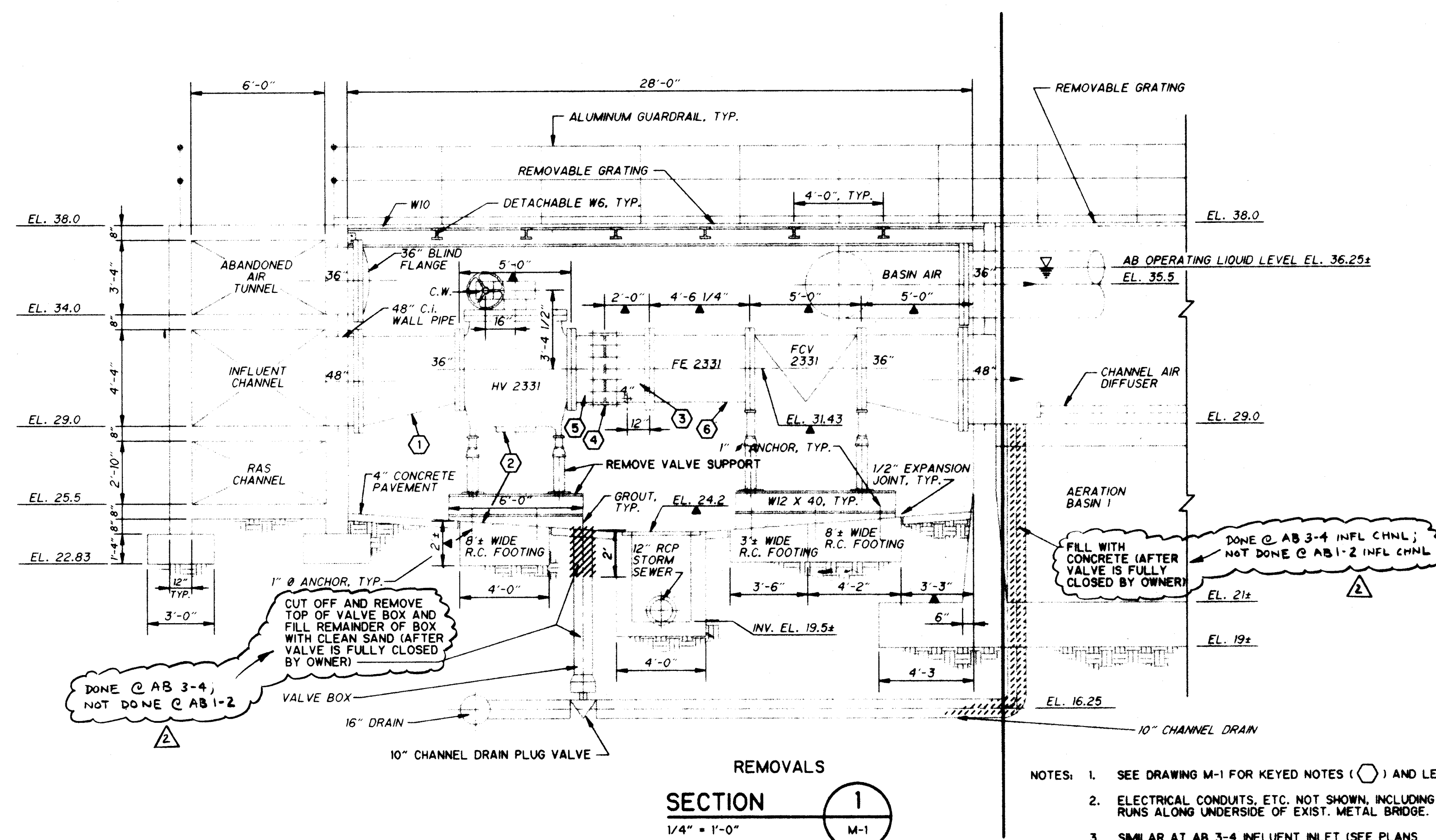
Date: DEC. 1993  
 Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
 ALBUQUERQUE, NEW MEXICO  
 environmental engineers, scientists  
 planners, & management consultants

**MECHANICAL PLAN**  
 -SOUTH

DRAWING  
**M-3**  
 SHEET NUMBER  
 6 OF 30





CHANGE REQUEST NO.1				
CHANGE REQUEST NO.13				
AS-BUILT CONDITION				
REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO

PUBLIC WORKS  
DEPARTMENT



Designed By: MLD  
 Drawn By: STAF  
 Checked By: MJS  
 Approved By: JPC

Date: DEC. 1993

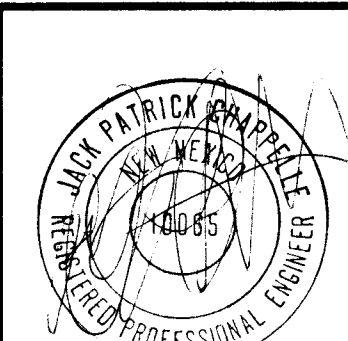
Scale: AS NOTED

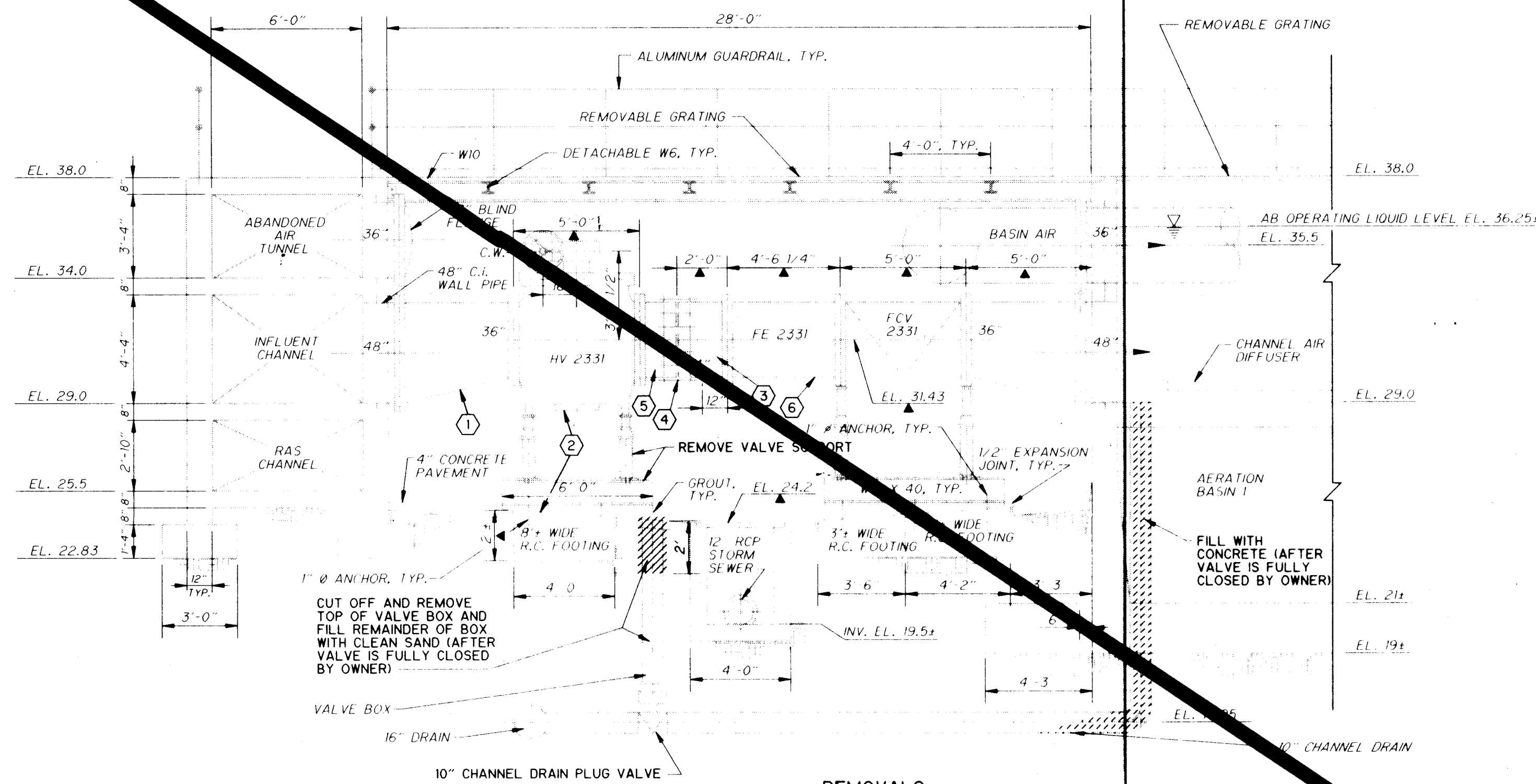
**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO

*environmental engineers, scientists  
planners, & management consultants*

MECHANICAL SECTIONS  
REVISED

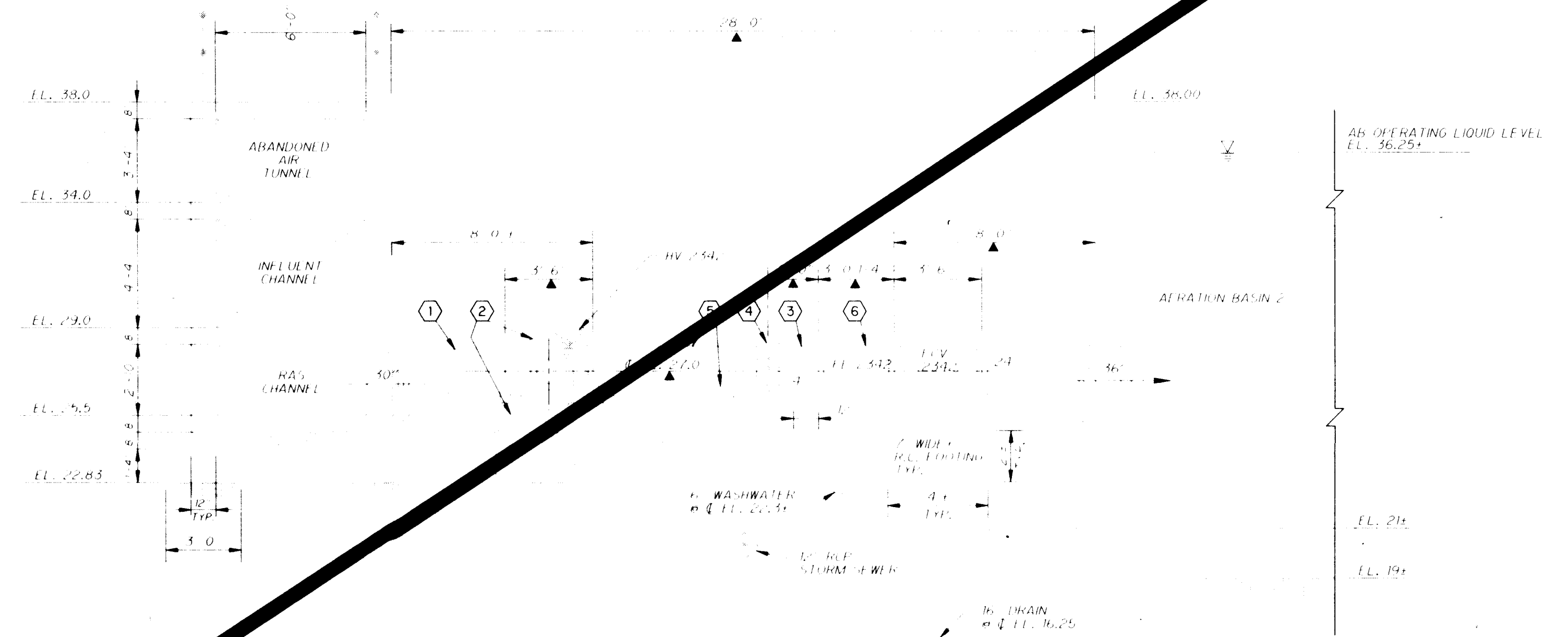
DRAWING  
M-4-R  
SHEET NUMBER  
7 OF 30





REMOVALS  
SECTION 1  
1/4" = 1'-0"

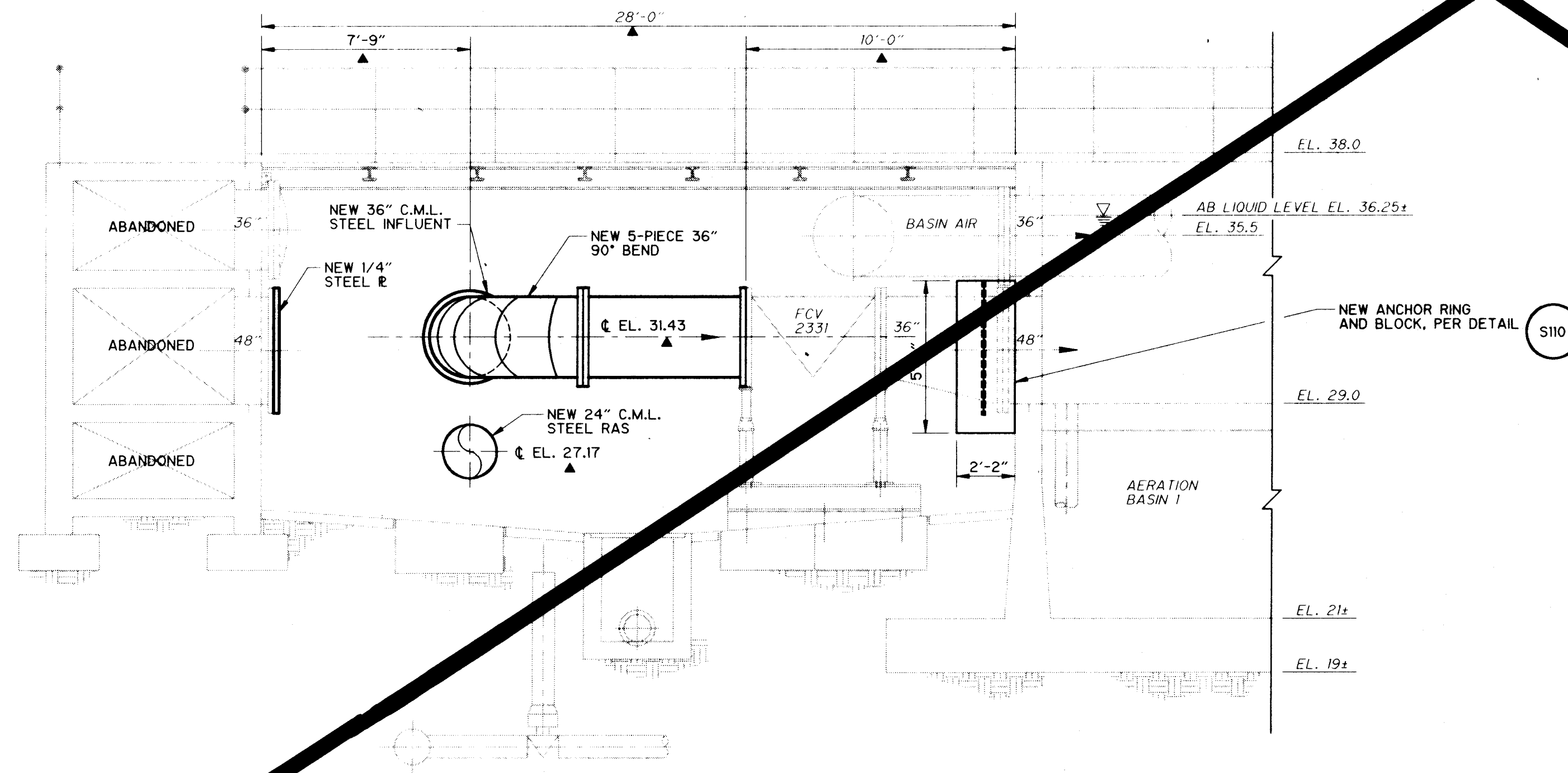
- NOTES:
1. SEE DRAWING M-1 FOR KEYED NOTES (○) AND LEGEND.
  2. ELECTRICAL CONDUITS, ETC., NOT SHOWN, INCLUDING CONDUIT RUNS ALONG UNDERGIRTS OF EXIST. METAL BRIDGE.
  3. SIMILAR AT AB 3-4 INFLUENT INLET (SEE PLANS FOR SPECIFICS).



REMOVALS  
SECTION 2  
1/4" = 1'-0"

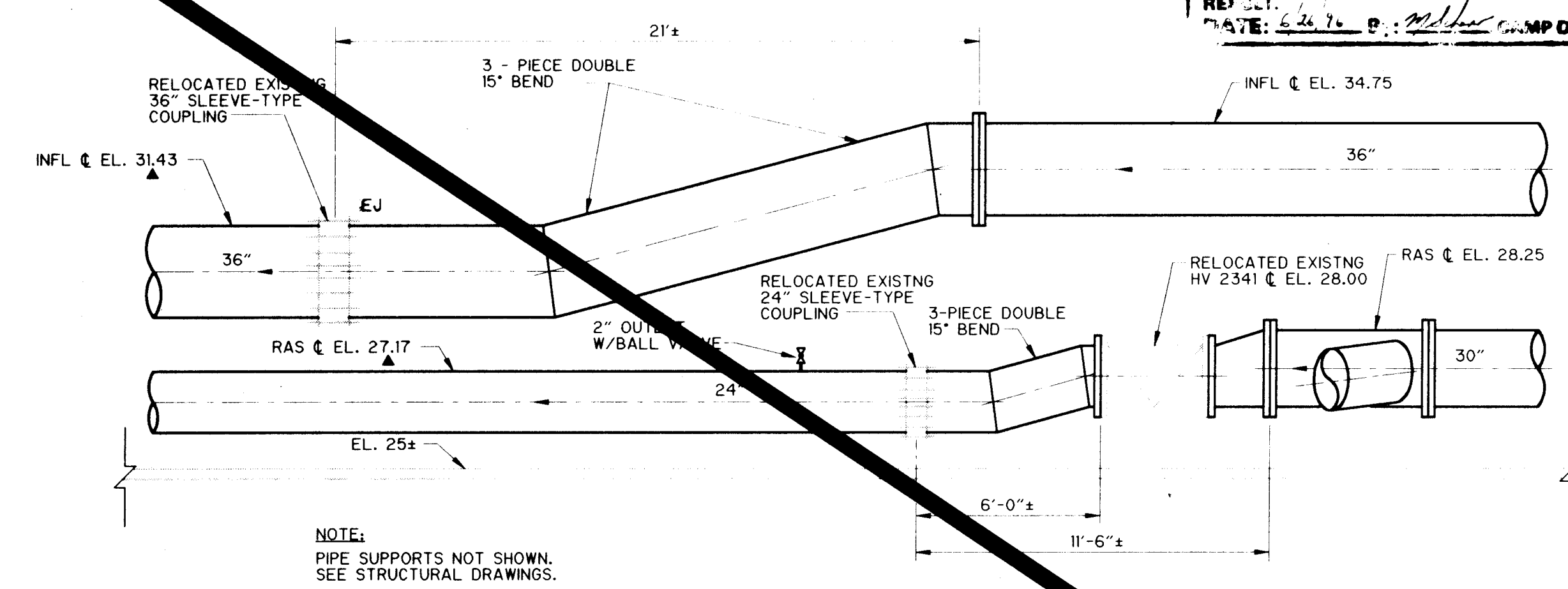
- NOTES:
1. SEE DRAWING M-1 FOR KEYED NOTES (○) AND LEGEND.
  2. ELECTRICAL CONDUITS, ETC., NOT SHOWN.
  3. SIMILAR AT AB 1, AB 3 AND AB 4 RAS INLETS. (SEE PLANS FOR SPECIFICS).
  4. WALKOVER AND LANDING NOT SHOWN.

**RECORD DRAWING**  
THIS RECORD DRAWING HAS BEEN PREPARED BY THE ENGINEER AND IS NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.  
DATE: 6/26/96 BY: M. J. CAMP DRESSER & MCKEE



NEW CONSTRUCTION  
SECTION 3  
1/4" = 1'-0"

- NOTES:
1. ELECTRICAL CONDUIT, ETC., NOT SHOWN.
  2. SIMILAR AT AB 3-4 INFLUENT INLET (SEE PLANS FOR SPECIFICS).



NEW CONSTRUCTION  
SECTION 4  
1/4" = 1'-0"

**RECORD DRAWING**  
Date: 6/26/96 By: M. J. CAMP DRESSER & MCKEE INC.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100  
DATE: 6/26/96 BY: M. J. CAMP DRESSER & MCKEE INC.

NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION
1	5/21/96	MJS	SHEET DELETED BY CHANGE REQUEST NO. 1				

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT

Designed By: MLD  
Drawn By: STAFF  
Checked By: MJS  
Approved By: JPC

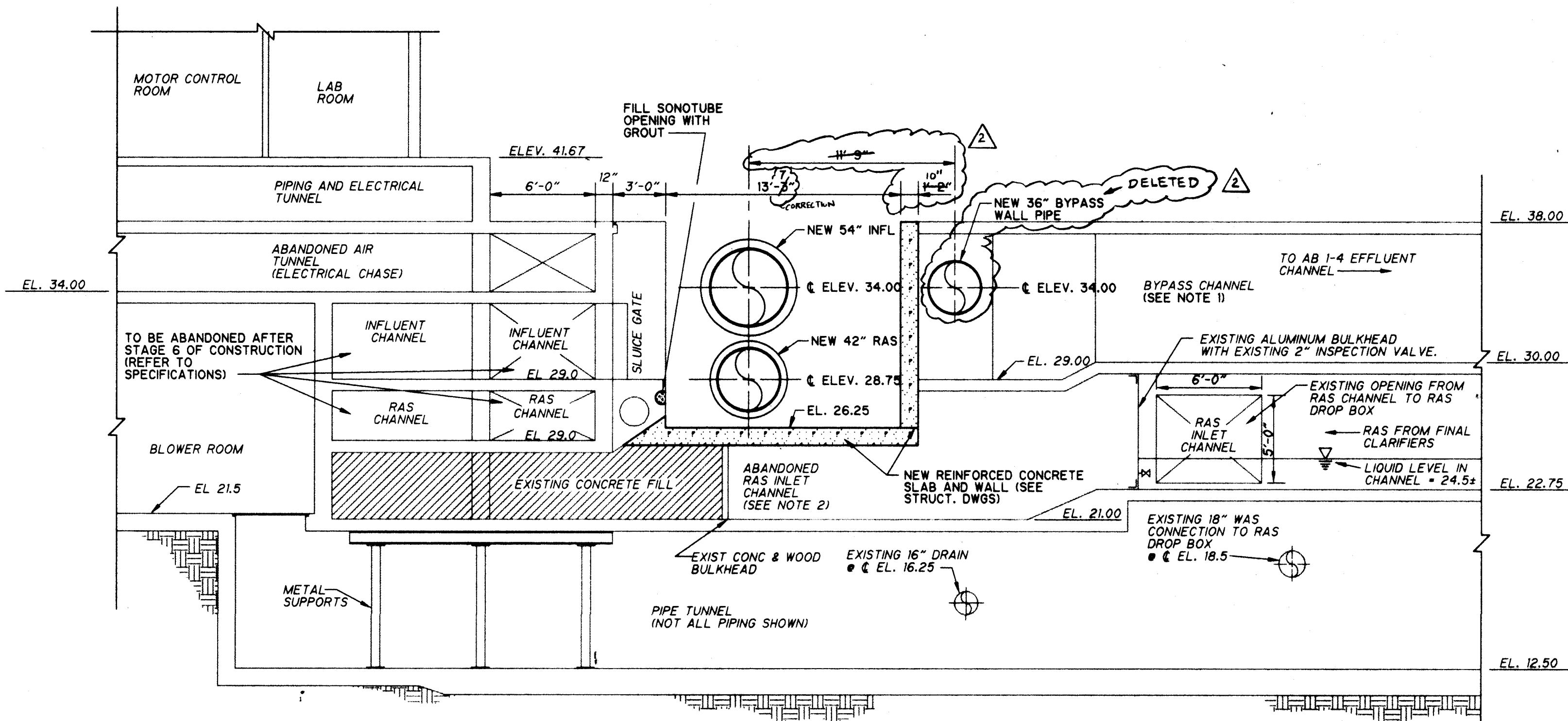
Date: DEC. 1993  
Scale: AS NOTED

**CDM**  
CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists,  
planners, & management consultants

MECHANICAL SECTIONS

DRAWING  
**M-4**  
SHEET NUMBER  
7 OF 36





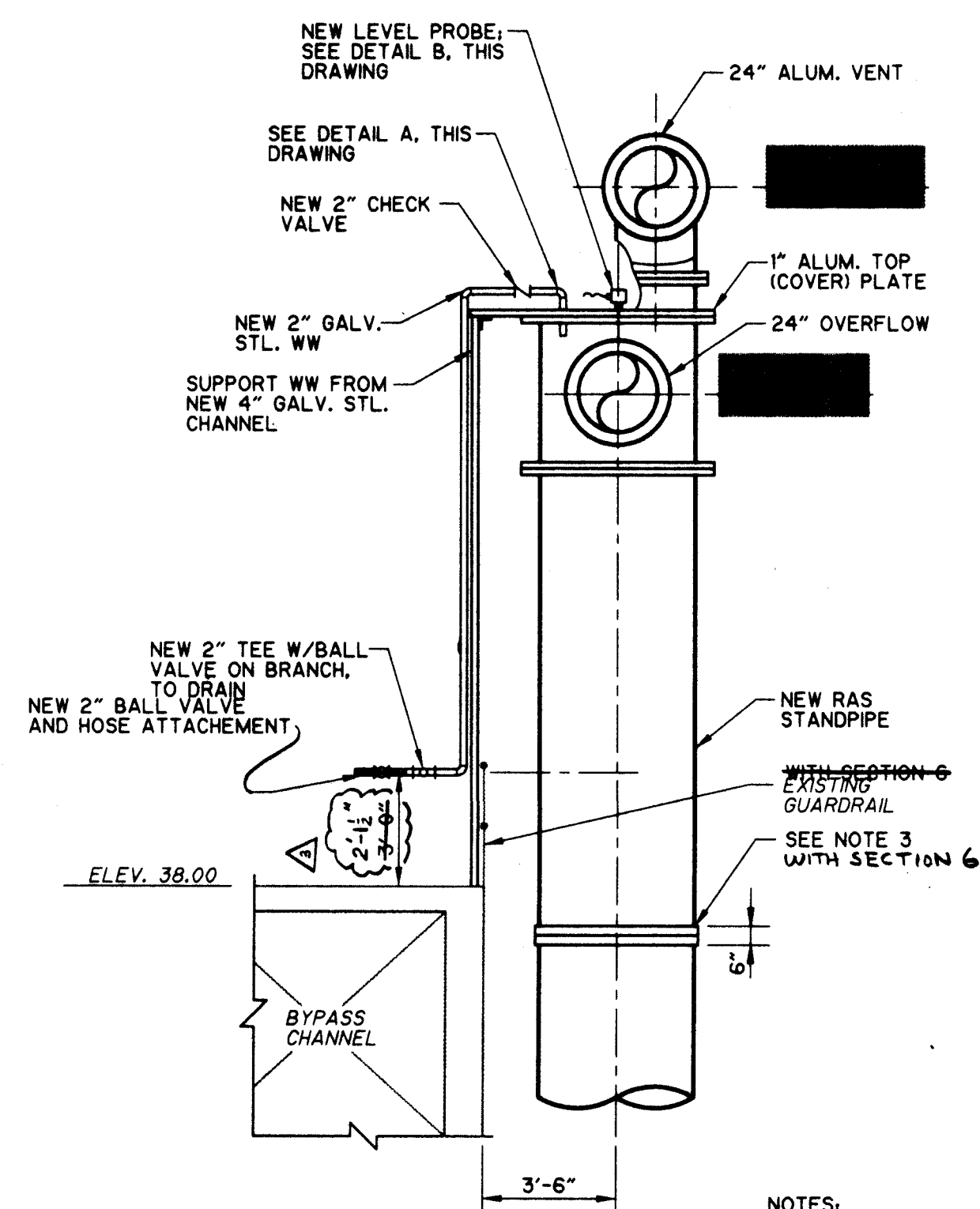
SECTION 5  
3/16" = 1'-0"

- NOTES:
1. AT THE TIME OF DESIGN, EXISTING BYPASS CHANNEL IS DRY AND NOT IN USE. EXISTING SLUICE GATE SHOWN, AS WELL AS EXISTING SLUICE GATE (FV 2551) AT AB I-4 EFFLUENT CHANNEL (APPROX. 280' TO THE WEST) ARE FULLY CLOSED. CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO COMMENCING REMOVALS.
  2. CONTRACTOR IS CAUTIONED THAT LIQUID (RAS) MAY BE PRESENT IN THE ABANDONED SEGMENT OF THE RAS INLET CHANNEL, EAST OF THE EXISTING ALUMINUM BULKHEAD SHOWN. CONTRACTOR SHALL REQUEST OWNER SHUTDOWN AND DEWATERING OF THE RAS INLET CHANNEL WEST OF THE BULKHEAD, AND SHALL VERIFY CONDITIONS PRIOR TO COMMENCING REMOVAL OF EXISTING CHANNEL SLAB AND WALLS. VERIFICATION SHALL INCLUDE TEMPORARY REMOVAL OF EXIST. BULKHEAD PLATE, DURING AN EARLY MORNING HOUR SHUTDOWN.
  3. GUARDRAILING NOT SHOWN.

REVISION

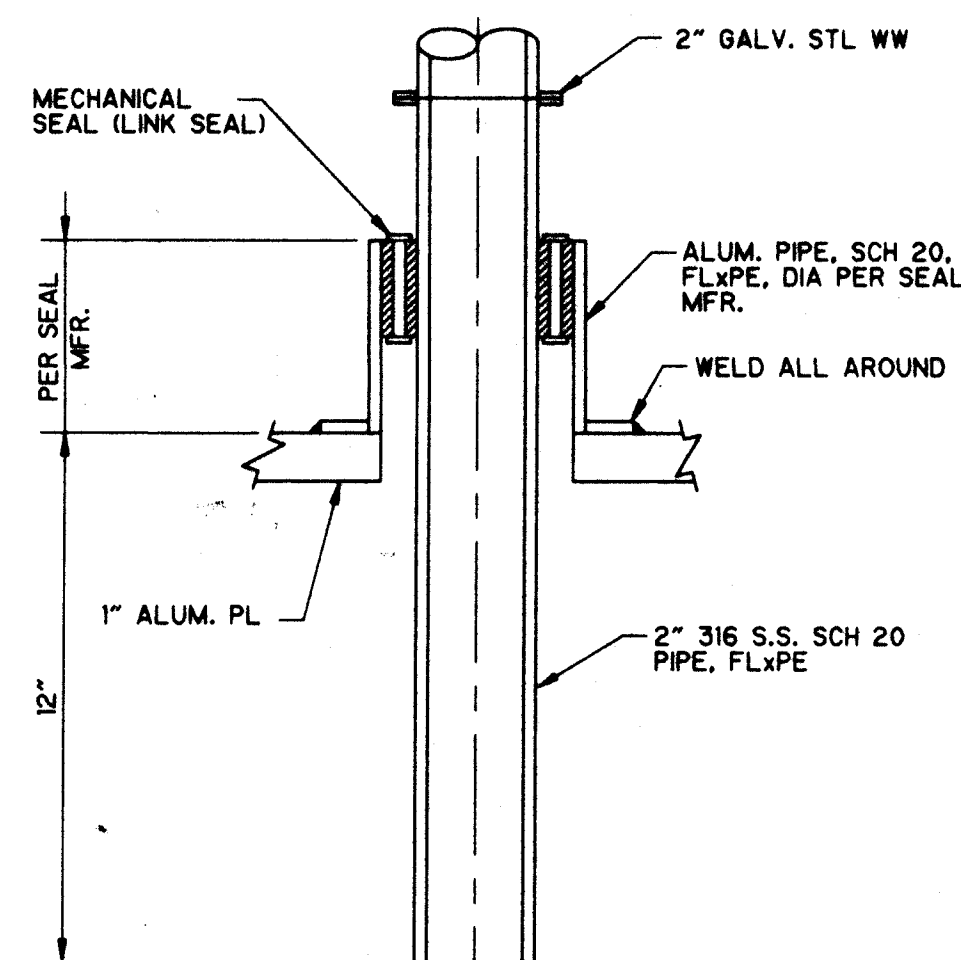
**RECORD DRAWING**  
Date: 6/26/94 By: MJS  
CAMP DRESSER & MCKEE INC.

**RECORD DRAWING**  
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 6/26/94 By: MJS CAMP DRESSER & MCKEE

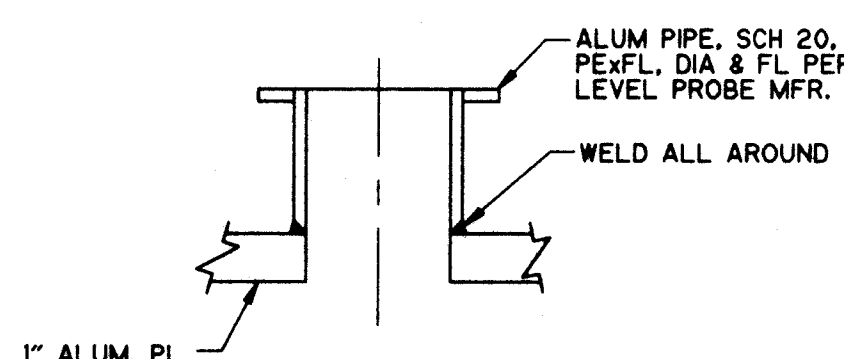


RAS STANDPIPE  
SECTION 7  
1/4" = 1'-0"

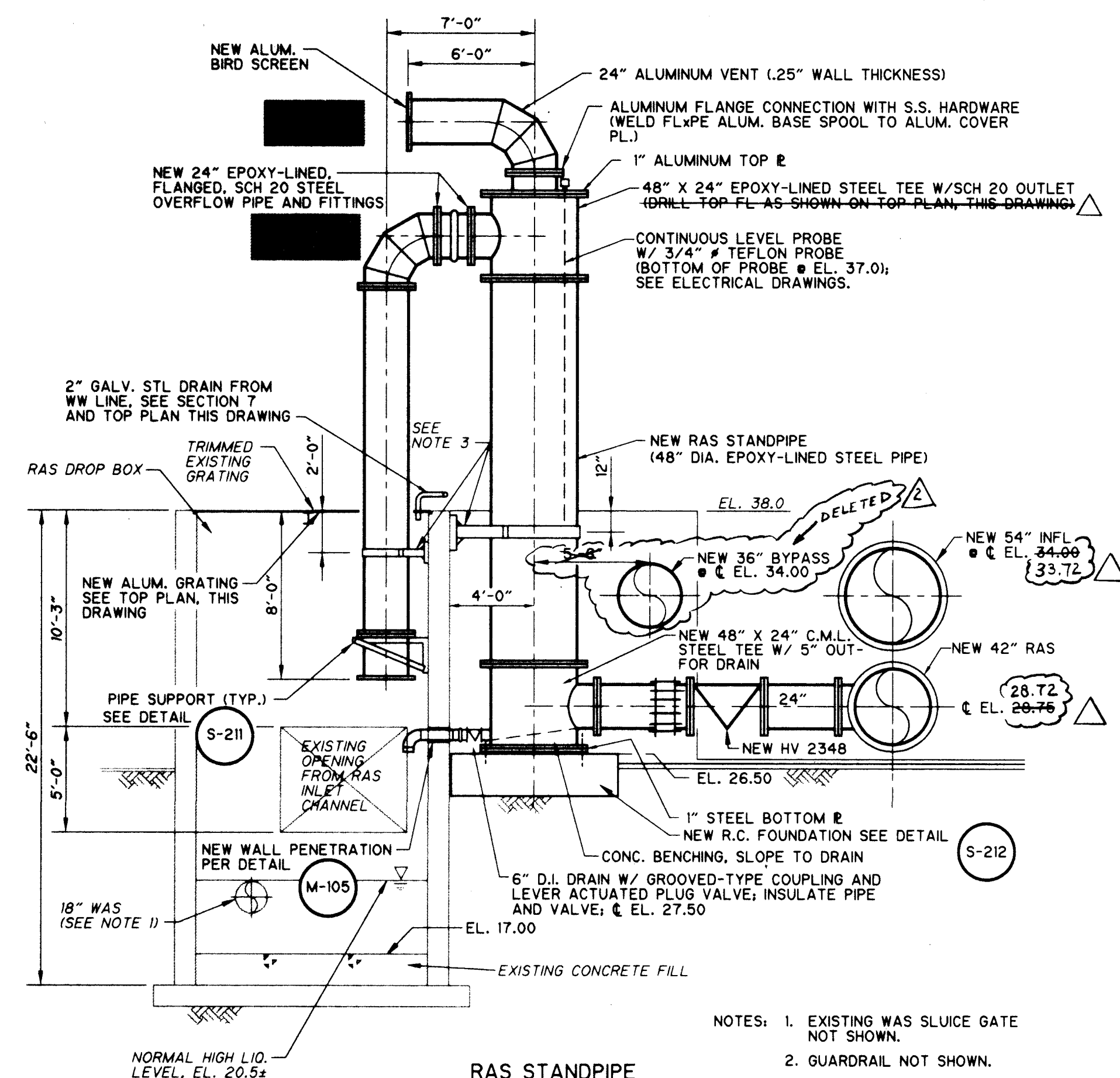
- NOTES:
1. NEW LADDER NOT SHOWN; TRIM EXISTING GUARDRAIL FROM BEHIND NEW LADDER.
  2. SCALE OF WW PIPE FITTINGS EXAGGERATED FOR CLARITY.



DETAIL A  
NO SCALE

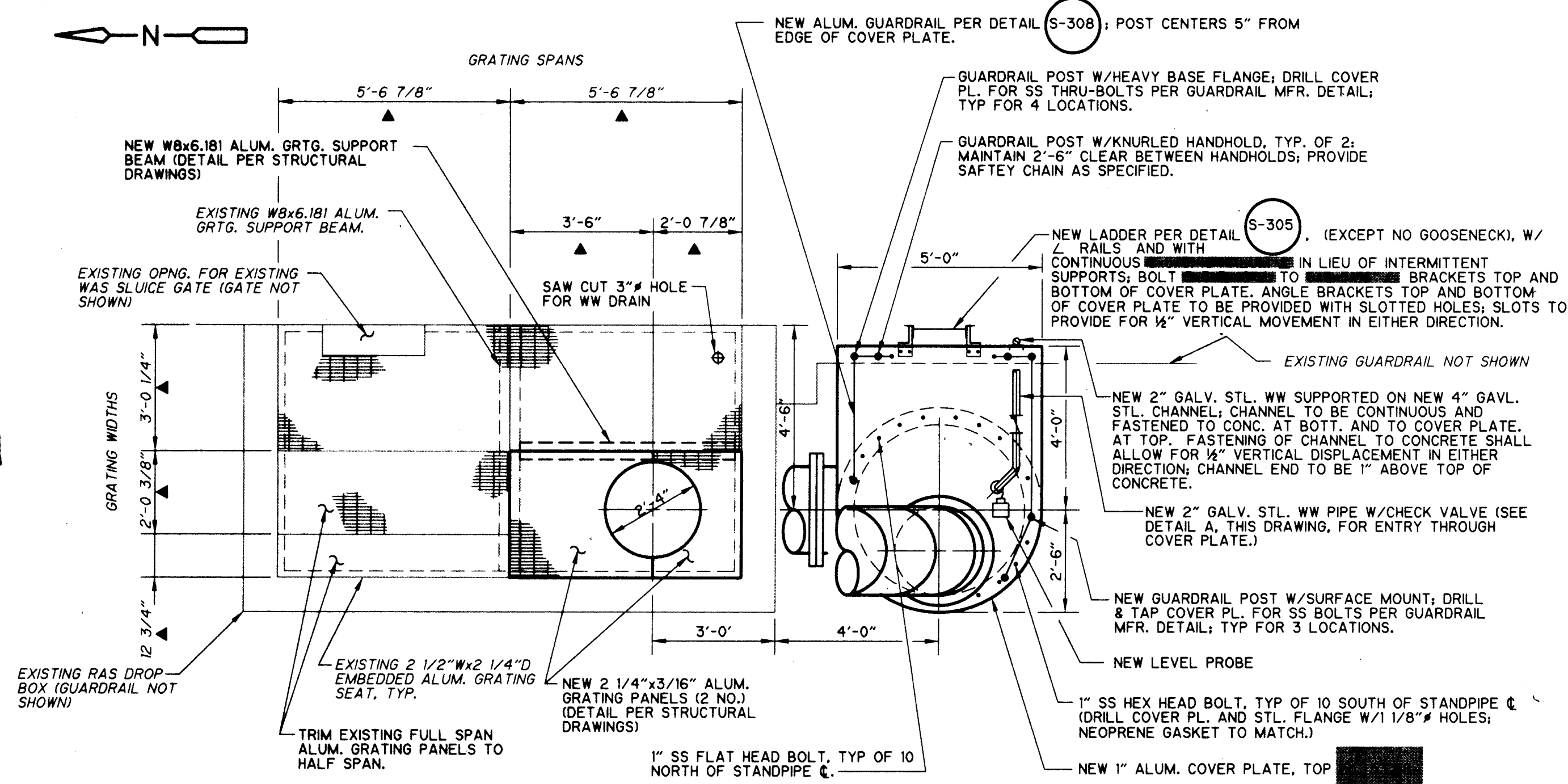


DETAIL B  
NO SCALE



RAS STANDPIPE  
SECTION 6  
3/16" = 1'-0"

- NOTES:
1. EXISTING WAS SLUICE GATE NOT SHOWN.
  2. GUARDRAIL NOT SHOWN.
  3. STEEL RESTRAINTS (SEE DETAIL S-103)



RAS STANDPIPE AND DROP BOX TOP PLAN  
PARTIAL PLAN  
3/8" = 1'

1	6/16/94	MJS	CHANGE REQUEST NO. 1	3	OCT 95	MJS	AS-BUILT CONDITION
			RAS STANDPIPE HEIGHTENED 5'-0"				
			LADDER SUPPORT ANGLE REVISED				
2	SEP 94	MJS	CHANGE REQUEST NO. 2				
NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: MJD  
Drawn By: STAFF  
Checked By: MJS  
Approved By: JPC

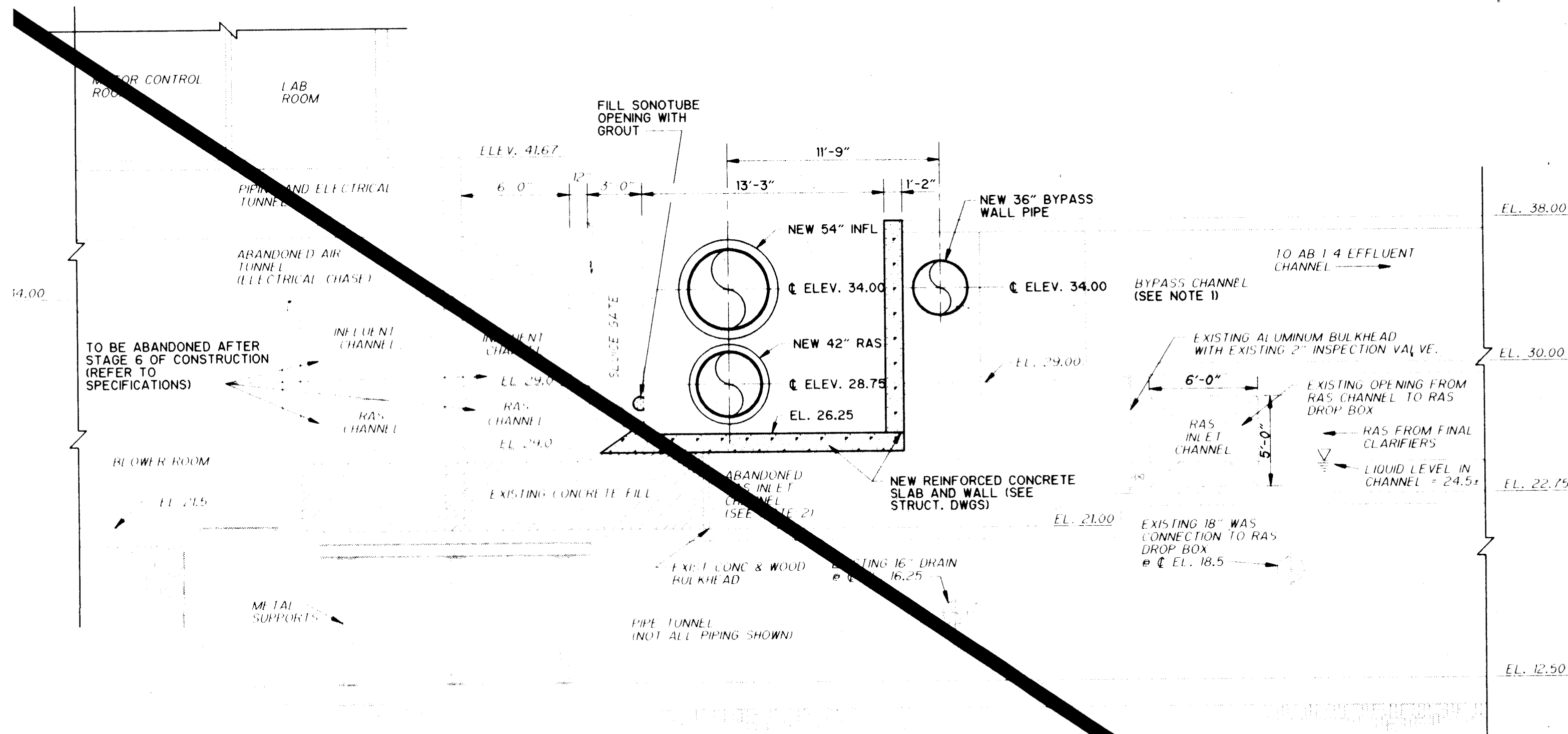
Date: DEC., 1993  
Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

**MECHANICAL PLAN  
SECTIONS AND DETAILS**  
REVISED

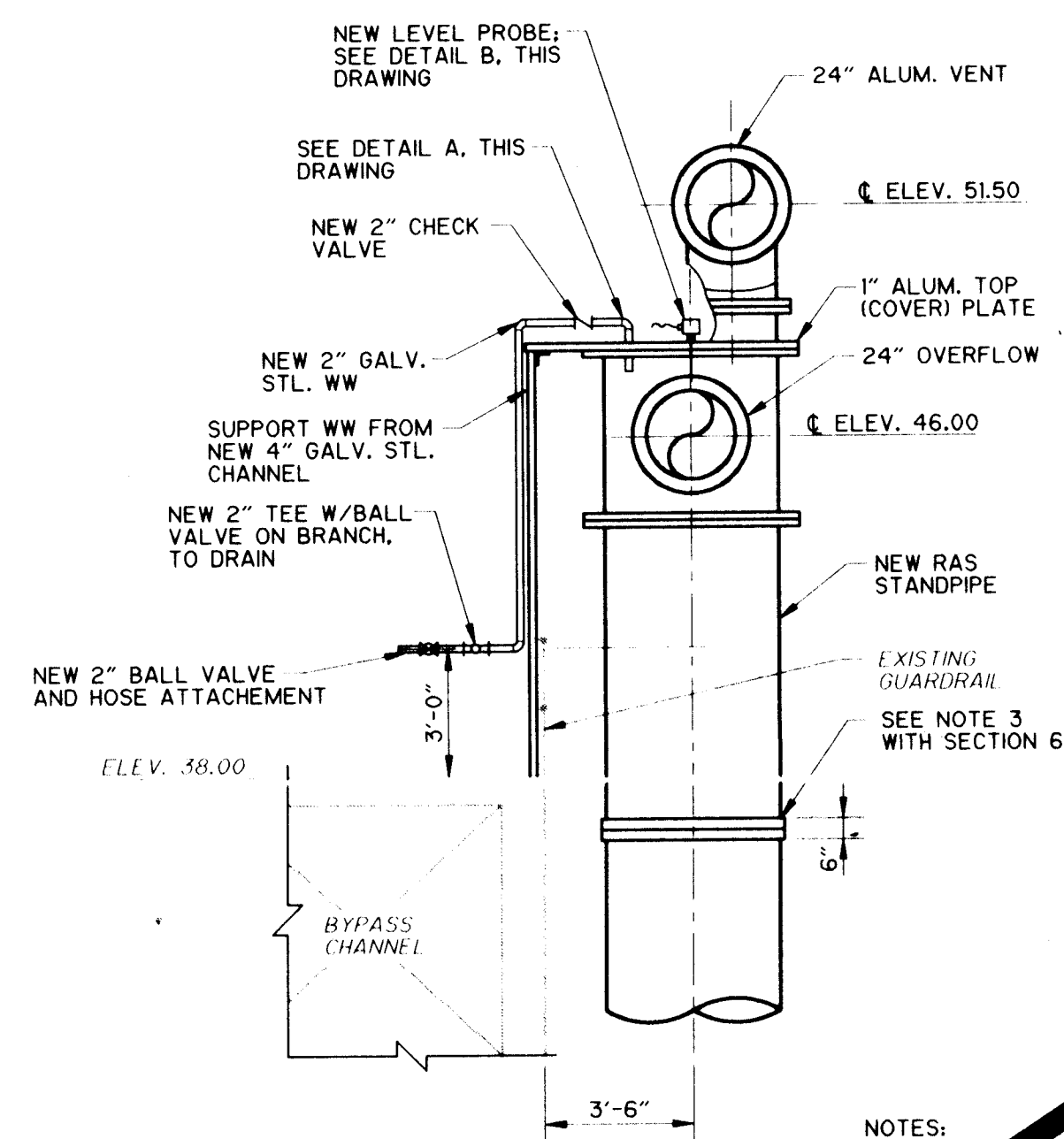
DRAWING  
**M-5-R**  
SHEET NUMBER  
**8 OF 30**





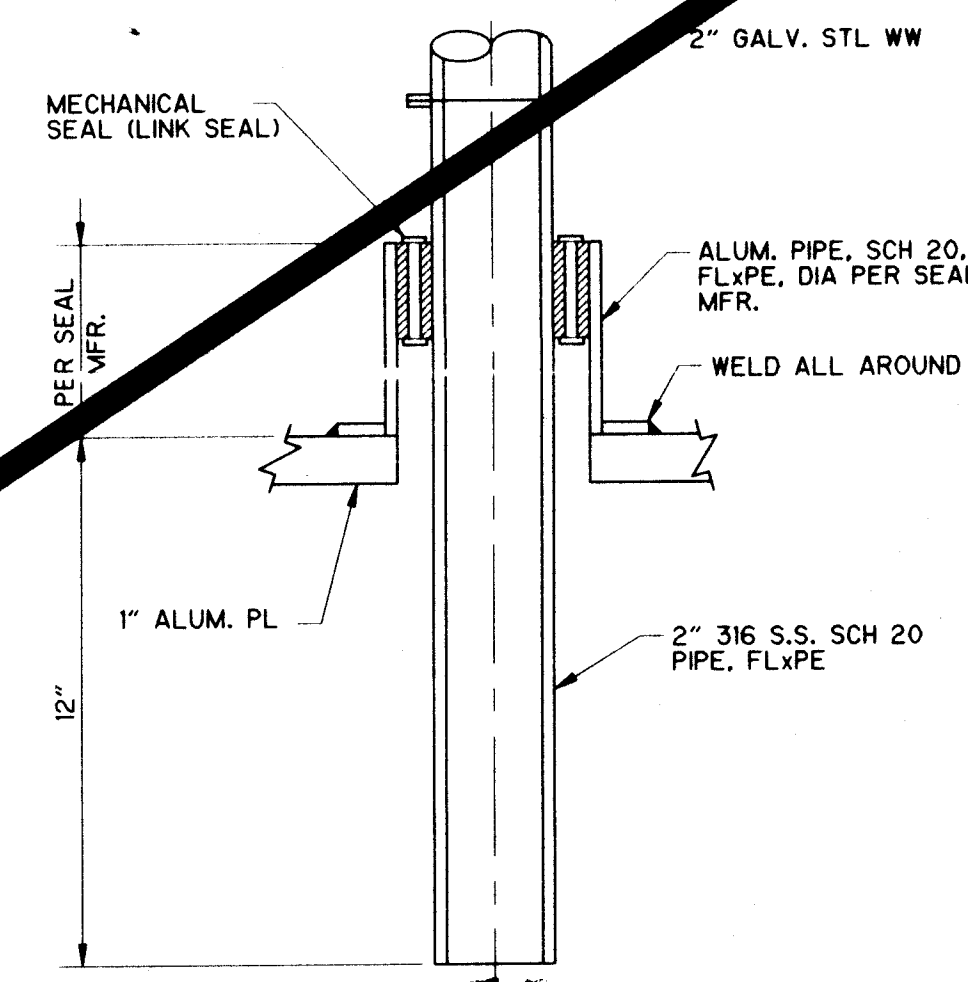
SECTION 5  
3/16" = 1'-0"

- NOTES:
1. AT THE TIME OF DESIGN, EXISTING BYPASS CHANNEL IS DRY AND NOT IN USE. EXISTING SLUICE GATE SHOWN, AS WELL AS EXISTING SLUICE GATE (FV 255II) AT AB 1-4 EFFLUENT CHANNEL (APPROX. 280' TO THE WEST) ARE FULLY CLOSED. CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO COMMENCING REMOVALS.
  2. CONTRACTOR IS CAUTIONED THAT LIQUID (RAS) MAY BE PRESENT IN THE ABANDONED SEGMENT OF THE RAS INLET CHANNEL, EAST OF THE EXISTING ALUMINUM BULKHEAD SHOWN. CONTRACTOR SHALL REQUEST OWNER SHUTDOWN AND DEWATERING OF THE RAS INLET CHANNEL WEST OF THE BULKHEAD, AND SHALL VERIFY CONDITIONS PRIOR TO COMMENCING REMOVAL OF EXISTING CHANNEL SLAB AND WALLS. VERIFICATION SHALL INCLUDE TEMPORARY REMOVAL OF EXIST. BULKHEAD PLATE, DURING AN EARLY MORNING HOUR SHUTDOWN.
  3. GUARDRAILING NOT SHOWN.

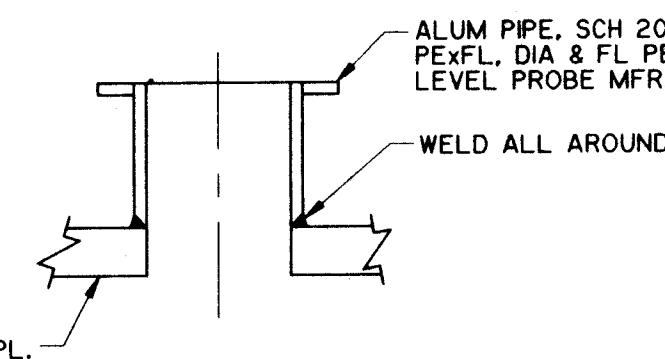


SECTION 7  
1/4" = 1'-0"

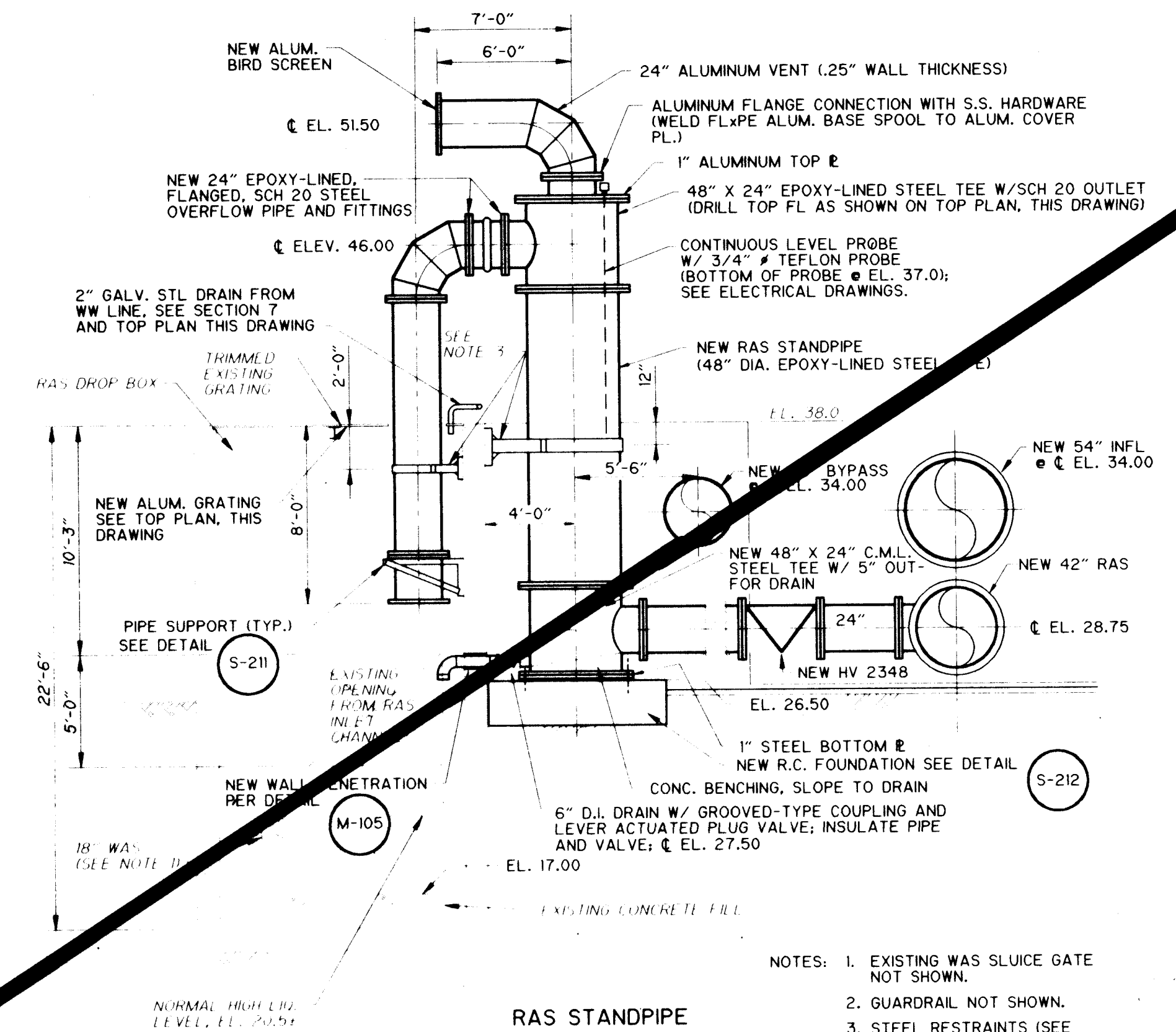
- NOTES:
1. NEW LADDER NOT SHOWN; TRIM EXISTING GUARDRAIL FROM BEHIND NEW LADDER.
- SCALE OF WW PIPE FITTINGS EXAGGERATED FOR CLARITY.



DETAIL A  
NO SCALE

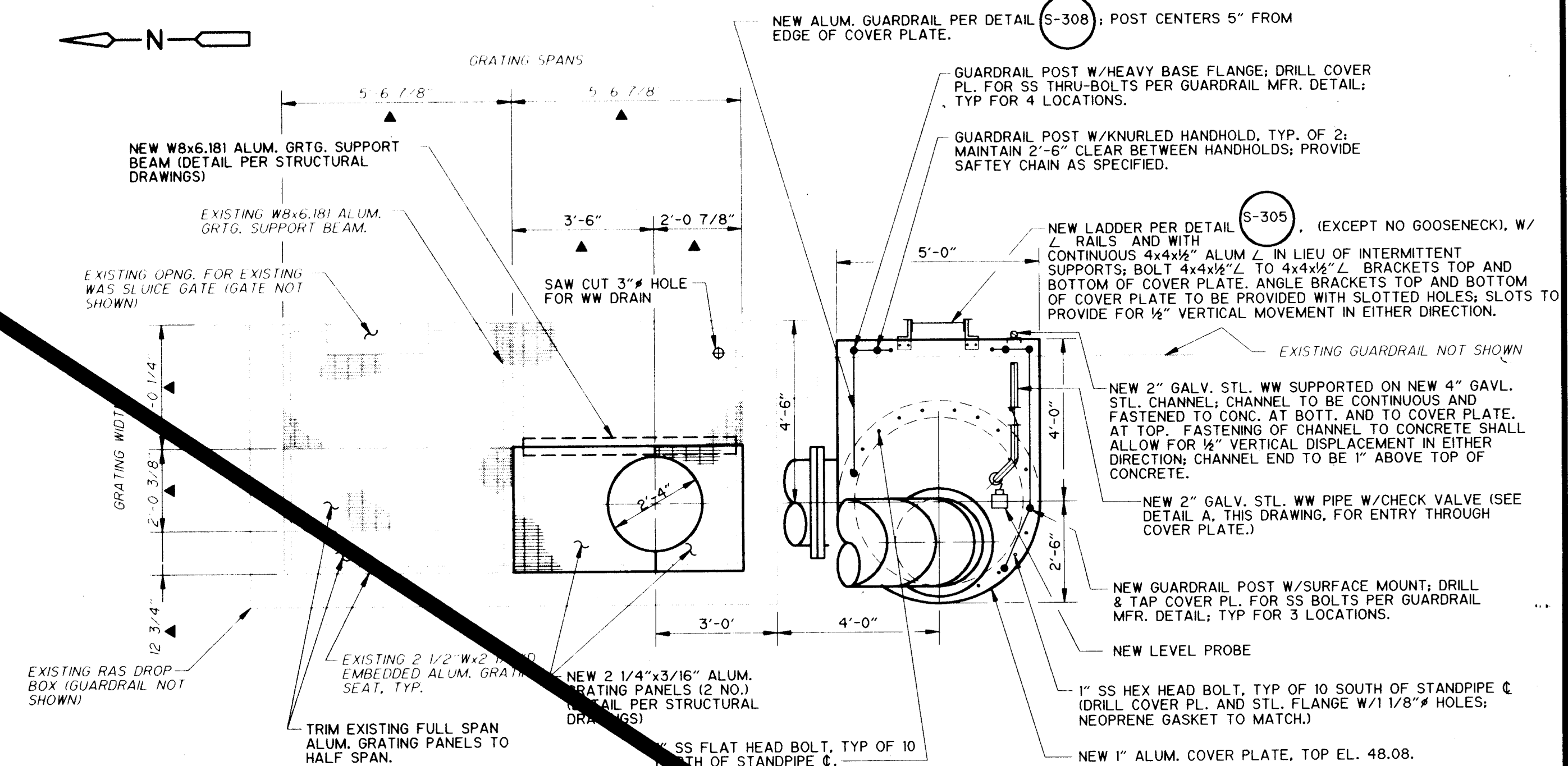


DETAIL B  
NO SCALE

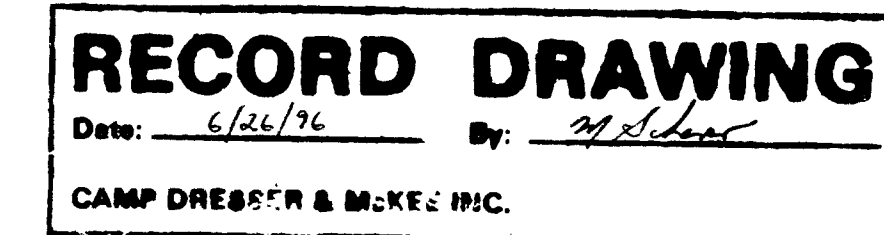
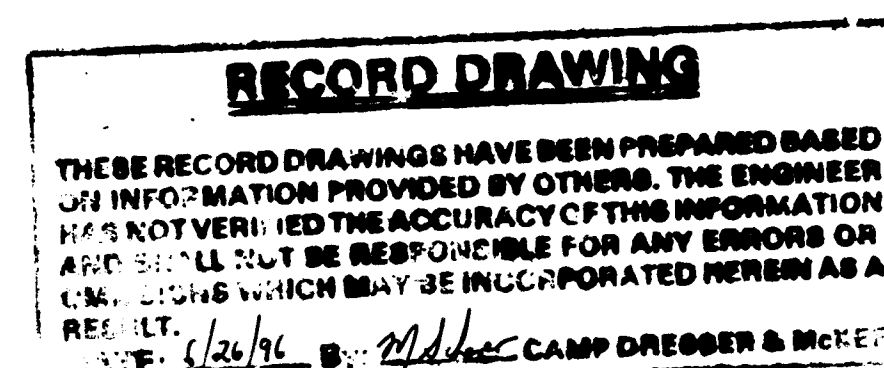


SECTION 6  
3/16" = 1'-0"

- NOTES:
1. EXISTING WAS SLUICE GATE NOT SHOWN.
  2. GUARDRAIL NOT SHOWN.
  3. STEEL RESTRAINTS (SEE DETAIL S-103)



RAS STANDPIPE AND DROP BOX TOP PLAN  
PARTIAL PLAN  
3/8" = 1'



MJS SHEET DELETED BY CHANGE REQUEST NO. 1					
APP	REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
  
PUBLIC WORKS  
DEPARTMENT



Designed By: MLD  
Drawn By: STAFF  
Checked By: MJS  
Approved By: JPC

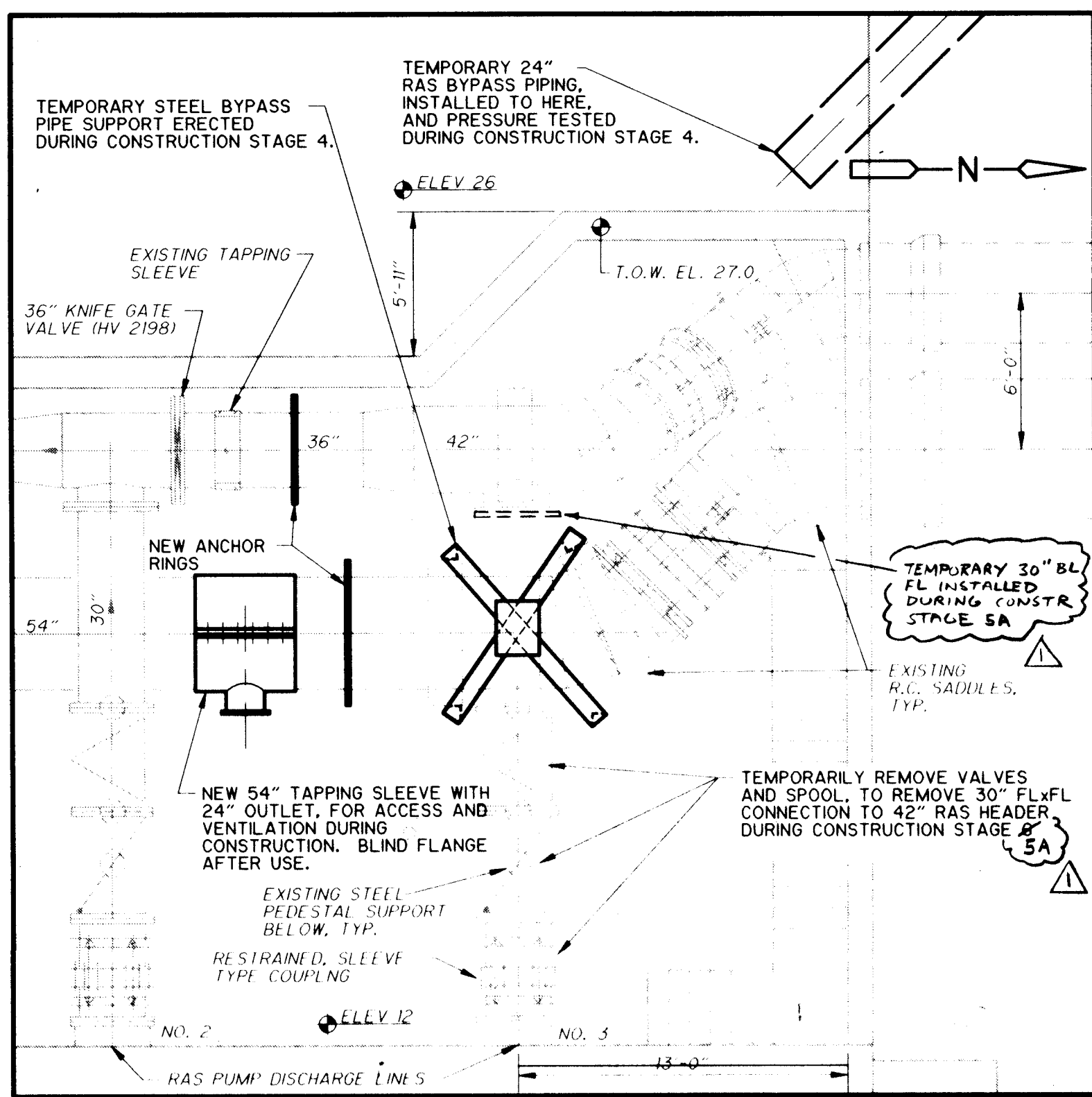
Date: DEC. 1993  
Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

**MECHANICAL PLAN  
SECTIONS AND DETAILS**

DRAWING  
**M-5**  
SHEET NUMBER  
**8** OF **9**

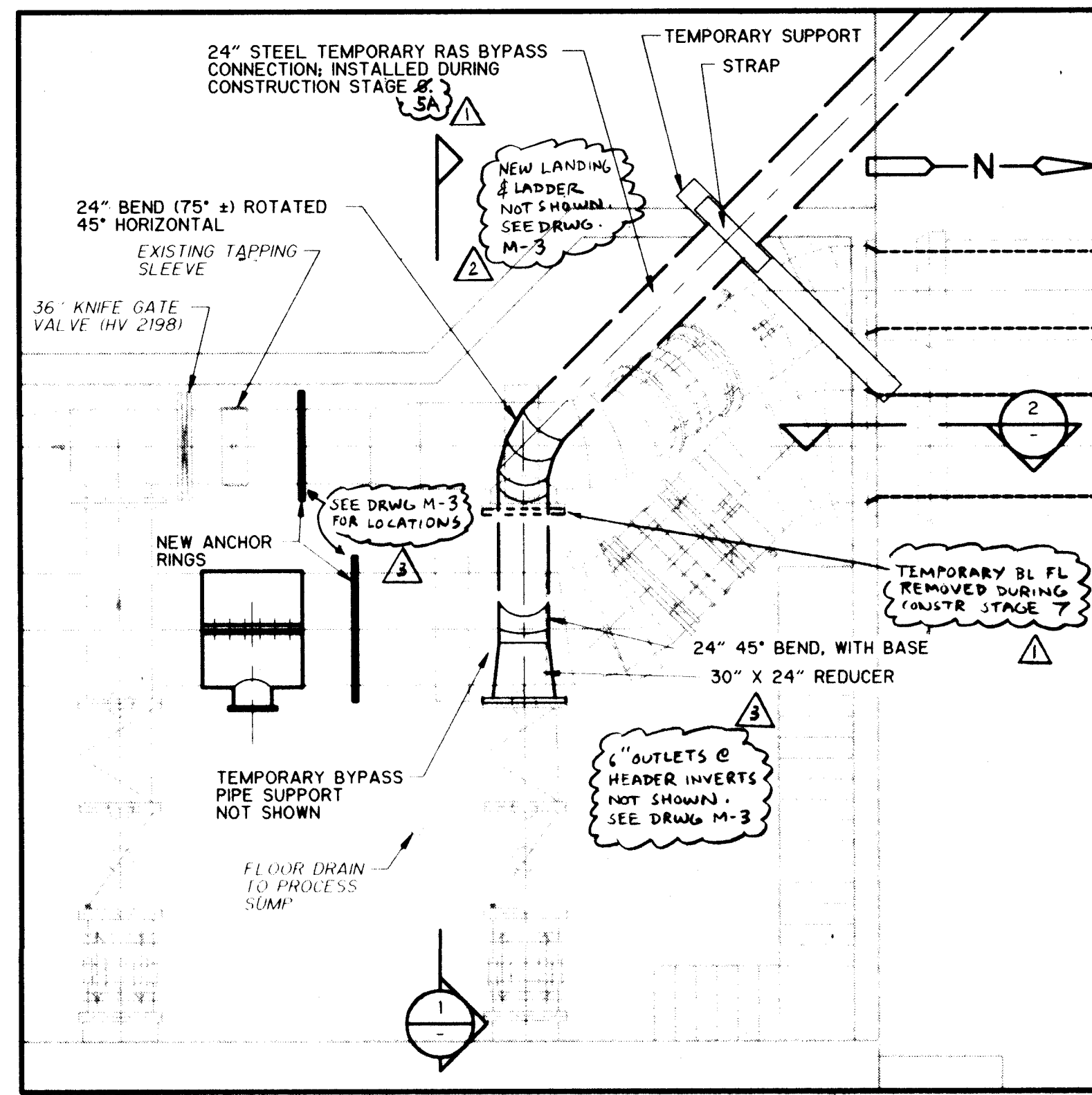




TEMPORARY RAS BYPASS CONNECTION CONSTRUCTION SEQUENCE

PARTIAL PLAN 1

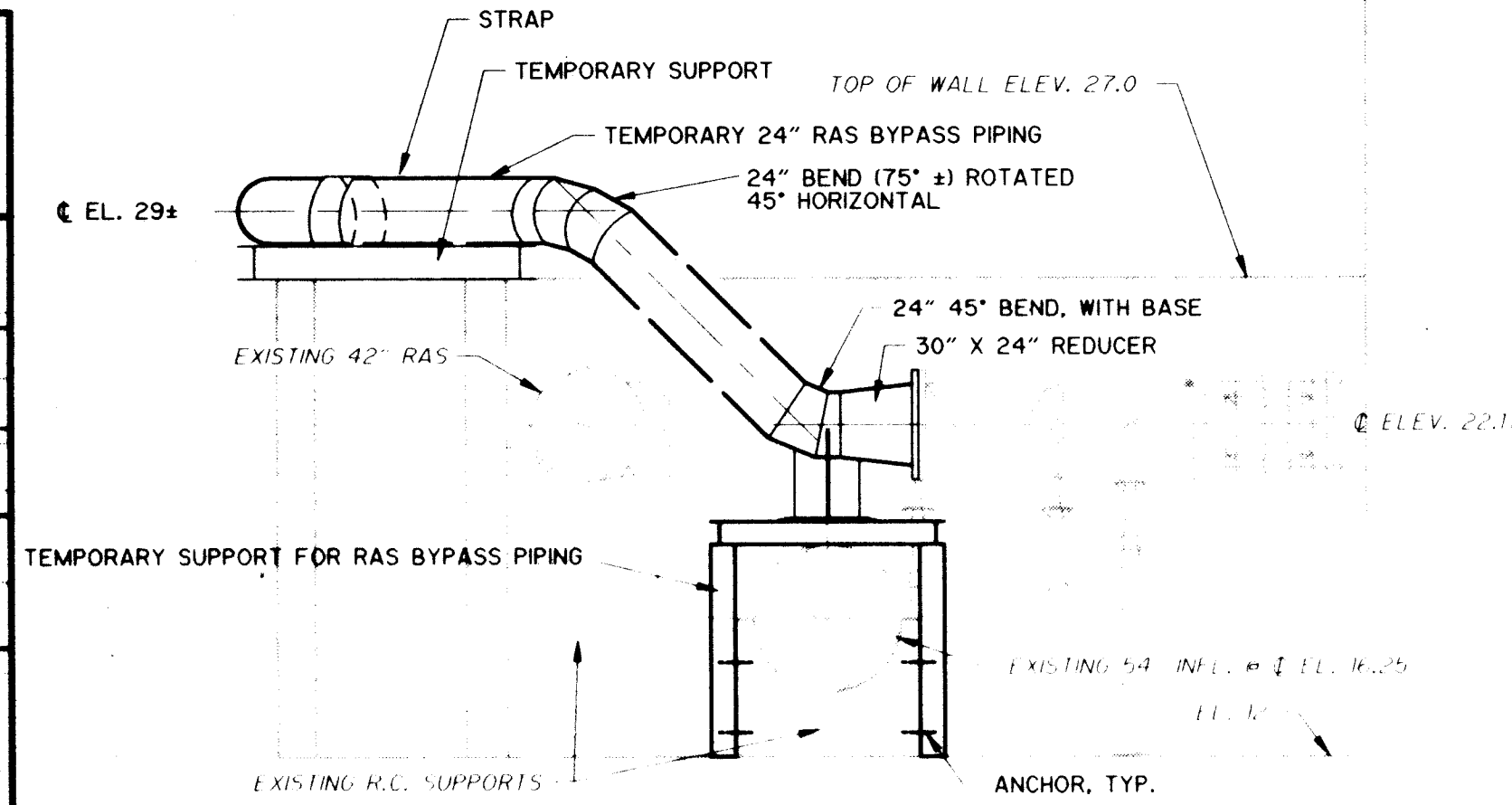
3/16" = 1'-0"



TEMPORARY RAS BYPASS CONNECTION CONSTRUCTION SEQUENCE

PARTIAL PLAN 2

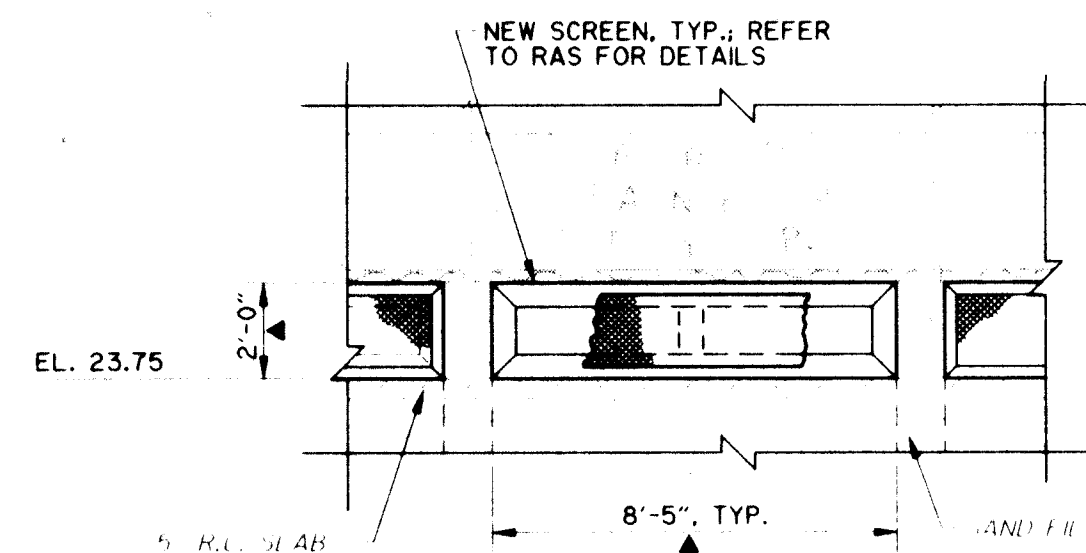
3/16" = 1'-0"



TEMPORARY RAS BYPASS PIPING

SECTION 1

3/16" = 1'-0"



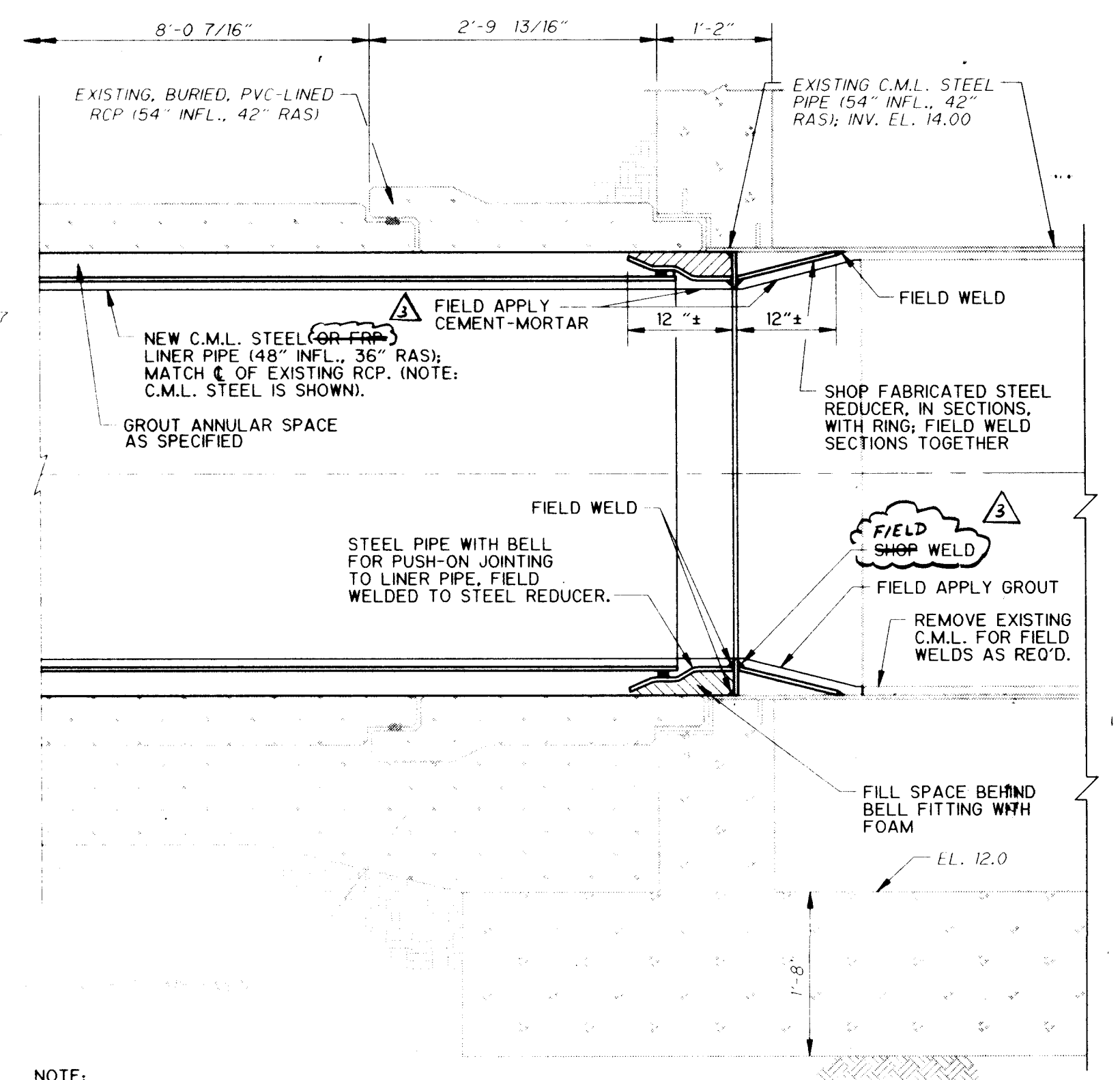
CENTER, TYP. OF 3

DETAIL (CONT'D.) A

1/4" = 1'-0"

RECORD DRAWING

DATE: 1/26/96 BY: MLD CAMP DRESSER & MCKEE INC.

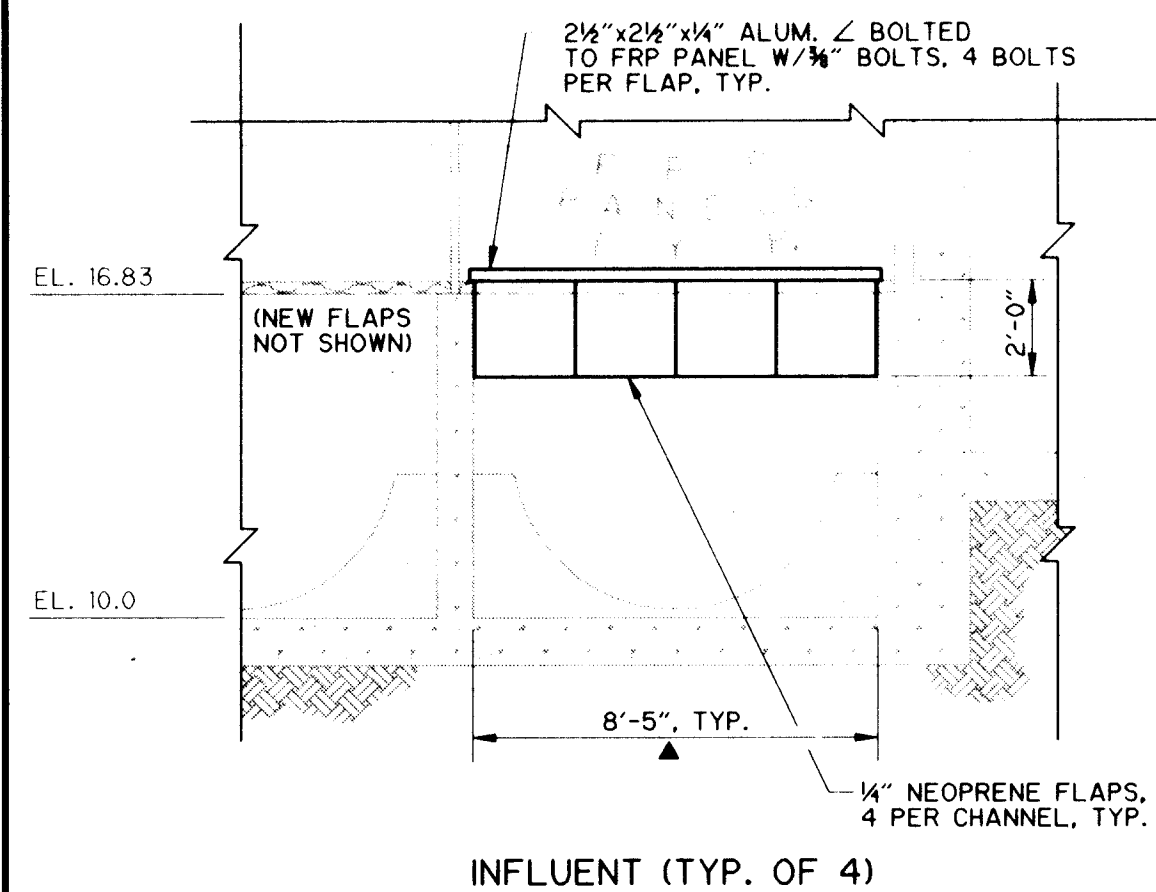


NOTE:  
1. REFER TO SPECIFICATIONS FOR WELDING REQUIREMENTS.

LINER PIPE AND CONNECTION

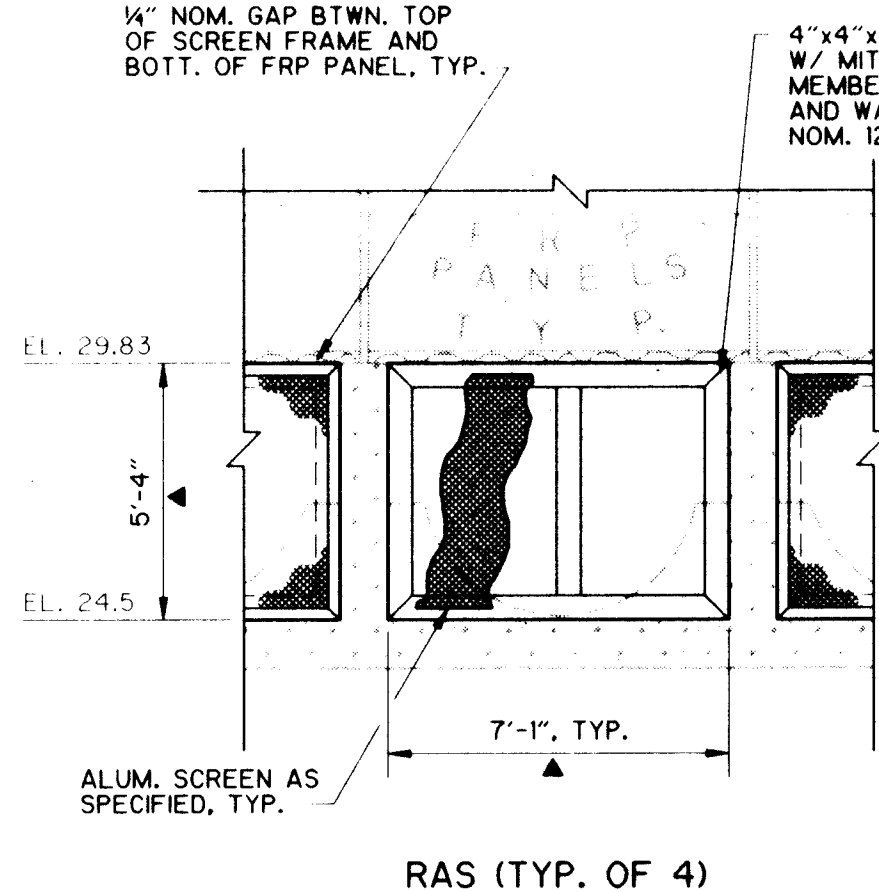
SECTION 2

3/4" = 1'-0"



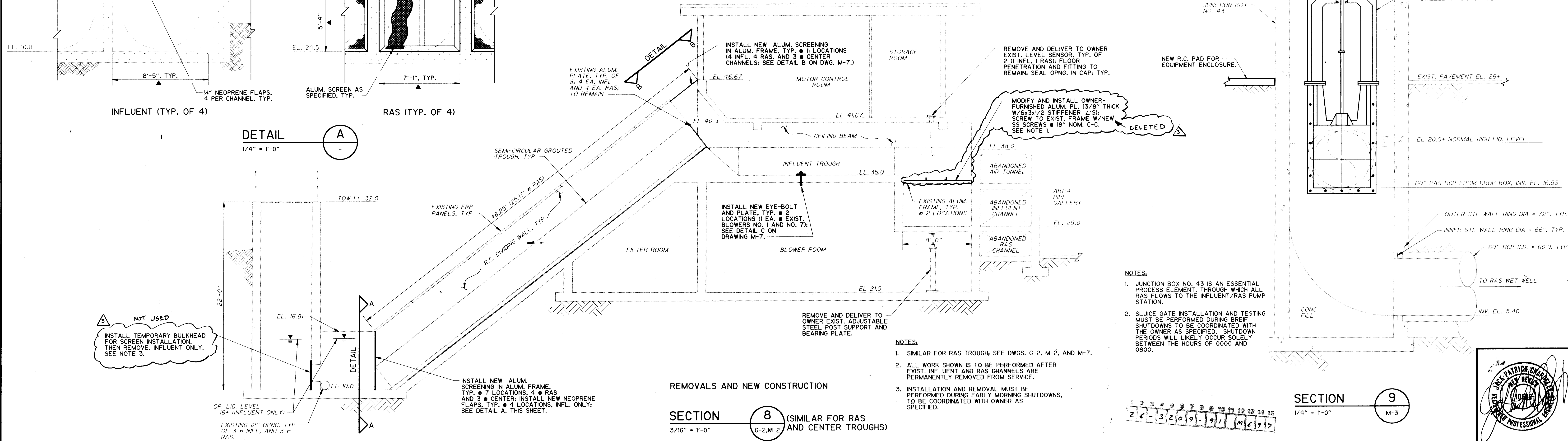
DETAIL A

1/4" = 1'-0"



RAS (TYP. OF 4)

**RECORD DRAWING**  
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 1/26/96 BY: MLD CAMP DRESSER & MCKEE



REMOVALS AND NEW CONSTRUCTION

SECTION 8

3/16" = 1'-0"

(SIMILAR FOR RAS AND CENTER TROUGHS)

- NOTES:
1. SIMILAR FOR RAS TROUGH; SEE DWGS. G-2, M-2, AND M-7.
  2. ALL WORK SHOWN IS TO BE PERFORMED AFTER EXIST. INFLUENT AND RAS CHANNELS ARE PERMANENTLY REMOVED FROM SERVICE.
  3. INSTALLATION AND REMOVAL MUST BE PERFORMED DURING EARLY MORNING SHUTDOWNS, TO BE COORDINATED WITH OWNER AS SPECIFIED.

- NOTES:
1. JUNCTION BOX NO. 43 IS AN ESSENTIAL PROCESS ELEMENT, THROUGH WHICH ALL RAS FLOWS TO THE INFLUENT/RAS PUMP STATION.
  2. SLUICE GATE INSTALLATION AND TESTING MUST BE PERFORMED DURING BREIF SHUTDOWNS TO BE COORDINATED WITH THE OWNER AS SPECIFIED. SHUTDOWN PERIODS WILL LIKELY OCCUR SOLELY BETWEEN THE HOURS OF 0000 AND 0800.

SECTION 9

1/4" = 1'-0"

M-3

NOV 94	MJS	CHANGE REQUEST NO. 7			
SEP 95	MJS	CHANGE REQUEST NO. 13			
OCT 95	MJS	AS-BUILT CONDITION			
NO.	DATE	APP.	REVISION	NO.	DATE
				APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: MLD  
Drawn By: STAFF  
Checked By: MJS  
Approved By: JPC

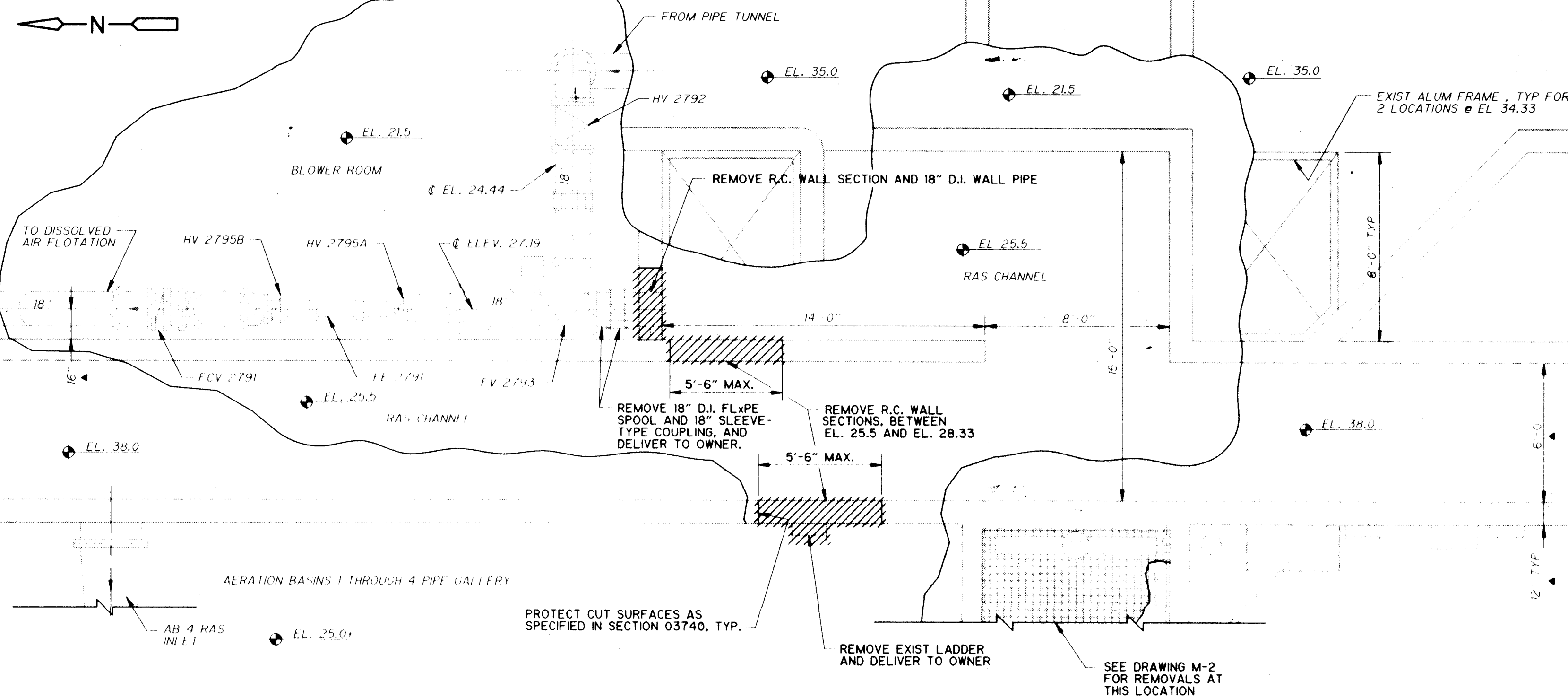
Date: DEC. 1993  
Scale: AS NOTED

**CDM**  
CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

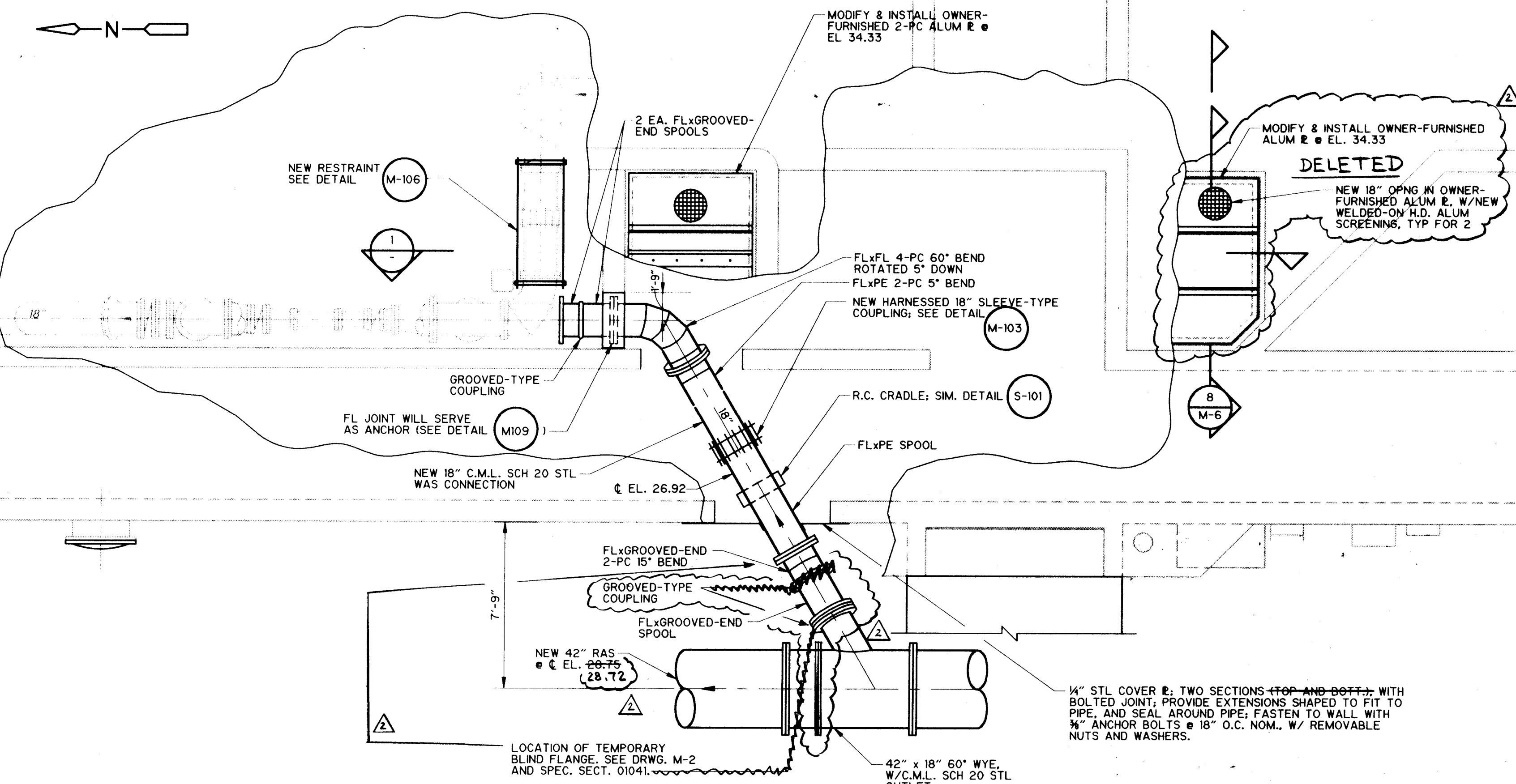
MECHANICAL PLANS,  
SECTIONS AND DETAILS

DRAWING  
M-6  
SHEET NUMBER  
9 OF 30

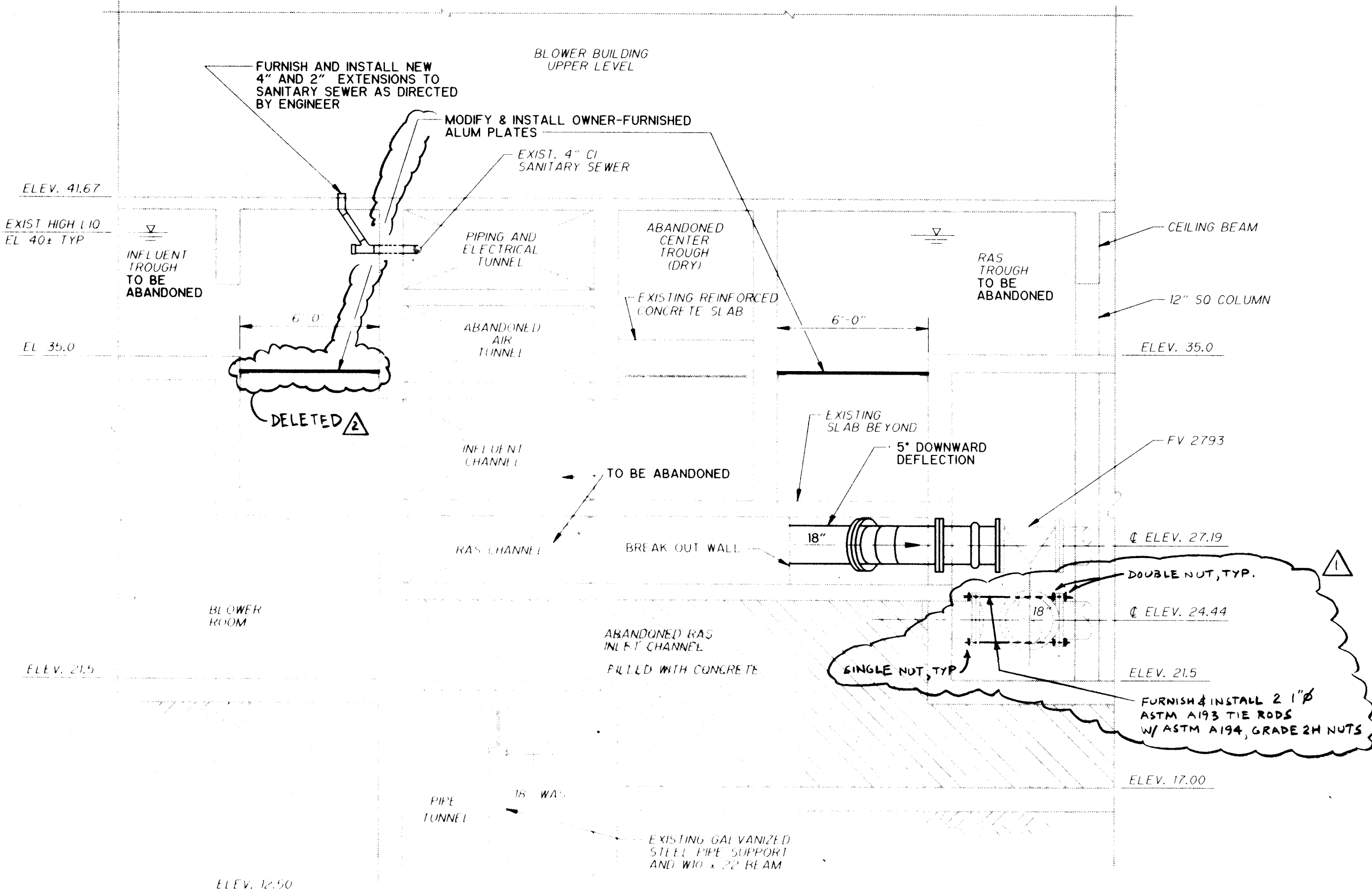




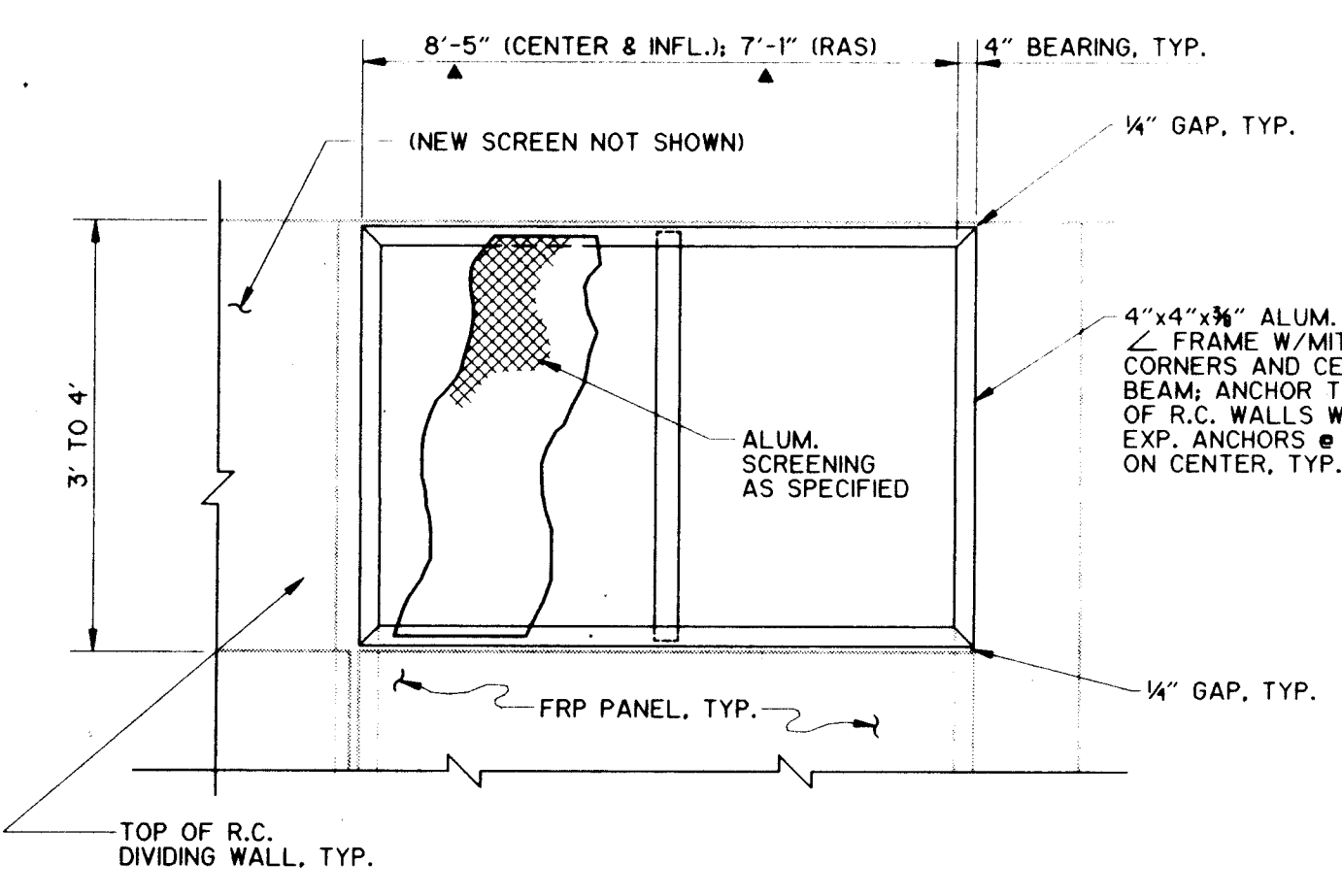
REMOVALS  
PARTIAL PLAN  
1/4" = 1'-0"



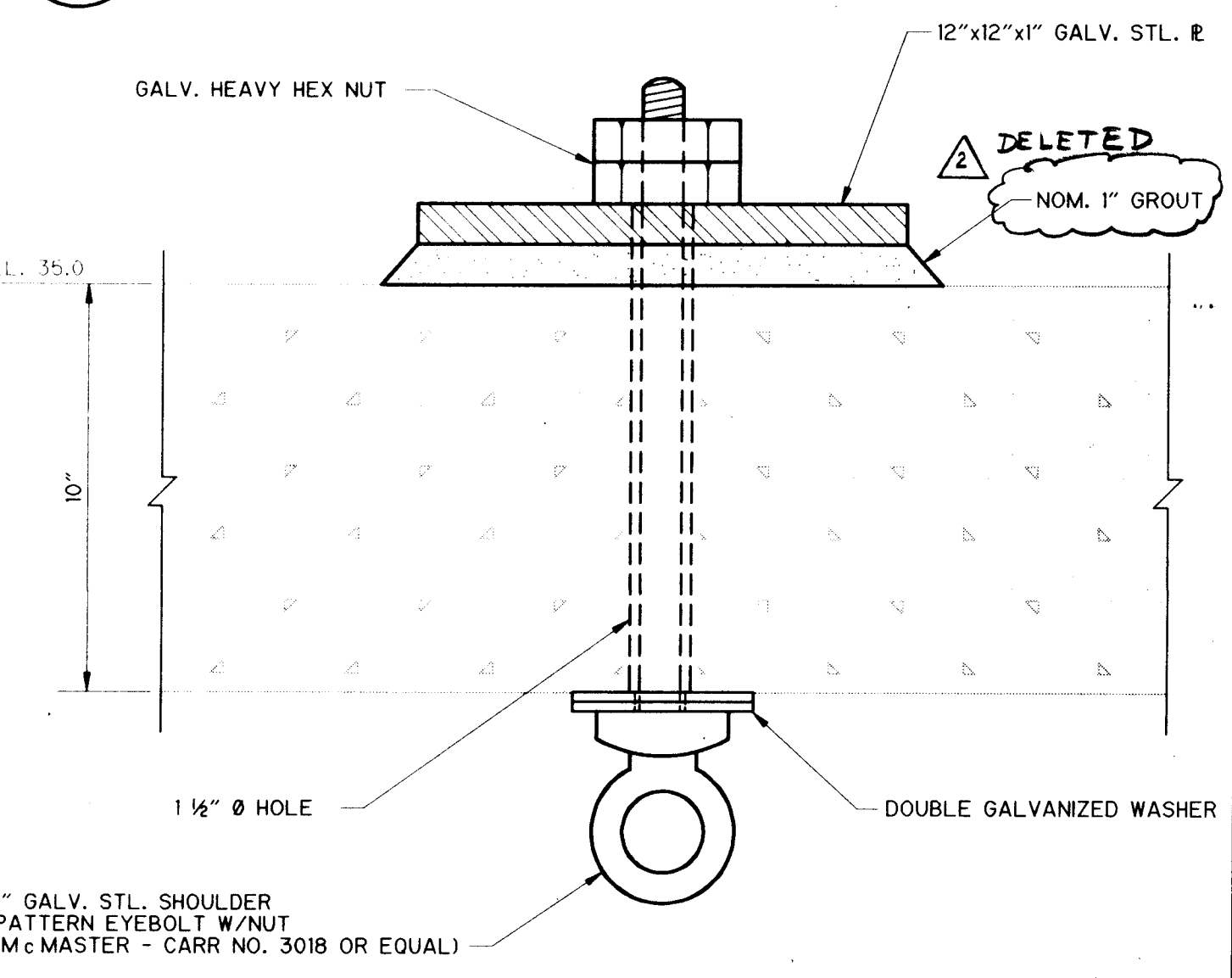
NEW CONSTRUCTION  
PARTIAL PLAN  
1/4" = 1'-0"



SECTION 1  
1/4" = 1'-0"



**RECORD DRAWING**  
Date: 6/26/96 By: [Signature]  
CAMP DRESSER & MCKEE INC.



**RECORD DRAWING**  
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE

SEP 95	MJS	CHANGE REQUEST NO. 13			
OCT 95	MJS	AS-BUILT CONDITION			
NO.	DATE	APP.	REVISION	NO.	DATE

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: MLD  
Drawn By: STAFF  
Checked By: MJS  
Approved By: JPC

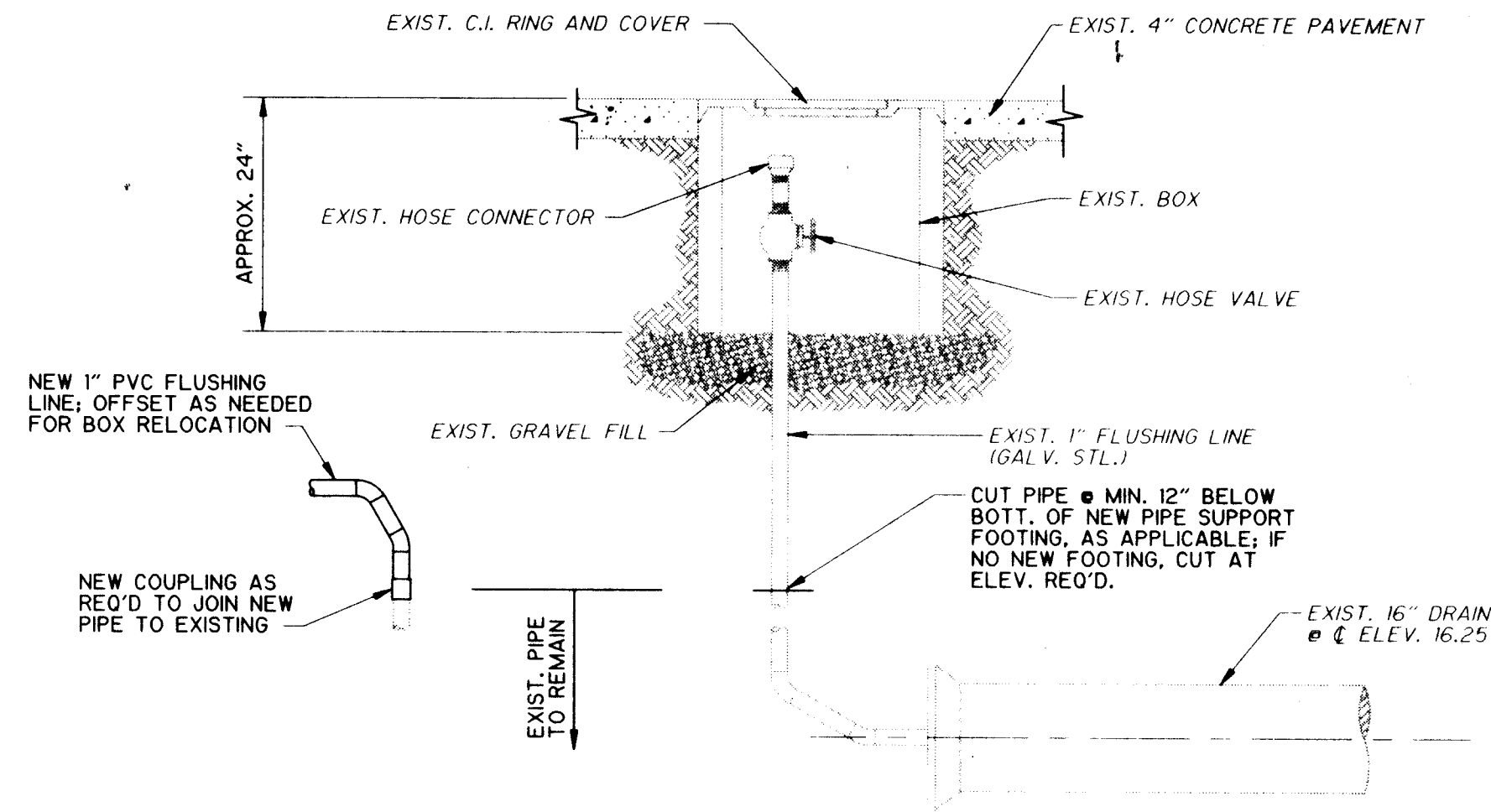
Date: DEC. 1993  
Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

**MECHANICAL PLANS,  
SECTION AND DETAILS**

DRAWING  
**M-7**  
SHEET NUMBER  
**10 OF 30**

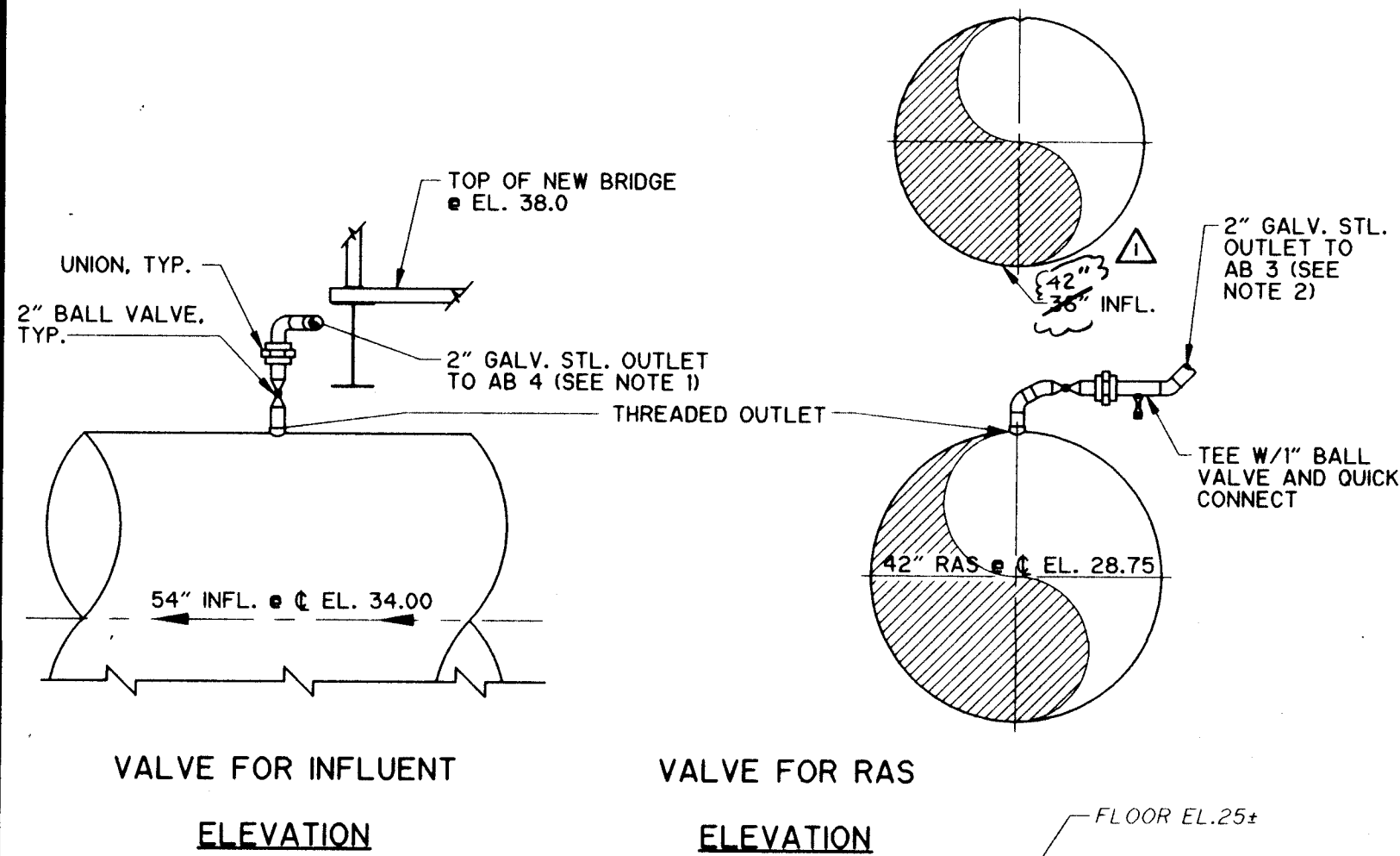




- NOTES
1. REMOVE HOSE VALVE AND HOSE CONNECTOR, AND REINSTALL ON NEW FLUSHING LINE EXTENSION AT NEW BOX LOCATION.
  2. PROVIDE 1" PIPE FITTINGS AS REQUIRED; ALL JOINTS TO BE RESTRAINED (SCREWED, CEMENTED, AS APPLICABLE AND AS SPECIFIED).
  3. REMOVE EXISTING BOX; REMOVE EXISTING GRAVEL FILL AND REPLACE WITH STRUCTURAL FILL FOR NEW FOOTING SUPPORT, AS APPLICABLE.
  4. FOR METER BOX AT NEW LOCATION, INSTALL 12 GA. CORRUGATED GALV. STEEL PIPE, DIAMETER TO SUIT EXIST. C.I. RING; REINSTALL EXIST. RING AND COVER AT NEW LOCATION.

FLUSHING VALVE BOX RELOCATION

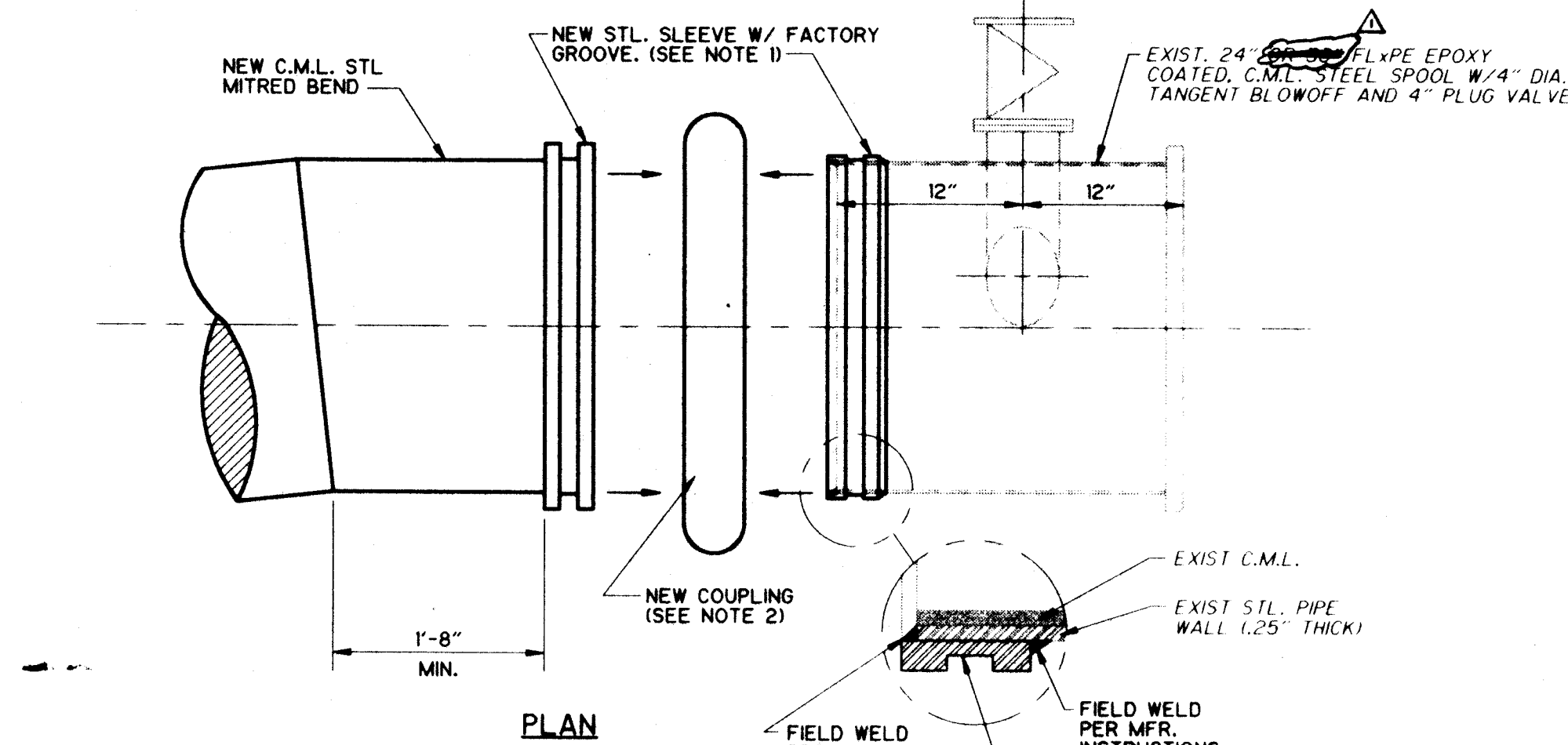
DETAIL M101  
NTS



- NOTES:
1. SUPPORT FROM NEW BRIDGE AND UNUSED R.C. SUPPORT UNDER NEW ACCESS WALK, SLOPE TO OUTLET INTO AB 4 @ EL. 37.2, OUTLET VIA NEW OPNG. SIM. TO DETAIL M106.
  2. SUPPORT AS REQ'D. AND DISCHARGE VIA TURNED DOWN 90° EL. @ EL. 38.5, INTO AB 3.

MANUAL AIR RELEASE VALVES

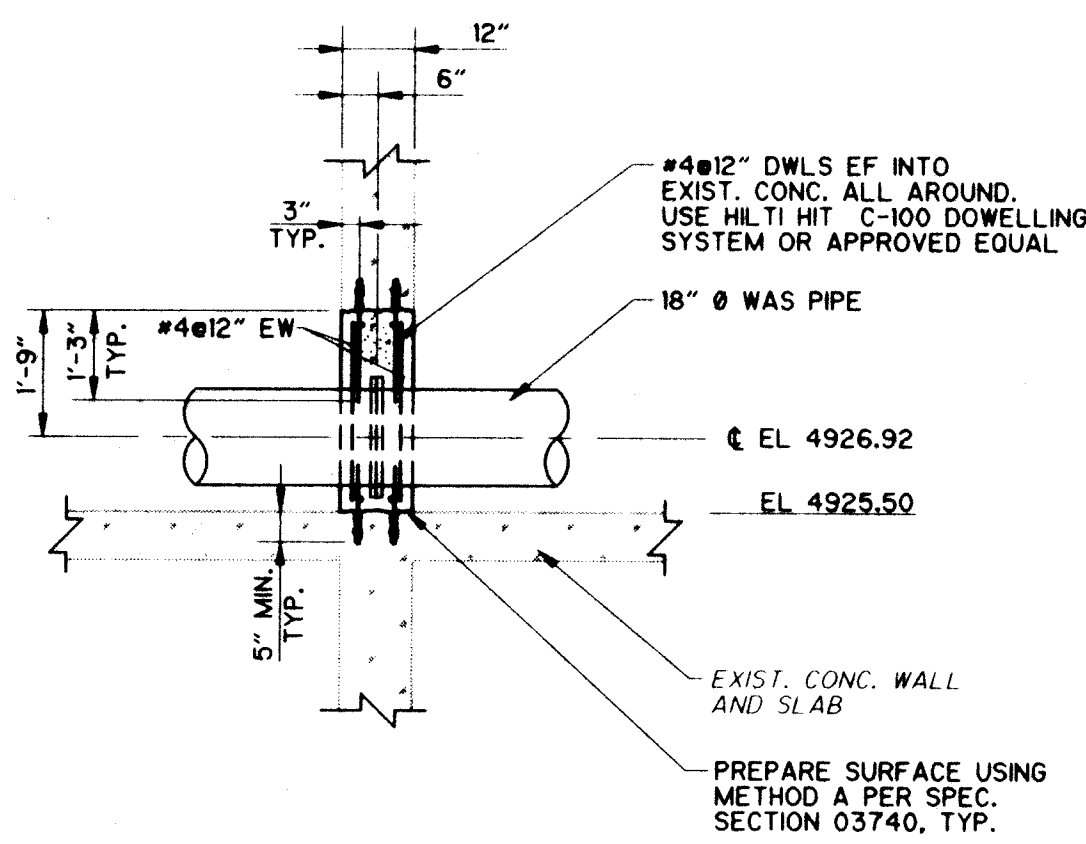
DETAIL M104  
1/2" = 1'-0"



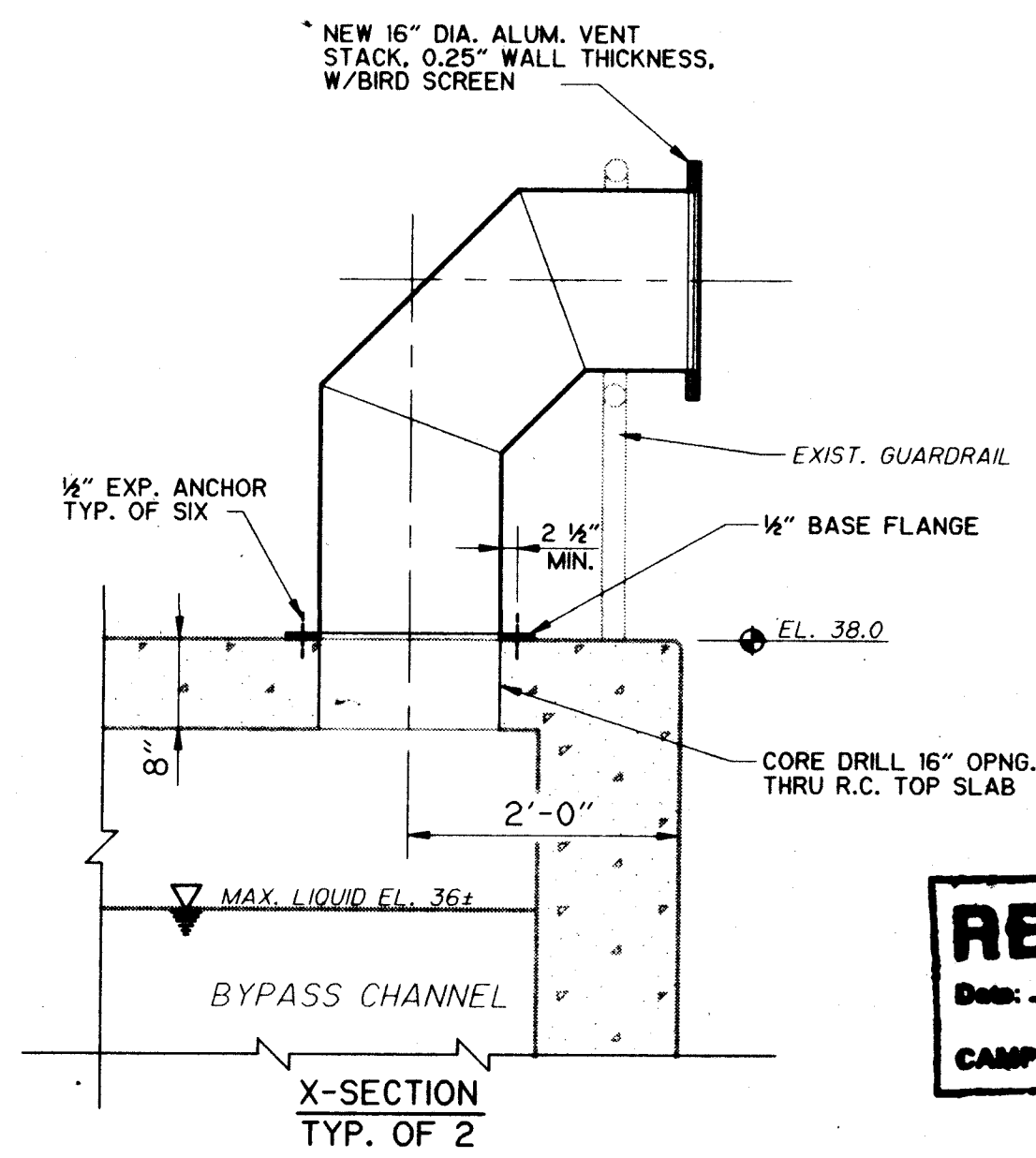
- NOTES
1. SLEEVE ATTACHMENT TO NEW BEND SHALL BE IN SHOP. SLEEVE ATTACHMENT TO EXIST. SPOOL SHALL BE IN FIELD. ALL WELDING CONTINUOUS ALL AROUND, PER MFR. INSTRUCTIONS. FOR EXIST. SPOOL, REMOVE EXIST. COATING AS REQ'D FOR WELDING, CLEAN AND DRESS SURFACES, AND APPLY NEW COATING (PRIME AND FINISH) AFTER WELDING IS COMPLETED, PER SPECS. REPAIR ANY DAMAGED CEMENT-MORTAR LINING, PER AWWA C205.
  2. (SEE NOTE 1 FOR SPOOL) STYLE 44 FOR 24" PIPING (BASED ON PRODUCTS OF VICTAULIC COMPANY; SEE SPECIFICATIONS).

MODIFICATION FOR GROOVED TYPE COUPLING

DETAIL M102  
NTS

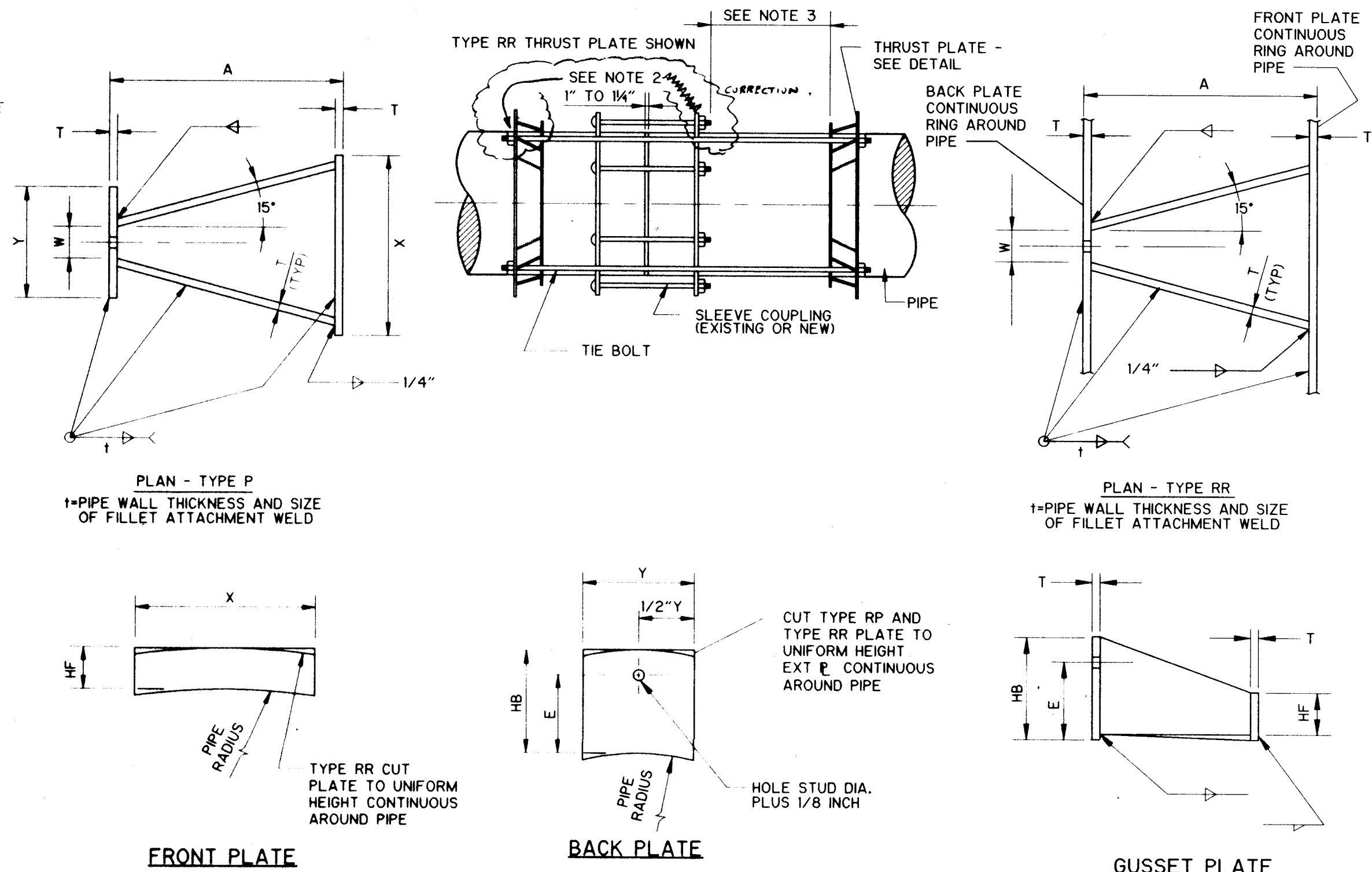


DETAIL M109  
3/8" = 1'-0"



BYPASS CHANNEL VENT

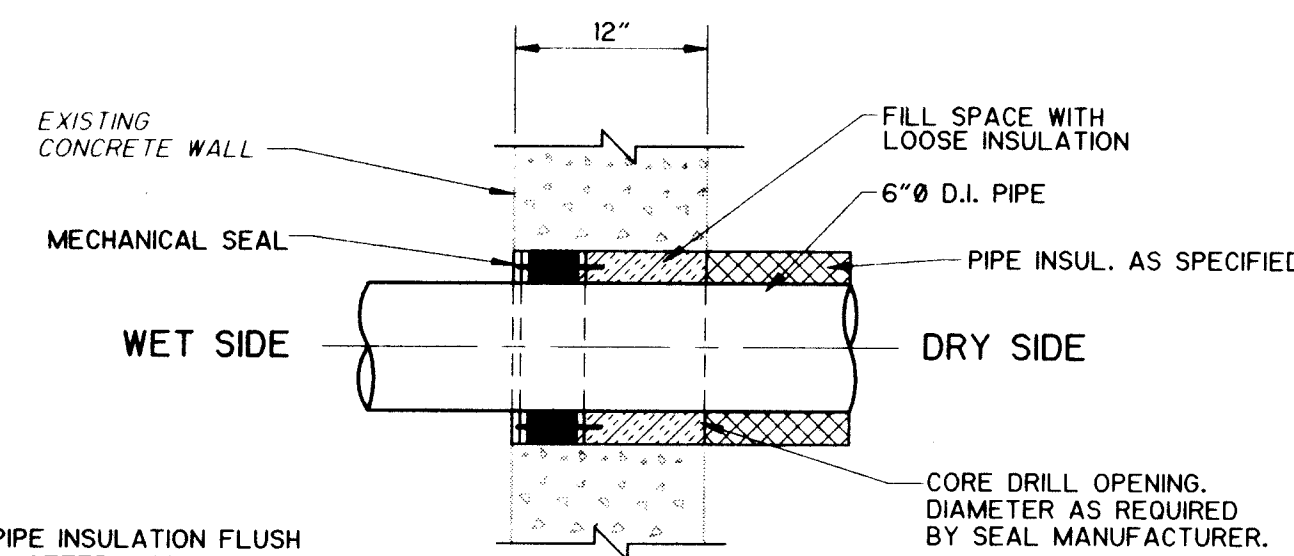
DETAIL M105  
3/4" = 1'-0"



- NOTES:
1. DIMENSIONS OF JOINT HARNESS TIE BOLTS AND LUGS FOR RUBBER GASKETED JOINTS AS PER TABLE 13.7, 1989 THIRD EDITION OF AWWA M-11, MATERIALS PER SECT. 13.10 OF SAME REF. TIE BOLT SCHEDULE AND LUG TYPE PER TABLE 13.6 OF SAME REF., FOR 100 PSI DESIGN PRESSURE.
  2. ONLY AT COUPLINGS DESIGNATED AS EXPANSION JOINTS (EJ), PROVIDE GAP BETWEEN HARNESS NUT AND LUG OF 1/4" @ 75° F. AMBIENT AIR TEMPERATURE, OR 1/4" @ 25° F. AMBIENT AIR TEMPERATURE. USE STRAIGHT LINE INTERPOLATION FOR OTHER AMBIENT AIR TEMPERATURES. HARNESSES SHALL BE INSTALLED WITH PIPES EMPTY.
  3. PROVIDE SUFFICIENT CLEARANCE SO THAT COUPLING CAN BE SLIPPED IN AT LEAST ONE DIRECTION TO CLEAR JOINT FOR DISASSEMBLY.
  4. ENSURE THAT HARNESSES AT OTHER THAN EXPANSION JOINTS ARE SNUG WHEN PIPES ARE FULL OF LIQUID AT NORMAL OPERATING TEMPERATURES.

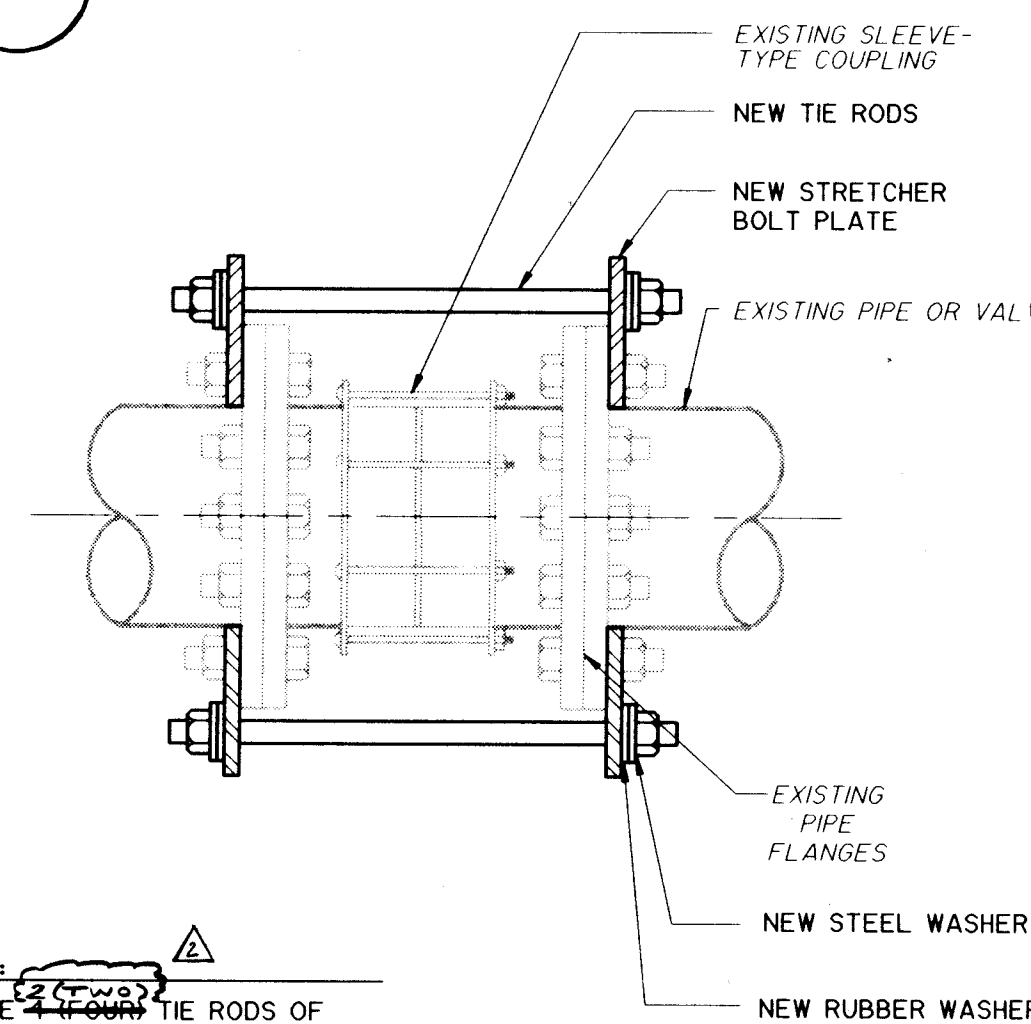
SLEEVE TYPE COUPLING W/THRUST HARNESS FOR STEEL PIPE

DETAIL M103  
NTS



CORE DRILLED OPENING AND MECHANICAL SEAL PENETRATION THROUGH EXISTING CONCRETE

DETAIL M106  
NTS



HARNESS FOR EXISTING DIP

DETAIL M107  
NTS

**RECORD DRAWING**  
Date: 6/24/94 By: [Signature]  
CAMP DRESSER & MCKEE INC.

**RECORD DRAWING**  
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 6/24/94 By: [Signature] CAMP DRESSER & MCKEE

△	6/16/94	MJS	CHANGE REQUEST NO.1				
△	OCT 95	MJS	AS-BUILT CONDITION				
NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO

PUBLIC WORKS  
DEPARTMENT

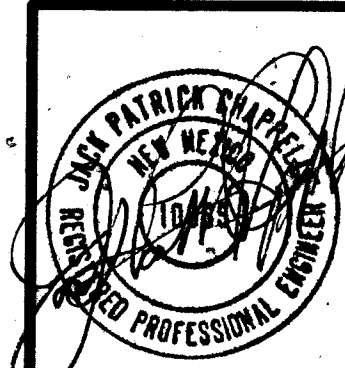


Designed By: MJS  
Drawn By: STAFF  
Checked By: JPC  
Approved By: JPC

Date: DEC. 1993  
Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

MECHANICAL DETAILS

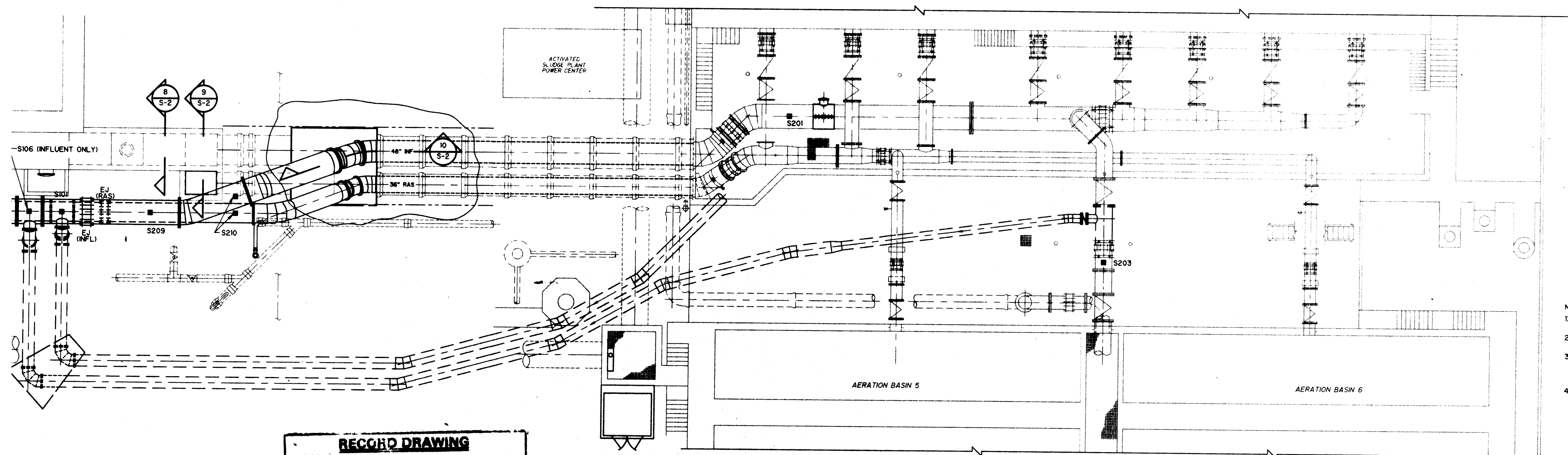
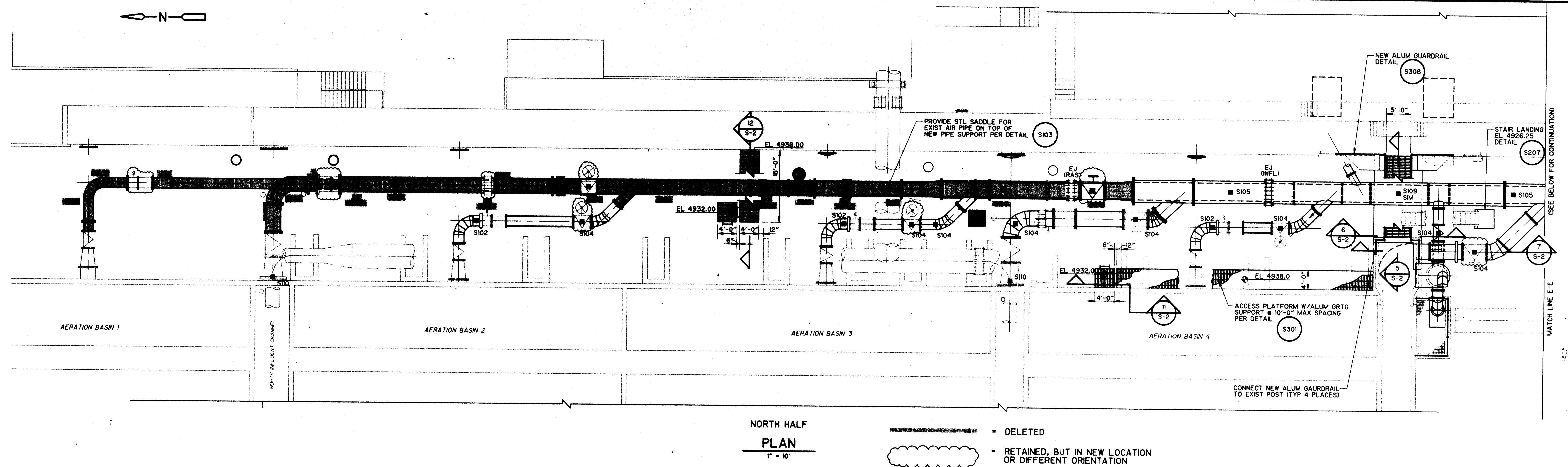


DRAWING  
M-8  
SHEET NUMBER  
11 OF 30









- NOTES:
1. S100 DENOTES SUPPORT PER DETAIL S100. TYP.
  2. EJ AT A COUPLING INDICATES EXPANSION JOINT. SEE DETAIL M103.
  3. PIPE SUPPORT LOCATIONS ARE APPROXIMATE, EXCEPT FOR THOSE LOCATED AT VALVES AND BENDS. MAX. DISTANCE BETWEEN SUPPORTS IS 35'.
  4. REFER TO DRWGS. M-1, M-2 AND M-3 FOR PIPE SIZES, ELEVATIONS AND LOCATIONS.

**RECORD DRAWING**

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

DATE: 6/25/96 By: *[Signature]* CAMP DRESSER & MCKEE

**RECORD DRAWING**

Date: 6/25/96 By: *[Signature]*

CAMP DRESSER & MCKEE INC.

CHANGE REQUEST NO. 1				
REVISION	NO.	DATE	APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT

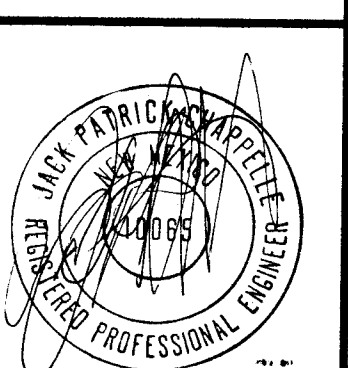


Designed By: JMH  
Drawn By: STAFF  
Checked By: MJS  
Approved By: *[Signature]*

Date: DEC, 1993  
Scale: 1" = 10'

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

**STRUCTURAL PLAN**  
CHANGE REQUEST NO. 1 DELETIONS



DRAWING  
**S-1-D**  
SHEET NUMBER  
12 OF 30





AERATION BASIN 1

AERATION BASIN 2

AERATION BASIN 3

AERATION BASIN 4

NORTH HALF  
PLAN  
1" = 10'

ACTIVATED  
SLUDGE PLANT  
POWER CENTER

AERATION BASIN 5

AERATION BASIN 6

(SEE ABOVE FOR CONTINUATION)  
MATCH LINE E - E

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100  
26-3207-91 S192

- NOTES:
1. S100 DENOTES SUPPORT PER DETAIL S100, TYP.
  2. EJ AT A COUPLING INDICATES EXPANSION JOINT. SEE DETAIL M103.
  3. PIPE SUPPORT LOCATIONS ARE APPROXIMATE, EXCEPT FOR THOSE LOCATED AT VALVES AND BENDS. MAX. DISTANCE BETWEEN SUPPORTS IS 35'.
  4. REFER TO DRWGS. M-1, M-2 AND M-3 FOR PIPE SIZES, ELEVATIONS AND LOCATIONS.

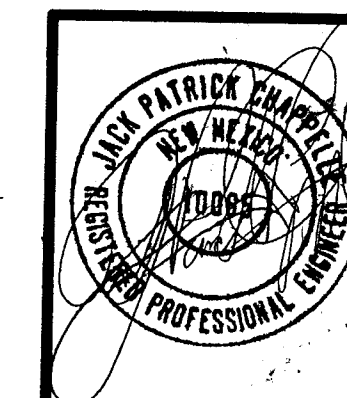
SOUTH HALF  
PLAN  
1" = 10'

### RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 5/24/96 BY: JPC CAMP DRESSER & MCKEE

### RECORD DRAWING

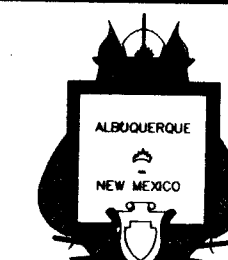
Date: 5/24/96 By: JPC  
CAMP DRESSER & MCKEE INC.



1	5/21/96	MJS	SHEET DELETED BY CHANGE REQUEST NO. 1
NO.	DATE	APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: JMH  
Drawn By: STAFF  
Checked By: MJS  
Approved By: JPC

Date: DEC. 1993  
Scale: 1" = 10'

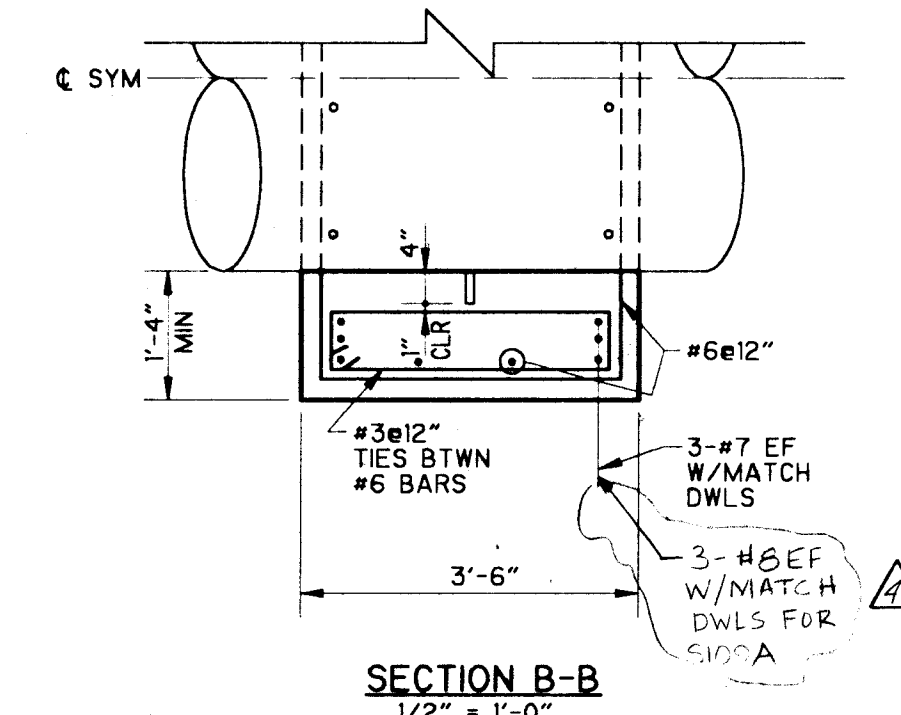
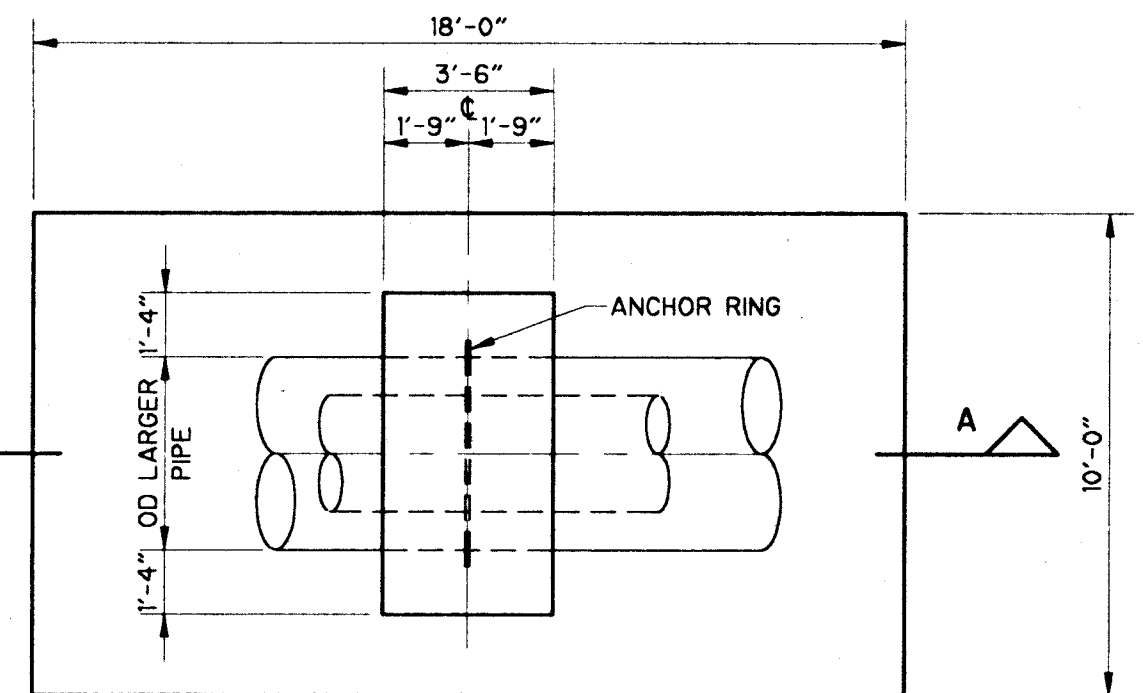
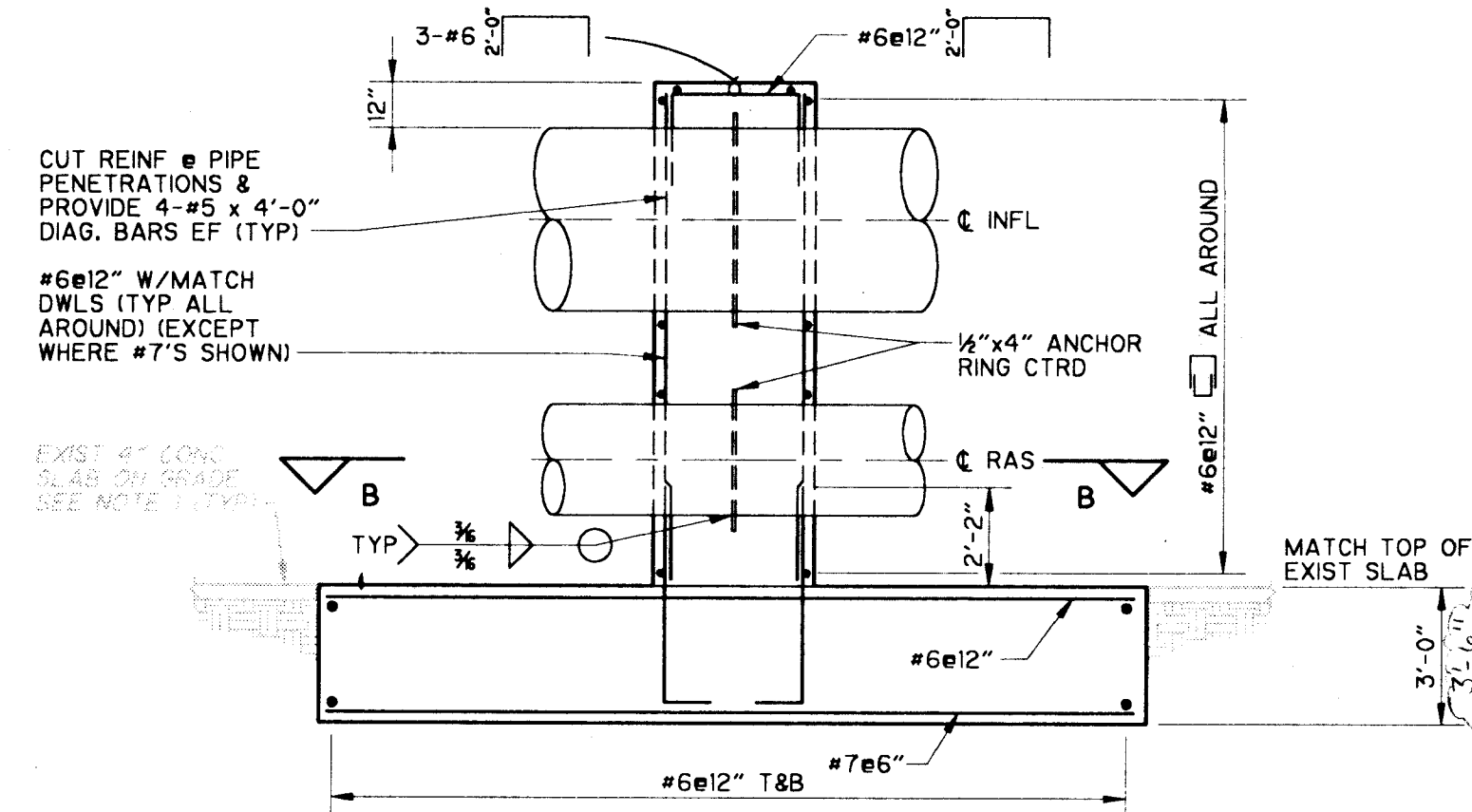
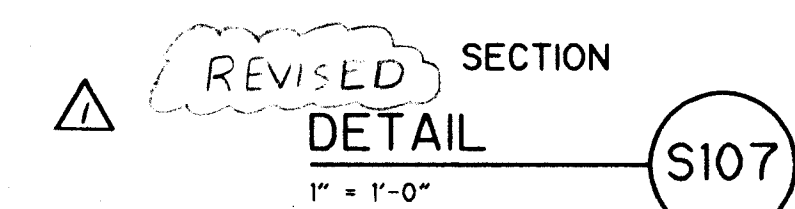
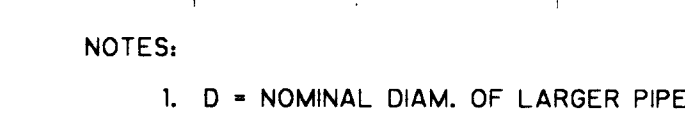
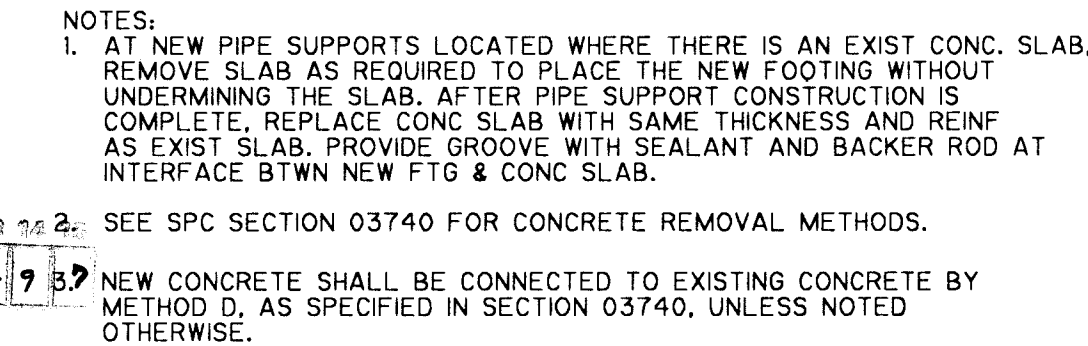
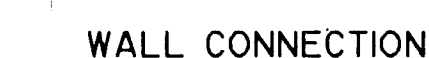
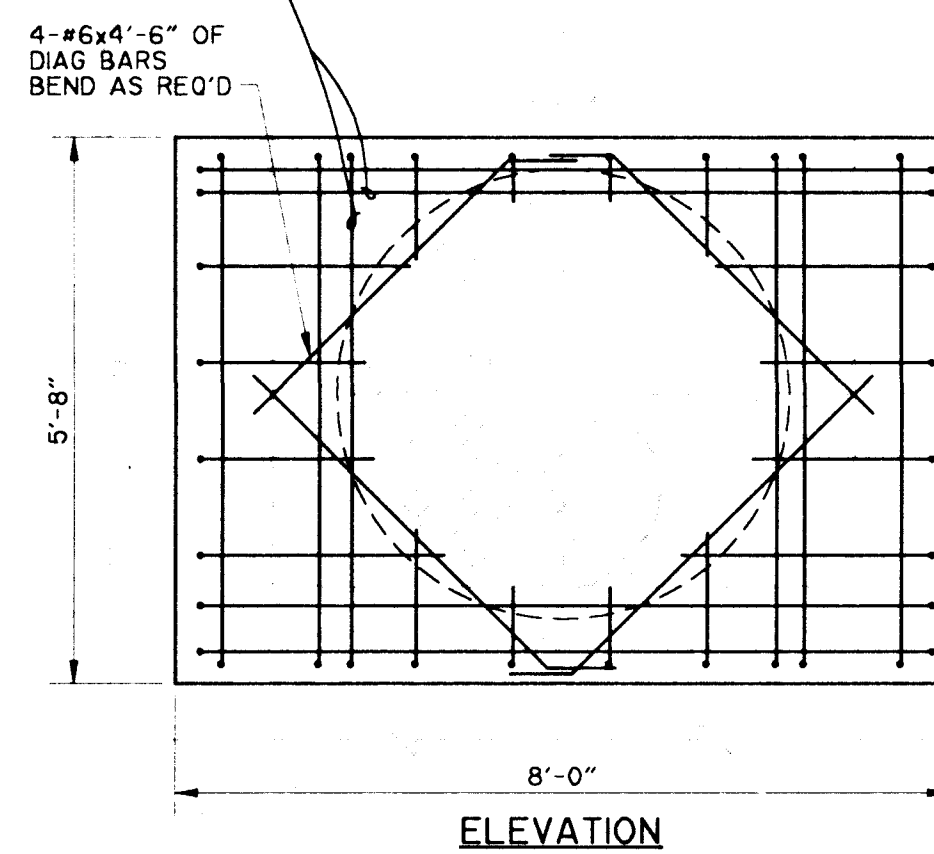
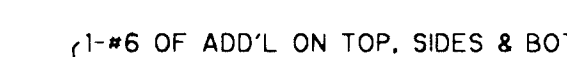
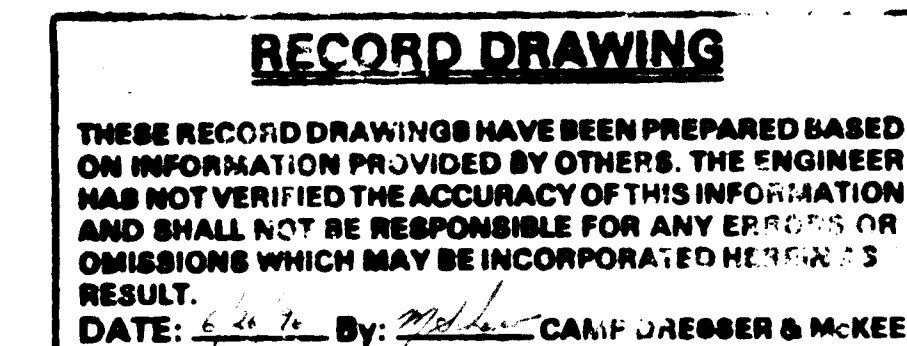
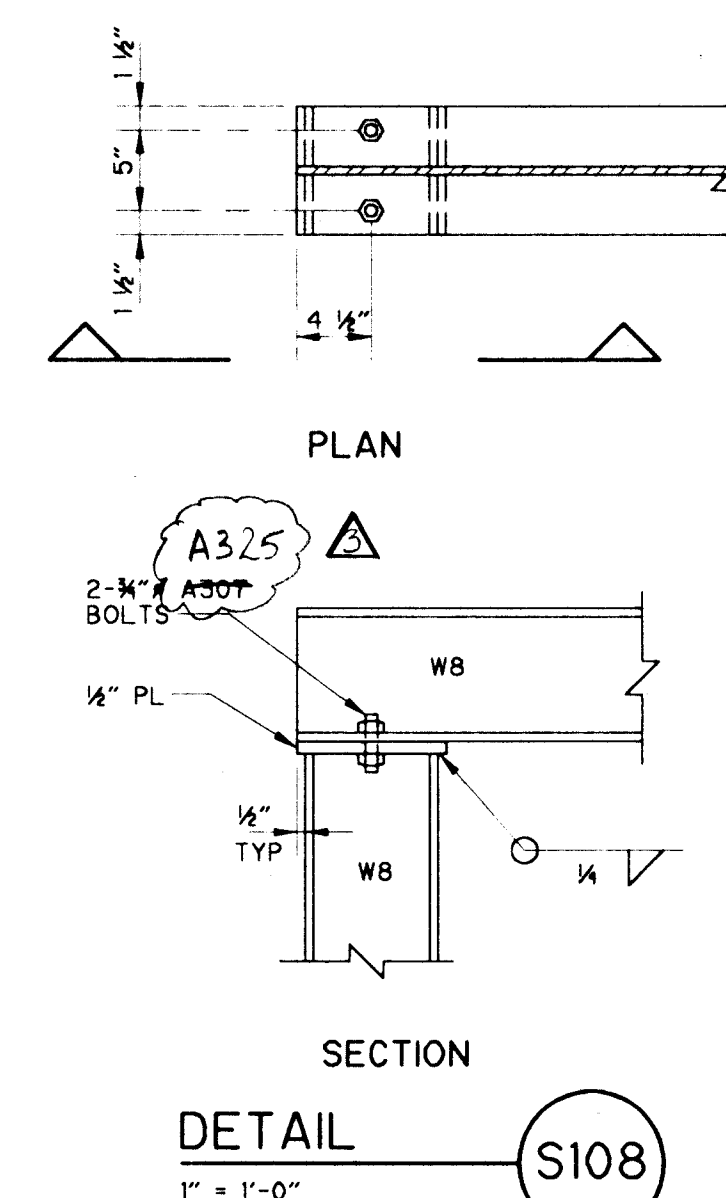
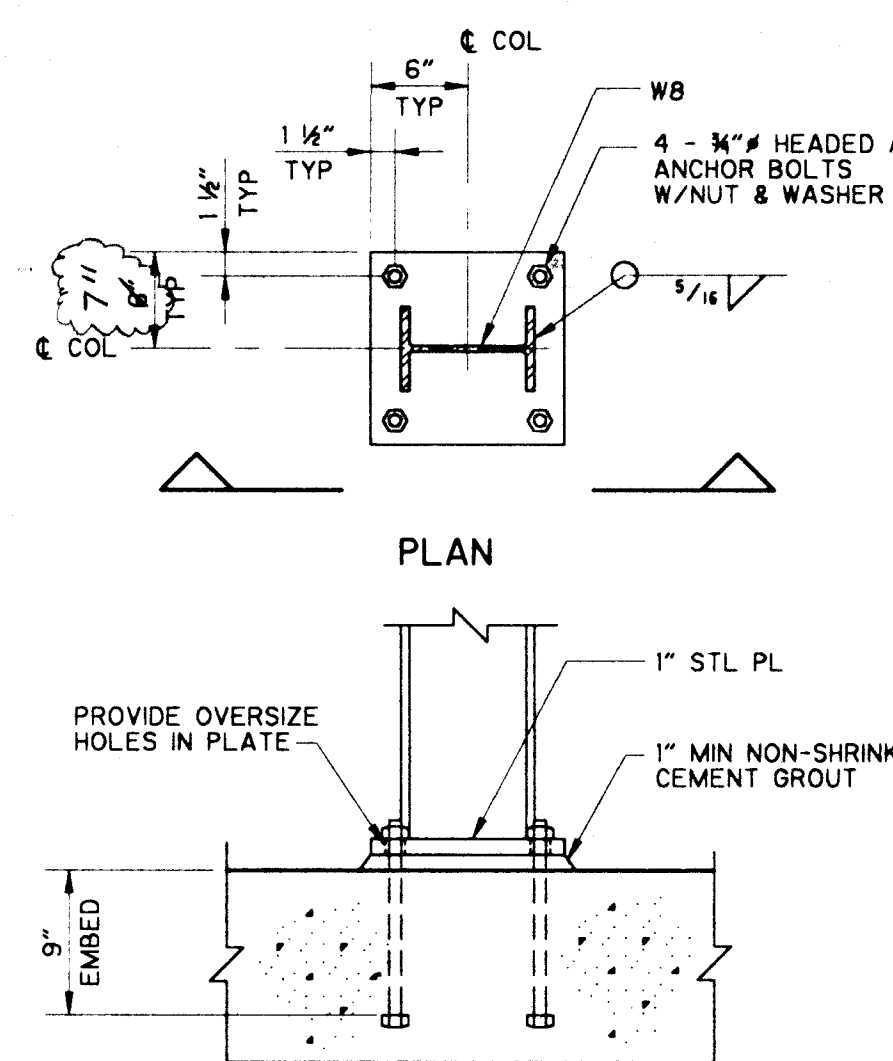
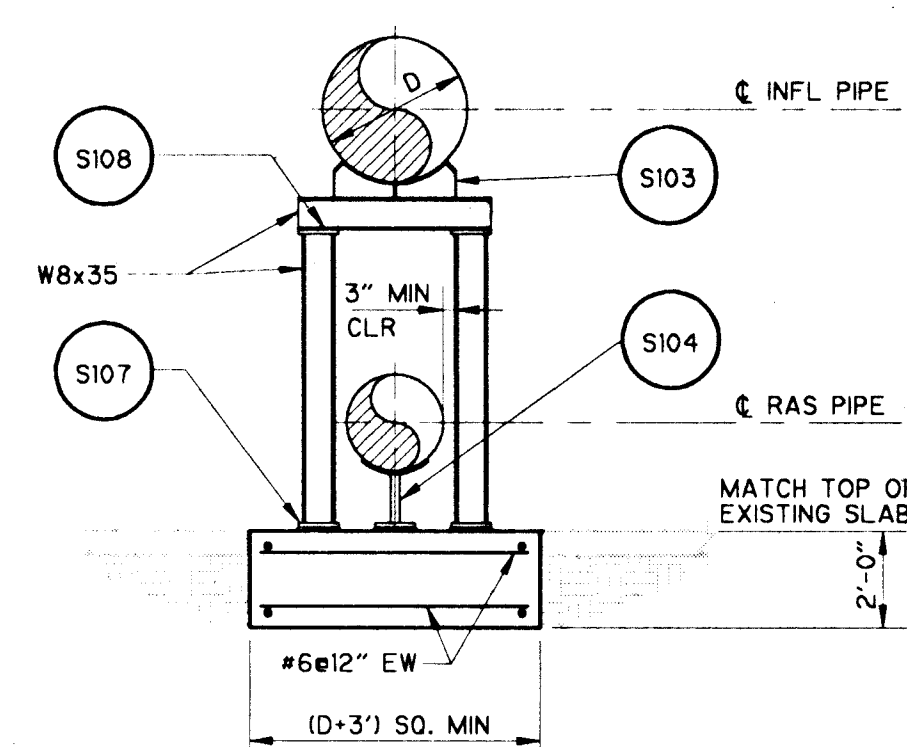
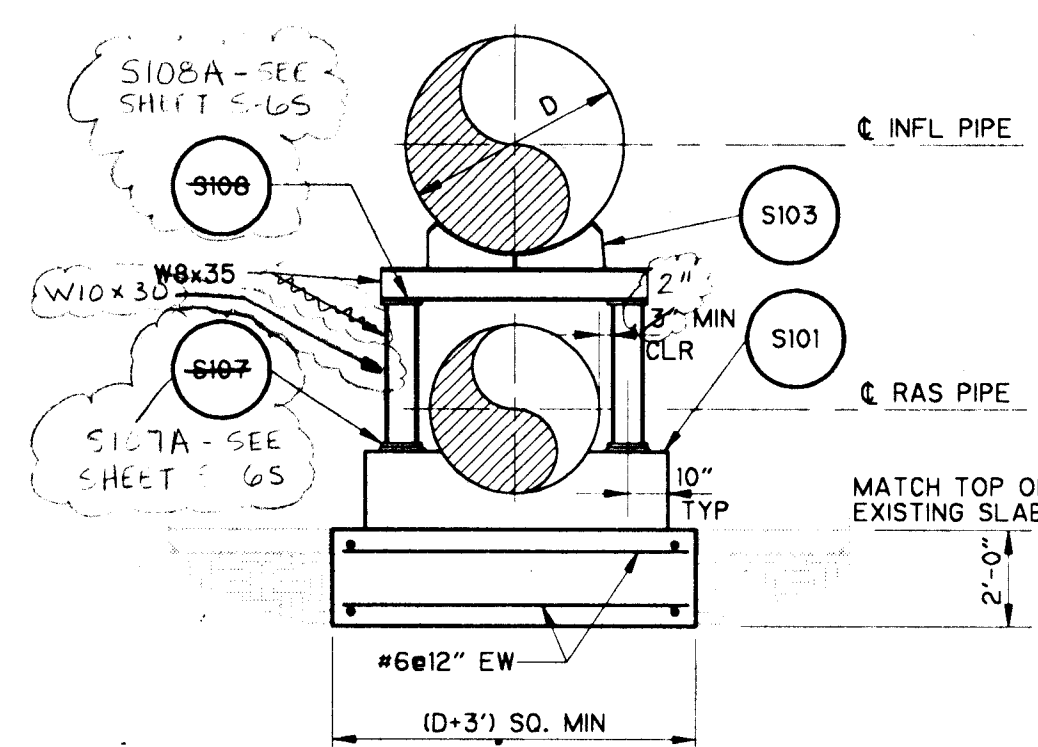
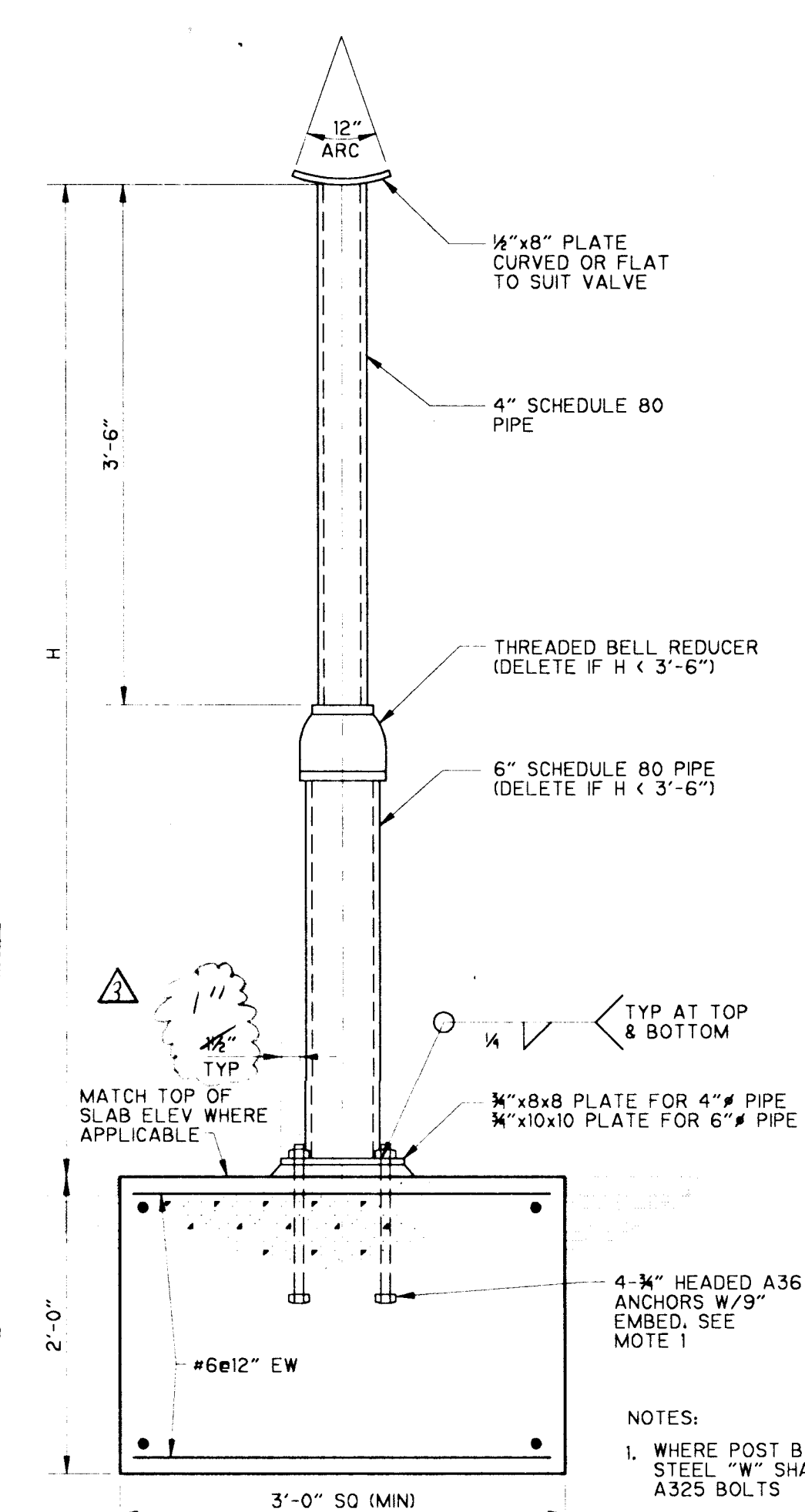
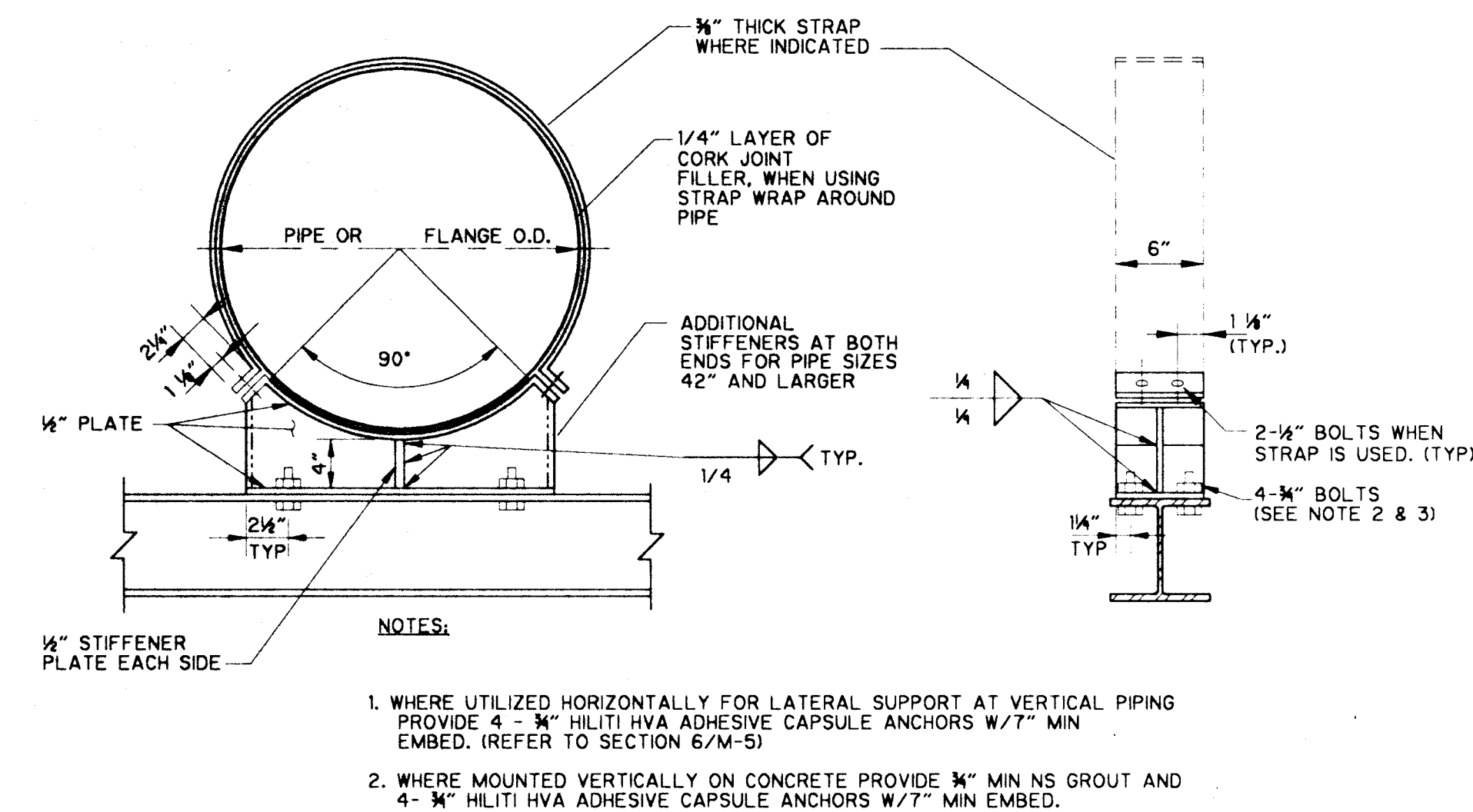
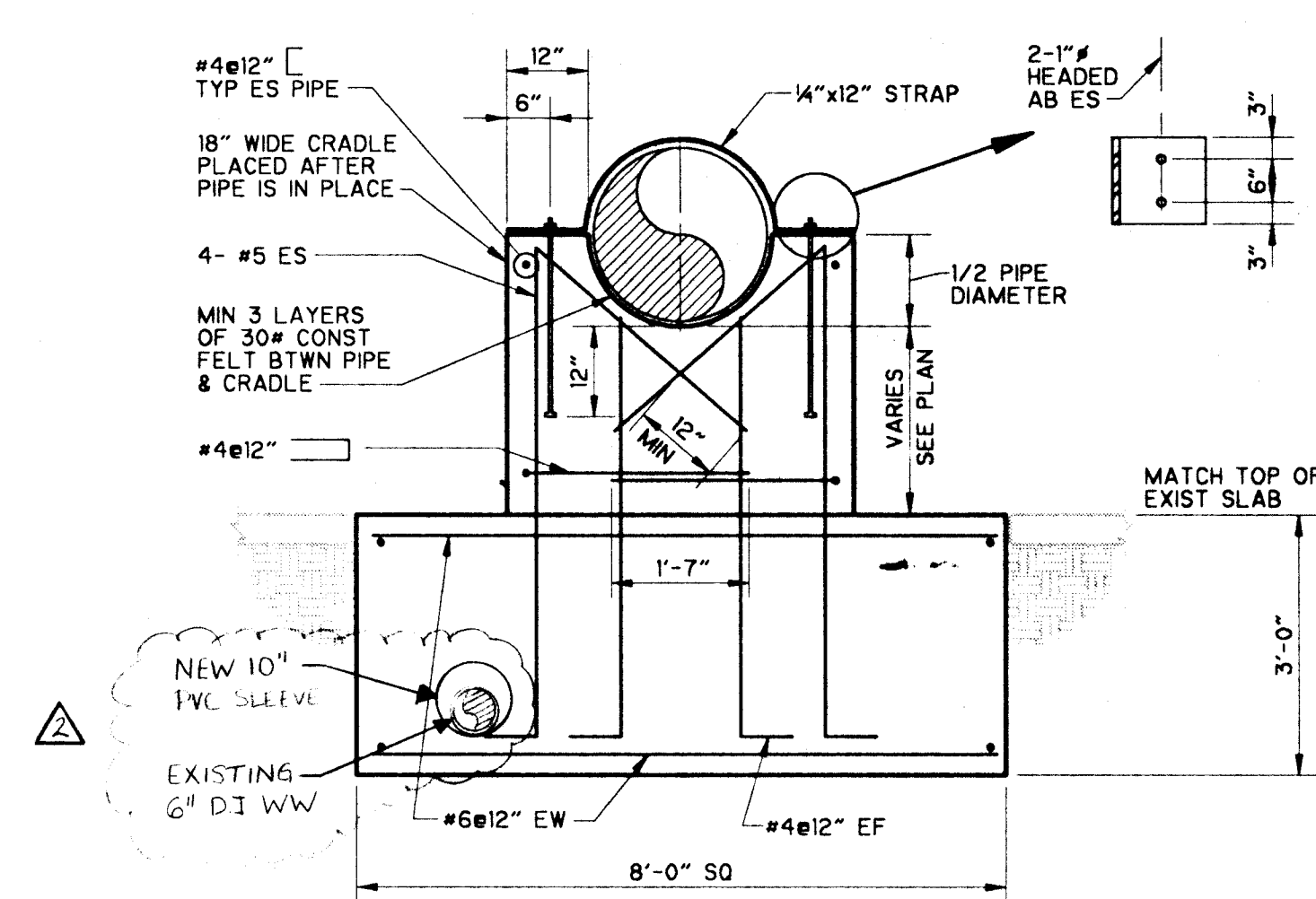
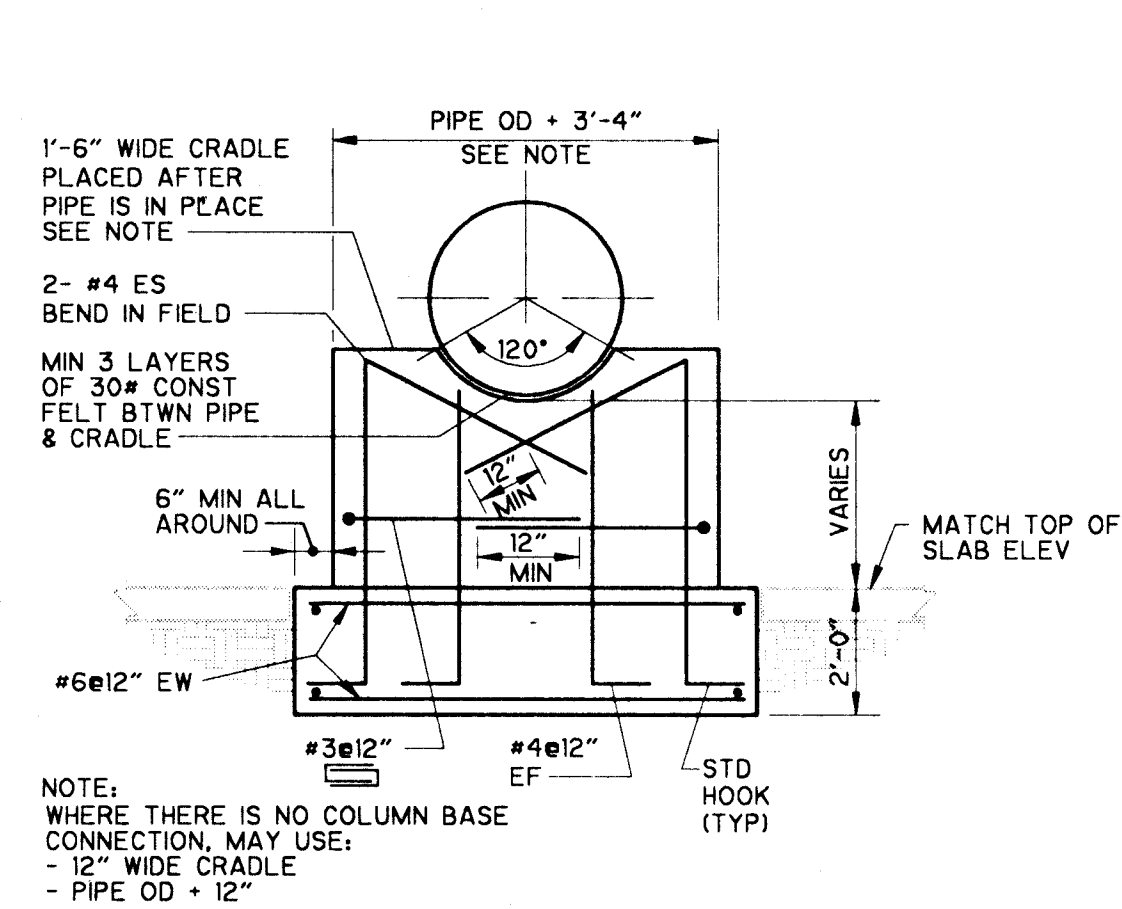
**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

STRUCTURAL PLAN

DRAWING  
S-1  
SHEET NUMBER  
12 OF 36

13 OF 30





△	NDV '94	MJS	CHANGE REQUEST NO 9				
△	SEPT '95	MJS	CHANGE REQUEST NO 13				
△	OCT '95	MJS	AS BUILT CONDITION				
△	JULY '94	MJS	CHANGE REQUEST NO 1				
NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 1 ADDITION  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO

PUBLIC WORKS  
DEPARTMENT

Designed By: JMH  
 Drawn By: TDL  
 Checked By: GLS  
 Approved By: GLS

Date: DEC. 1993

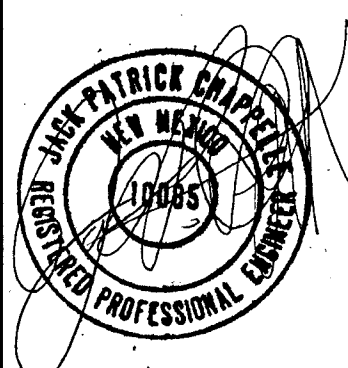
Scale: AS NOTED

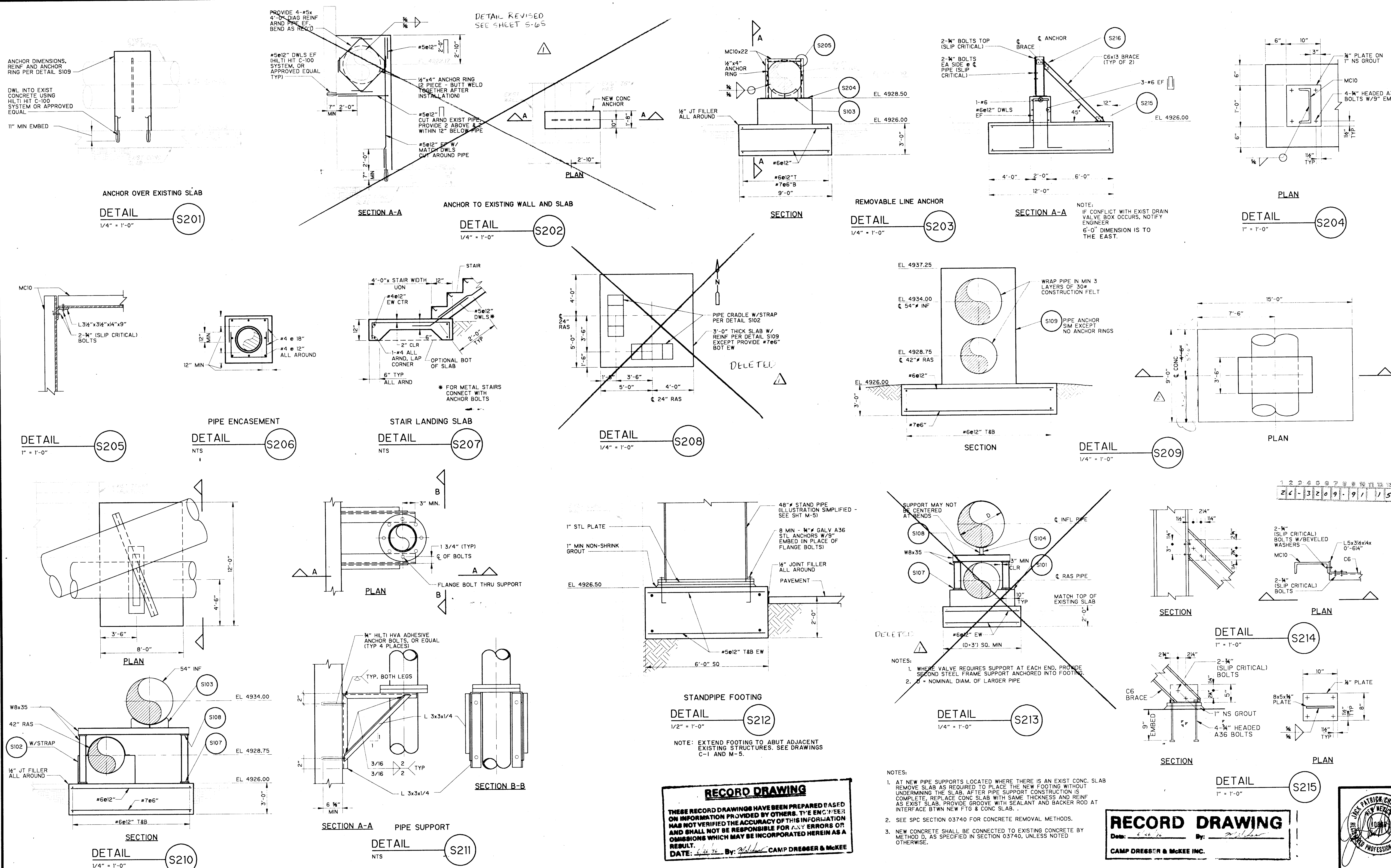
**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO

*environmental engineers, scientists  
planners, & management consultants*

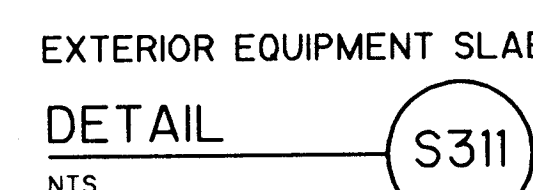
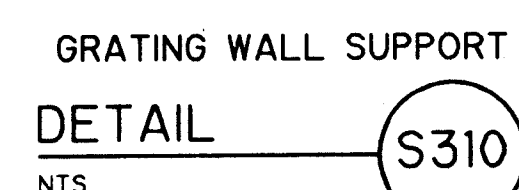
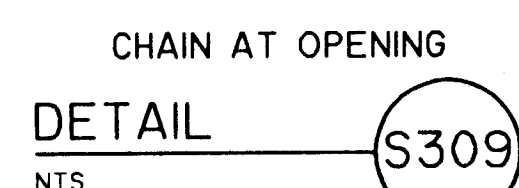
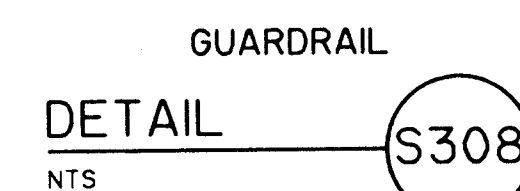
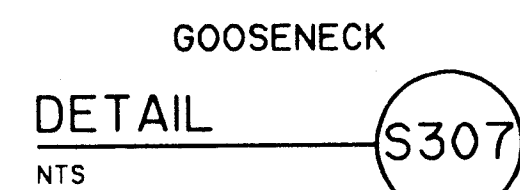
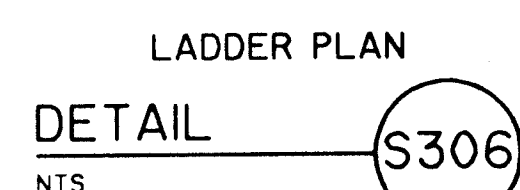
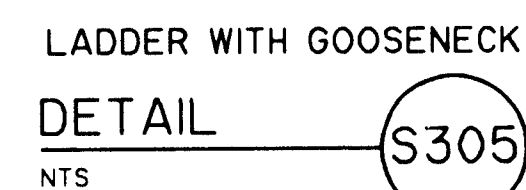
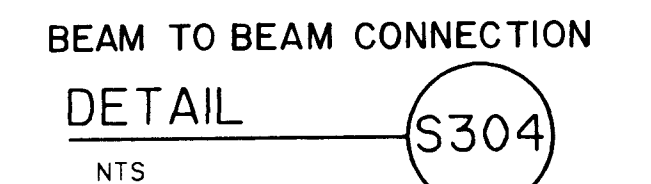
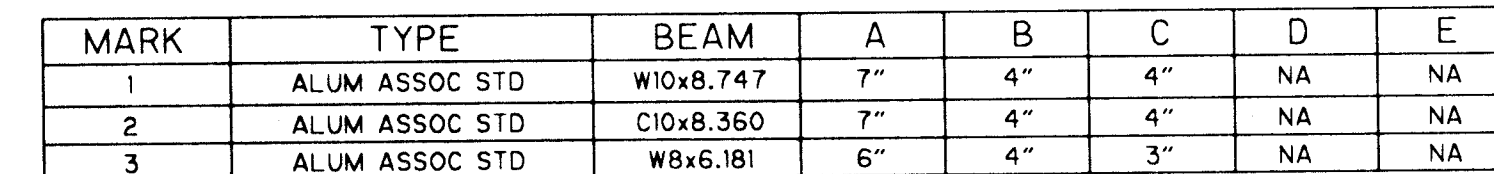
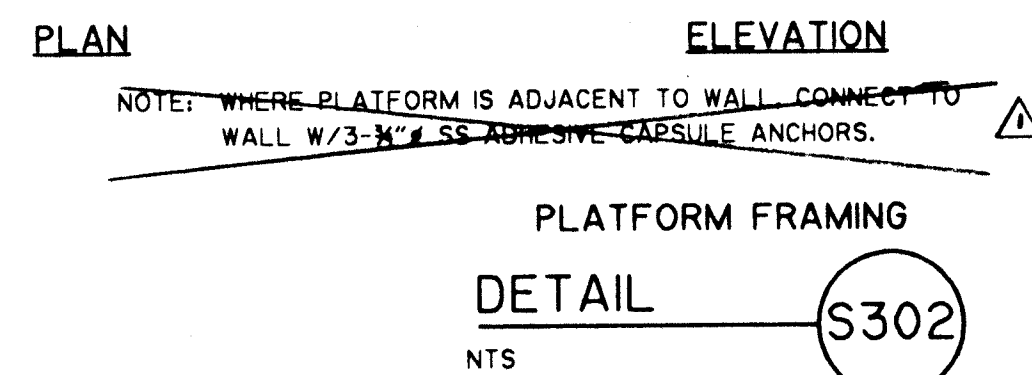
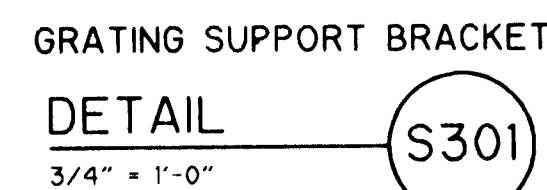
## DETAILS I

DRAWING	S-3
SHEET NUMBER	14 OF 30

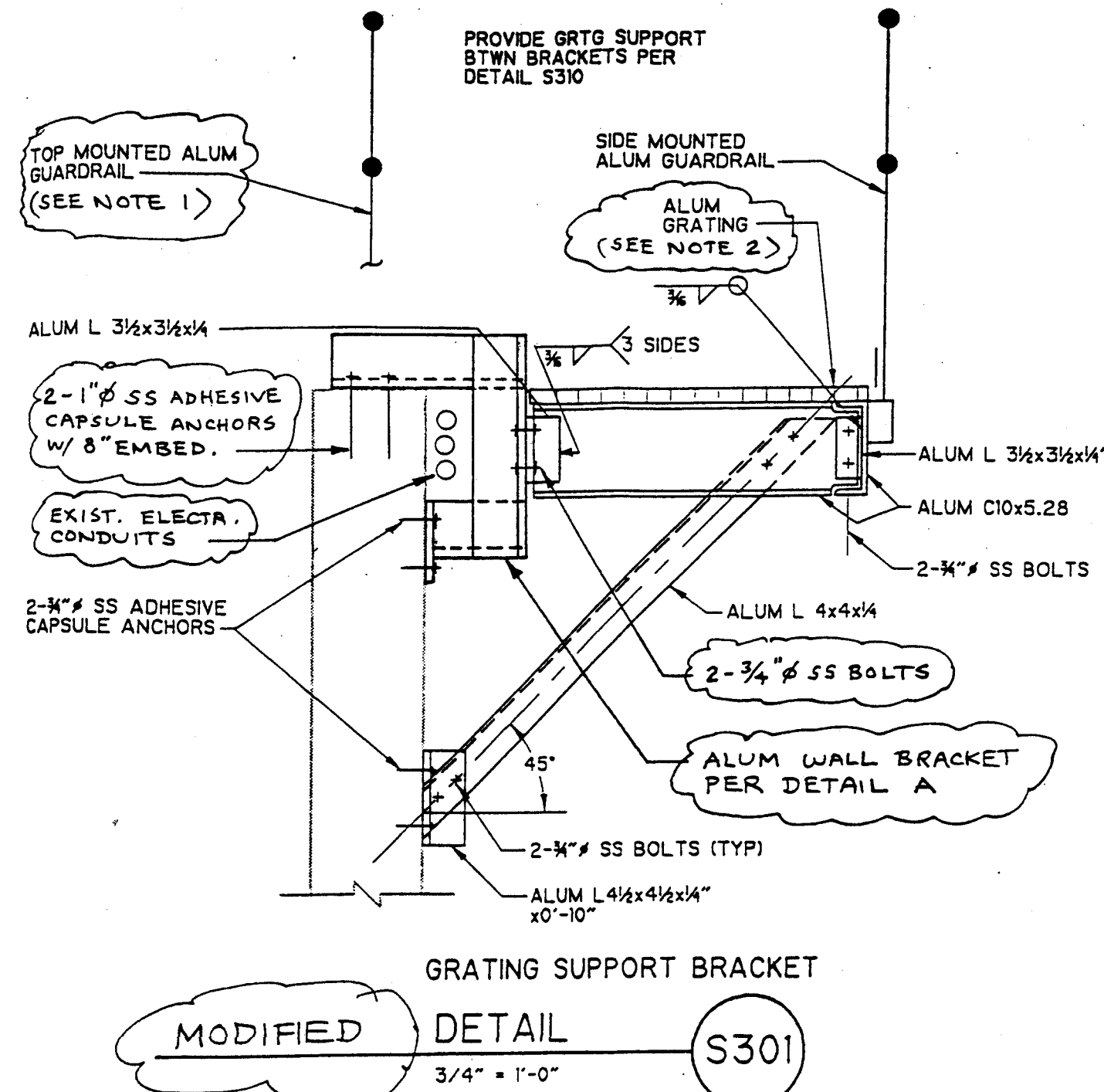




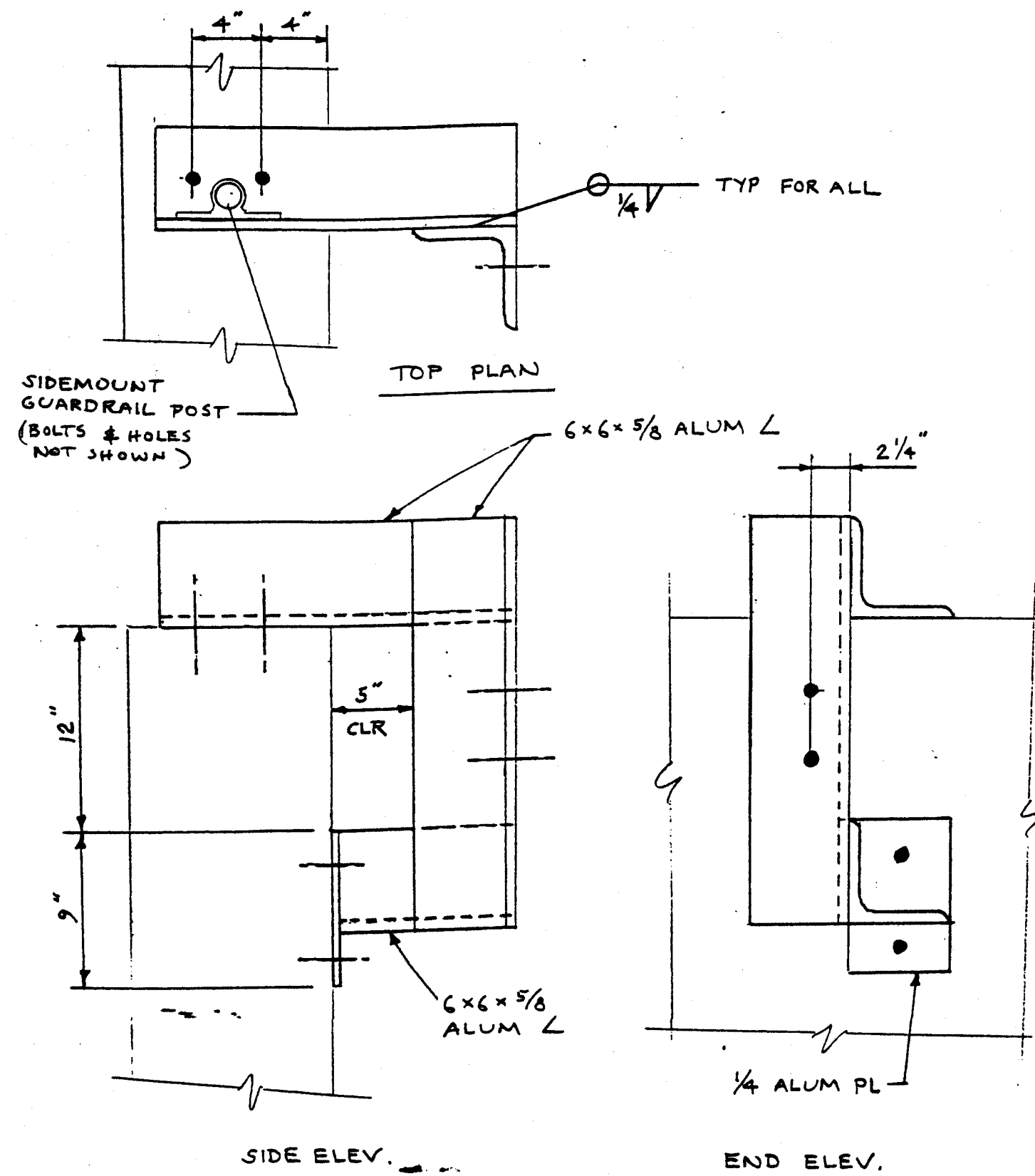




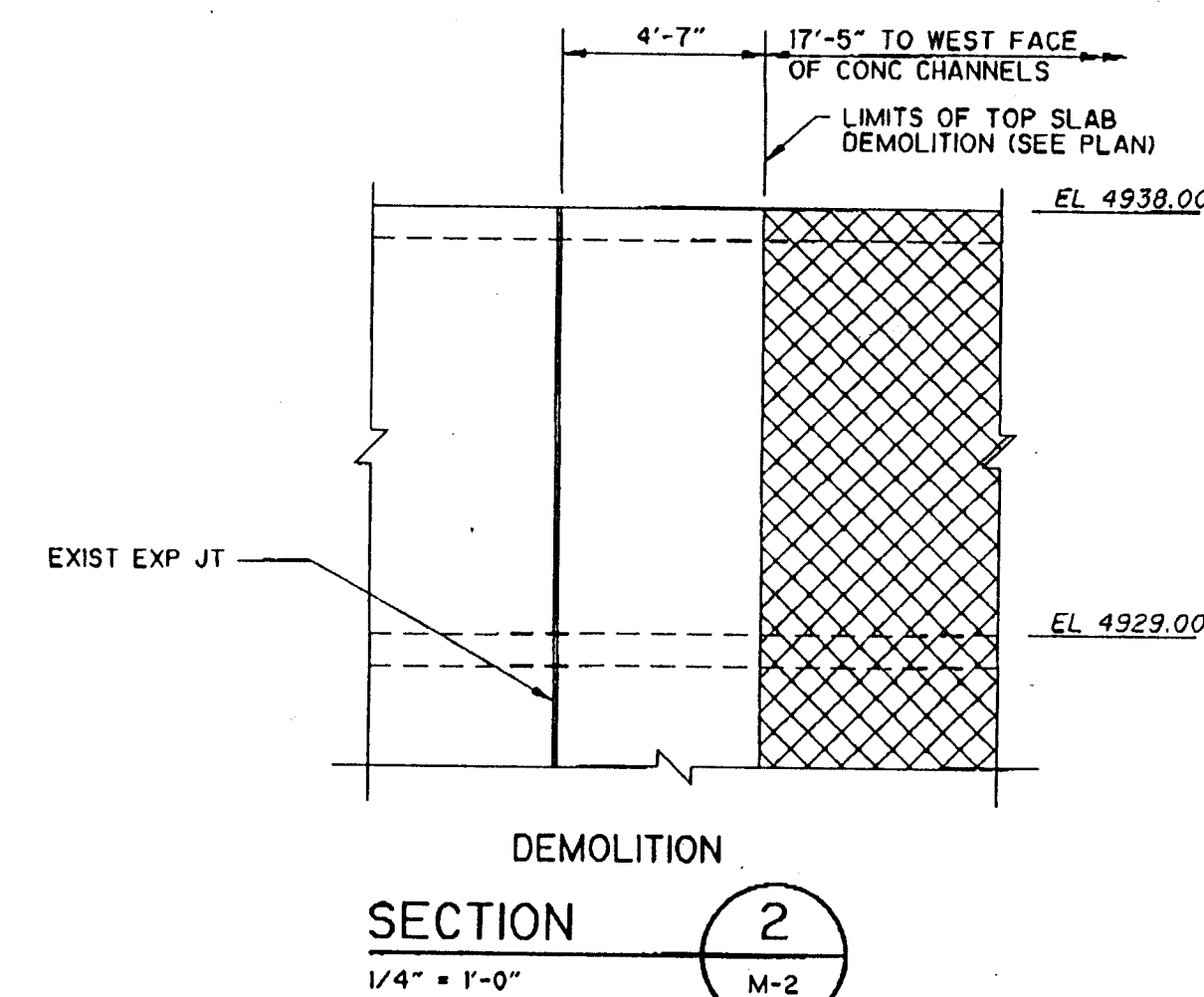
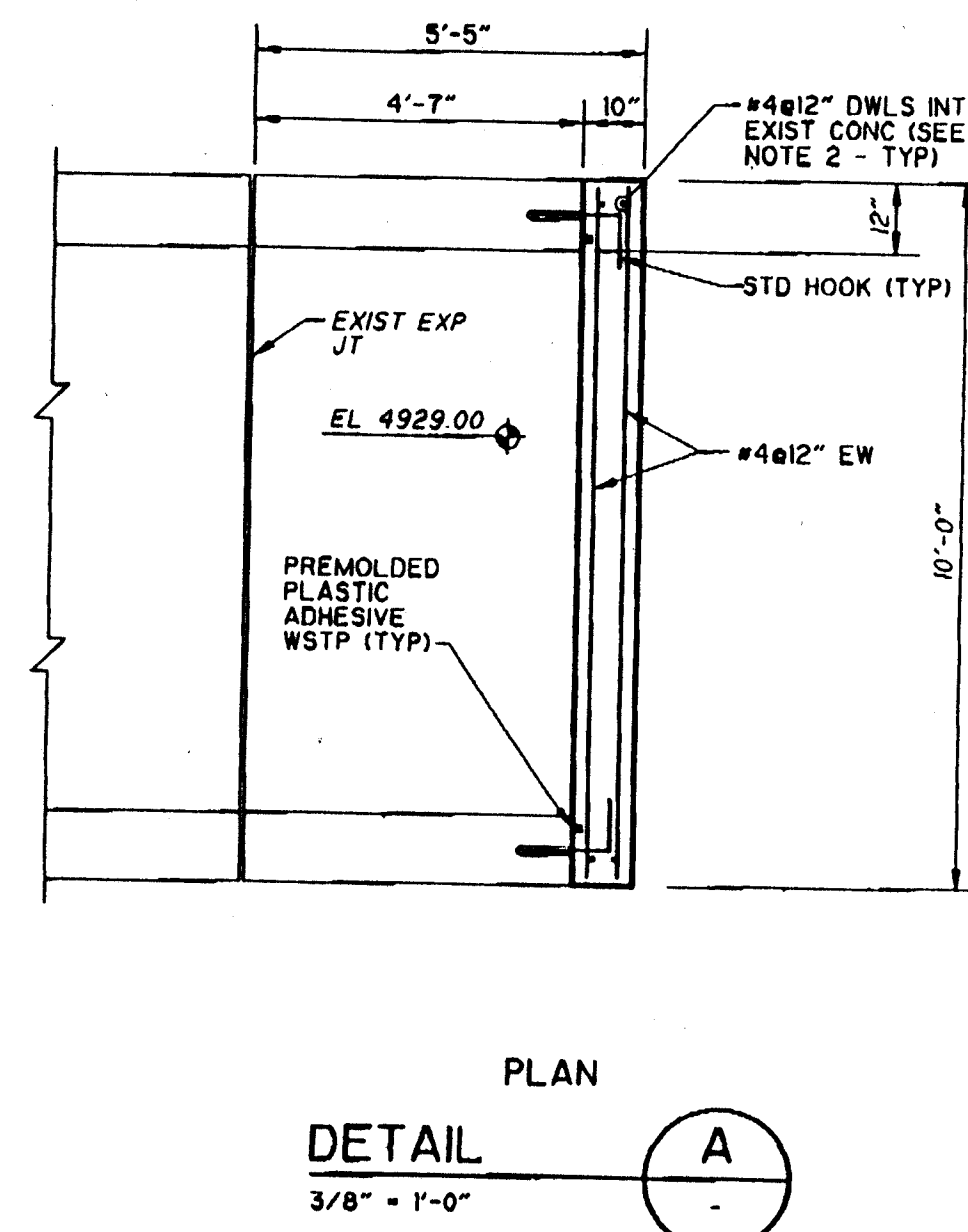
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	6	-	3	2	0	9	.	9	1		1	6	9	7



NOTES: 1. USE SIDEMOUNT, ATTACH TO WALL BRACKET.  
2. NOTCH GRATING @ WALL BRACKET.

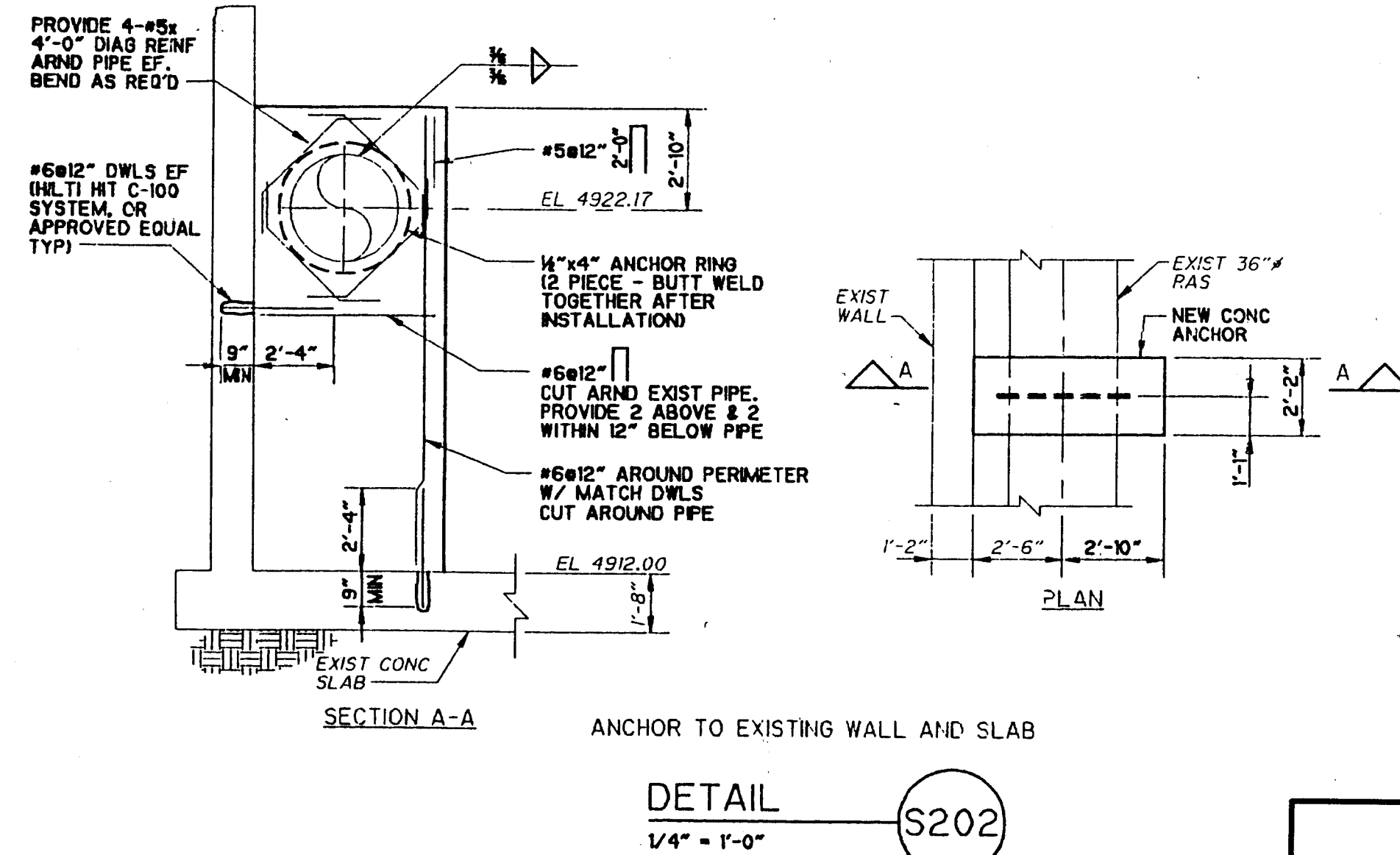
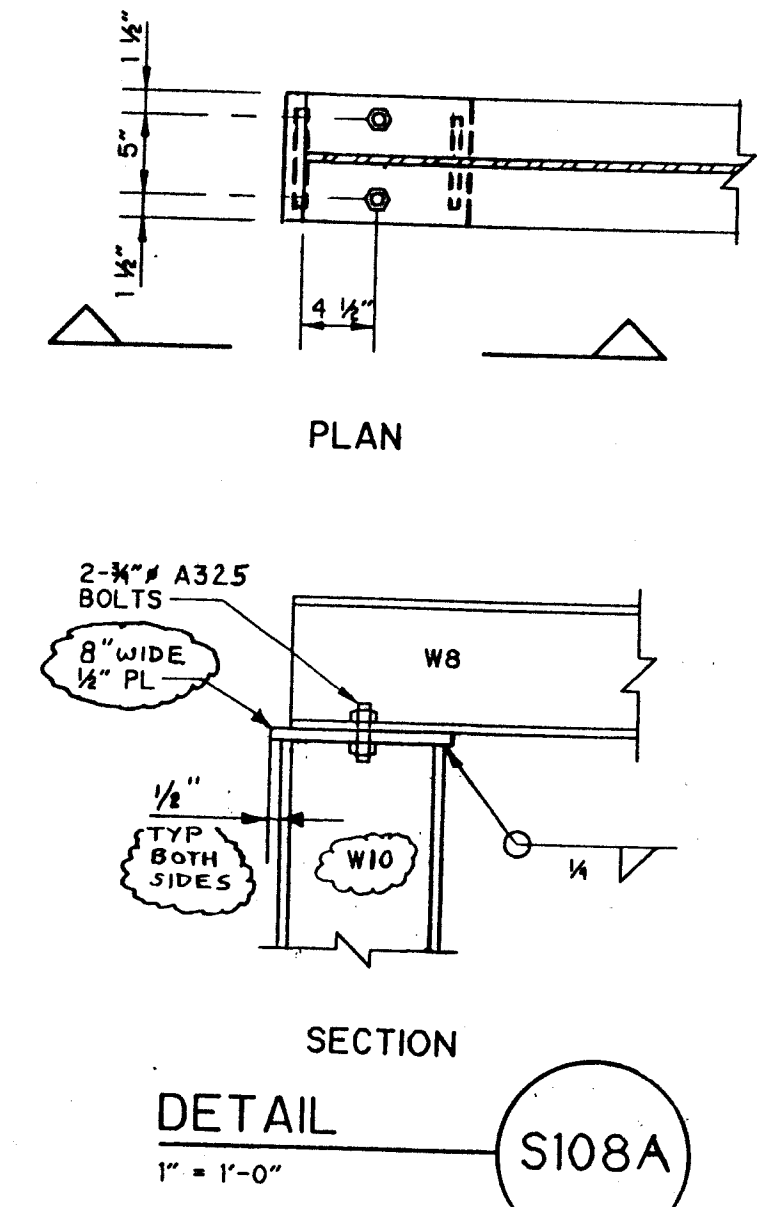
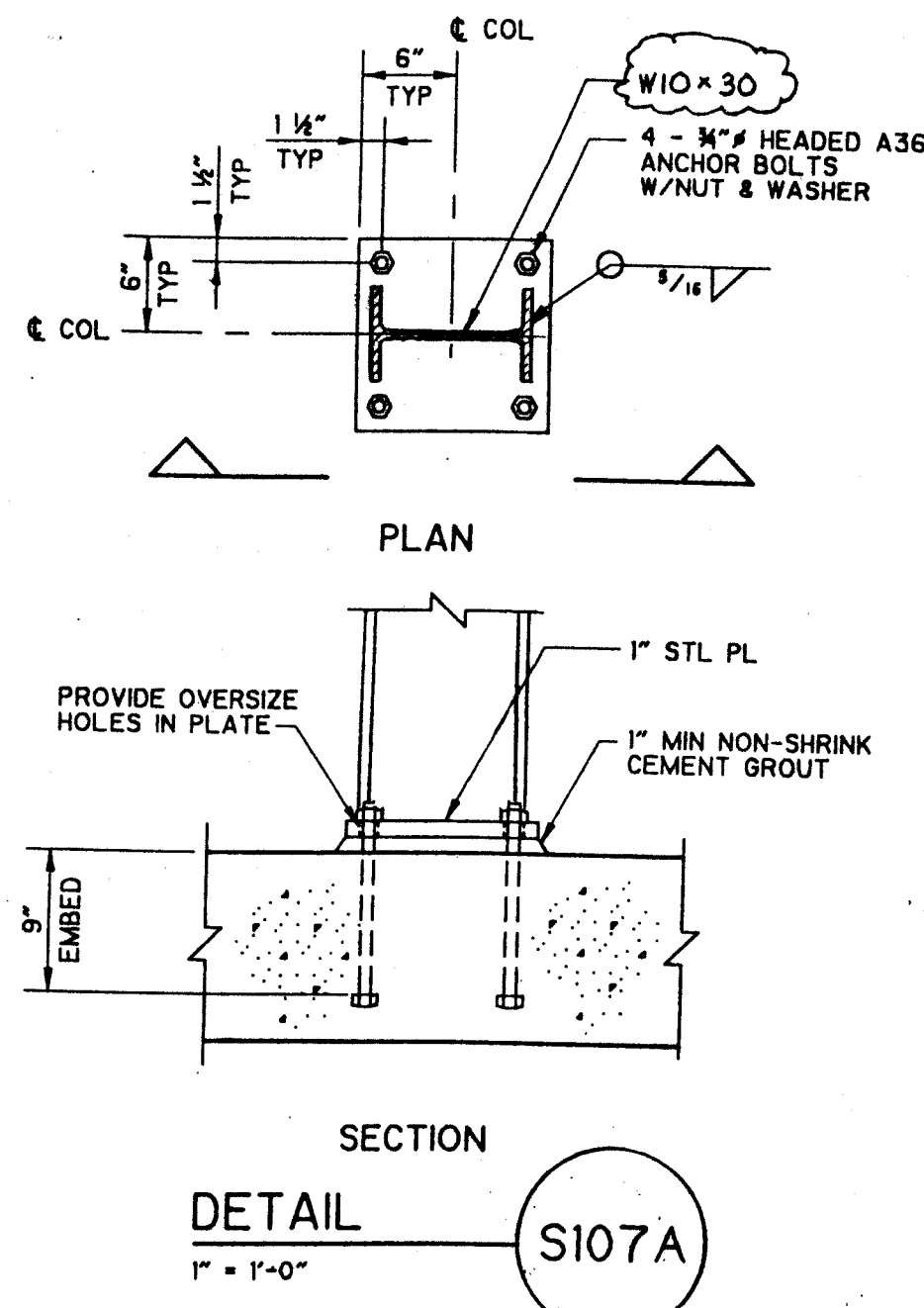
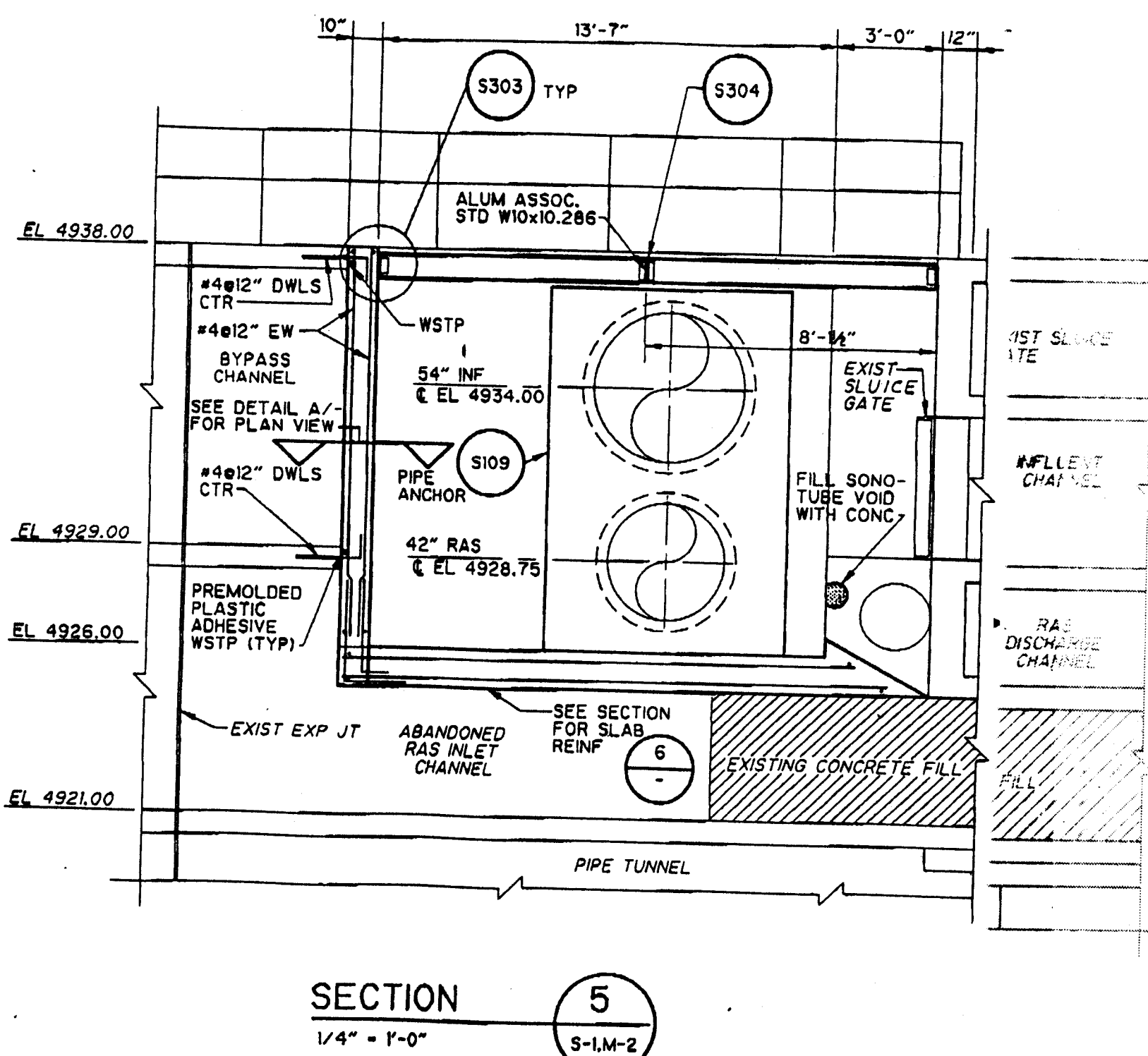


WALL BRACKET  
DETAIL A  
1 1/2\"/>



**RECORD DRAWING**  
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 6-26-96 By: *[Signature]* CAMP DRESSER & MCKEE

**RECORD DRAWING**  
DATE: 6-26-96 By: *[Signature]* CAMP DRESSER & MCKEE INC.



NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: \_\_\_\_\_  
Drawn By: \_\_\_\_\_  
Checked By: \_\_\_\_\_  
Approved By: \_\_\_\_\_

Date: MAY, 1996  
Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

MISCELLANEOUS DETAILS  
AND SECTIONS

DRAWING  
S-6S  
SHEET NUMBER  
OF



PLANS	
	TOGGLE SWITCH
	3-WAY TOGGLE SWITCH
	OPERATOR STATION SEE SCHEMATIC FOR DETAILS
	JUNCTION BOX
	MOTOR
	THERMOSTAT
	SOLENOID
	DISCONNECT SWITCH, F INDICATES FUSED (SEE ONE-LINE DIAG. FOR FUSE INFO. DESIGNATION LEGEND)
	GROUNDING ROD
	CAPACITOR
	RESISTANCE HEATER
	UNIT HEATER
	REMOTE DEVICE—SEE DESIGNATION FOR TYPE
	CONDUIT, EXPOSED
	CONDUIT, CONCEALED, EMBEDDED, OR UNDERGROUND
	CONDUIT TURNING DOWN
	CONDUIT TURNING UP
	GROUND CABLE
	WELDING RECEPTACLE WITH NON-FUSED DISCONNECT
	CONDUIT SEAL
	CONDUCTORS FOR LIGHTING CIRCUIT
	GROUND TRAVELLER
	SWITCHED NEUTRAL
	HOT
	RECEPTACLE, 1 INDICATES CIRCUIT NO. RECEPTACLE, WP INDICATES WEATHER PROOF
	DUPLEX UNLESS OTHERWISE NOTED.
	HOME RUN TO PANEL
	THERMAL OVERLOAD SWITCH (MANUAL MOTOR STARTER)
	PROCESS INSTRUMENTATION XXXX = ID
	FIELD JUNCTION BOX FJB-XXX
	FIELD PANEL FP-XXX
	LIGHTING PANEL LP-XXX (120/208V)
	POWER PANEL PP-XX (277/480V)
	PHOTOCELL
	SECTION CALL OUT FOR SECTION NO.1 LOCATED ON SHEET E-10.
	SECTION CALL OUT FOR SECTION NO.1 CUT FROM SHEET E-5.
	DETAIL CALL OUT FOR DETAIL NO.1 LOCATED ON SHEET E-10

MOTOR AND CONTROL SCHEMATIC SYMBOLS	
	SOLENOID VALVE
	CABLE SHIELD
	INDICATING PILOT LIGHT LETTER INDICATES COLOR OF LENS
	SINGLE PHASE MOTOR
	CONTROL RELAY OPERATING COIL XXX = RELAY NUMBER
	TIME DELAY RELAY TIME RANGE XX=DE FOR DELAY ON ENERGIZATION XX=DD FOR DELAY ON DEENERGIZATION YYY = RELAY NUMBER
	SHUNT TRIP COIL
	DISCONNECT OR TOGGLE SWITCH
	FUSE XX INDICATES AMPERE RATING YY INDICATES FUSE TYPE
	TWO POSITION SELECTOR SWITCH CONTACTS CLOSED IN POSITION INDICATED BY "X". NUMBER OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC
	THREE POSITION SELECTOR SWITCH CONTACTS CLOSED IN POSITION INDICATED BY "X". NUMBER OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC
	NORMALLY OPEN MOMENTARY CIRCUIT CLOSING PUSHBUTTON SWITCH SPRING OPEN NUMBER OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC
	NORMALLY CLOSED MOMENTARY CIRCUIT OPENING PUSHBUTTON SWITCH SPRING CLOSE NUMBER OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC
	PUSHBUTTON MAINTAINED (PUSH-PULL) WITH MUSHROOM OPERATOR
	LIMIT SWITCH NORMALLY OPEN CONTACT CONTACT CLOSURES WHEN ACTUATED
	LIMIT SWITCH NORMALLY CLOSED CONTACT CONTACT OPENS WHEN ACTUATED
	NORMALLY OPEN PRESSURE OR VACUUM OPERATED SWITCH CLOSURES ON INCREASING PRESSURE
	NORMALLY CLOSED PRESSURE OR VACUUM OPERATED SWITCH OPENS ON INCREASING PRESSURE
	NORMALLY OPEN LEVEL ACTUATED SWITCH CLOSURES ON RISING LEVEL
	NORMALLY CLOSED LEVEL ACTUATED SWITCH OPENS ON RISING LEVEL
	NORMALLY OPEN TEMPERATURE ACTIVATED SWITCH CLOSURES ON RISING TEMPERATURE
	NORMALLY CLOSED TEMPERATURE ACTIVATED SWITCH OPENS ON RISING TEMPERATURE
	CONTROL TRANSFORMER (SECONDARY ONLY SHOWN)
	NORMALLY OPEN CONTACT CLOSURES ON TIME DELAY AFTER COIL ENERGIZED. REOPENS INSTANTANEOUSLY ON COIL DEENERGIZED
	NORMALLY CLOSED CONTACT OPENS ON TIME DELAY AFTER COIL ENERGIZED. RECLOSURES INSTANTANEOUSLY ON COIL DEENERGIZED
	NORMALLY OPEN CONTACT CLOSURES INSTANTANEOUSLY ON COIL DEENERGIZED. REOPENS ON TIME DELAY AFTER COIL DEENERGIZED.
	NORMALLY CLOSED CONTACT OPENS INSTANTANEOUSLY ON COIL ENERGIZED. RECLOSURES ON TIME DELAY AFTER COIL DEENERGIZED.
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
	INDICATES TERMINAL IN COMPUTER I/O
	GROUND CONNECTION

MOTOR AND CONTROL SCHEMATIC SYMBOLS	
	TERMINAL IN MCCP OR SWITCHGEAR
	BAILEY TERMINAL
	TERMINAL IN FIELD PANEL OR JUNCTION BOX
	TERMINAL IN FACILITY MAIN CONTROL PANEL
	RESERVED FOR SPECIAL PANELS, MUST BE IDENTIFIED IN LEGEND (EX: J3 TERMINATION CABINET IN ACTIVATED SLUDGE PLANT)
	ISOLATION SWITCHGEAR TERMINAL
	MOTOR STARTER OPERATING COIL XXX = MOTOR NUMBER
ONE-LINE DIAGRAMS	
	NEW EQUIPMENT ENCLOSURE
	EXISTING EQUIPMENT ENCLOSURE
	NEW MEDIUM VOLTAGE CIRCUIT
	NEW LOW VOLTAGE CIRCUIT
	NEW LOGIC INTERLOCK
	EXISTING PRIMARY OR SECONDARY
	KEY INTERLOCK
	ELECTRICAL INTERLOCK
	CIRCUIT BREAKER (* INDICATES BREAKER NUMBER) 1800AF INDICATES FRAME SIZE AND 1200AT INDICATES TRIP SETTING
	ISOLATING SWITCH NON-FUSED (* INDICATES SWITCH NO.)
	ISOLATING SWITCH FUSED (* INDICATES SWITCH NO.) XX INDICATES AMPERE RATING YY INDICATES FUSE TYPE
	PARALLELING LIGHTS
	TRANSFORMER, 480V AND 120V INDICATE WINDING VOLTAGE, 10KVA REPRESENTS THE POWER RATING AND 1% INDICATES SINGLE PHASE (THREE PHASE IF NOT INDICATED) Z% REPRESENTS PERCENT IMPEDANCE
	POTENTIAL TRANSFORMER WITH FUSES (NUMBER INDICATES QUANTITY, NOT SHOWN IF ONE) 480/120V INDICATES MEDIUM/ LOW VOLTAGES. XX INDICATES AMPERE RATING YY INDICATES TYPE DESIGNATION.
	CURRENT TRANSFORMER (NUMBER INDICATES QUANTITY, NOT SHOWN IF ONE) 200/5 INDICATES MEDIUM/ LOW CURRENT RATIO
	GROUND FAULT SENSOR CURRENT TRANSFORMER
	SOLENOID VALVE
	SURGE ARRESTER
	MOTOR (10 INDICATES HP)
	CAPACITOR
	OPERATOR STATION, SEE SCHEMATIC FOR DETAILS
	BATTERIES

ONE-LINE DIAGRAMS (CONT.)	
	METER: ** A- AMMETER AS- AMMETER SWITCH F- FREQUENCY METER KW- KILO-WATT-AMPERE REACTIVE METER KW- KILOWATT METER KWH- KILOWATT HOUR METER KWH- KILOWATT HOUR METER WITH DEMAND REGISTER PF- POWER FACTOR METER RT- RUNNING TIME METER S- SYNCHROSCOPE V- VOLTMETER VS- VOLTMETER SWITCH
	TRANSDUCER: ** A- CURRENT KW- KILOWATT PF- POWER FACTOR V- VOLTAGE SC- SIGNAL CONVERTER
	PROTECTIVE RELAY, REGULATING OR MONITORING DEVICE: ** 25- SYNC CHECK RELAY 25A- AUTOMATIC SYNCHRONIZER 27- UNDERVOLTAGE RELAY 30- ANNUNCIATOR 32- REVERSE POWER RELAY 46- PHASE CURRENT RELAY (LOSS OF PHASE CURRENT) 47- VOLTAGE PHASE REVERSAL 50/51- TIME OVERCURRENT RELAY WITH INSTANTANEOUS TRIP 50/51N- GROUND TIME OVERCURRENT RELAY WITH INSTANTANEOUS TRIP 59- OVERVOLTAGE RELAY 59/81- UNDER FREQUENCY/OVER VOLTAGE RELAY (UFOV) 60- VOLTAGE PHASE LOSS 65- GOVERNOR 74- ALARM OUTPUT 83- AUTOMATIC TRANSFER RELAY 90- VOLTAGE REGULATOR 94- TRIPPING RELAY 95- VAR/POWER FACTOR CONTROLLER 96- IMPORT/EXPORT CONTROLLER
	SWITCH: ** A- AMMETER SELECTOR CS- CIRCUIT BREAKER CONTROL FS- FUEL SELECTOR GS- GOVERNOR RAISE-LOWER HS- SELECTOR SWITCH - FOR TYPE SEE CONTROL SCHEMATIC SS- SYNCHRONIZING LS- VOLTMETER SELECTOR LEVEL SWITCH
	DISCONNECT SWITCH: F 30A 20A TYPE YY SWITCH SIZE FUSE SIZE TYPE YY DESIGNATES THE TYPE OF FUSE BLANK IF NON-FUSED
	CONTACTOR
	TRANSFORMER CONNECTION WYE (UNGROUNDING)
	TRANSFORMER CONNECTION, WYE (SOLID GROUNDING NEUTRAL)
	TRANSFORMER CONNECTION DELTA
	CABLE FAULT INDICATOR
	CONTROL INTERFACE
	COMBINATION MOTOR STARTER FVNR OR COMBINATION CONTACTOR
	STARTER SIZE INTEGRAL OPERATORS STATION (SHOWN ONLY IF REQUIRED SEE SCHEMATICS OR SPECS FOR DETAILS)
	FACTORY ASSEMBLED MACHINE OR PIECE OF EQUIPMENT (10 INDICATES HP)
	PACKAGED STARTER WITH DISCONNECT. XX INDICATES AMPERE TRIP RATING TYPE YY DESIGNATE FUSE OR CIRCUIT BREAKER TYPE.
	SOLID STATE REDUCED VOLTAGE MOTOR CONTROLLER XXXX = TAG NO.
	ADJUSTABLE SPEED MOTOR CONTROLLER XXXX = TAG NO.
	STRESS CONE

CONDUIT AND WIRE NUMBERING SYSTEM	
1. ALL INDIVIDUAL TWISTED SHIELDED CABLES WILL BEAR THE SAME, NUMBER AS THE DEVICE OR LOOP IT IS A PART OF.	
2. ALL MULTICONDUCTOR CABLES WILL BE CONSECUTIVELY NUMBERED AS FOLLOWS: CXXX-SOURCE-DESTINATION	
3. INDIVIDUAL WIRES WILL BE NUMBERED AS FOLLOWS: SIGNAL (+) = TAG+ SIGNAL (-) = TAG- POWER (H) = LOOP NO.-1 POWER (N) = LOOP NO.-2	
4. POWER CONDUIT NUMBERS WILL BE THE SAME AS THE DEVICE NUMBER (PXXXX) IT IS ROUTED TO.	
5. CONTROL CONDUITS ASSOCIATED WITH A DEVICE WILL BEAR THE SAME NUMBER AS THE DEVICE (CXXXX) IT IS CONTROLLING.	
6. TWSH CABLE SHIELDS WILL BE TERMINATED ONLY AT THE N90 PCU. TERMINATIONS OF THE SHIELD AT THE FIELD DEVICE IS NOT ACCEPTABLE.	
7. ABBREVIATION EXAMPLES	
• #16 TSP = ONE INDIVIDUAL PAIR OF #16AWG CONDUCTORS TWISTED AND SHIELDED.	
• 8/PR, TW SH = ONE MULTIPAIR CONTROL CABLE WITH AT LEAST 8 PAIR OF #16AWG CONDUCTORS, EACH PAIR TWISTED & INDIVIDUALLY SHIELDED.	
• 24/C-#14 = ONE MULTICONDUCTOR CONTROL CABLE WITH AT LEAST 24-#14 CONDUCTORS.	
• T.S.P. AND TSP ARE ABBREVIATIONS FOR TWISTED SHIELDED PAIR.	
ONE-LINE DIAGRAMS	
	ISOLATION TRANSFORMER WITH ELECTROSTATIC SHIELD, 480V INDICATES WINDING VOLTAGE, 10KVA REPRESENTS POWER RATING AND "X" INDICATES THE NUMBER OF PHASES.
	TRANSFORMER CONNECTION, WYE (RESISTANCE GROUNDING NEUTRAL)
	FLOAT SWITCH (X) DESIGNATE QUANTITY.
LUMINAIRES	
	FLUORESCENT STRIP DESCRIBED IN LUMINAIRE SCHEDULE.
	FLUORESCENT FIXTURE DESCRIBED IN LUMINAIRE SCHEDULE.
	FIXTURE AS DESCRIBED IN LUMINAIRE SCHEDULE.
	HPS LIGHTING FIXTURE AS DESCRIBED IN LUMINAIRE SCHEDULE.
<div> <div>RECORD DRAWING</div> <div>Date: 6/26/96 By: [Signature]</div> <div>CAMP DRESSER &amp; MCKEE INC.</div> </div> <div> <div>RECORD DRAWING</div> <div>THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.</div> <div>DATE: 6/26/96 By: [Signature] CAMP DRESSER &amp; MCKEE</div> </div>	
<div> <div>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32</div> <div>Z 6 - 3 2 0 9 - 9 1 1 7 9 &gt;</div> </div> <div> <div>ALBUQUERQUE</div> <div>NEW MEXICO</div> <div>1996</div> <div>REGISTERED PROFESSIONAL ENGINEER</div> </div>	

<div> <div>MAI</div> <div>MISHRA AND ASSOCIATES, INC.</div> <div>PROCESS AUTOMATION SPECIALISTS</div> <div>(505) 889-0025</div> </div>	<div> <div>SOUTHSIDE WATER RECLAMATION PLANT</div> <div>ACTIVATED SLUDGE EXPANSION</div> <div>PHASE III, CONTRACT 4</div> <div>MODIFICATIONS TO ACTIVATED SLUDGE PUMP DISCHARGE CONDUIT SYSTEM</div> </div>	<div> <div>CITY OF</div> <div>ALBUQUERQUE</div> <div>NEW MEXICO</div> <div>PUBLIC WORKS DEPARTMENT</div> </div>	<div> <div>Designed By: DRC</div> <div>Drawn By: HHN</div> <div>Checked By: VKG</div> <div>Approved By: JPC</div> </div>	<div> <div>Date: DEC. 1993</div> <div>Scale: NONE</div> </div>	<div> <div>CDM</div> <div>CAMP DRESSER &amp; MCKEE INC.</div> <div>ALBUQUERQUE NEW MEXICO</div> <div>environmental engineers, scientists planners, &amp; management consultants</div> </div>	<div> <div>ELECTRICAL LEGEND AND SYMBOLS</div> </div>	<div> <div>DRAWING</div> <div>E-1</div> <div>SHEET NUMBER</div> <div>17 OF 30</div> </div>
--	---	---	--	--	--	---	--

1. THIS IS A STANDARD SHEET. NOT ALL ABBREVIATIONS AND SYMBOLS MAY HAVE BEEN USED ON THIS PROJECT

\*"P" DESIGNATES A POWER CONDUIT WHEN USED AS A CONDUIT NUMBER PREFIX

1

AMP	AMP OR AMMETER	GALV	GALVANIZED	O	OPEN OR OPENED	$\Delta$	DELTA
AC	ALTERNATING CURRENT	GEN	GENERATOR	OC	OPEN-CLOSE	$\Sigma$	SUM
ACK	ACKNOWLEDGE	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	OCA	OPEN-CLOSE-AUTO	×	MULTIPLY
ACP-X	AREA/AUX CONTROL PANEL NO.X	GFMUH	GAS FIRED MAKE UP HEATER	OL	OVERLOAD RELAY	$\div$	DIVIDE
ADJ	ADJUSTABLE	GFR	GROUND FAULT RELAY	OO	ON-OFF	f(x)	CHARACTERIZE
AFF	ABOVE FINISHED FLOOR	GND	GROUND	OOA	ON-OFF-AUTO	$\sqrt[n]{x}$	RAISE TO THE NTH POWER
AHU	AIR HANDLING UNIT	GRC	GALVANIZED RIGID STEEL CONDUIT	OOR	ON-OFF-REMOTE	$\sqrt{\quad}$	SQUARE ROOT
AIC	AMP INTERRUPTING CAPACITY			OP	ORTHO PHOSPHORUS	AVG	AVERAGE
AM	AUTO-MANUAL			ORP	OFF-REMOTE	1:1	REPEAT OR BOOST
AS	ADJUSTABLE SPEED	H	HOT-LEG	OSC	OXIDATION REDUCTION POTENTIAL	>	SELECT HIGHEST SIGNAL
ASPS	ACTIVATED SLUDGE PUMP STATION	HHV	HANDHOLE HIGH VOLTAGE		OPEN-STOP-CLOSE	<	SELECT LOWEST SIGNAL
ASU	AIR SUPPLY UNIT	HID	HIGH INTENSITY DISCHARGE			$\neq$	HIGH/LOW LIMIT
ATS	AUTOMATIC TRANSFER SWITCH	HLV	HANDHOLE LOW VOLTAGE	*P	PHASE OR POLE	1:0	INVERSE DERIVATIVE
AUX	AUXILIARY	HN	HORN OR KLAXSON	PB	PUSH-BUTTON STATION	1-0	ON-OFF
		HOA	HAND-OFF-AUTO	PC	PHOTOCELL	$\emptyset$	PHASE
B	BELL	HOR	HAND-OFF-REMOTE	PCP-X	PUMP CONTROL PANEL NO.X	$\Omega$	CURRENT
BAT	BATTERY	HPS	HIGH PRESSURE SODIUM	PFR	PHASE FAILURE RELAY	(+)	OHM
BKR	BREAKER	HS	HAND OPERATED SELECTOR SWITCH	PH	HYDROGEN ION CONCENTRATION	(-)	POSITIVE
BLDG	BUILDING	HSC	HAND SWITCH CLOSE	PP-X	POWER PANEL NO.X	$\oplus$	NEGATIVE
B12	1 OR 2 OR BOTH	HSD	HAND SWITCH OPEN	PS	PRESSURE SWITCH	$\Delta$	EXISTING
		HSS	HAND SWITCH STOP	PT	POTENTIAL TRANSFORMER		REFERENCE NOTE
		HTR	HEATER	PVC	POLYVINYL CHLORIDE		
*C	CONDUIT OR CLOSED	HVAC	HEATING VENTILATING AND AIR CONDITIONING	PWR	POWER		
CAM	COMPUTER-AUTO-MANUAL	HZ	HERTZ (CYCLES PER SECOND)				
CB	CIRCUIT BREAKER	H2S	HYDROGEN SULFIDE (STANDARD CHEMICAL ELEMENT ABBREVIATION)	R-X	RESISTOR OR POTENTIOMETER NO.X		
CC	CONTROL CABLE			REV	REVERSE		
CCS	CENTRAL CONTROL SYSTEM	IJB	INSTRUMENT JUNCTION BOX	RM-X	REMOTE MODULE No.X		
CCT	CONTROL CIRCUIT TRANSFORMER	IN OR (*)	INCHES	ROA	REMOTE-ON-AUTO		
CKT	CIRCUIT	INCAND	INCANDESCENT	RPM	REVOLUTIONS PER MINUTE		
CL2	CHLORINE (TYPICAL USE. STANDARD CHEMICAL ELEMENT ABBREVIATION).	INST	INSTANTANEOUS	RTM	RUNNING TIME METER		
CM	COMPUTER-MANUAL			RVNR	REDUCED VOLTAGE NON-REVERSING		
COD	CHEMICAL OXYGEN DEMAND	JB, J OR J-BOX	JUNCTION BOX	RVR	REDUCED VOLTAGE REVERSING		
CONC	CONCENTRATION	JBP	POWER JUNCTION BOX				
CR	CONTROL RELAY	JBC	CONTROL/INSTRUMENTATION JUNCTION BOX	SC	SPEED CONTROLLER		
CT	CURRENT TRANSFORMER			SEC	SECOND		
				SF	SLOWER-FASTER		
DC	DIRECT CURRENT			SO2	SULFUR DIOXIDE		
DCS	DISTRIBUTED CONTROL SYSTEM	K	KEY INTERLOCK	SS	START-STOP		
DCU-X	DISTRIBUTED CONTROL UNIT NO.X	KW	KILOWATT	SSC	SUPERVISORY SET POINT CONTROL		
DD	DELAY UPON DEENERGIZING	KWH	KILOWATT HOUR	SUSP	SUSPENDED SOLIDS CONCENTRATION		
DE	DELAY UPON ENERGIZING			SV	SOLENOID VALVE		
DEEN	DEENERGIZED			SW	SWITCH		
DEV	DEVIATION	L	LIGHTING CONTACTOR				
DIA	DIAMETER	LA	LIGHTNING ARRESTOR	T	THERMOSTAT OR TRANSFORMER		
DIM	DIMENSION	LCP-X	LOCAL CONTROL PANEL NO.X	TB	TERMINAL BLOCK		
DO	DISSOLVED OXYGEN CONCENTRATION	LDR	LOADING RELAY	TC	TIME CLOCK		
DSW	DISCONNECT SWITCH	LEL	LOWER EXPLOSIVE LIMIT	TCL2	TOTAL CHLORINE RESIDUAL		
DS	DOOR SWITCH	LL	LEAD-LAG	TD	TEMPERATURE DETECTOR RELAY		
		LLCO	LOW LEVEL CUT-OFF	TDR	TIME DELAY RELAY		
E.C.	ELECTRICAL CONTRACTOR	LOS	LOCK-OUT STOP	TJB	TERMINAL JUNCTION BOX		
EF	EXHAUST FAN	LP-X	LIGHTING PANEL NO.X	TM	TIMING RELAY		
E/G	EMERGENCY GENERATOR	LR	LATCHING RELAY OR LOCAL-REMOTE	TOC	TOTAL ORGANIC CARBON		
EMER	EMERGENCY	LS	LIMIT SWITCH	TOD	TOTAL OXYGEN DEMAND		
OR EM		LT	INDICATING LIGHT	TR	TIMER-REPEAT CYCLE		
EN	ENERGIZED	LY	LEVEL RELAY	TS	TEMPERATURE SWITCH		
ESD	EMERGENCY STOP DEPRESSED	L1,L2,L3	LIGHTING PANEL BRANCH CIRCUIT	TSP	TWISTED SHIELDED PAIR		
ESR	EMERGENCY STOP RESET				TW=TWISTED, SH=SHIELD OR SHIELDED, PR=PAIR		
EUH	ELECTRIC UNIT HEATER	M	MOTOR CONTROLLER	TSW	TOGGLE SWITCH		
EX OR EXIST	EXISTING	MC	MODULATE-CLOSE	TTS	TWISTED TRIAD SHIELDED		
		MCC-X	MOTOR CONTROL CENTER NO.X	TU	TURBIDITY		
		MCP	MOTOR CIRCUIT PROTECTOR	UH	UNIT HEATER		
FA	FIRE ALARM	MERC	MERCURY VAPOR	UVR	UNDER VOLTAGE RELAY		
FC	FAIL CLOSED	MH	MANHOLE				
FCL2	FREE CHLORINE RESIDUAL	MIN	MINUTE OR MINIMUM				
FDR	FEEDER	MLSS	MIXED LIQUOR SUSP. SOLIDS CONC.	V	VOLT OR VOLTMETER		
FJB	FIELD JUNCTION BOX	MMP	MECHANICAL MOUNTING PANEL	VAR	VARMETER		
FLA	FULL LOAD AMPERES	MS	MOTOR STARTER	VHC	VOLATILE HYDROCARBON CONC.		
FLM	FLASH MOTOR	MSP	MOTOR STARTER PANEL	VSC	VISCOSITY		
FLP	FAIL TO LAST POSITION	MTR	MOTOR	VP	VAPORPROOF		
FLUOR	FLUORESCENT	MSS	MOTOR SWITCH-STOP				
FO	FAIL OPEN	MSR	MOTOR SWITCH-RUN	W	WATT		
FOS	FAST-OFF-SLOW	MTS	MANUAL TRANSFER SWITCH	WHD	WATTHOUR DEMAND METER		
FOSA	FAST-OFF-SLOW-AUTO	N	NEUTRAL	WP	WEATHERPROOF		
FOSR	FAST-OFF-SLOW-REMOTE	NA	NON-AUTOMATIC	WP-SS	WEATHERPROOF-STAINLESS STEEL		
FOR	FORWARD	NC	NORMALLY CLOSED	W/-	WITH		
FP-X	FIELD PANEL NO.X	NCTO	NORMALLY CLOSED TIMED OPEN	XFMR	TRANSFORMER		
FS	FLOAT SWITCH	NJ	NORMAL-JOG	XP	EXPLOSION PROOF		
FU	FUSE	NO	NORMALLY OPEN				
FUT	FUTURE	NOTC	NORMALLY OPEN TIMED CLOSE				
FVNR	FULL VOLTAGE NON-REVERSING	NOTO	NORMALLY OPEN TIMED OPEN				
FVR	FULL VOLTAGE REVERSING	NCTC	NORMALLY CLOSED TIMED CLOSED	ZS	POSITION SWITCH		
		NP	NAMEPLATE				

Date: 6/26/96

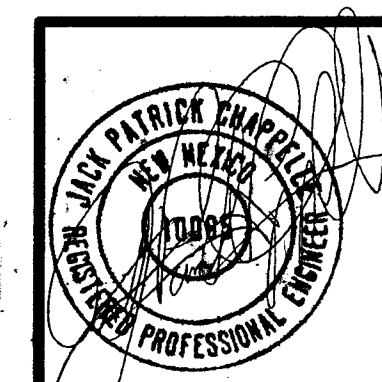
**CAMP DRESSER & MCKEE HON**

Copyright © 2006 John Wiley & Sons, Ltd.

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

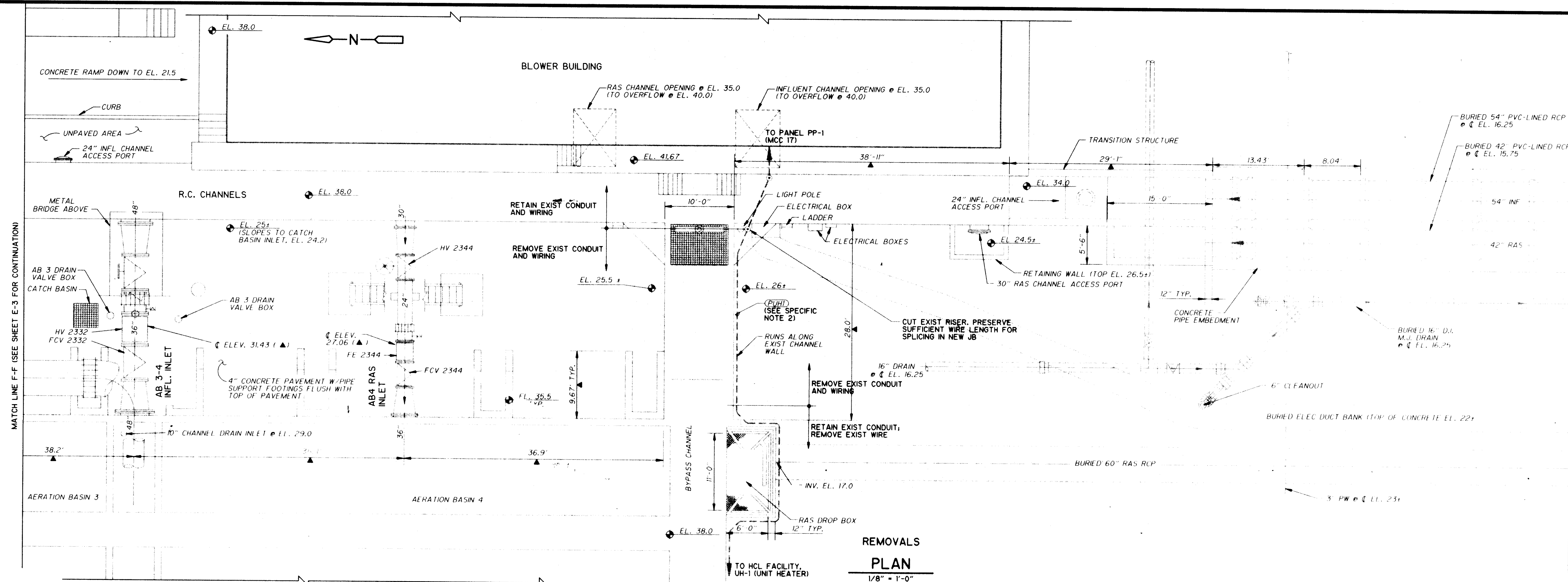
DATE: 7-7-57

1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	6	.	3	2	0	9	.	9	1		1	8	9

[illegible]



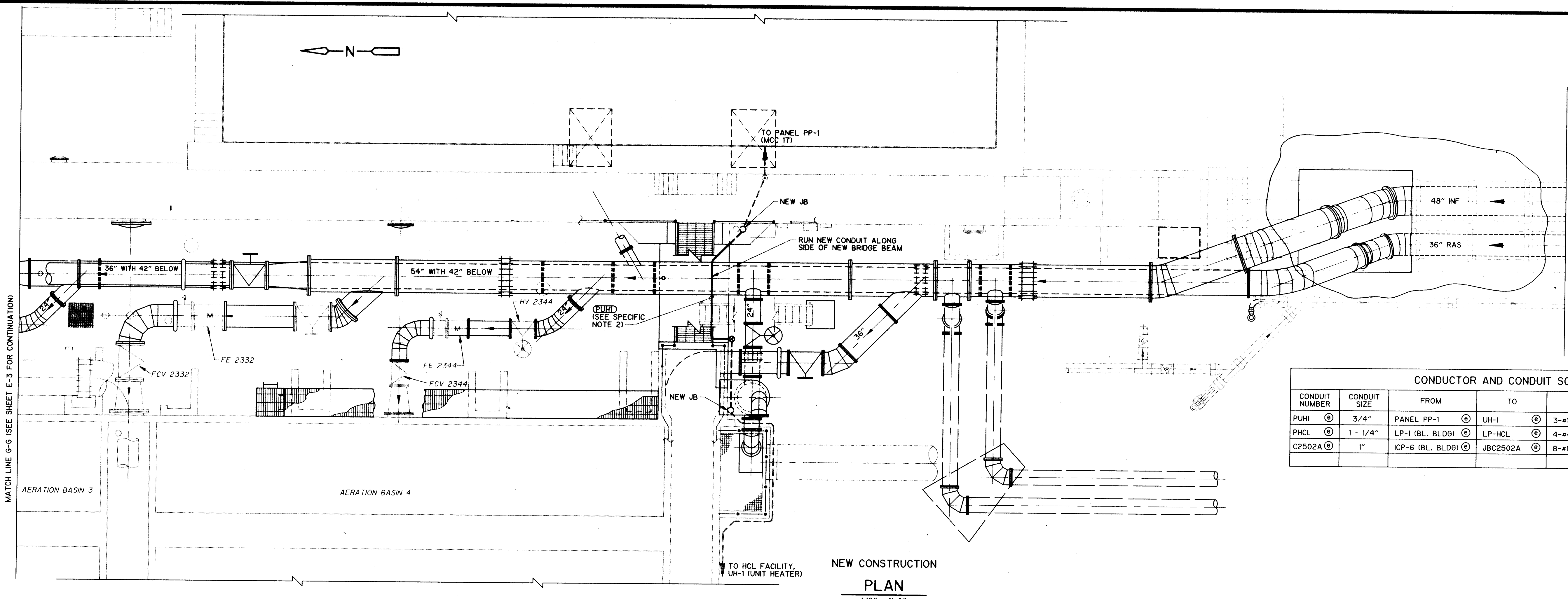




- GENERAL NOTES:**
1. THESE ELECTRICAL DRAWINGS SHOW ONLY THOSE ELECTRICAL, INSTRUMENTATION AND CONTROL FEATURES WHICH REQUIRE WORK UNDER THIS CONTRACT.
  2. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS, INSTALLATIONS AND TESTING REQUIRE COORDINATION WITH THE WORK OF OTHER TRADES, TO ENSURE THAT CONFLICTS, INTERFERENCES OR DELAYS TO THE PROJECT PROGRESS DO NOT OCCUR.
  3. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS AND TESTING THAT AFFECT PLANT OPERATIONS MUST BE COORDINATED WITH THE OWNER, THROUGH THE ENGINEER, AS SPECIFIED.
  4. EXISTING TO REMAIN, AND NEW ELECTRICAL, INSTRUMENTATION AND CONTROLS ARE IN CLOSE PROXIMITY TO NEW CIVIL, STRUCTURAL AND MECHANICAL WORK. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE ELECTRICAL FACILITIES FROM DAMAGE, WHETHER OR NOT THE FACILITIES ARE SHOWN ON THESE DRAWINGS.
  5. SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.
  6. SEE DRAWING NOS. M-2R AND S-1R FOR MECHANICAL AND STRUCTURAL REVISIONS. REVISE ROUTING OF NEW CONDUITS TO SUIT NEW INSTRUMENT AND CONTROL LOCATIONS, AND/OR TO AVOID CONFLICT WITH NEW STRUCTURAL FEATURES.

**RECORD DRAWING**  
 Date: 6/26/96 By: [Signature]  
 CAMP DRESSER & MCKEE INC.

**RECORD DRAWING**  
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
 DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE



- SPECIFIC NOTES:**
1. SEE CONDUCTOR AND CONDUIT SCHEDULE BELOW.
  2. SIMILAR FOR 120 VAC, FROM LP-1 TO LP-HCL, AND FOR CONTROLS, FROM ICP-6 TO JBC 2502A (HCL). SEE SCHEDULE BELOW FOR CONDUITS PHCL AND C2502A. 480 V AND 120 V POWER CAN SHARE COMMON JBS. SEPARATE TERMINAL STRIPS REQUIRED. PROVIDE SEPARATE JBS FOR CONTROL WIRING. CONDUITS PHCL AND C2502A PARALLEL AND ARE IMMEDIATELY ADJACENT TO CONDUIT PUHI SHOWN ON THE PLANS. REMOVAL AND NEW CONSTRUCTION WORK FOR CONDUITS PHCL AND C2502A IS EXACTLY AS SHOWN FOR CONDUIT PUHI AND AS INDICATED IN THIS NOTE.

CONDUCTOR AND CONDUIT SCHEDULE						
CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE	
PUHI	3/4"	PANEL PP-1	UH-1	3-#12, 1-#12GND	480VAC POWER, CKT PP1-20,22,24	
PHCL	1 - 1/4"	LP-1 (BL. BLDG)	LP-HCL	4-#4, 1-#8GND	120 V POWER	
C2502A	1"	ICP-6 (BL. BLDG)	JBC2502A	8-#14, 1-#14GND	CONTROL	

NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION
1	JULY 94	MJS	CHANGE REQUEST NO. 1				

SOUTHSIDE WATER RECLAMATION PLANT  
 ACTIVATED SLUDGE EXPANSION  
 PHASE III, CONTRACT 4  
 MODIFICATIONS TO ACTIVATED SLUDGE  
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
 NEW MEXICO  
 PUBLIC WORKS  
 DEPARTMENT

Designed By: MJS  
 Drawn By: TVN  
 Checked By: VKG  
 Approved By: JPC

Date: DEC. 1993  
 Scale: AS NOTED

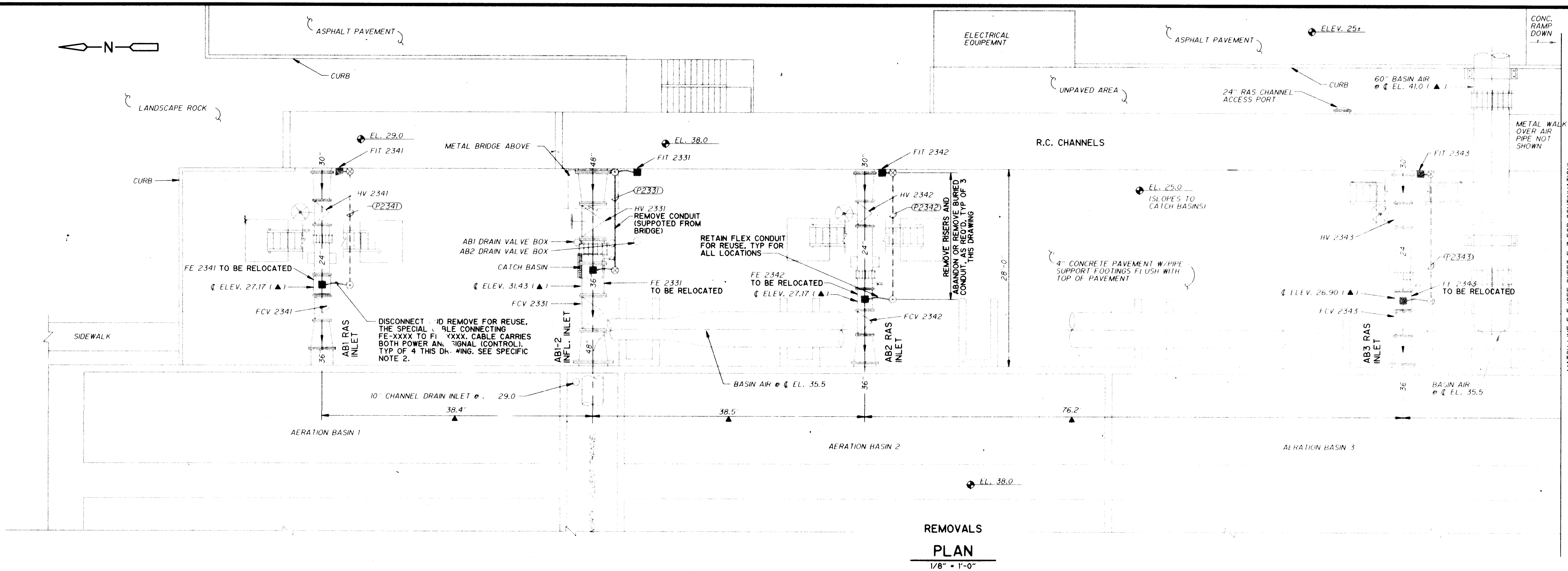
**CDM** CAMP DRESSER & MCKEE INC.  
 ALBUQUERQUE, NEW MEXICO  
 environmental engineers, scientists  
 planners, & management consultants

**ELECTRICAL**  
 480 V POWER PLAN  
 - CENTRAL

DRAWING  
**E-4**  
 SHEET NUMBER  
 20 OF 30





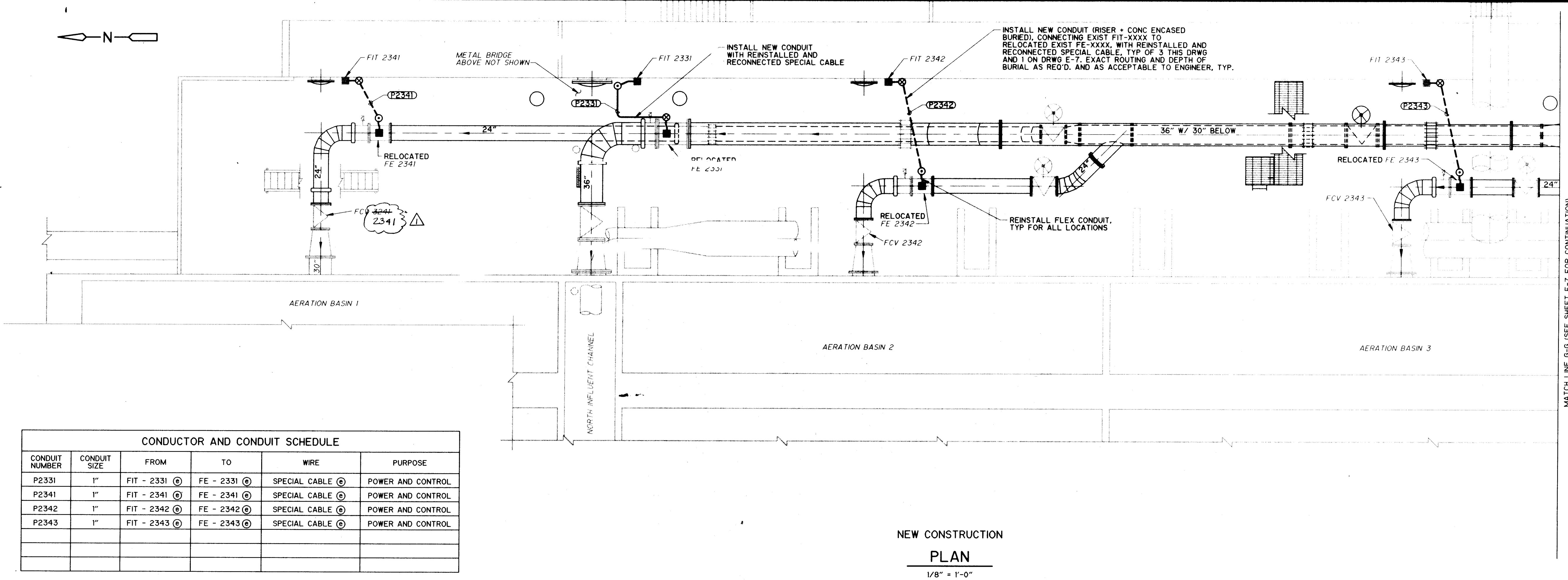


#### GENERAL NOTES:

- THESE ELECTRICAL DRAWINGS SHOW ONLY THOSE ELECTRICAL INSTRUMENTATION AND CONTROL FEATURES WHICH REQUIRE WORK UNDER THIS CONTRACT.
- ALL ELECTRICAL INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS, INSTALLATIONS AND TESTING REQUIRE COORDINATION WITH THE WORK OF OTHER TRADES TO ENSURE THAT CONFLICTS, INTERFERENCES OR DELAYS TO THE PROJECT PROGRESS DO NOT OCCUR.
- ALL ELECTRICAL INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS AND TESTING THAT AFFECT PLANT OPERATIONS MUST BE COORDINATED WITH THE OWNER, THROUGH THE ENGINEER, AS SPECIFIED.
- EXISTING TO REMAIN, AND NEW ELECTRICAL INSTRUMENTATION AND MECHANICAL WORK, CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE ELECTRICAL FACILITIES FROM DAMAGE, WHETHER OR NOT THE FACILITIES ARE SHOWN ON THESE DRAWINGS.
- SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.
- SEE DRAWING NOS. M-1-R AND S-1-R FOR MECHANICAL AND STRUCTURAL REVISIONS. REVISE ROUTING OF NEW CONDUITS TO SUIT NEW INSTRUMENT AND CONTROL LOCATIONS, AND/OR TO AVOID CONFLICT WITH NEW STRUCTURAL FEATURES.

#### SPECIFIC NOTES:

- SYSTEM SUPPLIER SHALL SUPERVISE DISCONNECTIONS AND RELOCATIONS. PRIOR TO DISCONNECTION, OWNER SHALL DEMONSTRATE TO SYSTEM SUPPLIER THAT EXISTING INSTALLATION IS OPERATING PROPERLY, AND THAT EXIST. INSTRUMENTS ARE PROPERLY CALIBRATED.
- CONTRACTOR SHALL VERIFY REQUIRED CABLE LENGTH FOR NEW CONSTRUCTION. IF EXISTING CABLE LENGTH WILL NOT BE SUFFICIENT, ENGINEER MUST BE NOTIFIED AND CHANGE ORDER ISSUED FOR REPLACEMENT CABLE.



#### SPECIFIC NOTES:

- SYSTEM SUPPLIER SHALL CERTIFY REINSTALLATION AND RECONNECTION OF FE-XXXX, 4 EACH THIS DRAWING. SEE NOTE 5 BELOW.
- SYSTEM SUPPLIER SHALL RE-CALIBRATE AND CERTIFY LOOPS FE/FIT-XXXX, 4 EACH THIS DRAWING. SEE NOTE 5 BELOW.
- REMOVE THEN REINSTATE EXISTING 4" CONCRETE PAVEMENT AS REQUIRED FOR NEW BURIED CONDUIT INSTALLATIONS. ALL BURIED CONDUIT TO BE CONCRETE ENCASED AS SPECIFIED.
- CONDUIT RUNS ARE SCHEMATIC; FEWER BENDS THAN SHOWN MAY ACTUALLY BE REQUIRED.
- SYSTEM SUPPLIER SHALL DEMONSTRATE PROPER CALIBRATION AND FUNCTION TO OWNER.



**RECORD DRAWING**

Date: 6/26/96 By: [Signature]  
CAMP DRESSER & MCKEE INC.

**RECORD DRAWING**

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE

CONDUCTOR AND CONDUIT SCHEDULE					
CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
P2331	1"	FIT - 2331	FE - 2331	SPECIAL CABLE	POWER AND CONTROL
P2341	1"	FIT - 2341	FE - 2341	SPECIAL CABLE	POWER AND CONTROL
P2342	1"	FIT - 2342	FE - 2342	SPECIAL CABLE	POWER AND CONTROL
P2343	1"	FIT - 2343	FE - 2343	SPECIAL CABLE	POWER AND CONTROL

	MAR '94		ADDENDUM NO 1				
	JULY '94	MJS	CHANGE REQUEST NO 1				
NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
- PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: MJS  
Drawn By: TVN  
Checked By: VKG  
Approved By: JPC

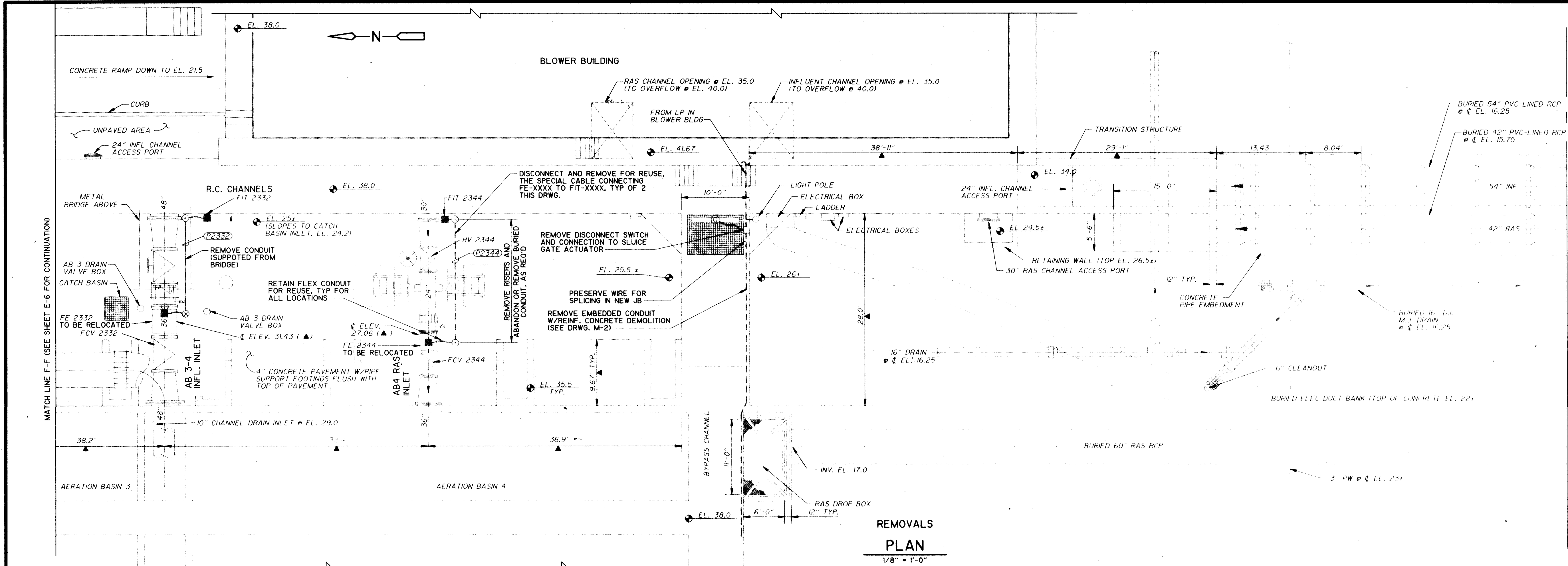
Date: DEC. 1993  
Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

ELECTRICAL  
120 V POWER PLAN  
- NORTH

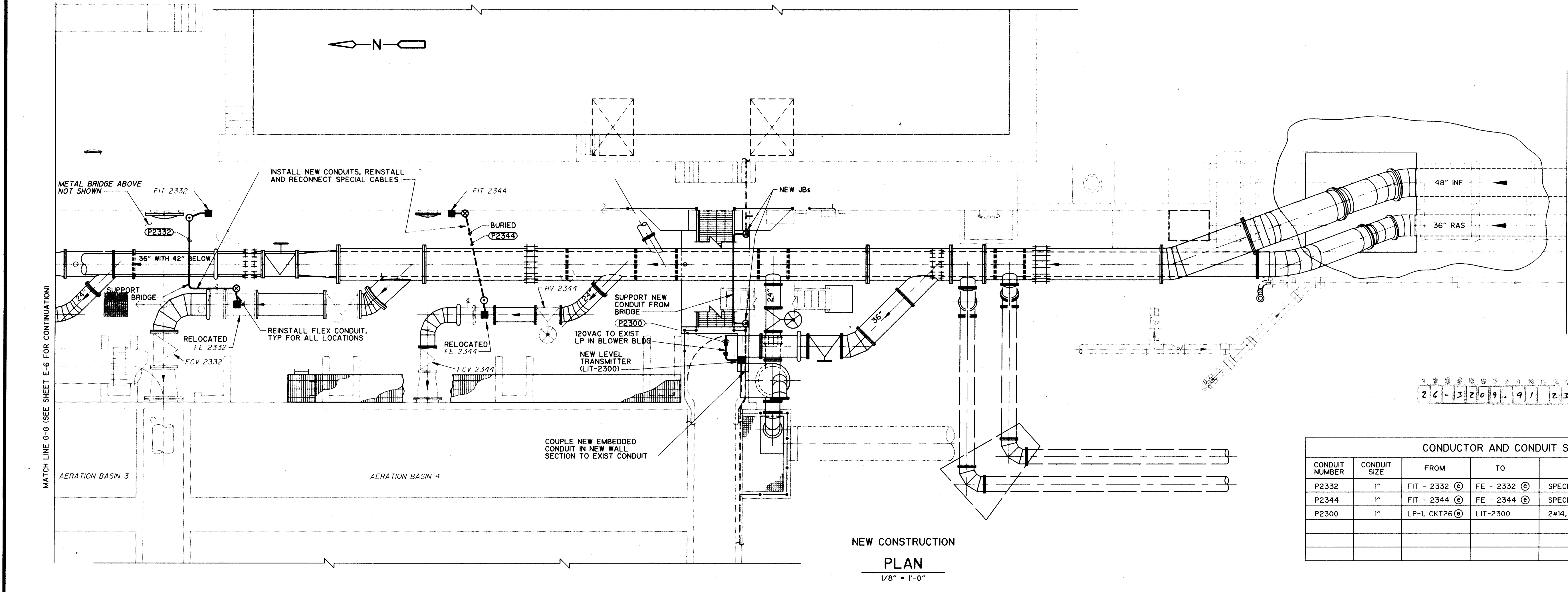
DRAWING  
E-6  
SHEET NUMBER  
22 OF 30





- GENERAL NOTES:**
1. THESE ELECTRICAL DRAWINGS SHOW ONLY THOSE ELECTRICAL, INSTRUMENTATION AND CONTROL FEATURES WHICH REQUIRE WORK UNDER THIS CONTRACT.
  2. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS, INSTALLATIONS AND TESTING REQUIRE COORDINATION WITH THE WORK OF OTHER TRADES, TO ENSURE THAT CONFLICTS, INTERFERENCES OR DELAYS TO THE PROJECT PROGRESS DO NOT OCCUR.
  3. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS AND TESTING THAT AFFECT PLANT OPERATIONS MUST BE COORDINATED WITH THE OWNER, THROUGH THE ENGINEER, AS SPECIFIED.
  4. EXISTING TO REMAIN, AND NEW ELECTRICAL, INSTRUMENTATION AND CONTROLS ARE IN CLOSE PROXIMITY TO NEW CIVIL, STRUCTURAL AND MECHANICAL WORK. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE ELECTRICAL FACILITIES FROM DAMAGE, WHETHER OR NOT THE FACILITIES ARE SHOWN ON THESE DRAWINGS.
  5. SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.
  6. SEE DRAWING NOS. M-2 R AND S-1 R FOR MECHANICAL AND STRUCTURAL REVISIONS REVISE ROUTING OF NEW CONDUITS TO SUIT NEW INSTRUMENT AND CONTROL LOCATIONS, AND/OR TO AVOID CONFLICT WITH NEW STRUCTURAL FEATURES.

- SPECIFIC NOTES:**
1. SEE DRAWING E-6.



- SPECIFIC NOTES:**
1. SYSTEM SUPPLIER SHALL CERTIFY REINSTALLATION AND RECONNECTION OF FE-XXXX, 2 EACH THIS DRAWING. SEE NOTE 6 BELOW.
  2. SYSTEM SUPPLIER SHALL RE-CALIBRATE AND CERTIFY LOOPS FE/FIT-XXXX, 2 EACH THIS DRAWING. SEE NOTE 6 BELOW.
  3. REMOVE THEN REINSTATE EXISTING 4" CONCRETE PAVEMENT AS REQUIRED FOR NEW BURIED CONDUIT INSTALLATIONS. ALL BURIED CONDUIT TO BE CONCRETE ENCASED AS SPECIFIED.
  4. CONDUIT RUNS ARE SCHEMATIC; FEWER BENDS THAN SHOWN MAY ACTUALLY BE REQUIRED.
  5. SEE DRAWING E-4 FOR WORK CONCERNING 120VAC SERVICE TO HCL FACILITY.
  6. SYSTEM SUPPLIER SHALL DEMONSTRATE PROPER CALIBRATION AND FUNCTION TO OWNER.

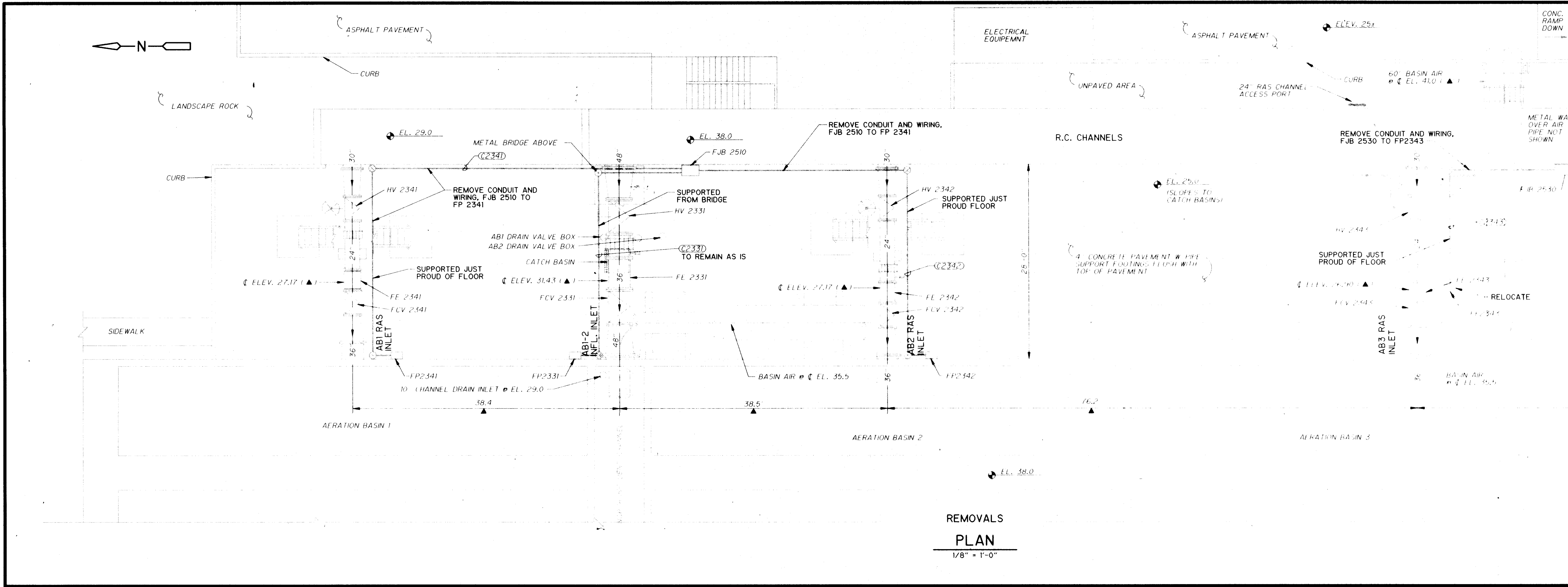
**RECORD DRAWING**  
 Date: 6/26/96 By: [Signature]  
 CAMP DRESSER & MCKEE INC.

**RECORD DRAWING**  
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
 DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE

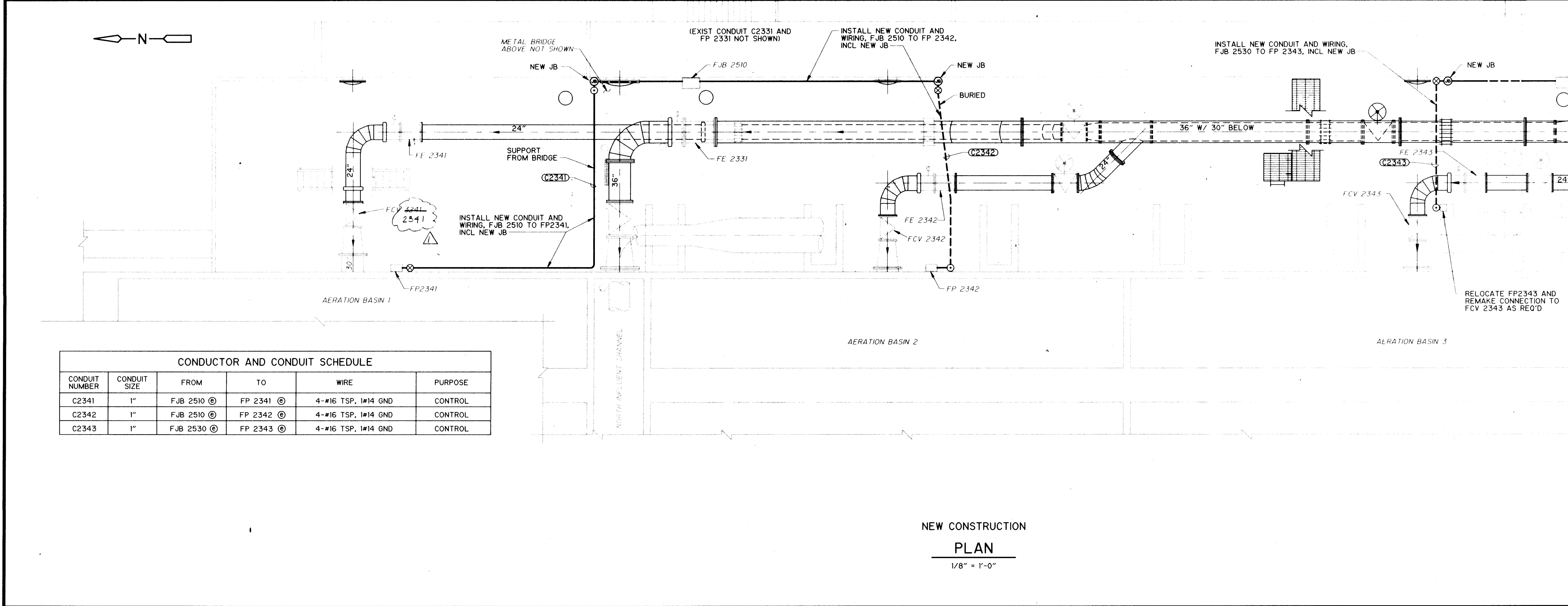
CONDUCTOR AND CONDUIT SCHEDULE					
CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
P2332	1"	FIT - 2332	FE - 2332	SPECIAL CABLE	POWER AND CONTROL
P2344	1"	FIT - 2344	FE - 2344	SPECIAL CABLE	POWER AND CONTROL
P2300	1"	LP-1, CKT26	LIT-2300	2#14, 1#14 GND	POWER







- GENERAL NOTES:**
1. THESE ELECTRICAL DRAWINGS SHOW ONLY THOSE ELECTRICAL, INSTRUMENTATION AND CONTROL FEATURES WHICH REQUIRE WORK UNDER THIS CONTRACT.
  2. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS, INSTALLATIONS AND TESTING REQUIRE COORDINATION WITH THE WORK OF OTHER TRADES, TO ENSURE THAT CONFLICTS, INTERFERENCES OR DELAYS TO THE PROJECT PROGRESS DO NOT OCCUR.
  3. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS AND TESTING THAT AFFECT PLANT OPERATIONS MUST BE COORDINATED WITH THE OWNER, THROUGH THE ENGINEER, AS SPECIFIED.
  4. EXISTING TO REMAIN, AND NEW ELECTRICAL, INSTRUMENTATION AND CONTROLS ARE IN CLOSE PROXIMITY TO NEW CIVIL, STRUCTURAL AND MECHANICAL WORK. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE FACILITIES FROM DAMAGE, WHETHER OR NOT THE FACILITIES ARE SHOWN ON THESE DRAWINGS.
  5. SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.
- SEE DRAWING N-11 R AND S I R FOR MECHANICAL AND STRUCTURAL REVISIONS. RELOCATE NEW INSTRUMENT AND CONTROL LOCATIONS, AND/OR TO AVOID CONFLICT WITH NEW STRUCTURAL FEATURES.
- SPECIFIC NOTES:**
1. CONTROL WIRING FOR FE/FIT-XXXX IS INCLUDED WITH 120V POWER. NOT SHOWN ON THIS DRAWING. SEE DRAWING E-6.



**SPECIFIC NOTES:**

1. CONTROL WIRING FOR FE/FIT-XXXX IS INCLUDED WITH 120V POWER. NOT SHOWN ON THIS DRAWING. SEE DRAWING E-6.
2. SYSTEM SUPPLIER SHALL RE-CALIBRATE AND CERTIFY LOOPS FCV-XXXX, 3 EACH THIS DRAWING. SEE NOTE 5 BELOW.
3. CONCRETE PAVEMENT REMOVAL AND REINSTATEMENT AS REQUIRED FOR NEW BURIED CONDUIT INSTALLATIONS. ALL BURIED CONDUIT TO BE CONCRETE ENCASED AS SPECIFIED.
4. CONDUIT RUNS ARE SCHEMATIC; FEWER BENDS THAN SHOWN MAY ACTUALLY BE REQUIRED.
5. PRIOR TO RELOCATION, OWNER SHALL DEMONSTRATE PROPER CALIBRATION AND FUNCTION TO SYSTEM SUPPLIER. SYSTEM SUPPLIER SHALL DEMONSTRATE SAME TO OWNER AFTER RELOCATION.

**RECORD DRAWING**

Date: 6/26/93 By: MJS

**CAMP DRESSER & MCKEE INC.**

**RECORD DRAWING**

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

Date: 6/26/93 By: MJS

**CAMP DRESSER & MCKEE**

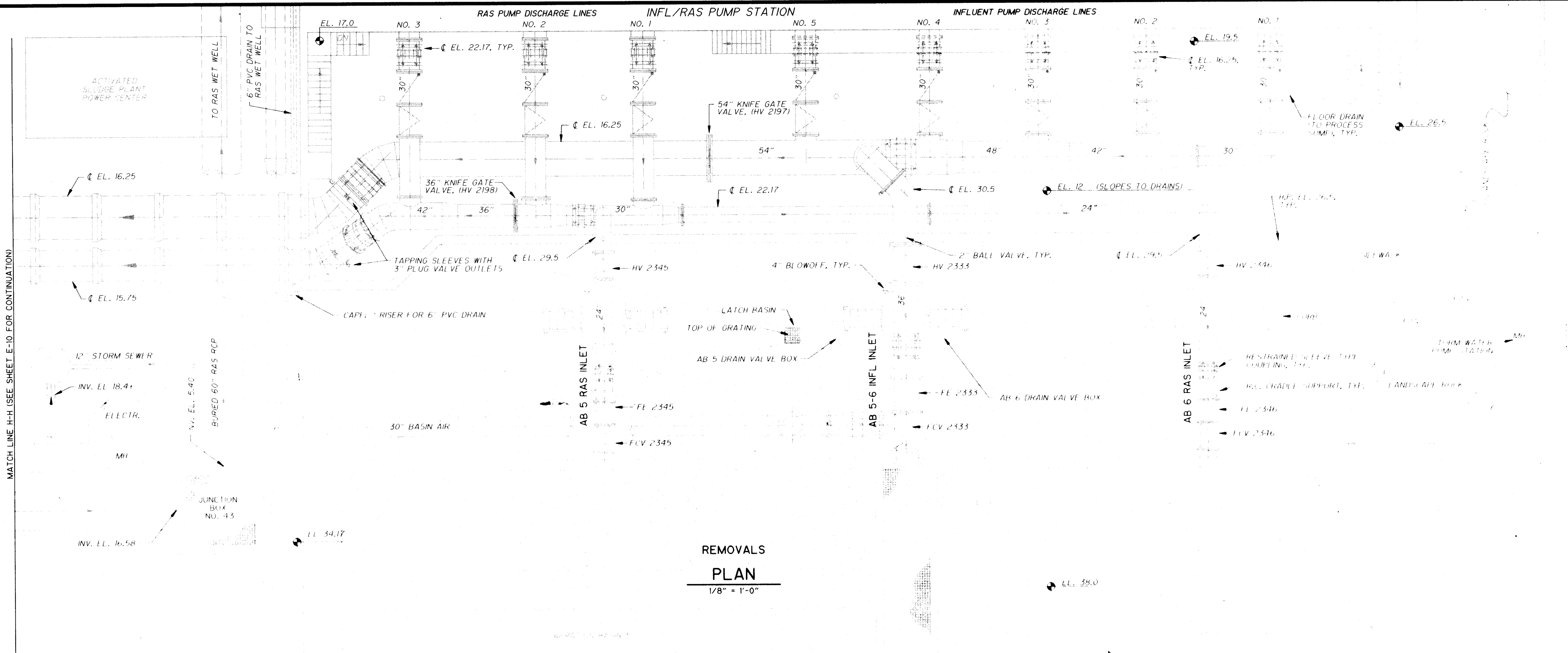
CONDUCTOR AND CONDUIT SCHEDULE					
CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
C2341	1"	FJB 2510	FP 2341	4-#16 TSP, 1#14 GND	CONTROL
C2342	1"	FJB 2510	FP 2342	4-#16 TSP, 1#14 GND	CONTROL
C2343	1"	FJB 2530	FP 2343	4-#16 TSP, 1#14 GND	CONTROL







MATCH LINE H-H (SEE SHEET E-10 FOR CONTINUATION)

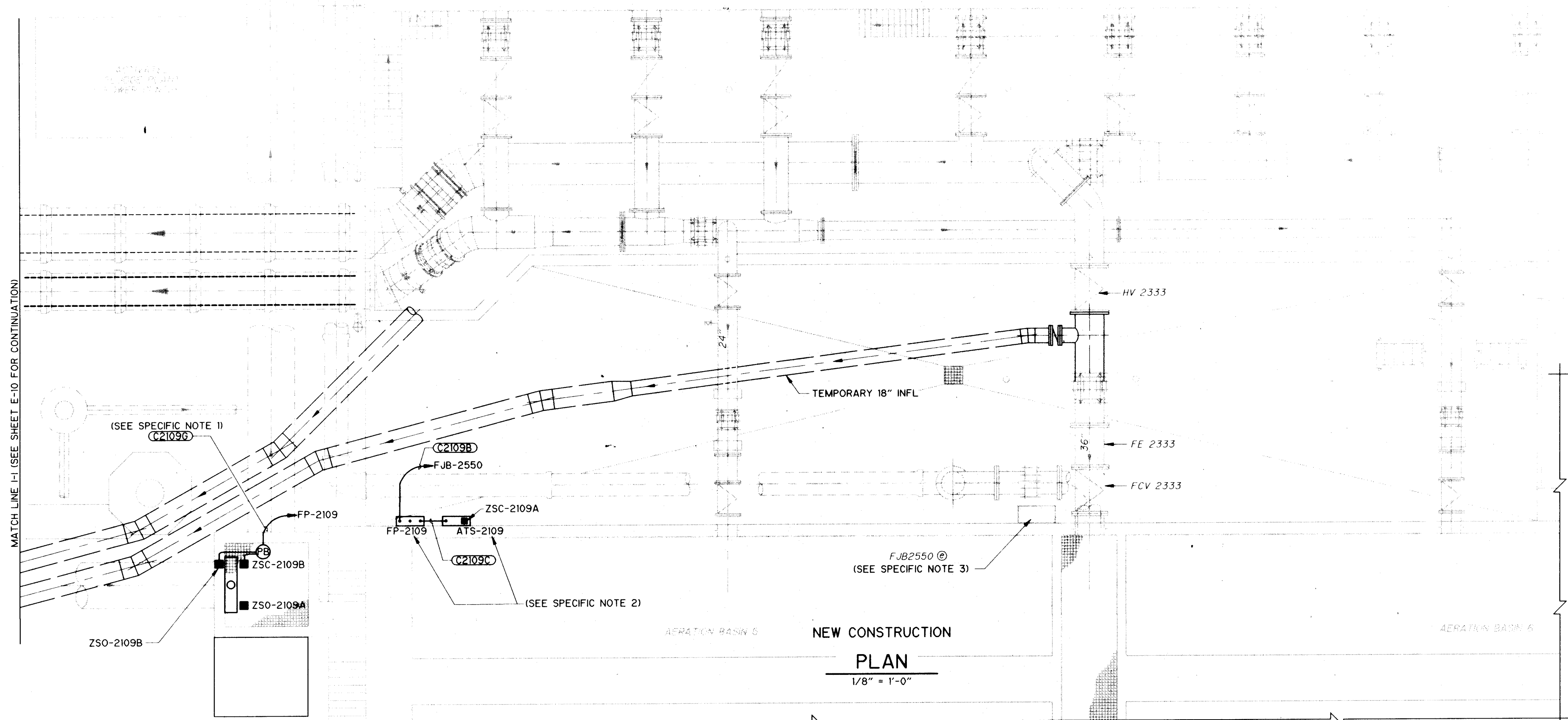


- GENERAL NOTES:
1. THESE ELECTRICAL DRAWINGS SHOW ONLY THOSE ELECTRICAL, INSTRUMENTATION AND CONTROL FEATURES WHICH REQUIRE WORK UNDER THIS CONTRACT.
  2. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS, INSTALLATIONS AND TESTING REQUIRE COORDINATION WITH THE WORK OF OTHER TRADES, TO ENSURE THAT CONFLICTS, INTERFERENCES OR DELAYS TO THE PROJECT PROGRESS DO NOT OCCUR.
  3. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS AND TESTING THAT AFFECT PLANT OPERATIONS MUST BE COORDINATED WITH THE OWNER, THROUGH THE ENGINEER, AS SPECIFIED.
  4. EXISTING TO REMAIN, AND NEW ELECTRICAL, INSTRUMENTATION AND CONTROLS ARE IN CLOSE PROXIMITY TO NEW CIVIL, STRUCTURAL AND MECHANICAL WORK. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE FACILITIES FROM DAMAGE, WHETHER OR NOT THE FACILITIES ARE SHOWN ON THESE DRAWINGS.
  5. SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.

- SPECIFIC NOTES:
1. NO ELECTRICAL REMOVALS THIS DRAWING. SEE NEW CONSTRUCTION PLAN FOR EXISTING AND NEW ELECTRICAL FEATURES.



MATCH LINE H-H (SEE SHEET E-10 FOR CONTINUATION)



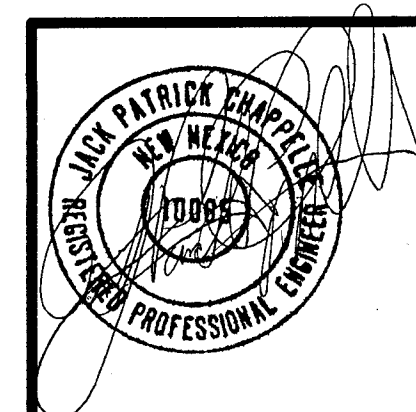
- SPECIFIC NOTES:
1. ROUTE CONDUIT BETWEEN JB43 AND AB5 BELOW STAIR LANDING.
  2. MOUNT FP-2109 AND ATS-2109 ON STAND-OFFS. PANEL FP-2109 SHALL BE HOUSED IN NEMA 4X ENCLOSURE. ATS-2109 SHALL BE HOUSED IN NEMA 4 ENCLOSURE.
  3. TERMINATE DI SIGNALS UA-2109, ZSO-2109B, AND ZSC-2109B ON TB-5. TERMINATE ZSC-2109A AND HS-2109 ON TB-6. ROUTE CIRCUITS TO ICP-5 AND PCU-5 USING SPARE PAIRS IN EXISTING MULTIPAIR #16 TWSH CABLE, AS DIRECTED BY OWNER.

**RECORD DRAWING**  
Date: 6/26/92 By: [Signature]  
CAMP DRESSER & MCKEE INC.

**RECORD DRAWING**  
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 6/26/92 By: [Signature] CAMP DRESSER & MCKEE

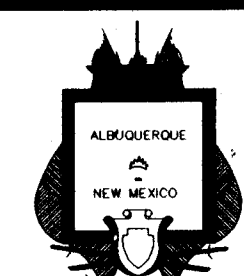
CONDUCTOR AND CONDUIT SCHEDULE					
CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
C2109A	3/4"	ZSO/ZSC-2109B	FP-2109	2#16 TSP, 1#14 GND	CONTROL
C2109B	1 1/4"	FP-2109	FJB-2550 @	5#16 TSP, 1#14 GND	CONTROL
C2109C	3/4"	FP-2109	ATS-2109	1#16 TSP, 1#14 GND	CONTROL

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15  
Z 6 - 3 2 0 9 - 9 1 2 7 9



SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: ORC  
Drawn By: TVN  
Checked By: VKG  
Approved By: JPC

Date: DEC. 1993  
Scale: AS NOTED

**CDM** CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE, NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

**ELECTRICAL  
CONTROL WIRING PLAN  
- SOUTH**

DRAWING  
E-11  
SHEET NUMBER  
27 OF 30

NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION





ABBREVIATIONS AND MISCELLANEOUS LETTER SYMBOLS

A	AMP OR AMMETER
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
ACP-X	AREA/AUX CONTROL PANEL NO.X
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AIC	AMP INTERRUPTING CAPACITY
AM	AUTO-MANUAL
AS	ADJUSTABLE SPEED
ASPS	ACTIVATED SLUDGE PUMP STATION
ASU	AIR SUPPLY UNIT
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
B	BELL
BAT	BATTERY
BKR	BREAKER
BLDG	BUILDING
B12	1 OR 2 OR BOTH
C	CONDUIT OR CLOSED
CAM	COMPUTER-AUTO-MANUAL
CB	CIRCUIT BREAKER
CC	CONTROL CABLE
CCS	CENTRAL CONTROL SYSTEM
CCT	CONTROL CIRCUIT TRANSFORMER
CKT	CIRCUIT
CL2	CHLORINE (TYPICAL USE, STANDARD CHEMICAL ELEMENT ABBREVIATION)
CM	COMPUTER-MANUAL
COD	CHEMICAL OXYGEN DEMAND
CONC	CONCENTRATION
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU-X	DISTRIBUTED CONTROL UNIT NO.X
DD	DELAY UPON DEENERGIZING
DE	DELAY UPON ENERGIZING
DEEN	DEENERGIZED
DEV	DEVIATION
DIA	DIAMETER
DIM	DIMENSION
DO	DISSOLVED OXYGEN CONCENTRATION
DSW	DISCONNECT SWITCH
DS	DOOR SWITCH
E.C.	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
E/G	EMERGENCY GENERATOR
EMER	EMERGENCY
OR EM	
EN	ENERGIZED
ESD	EMERGENCY STOP DEPRESSED
ESR	EMERGENCY STOP RESET
EUH	ELECTRIC UNIT HEATER
EX OR	EXISTING
EXIST	
FA	FIRE ALARM
FC	FAIL CLOSED
FCL2	FREE CHLORINE RESIDUAL
FDR	FEEDER
FLA	FULL LOAD AMPERES
FLM	FLASH MOTOR
FLP	FAIL TO LAST POSITION
FLUOR	FLUORESCENT
FO	FAIL OPEN
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FOR	FORWARD
FP-X	FIELD PANEL NO.X
FS	FLOAT SWITCH
FU	FUSE
FUT	FUTURE
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING

GALV	GALVANIZED
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFMUH	GAS FIRED MAKE UP HEATER
GFR	GROUND FAULT RELAY
GND	GROUND
GRC	GALVANIZED RIGID STEEL CONDUIT
H	HOT-LEG
HHV	HANDHOLE HIGH VOLTAGE
HID	HIGH INTENSITY DISCHARGE
HLV	HANDHOLE LOW VOLTAGE
HN	HORN OR KLAXSON
HOA	HAND-OFF-AUTO
HON	HAND-OFF-N90
HOR	HAND-OFF-REMOTE
HPS	HIGH PRESSURE SODIUM
HS	HAND OPERATED SELECTOR SWITCH
HTR	HEATER
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HZ	HERTZ (CYCLES PER SECOND)
H2S	HYDROGEN SULFIDE (STANDARD CHEMICAL ELEMENT ABBREVIATION)
ICP	INSTRUMENT CONTROL PANEL
IJB	INSTRUMENT JUNCTION BOX
IN OR (*)	INCHES
INCAND	INCANDESCENT
INST	INSTANTANEOUS
JB OR J-BOX	JUNCTION BOX
K	KEY INTERLOCK
KW	KILOWATT
KWH	KILOWATT HOUR
L	LIGHTING CONTACTOR
LA	LIGHTNING ARRESTOR
LCP-X	LOCAL CONTROL PANEL NO.X
LDR	LOADING RELAY
LEL	LOWER EXPLOSIVE LIMIT
LL	LEAD-LAG
LLCO	LOW LEVEL CUT-OFF
LOS	LOCK-OUT STOP
LP-X	LIGHTING PANEL NO.X
LR	LATCHING RELAY OR LOCAL-REMOTE
LS	LIMIT SWITCH
LT	INDICATING LIGHT
LY	LEVEL RELAY
L1,L2,L3	LIGHTING PANEL BRANCH CIRCUIT
M	MOTOR CONTROLLER
MC	MODULATE-CLOSE
MCC-X	MOTOR CONTROL CENTER NO.X
MCP	MOTOR CIRCUIT PROTECTOR
MERC	MERCURY VAPOR
MH	MANHOLE
MIN	MINUTE OR MINIMUM
MLSS	MIXED LIQUOR SUSP. SOLIDS CONC.
MMP	MECHANICAL MOUNTING PANEL
MS	MOTOR STARTER
MSP	MOTOR STARTER PANEL
MTR	MOTOR
N	NEUTRAL
NA	NON-AUTOMATIC
NB	NORMAL-BYPASS
NC	NORMALLY CLOSED
NCTO	NORMALLY CLOSED TIMED OPEN
NJ	NORMAL-JOG
NO	NORMALLY OPEN
NOTC	NORMALLY OPEN TIMED CLOSE
NP	NAMEPLATE
N90	BAILEY NETWORK 90 DCS

O	OPEN OR OPENED
OC	OPEN-CLOSE
OCA	OPEN-CLOSE-AUTO
OIM	OPERATOR INTERFACE UNIT
OL	OVERLOAD RELAY
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
OP	ORTHO PHOSPHORUS
OR	OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
P	PHASE OR POLE
PB	PUSH-BUTTON STATION
PC	PHOTOCELL
PCP-X	PUMP CONTROL PANEL NO.X
PCM	PROCESS CONTROL UNIT
PFR	PHASE FAILURE RELAY
PH	HYDROGEN ION CONCENTRATION
POS	INDICATES SWITCH POSITION
PP-X	POWER PANEL NO X
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
R-X	RESISTOR OR POTENTIOMETER NO.X
REV	REVERSE
RM-X	REMOTE MODULE NO.X
ROA	REMOTE-ON-AUTO
RPM	REVOLUTIONS PER MINUTE
RTM	RUNNING TIME METER
RVNR	REDUCED VOLTAGE NON-REVERSING
RVR	REDUCED VOLTAGE REVERSING
SCU	SPEED CONTROL UNIT
SEC	SECOND
SF	SLOWER-FASTER
SO2	SULFUR DIOXIDE
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
SUSP	SUSPENDED SOLIDS CONCENTRATION
SV	SOLENOID VALVE
SW	SWITCH
T	THERMOSTAT OR TRANSFORMER
TB	TERMINAL BLOCK
TC	TIME CLOCK
TCL2	TOTAL CHLORINE RESIDUAL
TD	TEMPERATURE DETECTOR RELAY
TDR	TIME DELAY RELAY
TJB	TERMINAL JUNCTION BOX
TM	TIMING RELAY
TOC	TOTAL ORGANIC CARBON
TOD	TOTAL OXYGEN DEMAND
TR	TIMER-REPEAT CYCLE
TS	TEMPERATURE SWITCH
TSP	TWISTED SHIELDED PAIR
TSW	TOGGLE SWITCH
TTS	TWISTED TRIAD SHIELDED
TU	TURBIDITY
UH	UNIT HEATER
UVR	UNDER VOLTAGE RELAY
V	VOLT OR VOLTMETER
VAR	VARMETER
VHC	VOLATILE HYDROCARBON CONC.
VSC	VISCOSITY
VP	VAPORPROOF
W	WATT
WHD	WATTHOUR DEMAND METER
WP	WEATHERPROOF
W/	WITH

XFMR	TRANSFORMER
XP	EXPLOSION PROOF
ZS	POSITION SWITCH
Δ	DIFFERENCE
Σ	SUM
x	MULTIPLY
÷	DIVIDE
f(x)	CHARACTERIZE
N	RAISE TO THE NTH POWER
√	SQUARE ROOT
AVG	AVERAGE
1:1	REPEAT OR BOOST
>	SELECT HIGHEST SIGNAL
<	SELECT LOWEST SIGNAL
X	HIGH/LOW LIMIT
1:0	INVERSE DERIVATIVE
1-0	ON-OFF
0	PHASE
0	CURRENT
0	OHM
(+)	POSITIVE
(-)	NEGATIVE
⊕	EXISTING
Δ	REFERENCE NOTE

BA	BASIN AIR
BP	BYPASS
BPE	BYPASSED PRIMARY EFFLUENT
CA	CHANNEL AIR
CD	CHANNEL DRAIN
CLG	CHLORINE GAS
CLL	CHLORINE LIQUID
CLS	CHLORINE SOLUTION
CLV	CHLORINE VACUUM
CR	CENTRATE RETURN
CW	COLD WATER
D	DRAIN
DS	DIGESTED SLUDGE
FE	FINAL EFFLUENT
FP	FIRE PROTECTION
G	GAS
HCL	HYDROGEN CHLORIDE GAS
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
INF	ACTIVATED SLUDGE PLANT INFLUENT
NG	NATURAL GAS
ML	MIXED LIQUOR
PE	PRIMARY EFFLUENT
PW	PLANT WATER
RAS	RETURN ACTIVATED SLUDGE
RTFE	RECIRCULATED TRICKLING FILTER EFFLUENT
S	SEPTAGE OR SLUDGE
SC	SCUM
SN	SUPERNATANT, SUBNATANT
SE	SECONDARY EFFLUENT
SS	STORM SEWER, SECONDARY SLUDGE
TD	TANK DRAIN
TFE	TRICKLING FILTER EFFLUENT
WAS	WASTE ACTIVATED SLUDGE

PROCESS STREAM IDENTIFICATION

GENERAL NOTE:  
1. THIS IS A STANDARD SHEET. NOT ALL ABBREVIATIONS AND SYMBOLS MAY HAVE BEEN USED ON THIS PROJECT.

**RECORD DRAWING**  
Date: 6-24-78 By: [Signature]  
CAMP DRESSER & MCKEE INC.

**RECORD DRAWING**  
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.  
DATE: 6-24-78 By: [Signature] CAMP DRESSER & MCKEE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15  
2 2 - 3 2 0 9 - 9 1 2 9 9 7



REV	DATE	APP.	DESCRIPTION

**MAI**  
MISHRA AND ASSOCIATES, INC.  
PROCESS AUTOMATION SPECIALISTS  
(505) 889-0025

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
ALBUQUERQUE  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



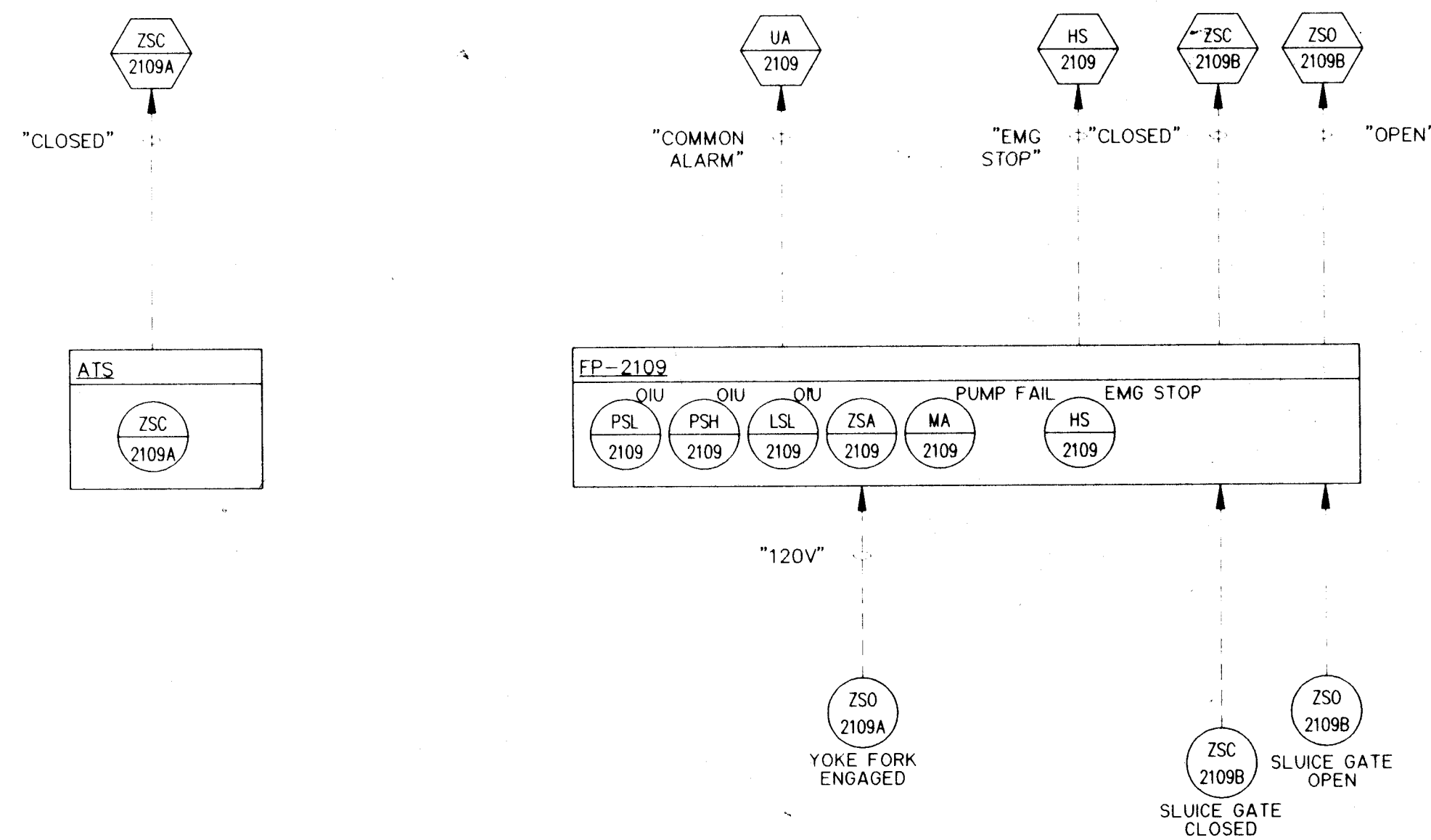
Designed By: JRC  
Drawn By: HHN  
Checked By: YKG  
Approved By: JPC

Date: DEC. 1993  
Scale: NONE

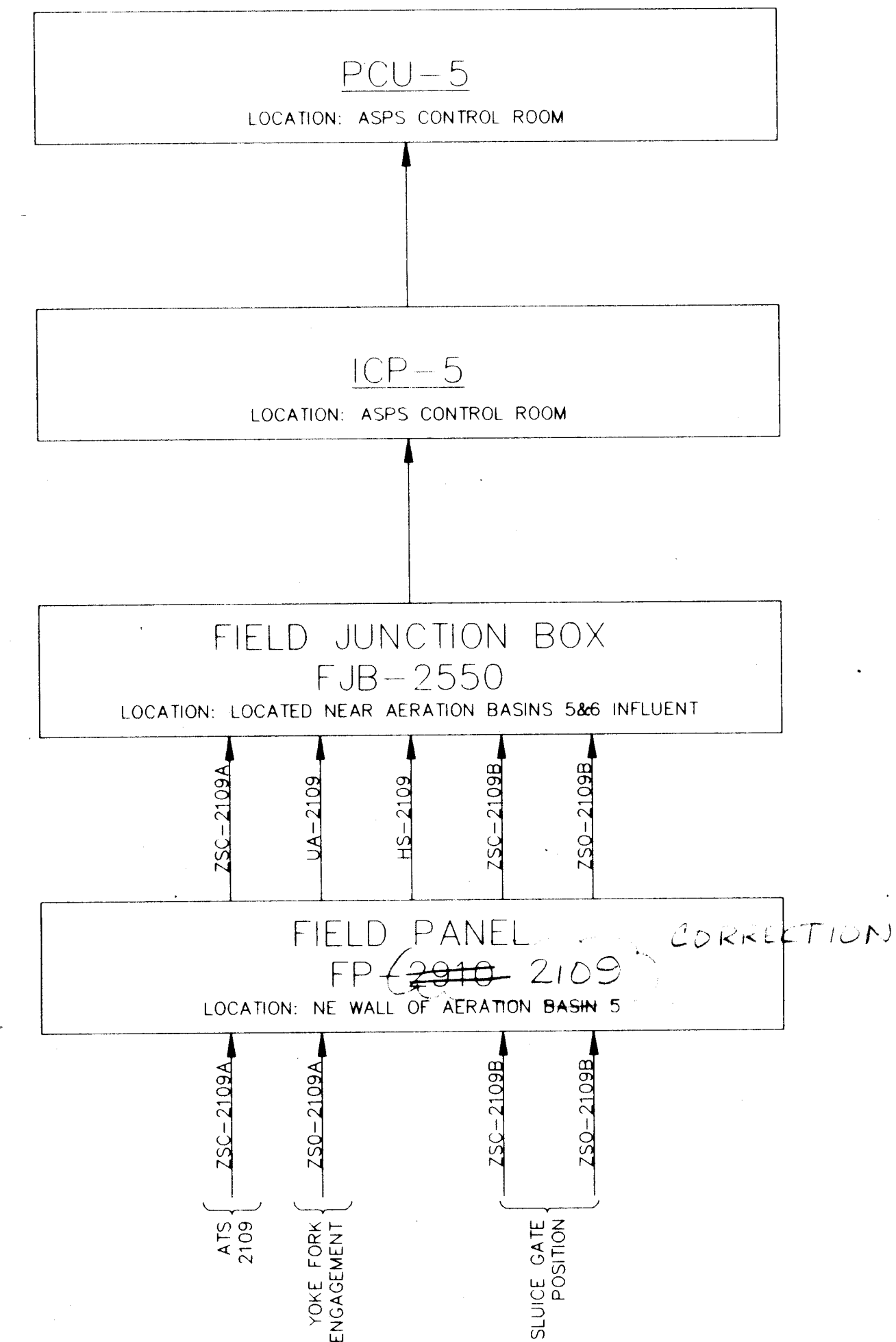
**CDM**  
CAMP DRESSER & MCKEE INC.  
ALBUQUERQUE NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

**INSTRUMENTATION AND  
CONTROL ABBREVIATIONS  
AND LETTER SYMBOLS**

DRAWING  
1-2  
SHEET NUMBER  
29 of 30



**RAS SLUICE GATE P&ID**  
N.T.S.

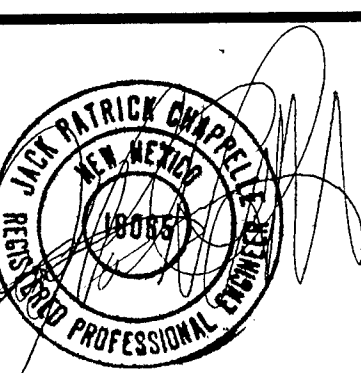


**SLUICE GATE DCS I/O ONLINE & RISER DIAGRAM**  
N.T.S.

**RECORD DRAWING**  
DATE 6-6-94 By *mlh* AND DRESSER & MCKEY

**RECORD DRAWING**  
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE ASSOCIATED HEREIN AS A RESULT.  
DATE 6-6-94 By *mlh* AND DRESSER & MCKEY

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15  
2 4 - 3 2 0 9 . 9 1 3 0 9 >



REV	DATE	APP.	DESCRIPTION



**MISHRA AND ASSOCIATES, INC.**  
PROCESS AUTOMATION SPECIALISTS  
(505) 889-0025

SOUTHSIDE WATER RECLAMATION PLANT  
ACTIVATED SLUDGE EXPANSION  
PHASE III, CONTRACT 4  
MODIFICATIONS TO ACTIVATED SLUDGE  
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF  
**ALBUQUERQUE**  
NEW MEXICO  
PUBLIC WORKS  
DEPARTMENT



Designed By: ORC  
Drawn By: HHN  
Checked By: VKG  
Approved By: JPG

Date: DEC. 1993  
Scale: NONE

**CDM** ALBUQUERQUE NEW MEXICO  
environmental engineers, scientists  
planners, & management consultants

**PROCESS AND  
INSTRUMENTATION DIAGRAM  
AND RISER DIAGRAM**

DRAWING

I-3

SHEET NUMBER

30 of 30