

LOCATION MAP
N.T.S.

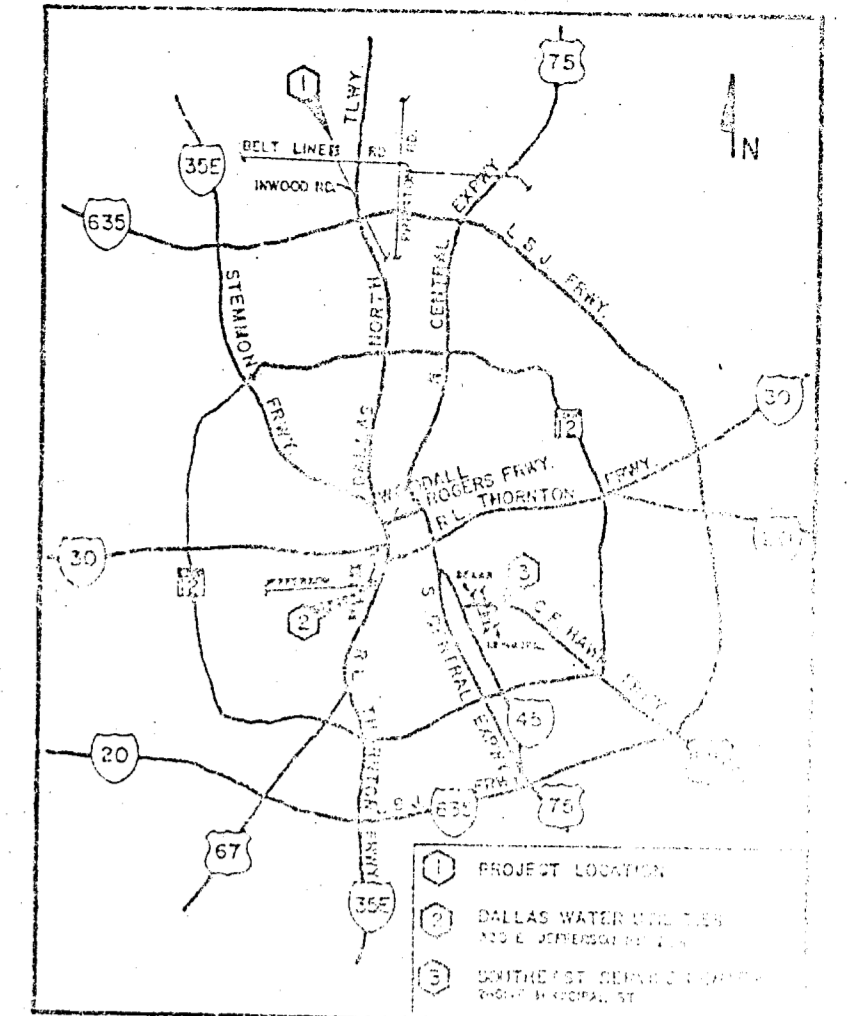
DALLAS WATER UTILITIES

CITY OF DALLAS, TEXAS

CONSTRUCTION PLANS FOR

BELTWOOD RESERVOIR EXPANSION

CONTRACT NO. 89-79

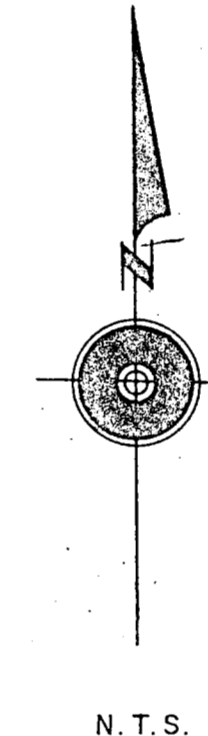
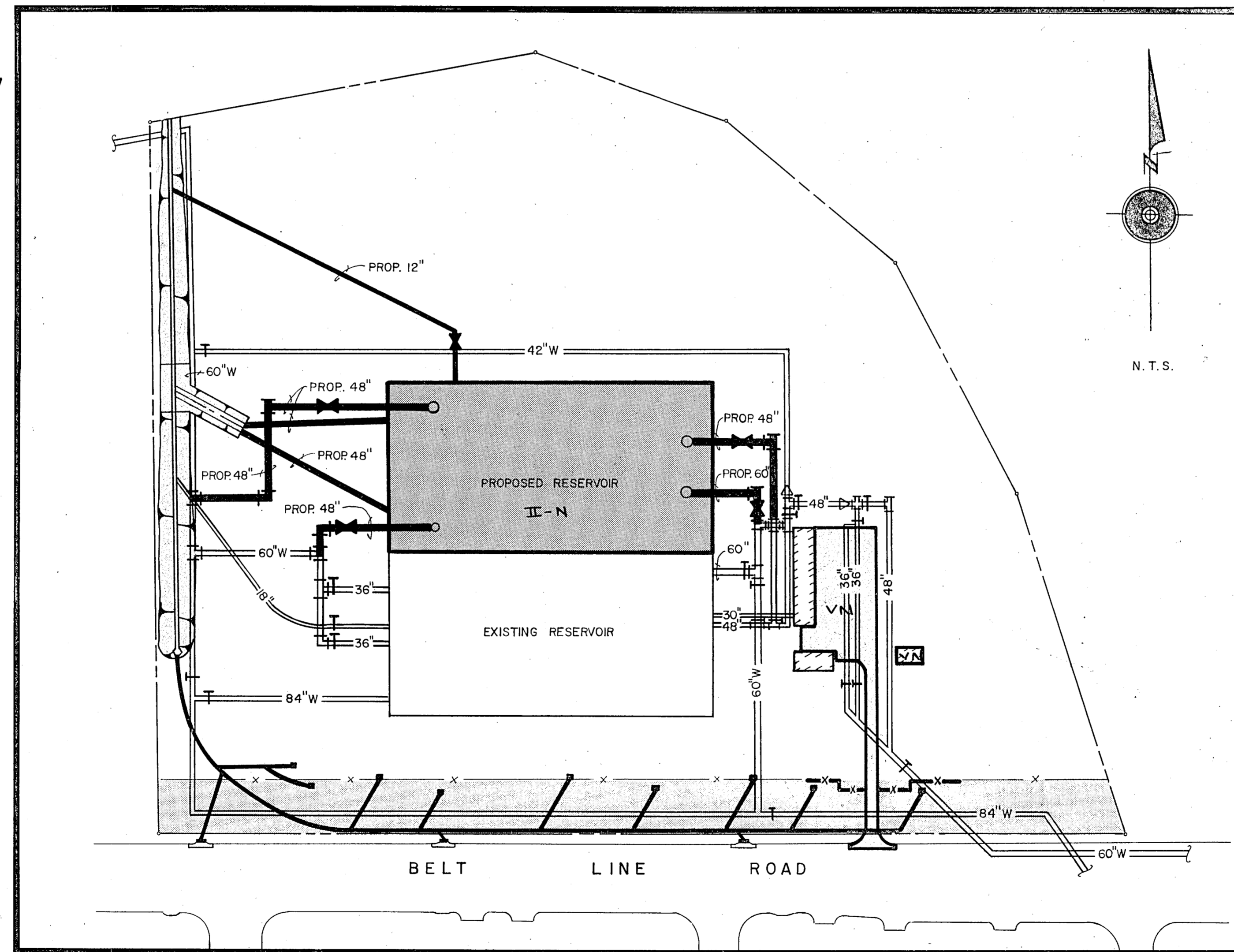


VICINITY MAP
N.T.S.

DESIGNED BY
6-15-89

DEPARTMENTAL REVIEW	HOLD	APPROVED	REVIEWED BY
FIRE		6-21-89	V. Gilmore
ENGINEERING		6-21-89	R. Hill
UTILITIES		6-20-89	B. Ellis
STREETS		6-20-89	B. Ellis
LANDSCAPE	6-20	7-1-89	John Strickland

INSPECTION REVIEW	HOLD	APPROVED	REVIEWED BY
BUILDING			
PLUMBING		6-26-89	B. Ellis
ELECTRICAL		6-26-89	B. Ellis
MECHANICAL		6-26-89	B. Ellis
ZONING			
HEALTH		6-20-89	N. Collins



SHEET INDEX

SHEET NO.	TITLE OF SHEET
1	COVER SHEET
2	DRAINAGE LAYOUT, DRAINAGE GRADING PLAN, AND OTHER DRAINAGE DETAILS
3	DRAINAGE PROFILES - LINE "A", LINE "B", & LATERALS
4	CONSTRUCTION METHODS AND MISCELLANEOUS DETAILS
5	PAVING, GRADING AND DRAINAGE PLAN
6	PAVING AND GRADING DETAILS
7	MISCELLANEOUS DETAILS
8	YARD PIPING LAYOUT
9-10	YARD PIPING PROFILES
11	YARD PIPING DETAILS
12-13	LAYOUT/WALKWAY AND FENCE
14-15	GRADING PLAN
16-17	PLANTING PLAN
18-19	IRRIGATION DETAILS
20	DETAILS
21	CONTROL HOUSE FLOOR PLAN AND ELEVATIONS
22	CONTROL HOUSE SECTIONS AND DETAILS
23	ELECTRICAL CONTROL HOUSE FLOOR PLAN & SECTIONS
24	ELECTRICAL CONTROL HOUSE SECTIONS, DETAILS, AND LAYOUT
25	RESERVOIR - FLOOR LAYOUT
26	RESERVOIR - ROOF LAYOUT
27-28	RESERVOIR - FOUNDATION PLAN
29	RESERVOIR - WALL SECTIONS
30	RESERVOIR - WALL SECTIONS
31	RESERVOIR - OVERFLOW DETAILS
32-33	RESERVOIR - ROOF DETAILS
34	RESERVOIR - MISCELLANEOUS STRUCTURAL DETAILS
35	RESERVOIR - 48" INLET CONNECTION
36	RESERVOIR - 84" INLET CONNECTION
37	RESERVOIR - 48" OUTLET CONNECTION
38	RESERVOIR - 60" OUTLET CONNECTION
39	MISCELLANEOUS MECHANICAL DETAILS
40	ELECTRICAL PLAN
41	ELECTRICAL ONE LINE DIAGRAM AND SCHEDULE
42	ELECTRICAL INSTALLATION DIAGRAM
43	ELECTRICAL
44-44A	ELECTRICAL DETAILS - IRRIGATION POWER SUPPLY
44B	DRAINAGE DETAILS - STANDARD INLETS & CURBS - 6" PIPE INLETS
44C	DRAINAGE DETAILS - 36, 48, AND 60 INCH INLETS, 6, 8, AND 10 FOOT INLETS
44D	DRAINAGE DETAILS - CONCRETE PIPE INSTALLATION

BENCH MARKS

"□" CUT IN S.E. CORNER OF PUMP PITS STRUCTURE BEHIND PUMP HOUSE AT BELTWOOD PUMP STATION SITE ELEV. = 630.02

"□" @ E.R. ON WEST T.C. ENTRANCE DRIVE TO PUMP STATION ELEV. = 629.64

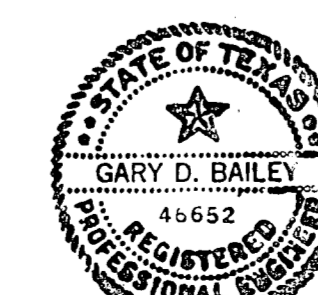
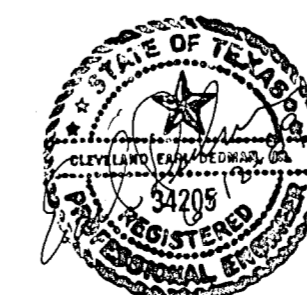
TEXAS COORDINATES (SURFACE) - CENTER OF PUMP ROOM

N 469, 443
E 2, 205, 238

Turner Collie & Braden Inc.
CONSULTING ENGINEERS

TCB JOB NO. 43-85007-022

MAY 1989



FILE NO. FOR EXISTING IMPROVEMENTS

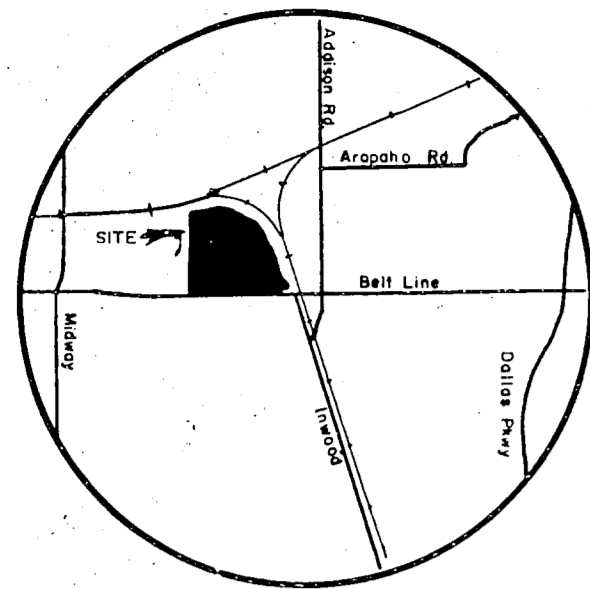
6300-700, 6400-700A, 6400-700B
6400-700C, 6300-700D

RECEIVED

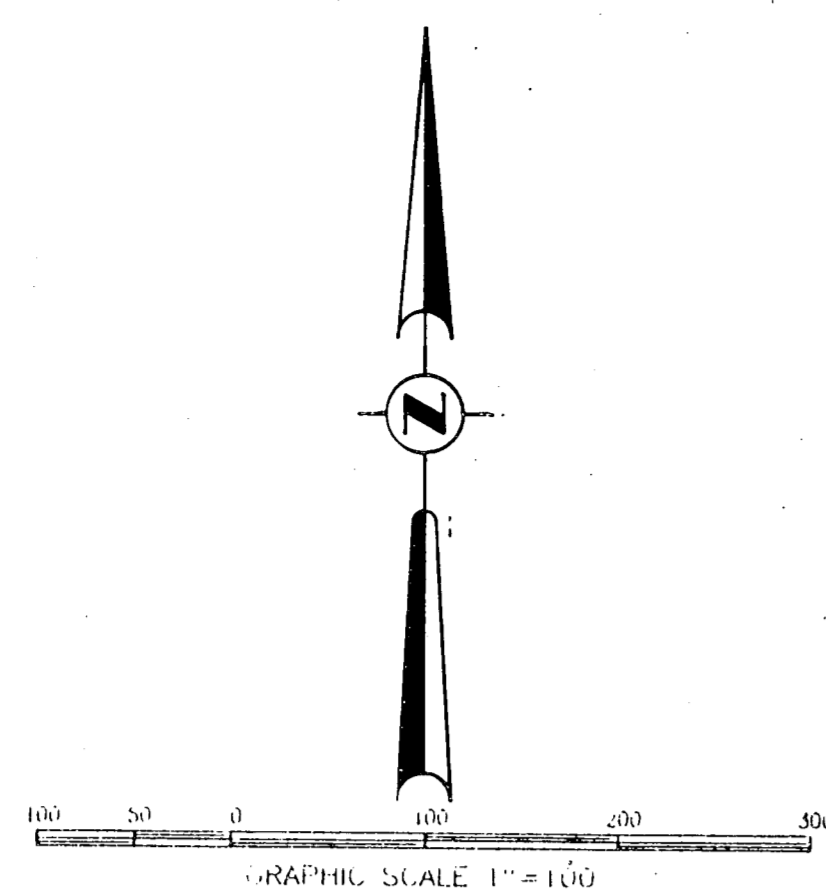
JUN 13 1989

DWU STRUCTURES INSP.
ABRAMS PUMP STATION

LOCATION MAP



SCALE 1" = 200'



ST. LOUIS & SOUTHWEST RAIL ROAD

VOLUME 2111 PAGE 28 DEED RECORDS DALLAS COUNTY, TEXAS

CARRE CALLOWAY

ADDISON ROAD

LOT I
BLOCK A

10.4 CALL OUT FND/SET/TYPE/SIZE
10.5 ON DRAWING AS
WELL AS DESCRIPTION

MIN 1/2" φ & 24" LONG
OR DRIVEN TO REFUSAL

N 89°26'42" W 1126.56'
BELT LINE DRIVE

BELTWOOD BUSINESS PARK
VOLUME 721 PAGE 594 DEED RECORDS DALLAS COUNTY, TEXAS

INWOOD ROAD PUB. TRACT 1 PAGE 214 VOLUME 7724 DEED RECORDS DALLAS COUNTY, TEXAS

10.85 Statement as to origin of Bearing?
1. Geodetic
2. Tri-Corner
3. Record BEARING
10.10 Blow-ups of Corners Where There is a Difference From Survey

CERTIFICATE OF APPROVAL

This Plat approved by the Town of Addison, Texas, this the ____ day of ____, 1989.

)(STATE OF TEXAS
)(COUNTY OF DALLAS

WHEREAS the City of Dallas is the owner of a tract of land situated in the City of Addison, Dallas County, Texas, part of the Edward Cook Survey, Abstract No. 326 and the E. Fike Survey, Abstract No. 478, being the same tract previously described as 19.01 acres by instrument recorded in Volume 4942, Page 629, Deed Records of Dallas County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a concrete monument with cap marked SURVCON, INC. set for the southeast corner of the herein described tract, same being the intersection of the north right-of-way of Belt Line Drive (100' ROW) and the westerly line of a 100 foot wide St. Louis and Southwest Railroad right-of-way;
THENCE North 89°26'42" West, along said north right-of-way of Belt Line Drive, 1126.56 feet to a found iron rod for corner;
THENCE North 00°49'37" East, 838.29 feet to an iron rod with cap found for the northwest corner of the herein described tract;
THENCE North 80°49'50" East, 454.32 feet to a found iron rod;
THENCE southeasterly generally with the aforesaid railroad right-of-way, the following four (4) courses;
South 69°58'30" East, 233.03 feet to a found iron rod;
South 48°23'44" East, 258.85 feet to a found iron rod;
South 26°22'30" East, 304.94 feet to a found iron rod;
South 16°53'19" East, 410.56 feet to the POINT OF BEGINNING and containing 19.014 acres.

That the City of Dallas ("Owner") does hereby adopt this plat designating the hereinabove property as Beltwood Reservoir, an addition to the Town of Addison, Texas, and, subject to the conditions, restrictions and reservations stated hereinafter, owner dedicates to the public use forever the streets and alleys shown thereon.

The easements shown on this plat are hereby reserved for the purposes as indicated, including, but not limited to, the installation and maintenance of water, sanitary sewer, storm sewer, drainage, electric, telephone, gas and cable television. Owner shall have the right to use these easements, provided however, that it does not unreasonably interfere or impede with the provision of the services to others. Said utility easements are hereby being reserved by mutual use and accommodation of all public utilities using or desiring to use the same. An express easement of ingress and egress is hereby expressly granted on, over and across all such easements for the benefit of the provider of services for which easements are granted.

Any drainage and floodway easement shown hereon is hereby dedicated to the public's use forever, but including the following covenants with regards to maintenance responsibilities. The existing channels or creeks traversing the drainage and floodway easement will remain as an open channel, unless required to be enclosed by ordinance, at all times and shall be maintained by the individual owners of the lot or lots that are traversed by or adjacent to the drainage and floodway easement. The City will not be responsible for the maintenance and operation of said creek or creeks or for any damage or injury of private property or person that results from the flow of water along said creek, or for the control of erosion. No obstruction to the natural flow of water run-off shall be permitted by construction of any type building, fence or any other structure within the drainage and floodway easement. Provided, however, it is understood that in the event it becomes necessary for the City to channelize or consider erecting any type of drainage structure in order to improve the storm drainage, then in such event, the City shall have the right, but not the obligation, to enter upon the drainage and floodway easement at any point or points, with all rights of ingress and egress to investigate, survey, erect, construct or maintain any drainage facility deemed necessary by the City for drainage purposes. Each property owner shall keep the natural drainage channels and creeks traversing the drainage and floodway easement adjacent to his property clean and free of debris, silt, growth, vegetation, weeds, rubbish, refuse, matter and any substance which would result in unsanitary conditions or obstruct the flow of water, and the City shall have the right of ingress and egress for the purpose of inspection and supervision and maintenance work by the property owner to alleviate any undesirable conditions which may occur. The natural drainage channels and creeks through the drainage and floodway easement, as in the case of all natural channels, are subject to storm water overflow and natural band erosion to an extent that cannot be definitely defined. The City shall not be held liable for any damages or injuries of any nature resulting from the occurrence of these natural phenomena, nor resulting from the failure of any structure or structure, within the natural drainage channels, and the owners hereby agree to indemnify and hold harmless the City from any such damages and injuries.

The maintenance or paving of the utility and fire lane easements is the responsibility of the property owner. All public utilities shall at all times have the full right of ingress and egress to and from and upon the said utility easements for the purpose of constructing, reconstructing, inspecting, patrolling, maintaining and adding to or removing all or parts of its respective system without the necessity at any time of procuring the permission of anyone. Any public utility shall have the right of ingress and egress to private property for the purpose of reading metes and any maintenance and service required or ordinarily performed by the utility. Buildings, fences, trees, shrubs or other improvements or growth may be constructed, reconstructed or placed upon, over or across the utility easements as shown; provided, however, that owner shall at its sole cost and expense be responsible under any and all circumstances for the maintenance and repair of such improvements or growth, and any public utility shall have the right to remove and keep removed all or parts of any buildings, fences, trees, shrubs or other improvements or growth which in any way endanger or interfere with the construction, maintenance or efficiency of its respective system or service.

Water main and sanitary sewer easements shall also include additional area of working space for construction and maintenance of the systems. Additional easement area is also conveyed for installation and maintenance of manholes, cleanouts, fire hydrants, water service and sewer services from the main to curb or pavement line, and the descriptions of such additional easements herein granted shall be determined by their locations as installed.

This plat is approved, subject to all platting ordinances, rules, regulations and resolutions of the Town of Addison, Texas.

City Manager
City Secretary

)(STATE OF TEXAS
)(COUNTY OF DALLAS

BEFORE ME, the undersigned authority, a Notary Public, in and for said County and State on this day personally appeared _____, known to me to be the person(s) whose name(s) is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the ____ day of ____, 1989.

Notary Public In and For Dallas County, Texas
Commission Expires _____

SURVEYOR'S CERTIFICATE

I, Paul Hubert, Registered Public Surveyor for SURVCON, INC., do hereby certify that this plat was prepared from an actual survey on the ground and that all angle points and points of curve shall be properly marked on the ground, and that this plat correctly represents that survey made under my supervision.

Seal
Paul Hubert
Registered Public Surveyor
Texas Registration Number 1942

)(STATE OF TEXAS
)(COUNTY OF DALLAS

BEFORE ME, the undersigned authority, a Notary Public, in and for said County and State on this day personally appeared Paul Hubert, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the ____ day of ____, 1989.

Notary Public In and For Dallas County, Texas
Commission Expires _____

FINAL Plat
BELTWOOD RESERVOIR
AN Addition of The Town of Addison
-E. COOK SURVEY A-326
-E. FIKE SURVEY A-478

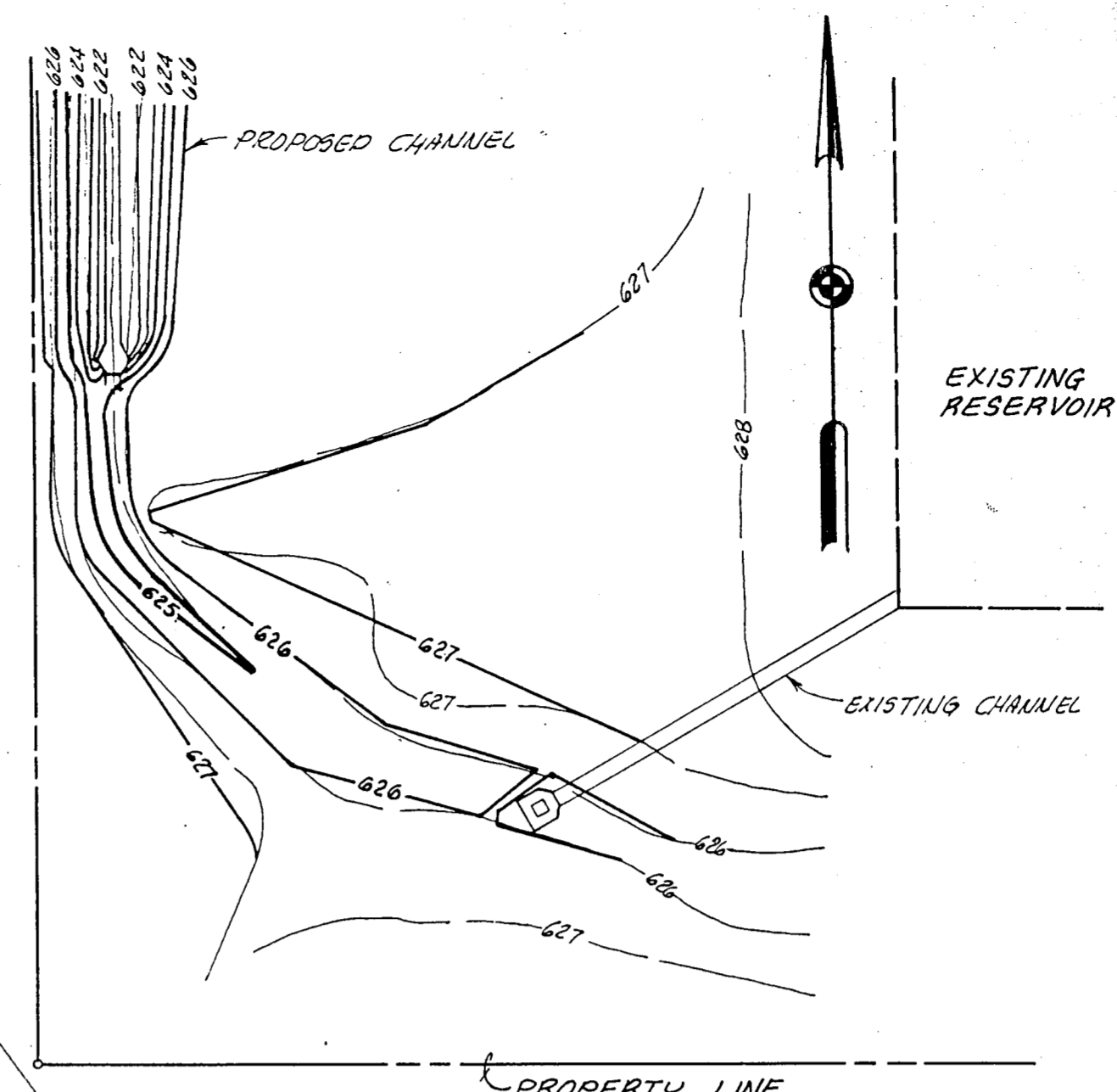
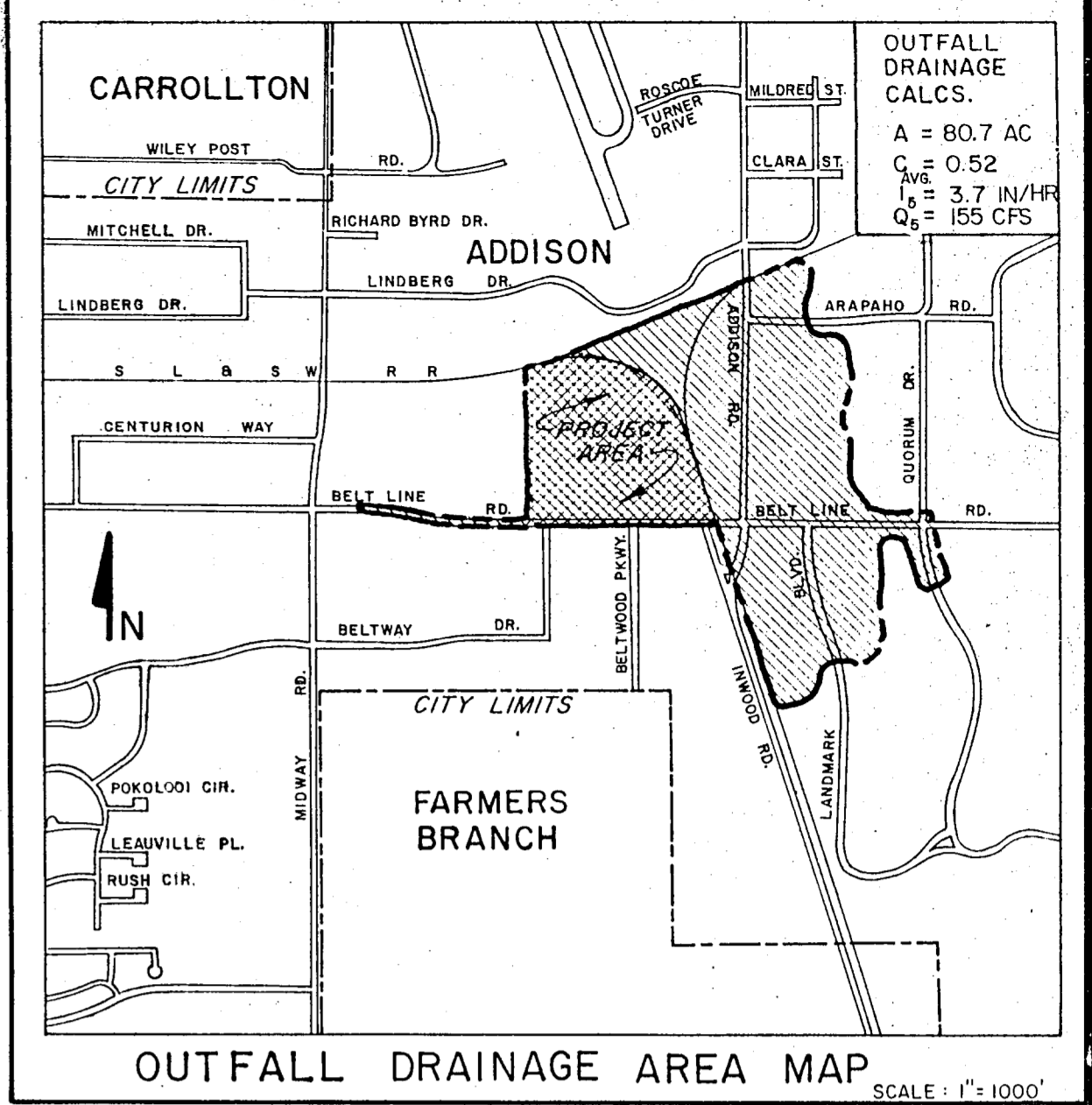
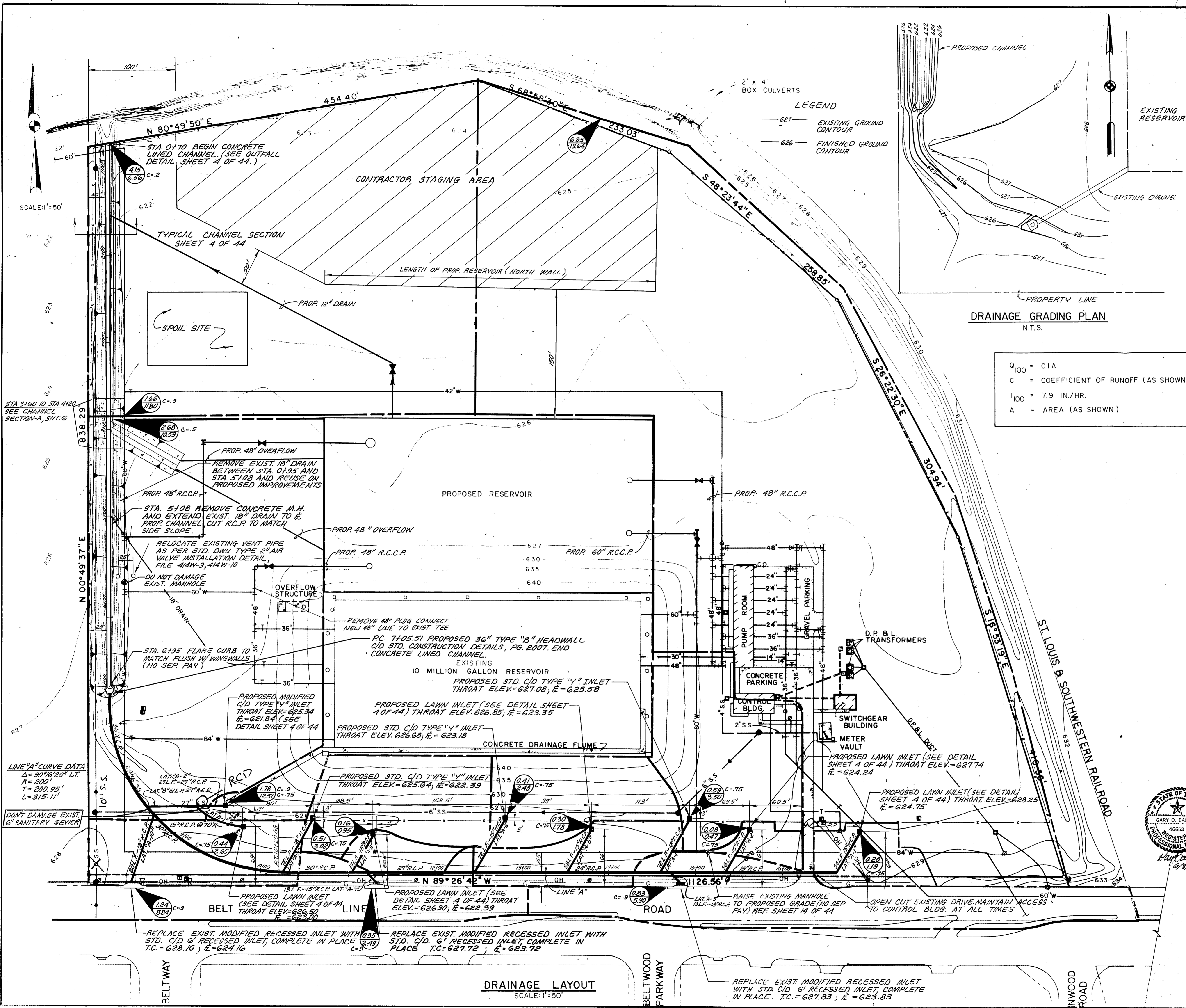
-ADDISON, DALLAS COUNTY, TEXAS
Date of Survey?

Reviewed by
R. Hill
6-21-89

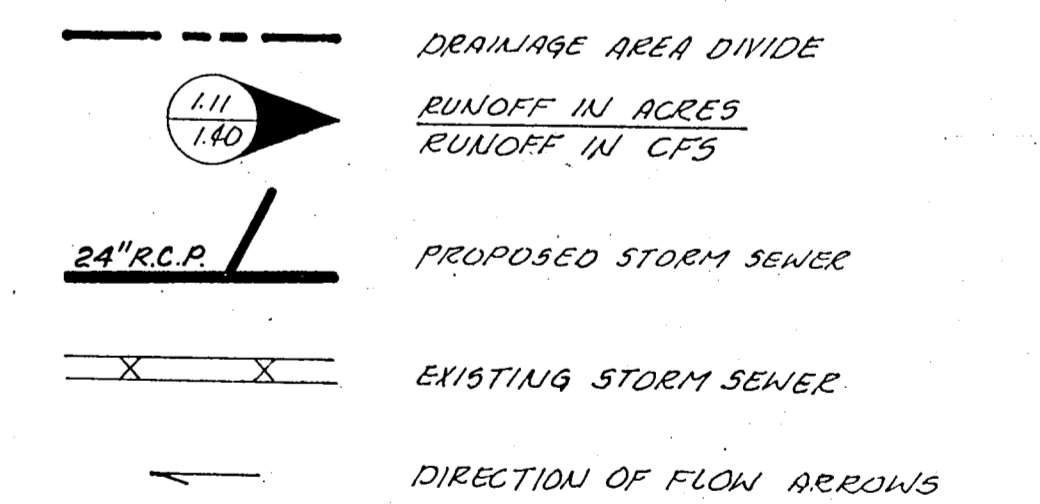
Mayor
City Secretary

OWNER:
City of Dallas
1500 Marilla
Dallas, Texas 75201
(214)

SURVEYOR:
Survcon, Inc.
5710 LBJ Freeway
Suite 180
Dallas, Texas 75240
(214) 458-2173



$Q_{100} = CIA$
 $C =$ COEFFICIENT OF RUNOFF (AS SHOWN)
 $I_{100} = 7.9$ IN./HR.
 $A =$ AREA (AS SHOWN)



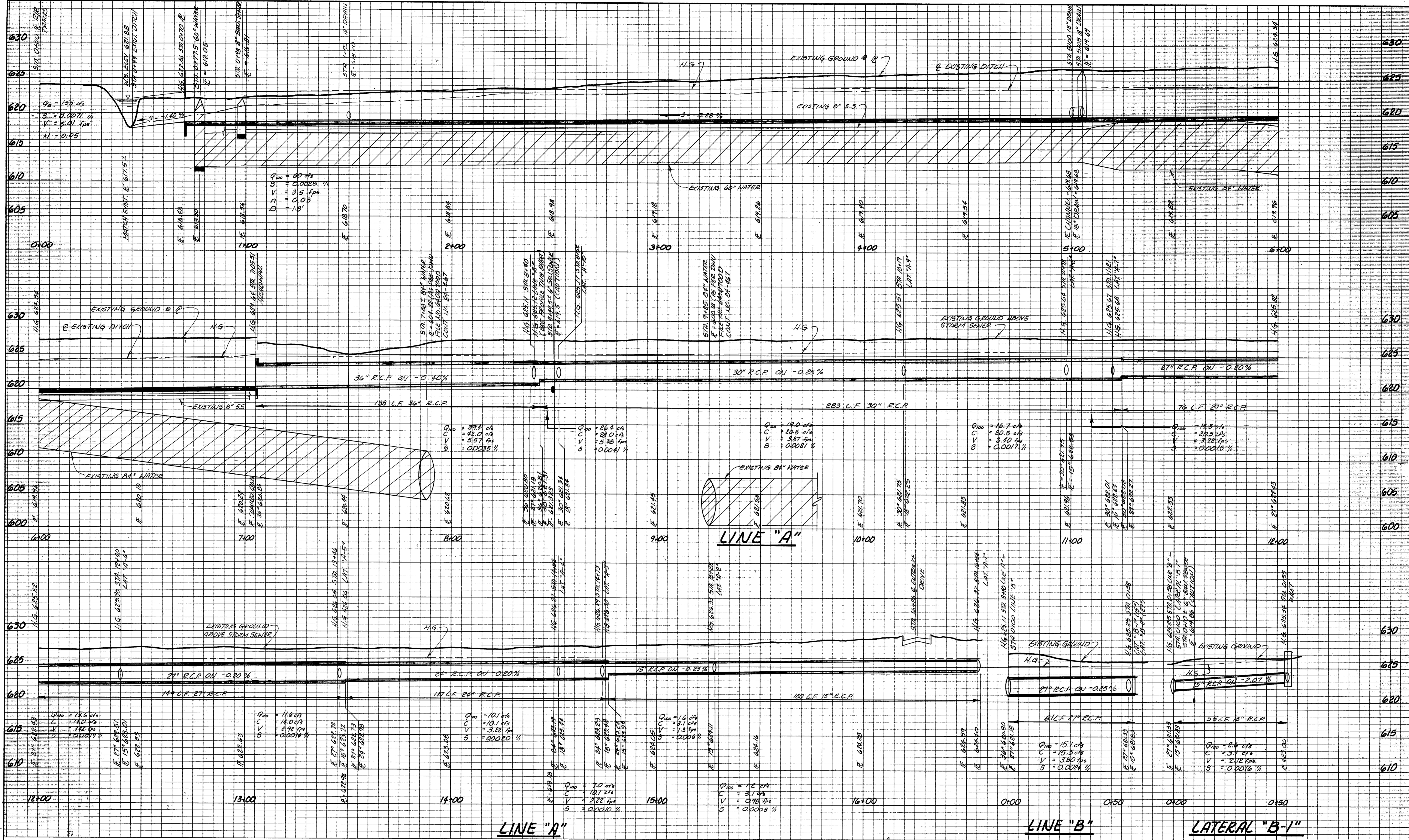
BEAUCHAMPE INFORMATION:
 "X" CUT IN SE. CORNER OF PUMP PITS STRUCTURE BEHIND PUMP HOUSE AT BELTWOOD PUMP STATION. SITE ELEV. = 630.02
 "O" @ E.R. ON WEST T.C. ENTRANCE DRIVE TO PUMP STATION = 629.64



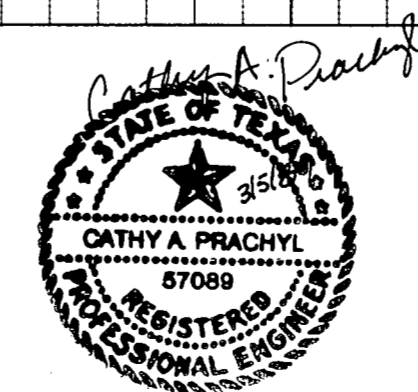
NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION DRAINAGE LAYOUT, DRAINAGE GRADING PLAN, AND OUTFALL DRAINAGE AREA MAP			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collie & Braden Inc.			
DESIGN	C.P.A.	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		

DRAINAGE LAYOUT
SCALE: 1"=50'

REPLACE EXIST. MODIFIED RECESSED INLET WITH STD. C/D 6" RECESSED INLET COMPLETE IN PLACE. TC=627.83; E=623.83



NOTE: REINFORCED CONCRETE PIPE INSTALLATION FOR STORM DRAINAGE SHALL BE PER CITY OF DALLAS DEPARTMENT OF PUBLIC WORKS STANDARD DETAIL FOR "REINFORCED CONCRETE CLASS III PIPE INSTALLATION" FILE 251D-1 Pg. 2006. (SEE SHEET 44C)



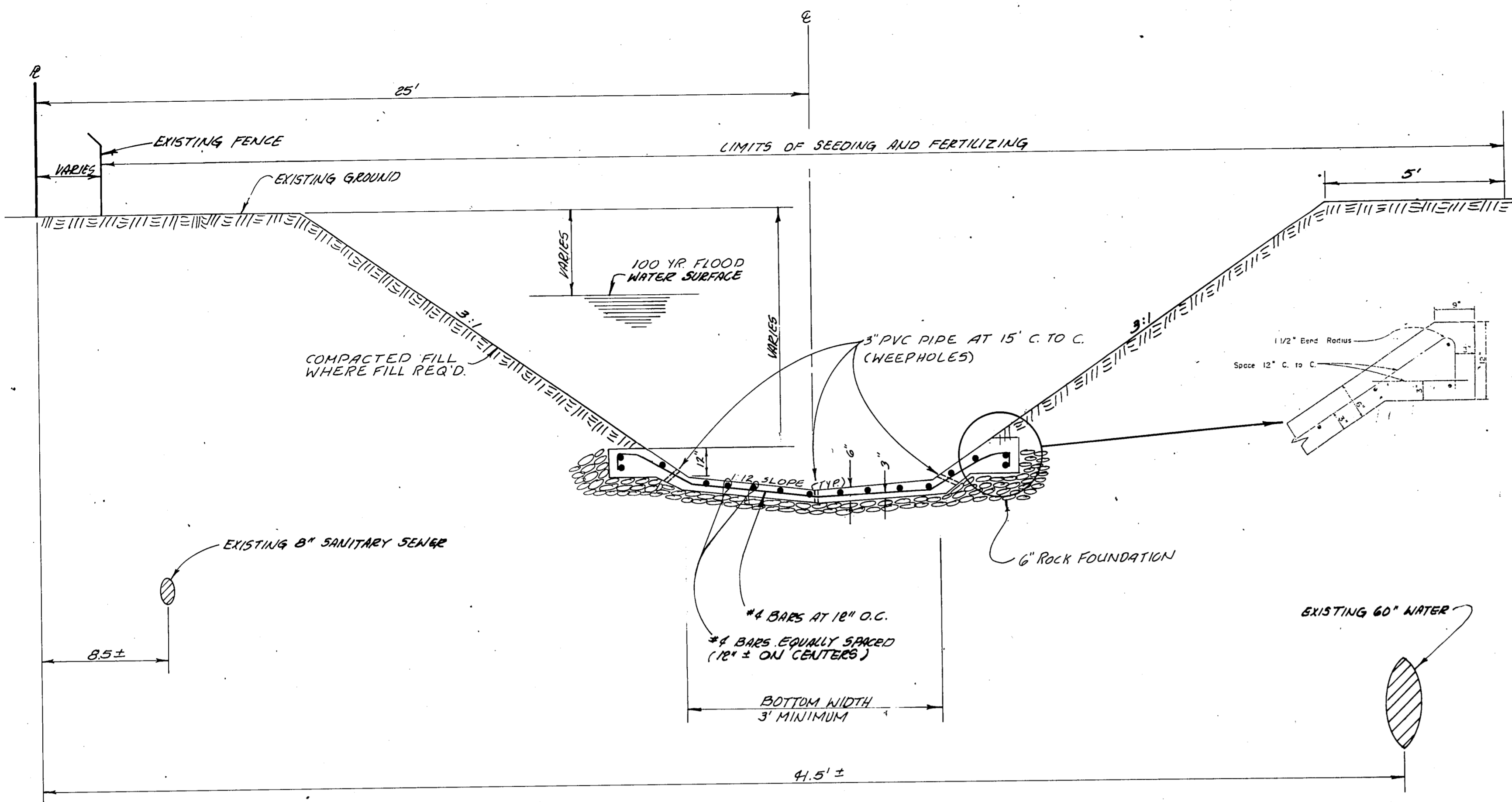
BLANCHARD INFORMATION:
 "D" CUT IN SE. CORNER OF PUMP PITS STRUCTURE BEHIND PUMP HOUSE AT BELTWOOD PUMP STATION
 SITE ELEV. = 630.02

BELTWOOD RESERVOIR EXPANSION
DRAINAGE PROFILES
 LINE "A", LINE "B", AND LATERAL "B-1"

DALLAS WATER UTILITIES
 CITY OF DALLAS, TEXAS

Turner Collie & Braden Inc.

DESIGN	C.A.P.	CONTRACT NO.	89-79	SHEET NO.	3
DRAWN	C.A.	FILE NO.	630 Q 700 F		
CHECKED					
DATE	5/89				



NOTES: ALL CONSTRUCTION TO CONFORM WITH CURRENT CITY OF DALLAS GENERAL SPECIFICATIONS. CONSTRUCTION JOINT SHOWN FOR CONVENIENCE ONLY. MONOLITHIC CONSTRUCTION MAY BE USED.

ALL REINFORCING STEEL SHALL BE #4 AND SPACED 12" C. TO C. BOTH WAYS UNLESS OTHERWISE SPECIFIED.

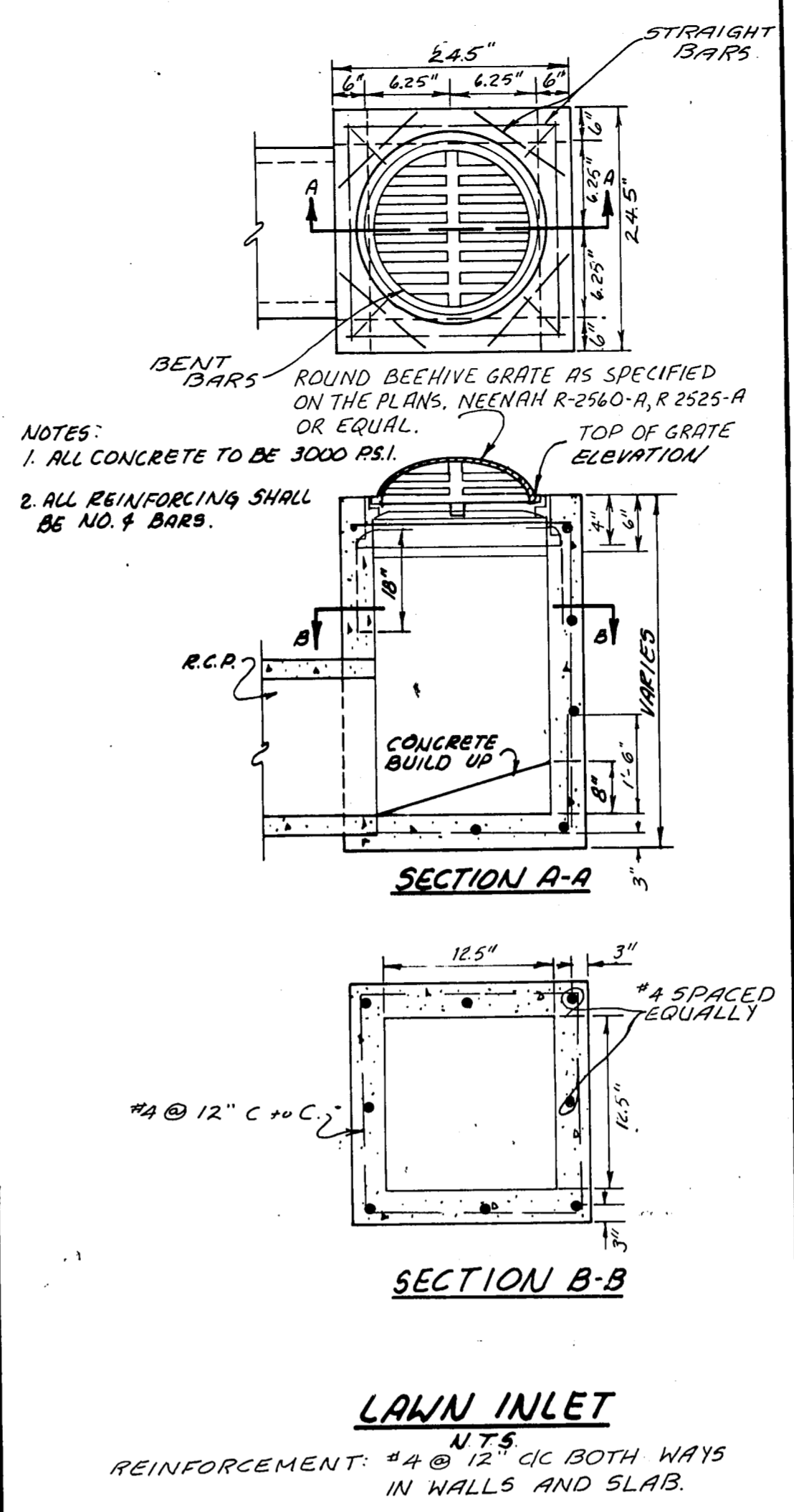
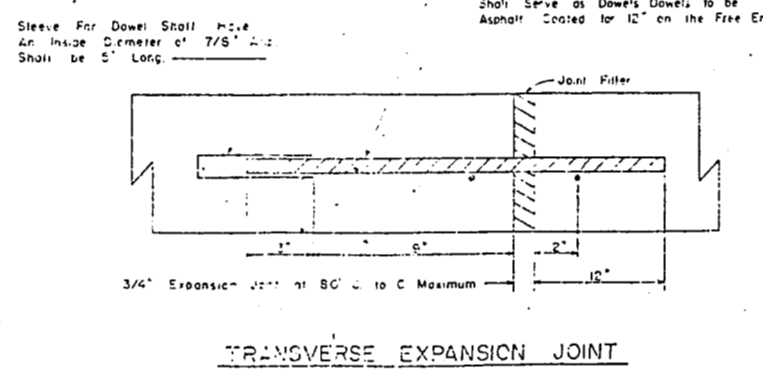
CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS AND SHALL CONTAIN A MINIMUM OF 5 BAGS OF CEMENT PER CUBIC YARD.

SIDE SLOPES SHALL BE NO STEEPER THAN 3:1.

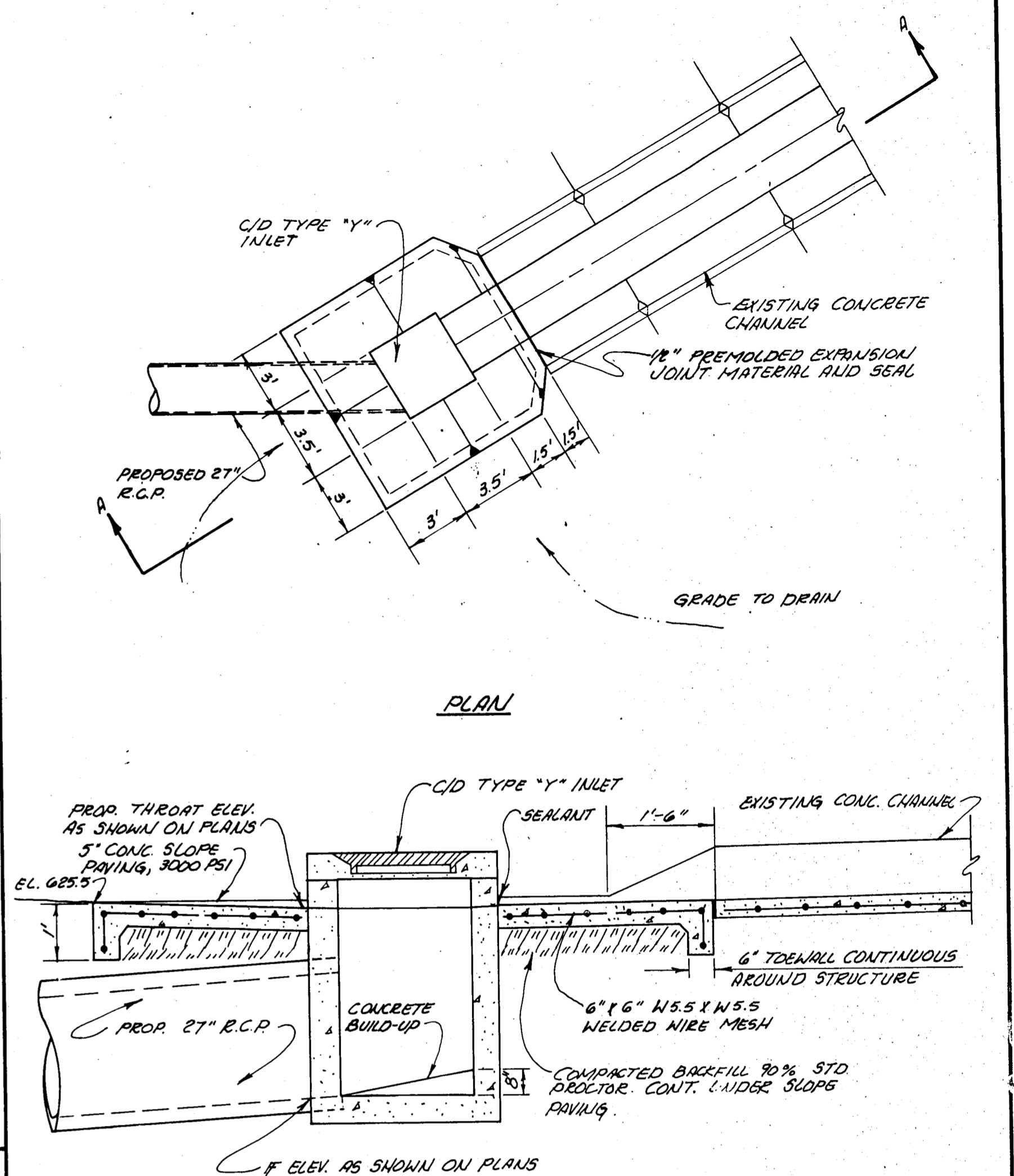
USE A FLOAT FINISH ON BOTTOM AND SLOPED SURFACES. USE ORDINARY SURFACE FINISH ON VERTICAL SURFACE.

SEE CONSTRUCTION NOTE 11 FOR SEEDING & FERTILIZING INFORMATION.

TYPICAL CHANNEL SECTION
N.T.S.



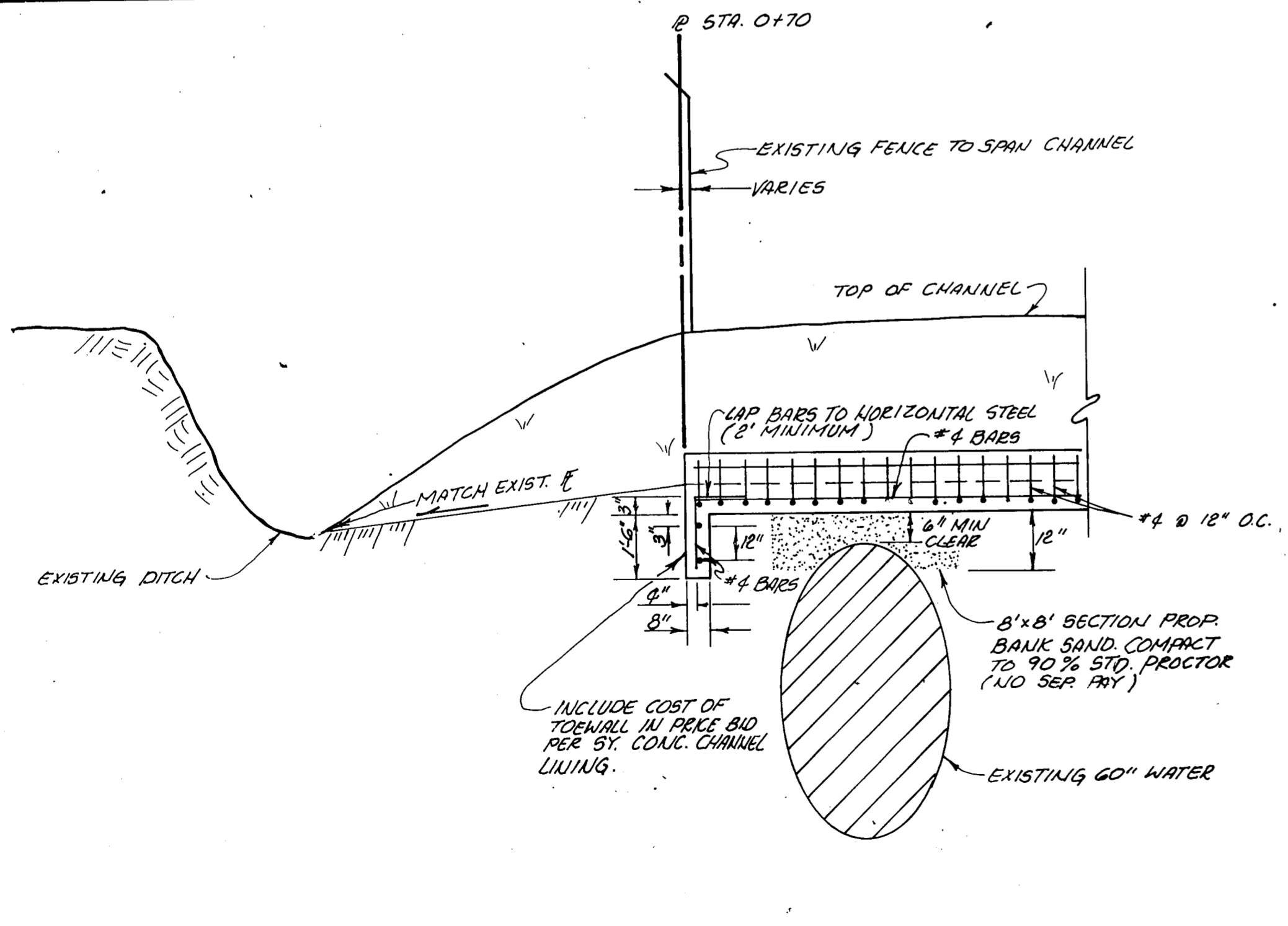
LAWN INLET
N.T.S.
REINFORCEMENT: #4 @ 12" C. BOTH WAYS IN WALLS AND SLAB.



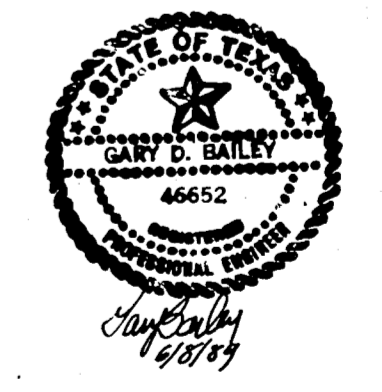
SECTION A-A
MODIFIED CID TYPE \"Y\" INLET
N.T.S.

CONSTRUCTION NOTES

- CONTRACTOR TO TAKE ALL NECESSARY PRECAUTIONS NOT TO DAMAGE EXISTING FACILITIES DURING CONSTRUCTION. ANY DAMAGES AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE. (NO SEPARATE PAY)
 - CONTRACTOR IS RESPONSIBLE FOR DAMAGES TO PROPERTY OUTSIDE THE PROPERTY BOUNDARY. ANY DAMAGES AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE. (NO SEPARATE PAY)
 - HORIZONTAL INLET DIMENSIONS REFERENCE FACE OF CURB.
 - ALL STORM SEWER AND LATERALS TO BE ASTM, C-76, CLASS III REINFORCED PIPE UNLESS OTHERWISE INDICATED.
 - INCLUDE PRICE OF ALL BEDDING IN PRICE BID PER LINEAR FOOT OF PIPE.
 - CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES.
 - CONTRACTOR TO NOTIFY THE APPROPRIATE UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATING NEAR THE EXISTING UTILITIES.
 - ALL STD. CID TYPE \"Y\" INLETS AS PER CID STANDARD CONSTRUCTION DETAILS PG. 2001, 2004.
 - ALL STD. CID 6\"/>
- | TYPE | APPLICATION RATE POUNDS PER ACRE | PLANTING DATE |
|--------------------------------------|----------------------------------|-------------------|
| A) HULLED COMMON BERMUDA GRASS 98/88 | 40 | JAN. 1 TO APR. 15 |
| UNHULLED COMMON BERMUDA GRASS 98/88 | 40 | |
| ANNUAL RYE GRASS (GULF) | 50 | |
| B) HULLED COMMON BERMUDA GRASS 98/88 | 40 | APR. 15 TO OCT. 1 |
| C) HULLED COMMON BERMUDA GRASS 98/88 | 40 | OCT. 1 TO JAN. 1 |
| UNHULLED COMMON BERMUDA GRASS 98/88 | 40 | |
| ANNUAL RYE GRASS (GULF) | 50 | |
- FERTILIZER: FERTILIZER TO BE WATER SOLUBLE WITH ANALYSIS OF 10 PERCENT NITROGEN, 20 PERCENT PHOSPHORIC ACID, AND 10 PERCENT POTASH. RATE OF APPLICATION TO BE 435 POUNDS PER ACRE.
- MULCH: MULCH TO BE VIRSIAL WOOD CELLULOSE FIBER MADE FROM WOOD CHIPS WITHIN THE FIBER MULCH MATERIAL, AT LEAST 20 PERCENT OF THE FIBERS WILL BE 10.7 MM IN LENGTH, AND 0.27 MM IN DIAMETER. RATE OF APPLICATION TO BE 2,000 POUNDS PER ACRE. SOL STABILIZERS SUCH AS TEREA TYPE III (OR APPROVED EQUAL) TO BE APPLIED AT A RATE OF 40 POUNDS PER ACRE ON SIDES SLOPES AND \"TERRA TRICK I\" (OR APPROVED EQUAL) TO BE APPLIED AT A RATE OF 40 POUNDS PER ACRE IN THE FURROW, UPPER PORTIONS OF CHANNEL AREAS.



OUTFALL DETAIL
N.T.S.



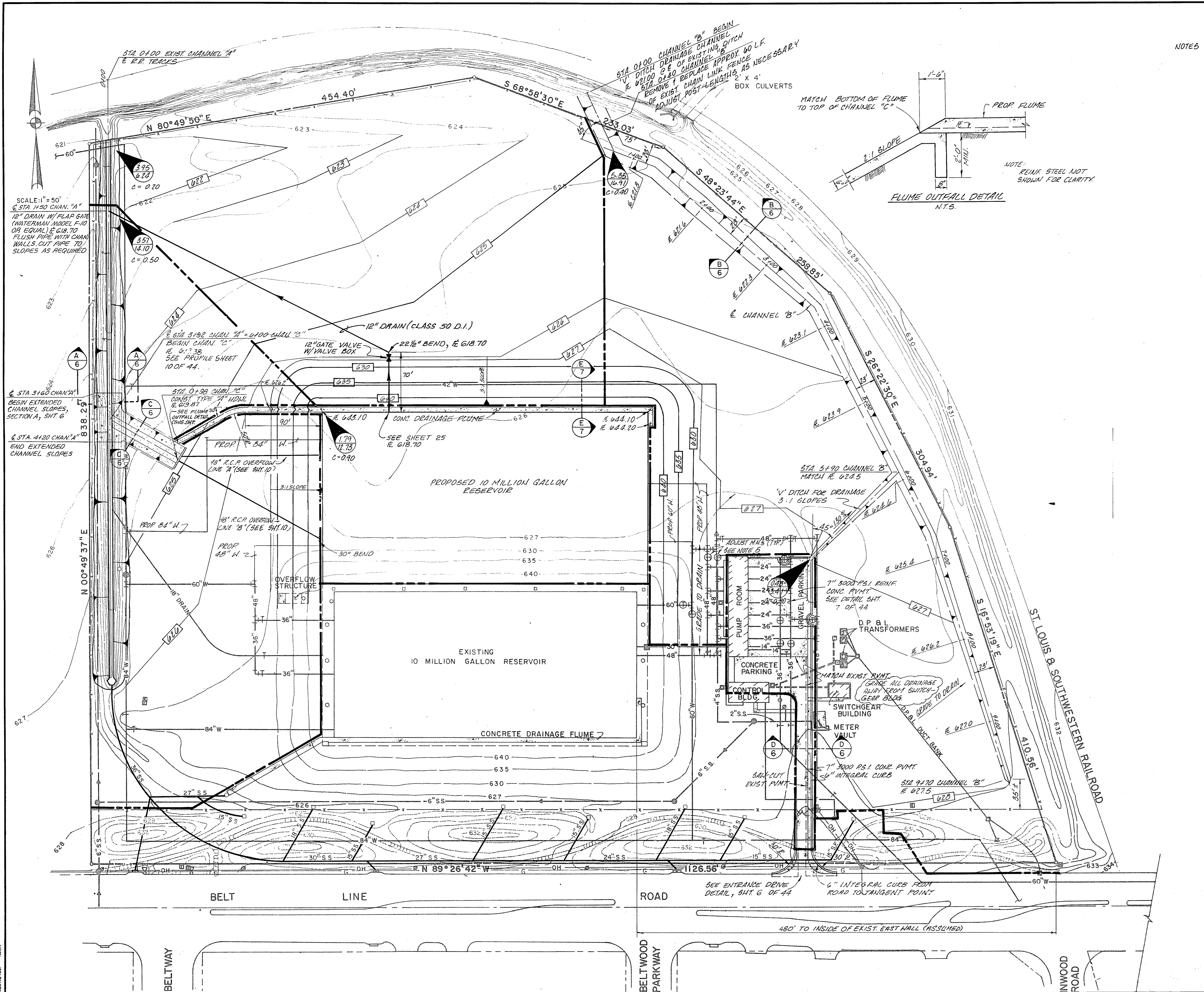
BELTWOOD RESERVOIR EXPANSION

CONSTRUCTION NOTES AND MISC. DETAILS

DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

Turner Collier & Braden Inc.

DESIGN	C.P.A.	CONTRACT NO.	89-79	SHEET NO.	4
DRAWN	C.A.	FILE NO.	630 Q 700 F	OF	44
TRACED					
CHECKED					
DATE	5/89				



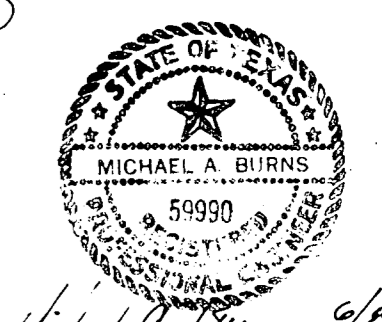
- NOTES
1. ALL CONSTRUCTION TO CONFORM WITH CURRENT CITY OF DALLAS GENERAL SPECIFICATIONS.
 2. THE MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE PAVEMENT AT 28 DAYS SHALL BE 3000 P.S.I. AND CONTAIN A MINIMUM OF FIVE BAGS OF CEMENT PER C.Y.
 3. SUBGRADE UNDER ALL CONCRETE PAVEMENT AND SLOPE PROTECTION SHALL BE COMPACTED TO 95% DENSITY.
 4. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES.
 5. ALL MANHOLES, VAULT TOPS, AND VALVE STEMS ARE TO BE ADJUSTED TO PROPOSED GRADES (NO SEPARATE PAY).
 6. CONTRACTOR TO TAKE ALL NECESSARY PRECAUTIONS NOT TO DAMAGE EXIST. FACILITIES DURING CONSTRUCTION. ANY DAMAGES AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
 7. EXISTING FACILITY EQUIPMENT AND VALVES TO BE OPERATED BY OWNER'S AUTHORIZED REP ONLY.
 8. CONTRACTOR TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS AT HIS EXPENSE PRIOR TO COMMENCEMENT OF WORK.
 9. CONTRACTOR TO COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES.
 10. ANY EXCESS EXCAVATED MATERIAL AND SPILL TO BECOME PROPERTY OF CONTRACTOR AND TO BE REMOVED FROM SITE. NO SEPARATE PAY.
 11. CONTRACTOR TO GIVE NOTICE TO ALL AUTHORIZED REPRESENTATIVES OF PRIVATE AND PUBLIC UTILITIES AND RAILROADS AFFECTED BY HIS WORK PRIOR TO COMMENCEMENT OF WORK.

B.M. "1" CUT IN S.E. CORNER OF PUMP PITS STRUCTURE BEHIND PUMP HOUSE AT BELTWOOD PUMP STATION. SITE ELEVATION = 630.02

LEGEND

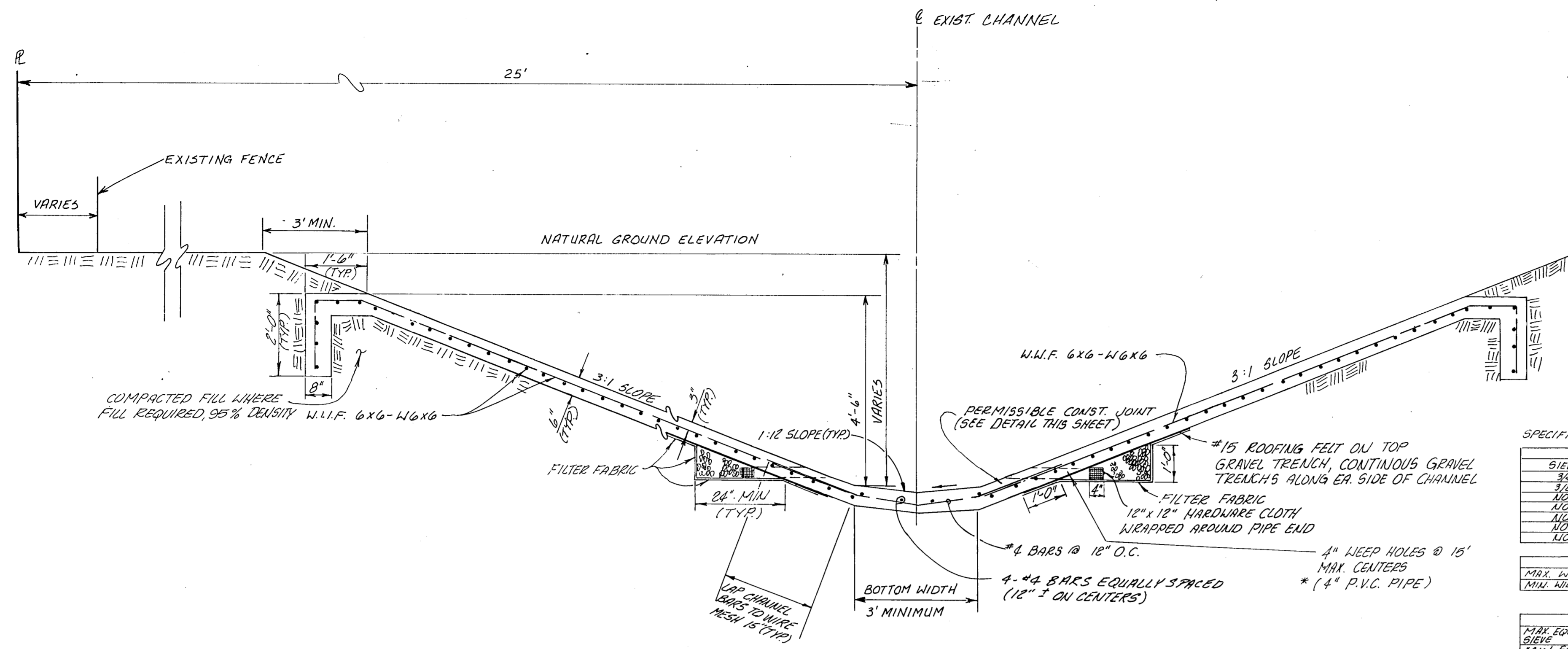
- ⊙ TRAFFIC SIGNAL
- ⊙ POWER POLE
- x— CHAIN LINK FENCE
- ⊙ WATER VALVE
- ⊙ SANITARY SEWER MANHOLE
- ⊙ SANITARY SEWER CLEANOUT
- ⊙ ELECTRICAL MANHOLE
- ⊙ ELECTRICAL RISER
- ⊙ WATER MANHOLE
- ⊙ WATER METER
- ⊙ PIPE VENT
- ⊙ GAS VALVE
- ⊙ TRAFFIC CONTROL BOX
- ⊙ ELECTRICAL PANEL
- ⊙ AIR RELEASE VALVE MANHOLE
- ⊙ OVERFLOW SYSTEM MANHOLE
- ⊙ THRUST BLOCK
- DRAINAGE AREA DIVIDE
- 0.48
3.41
RUNOFF IN ACRES
RUNOFF IN C.F.S.
- 626 EXISTING GROUND CONTOUR
- 626 FINISHED GROUND CONTOUR
- W WATER LINE
- SS STORM SEWER
- ⊙ SCREENED ITEMS DENOTE EXISTING CONDITIONS.

Q100 = C1A
 C = COEFFICIENT OF RUNOFF (AS SHOWN)
 1.00 = 7.9 IN/HR.
 A = AREA (AS SHOWN)

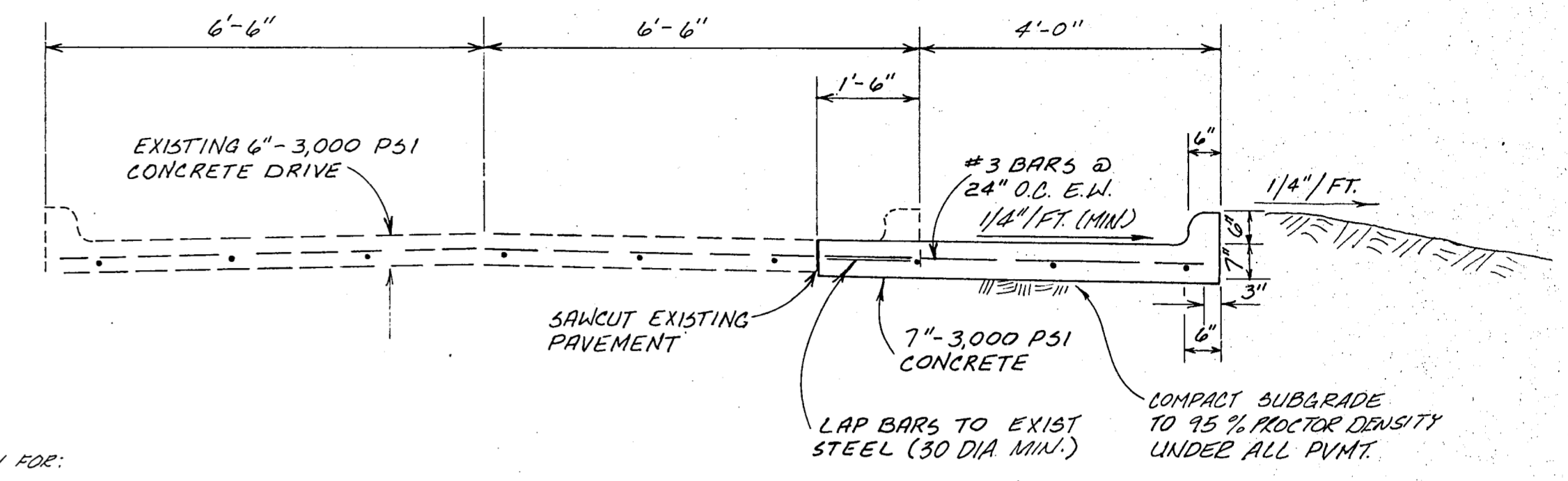


Michael A. Burns 9/6/89

NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
PAVING, GRADING, AND DRAINAGE PLAN			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
TurnerCollie & Braden Inc.			
DESIGN	C.A.P.	CONTRACT NO.	89-79
DRAWN	A.B.C.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		
			SHEET NO. 5
			OF 44



SECTION A
SCALE: 1/2" = 1'-0"
(STA. 3+60 TO STA. 4+20)



SECTION D
SCALE: 1/2" = 1'-0"

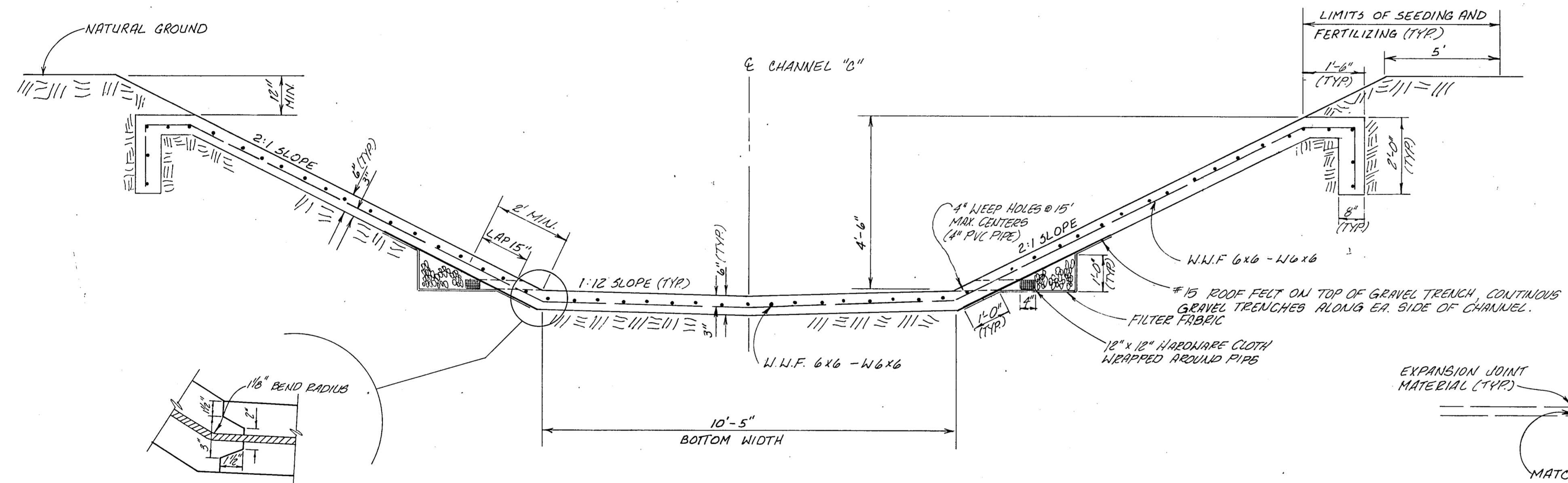
SPECIFICATION FOR:

GRAVEL	NO. 4	NO. 10	NO. 20	NO. 40
100	15-100	0-15	0-5	0-5

HARDWARE CLOTH	NO. 10	NO. 20
1/8"	0-15	0-5

FILTER FABRIC	NO. 20	NO. 40
1/8"	0-15	0-5

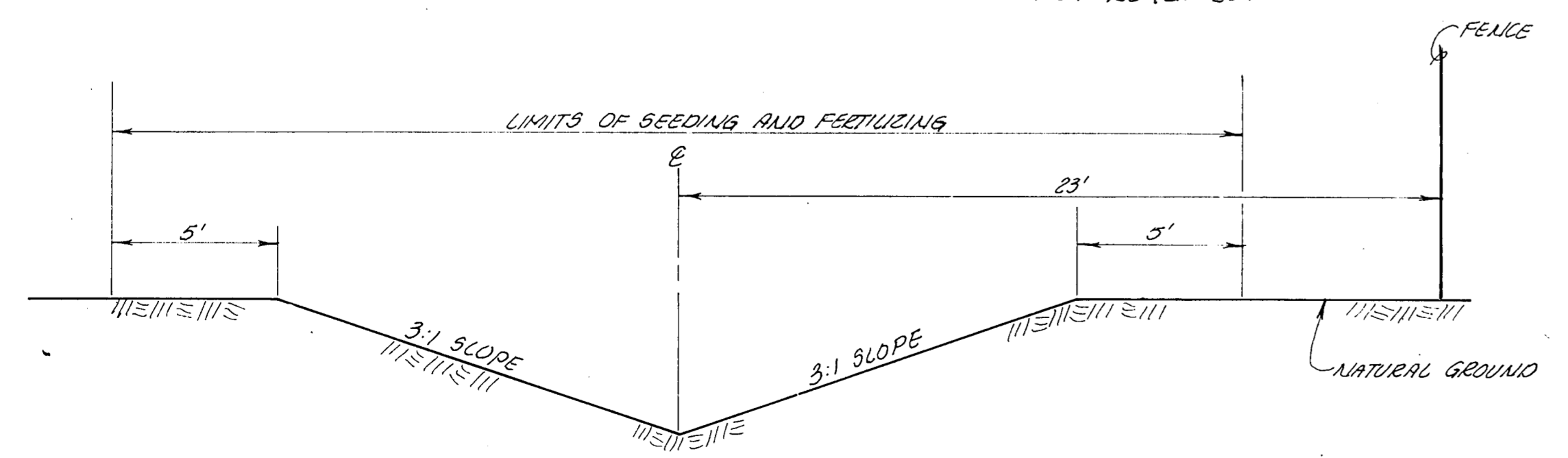
* P.V.C. PIPE SHALL BE SCHEDULE 40



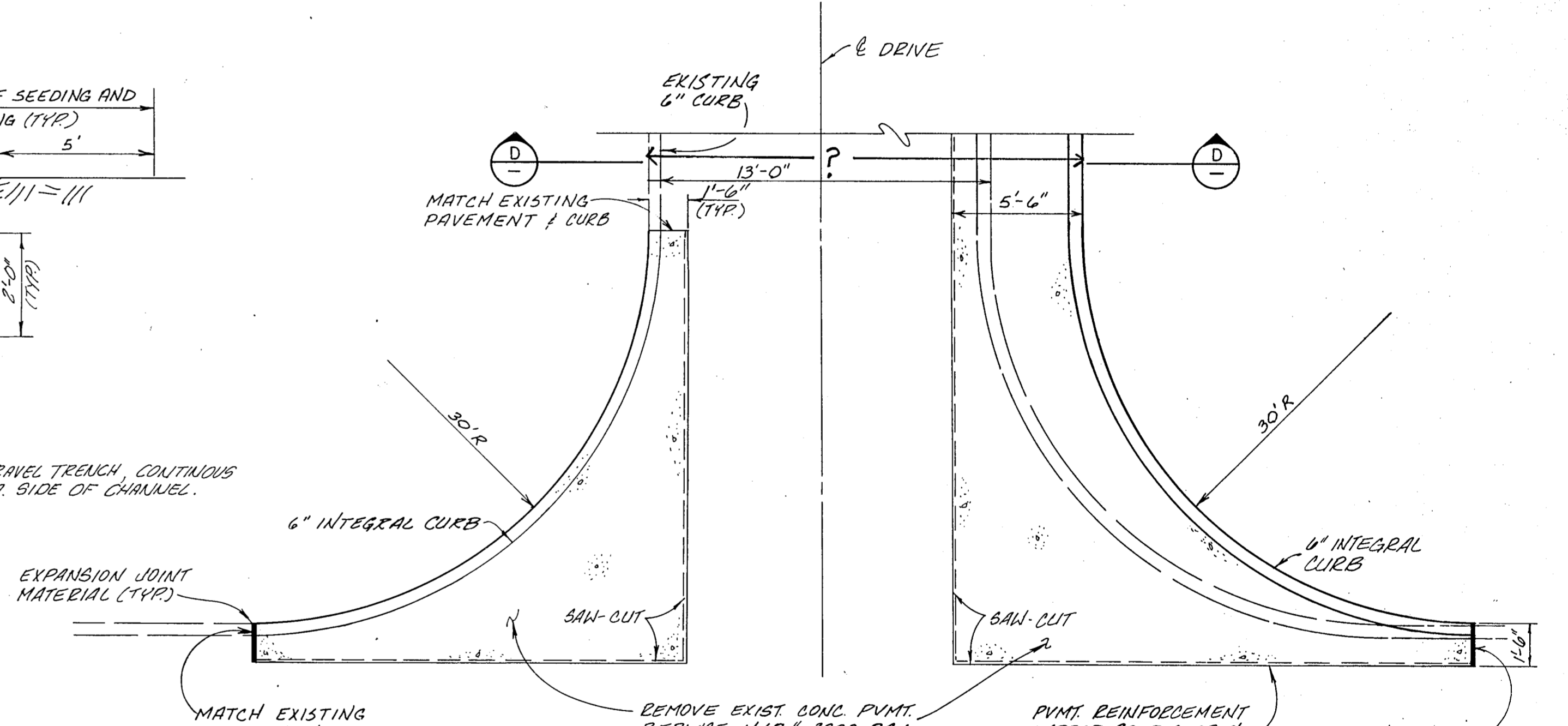
SECTION C
SCALE: 1/2" = 1'-0"

PERMISSIBLE CONSTRUCTION JOINT
N.T.S.

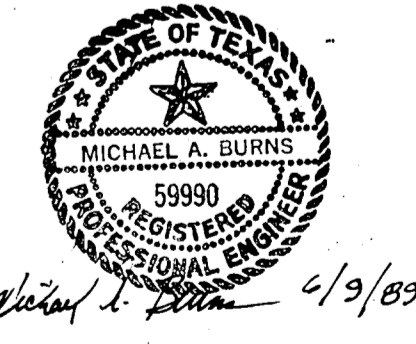
3/4" TRANSVERSE EXPANSION JOINT TO BE PROVIDED AT 80' C-C. (MAX) SEE SHT. 4 FOR CONSTRUCTION DETAILS. WATERSTOP NOT REQUIRED.



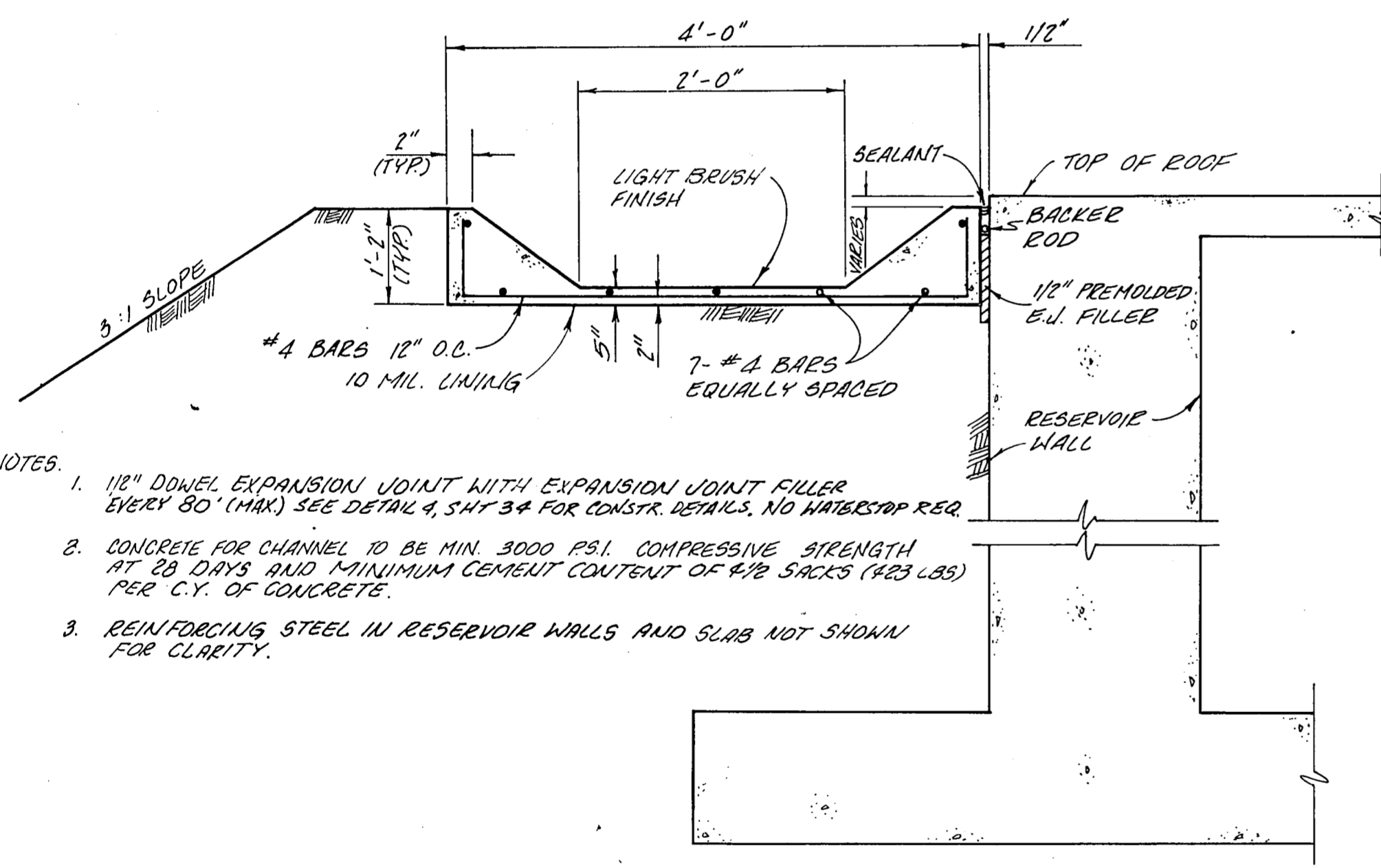
SECTION B
SCALE: 1/4" = 1'-0"



ENTRANCE DRIVE DETAIL
N.T.S.

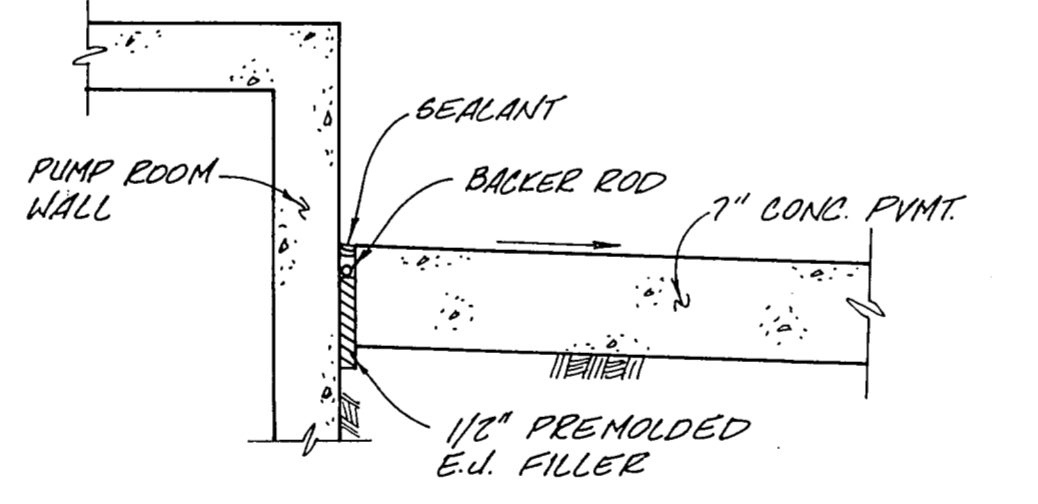


NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION PAVING AND DRAINAGE DETAILS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collie & Braden Inc.			
DESIGN	M.A.B.	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
TRACED		SHEET NO.	6
CHECKED		DATE	5/89
		OF	44



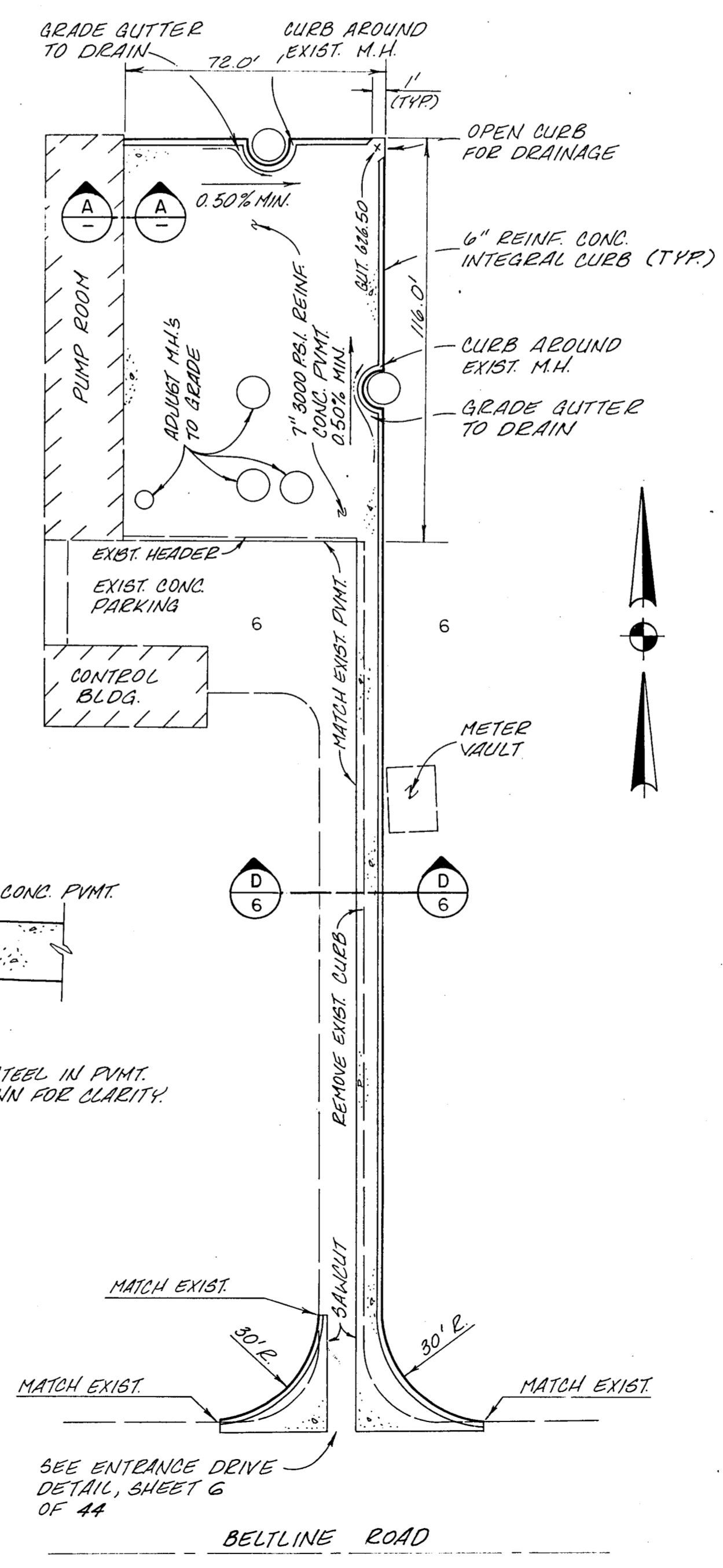
- NOTES:
- 1/2" DWEL EXPANSION JOINT WITH EXPANSION JOINT FILLER EVERY 80' (MAX) SEE DETAIL 4, SHEET 34 FOR CONSTR. DETAILS. NO WATERSTOP REQ.
 - CONCRETE FOR CHANNEL TO BE MIN. 3000 PSI. COMPRESSIVE STRENGTH AT 28 DAYS AND MINIMUM CEMENT CONTENT OF 4/8 BAGS (423 LBS) PER C.Y. OF CONCRETE.
 - REINFORCING STEEL IN RESERVOIR WALLS AND SLAB NOT SHOWN FOR CLARITY.

SECTION E-5
N.T.S.



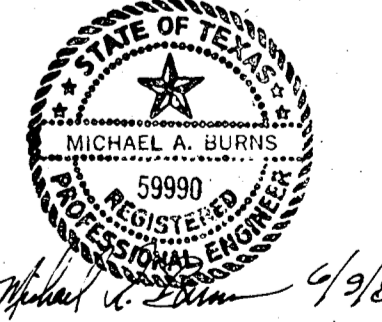
NOTE: REINF. STEEL IN PVMT. NOT SHOWN FOR CLARITY.

SECTION A-A
N.T.S.



PAVING PLAN
N.T.S.

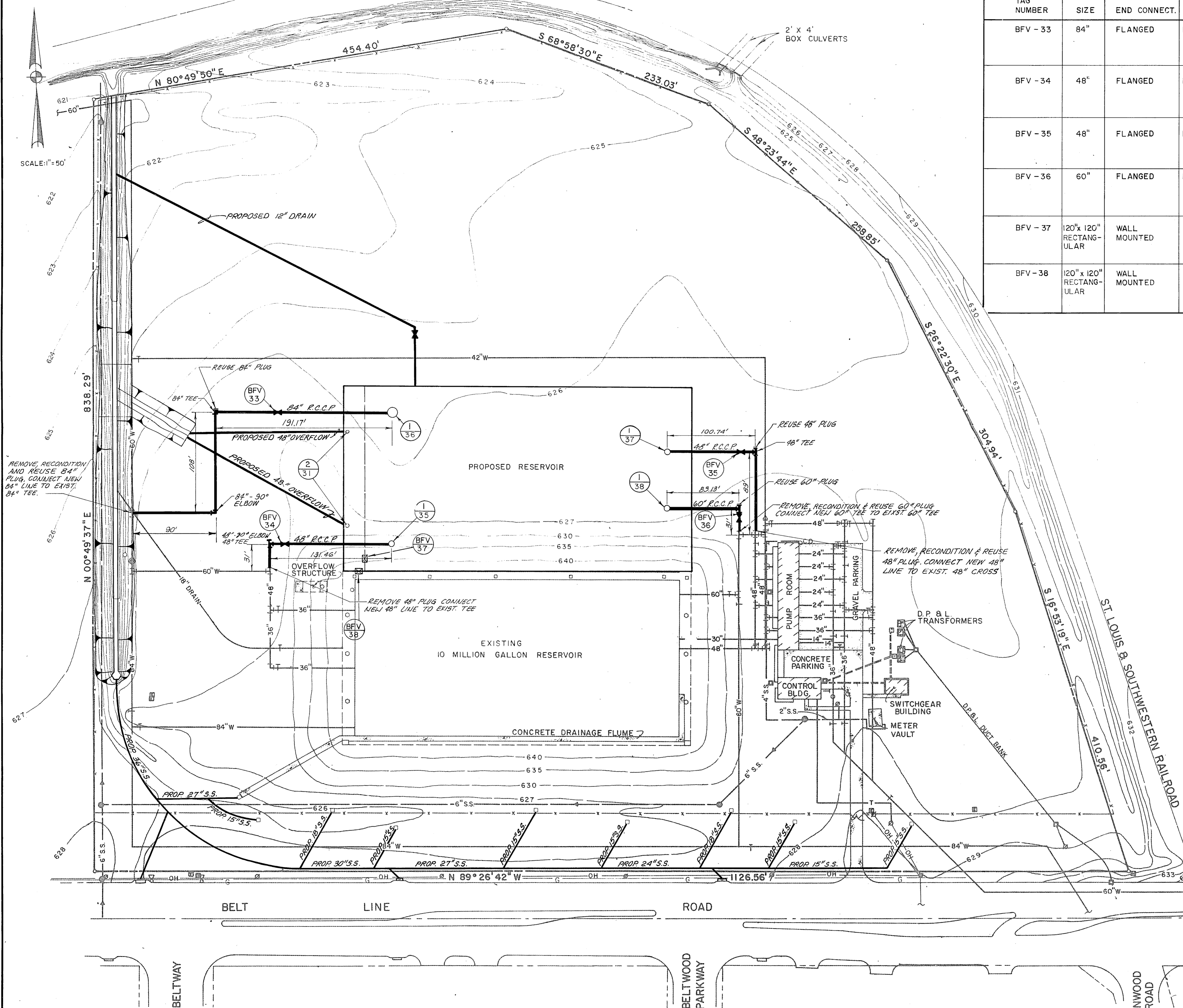
B.M. 1/4" CUT IN S.E. CORNER OF PUMP PIT'S STRUCTURE BEHIND PUMP HOUSE AT BELTWOOD PUMP STATION. SITE ELEV. = 630.02



NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION MISCELLANEOUS CIVIL DETAILS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS Turner Collie & Braden Inc.			
DESIGN	M.A.B.	CONTRACT NO.	89-79
DRAWN	A.B.C.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		
			SHEET NO. 7 OF 44

BUTTERFLY VALVE SCHEDULE

TAG NUMBER	SIZE	END CONNECT.	CLASS	TYPE OPERATOR	OPERATING CONDITIONS	MAXIMUM FLOW	SERVICE PRESURE	TIME OF CLOSURE
BFV - 33	84"	FLANGED	I50B	ELECTRIC MOTOR	N.O. OPEN/CLOSE INLET	131,000 G.P.M.	60 PSI	360 SEC.
BFV - 34	48"	FLANGED	I50B	ELECTRIC MOTOR	N.O. OPEN/CLOSE INLET	43,000 GPM	60 PSI	360 SEC.
BFV - 35	48"	FLANGED	I50B	MANUAL BURIED GEAR 2" STD. AWWA NUT W/EXTENSION	N.O. OPEN/CLOSE OUTLET	---	---	---
BFV - 36	60"	FLANGED	I50B	MANUAL BURIED GEAR 2" STD. AWWA NUT W/EXTENSION	N.O. OPEN/CLOSE OUTLET	---	---	---
BFV - 37	120" x 120" RECTANGULAR	WALL MOUNTED	---	MANUAL GEAR OPERATOR W/HANDWHEEL & EXT. SHAFT	N.O. OPEN/CLOSE ISOLATION	---	---	---
BFV - 38	120" x 120" RECTANGULAR	WALL MOUNTED	---	MANUAL GEAR OPERATOR W/HANDWHEEL & EXT. SHAFT	N.O. OPEN/CLOSE ISOLATION	---	---	---



LEGEND

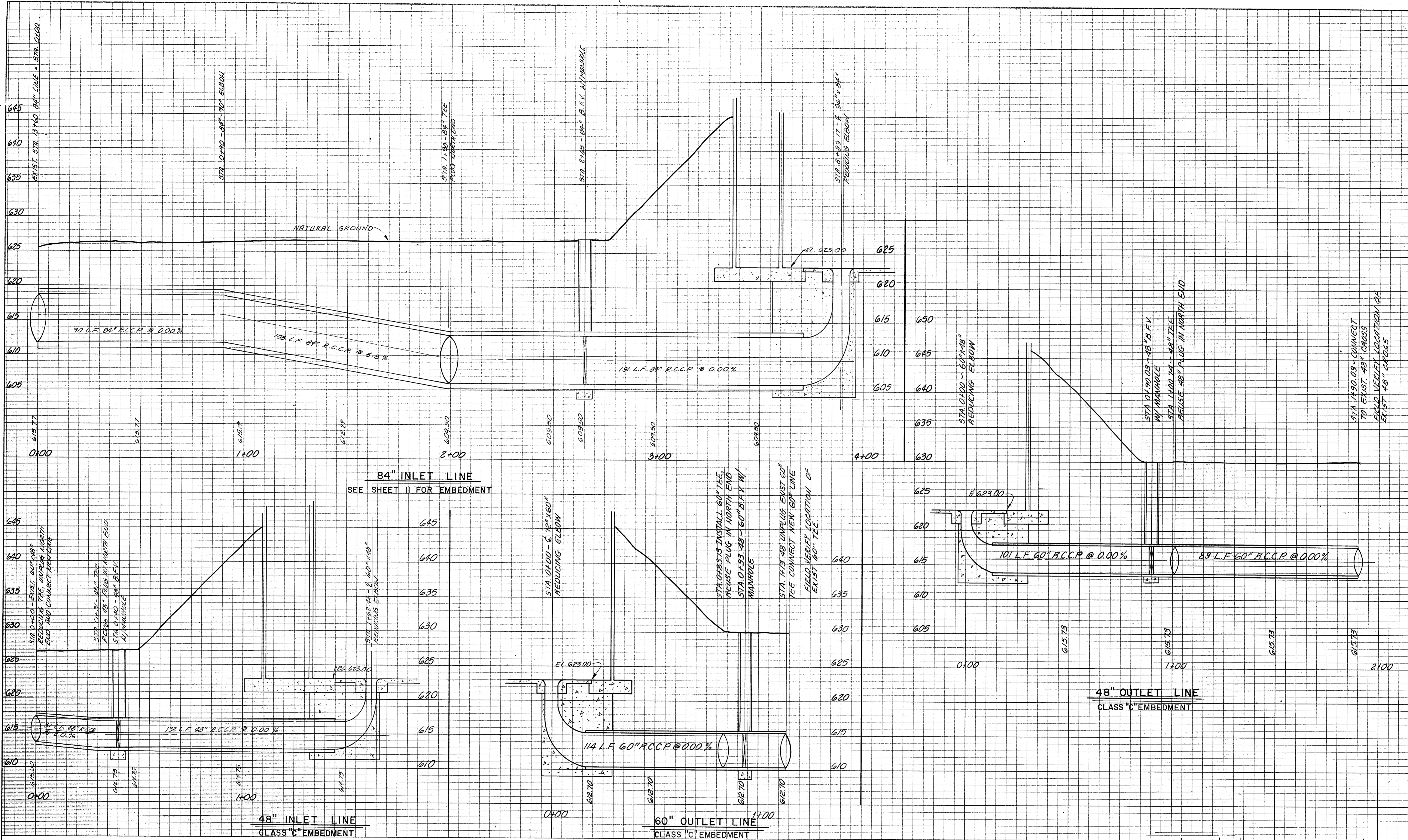
- ⊗ TRAFFIC SIGNAL
- ⊕ POWER POLE
- ⊗ CHAIN LINK FENCE
- ⊕ WATER VALVE
- ⊙ SANITARY SEWER MANHOLE
- ⊙ SANITARY SEWER CLEANOUT
- ⊙ ELECTRICAL MANHOLE
- ⊙ ELECTRICAL RISER
- ⊙ WATER MANHOLE
- ⊙ WATER METER
- ⊙ PIPE VENT
- ⊙ GAS VALVE
- ⊙ TRAFFIC CONTROL BOX
- ⊙ ELECTRICAL PANEL
- ⊙ AIR RELEASE VALVE MANHOLE
- ⊙ OVERFLOW SYSTEM MANHOLE
- ⊙ THRUST BLOCK

NOTES:
 1. CONTRACTOR SHALL VERIFY (HORIZONTAL AND VERTICAL) LOCATIONS OF ALL TIE-IN POINTS PRIOR TO SUBMITTING PIPE LAYING PLANS.
 2. RECONDITION ALL PLUGS BEFORE USE.



NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION YARD PIPING LAYOUT			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS TurnerCollie & Braden Inc.			
DESIGN	B.C.R.	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		

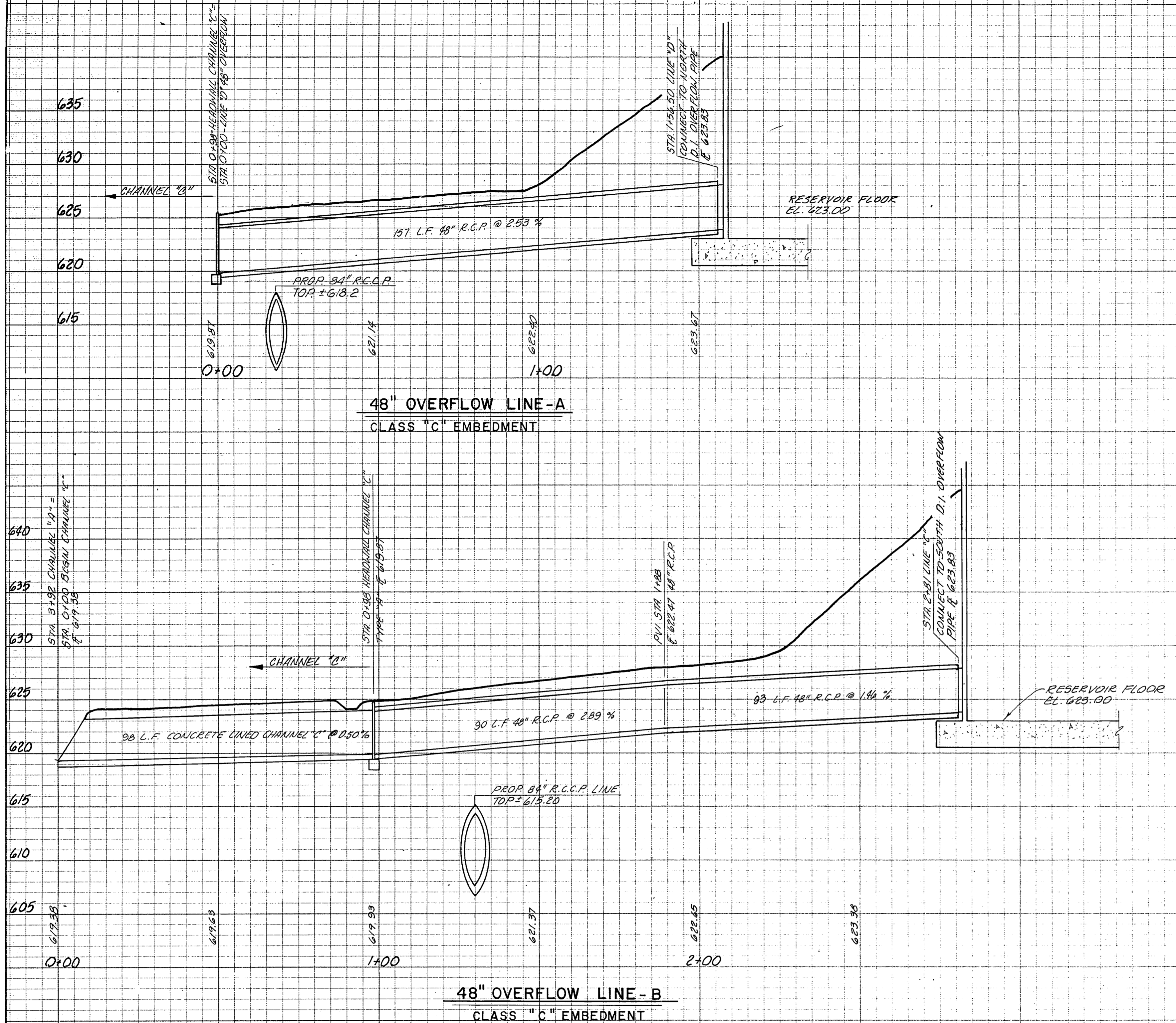
SHEET NO. 8 OF 44



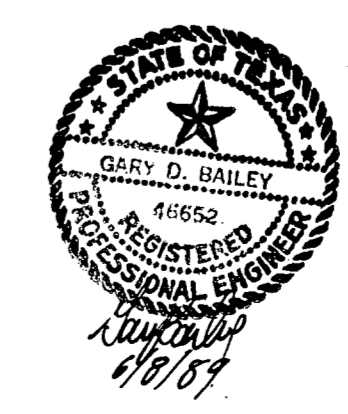
SCALE: 1" = 20' H
 1" = 6' V



NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION YARD PIPING PROFILES			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS Turner Collie & Braden Inc.			
DESIGN	BCR	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		
			SHEET NO. 9
			OF 44



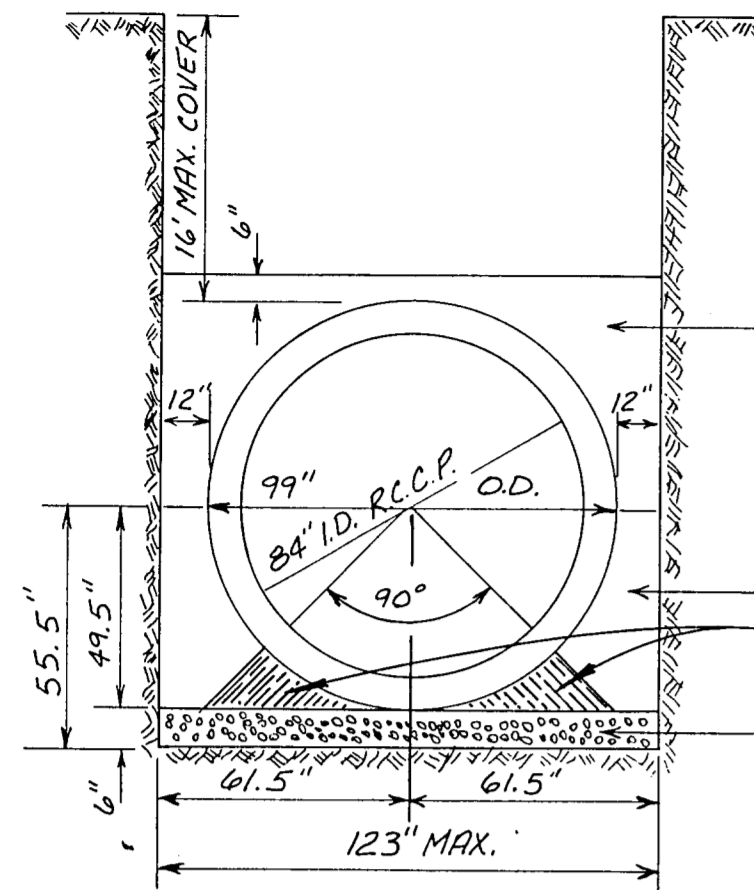
SCALE: 1" = 20' H
1" = 6' V



NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION YARD PIPING PROFILES			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collie & Braden Inc.			
DESIGN	BCR	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		
			SHEET NO. 10 OF 44

NOTE:

COMPACT THE MATERIAL UNDER THE CRITICAL HAUNCH AREA TO 90% DRY PROCTOR DENSITY



SELECT BACKFILL SALVAGED FROM TRENCH EXCAVATION MUST BE CLEAN AND FREE OF LARGE ROCKS. IT MUST BE APPROVED BY THE ENGINEER AND STOCKPILED FOR USE WHEN NEEDED. IF ACCEPTABLE MATERIAL IS NOT AVAILABLE, SAND WILL BE REQUIRED.

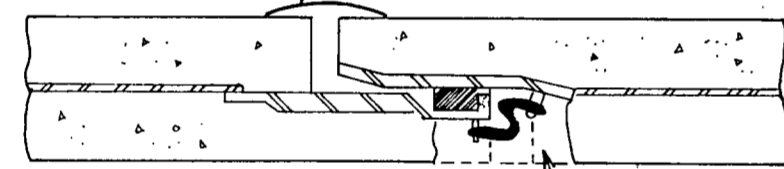
GRANULAR MATERIAL
SEE NOTE ABOVE

EMBEDMENT MATERIAL
CRUSHED ROCK
GRADATION 0 RETAINED ON NO. 10
95%-100% RETAINED ON NO. 10

SPECIAL EMBEDMENT FOR 84" R.C.C.P. WATER LINE

N.T.S.

PLACE CEMENT MORTAR



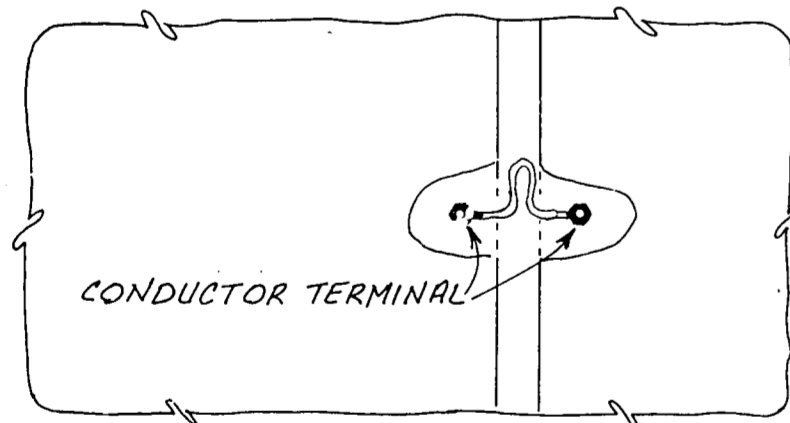
REMOVE MORTAR & DISCONNECT COPPER CONDUCTOR WIRE AT TERMINAL DURING SALVAGE OPERATION REINSTALL AS PER DETAIL REPLACING MORTAR DURING INSTALLATION.

12" LENGTH OF #4 A.W.G. BARE STRANDED COPPER LEAD TO CONNECTOR.

BONDED JOINT DETAIL

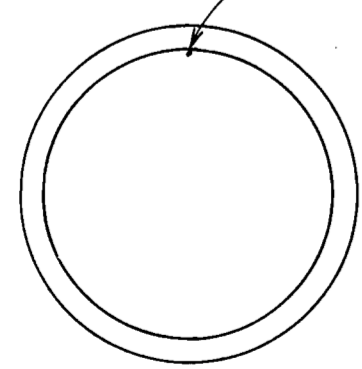
SIDE VIEW

N.T.S.



CONDUCTOR TERMINAL

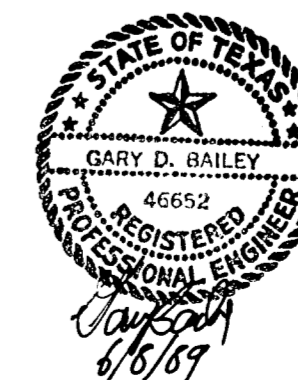
PLACE CONDUCTOR INSIDE AND ALONG C. OF PIPE



BONDED JOINT DETAIL

END VIEW

N.T.S.



NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
YARD PIPING DETAILS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
TurnerCollie & Braden Inc.			
DESIGN	B.C.R.	CONTRACT NO.	89-79
DRAWN	G.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		
			SHEET NO. 11 OF 44

RESERVOIR

MATCHLINE A

PUMP ROOM

CONTROL BUILDING

SWITCHGEAR BUILDING

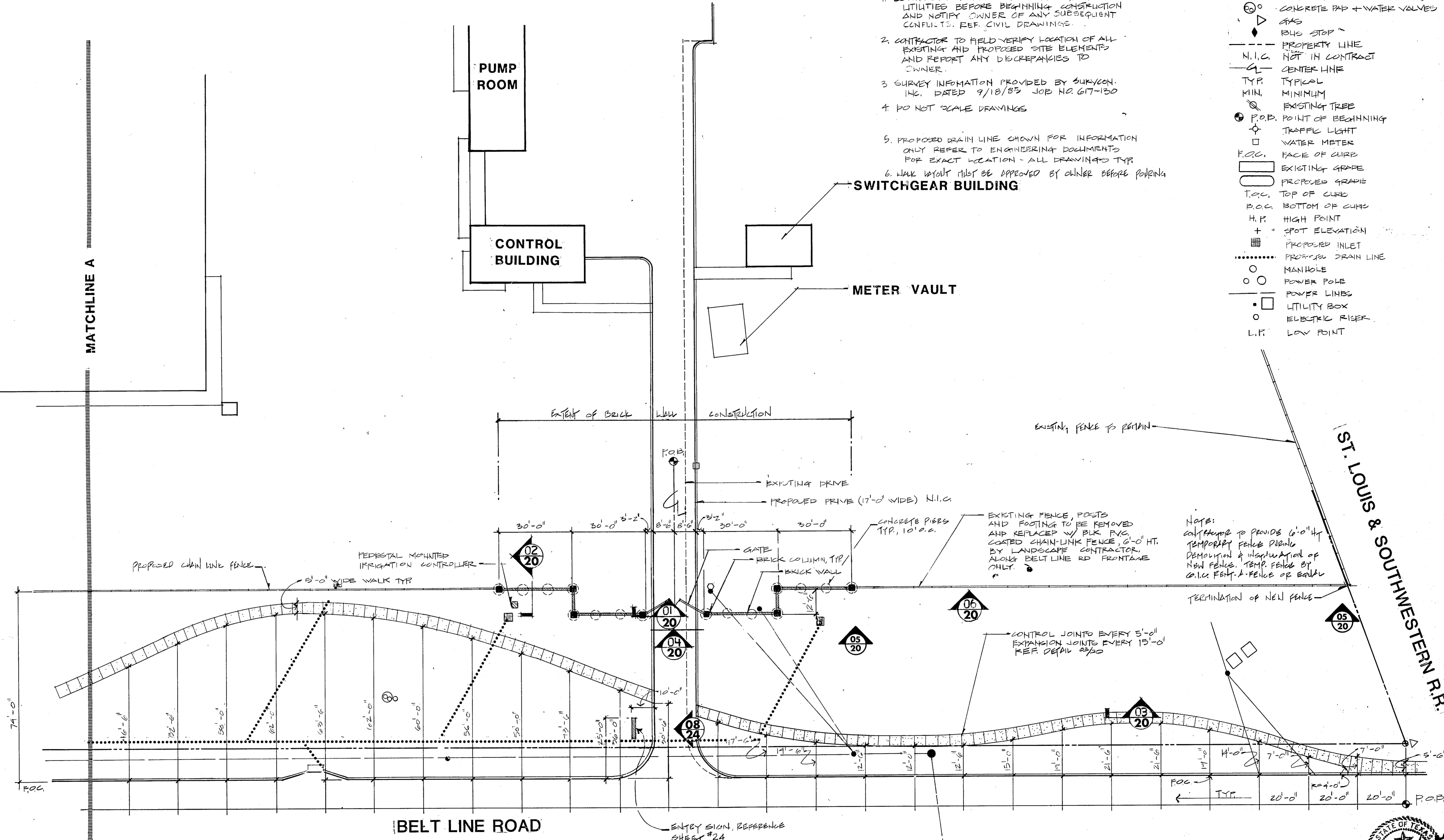
METER VAULT

GENERAL NOTES:

1. CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES BEFORE BEGINNING CONSTRUCTION AND NOTIFY OWNER OF ANY SUBSEQUENT CONFLICTS. REF. CIVIL DRAWINGS.
2. CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING AND PROPOSED SITE ELEMENTS AND REPORT ANY DISCREPANCIES TO OWNER.
3. SURVEY INFORMATION PROVIDED BY SURVCON, INC. DATED 9/18/83 JOB NO. 617-130
4. DO NOT SCALE DRAWINGS
5. PROPOSED DRAIN LINE SHOWN FOR INFORMATION ONLY REFER TO ENGINEERING DOCUMENTS FOR EXACT LOCATION - ALL DRAWINGS TYP.
6. WALK LAYOUT MUST BE APPROVED BY OWNER BEFORE POILING

LEGEND

- ☐ TRAFFIC BOX
- ☐ TRAFFIC BOX (ABOVE GROUND)
- ⊙ CONCRETE PAD + WATER VALVES
- ⊙ GAS
- ⊙ BUS STOP
- PROPERTY LINE
- N.I.C. NOT IN CONTRACT
- CENTER LINE
- TYP TYPICAL
- MIN. MINIMUM
- ⊙ EXISTING TREE
- ⊙ P.O.B. POINT OF BEGINNING
- ⊙ TRAFFIC LIGHT
- ⊙ WATER METER
- F.O.C. FACE OF CURB
- ⊙ EXISTING GRADE
- ⊙ PROPOSED GRADE
- T.O.C. TOP OF CURB
- B.O.C. BOTTOM OF CURB
- H.P. HIGH POINT
- + SPOT ELEVATION
- ⊙ PROPOSED INLET
- ⋯ PROPOSED DRAIN LINE
- MANHOLE
- POWER POLE
- POWER LINES
- ☐ UTILITY BOX
- ELECTRIC RIVER
- L.P. LOW POINT

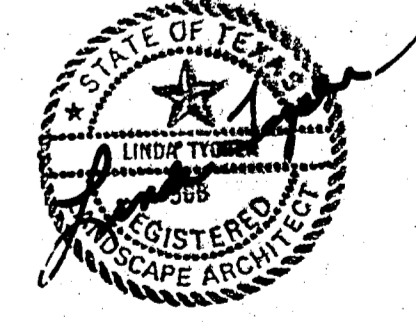


NOTE:
 CONTRACTOR TO PROVIDE 6'-0" HT. TEMPORARY FENCE PRIOR TO DEMOLITION & INSTALLATION OF NEW FENCE. TEMP. FENCE BY C.I.C. FENCE & FENCE OR EQUAL

LAYOUT PLAN
 SCALE: 1"=20'-0"

1. MONUMENT SIGN MUST SET BACK 20' MIN FROM PUBLIC R.O.W. SIGN PERMIT MUST BE PROCURED PREVIOUS TO INSTALLATION OF MONUMENT. (450 2821)

LINDA TYCHER & ASSOCIATES landscape architecture
 11413 N. CENTRAL EXPRESSWAY, SUITE 101
 DALLAS, TEXAS 75244 PHONE 750-1210



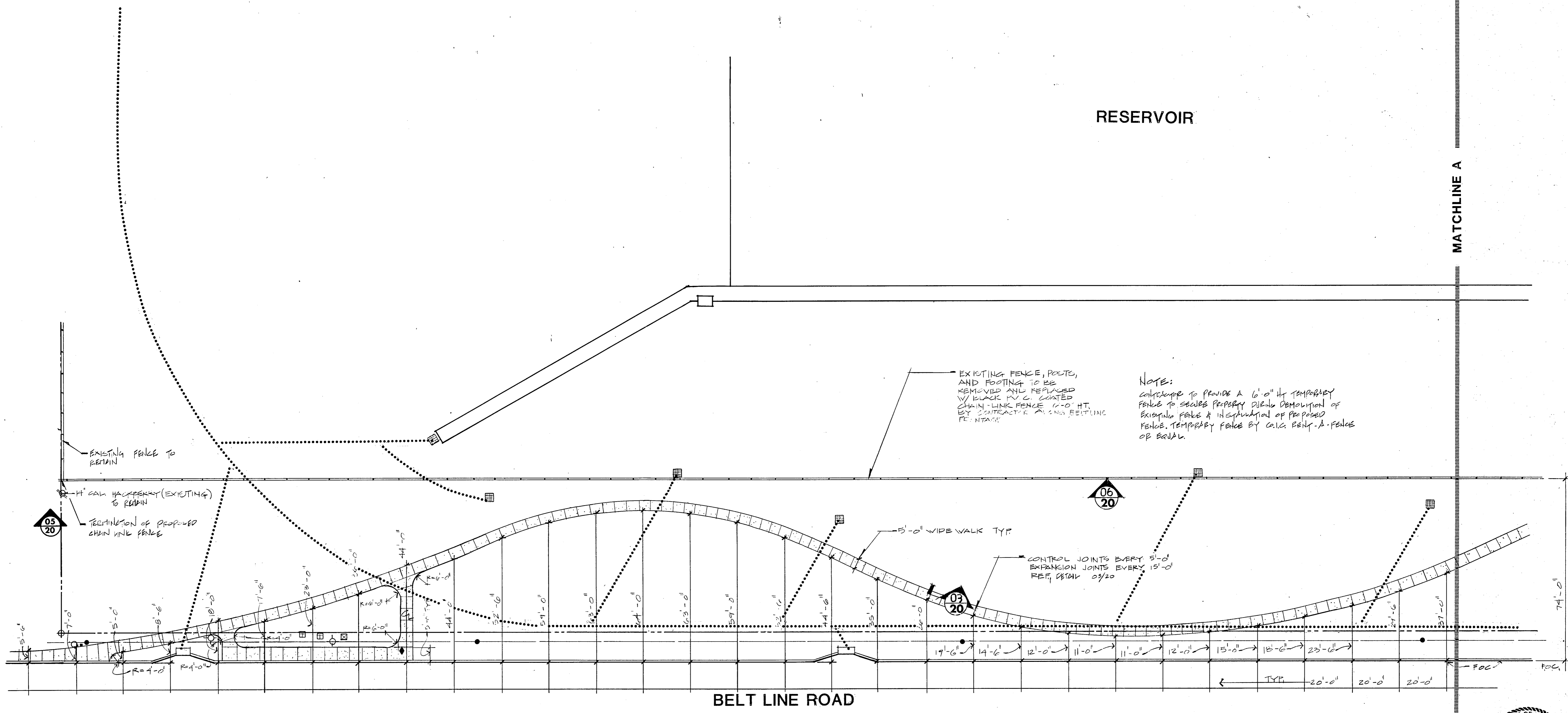
NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
LAYOUT/WALK, WALL, & FENCE			
DALLAS WATER UTILITIES			
CITY OF DALLAS, TEXAS			
TurnerCollieBraden Inc			
DESIGN	CONTRACT NO.	89-79	SHEET NO.
DRAWN	FILE NO.	630 Q 700 F	12
CHECKED			OF 44
DATE			

12
44

NOTE
 1. REF 12/41 FOR GENERAL NOTES AND LEGEND
 2. WALL WALK MUST BE APPROVED BY OWNER BEFORE POURING

RESERVOIR

MATCHLINE A



BELT LINE ROAD

LAYOUT PLAN
 SCALE: 1"=20'-0"



13
44

NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
LAYOUT/WALK, WALL, & FENCE			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collier & Braden Inc.			
DESIGN		CONTRACT NO.	89-79
DRAWN		FILE NO.	630 Q 700 F
TRACED		SHEET NO.	13
CHECKED			OF 44
DATE			

LINDA TYLER
 & ASSOCIATES landscape architecture
 11333 CENTRAL EXPRESSWAY, SUITE 101
 DALLAS, TEXAS 75244 PHONE 754 1210

RESERVOIR

MATCHLINE A

PUMP ROOM

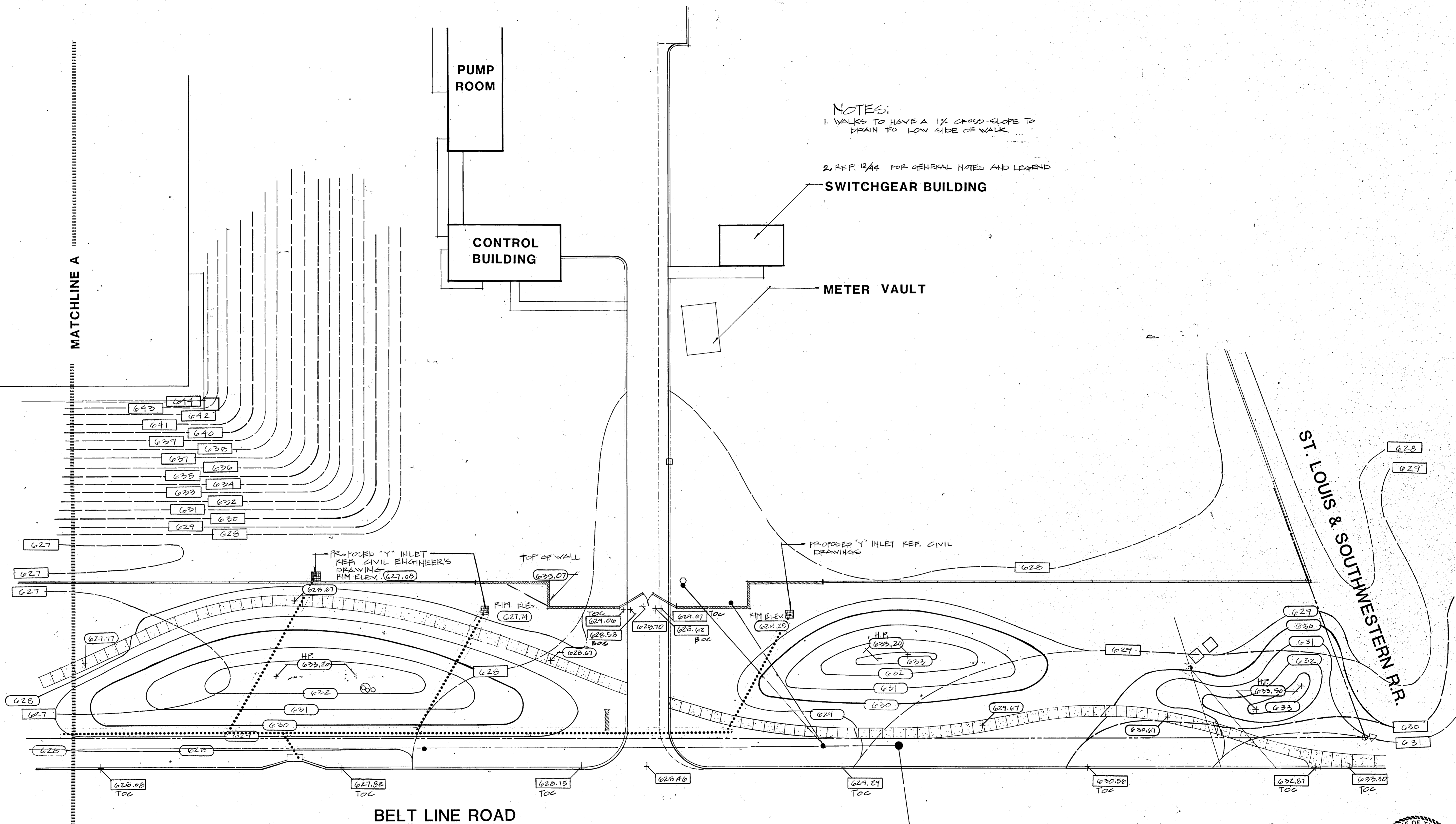
CONTROL BUILDING

NOTES:
1. WALKS TO HAVE A 1% CROSS-SLOPE TO DRAIN TO LOW SIDE OF WALK.
2. REF. 12/44 FOR GENERAL NOTES AND LEGEND

SWITCHGEAR BUILDING

METER VAULT

ST. LOUIS & SOUTHWESTERN R.R.



GRADING PLAN
SCALE: 1"=20'-0"



NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
GRADING PLAN			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
TurnerCollie & Braden Inc.			
DESIGN	CONTRACT NO.	89-79	SHEET NO.
DRAWN	FILE NO.	630 Q 700 F	14
TRACED			OF 44
CHECKED			
DATE			

LINDA TYCHER
& ASSOCIATES landscape architecture
11111 CENTRAL EXPRESSWAY, SUITE 101
DALLAS, TEXAS 75243-1101 (PHONE) 750-1210

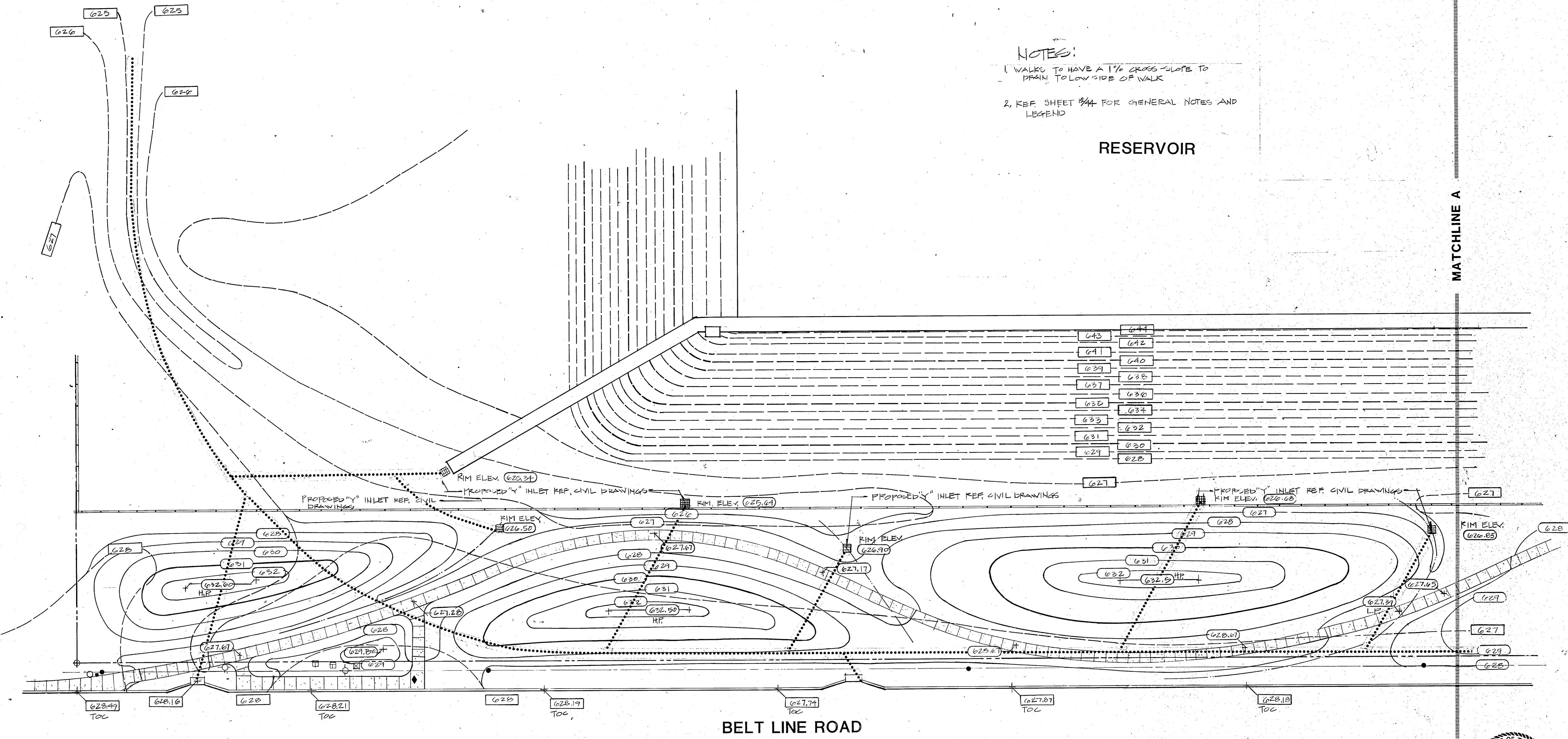
12/10/89 10:51

NOTES:

- 1. WALKS TO HAVE A 1% CROSS-SLOPE TO DRAIN TO LOW SIDE OF WALK
- 2. REF. SHEET 15/44 FOR GENERAL NOTES AND LEGEND

RESERVOIR

MATCHLINE A



GRADING PLAN
SCALE: 1"=20'-0"



15/44

NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
GRADING PLAN			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collier & Braden Inc.			
DESIGN		CONTRACT NO.	89-79
DRAWN		FILE NO.	630 Q 700 F
TRACED		SHEET NO.	15
CHECKED		OF	44
DATE			

LINDA TYCHER landscape architecture
& ASSOCIATES
11100 CENTRAL EXPRESSWAY, SUITE 100
DALLAS, TEXAS 75241 PHONE: 7541210

NOTES:

1. UNDERGROUND UTILITIES TO BE FINISHED BEFORE CONSTRUCTION.
2. STEEL EDGING LOCATED BETWEEN ALL PLANTING BEDS & LAWN AREAS.
3. REF. 17 OF 44 FOR PLANT SCHEDULE.
4. REF. SHEET 17 OF 44, DETAIL B FOR TREE STAKING DETAIL.

RESERVOIR

MATCHLINE A

PUMP ROOM

CONTROL BUILDING

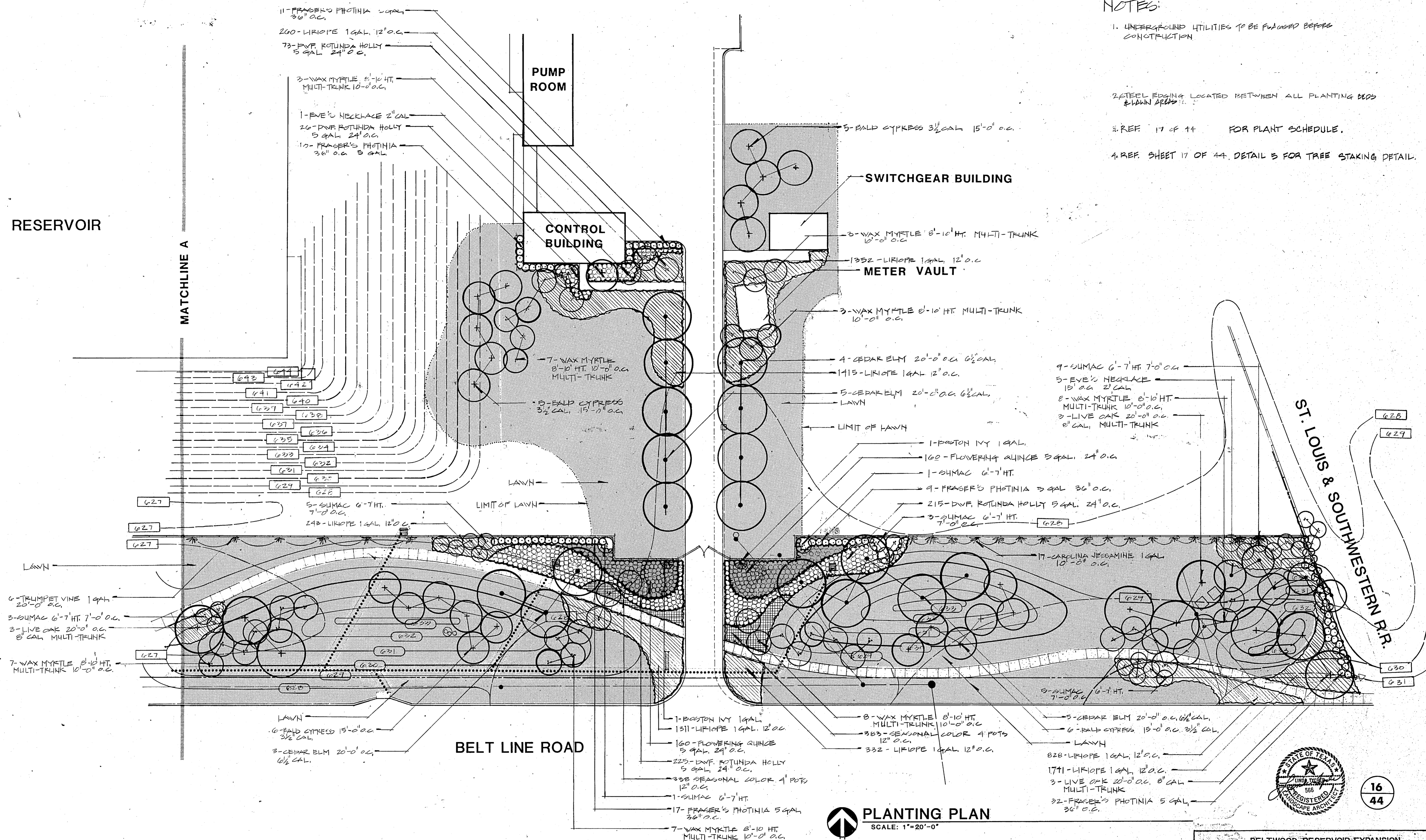
SWITCHGEAR BUILDING

METER VAULT

ST. LOUIS & SOUTHWESTERN R.R.

BELT LINE ROAD

PLANTING PLAN
SCALE: 1"=20'-0"



16
44

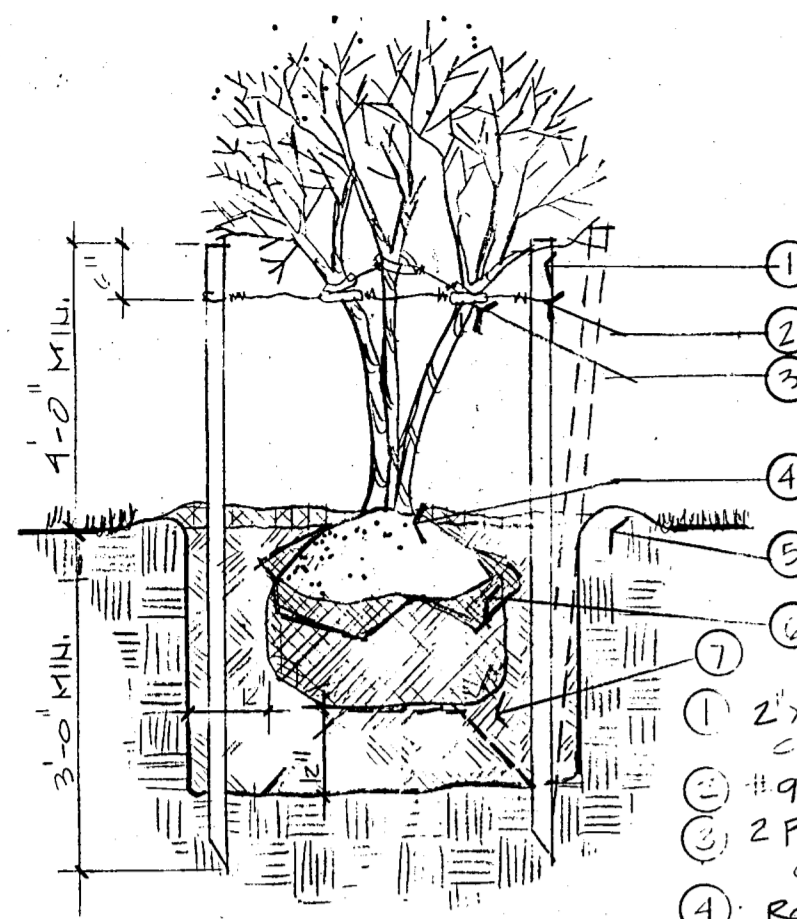
BELTWOOD RESERVOIR EXPANSION

PLANTING PLAN

DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS
Turner Collie & Braden Inc.

LINDA TYCHER
& ASSOCIATES landscape architecture
11000 N. CENTRAL EXPRESSWAY, SUITE 101
DALLAS, TEXAS 75243 TEL: 972-251-1200

DESIGN	CONTRACT NO.	89-79	SHEET NO.
DRAWN	FILE NO.	630 Q 700 F	16
TRACED	DATE		OF 44



- 1 2"x2"x8' CONSTRUCTION GRADE CEILING STAKES, STRAIGHT SOUND
- 2 #9 GALVANIZED GUY WIRE
- 3 2 PLY PAPER WRAPPING HOSE INSIDE DIA. OF NOT LESS THAN 1/2" TO ENCASE WIRE
- 4 ROOTBALL GROWN AT FINISH GRADE
- 5 2" SAUCE
- 6 REMOVE TOP 1/3 BURLAP
- 7 APPROVED PAVING

TREE STAKING DETAIL

N.T.S.

BOTANICAL NAME	COMMON NAME	QTY.	SIZE	MINIMUM HT. AND SPREAD	REMARKS
TREES:					
QUERCUS VIRGINIANA	LIVE OAK	19	8" CAL	18' HT. MIN.	BRANCHING AT 6', MULTI-TRUNK, 3 TRUNK MIN.
ULMUS CRASSIFOLIA	CEEDAR ELM	26	6" CAL	15' HT. MIN.	BRANCHING AT 6', SINGLE STRAIGHT TRUNK
TAXODIUM DISTICHUM	BALD CYPRESS	32	3 1/2" CAL	10' HT. MIN.	SINGLE STRAIGHT TRUNK, MATCHED
SOPHORA AFFINIS	EYE'S NECKLACE	17	2" CAL		
MYRTICA CERIFERA	WAX MYRTLE	65	8'-10' HT.	3' DP. MIN.	TREE FORM, BRANCHING AT 3', MULTI-TRUNK, 3 TRUNK MIN., STAKE 4' GUY
SHRUBS:					
PHOTINIA FRASERI	FRACER'S PHOTINIA	109	5 GAL.	30" HT. MIN.	CONTAINER GROWN, FULL PLANT
RHUS LANCEOLATA	FRANKIE FLAME-LEAF SUMAC	47	6'-7' HT.		PLANT 36" O.C., 3 GAMES MIN. PER PLANT, PLANT 7'-0" O.C.
CHAENOMELES SPECIOSA	FLOWERING QUINCE	285	5 GAL.	20" HT. MIN.	CONTAINER GROWN, FULL PLANT
ILEX CORNUTA 'ROTUNDA'	ROTUNDA HOLLY	779	5 GAL.	20" HT. MIN.	SPACE 24" O.C., CONTAINER GROWN, FULL PLANT, SPACE 24" O.C.
VINES:					
GAELSEMIUM TEMPERVIRENS	CAROLINA JESSAMINE	4	1 GAL.		CONTAINER GROWN, FULL PLANT MIN. 4 RUNNERS 24" LONG, WIRE TO FENCE
CAMPIS RADICANS 'MADAME GALEN'	TRUMPET VINE	15	1 GAL.		CONTAINER GROWN, FULL PLANT, MIN. 3 RUNNERS 30" LONG, WIRE TO FENCE
PARTHENOCISSUS TRICUSPIDATA	BRETON IVY	1	1 GAL.		CONTAINER GROWN, FULL PLANT, MIN. 3 RUNNERS 30" LONG, STAKED PLANTS
GROUND COVER:					
LIRIOPE MUSCARI	GREEN LIRIOPE	14586	1 GAL.	8" DP. MIN.	FULL PLANT, FOLIAGE TO COVER TOP OF CONTAINER, PLANT 12" O.C.
OTHER:					
CYNODON SPP. COMMON	COMMON BERMUDA				HYDROMULCH LAWN AREAS
SEASONAL COLOR		721	4" POTE		TO BE SELECTED BY LANDSCAPE ARCHITECT

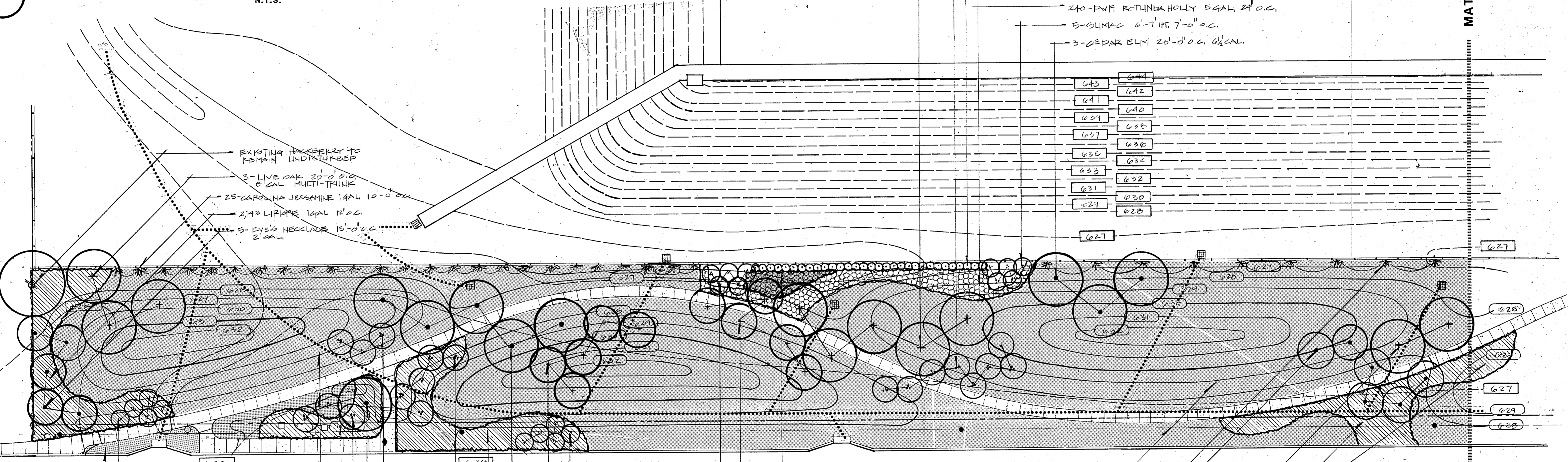
NOTE: PLANT LIST IS AN AID TO BIDDER'S ONLY. VERIFY ALL QUANTITIES ON PLAN.

NOTES:

1. UNDERGROUND UTILITIES TO BE FLAGGED BEFORE CONSTRUCTION REF. CIVIL DRAWINGS FOR LOCATION.
2. STEEL EDGING LOCATED BETWEEN ALL PLANTING BEDS AND LAWN AREAS

RESERVOIR

MATCHLINE A



- 3-LIVE OAK 20'-0" O.C. 8" CAL MULTI-TRUNK
- 3-WAX MYRTLE 8'-10' HT. MULTI-TRUNK 10'-0" O.C.
- 30-FRACER'S PHOTINIA 5 GAL 36" O.C.
- 240-FR. ROTUNDA HOLLY 5 GAL 24" O.C.
- 5-SUMAC 6'-7' HT. 7'-0" O.C.
- 3-CEEDAR ELM 20'-0" O.C. 6" CAL.

- 5-SUMAC 6'-7' HT. 7'-0" O.C.
- LAWN
- LAWN
- 915-LIRIOPE 1 GAL 12" O.C.
- 3-WAX MYRTLE 8'-10' HT. MULTI-TRUNK 10'-0" O.C.
- 1-CEEDAR ELM 3" CAL.
- 3-WAX MYRTLE 8'-10' HT. MULTI-TRUNK 10'-0" O.C.

- 5-WAX MYRTLE 8'-10' HT. MULTI-TRUNK 10'-0" O.C.
- 1783-LIRIOPE 1 GAL 12" O.C.
- 5-CEEDAR ELM 20'-0" O.C. 6" CAL.
- 5-BALD CYPRESS 15'-0" O.C. 3 1/2" CAL.
- 5-SUMAC 6'-7' HT. 7'-0" O.C.

- 5-SUMAC 6'-7' HT. 7'-0" O.C.
- 5-BALD CYPRESS 3 1/2" CAL. 15'-0" O.C.
- 65-FLOWERING QUINCE 5 GAL 24" O.C.

- LAWN
- 7-TRUMPET VINE 1 GAL. 20'-0" O.C.
- 6-EYE'S NECKLACE 15'-0" O.C. 2" CAL.
- 2-LIVE OAK 20'-0" O.C. 8" CAL MULTI-TRUNK
- 1758-LIRIOPE 1 GAL 12" O.C.

BELT LINE ROAD



PLANTING PLAN
SCALE: 1"=20'-0"



BELTWOOD RESERVOIR EXPANSION

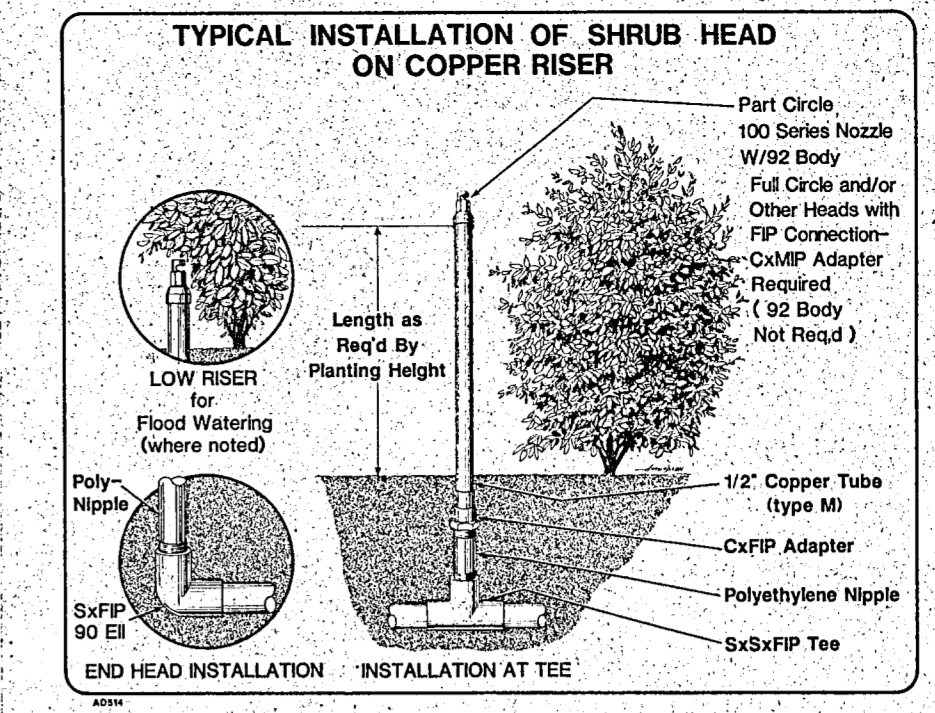
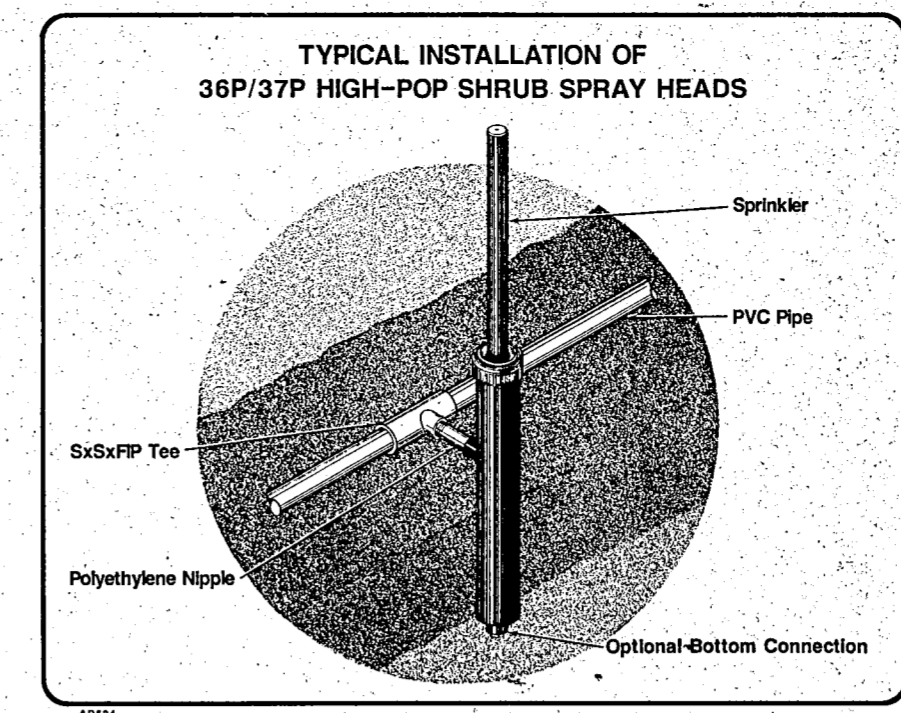
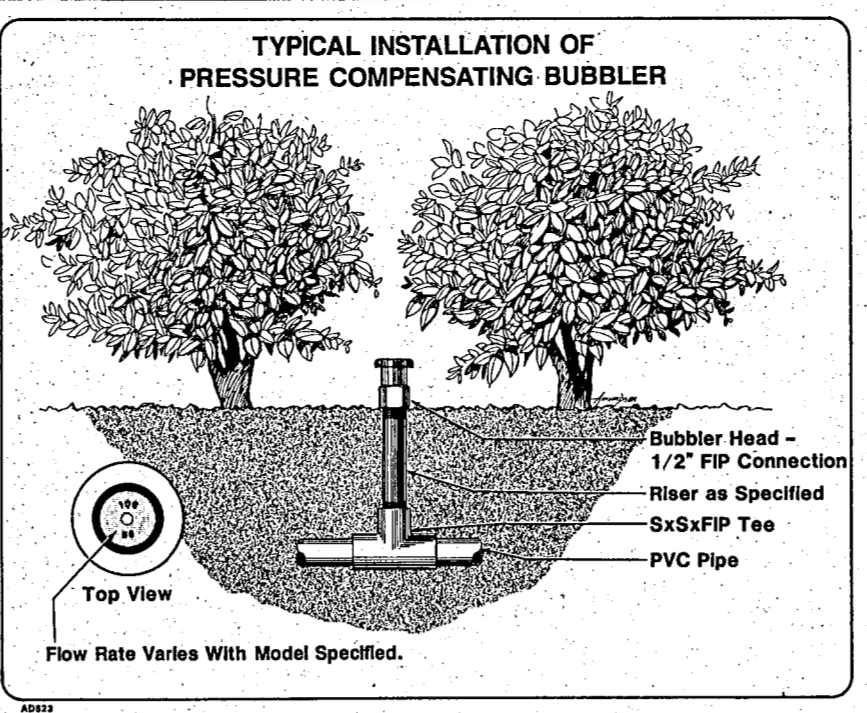
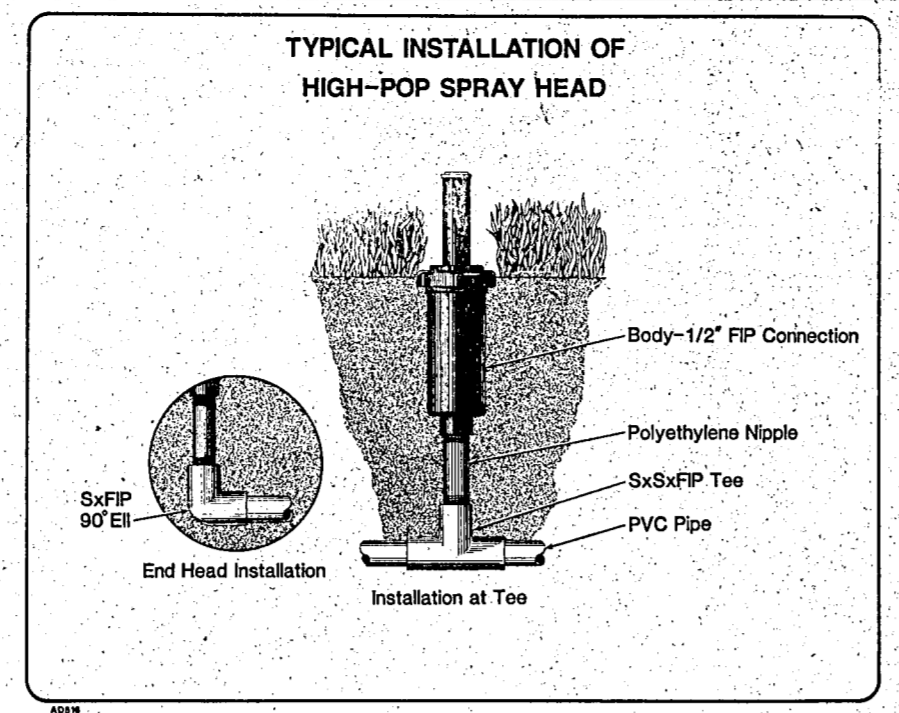
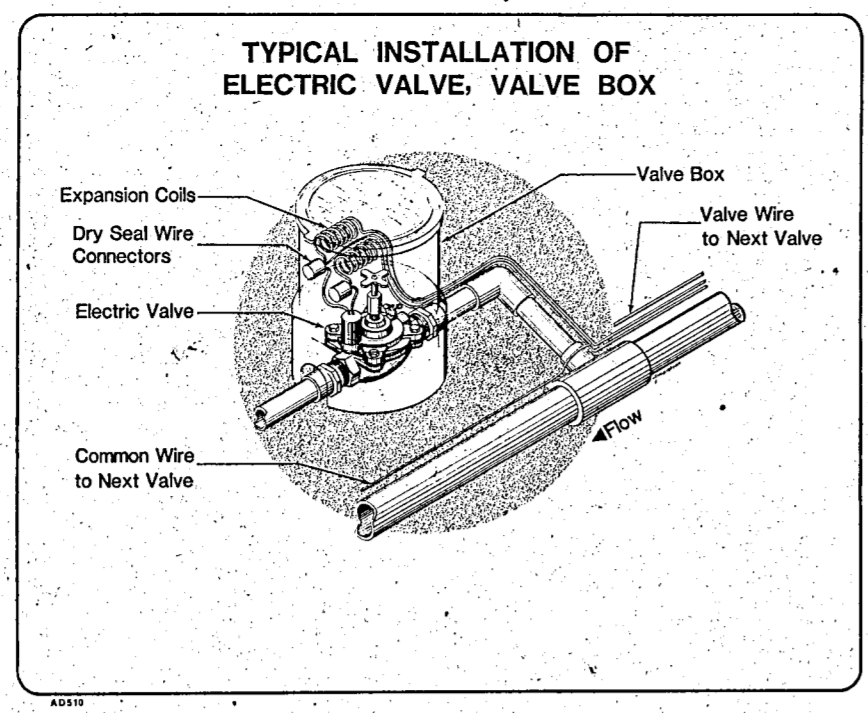
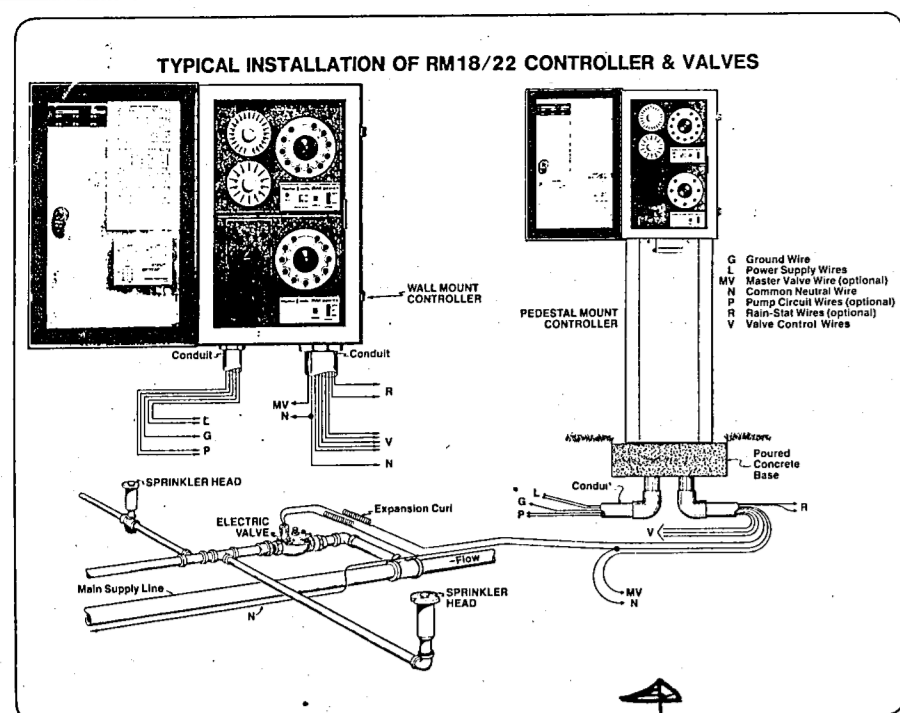
PLANTING PLAN

DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

Turner Collier & Braden Inc.

DESIGN	CONTRACT NO.	89-79	SHEET NO.
DRAWN	FILE NO.	630 Q 700 F	17
TRACED			OF 44
CHECKED			
DATE			

17
44



USE IRRITROL CONTROLLERS ONLY

VALVES ARE WEATHERMATIC NO. 11024F SERIES, INSTALLED PER DETAIL SHOWN AND SIZED AS INDICATED ON DRAWING.

LAWN HEADS ARE WEATHERMATIC NO. 35P-320 SERIES UNLESS OTHERWISE NOTED, INSTALLED PER DETAIL SHOWN.

SHRUB HEADS ARE WEATHERMATIC NO. 92-100, 95P-300, OR 37P-300 AS INDICATED ON DRAWING, INSTALLED PER DETAILS SHOWN.

QUICK COUPLER VALVES ARE WEATHERMATIC NO. V100, INSTALLED PER DETAIL SHOWN. TO FURNISH THREE (3) EACH NO. C100 COUPLER KEYS AND NO. 11 SWIVEL HOSE ELLS. Q.C.V. TO BE INSTALLED IN VALVE BOXES.

ROTARY HEADS ARE HUNTER I25 SERIES WITH FOLLOWING NOZZLES:

- 360° - NOZZLE NO. 7 ✓
- 270° - NOZZLE NO. 6 ✓
- 180° - NOZZLE NO. 4 ✓
- 90° - NOZZLE NO. 2 ✓

AT POINT OF CONNECTION CONTRACTOR TO FURNISH AND INSTALL 2" D.C.A., 5" GATE, AND DRAIN VALVES PER CITY CODES.

ALL PIPING IS TO BE SCHEDULE 40.

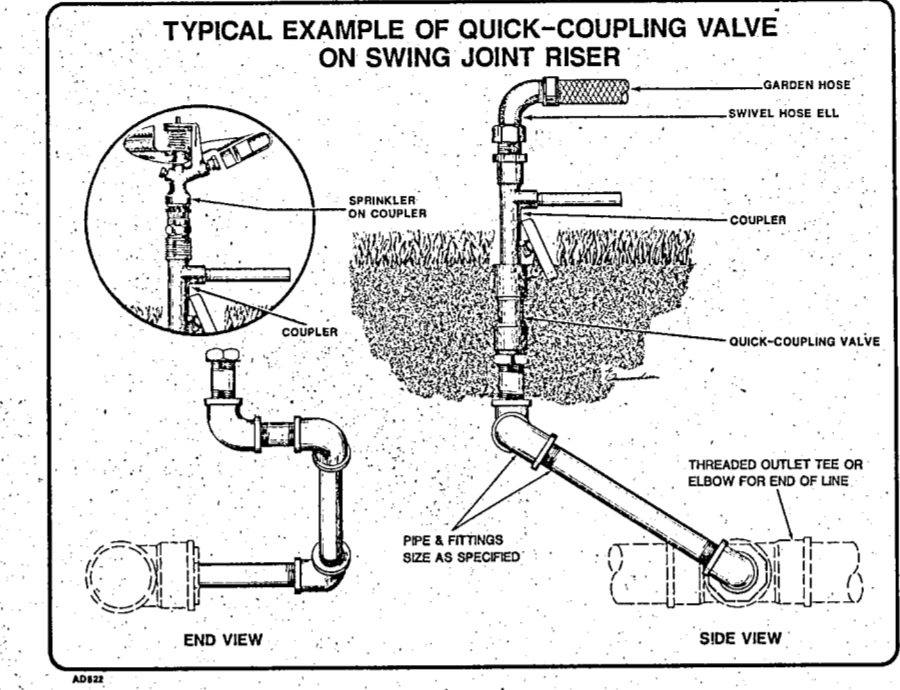
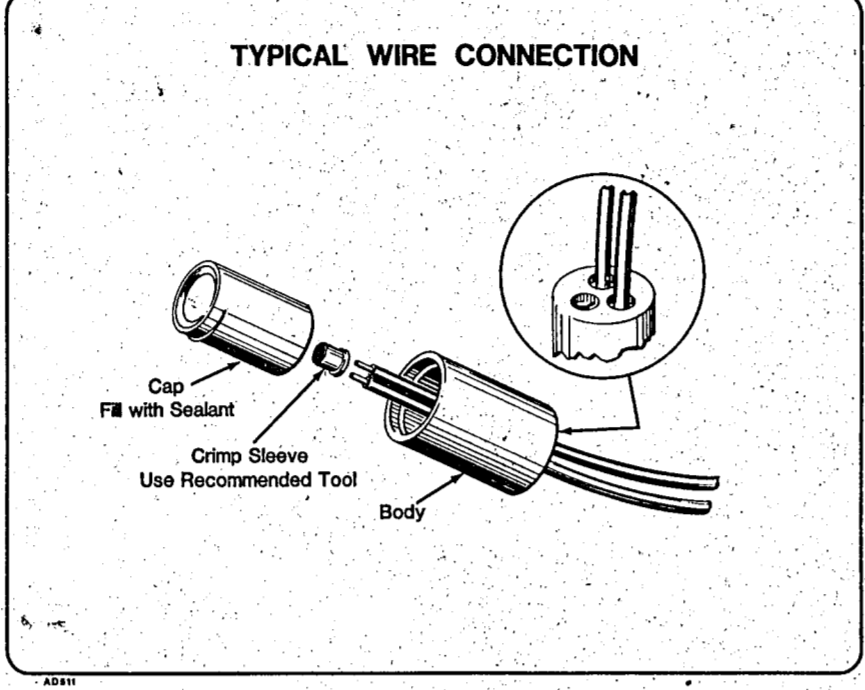
CONTRACTOR TO VERIFY STATIC WATER PRESSURE PRIOR TO INSTALLATION OF SYSTEM AND NOTIFY OWNER IN WRITING IF LESS THAN 70 P.S.I. AS INDICATED.

LAWN HEADS ARE TO BE TORN

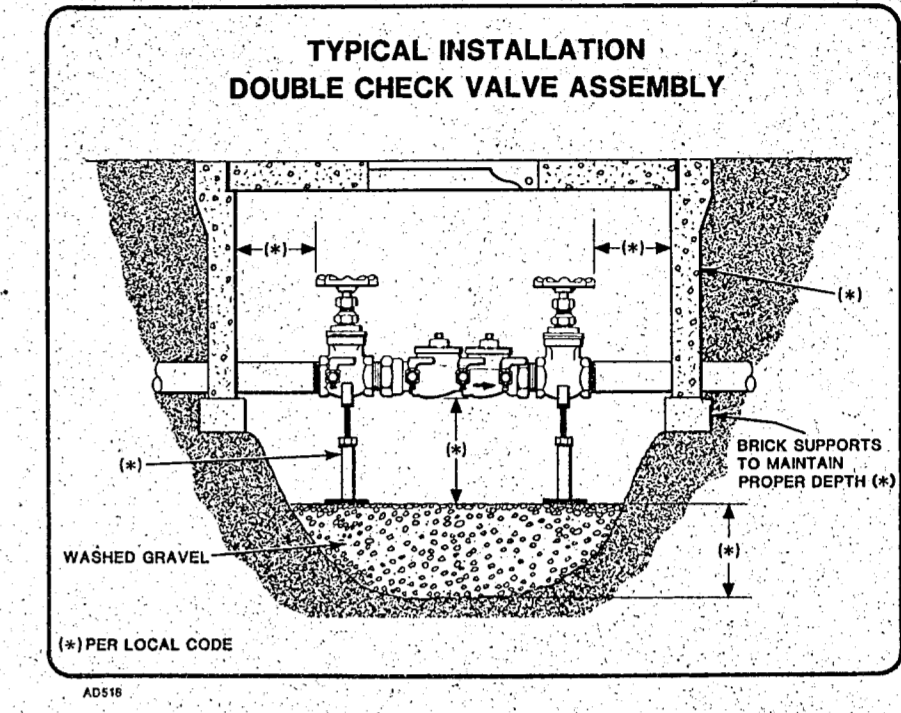
ALL HEADS (SPRAYS) ARE TO BE TORN

3/4" BUCKNER

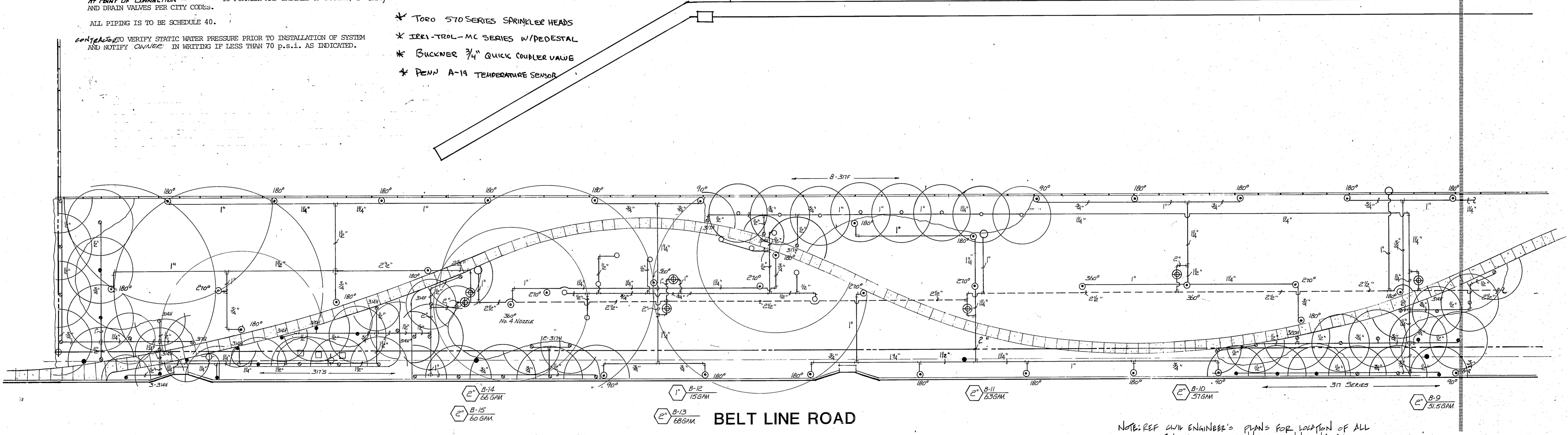
- * TORO 570 SERIES SPRINKLER HEADS
- * IRRITROL-MC SERIES W/PEDESTAL
- * BUCKNER 3/4" QUICK COUPLER VALVE
- * PENN A-19 TEMPERATURE SENSOR



RESERVOIR



MATCHLINE A



NOTE: REF CIVIL ENGINEER'S PLANS FOR LOCATION OF ALL EXISTING & PROPOSED UNDER GROUND UTILITIES. CONTRACTOR IS RESPONSIBLE FOR SPACING ALL UTILITIES PRIOR TO WORK.

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44

DESIGN DATA		LEGEND	
Static Pressure: 70#	Design Pressure: 62#	● SPRAY HEAD	■ CONTROLLER
Meter Required: 2"	Service Required: 2"	● POP-UP ROTARY SPRINKLER	□ HOSE BIBB
No. Sprinkler Heads: 74 ROTARIES 215 SPRAYS	Number Sections: 21	○ QUICK-COUPLING VALVE	■ FLUSH LAWN HYDRANT
Design By: P. PENCE	Approved By:	⊕ ELECTRIC VALVE	○ COPPER RISER
Date: 12-11-86		⊕ ANGLE GLOBE VALVE	○ 100-150 BUBBLER
SCALE: 1" = 20' 0"		⊕ GLOBE VALVE	○ #37P (10" POP-UP)
PLAN NUMBER: 61211P	Sheet 2 of 2 Shts.	⊕ GATE VALVE	



IRRIGATION PLAN
SCALE: 1"=20'-0"

LINDA TYCHER & ASSOCIATES
landscape architecture
1111 GREEN HILLS BLVD., SUITE 100
DALLAS, TEXAS 75241 (214) 351-7000

BELTWOOD RESERVOIR EXPANSION		
IRRIGATION PLAN		
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS		
Turner Collie & Braden Inc.		
DESIGN DRAWN	CONTRACT NO. 89-79	SHEET NO. 18
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RESERVOIR

MATCHLINE A

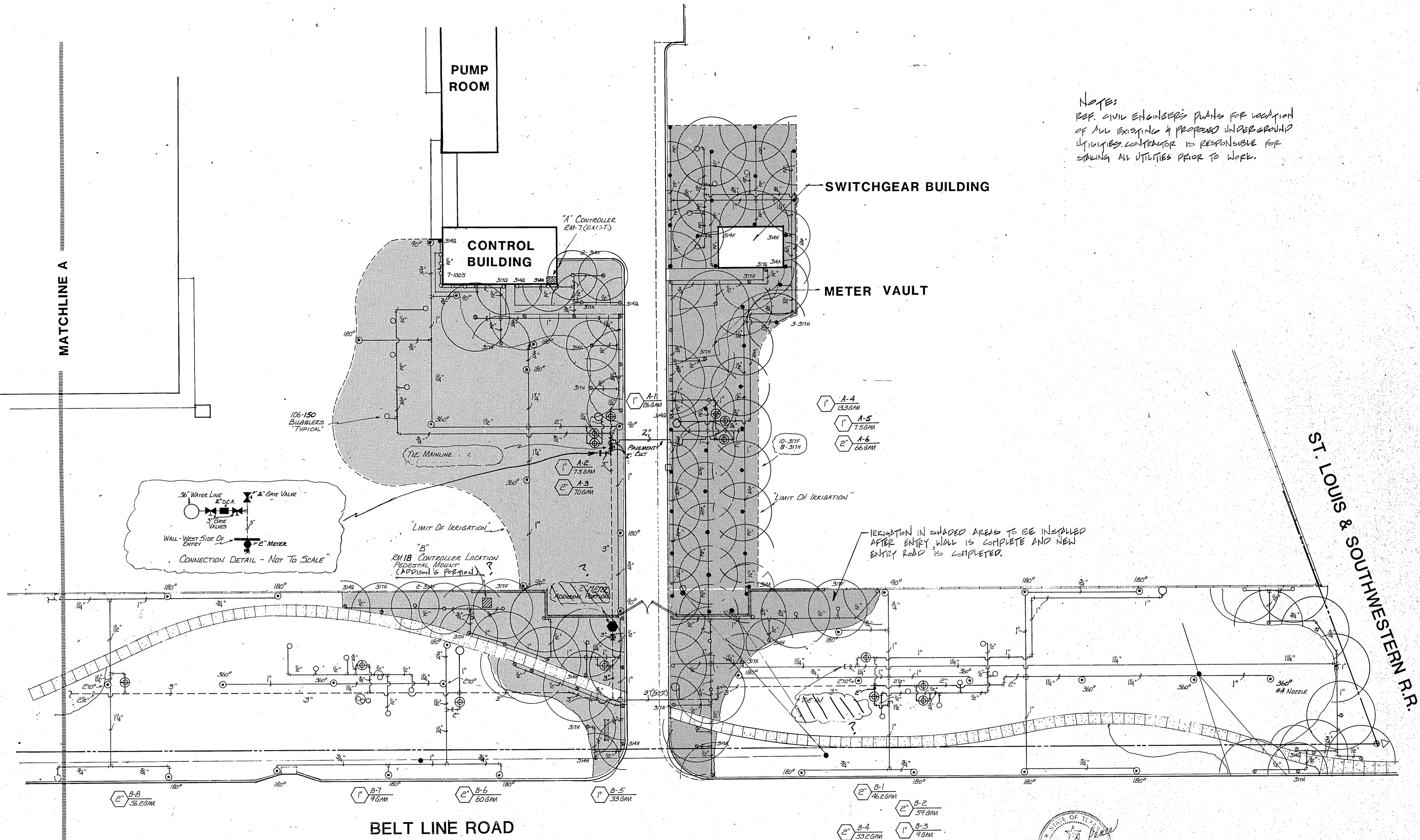
PUMP ROOM

CONTROL BUILDING

SWITCHGEAR BUILDING

METER VAULT

NOTE:
REF. CIVIL ENGINEER'S PLANS FOR LOCATION
OF ALL EXISTING & PROPOSED UNDERGROUND
UTILITIES. CONTRACTOR IS RESPONSIBLE FOR
SPACING ALL UTILITIES PRIOR TO WORK.



BELT LINE ROAD

ST. LOUIS & SOUTHWESTERN R.R.



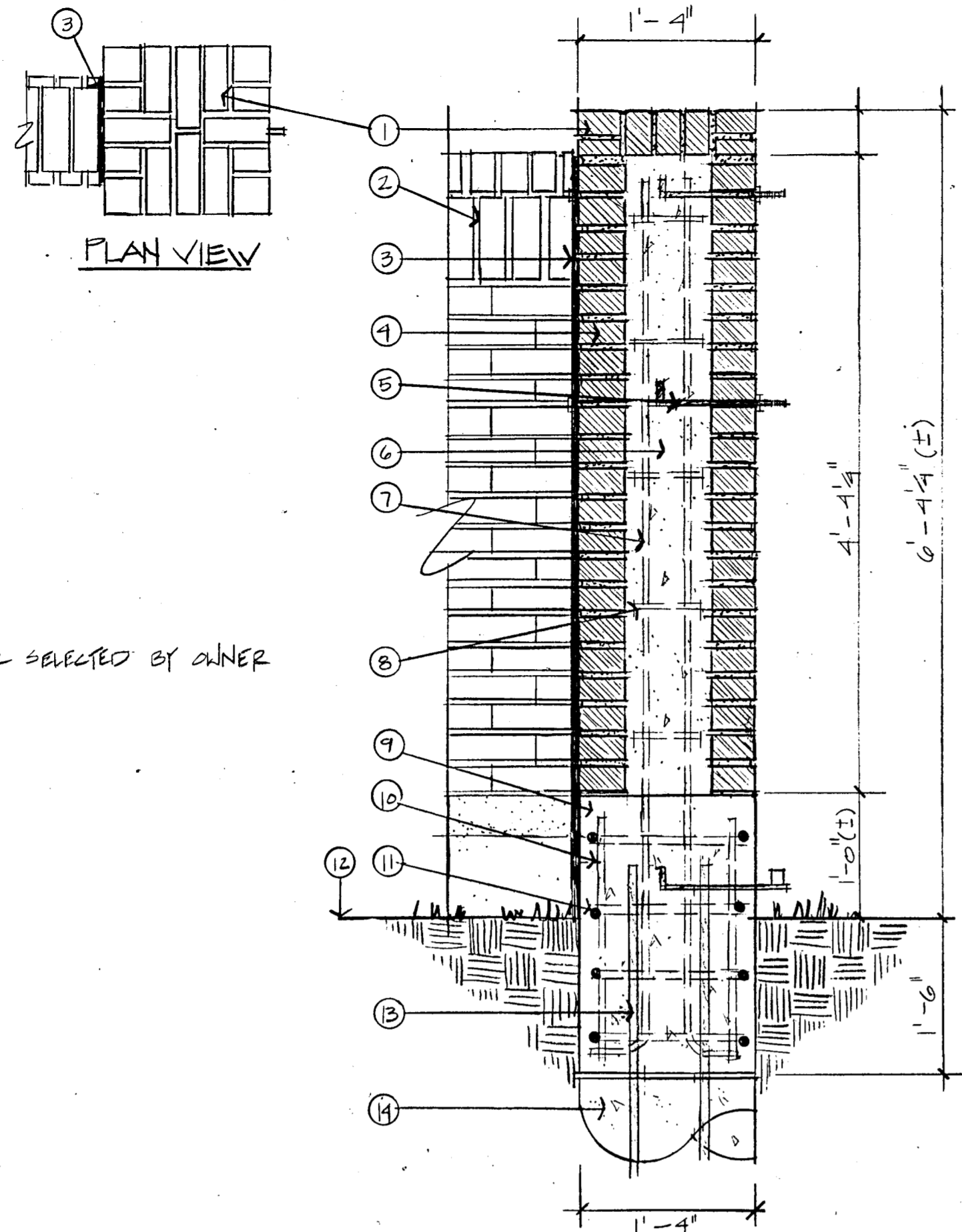
IRRIGATION PLAN
SCALE: 1" = 20'-0"



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NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
IRRIGATION PLAN			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collie & Braden Inc.			
DESIGN	CONTRACT NO.	89-79	SHEET NO.
DRAWN	FILE NO.	630 Q 700 F	19
TRACED			OF 44
CHECKED			
DATE			

LINDA TYCHER
& ASSOCIATES landscape architecture
1111 N. CENTRAL EXPRESSWAY, SUITE 101
DALLAS, TEXAS 75241 PHONE: 754-1414

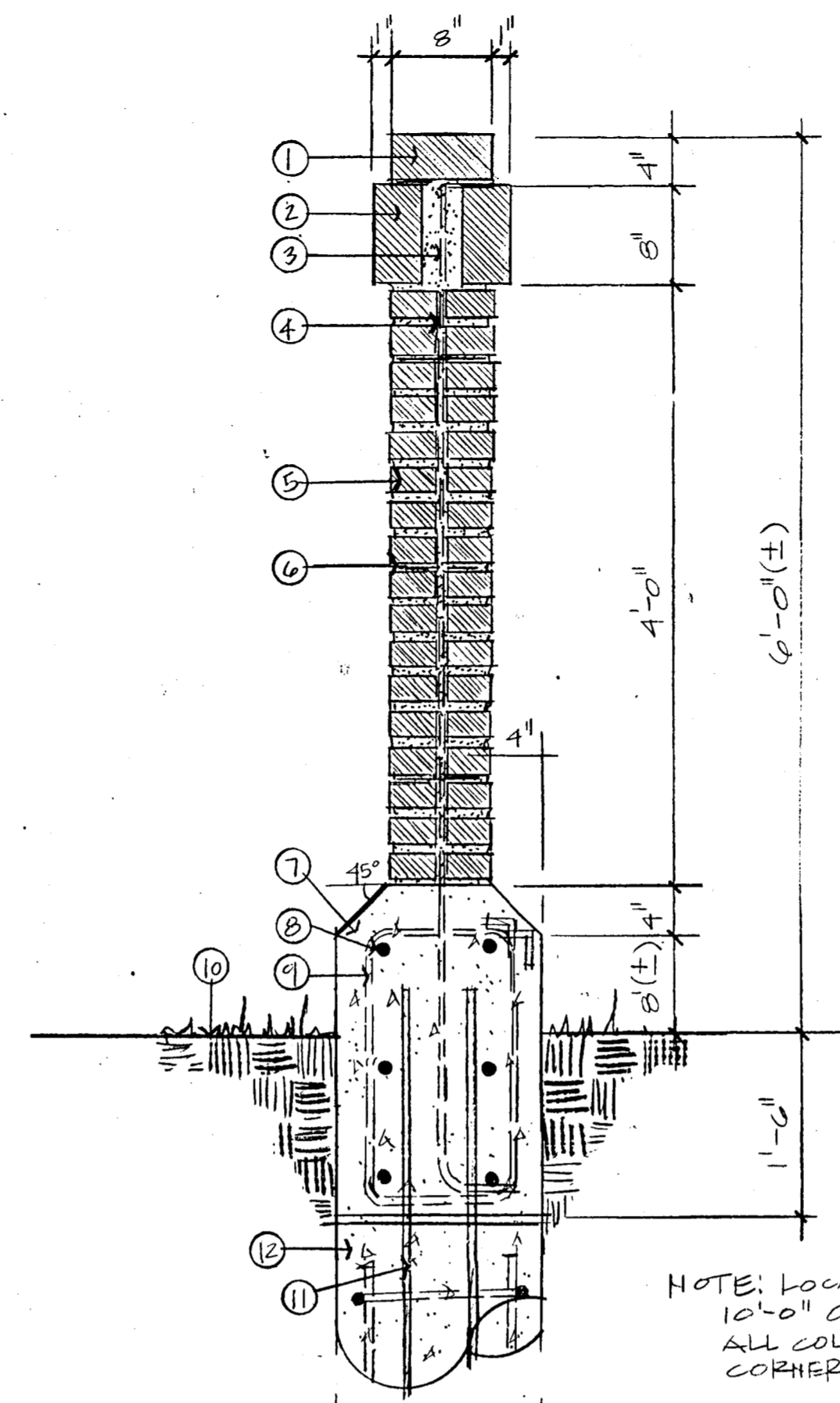


NOTE: BRICK SELECTED BY OWNER

- 1 BRICK CAP
- 2 BRICK WALL ELEVATION
- 3 EXPANSION JOINT (SEALED)
- 4 RUNNING BOND COURSE
- 5 GATE HINGE SET IN COLUMN TOP
- 6 CONCRETE FILL
- 7 1-#5 REBAR FROM FOOTING TO TOP OF COL.
- 8 #2 REBAR TIES 12" O.C.
- 9 CONCRETE BASE/FOOTING 16" X 16"
- 10 4-#4 REBAR 26" LONG VERT. @ EA. CORNER
- 11 #3 REBAR TIES 6" O.C.
- 12 FINISHED GRADE REF. GRADING
- 13 4-#5 X 3'-0" LONG DOVELS
- 14 CONG. PIER 16" Ø @ EA. PILASTER REF. 02/THIS SHEET

NOTE: ALL FOOTINGS TO BE REVIEWED BY A STRUCTURAL ENGINEER

01 BRICK COLUMN SECTION
SCALE: 1"=1'-0"

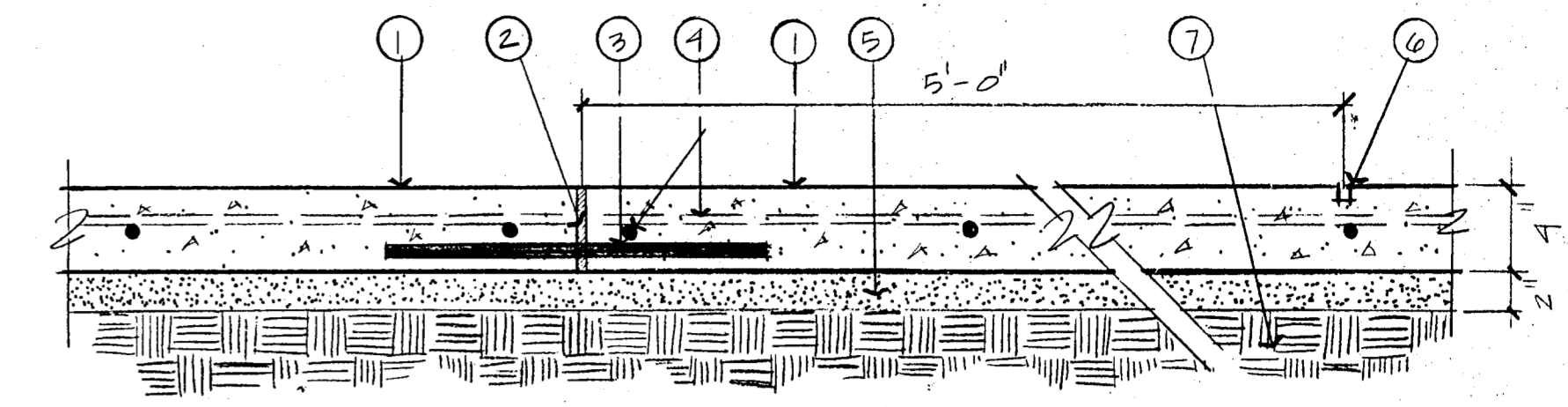


NOTE: BRICK SELECTED BY OWNER

- 1 ROWLOCK CAP
- 2 SOLDIER COURSE
- 3 MORTAR OR BRICK FILL
- 4 #3 REBAR 12" O.C. FROM FOOTING TO TOP OF WALL
- 5 RUNNING BOND COURSE
- 6 HEAVY DUTY WELDED MESH EVERY 6TH COURSE
- 7 CONCRETE BASE/FOOTING
- 8 6-#5 REBAR CONTINUOUS
- 9 #3 REBAR 16" O.C.
- 10 FINISHED GRADE REF. GRADING
- 11 1-#4 X 3'-0" LONG DOVELS
- 12 16" Ø CONG. PIER 2'-0" INTO ROCK

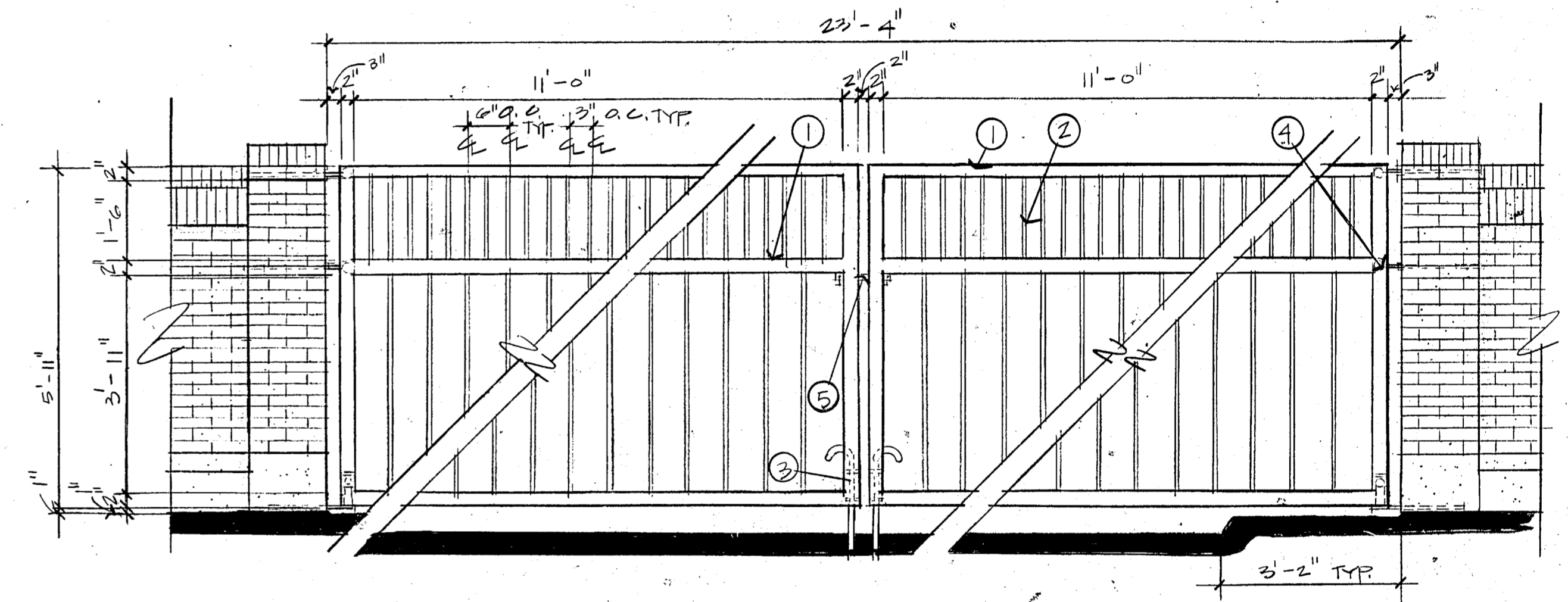
NOTE: WALL EXPANSION JOINTS 10'-0" O.C. EQUAL DISTANCE BETWEEN PIERS AND AT ALL CORNERS (SEALED) (IN WALL ONLY)

02 BRICK WALL SECTION
SCALE: 1"=1'-0"



- 1 ROUGH BROOM FINISH
- 2 1/4" THICK FIBER EXPANSION JOINT 15'-0" O.C.
- 3 (3)-1/2" Ø SMOOTH PAVEL 18" LENGTH CAPPED 20" O.C.
- 4 #3 REBAR 18" O.C. BOTH WAYS
- 5 2" SAND BED
- 6 1/4" DEPTH SAW CUT CONTROL JOINTS 5'-0" O.C.
- 7 COMPACTED SUBGRADE

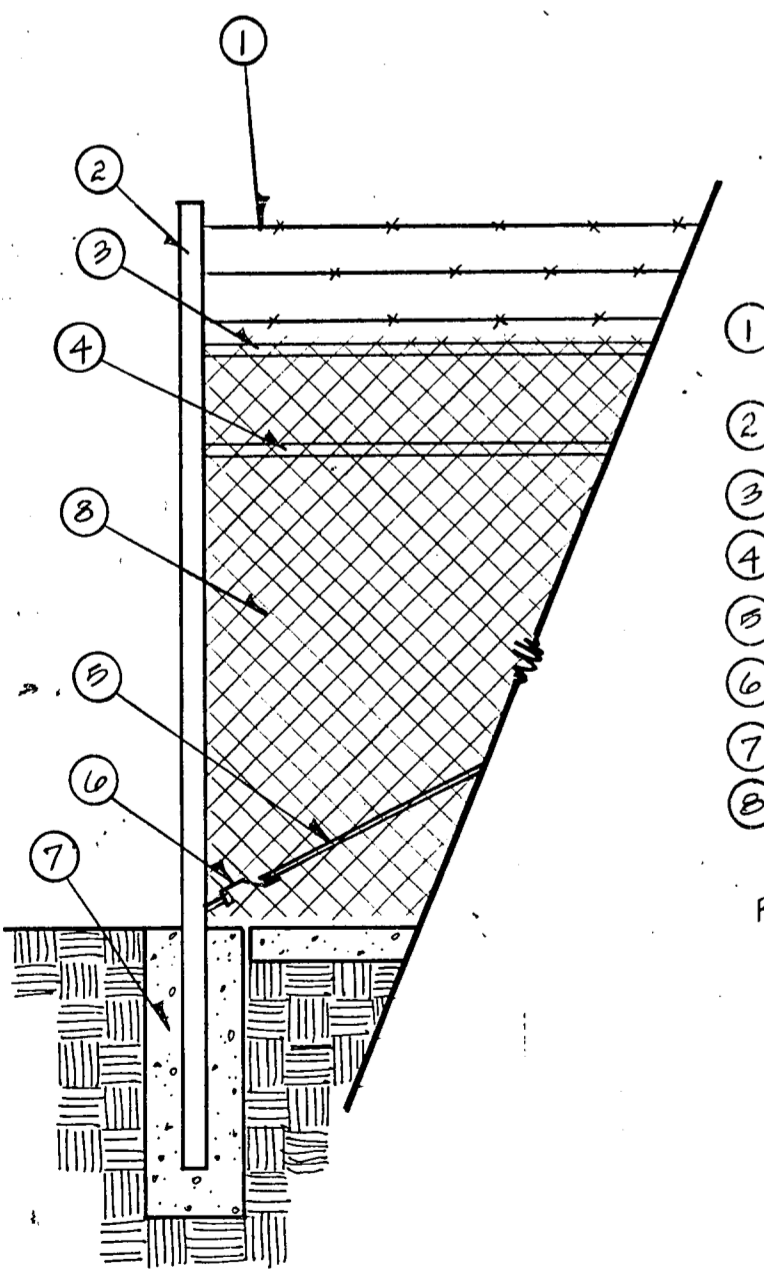
03 CONCRETE WALK SECTION
SCALE: 1 1/2"=1'-0"



- 1 2" X 2" SQUARE WROUGHT IRON W/ 10 GAUGE WALLS
- 2 1" X 1" SQUARE WROUGHT IRON W/ 16 GAUGE WALLS
- 3 CANE BOLT
- 4 GATE HINGE SET IN COLUMN
- 5 GATE LATCH

NOTE: 1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR LATCH, HINGES, CANE BOLT AND METHODS OF FABRICATION FOR FINAL APPROVAL BY OWNER
2. GATE DESIGN SHOWN BY IRON CRAFT STUDIO INC. #16126 CONTRACTOR TO GUARANTEE STRUCTURAL STABILITY OF GATE, HINGES, SUPPORT & FUNCTIONING

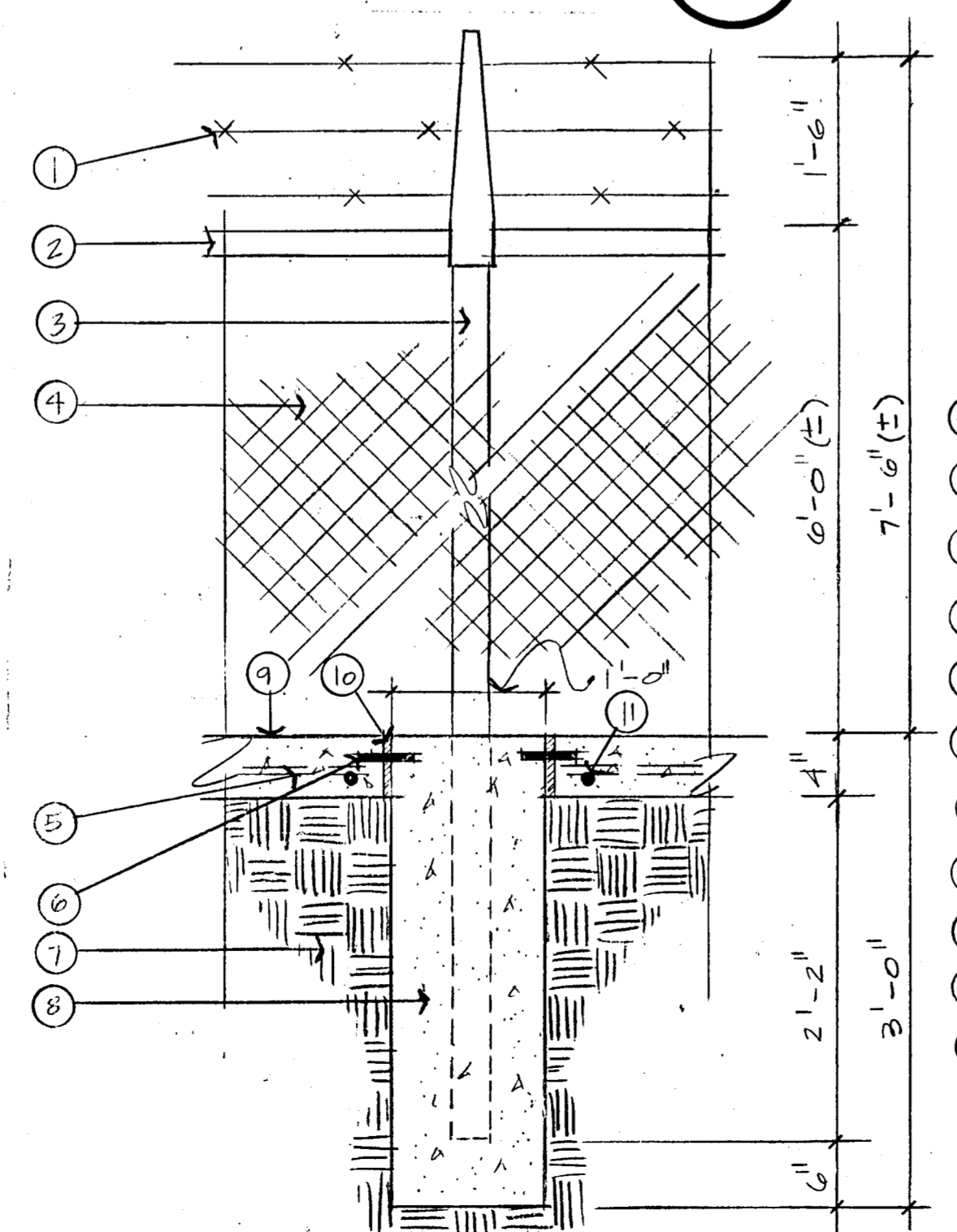
04 GATE ELEVATION
SCALE: 1/2"=1'-0"



- 1 THREE STRANDED ALUMINUM COATED BARS WIRE
- 2 TERMINAL POST
- 3 BLACK PVC COATED TOP RAIL
- 4 BLACK PVC COATED BARB RAIL
- 5 BLACK PVC COATED TENSILE ROD
- 6 TENSILE TIGHTENER
- 7 12" X 12" X 3'-0" CONCRETE FOOTING
- 8 BLACK PVC COATED CHAIN LINK FENCE, 9 GAUGE

REF 06/20 FOR DETAILS & DIMENSIONS

05 TERMINAL POST
SCALE: 1/2"=1'-0"



- 1 ALUMINUM COATED BARBED WIRE
- 2 GALVANIZED TOP RAIL PIPE W/ BLACK PVC COATING
- 3 GALVANIZED POST W/ BLACK PVC COATING 9'-0" O.C.
- 4 BLACK PVC COATED CHAIN LINK FENCE 9 GAUGE
- 5 2-#3 REBAR CONTINUOUS
- 6 2-1/2" Ø SMOOTH DOVEL 4" LENGTH CAPPED 6" O.C.
- 7 COMPACTED SUBGRADE
- 8 12" X 12" X 3'-0" CONG. FOOTING
- 9 12" X 4" DEEP CONG. MON STRIP W/ BROOM FINISH
- 10 1/4" THICK FIBER EXPANSION JOINT 2' AT EVERY POST
- 11 #3 REBAR 6" LONG 18" O.C.

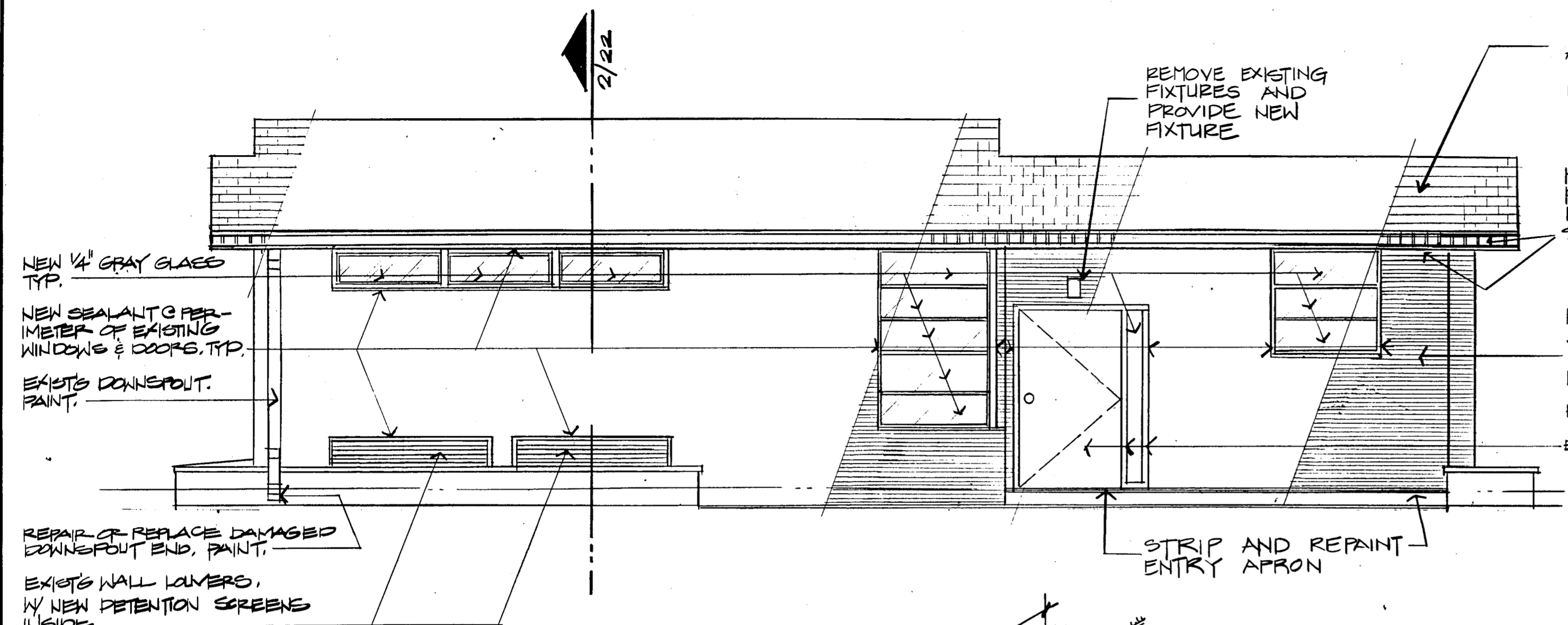
ALL FOOTINGS TO BE REVIEWED BY STRUCTURAL ENGINEER

06 FENCE POST FOOTING
SCALE: 1"=1'-0"

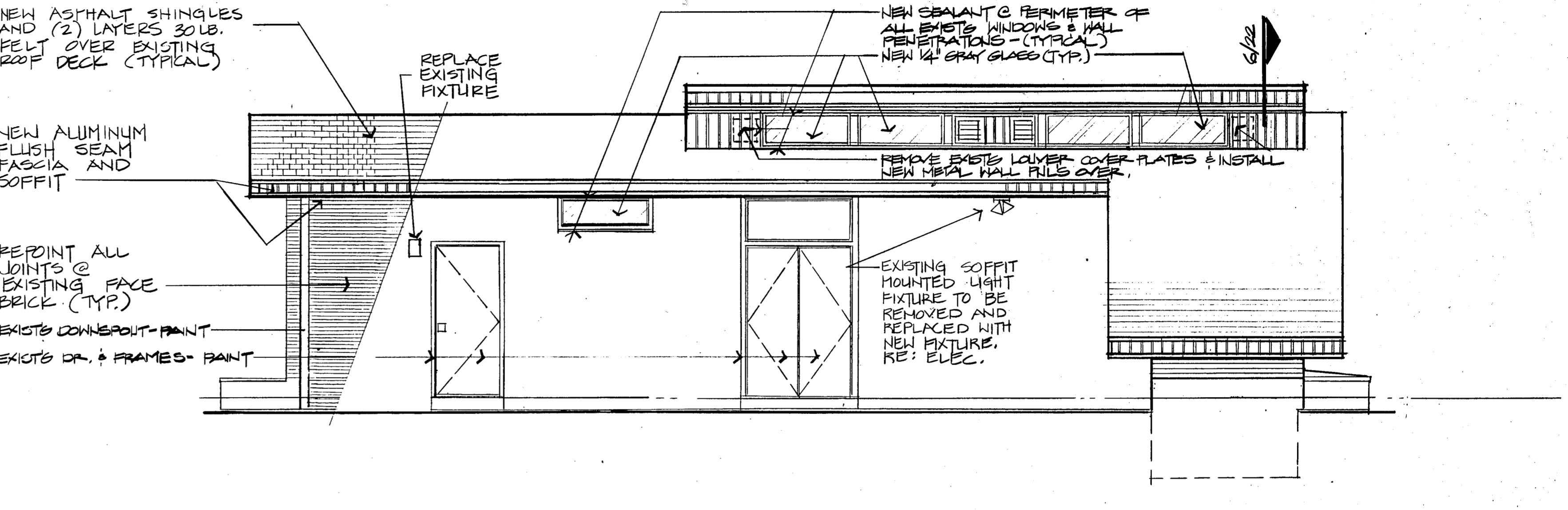


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BELTWOOD RESERVOIR EXPANSION		
DETAILS		
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS		
Turner Collie & Braden Inc.		
DESIGN DRAWN	CONTRACT NO. 89-79	SHEET NO. 20
TRACED	FILE NO. 630 Q 700 F	OF 44
CHECKED		
DATE		

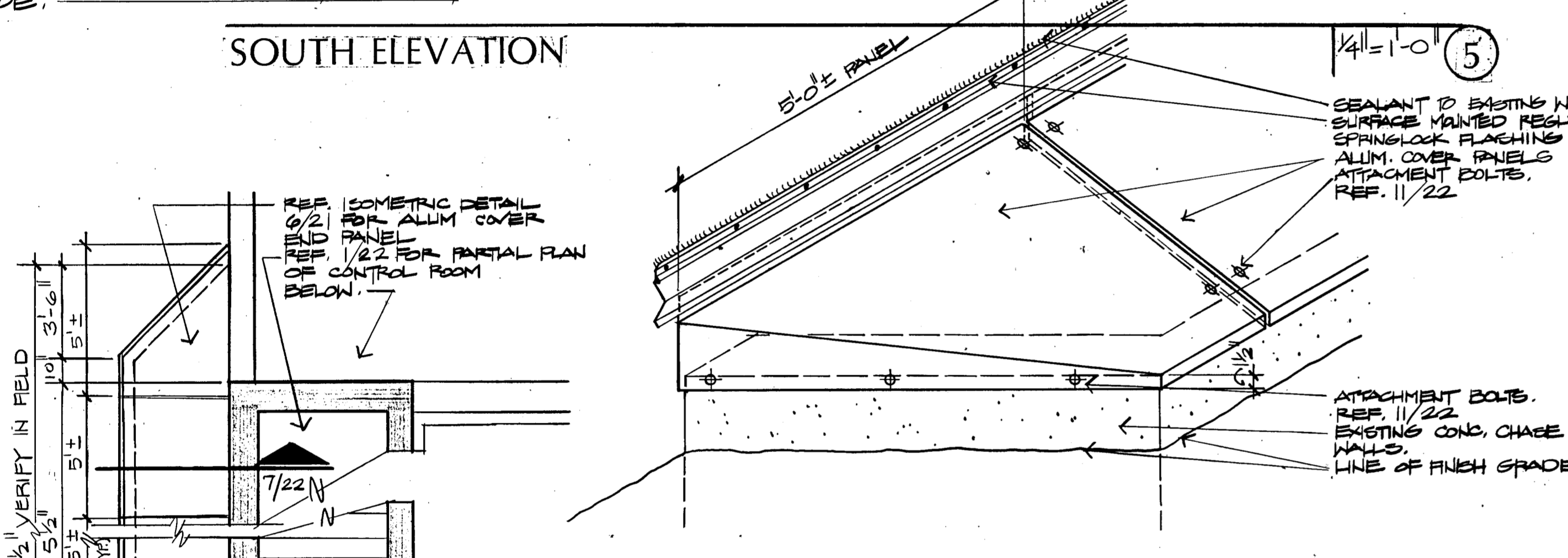


SOUTH ELEVATION

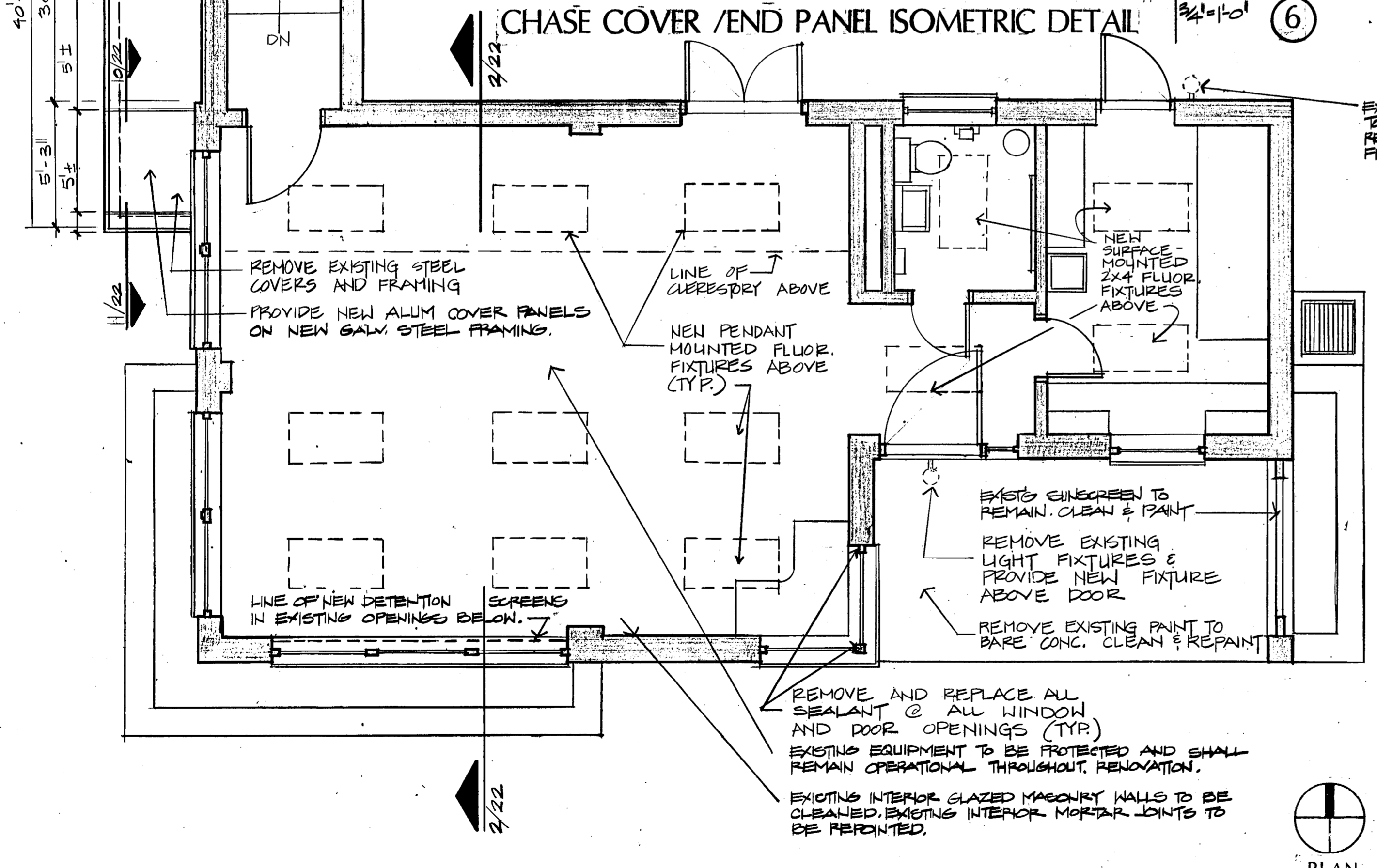


NORTH ELEVATION

- REPOINTING NOTES:**
1. REPAIR EXIST. MASONRY AS REQ'D. REPLACE EXIST. DAMAGED W/ NEW IF REQ'D.
 2. RAKE OUT EXIST. MORTAR TO MIN. DEPTH OF 1/2" BY HAND OR POWER TOOLS W/O DAMAGING MASONRY.
 3. CLEAN & REMOVE LOOSE MATERIAL FROM JTS. W/ WATER OR AIR.
 4. APPLY NEW MORTAR IN THIN LAYERS. FINISH W/ TOOLED CONCAVE JT.
 5. CLEAN & REMOVE EXCESS MORTAR, SMears & DROPPINGS.
 6. REFER ALSO TO SECTION 4500 MASONRY RESTORATION & CLEANING.

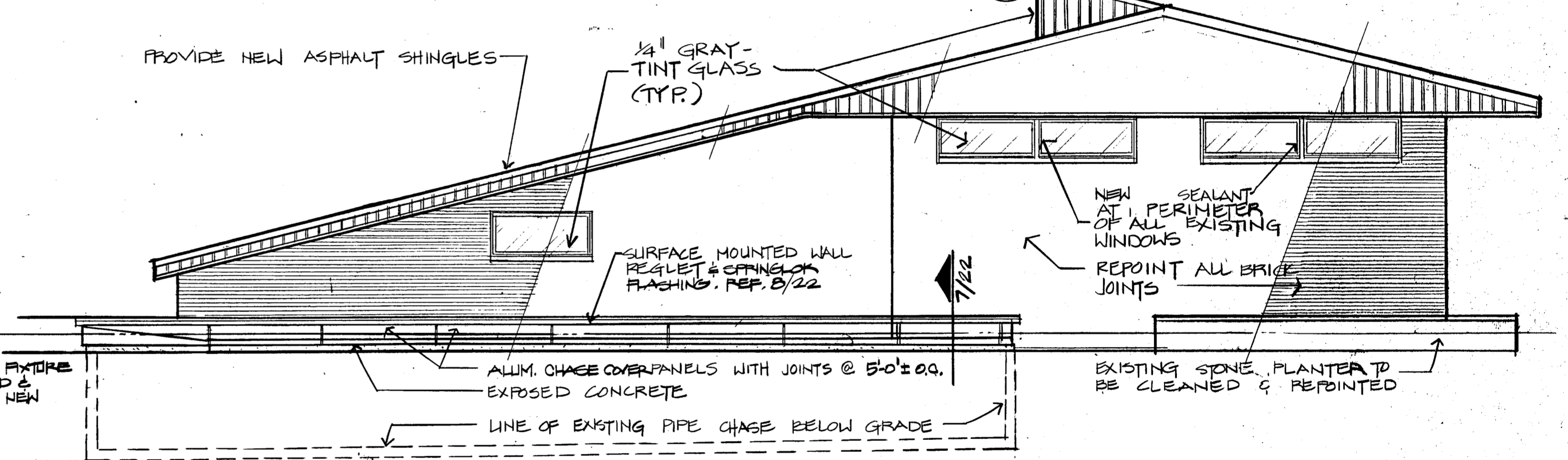


CHASE COVER / END PANEL ISOMETRIC DETAIL

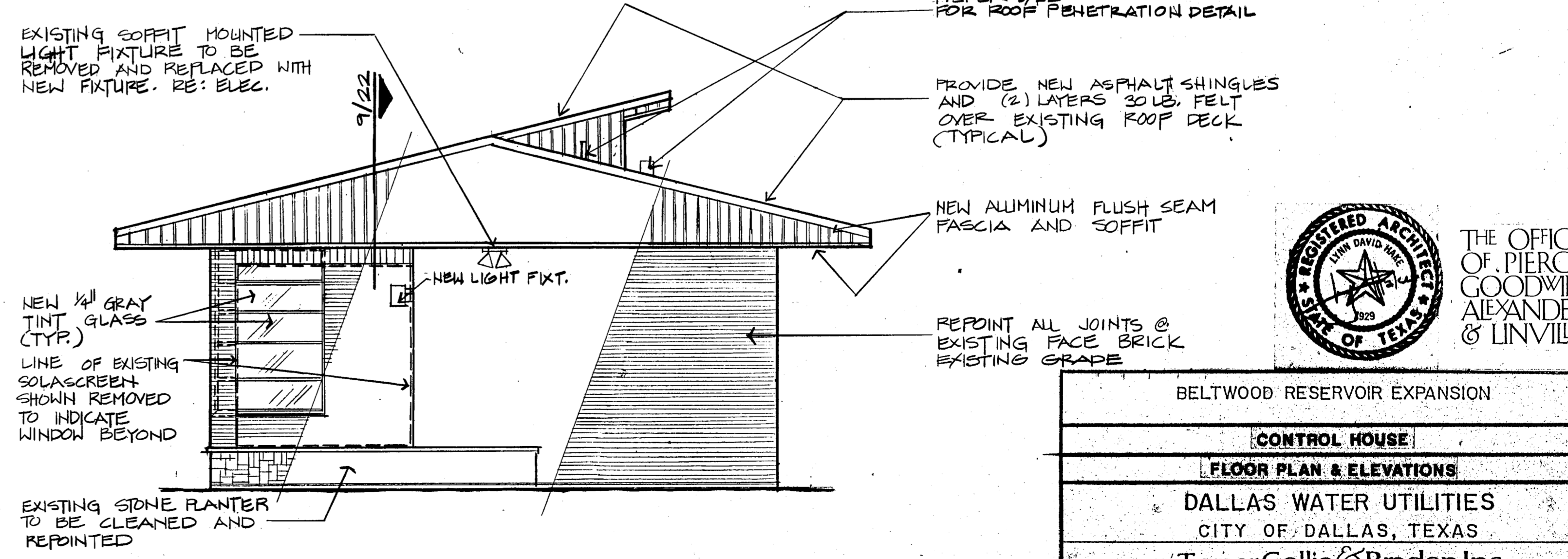


FLOOR PLAN

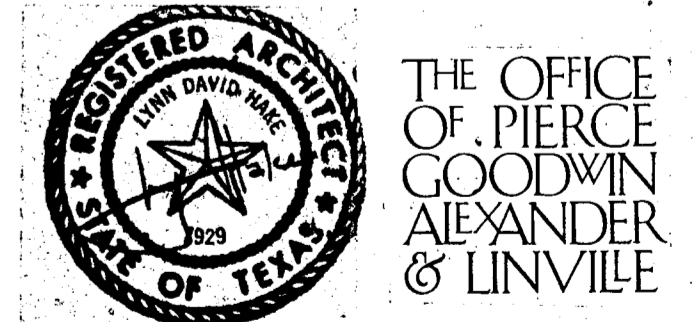
PLAN NORTH



WEST ELEVATION

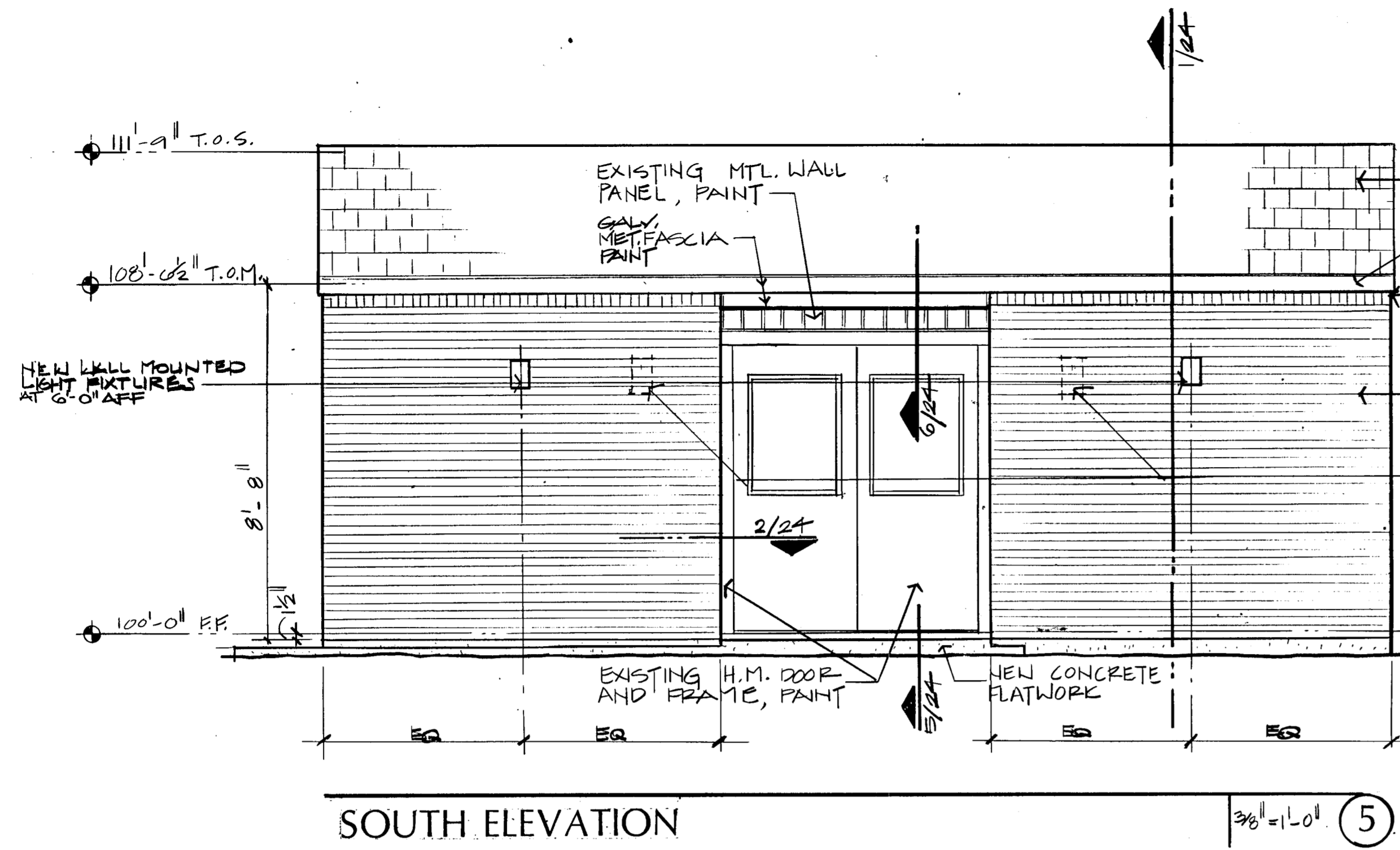


EAST ELEV.



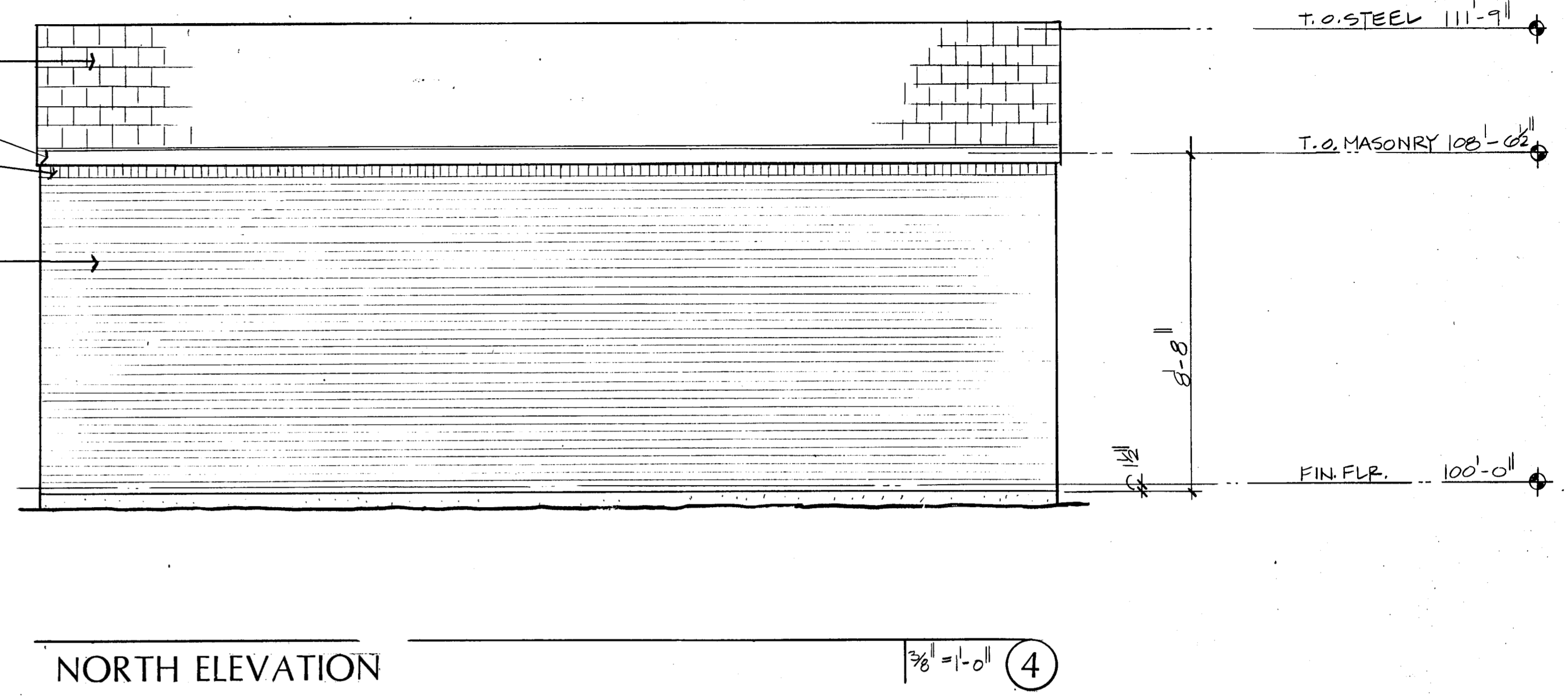
BELTWOOD RESERVOIR EXPANSION		
CONTROL HOUSE		
FLOOR PLAN & ELEVATIONS		
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS		
Turner Collie & Braden Inc.		
DESIGN	CONTRACT NO.	SHEET NO.
DRAWN	89-79	21
TRACED	FILE NO.	630 Q 700 F
CHECKED		OF 44
DATE		

NO.	DATE	REVISION	APPROVED



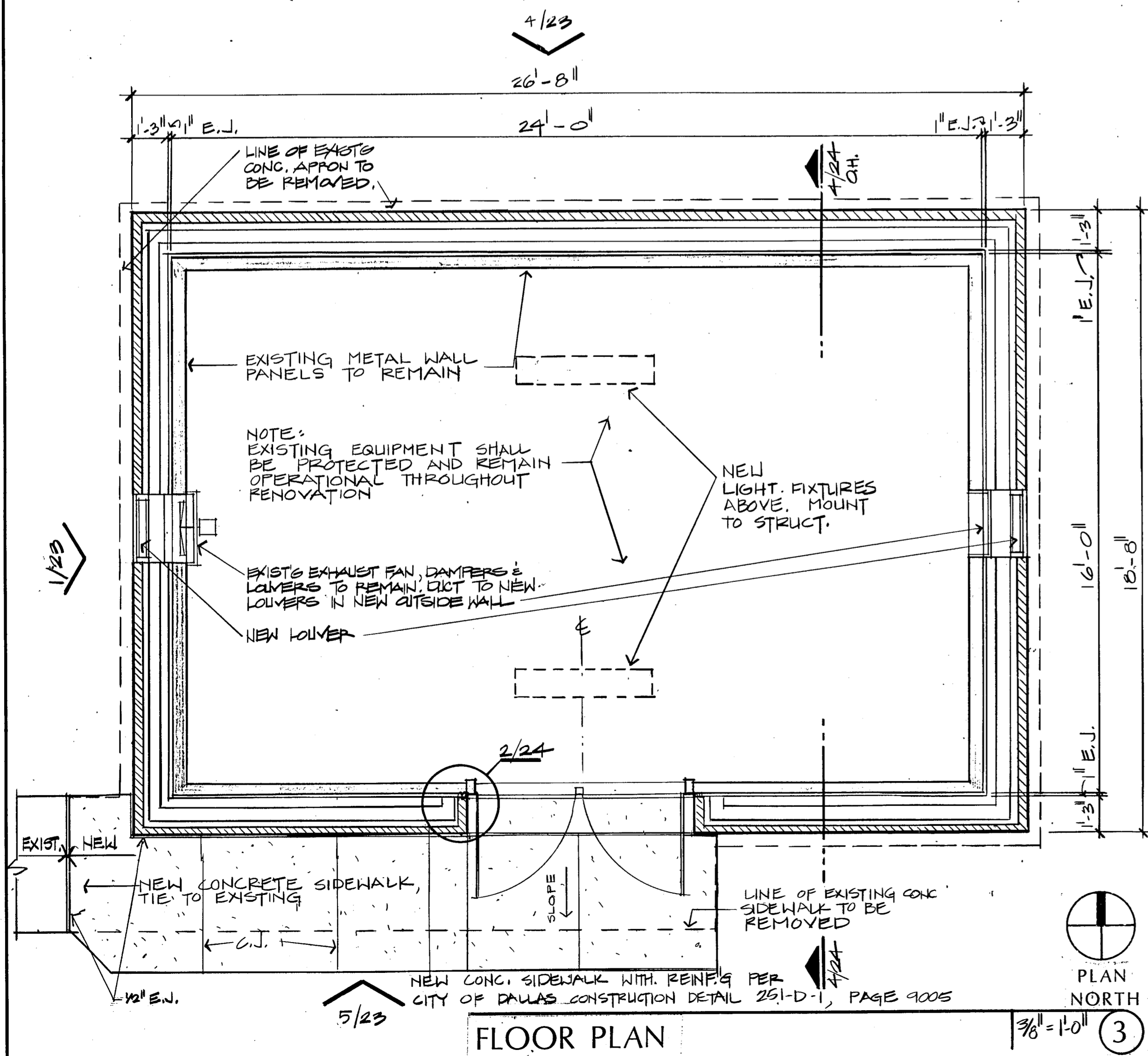
SOUTH ELEVATION

3/8" = 1'-0" (5)



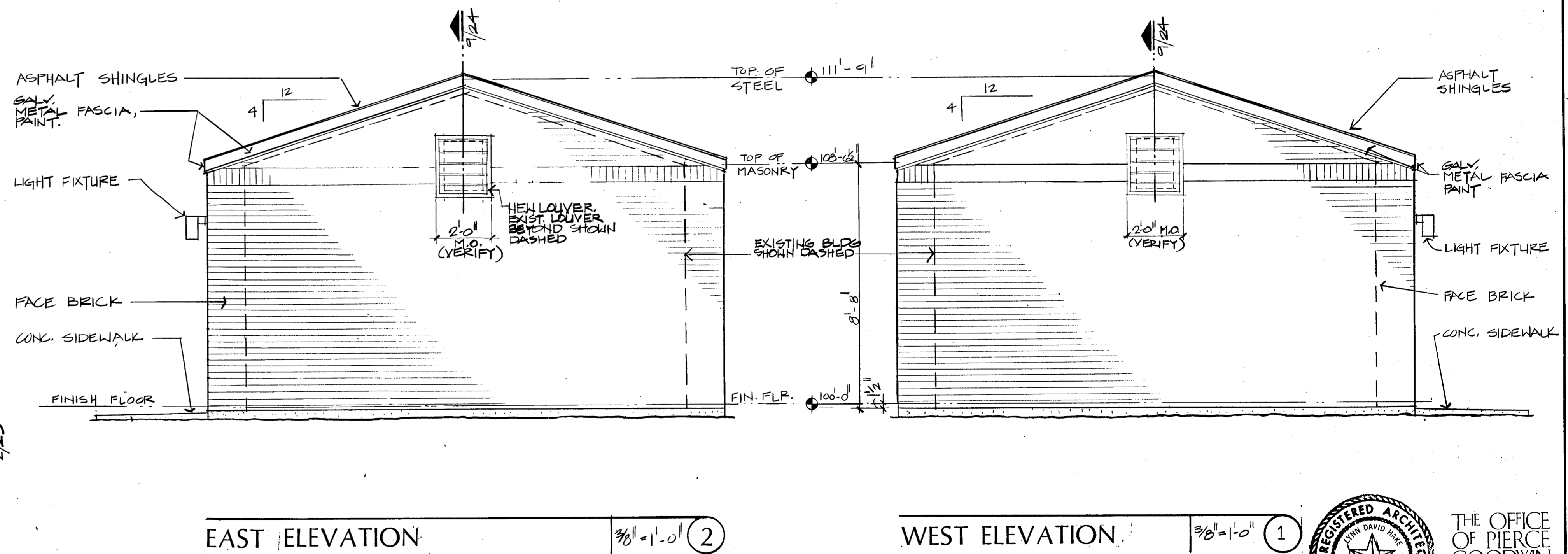
NORTH ELEVATION

3/8" = 1'-0" (4)



FLOOR PLAN

3/8" = 1'-0" (3)



EAST ELEVATION

3/8" = 1'-0" (2)

WEST ELEVATION

3/8" = 1'-0" (1)

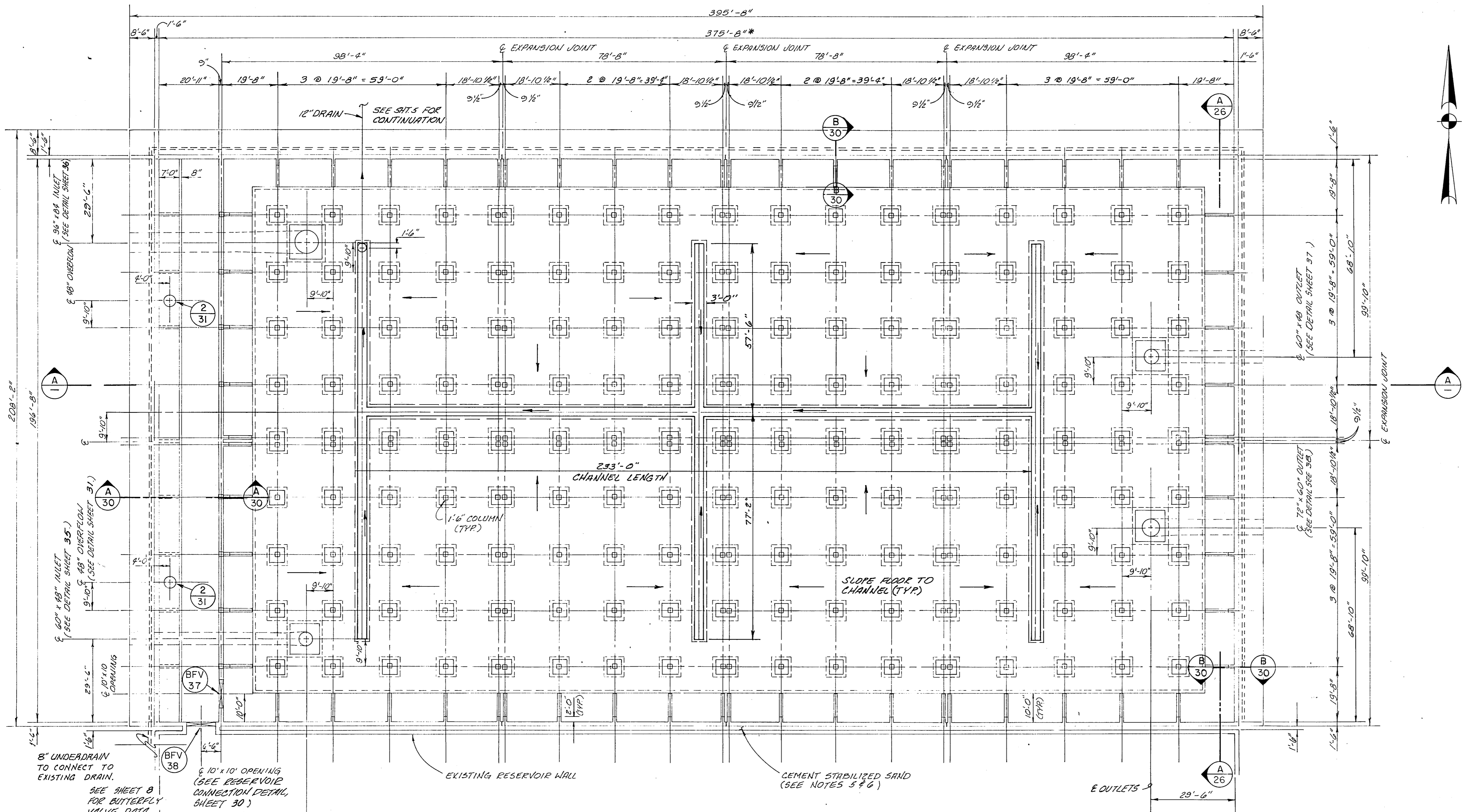


THE OFFICE OF
PIERCE
GOODWIN
ALEXANDER
& LINVILLE

BELTWOOD RESERVOIR EXPANSION	
ELECTRICAL SWITCHGEAR HOUSE	
FLOOR PLAN & ELEVATIONS	
DALLAS WATER UTILITIES	
CITY OF DALLAS, TEXAS	
TurnerCollie & Braden Inc.	
DESIGN	CONTRACT NO. 89-79
DRAWN	FILE NO. 630 Q 700 F
TRACED	SHEET NO. 23
CHECKED	OF 44
DATE	

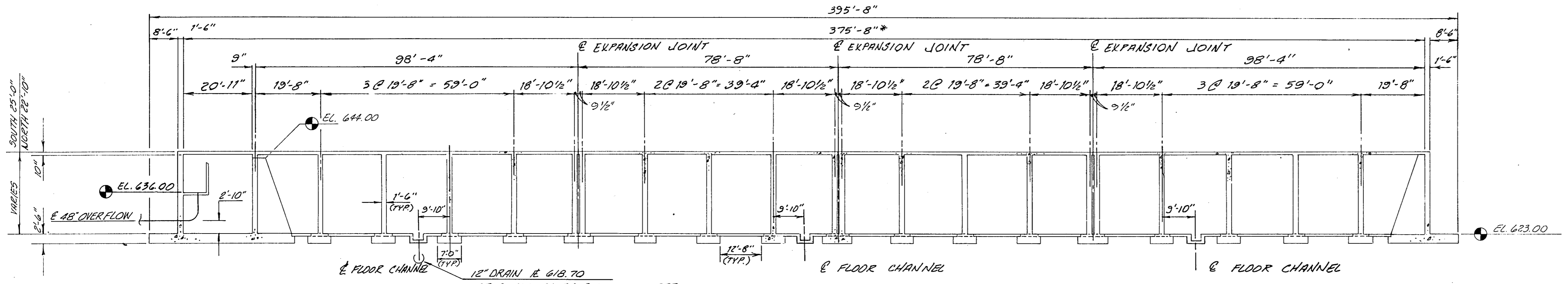
NO.	DATE	REVISION	APPROVED

- NOTES:
1. FOR STANDARD DETAILS AND STRUCTURAL NOTES, SEE SHEET 34 OF 44.
 2. EXCAVATE WITHIN LIMITS OF PROPOSED RESERVOIR TO ROCK. EXCAVATED AREAS TO BE REPLACED WITH SELECT FILL PER SPECIFICATIONS.
 3. CONTRACTOR TO COORDINATE WITH OWNER THE PERIOD OF TIME IN WHICH EXISTING RESERVOIR WILL BE OUT OF SERVICE.
 4. 1" EXPANSION JOINT ACROSS ROOF SLAB AND VERTICAL WALLS.
 5. REMOVE EXIST. SOIL ALONG THE ENTIRE LENGTH AND DEPTH BETWEEN EXISTING & PROPOSED RESERVOIR & PLACE CEMENT STABILIZED SAND.
 6. THE BEAM AGAINST THE EXISTING RESERVOIR MAY BE REMOVED TO ELEVATION 643.00 WITHOUT DRAINING THE RESERVOIR.



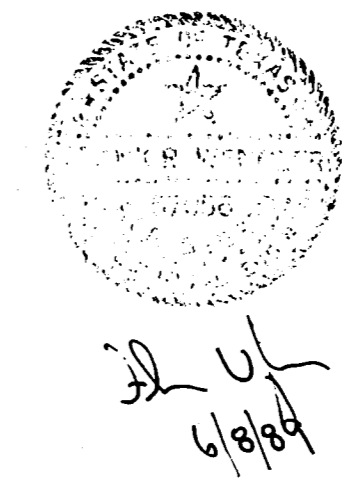
FLOOR LAYOUT
SCALE: 1" = 20'

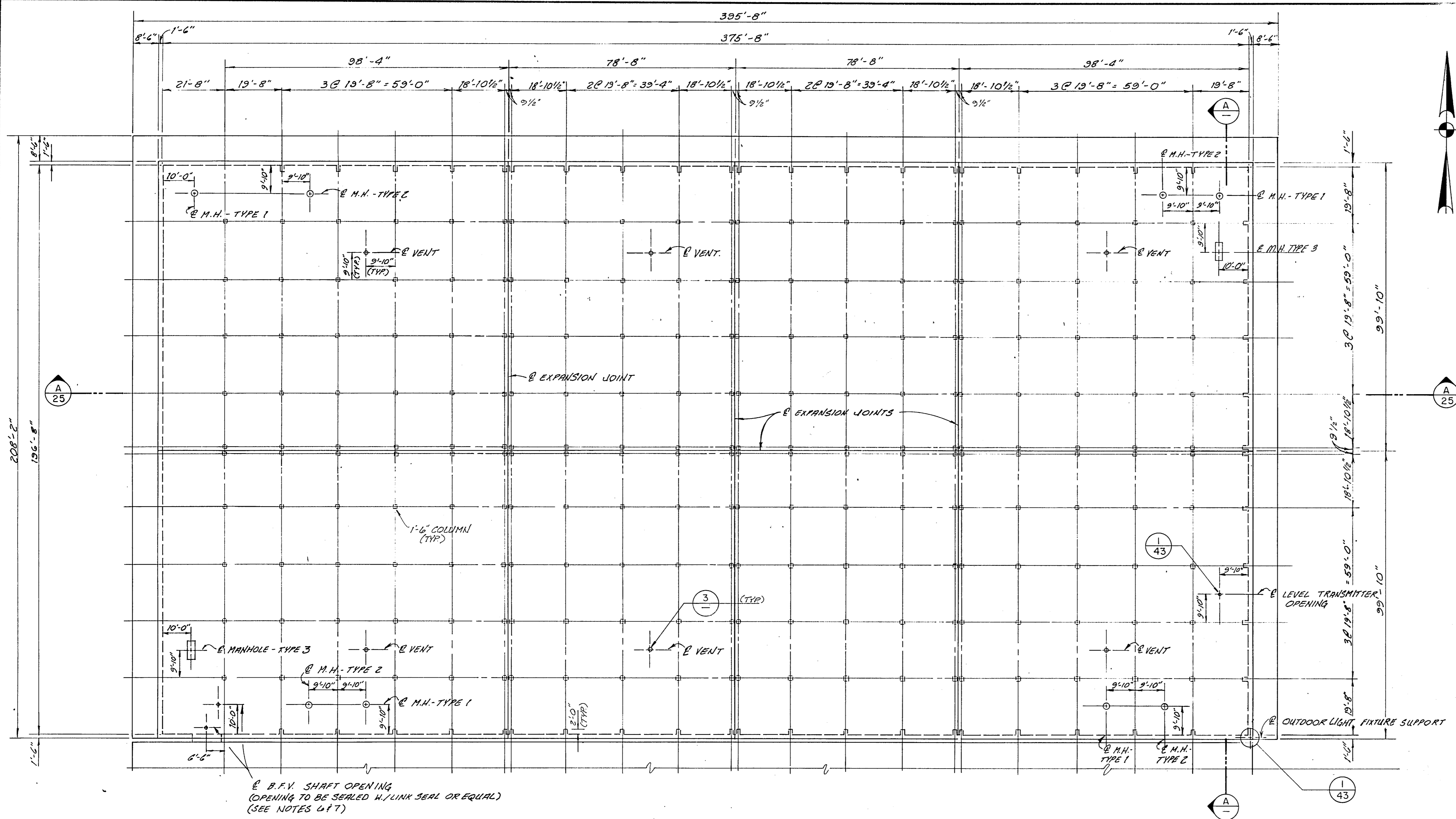
* 375'-8" MATCHES ASSUMED FACE TO FACE DIMENSION OF EXISTING RESERVOIR. CONTRACTOR TO CONSTRUCT PROPOSED RESERVOIR SO INSIDE FACES OF EAST AND WEST WALLS ARE ALIGNED.



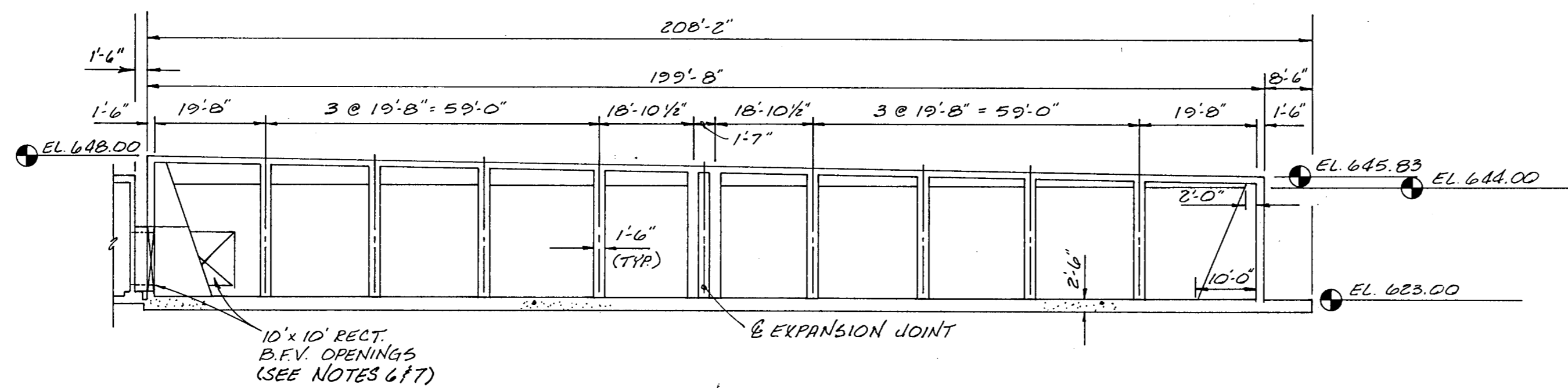
SECTION A-A
SCALE: 1" = 20'

NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION RESERVOIR FLOOR LAYOUT			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS TurnerCollie & Braden Inc.			
DESIGN	FRW	CONTRACT NO.	SHEET NO.
DRAWN	C.A.	89-79	25
TRACED		FILE NO.	630 Q 700 F
CHECKED			OF 44
DATE	5/89		





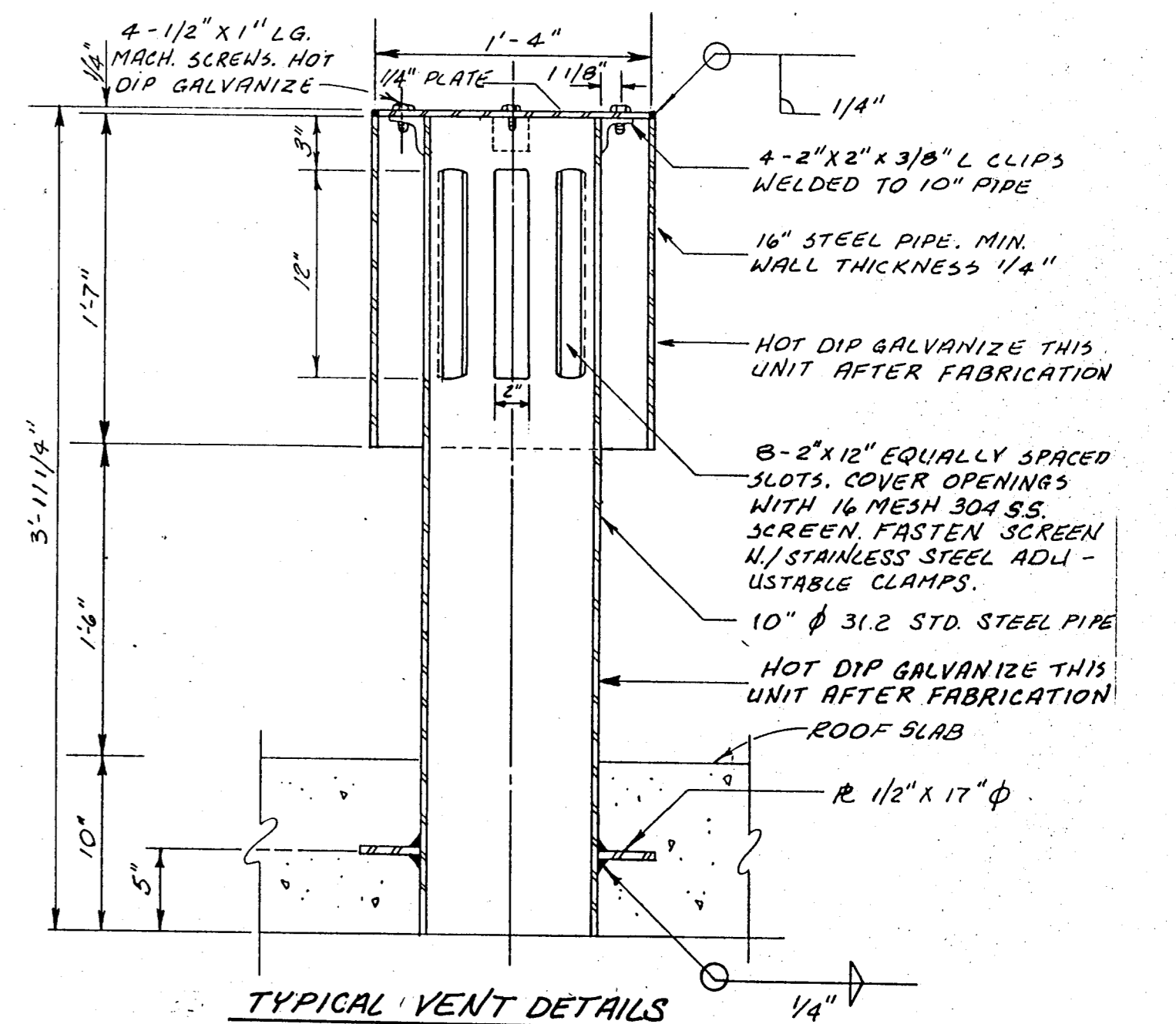
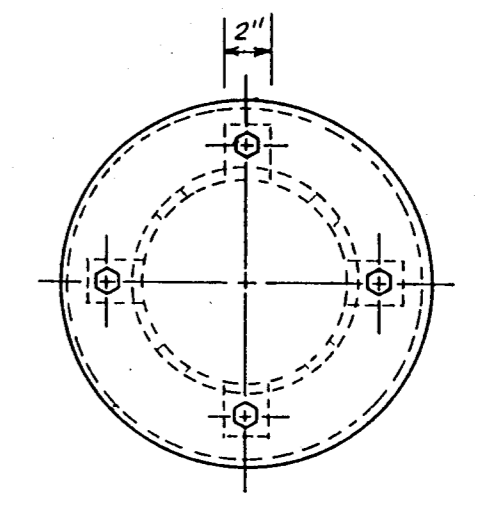
ROOF LAYOUT
SCALE: 1"=20'



SECTION
SCALE: 1"=20'

MANHOLE TABLE					
TYPE	SHAPE	OPENING DIMENSIONS	SEAL	HATCH TYPE	MANHOLE TYPE
1	ROUND	24" Ø	RUBBER GASKET	BOLTED LID	NEENAH R-646-6L OR EQUAL
2	ROUND	6 1/2" Ø	RUBBER GASKET	BOLTED LID	NEENAH R-644-AL OR EQUAL
3	RECTANGULAR	29" X 71"	RUBBER GASKET	BUTT HINGE	NEENAH R-645-MP OR EQUAL

- NOTES:
- FOR STANDARD DETAILS AND STRUCTURAL NOTES, SEE SHEET 34 OF 44.
 - EXCAVATE WITHIN LIMITS OF PROPOSED RESERVOIR TO ROCK. EXCAVATED AREAS TO BE REPLACED WITH SELECT FILL PER SPECIFICATIONS.
 - CONTRACTOR TO COORDINATE WITH OWNER THE PERIOD OF TIME IN WHICH EXISTING RESERVOIR WILL BE OUT OF SERVICE.
 - 1" EXPANSION JOINT ACROSS ROOF SLAB AND VERTICAL WALLS.
 - CEMENT STABILIZED SAND TO BE PLACED BETWEEN EXISTING AND PROPOSED RESERVOIR.
 - INSTALL 10' X 10' RECTANGULAR BUTTERFLY VALVE IN ACCORDANCE WITH SPECIFICATION ITEM "RECTANGULAR BUTTERFLY VALVES" AND MANUFACTURER'S INSTRUCTIONS.
 - PAINT 10' X 10' RECTANGULAR BUTTERFLY VALVES IN ACCORDANCE WITH SPECIFICATION ITEM "RECTANGULAR BUTTERFLY VALVES"
 - EXTENSION STEMS & APPURTENANCES FOR VALVE OPERATORS SHALL BE TYPE 18-8, 304 STAINLESS STEEL.



TYPICAL VENT DETAILS
N.T.S.
DETAIL 3



BELTWOOD RESERVOIR EXPANSION
RESERVOIR ROOF LAYOUT

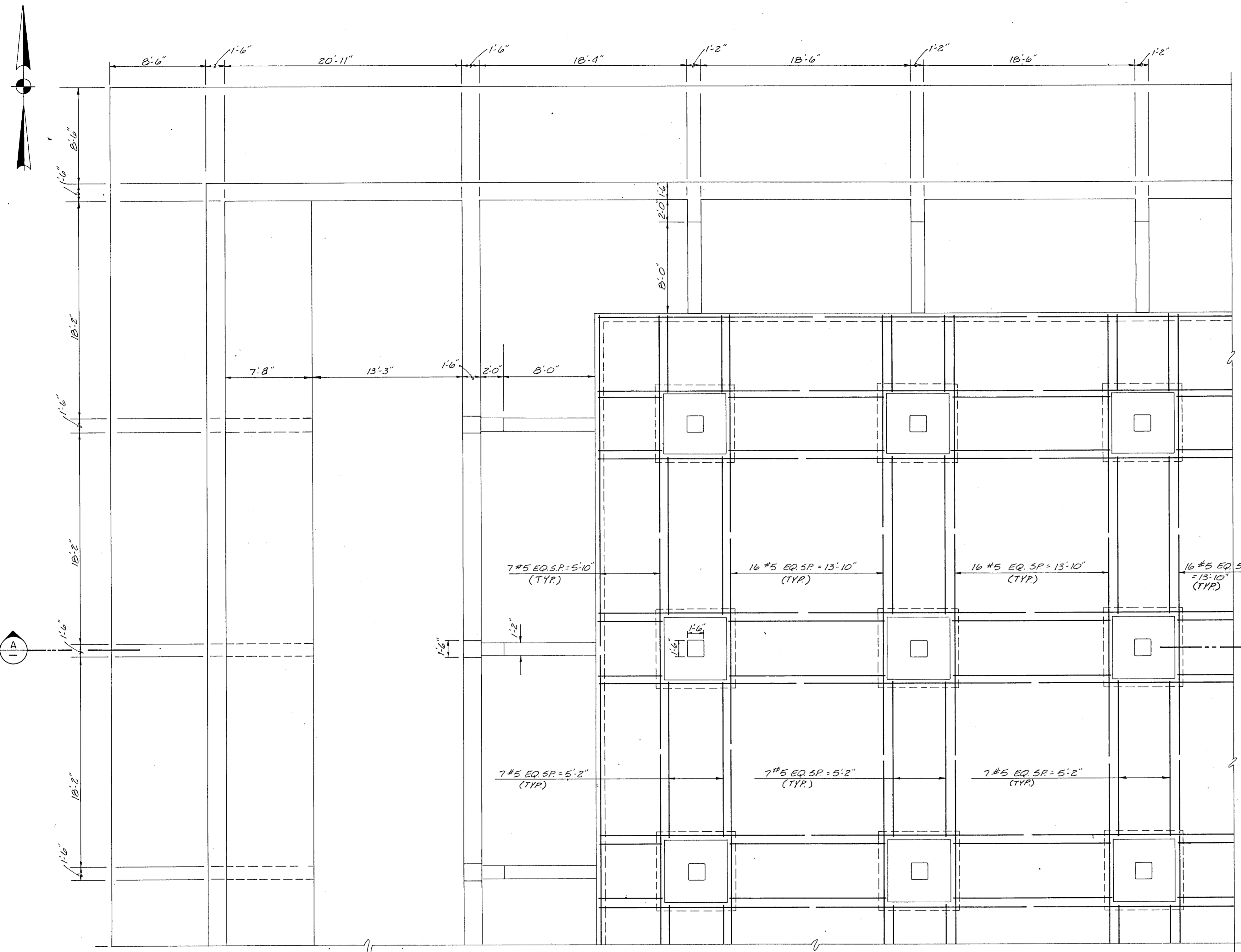
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

TurnerCollie & Braden Inc.

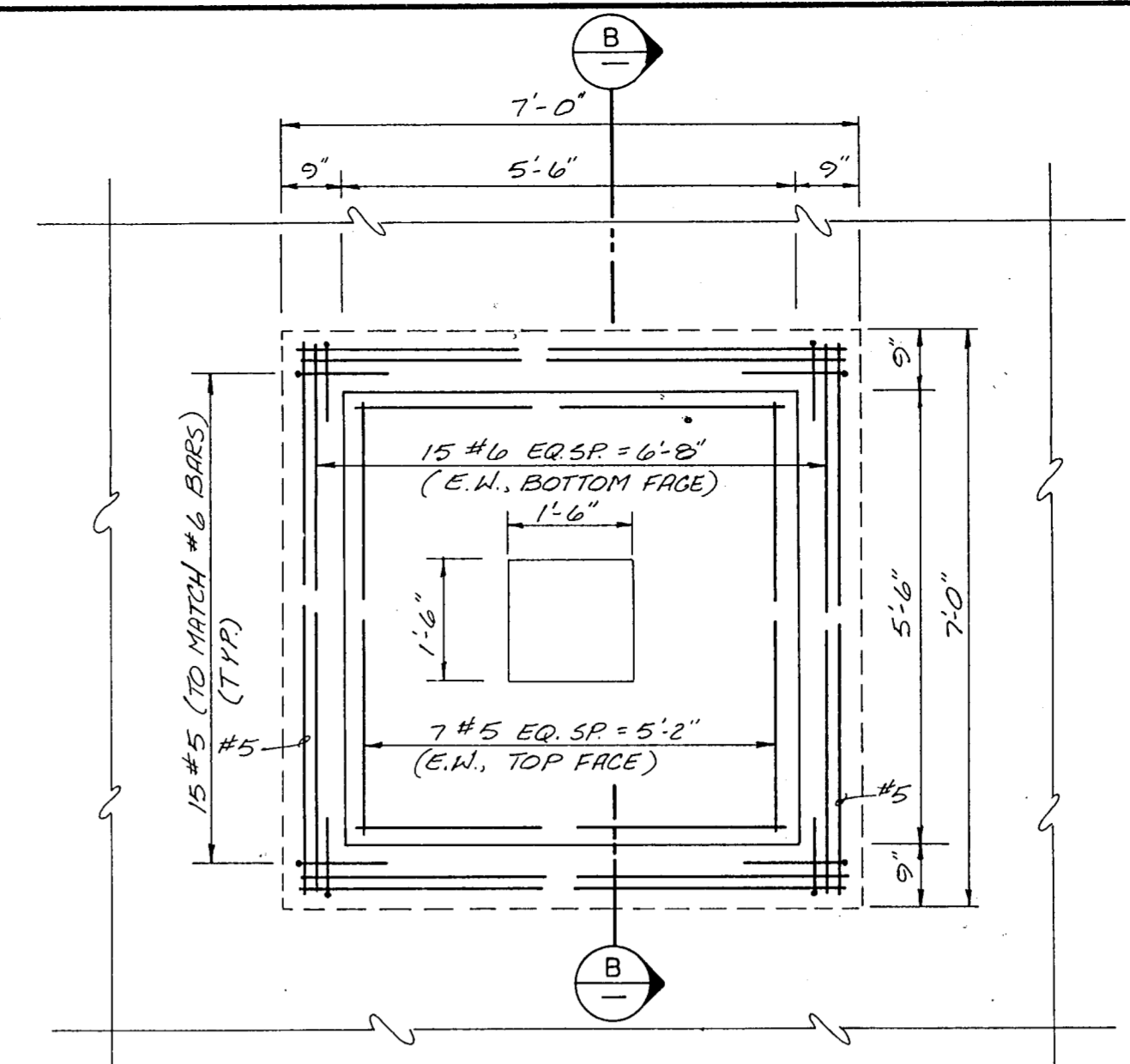
DESIGN: F.R.W.
DRAWN: G.A.
TRACED:
CHECKED:
DATE: 5/89

CONTRACT NO. 89-79
FILE NO. 630 Q 700 F

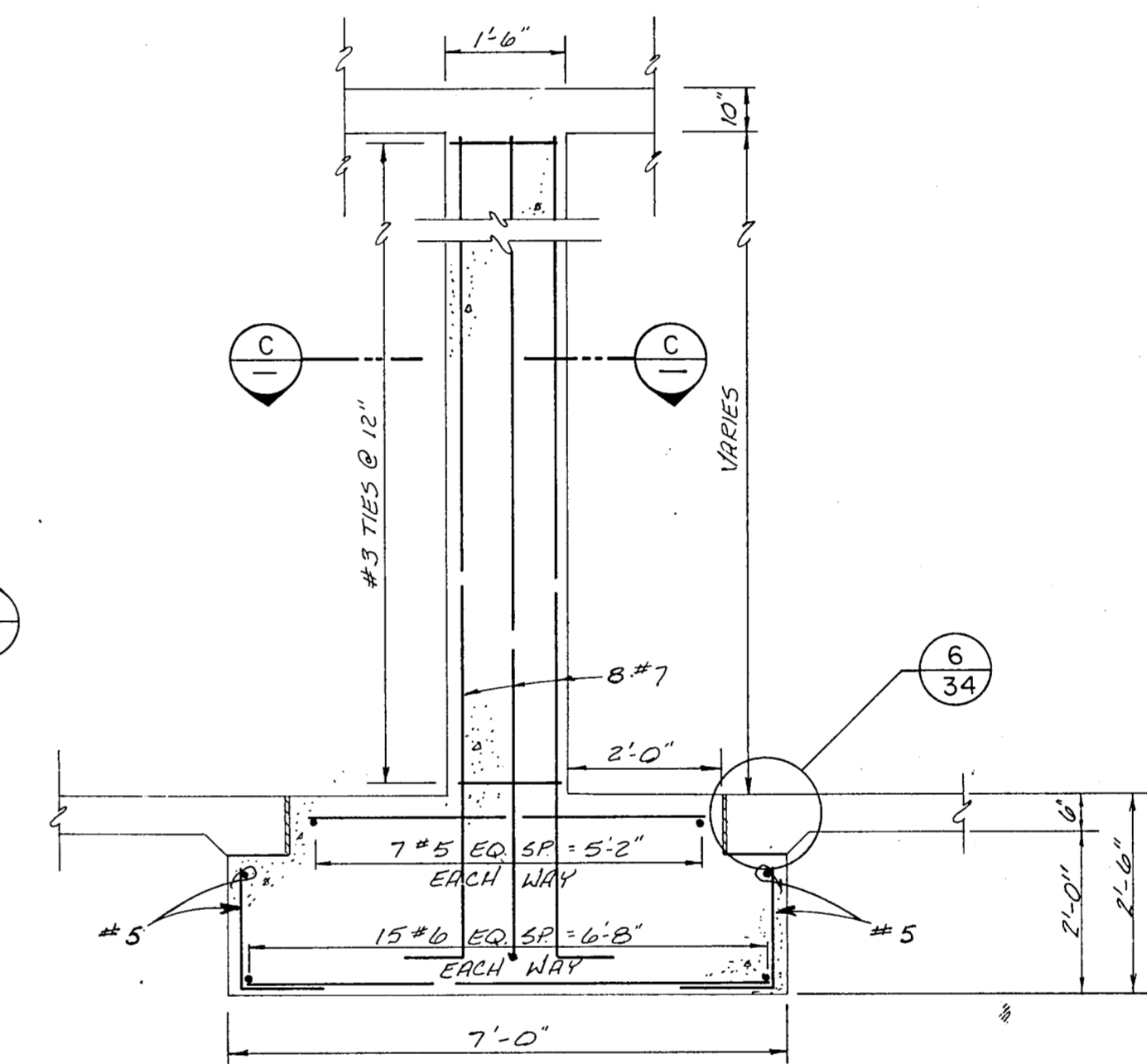
SHEET NO. 26
OF 44



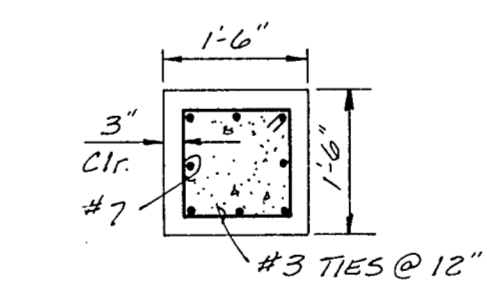
**FOUNDATION PLAN
NORTHWEST CORNER**
SCALE: 3/16"=1'-0"



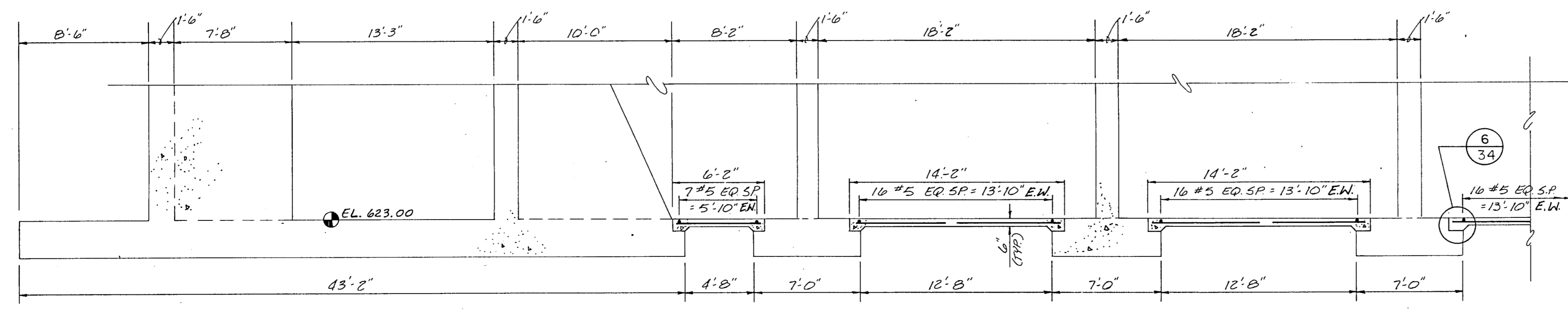
**PLAN
SINGLE COLUMN FOOTING**
SCALE: 1/2"=1'-0"



SECTION B-B
SCALE: 1/2"=1'-0"

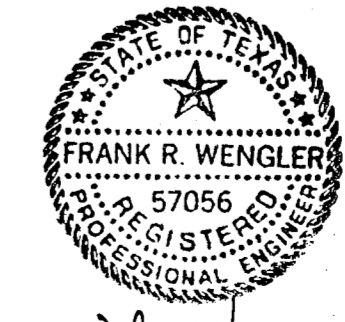


SECTION C-C
SCALE: 1/2"=1'-0"



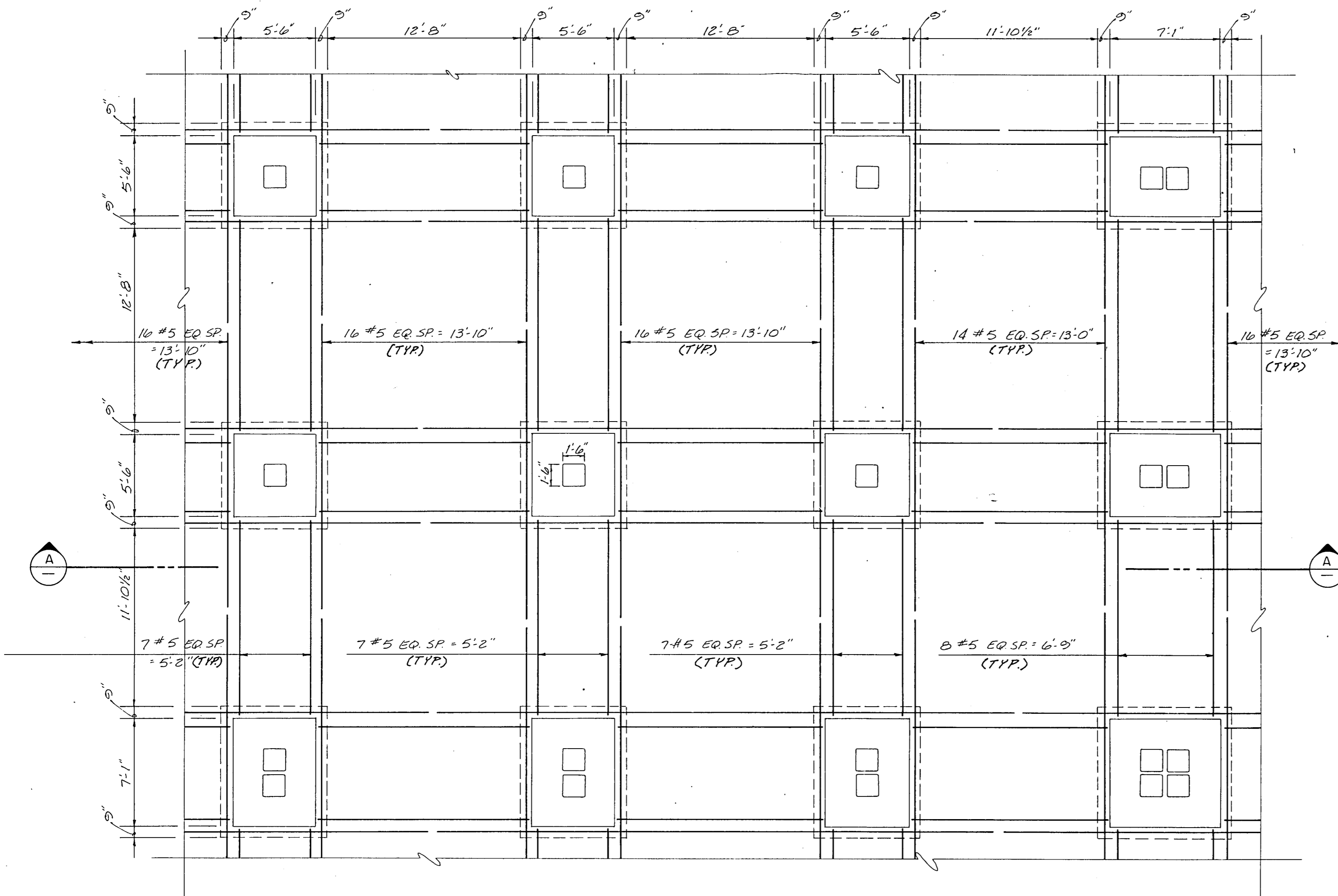
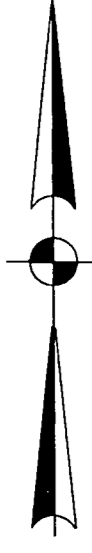
SECTION A-A
SCALE: 3/16"=1'-0"

- NOTES:
1. FOR STRUCTURAL NOTES AND DETAILS, SEE SHEET 34 OF 44.
 2. WALL AND ROOF SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY.
 3. STEEL REINFORCEMENT LAP LENGTHS AS SHOWN IN DETAIL 1 ON SHEET 34 OF 44.
 4. ALL HOOKS SHOWN TO BE STANDARD A.C.I. HOOKS.
 5. EXCAVATE WITHIN LIMITS OF PROPOSED RESERVOIR TO ROCK. EXCAVATED AREAS TO BE REPLACED WITH SELECT FILL PER SPECIFICATIONS.
 6. DRAWINGS ARE NOT SHOWN FOR CLARITY SEE SHEET 25 OF 44 FOR FLOOR SLAB PENETRATION LOCATIONS.

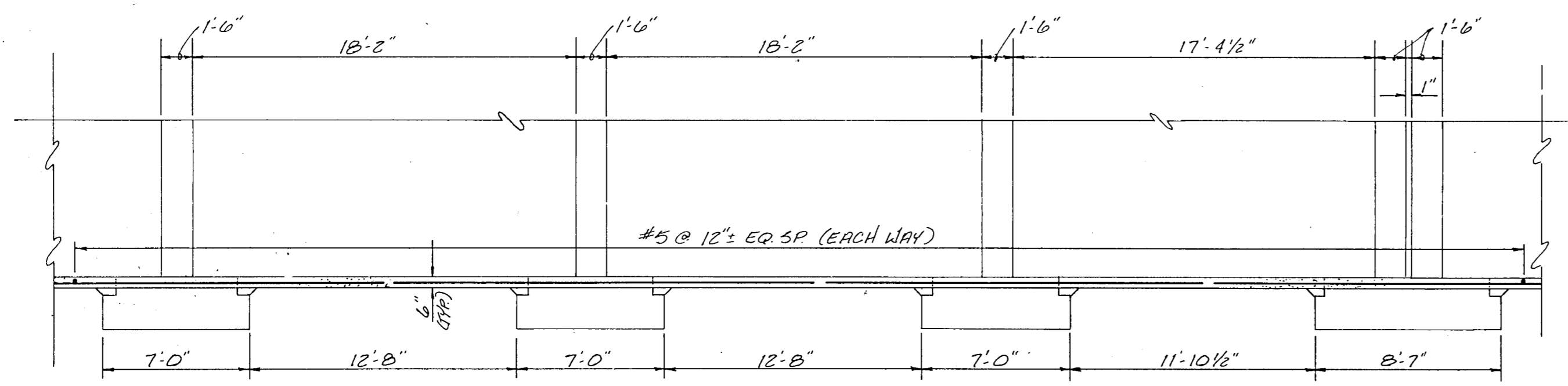


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6/8/89

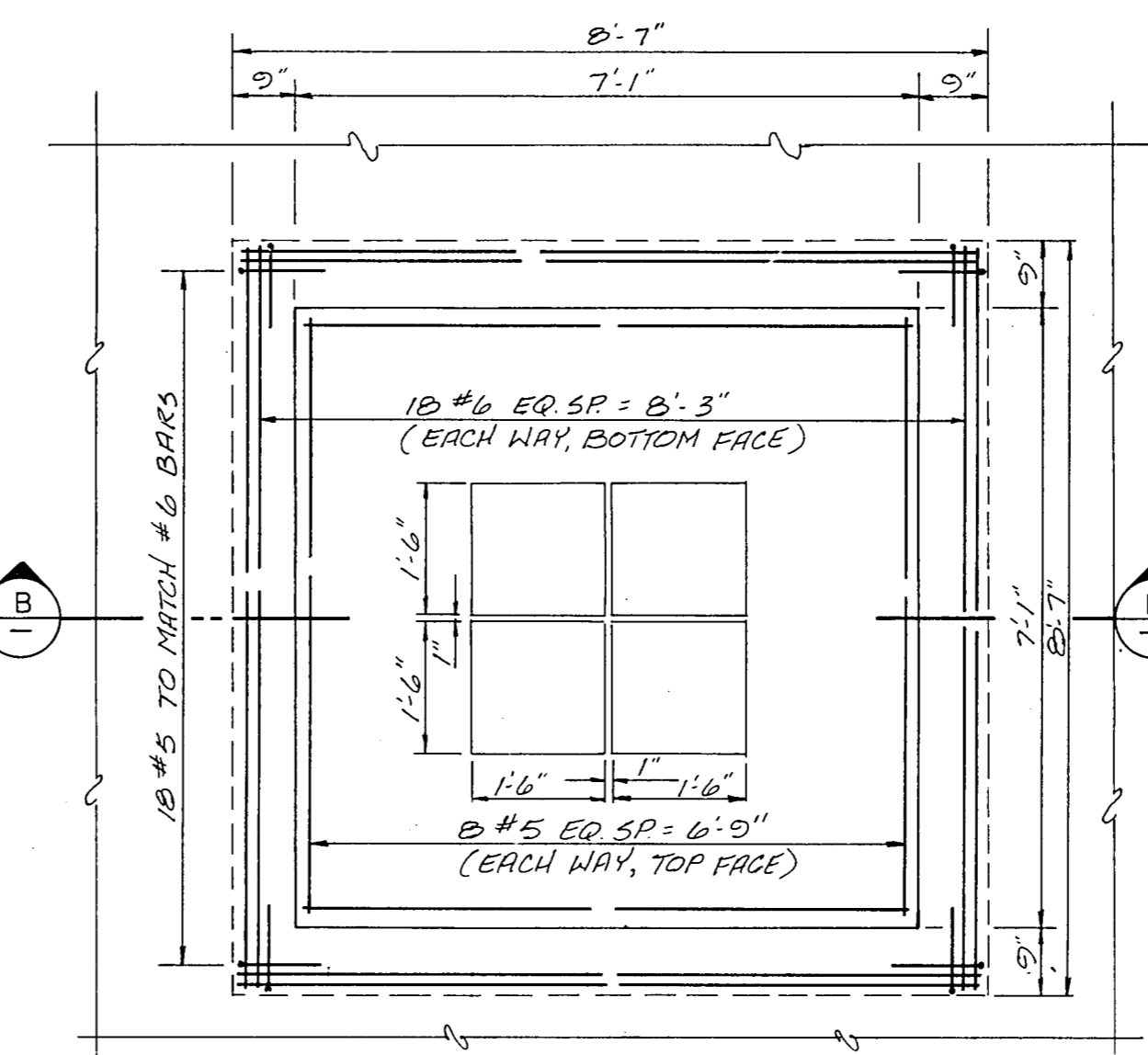
NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
RESERVOIR FOUNDATION PLAN			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collier & Braden Inc.			
DESIGN	F.R.W.	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/789		
		SHEET NO.	27
		OF	44



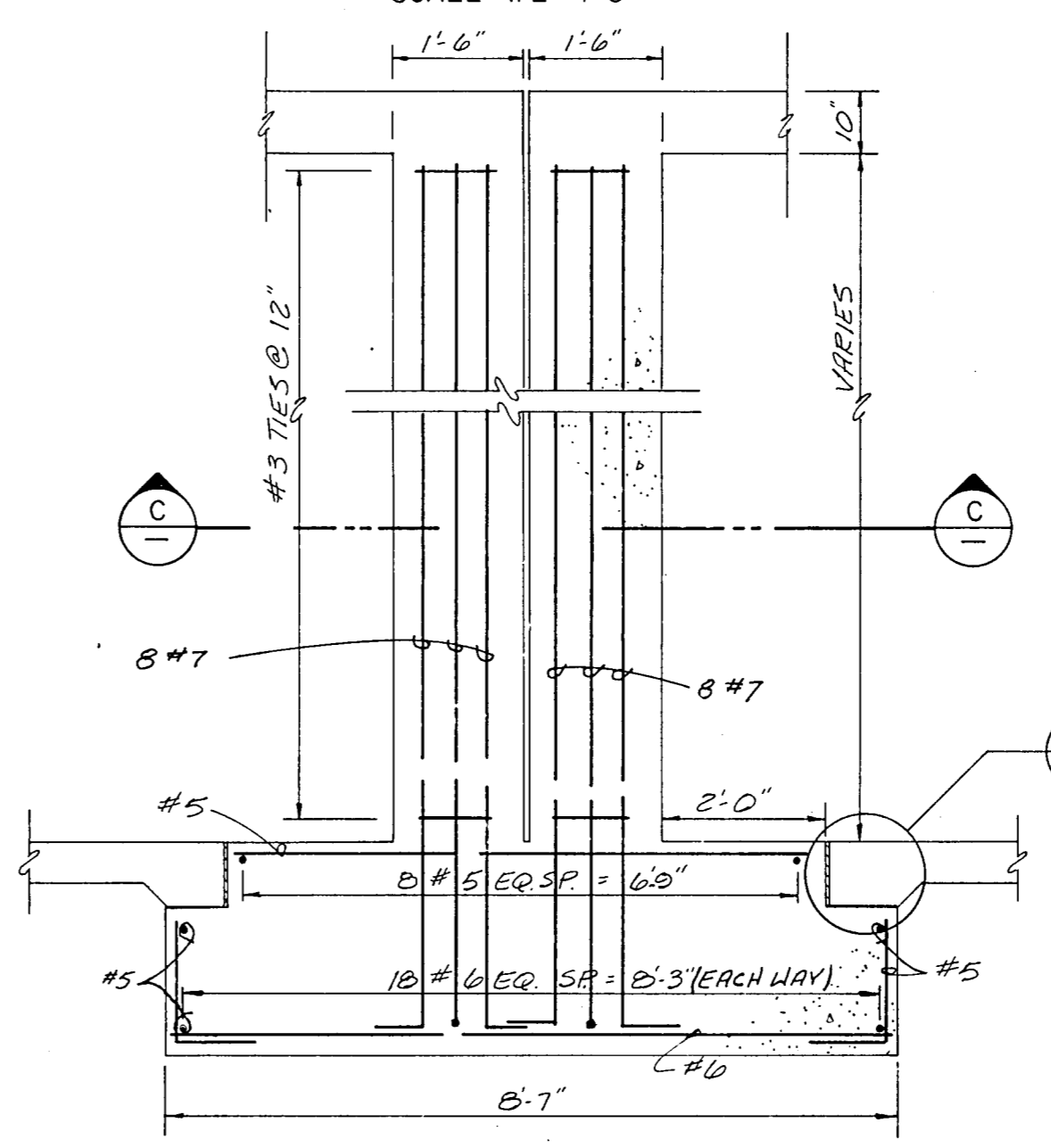
FOUNDATION PLAN
INTERIOR BAYS NEAR EXPANSION JOINTS
SCALE: 3/16"=1'-0"



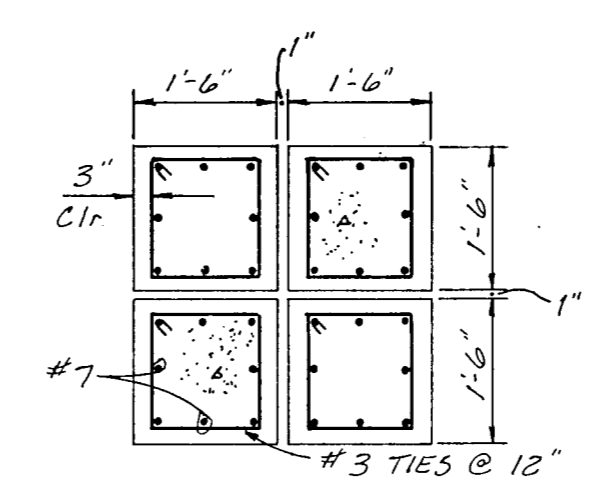
SECTION A
SCALE: 3/16"=1'-0"



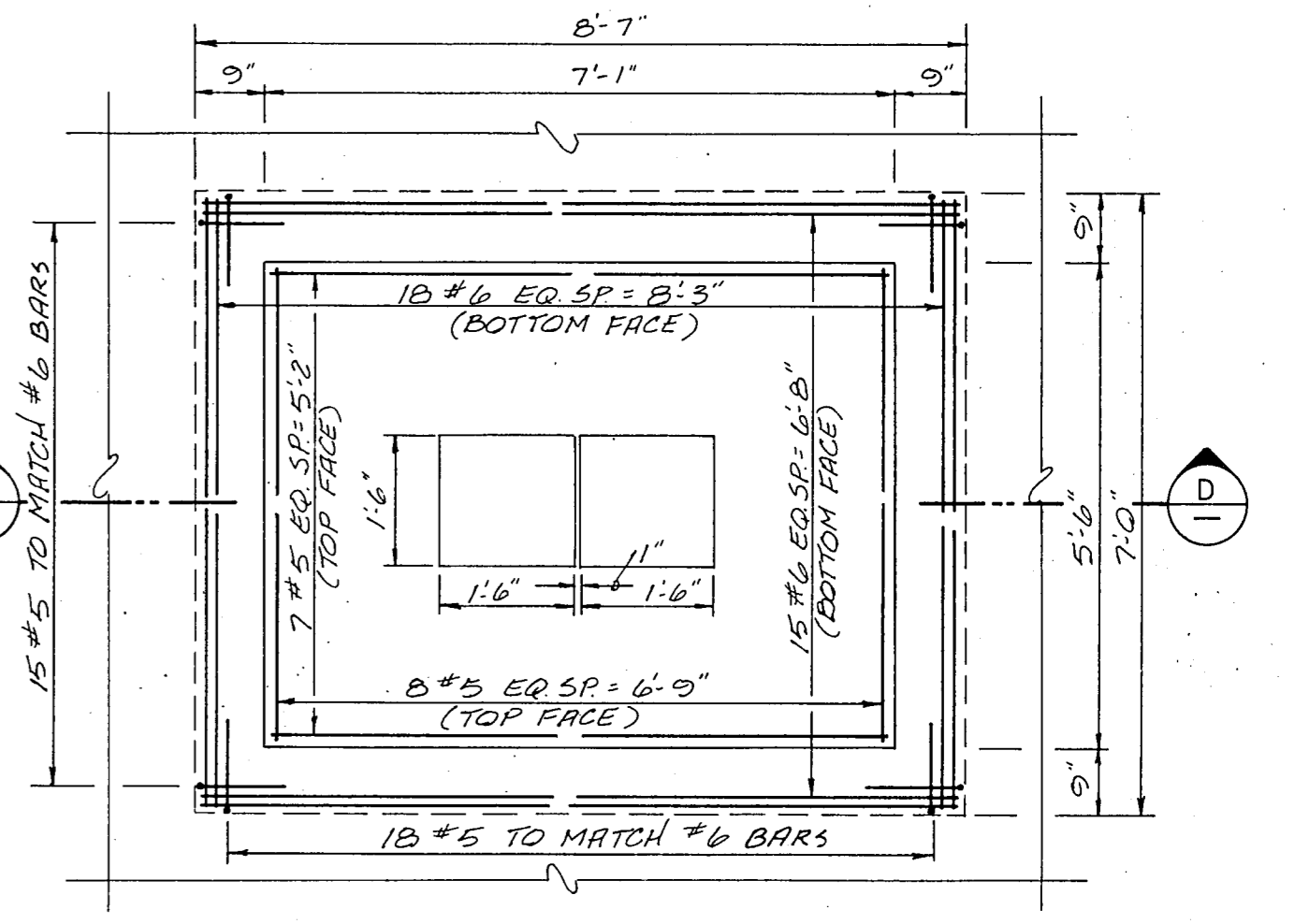
PLAN
4-COLUMN FOOTING
SCALE: 1/2"=1'-0"



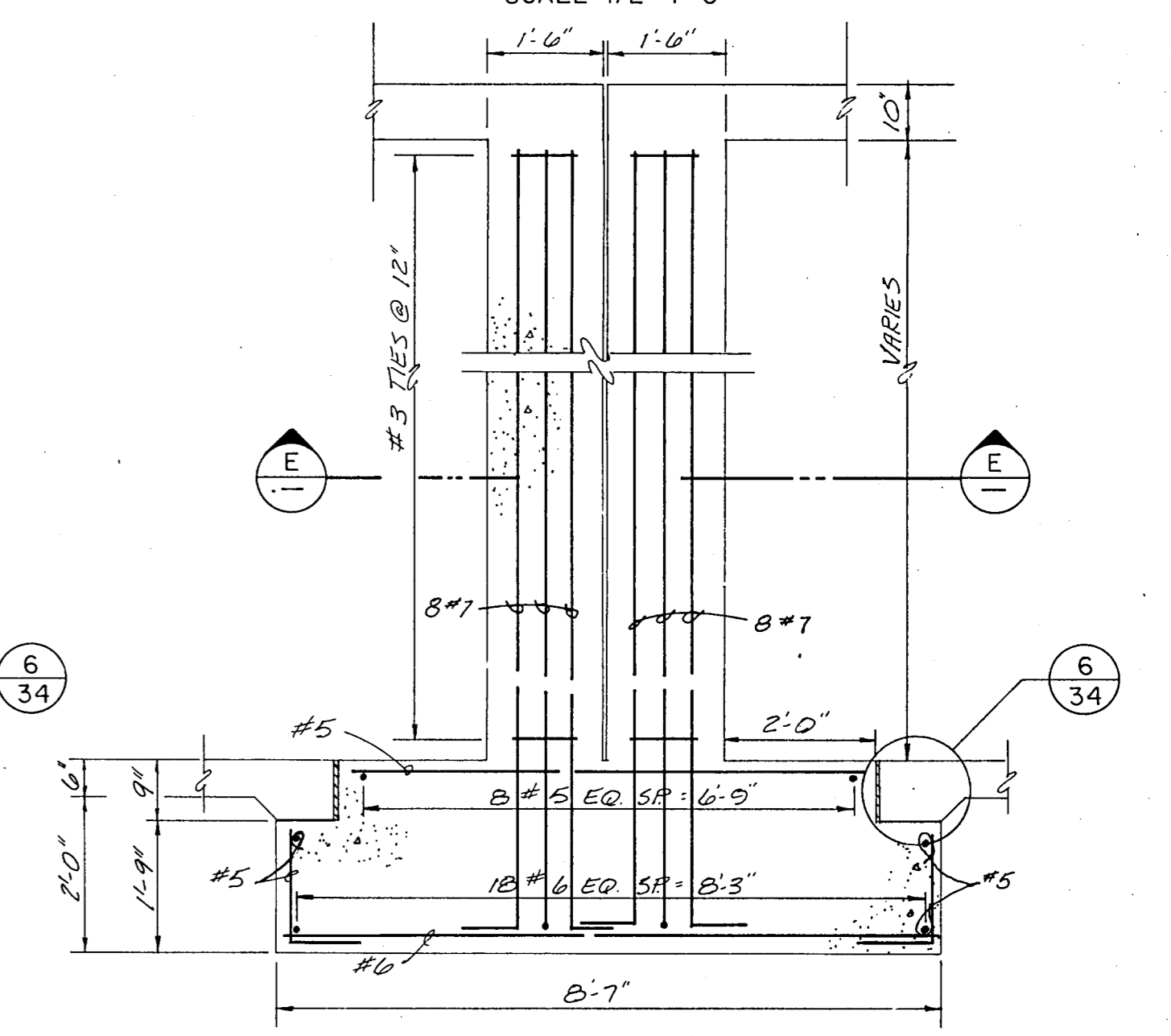
SECTION B
SCALE: 1/2"=1'-0"



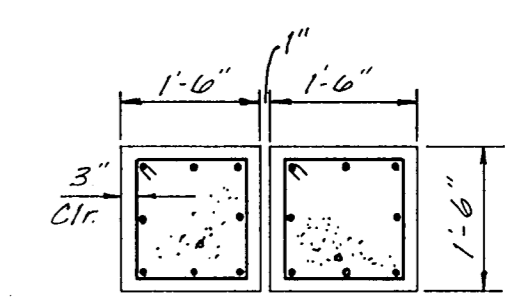
SECTION C
SCALE: 1/2"=1'-0"



PLAN
2-COLUMN FOOTING
SCALE: 1/2"=1'-0"

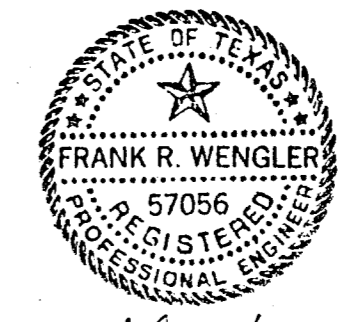


SECTION D
SCALE: 1/2"=1'-0"



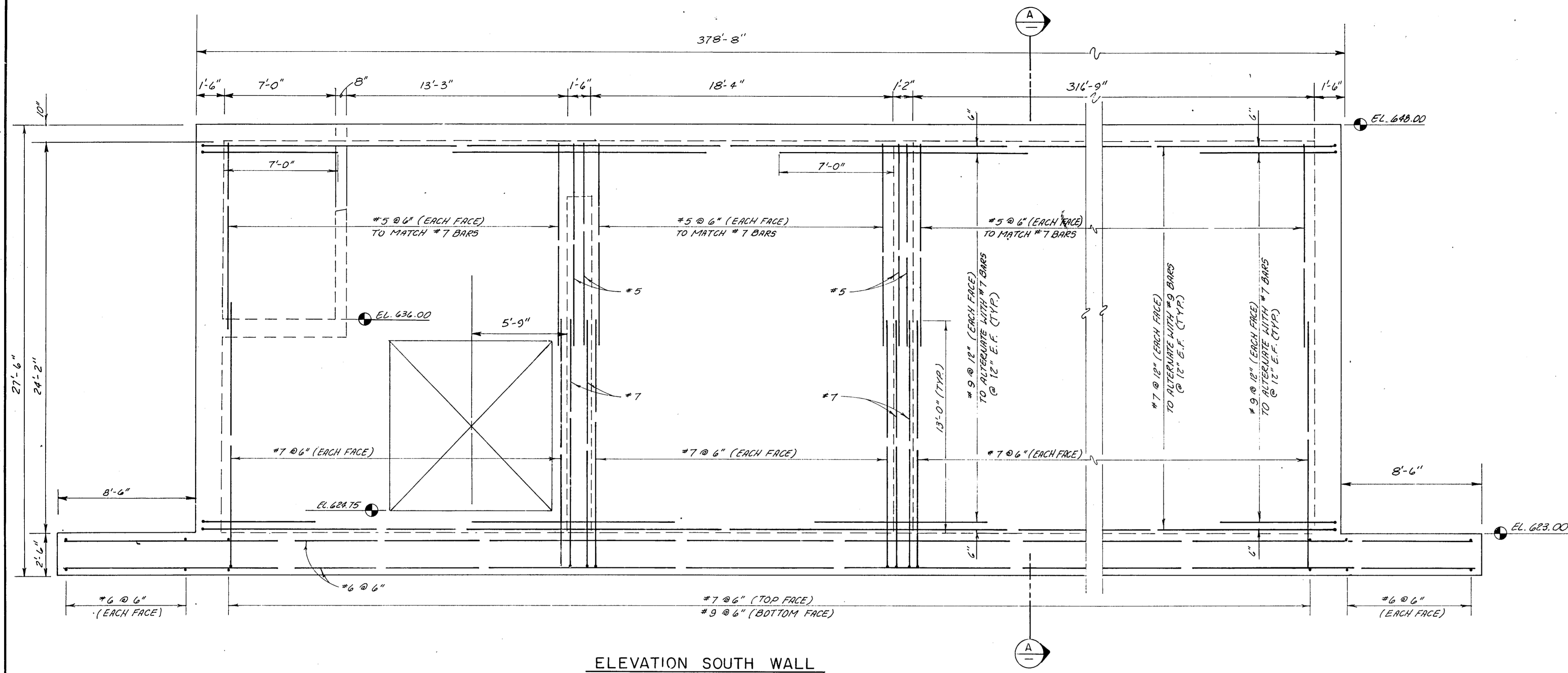
SECTION E
SCALE: 1/2"=1'-0"

- NOTES:
- FOR STRUCTURAL NOTES AND DETAILS, SEE SHEET 34 OF 44
 - WALL AND ROOF SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY.
 - STEEL REINFORCEMENT LAP LENGTHS AS SHOWN IN DETAIL 1 ON SHEET 34 OF 44
 - ALL HOOKS SHOWN TO BE STANDARD A.C.I. HOOKS.
 - EXCAVATE WITHIN LIMITS OF PROPOSED RESERVOIR TO ROCK. EXCAVATED AREAS TO BE REPLACED WITH SELECT FILL PER SPECIFICATIONS.
 - OPENINGS ARE NOT SHOWN FOR CLARITY SEE SHEET 25 OF 44 FOR FLOOR SLAB PENETRATION LOCATIONS.

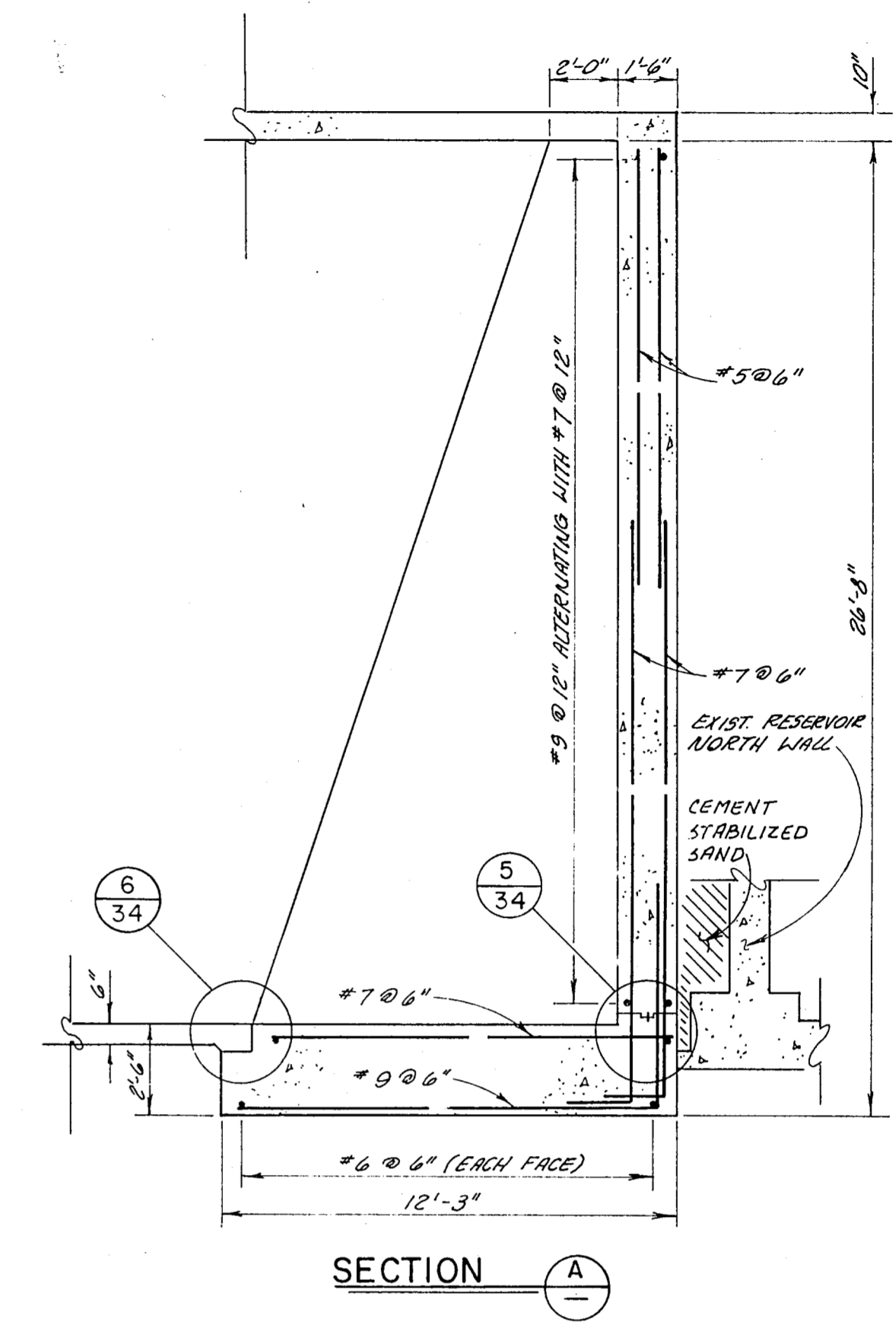


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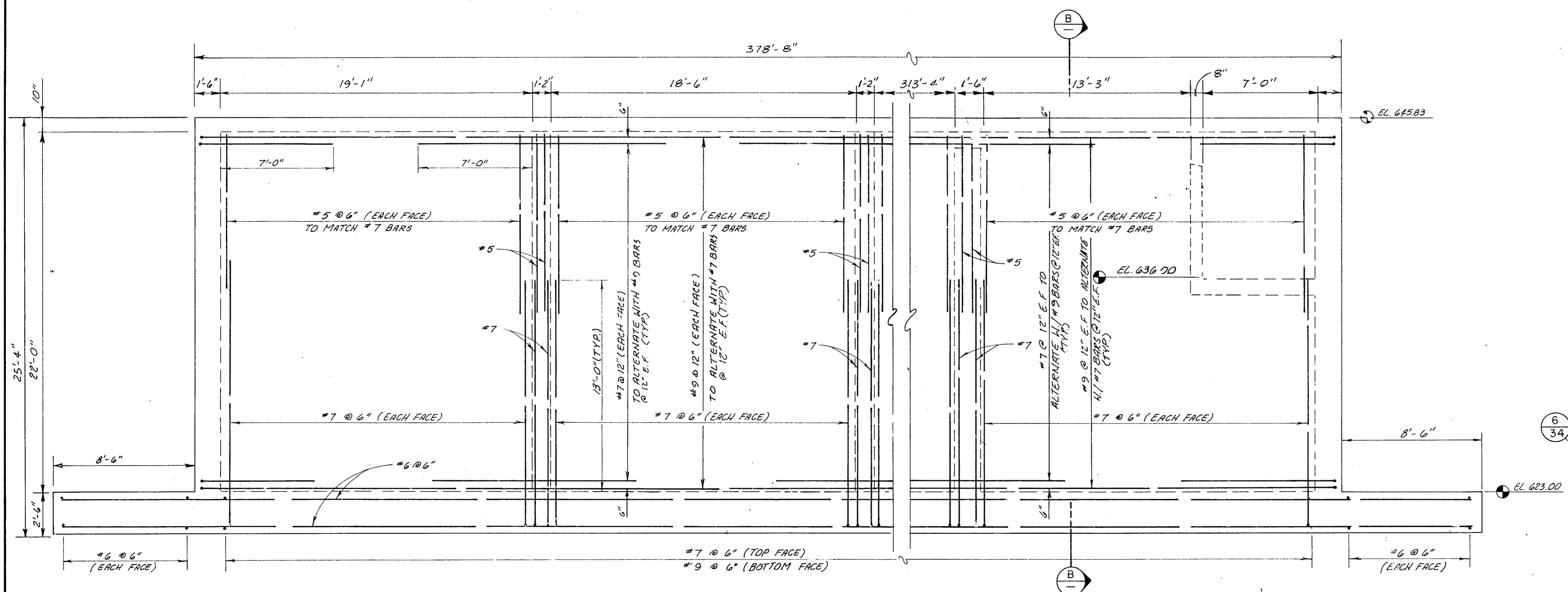
NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
RESERVOIR FOUNDATION PLAN			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collie & Braden Inc.			
DESIGN	F.R.W.	CONTRACT NO.	SHEET NO.
DRAWN	C.A.	89-79	28
TRACED		FILE NO.	
CHECKED		630 Q 700 F	OF 44
DATE	5/89		



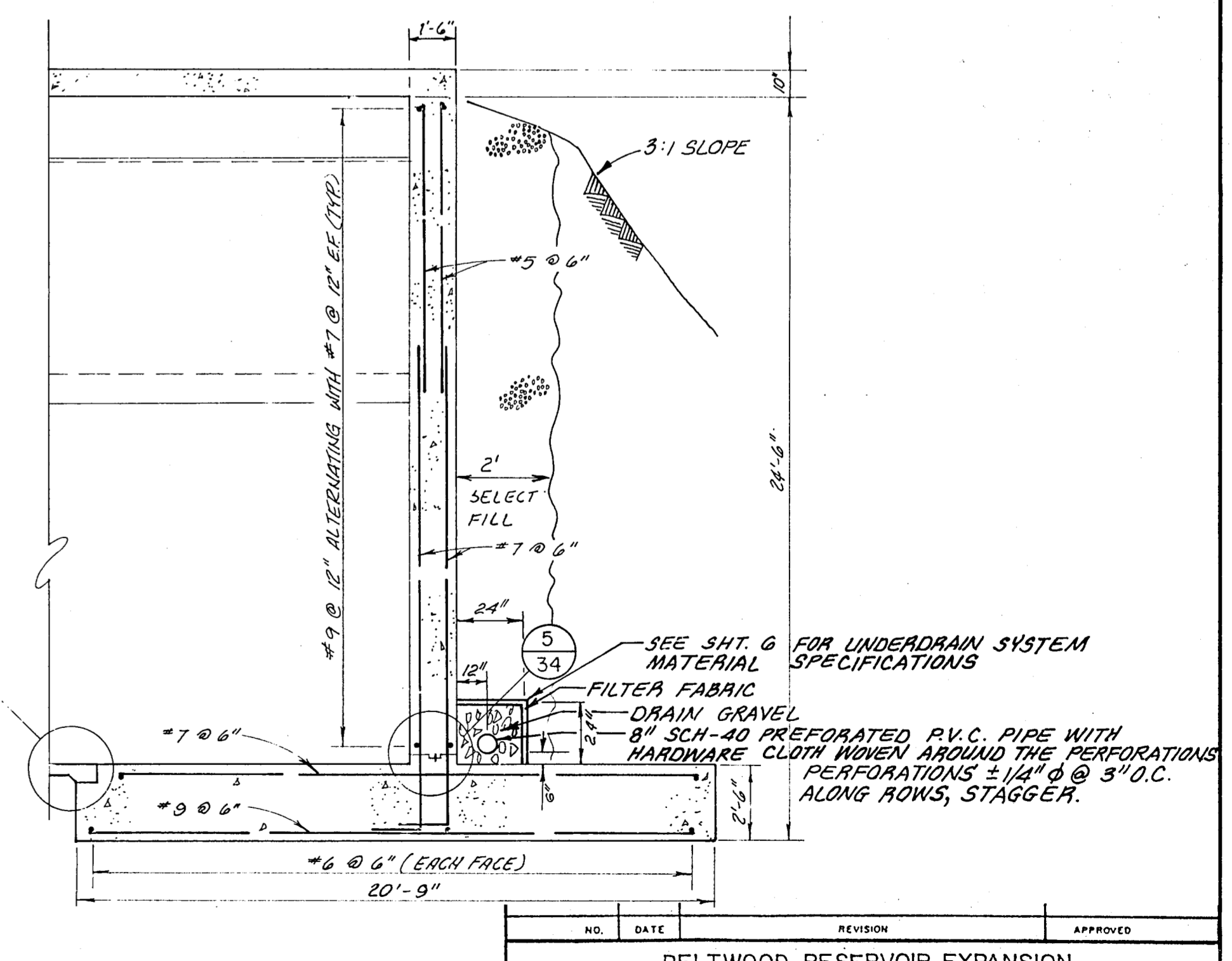
ELEVATION SOUTH WALL
SCALE: 1/4"=1'-0"



SECTION A-A

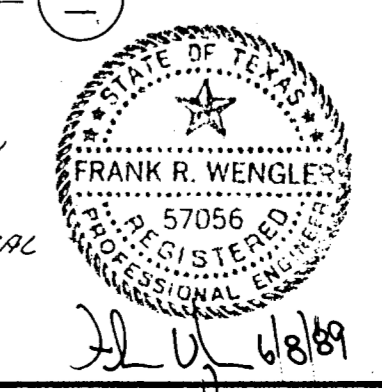


ELEVATION NORTH WALL
SCALE: 1/4"=1'-0"

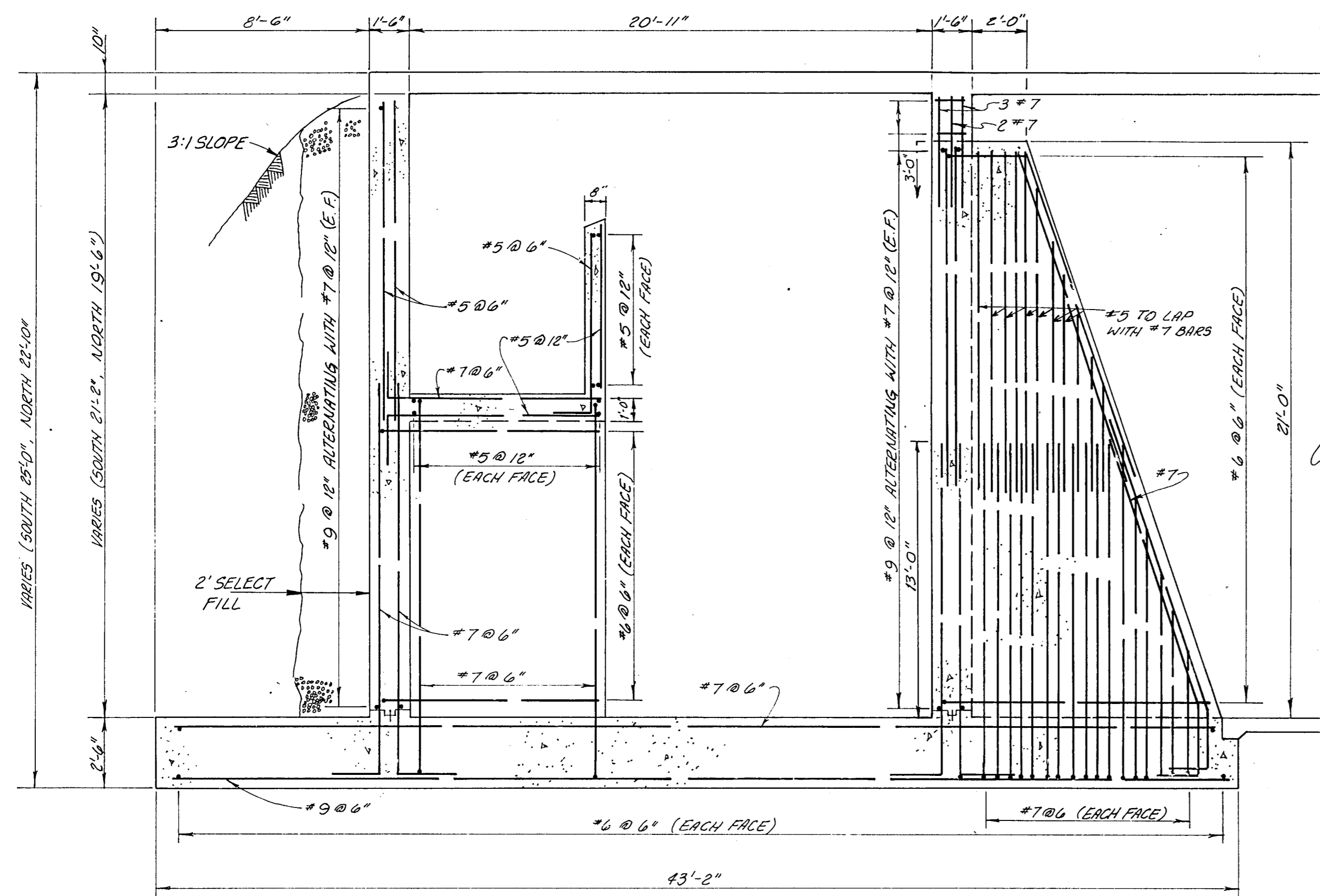


SECTION B-B

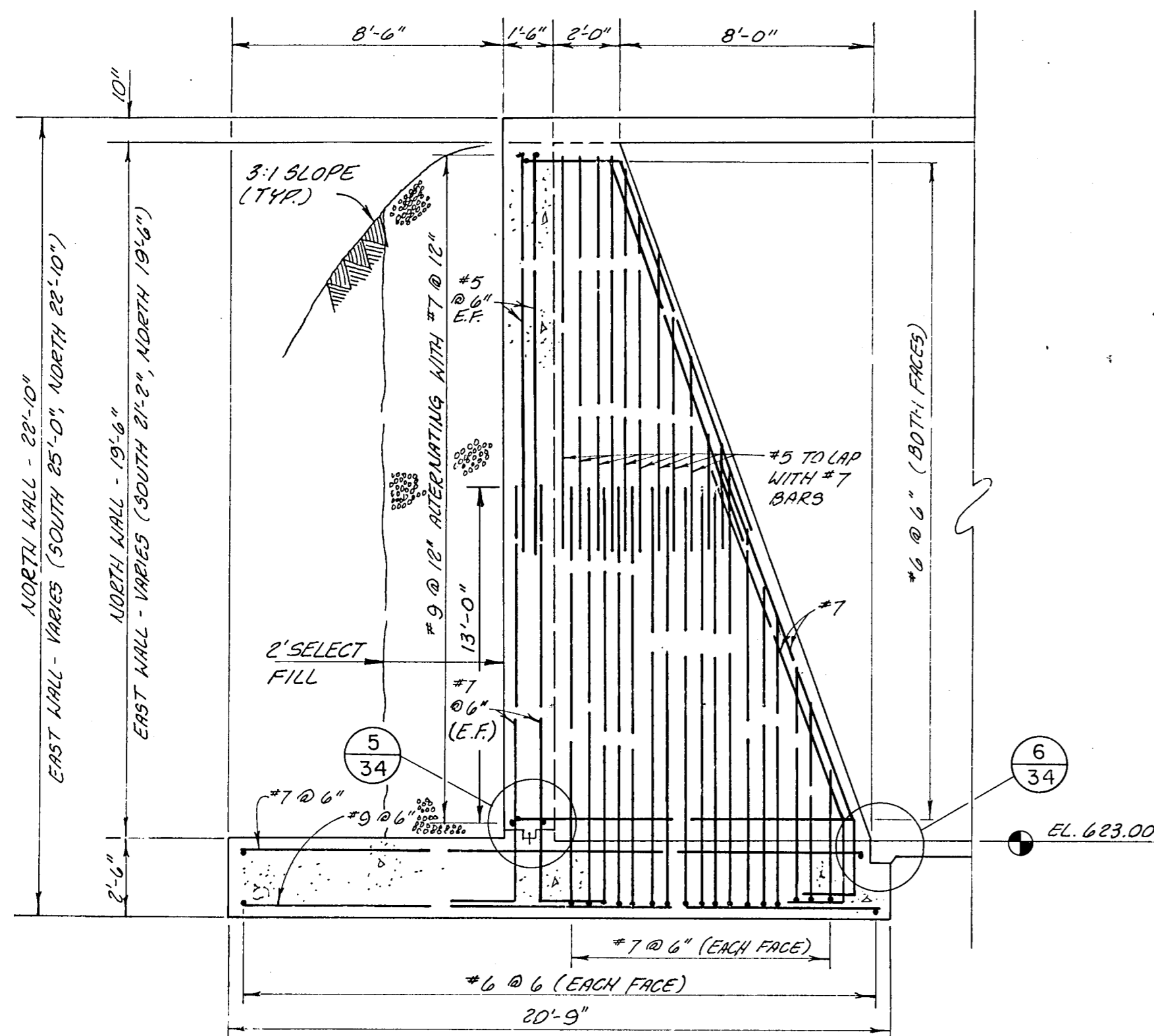
- NOTES:
- FOR STRUCTURAL NOTES AND DETAILS, SEE SHEET 34 OF 44.
 - ROOF SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY.
 - ALL OPENINGS TO HAVE EXTRA REINFORCING STEEL AS SHOWN IN DETAIL 3 ON SHEET 34 OF 44.
 - STEEL REINFORCEMENT LAP LENGTHS AS SHOWN IN DETAIL 1 ON SHEET 34 OF 44.
 - ALL HOOKS SHOWN TO BE STANDARD A.C.I. HOOKS.
 - EXCAVATE WITHIN LIMITS OF PROPOSED RESERVOIR TO ROCK. EXCAVATED AREAS TO BE REPLACED WITH SELECT FILL PER SPECIFICATIONS.
 - CEMENT STABILIZED SAND TO BE PLACED BETWEEN EXISTING AND PROPOSED RESERVOIR.
 - 1" EXPANSION JOINT ACROSS ROOF SLAB AND VERTICAL WALLS AT LOCATIONS SHOWN ON PLANS.



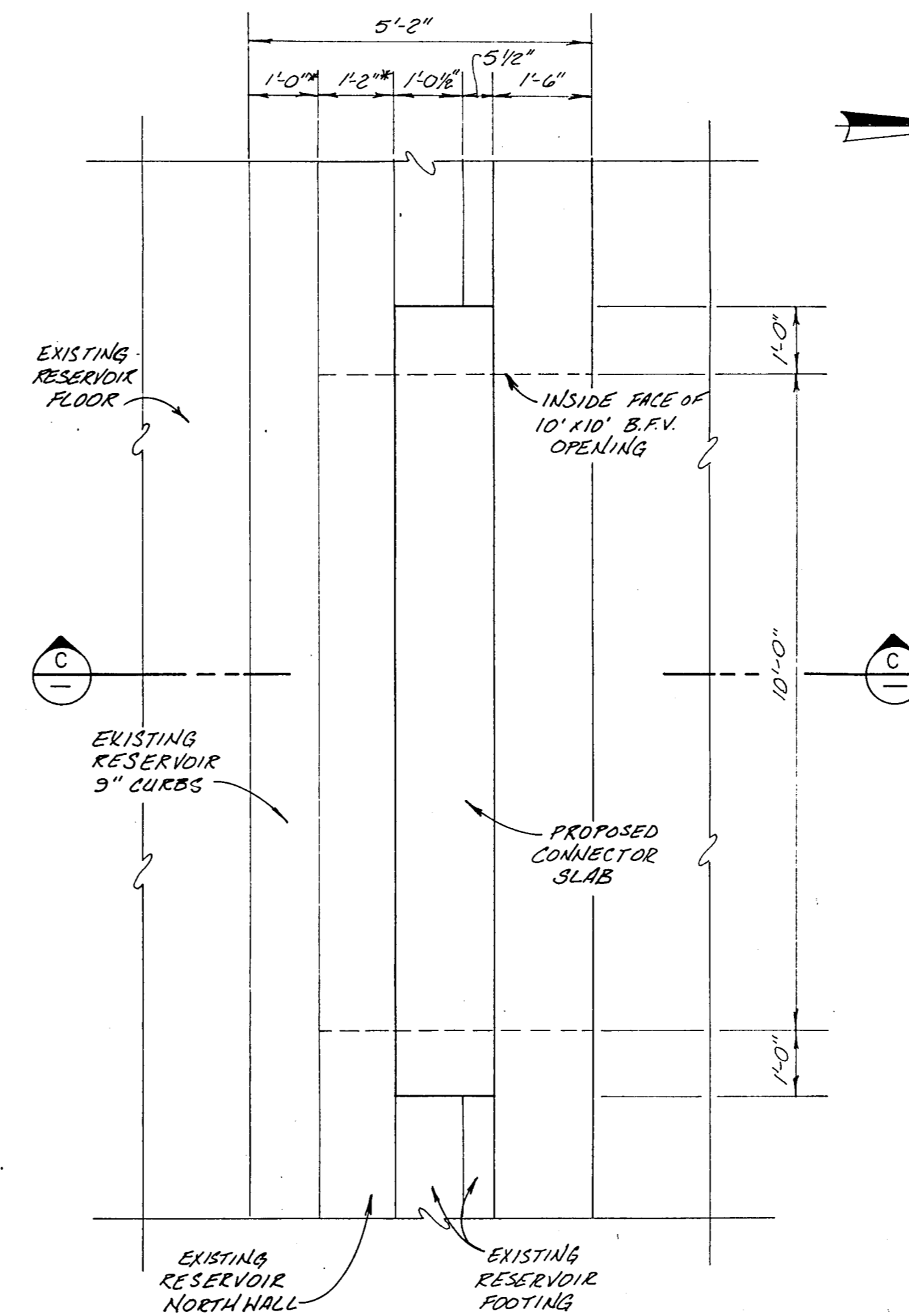
NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION RESERVOIR - WALL ELEVATIONS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collier & Braden Inc.			
DESIGN	FRW	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		
		SHEET NO.	29
		OF	44



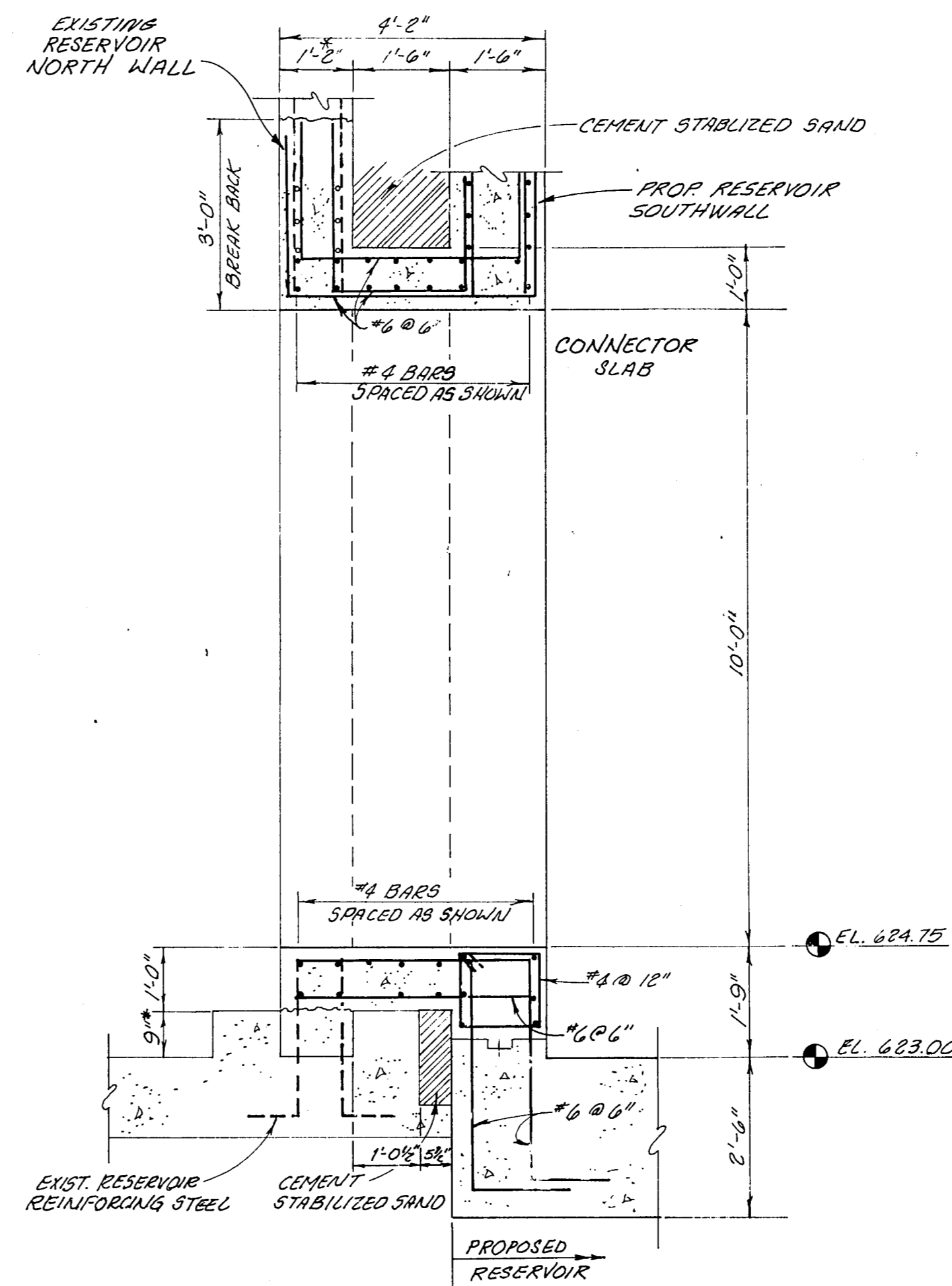
SECTION A
SCALE: 1/4" = 1'-0"



SECTION B
SCALE: 1/4" = 1'-0"

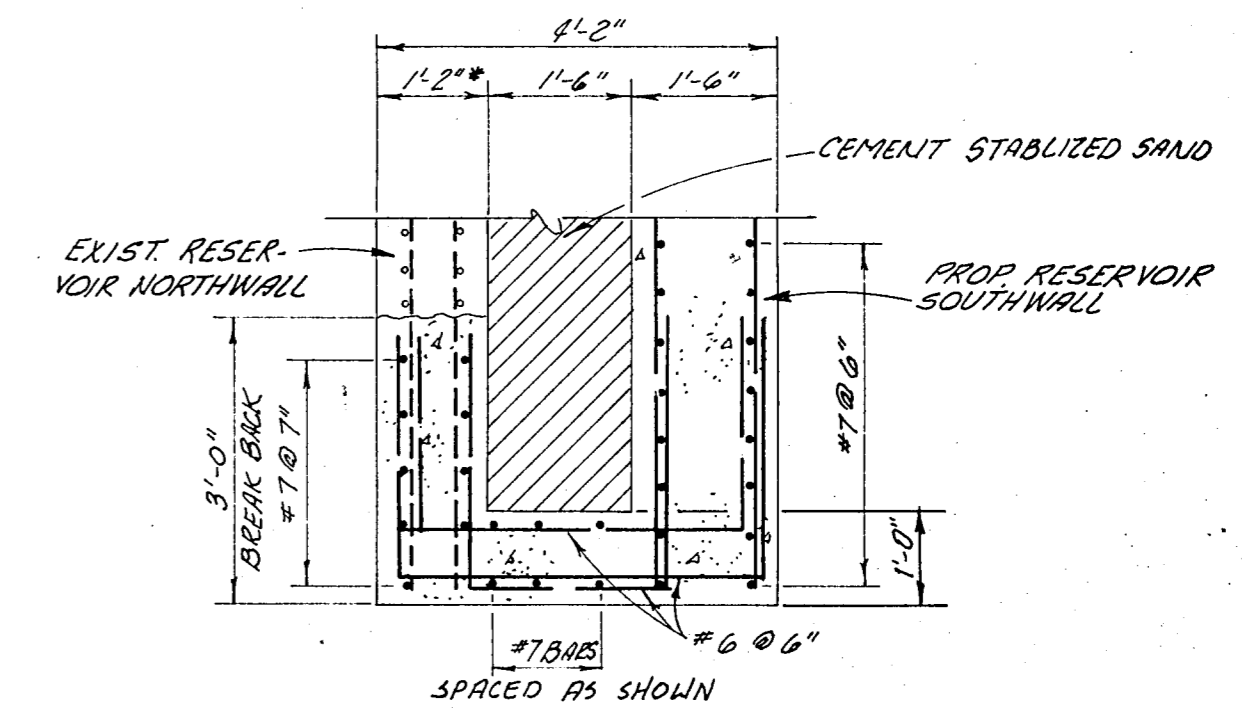


PLAN - RESERVOIR CONNECTION
SCALE: 1/2" = 1'-0"



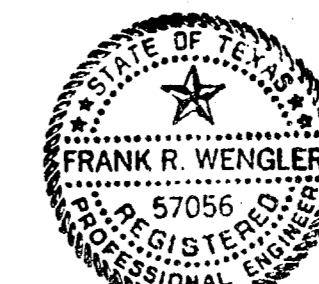
SECTION C
SCALE: 1/2" = 1'-0"

- NOTES: 1. FOR STRUCTURAL NOTES & DETAILS, SEE SHEET 34 OF 44.
 2. ROOF SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY.
 3. ALL OPENINGS TO HAVE EXTRA REINF. STEEL AS SHOWN IN DETAIL 3 ON SHEET 34 OF 44.
 4. STEEL REINF. LAP LENGTHS AS SHOWN IN DETAIL 1 ON SHEET 34 OF 44.
 5. ALL HOOK SHOWN TO BE STANDARD A.C.I. HOOKS.
 6. EXCAVATE WITHIN LIMITS OF PROPOSED RESERVOIR TO ROCK, EXCAVATED AREAS TO BE REPLACED WITH SELECT FILL PER SPECIFICATIONS.
 7. CEMENT STABILIZED SAND TO BE PLACED BETWEEN EXISTING AND PROPOSED RESERVOIR.

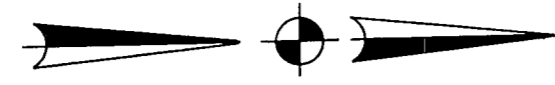


PLAN - RESERVOIR CONNECTION REINFORCING STEEL
SCALE: 1/2" = 1'-0"

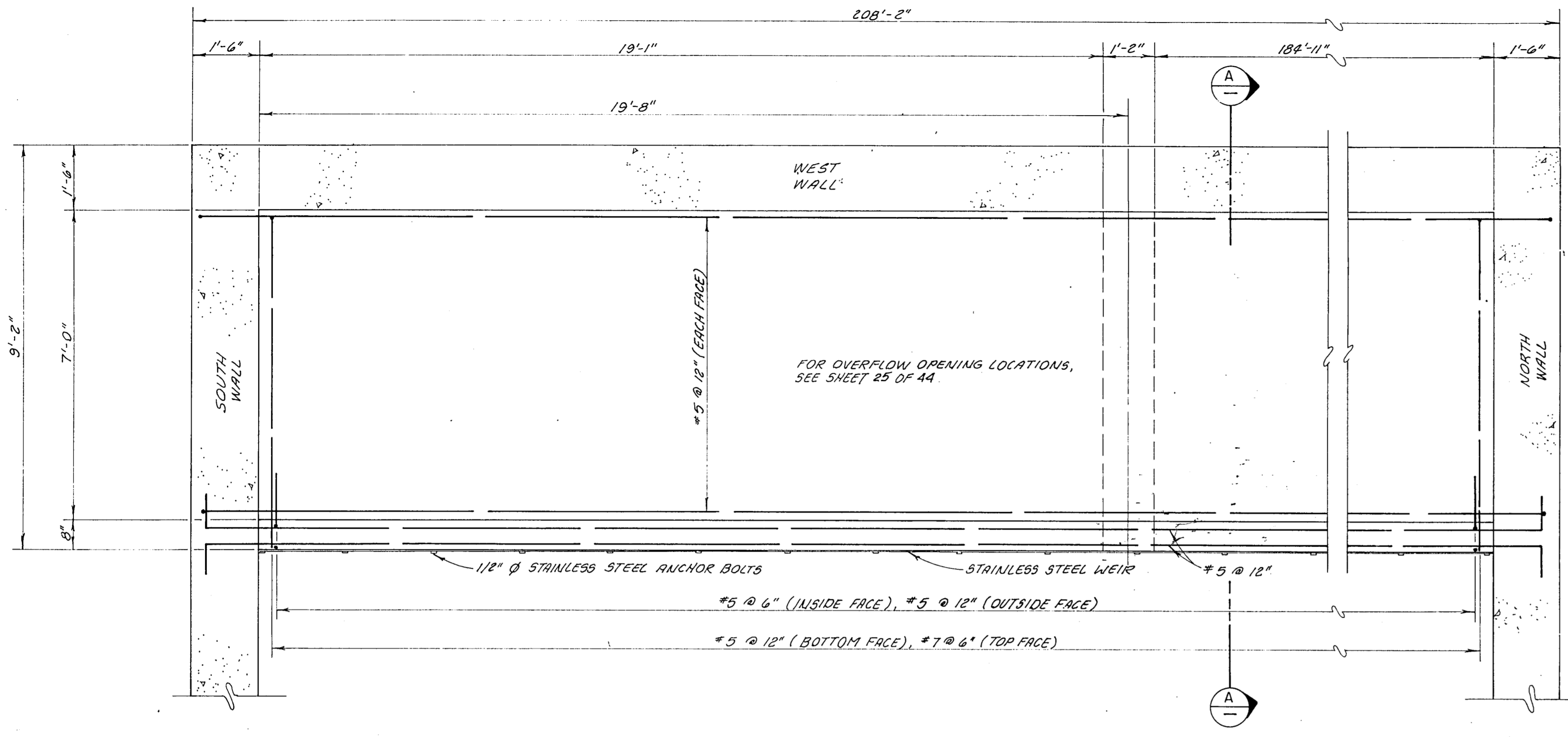
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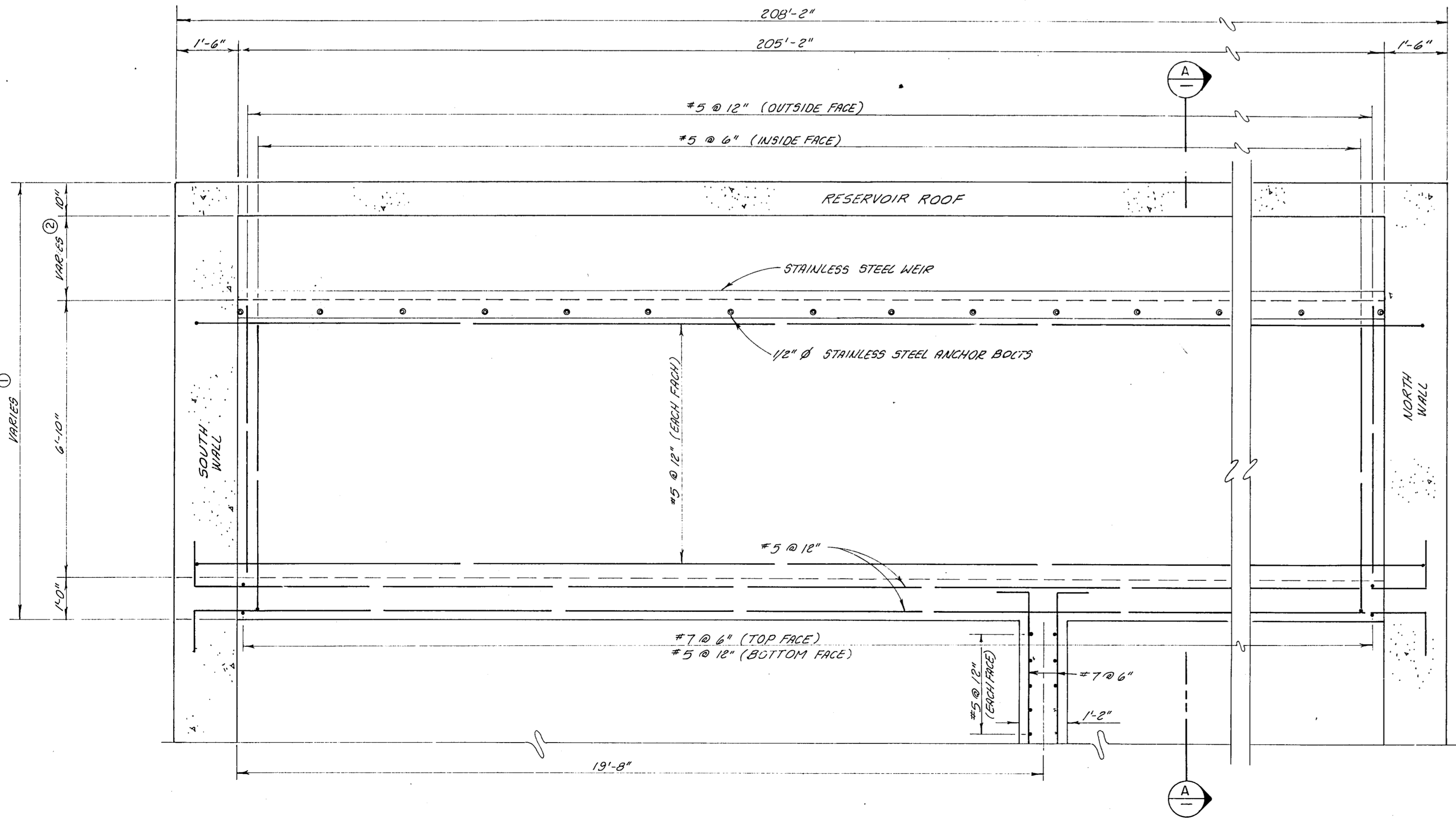
NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION RESERVOIR - WALL SECTIONS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collie & Braden Inc.			
DESIGN	F.R.W.	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		
		SHEET NO.	30
		OF	44



- NOTES: 1. FOR STRUCTURAL NOTES & DETAILS, SEE SHEET 34 OF 44.
 2. WALL & ROOF SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY.
 3. ALL OPENINGS TO HAVE EXTRA REINF STEEL AS SHOWN IN DETAIL 3 ON SHEET 34 OF 44.
 4. ALL HOOKS SHOWN TO BE STANDARD A.C.I. HOOKS.
 5. STEEL REINF LAP LENGTHS AS SHOWN IN DETAIL 1 ON SHEET 34 OF 44.

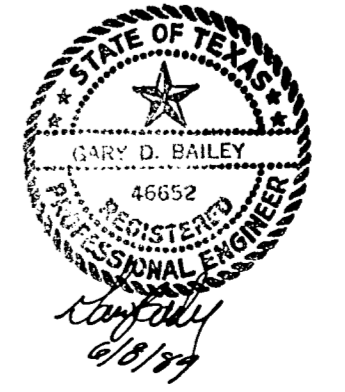
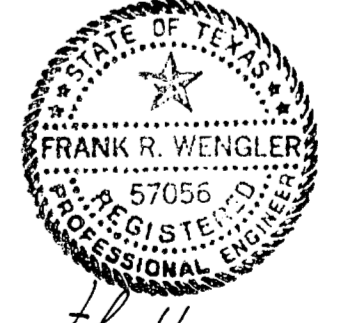
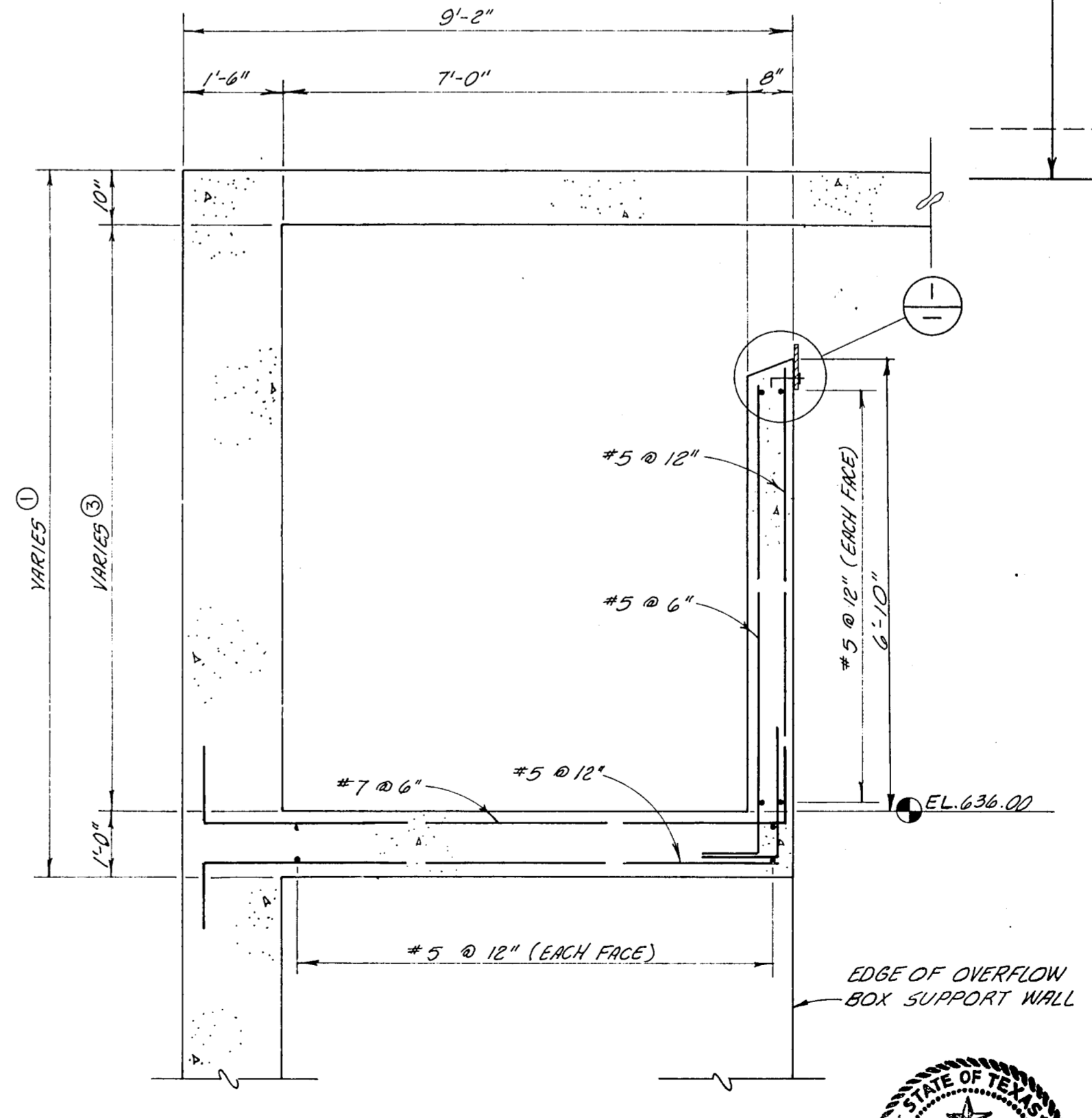
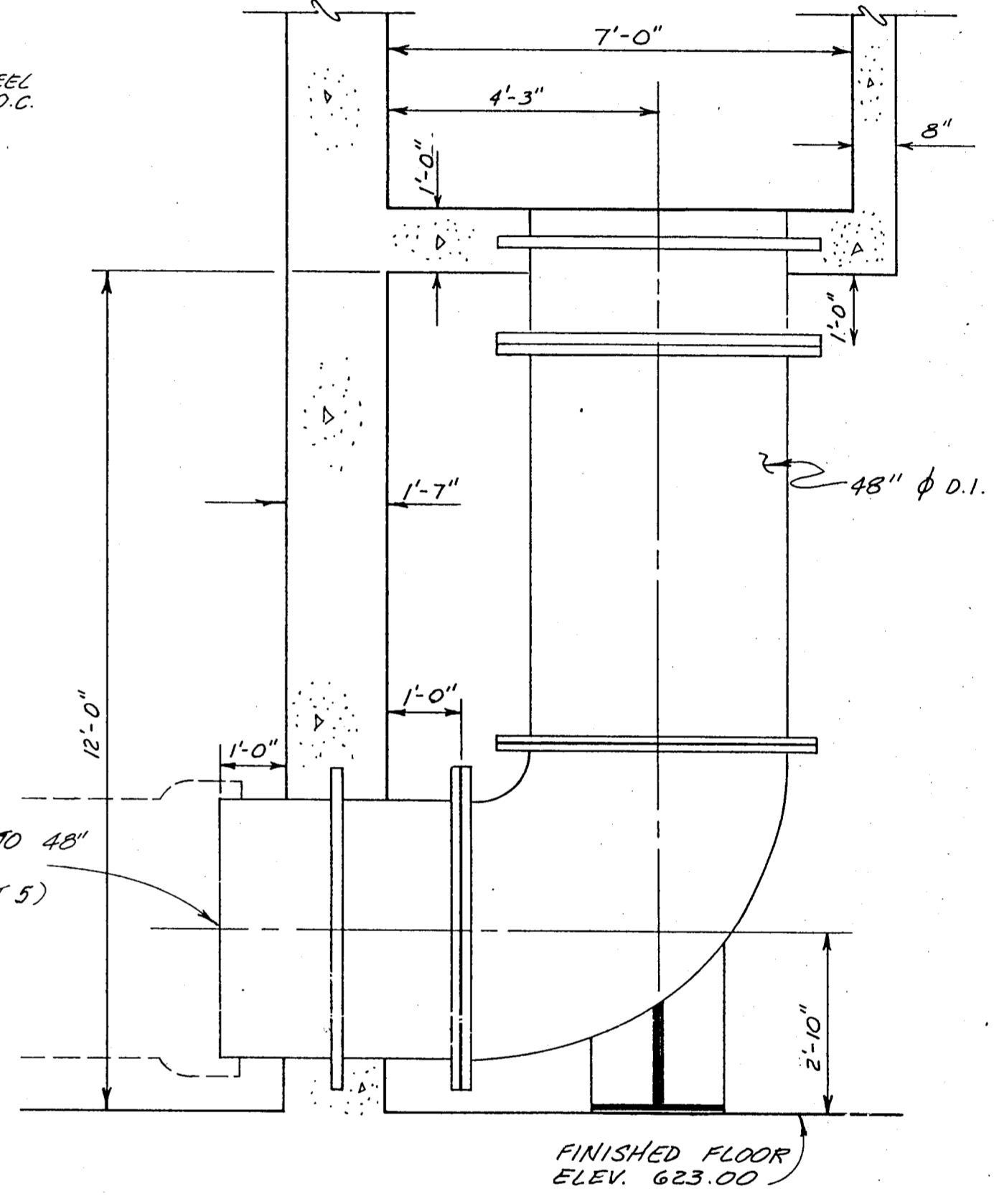
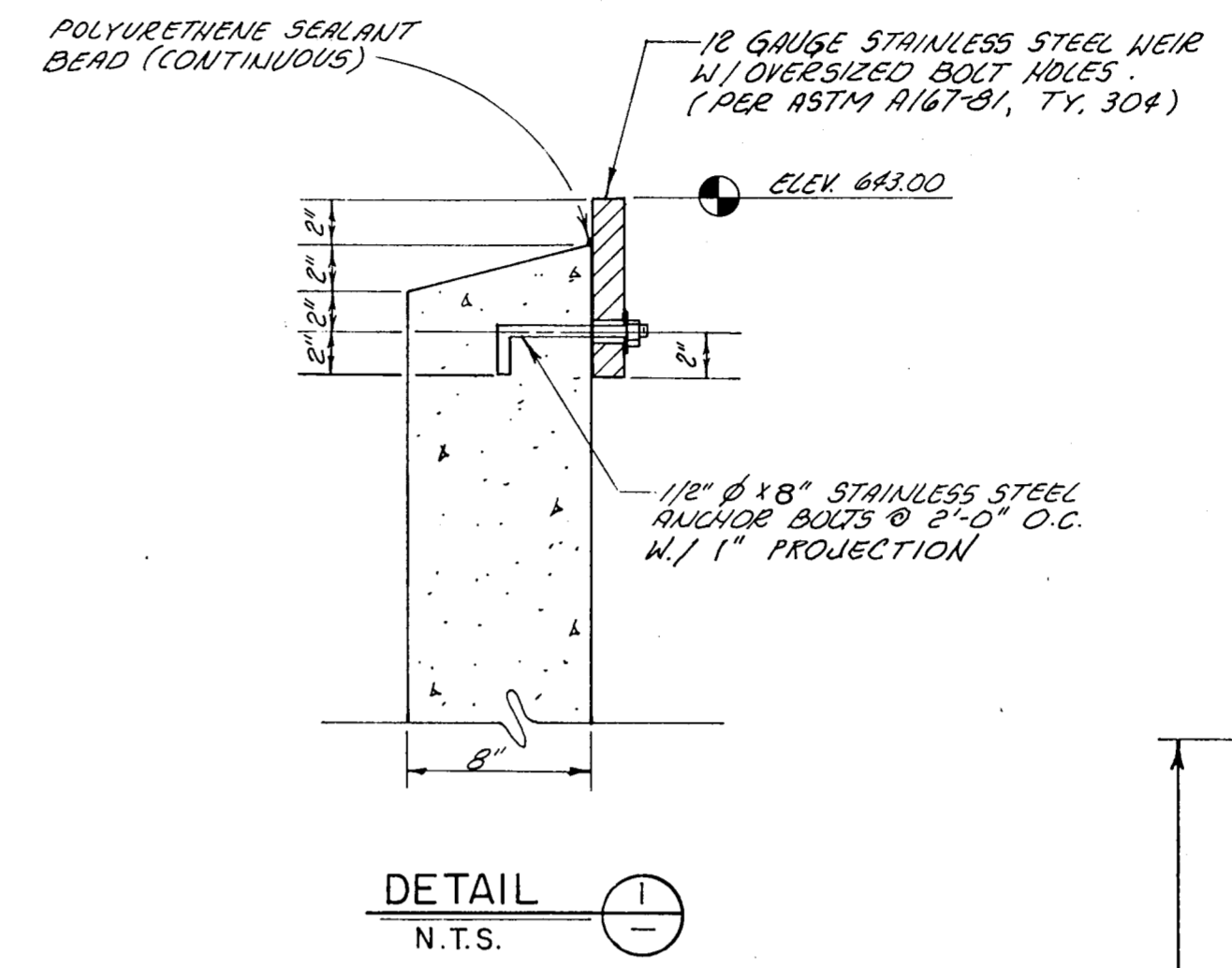


PLAN OVERFLOW WEIR
 SCALE: 1/2" = 1'-0"



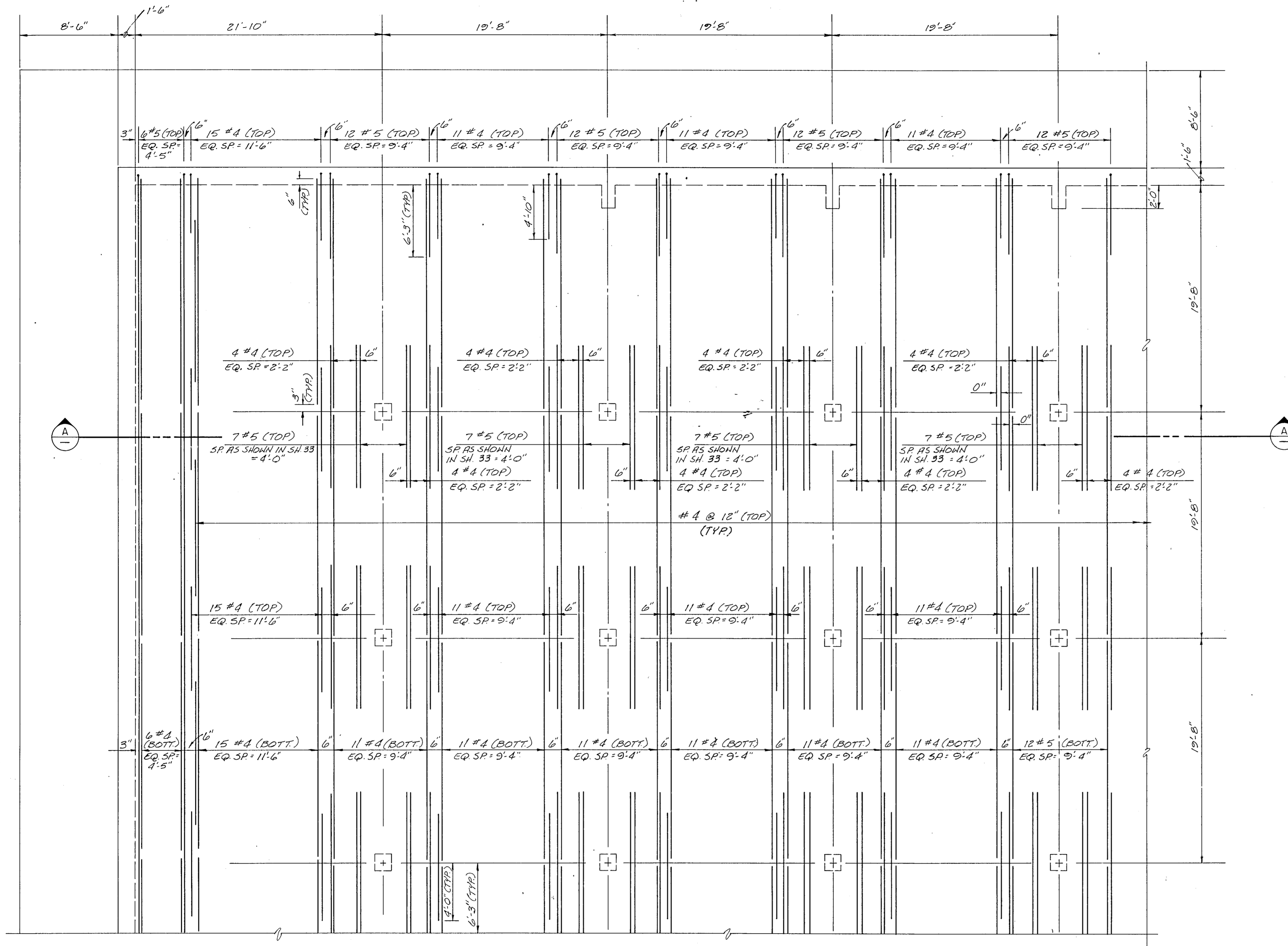
ELEVATION OVERFLOW WEIR
 SCALE: 1/2" = 1'-0"

	①	②	③
NORTH WALL	13'-0"	4'-4"	11'-2"
SOUTH WALL	10'-10"	8'-2"	9'-0"



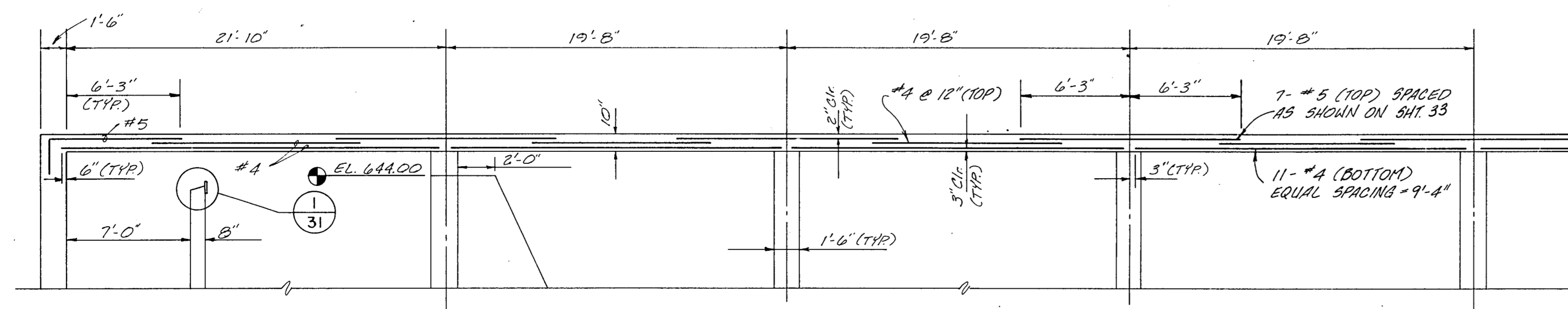
NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION RESERVOIR - OVERFLOW DETAILS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS TurnerCollie & Braden Inc.			
DESIGN	F.R.W.	CONTRACT NO.	89-79
DRAWN	C.A.		31
TRACED		FILE NO.	630 Q 700 F
CHECKED			OF 44
DATE	5/89		

- NOTES:
1. FOR STRUCTURAL NOTES & DETAILS, SEE SHEET 34 OF 44.
 2. WALL REINFORCING STEEL NOT SHOWN FOR CLARITY.
 3. ALL OPENINGS TO HAVE EXTRA REINF. STEEL AS SHOWN IN DETAIL 3 ON SHEET 34 OF 44.
 4. STEEL REINF. LAP LENGTHS AS SHOWN IN DETAIL 1 ON SHEET 34 OF 44.
 5. ALL HOOKS SHOWN TO BE STANDARD A.C.I. HOOKS.
 6. 1" EXPANSION JOINT ACROSS ROOF SLAB & VERTICAL WALLS AT LOCATIONS SHOWN ON PLANS.
 7. OPENINGS ARE NOT SHOWN FOR CLARITY. SEE SHEET 26 OF 44 FOR ROOF SLAB PENETRATION LOCATIONS.



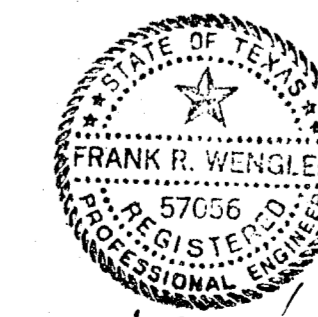
ROOF PLAN
NORTHWEST CORNER
 SCALE: 3/16" = 1'-0"

⊙ EAST/WEST REINFORCING STEEL NOT SHOWN FOR CLARITY. REINFORCEMENT STEEL SIZE AND SPACING IS SIMILAR TO THAT SHOWN IN THE NORTH/SOUTH DIRECTION.



SECTION
 SCALE: 3/16" = 1'-0"

⊙ NORTH/SOUTH REINFORCEMENT STEEL NOT SHOWN FOR CLARITY. SEE PLAN VIEW FOR SPACING REQUIREMENTS.

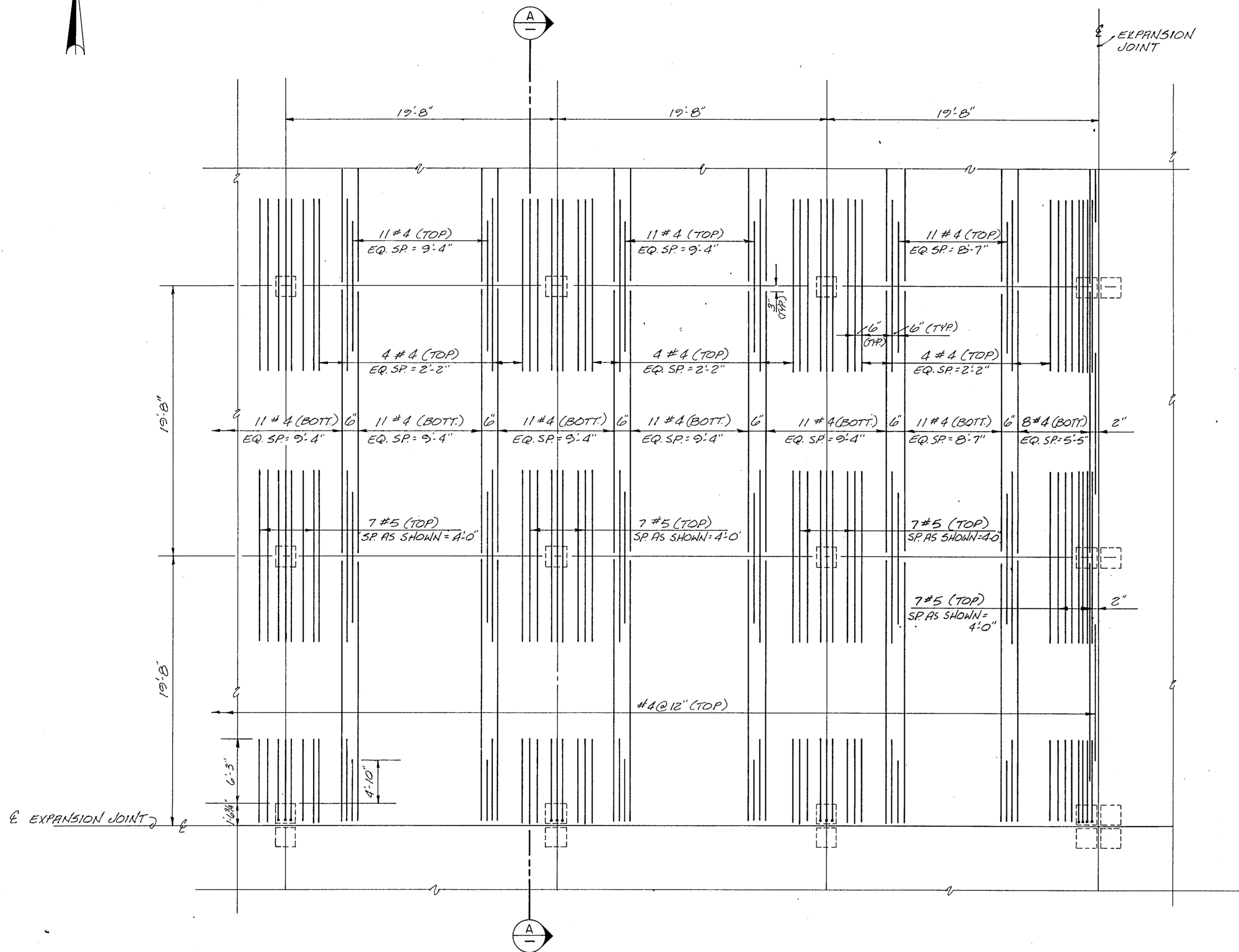


FLW
 4/9/89

NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION RESERVOIR ROOF DETAILS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS TurnerCollie & Braden Inc.			
DESIGN	F.R.W.	CONTRACT NO.	SHEET NO.
DRAWN	C.A.	89-79	32
TRACED		FILE NO.	
CHECKED		630 Q 700 F	OF 44
DATE	5/89		

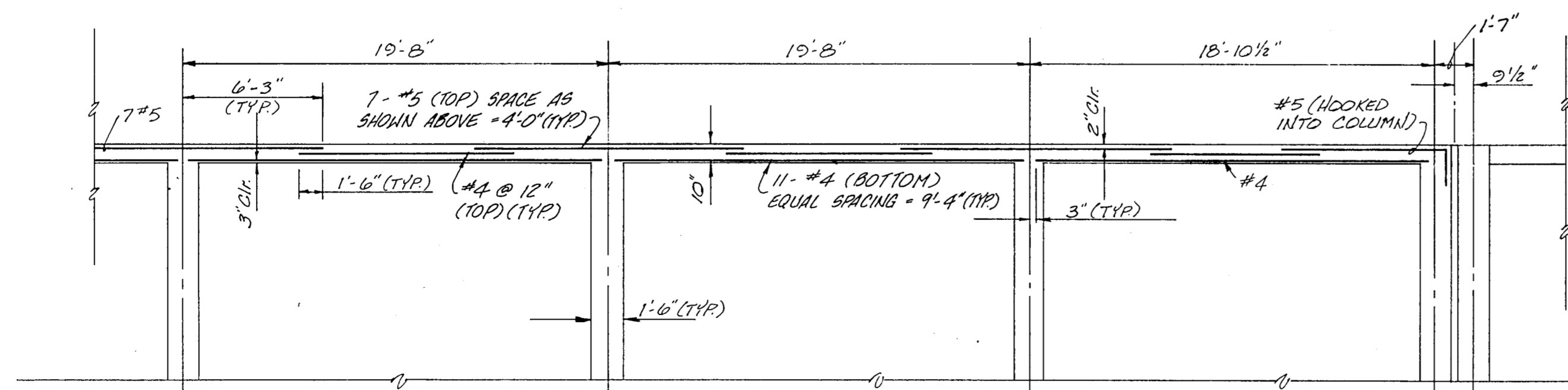


- NOTES 1. FOR STRUCTURAL NOTES & DETAILS, SEE SHEET 34 OF 44.
 2. ROOF SLAB REINFORCING STEEL NOT SHOWN FOR CLARITY.
 3. ALL OPENINGS TO HAVE EXTRA REINF. STEEL AS SHOWN IN DETAIL 3 ON SHEET 34 OF 44.
 4. STEEL REINF. LAP LENGTHS AS SHOWN IN DETAIL 1 ON SHEET 34 OF 44.
 5. ALL HOOKS SHOWN TO BE STANDARD A.C.I. HOOKS.
 6. EXCAVATE WITHIN LIMITS OF PROPOSED RESERVOIR TO ROCK. EXCAVATED AREAS TO BE REPLACED WITH SELECT FILL PER SPECIFICATIONS.
 7. CEMENT STABILIZED SAND TO BE PLACED BETWEEN EXISTING & PROPOSED RESERVOIR.



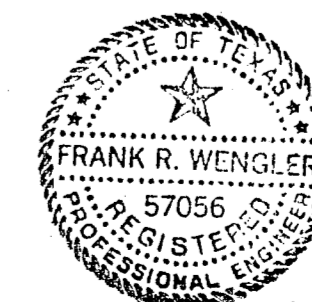
ROOF PLAN
 INTERIOR BAYS NEAR EXPANSION JOINTS
 SCALE: 3/16" = 1'-0"

° EAST/WEST REINFORCEMENT STEEL NOT SHOWN FOR CLARITY. REINFORCEMENT STEEL SIZE AND SPACING IS SIMILAR TO THAT SHOWN IN THE NORTH/SOUTH DIRECTION.



SECTION
 SCALE: 3/16" = 1'-0"

° NORTH/SOUTH REINFORCEMENT STEEL NOT SHOWN FOR CLARITY. SEE PLAN VIEW FOR SPACING REQUIREMENTS.



NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION RESERVOIR ROOF DETAILS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS Turner Collie & Braden Inc.			
DESIGN	FRW	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
CHECKED		DATE	5/89
			SHEET NO. 33 OF 44

STRUCTURAL NOTES

GENERAL

1. PRINCIPAL OPENINGS IN THE STRUCTURAL FRAME ARE SHOWN ON THE PLANS. REFER TO APPROPRIATE MECHANICAL, ARCHITECTURAL, OR ELECTRICAL DRAWINGS FOR MISCELLANEOUS WALL AND SLAB PENETRATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS. LOCATION AND SIZE OF OPENINGS, PIPE PENETRATIONS, PADS, ETC., SHOWN ON STRUCTURAL DRAWINGS ARE TO BE VERIFIED WITH THE MECHANICAL DRAWINGS AND THE MECHANICAL CONTRACTOR. SEE APPROVED SHOP DRAWINGS FOR ANCHORAGE DETAILS.

2. CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY CONSTRUCTION BRACING OF ALL STRUCTURES.

CONCRETE

- ALL CONCRETE IS TO BE CLASS K NORMAL WEIGHT (SAND AND GRAVEL AGGREGATE) UNLESS OTHERWISE NOTED.
- CHANGES IN LOCATION, ADDITIONS OR OMISSIONS OF CONSTRUCTION JOINTS ARE TO BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF CONCRETE.
- PROVIDE CONTINUOUS WATERSTOPS IN CONSTRUCTION AND EXPANSION JOINTS BELOW FINISHED GRADE AND IN HYDRAULIC STRUCTURES BELOW THE WATER LEVEL.
- CHAMFER ALL EXPOSED CORNERS 3/4".
- DESIGN AND CONSTRUCTION OF FORMWORK AND SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR. SHORING AND RESHORING ARE NOT TO BE REMOVED UNTIL THE CONCRETE IS OF SUCH STRENGTH TO SUPPORT ITSELF AND ALL SUPERIMPOSED CONSTRUCTION LOADING.
- TEMPLATES ARE TO BE USED TO SET ANCHOR BOLTS SECURELY AND ACCURATELY.
- ALL UNDERGROUND ITEMS BENEATH STRUCTURES AND ALL EMBEDDED ITEMS ARE TO BE IN PLACE PRIOR TO CASTING CONCRETE UNLESS OTHERWISE NOTED ON PLANS.
- CLEAR COVER ON ALL REINFORCING STEEL TO BE 3 INCHES UNLESS OTHERWISE NOTED ON PLANS.
- INSTALL 6-MIL POLYETHYLENE FILM UNDER BUILDING SLABS.
- PROVIDE TROWELED WATERPROOF COATING ON ALL EXTERIOR CAST-IN-PLACE CONCRETE SURFACES EXPOSED TO VIEW. EXTEND COATING FROM TOP OF STRUCTURE TO 6-INCHES BELOW FINISHED GRADE.

REINFORCING STEEL

- ALL REINFORCING STEEL IS TO CONFORM TO ASTM A615, GRADE 60, INCLUDING S1. WELDED WIRE FABRIC IS TO CONFORM TO ASTM A185.
- DETAILING OF REINFORCING STEEL IS TO BE IN ACCORDANCE WITH THE ACI "MANUAL OF STANDARD PRACTICES FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION. LAP WELDED WIRE FABRIC TWO FEET AT SPLICES.
- LAP REINFORCING STEEL WITH FULL CONTACT SPLICES IN ACCORDANCE WITH DETAIL 1 OF THIS DRAWING UNLESS OTHERWISE NOTED.
- ALL ACCESSORIES TO BE IN ACCORDANCE WITH THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE", ACI 315, LATEST EDITION. ACCESSORIES FOR EXPOSED CONCRETE SURFACES ARE TO HAVE GALVANIZED OR PLASTIC COATED FEET.

STRUCTURAL STEEL

- DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL IS TO BE IN ACCORDANCE WITH THE LATEST SPECIFICATION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
- ALL STRUCTURAL SHAPES AND PLATES ARE TO CONFORM TO ASTM A36.
- UNLESS SHOWN OTHERWISE, CONNECTIONS ARE TO BE SHOP WELDED AND FIELD BOLTED AND ARE TO BE IN ACCORDANCE WITH THE STANDARDS OF THE AISC.
- ANCHOR BOLTS ARE TO CONFORM TO ASTM A307 UNLESS OTHERWISE NOTED ON PLANS. ALL OTHER BOLTS ARE TO BE ASTM A325 AND INSTALLED IN ACCORDANCE WITH THE SPECIFICATION FOR STRUCTURAL JOINTS USING A325 AND A490 BOLTS BY THE RESEARCH COUNCIL OF THE ENGINEERING FOUNDATION, LATEST EDITION.
- ALL BEAMS AND COLUMN ARE TO BE FULL LENGTH WITHOUT SPLICES UNLESS OTHERWISE INDICATED ON DRAWINGS.
- SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR REVIEW BY THE ENGINEER AS TO THE TYPE AND LOCATION OF SPLICE. SPLICE IS TO BE DETAILED ON THE SHOP DRAWINGS. BURNING AND/OR TORCH CUTTING OF HOLES IN MEMBERS IS PROHIBITED.
- ERECTION CONNECTORS ARE TO BE PROVIDED IN ORDER TO PROPERLY ALIGN AND BE TRUE AND PLUMB WHEN WELDS ARE MADE.
- ALL SHOP AND FIELD WELDS ARE TO BE MADE BY WELDERS WHO HAVE BEEN QUALIFIED AND CERTIFIED TO MAKE THE REQUIRED WELDS WITHIN THE PREVIOUS SIX MONTHS IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY SPECIFICATION (AWS 1.1).
- SUPPLY BACK-UP PLATES AND EXTENSION TABS FOR ALL FULL PENETRATION WELDS.
- ALL FULL PENETRATION WELDS ARE TO BE X-RAYED BY A QUALIFIED TESTING LABORATORY. ANY WELDS FOUND DEFECTIVE ARE TO BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- ALL WELDS TO BE X-RAYED ARE TO BE GROUND SMOOTH.
- HOT DIP GALVANIZE MISCELLANEOUS EMBEDDED STEEL ITEMS AFTER FABRICATION UNLESS OTHERWISE NOTED. DO NOT GALVANIZE EMBEDDED WELD PLATES.
- FIELD VERIFY ELEVATIONS AND DIMENSIONS TO BE USED FOR FABRICATION OF STRUCTURAL STEEL.

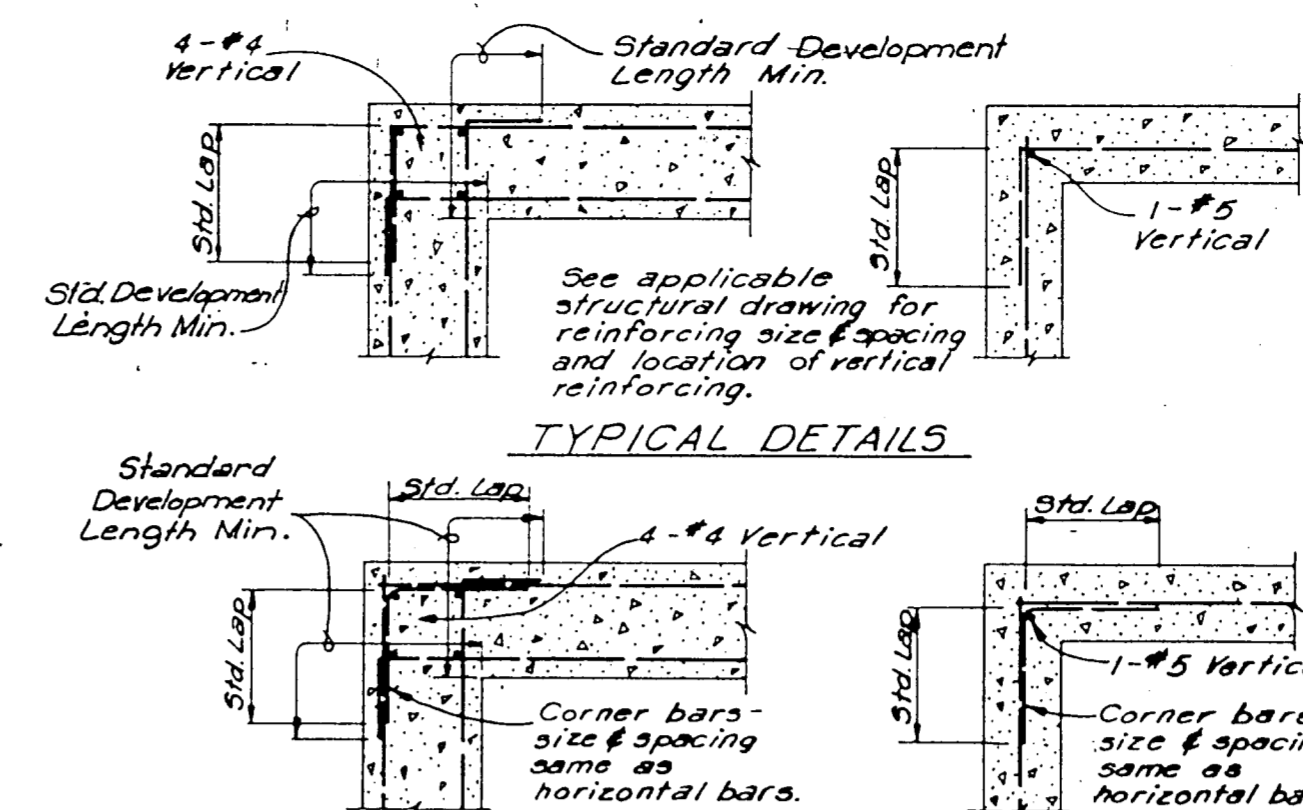
BAR SIZE	BAR POSITION	
	CASE 1	CASE 2
# 3	15	21
# 4	21	29
# 5	26	36
# 6	31	43
# 7	39	54
# 8	51	71
# 9	65	90
# 10	82	115
# 11	101	141

CASE 1 - HORIZONTAL BARS WITH LESS THAN 12" OF CONC BELOW BARS, AND ALL VERTICAL BARS

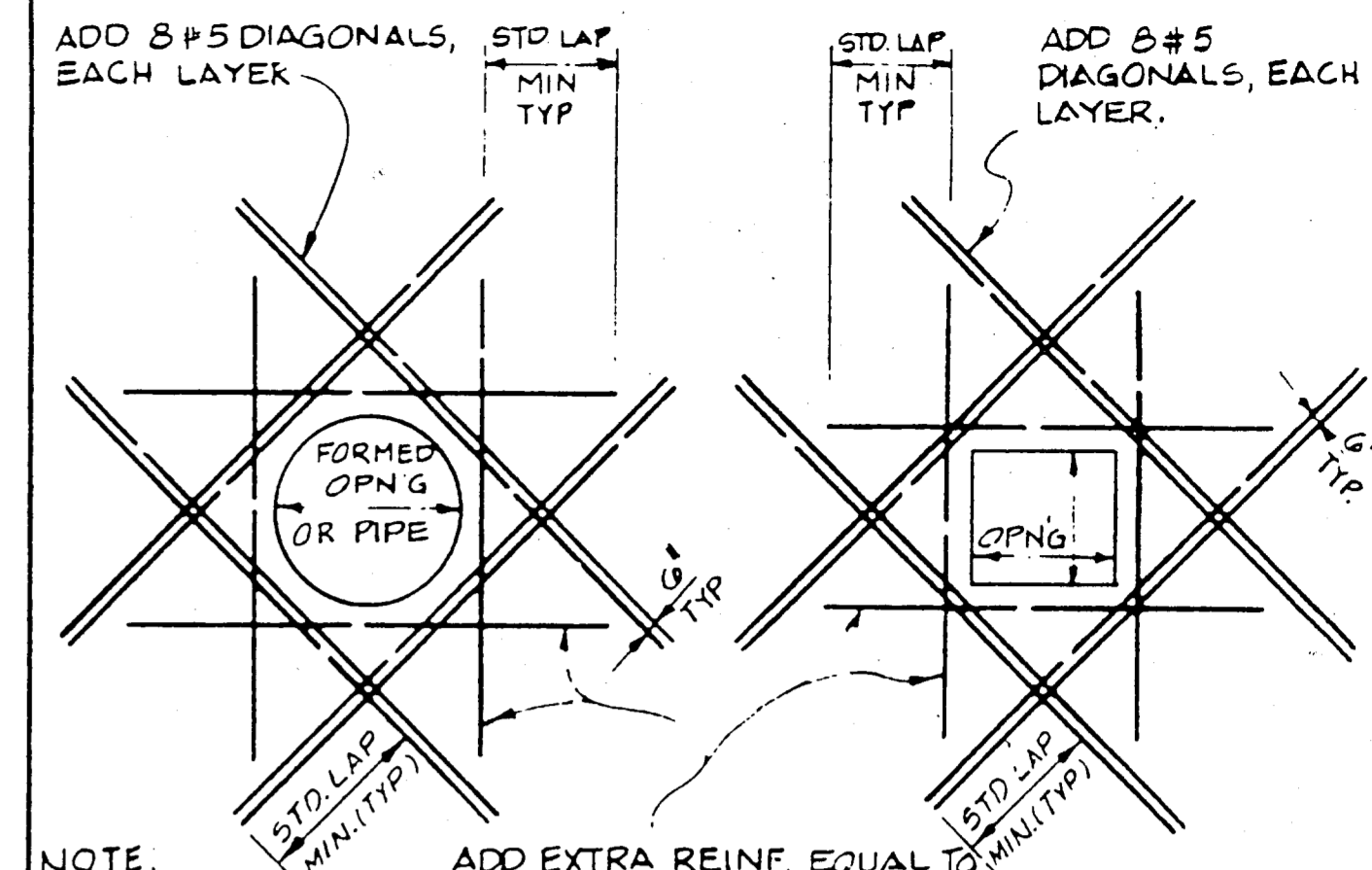
CASE 2 - HORIZONTAL BARS WITH 12" OR MORE CONCRETE BELOW BARS.

NOTE: FOR BARS SPACED GREATER THAN 6" ON CENTER AND WITH MIN 3" CLEAR COVER, MULTIPLY LAP LENGTH SHOWN BY 0.8. USE LAP LENGTH OF LARGER BAR SIZE WHEN TWO UNEQUAL BAR SIZES OVERLAP.

DETAIL 1 TYP

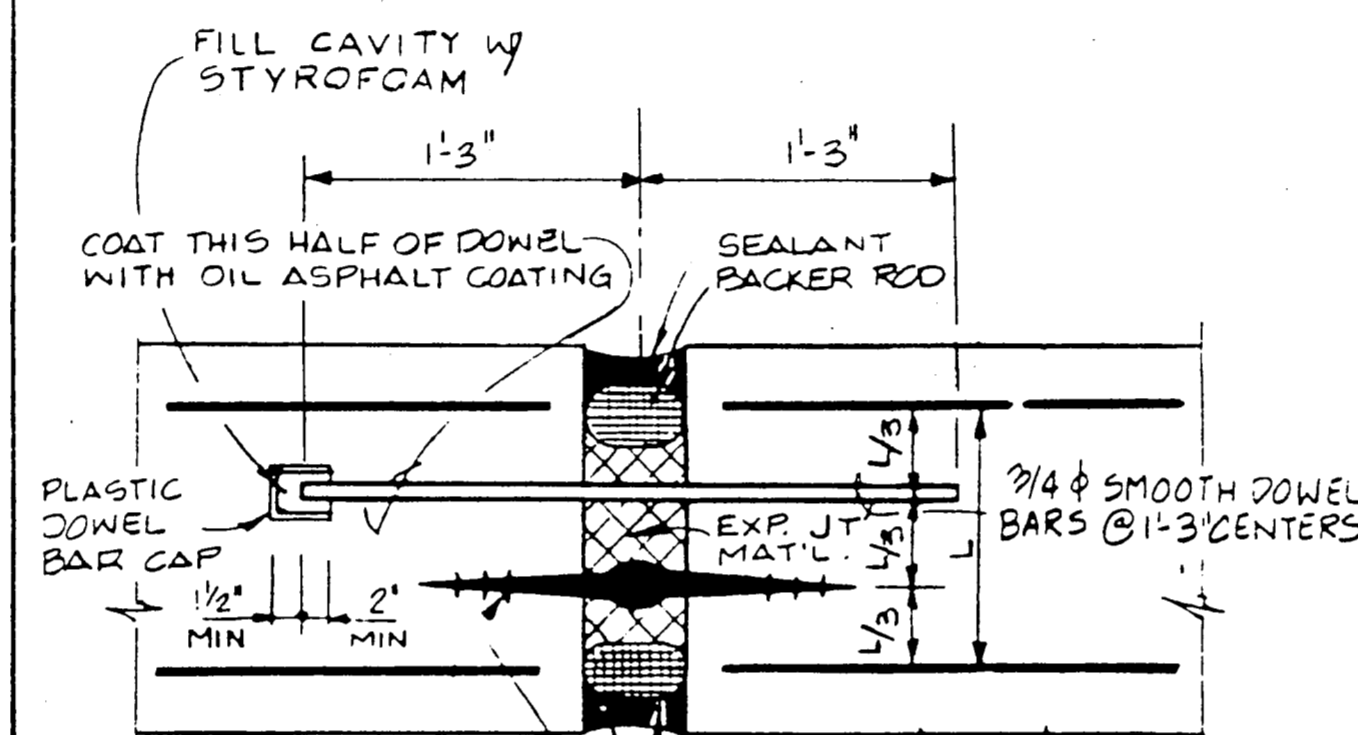


DETAIL 2 TYP



NOTE: SPREAD AND/OR CUT REINFORCING AT OPENINGS. SPREAD BARS NO MORE THAN ONE HALF TYPICAL BAR SPACE.

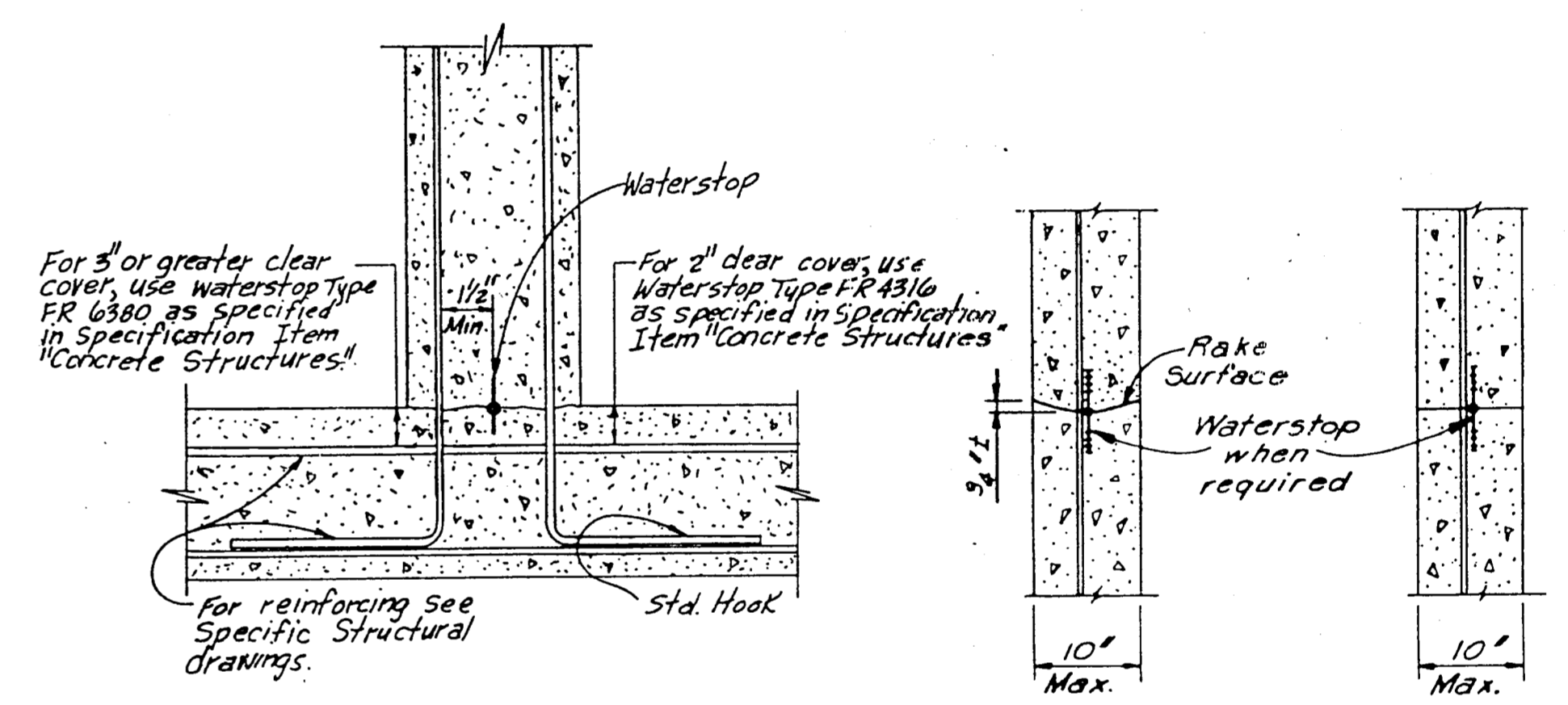
DETAIL 3 TYP



WATERSTOP REQUIRED FOR ALL JOINTS BELOW GRADE AND ALL JOINTS IN HYDRAULIC STRUCTURES UNLESS OTHERWISE NOTED. NOTE: CUT ALL REINFORCEMENT AT JOINT. NOTE: PLACE WATERSTOP NEAREST WATER RETAINING FACE OF WALL OR SLAB. FOR WALLS RETAINING WATER ON BOTH SIDES, WATERSTOP MAY BE PLACED NEAR EITHER FACE.

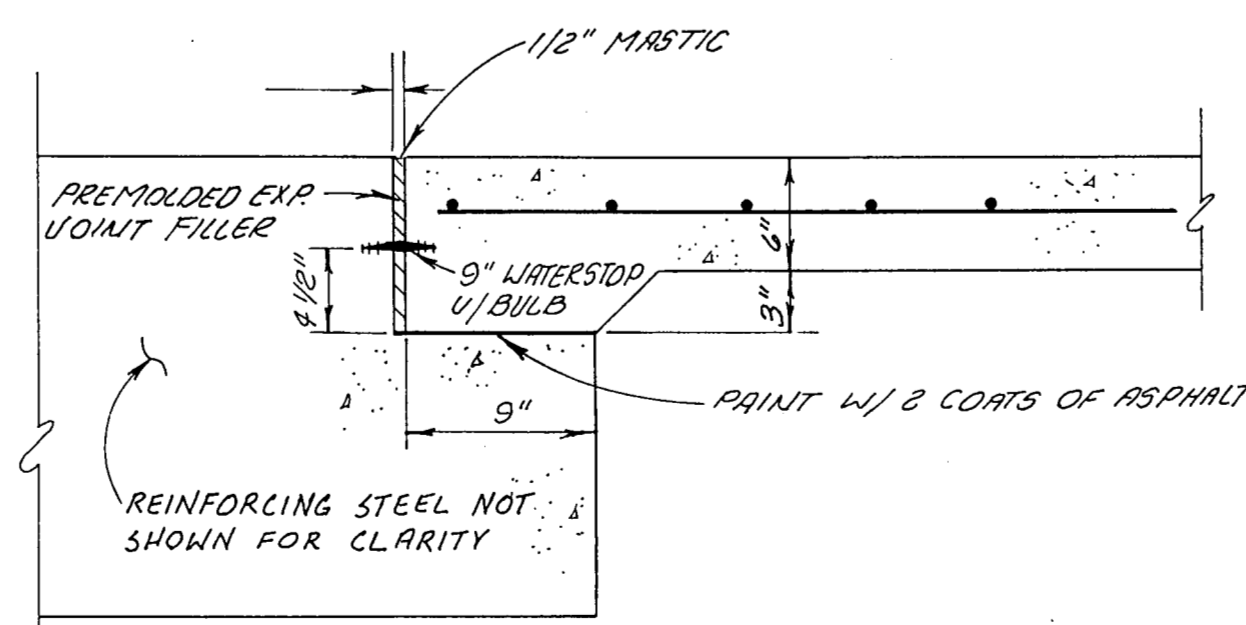
EXPANSION JOINT

DETAIL 4 TYP

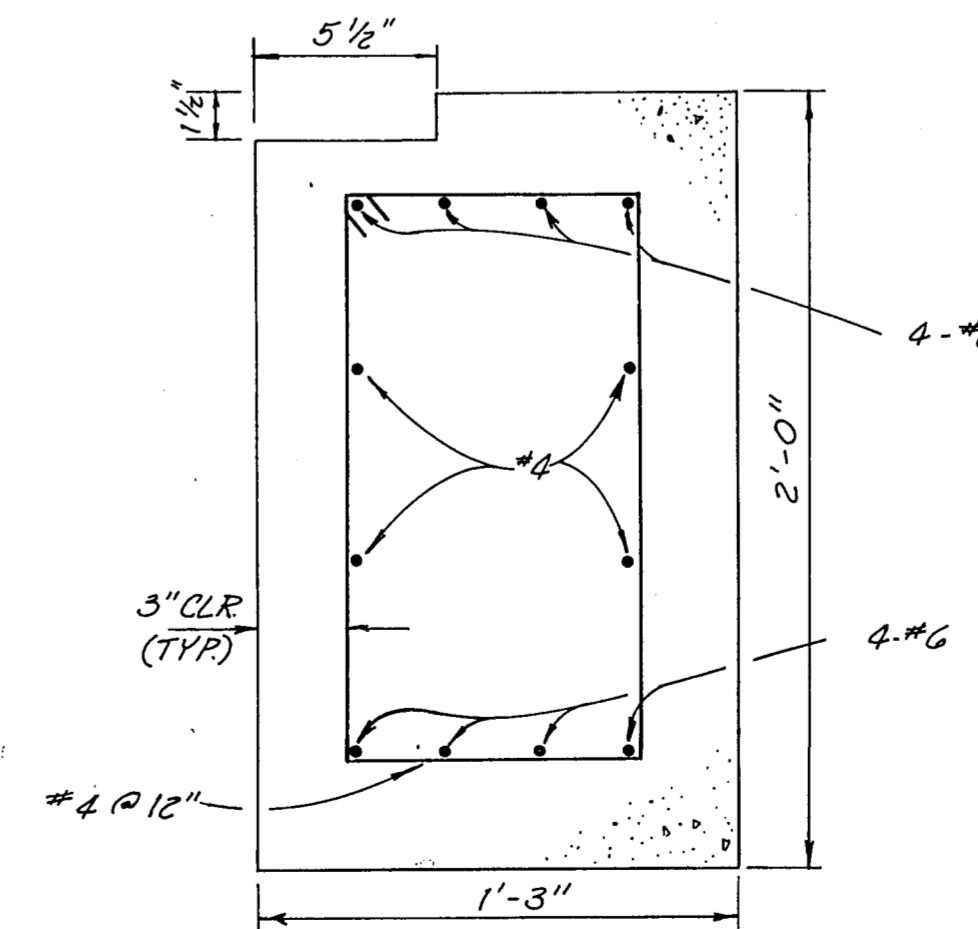


HORIZONTAL OR VERTICAL CONSTRUCTION JOINT

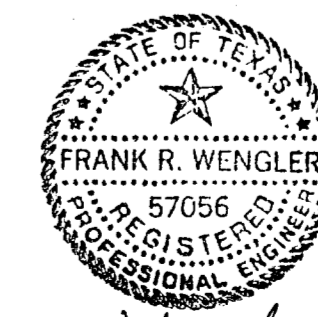
DETAIL 5 TYP



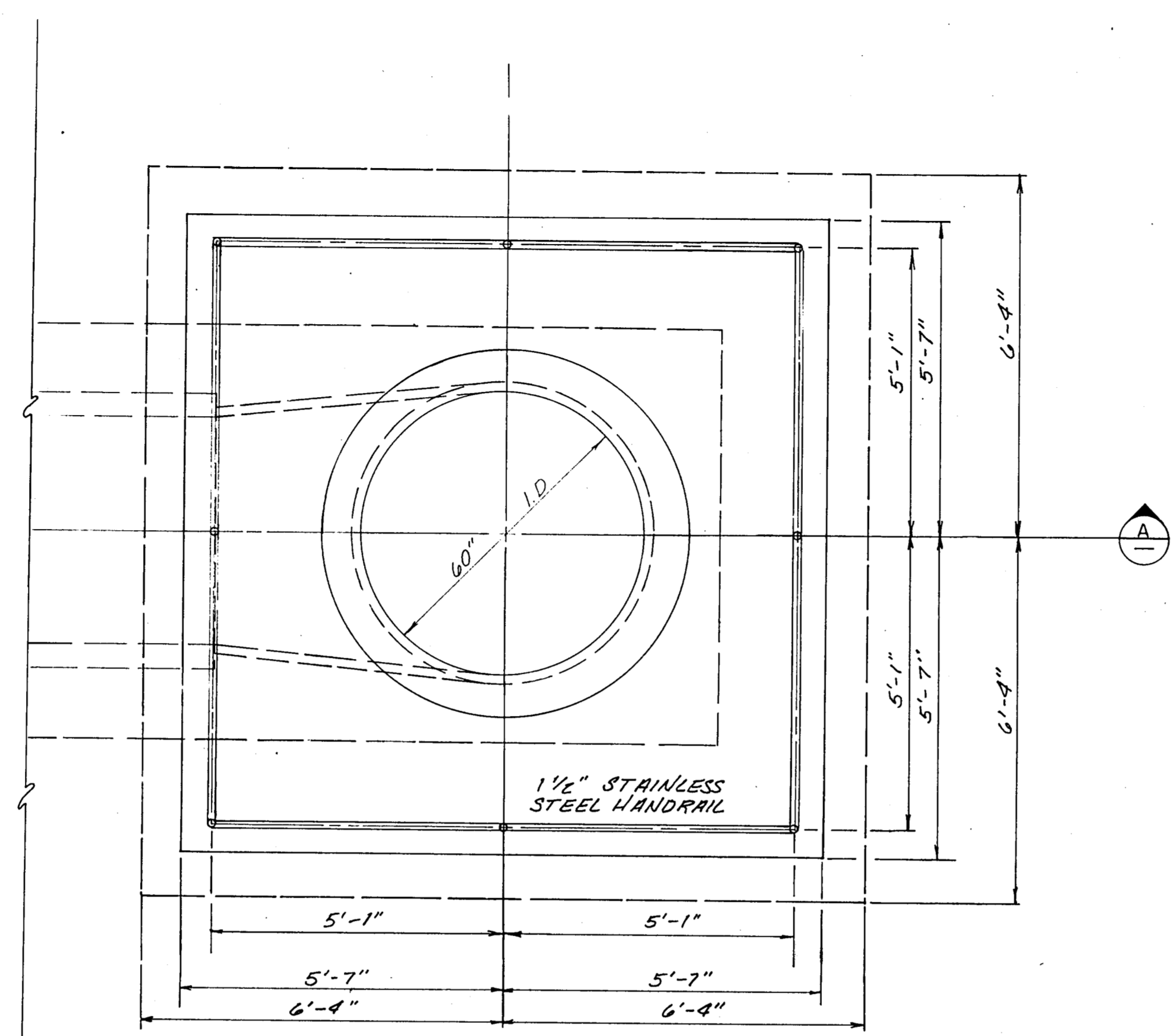
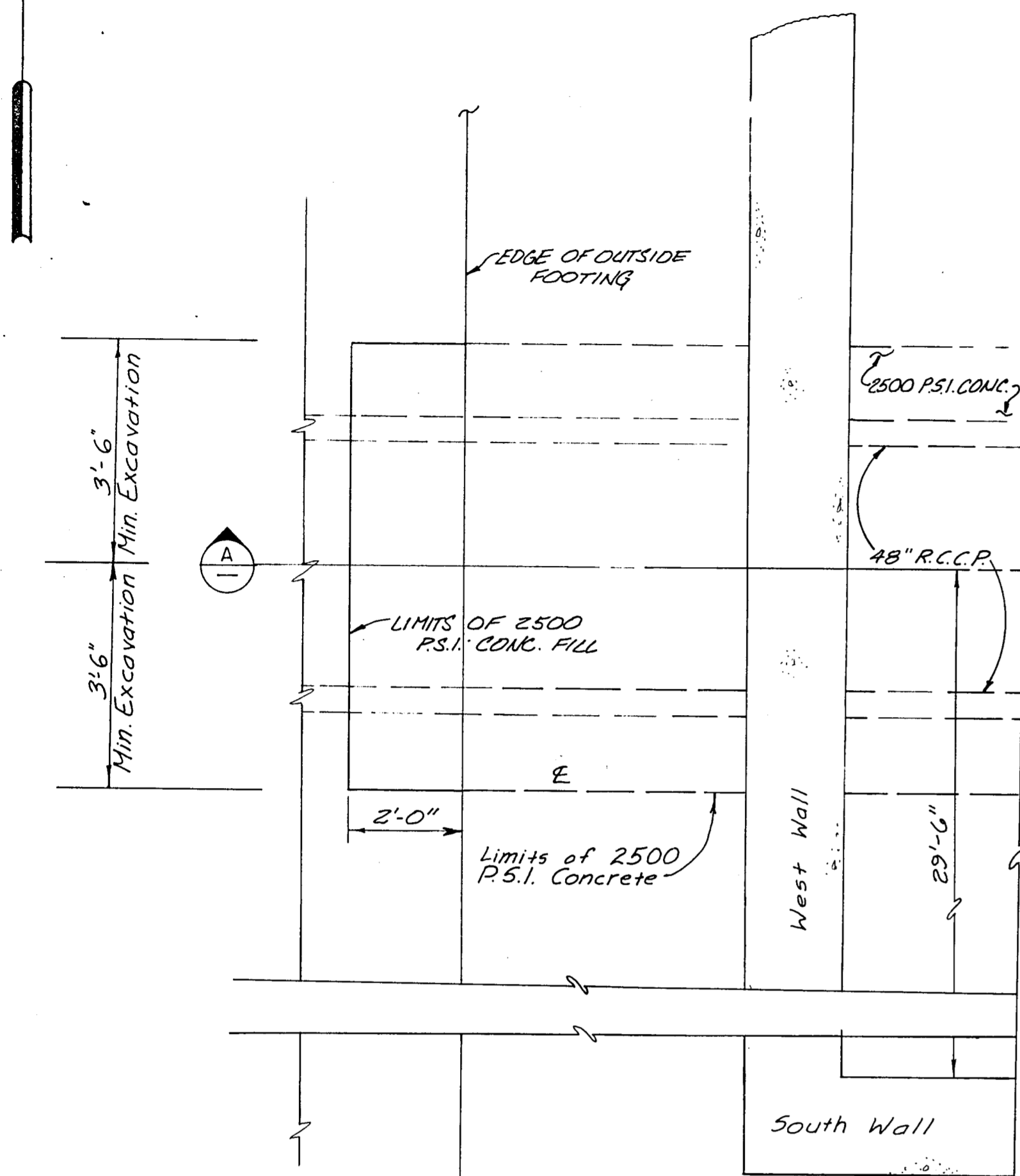
DETAIL 6 TYP



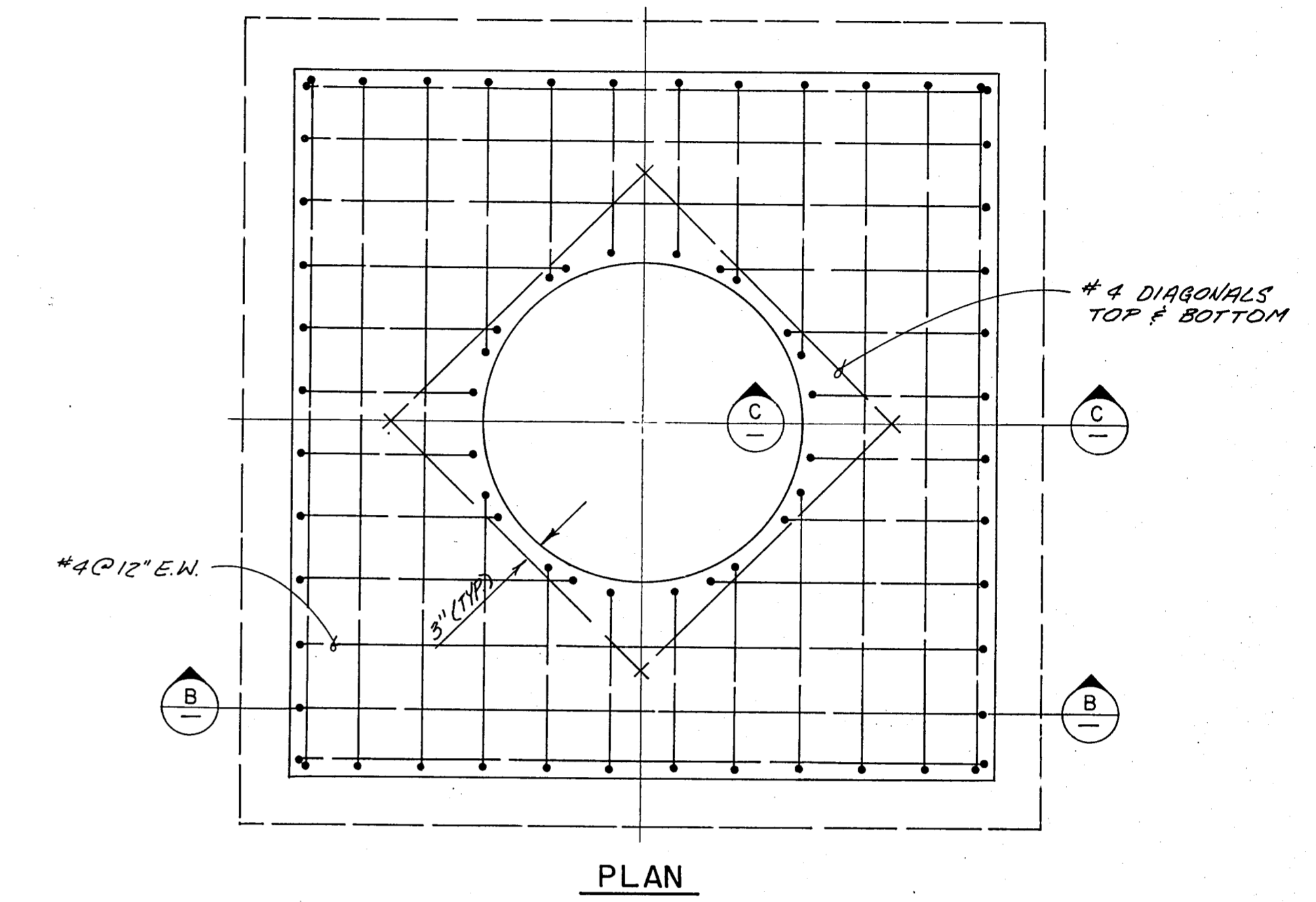
DETAIL 7 TYP



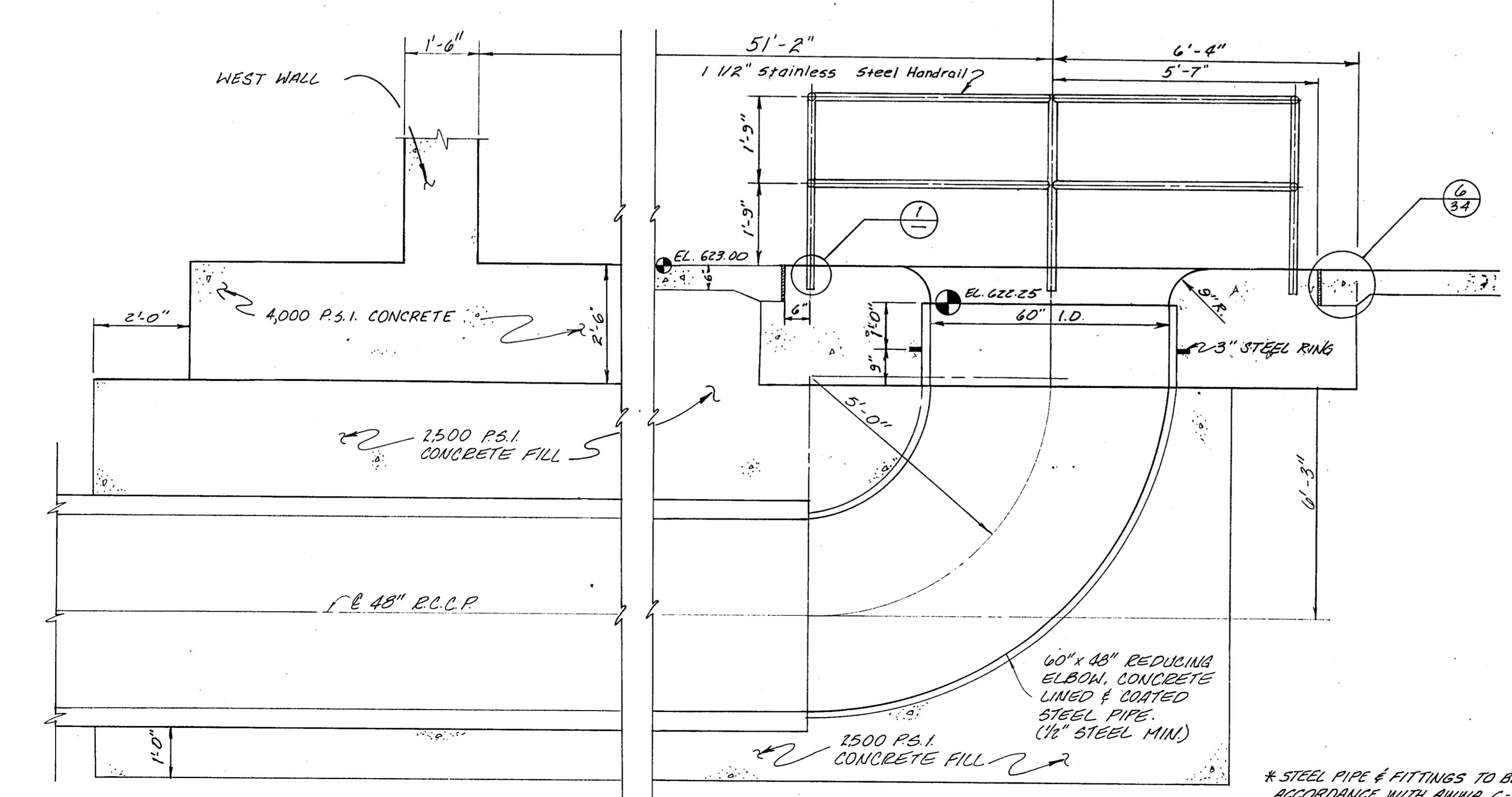
NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
RESERVOIR - MISC. STRUCTURAL DETAILS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collie & Braden Inc.			
DESIGN	FRW	CONTRACT NO.	89-79
DRAWN	WJT	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		
		SHEET NO.	34
		OF	44



DETAIL
SCALE: 1/2" = 1'-0"

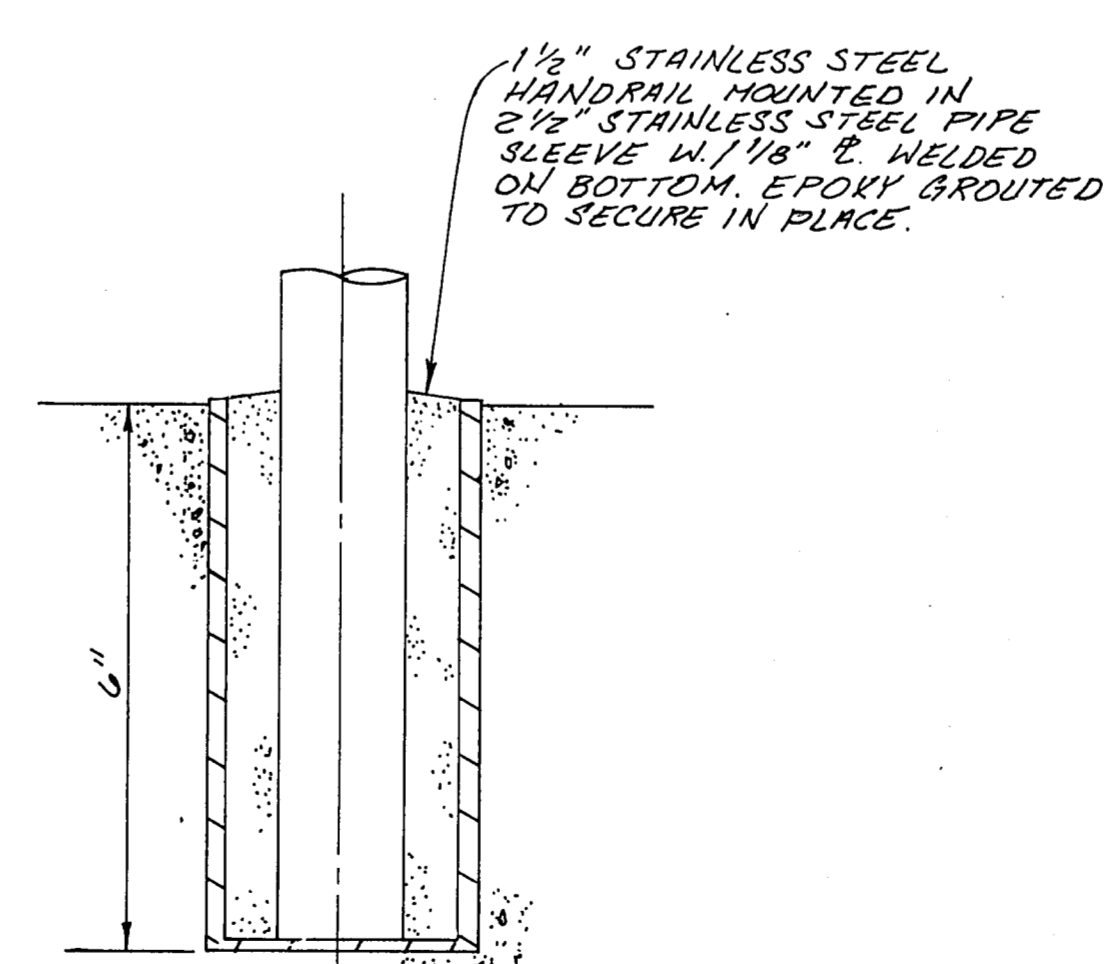


RESERVOIR INLET REINFORCEMENT

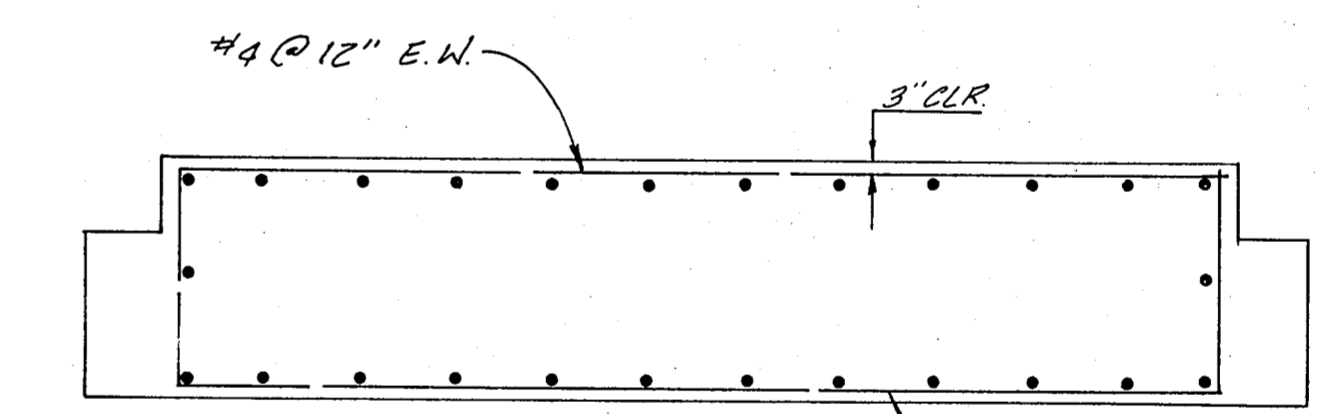


SECTION
SCALE: 1/2" = 1'-0"

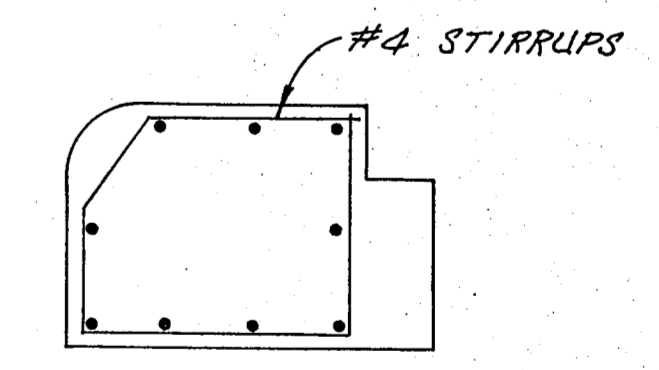
* STEEL PIPE & FITTINGS TO BE IN ACCORDANCE WITH ANWWA C-200 & ANWWA C-208. COATING TO BE PER ANWWA C-205



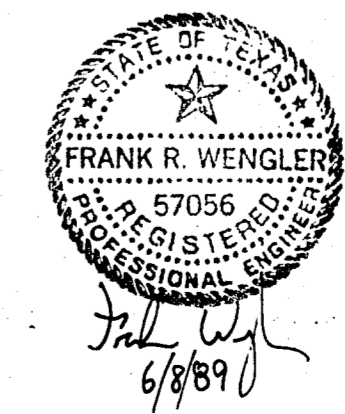
DETAIL
N.T.S.



SECTION B

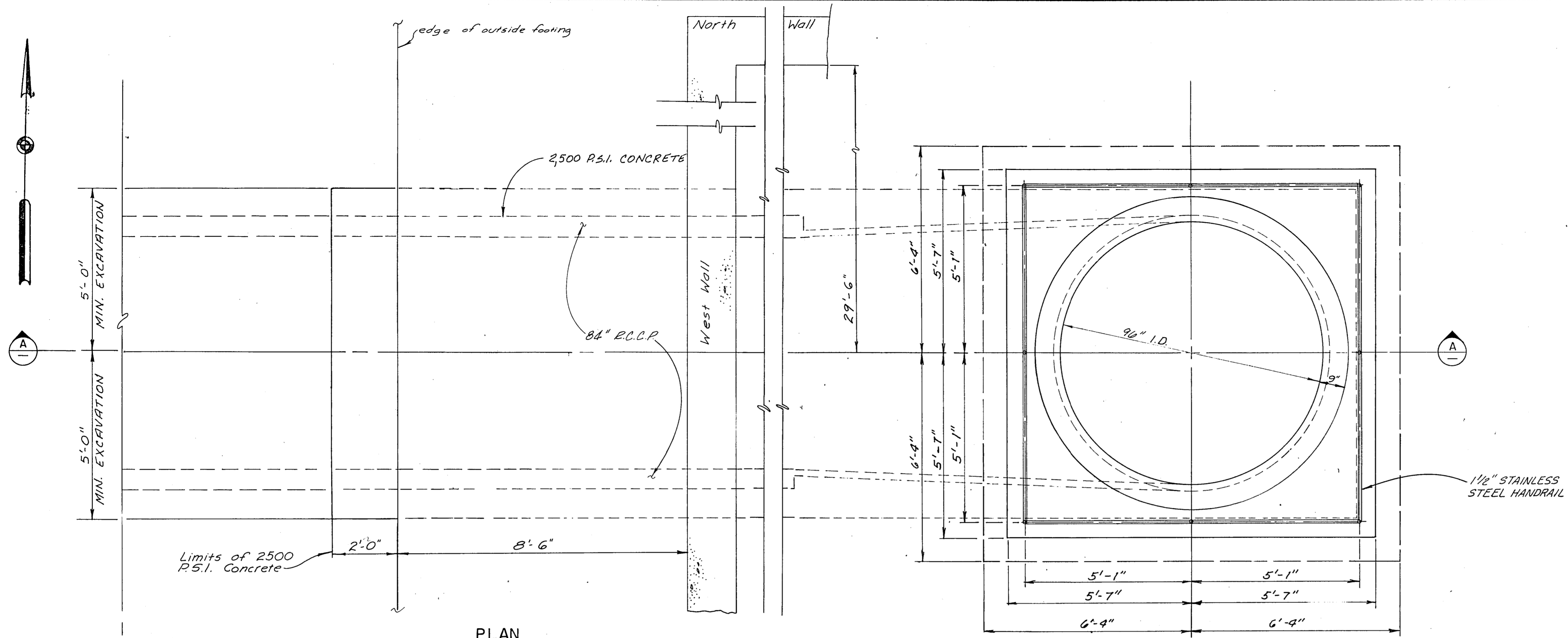


SECTION C

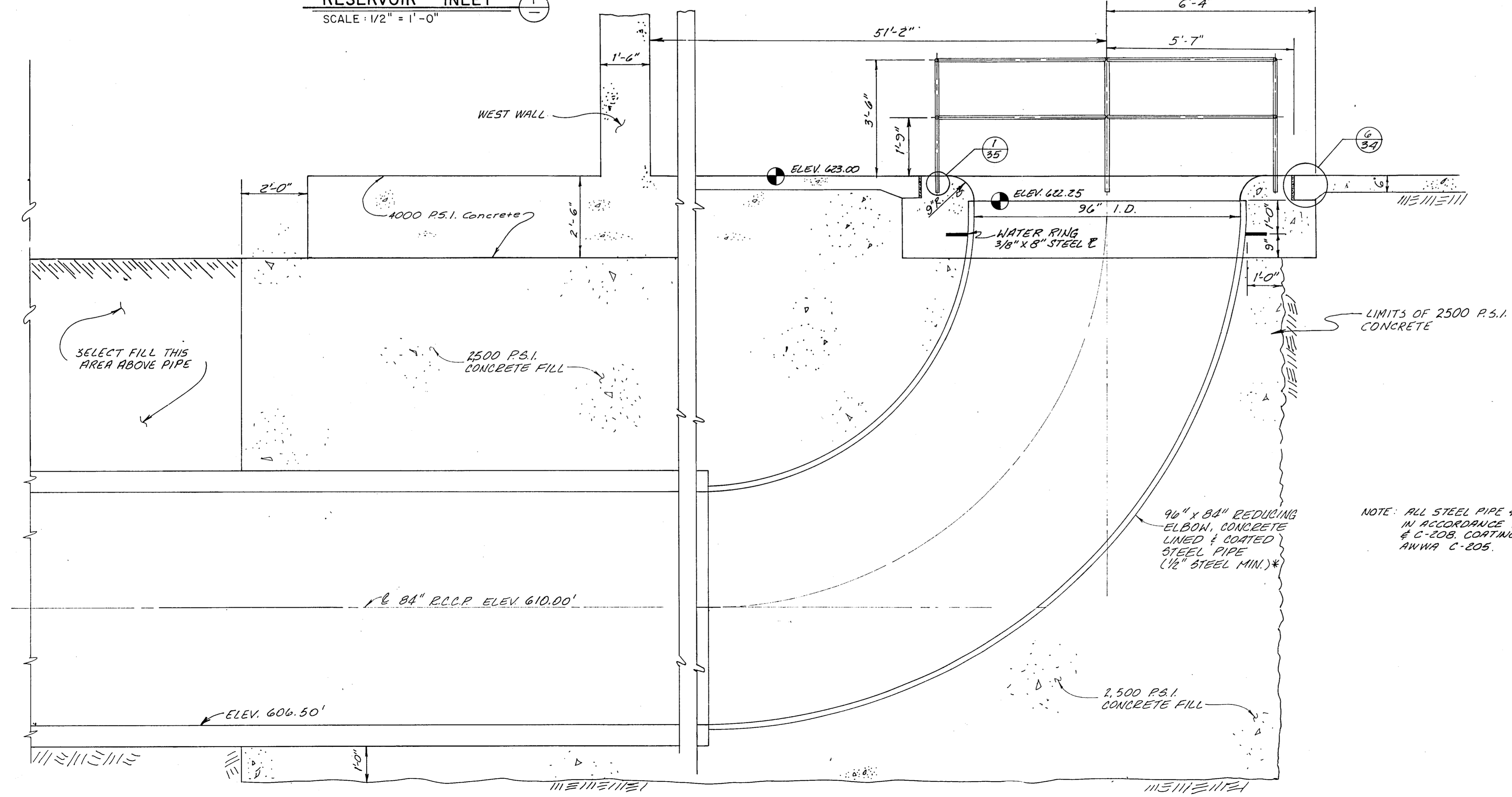


NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
RESERVOIR - 48" Ø INLET CONNECTION			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collie & Braden Inc.			
DESIGN	F.R.W.	CONTRACT NO.	89-79
DRAWN	G.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		

NOTE:
FOR REINFORCING STEEL DETAILS
SEE SHEET 35.

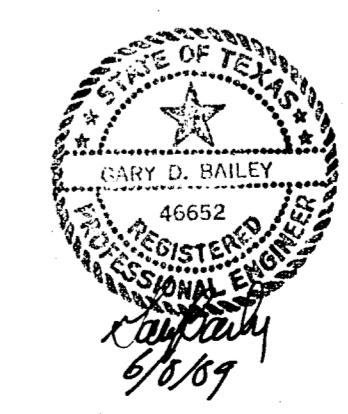


PLAN
RESERVOIR INLET
SCALE: 1/2" = 1'-0"

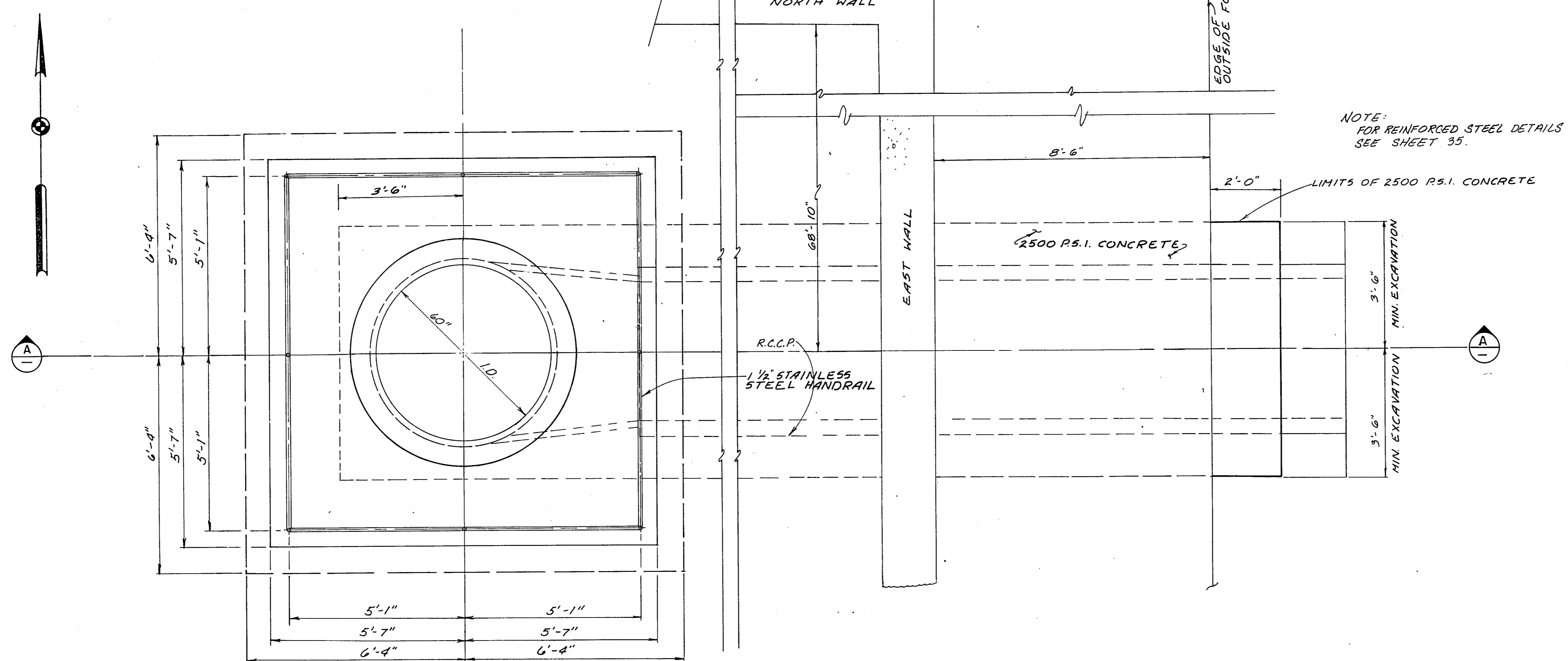


SECTION
SCALE: 1/2" = 1'-0"

NOTE: ALL STEEL PIPE & FITTINGS TO BE IN ACCORDANCE WITH AWWA C-200 & C-208. COATING TO BE PER AWWA C-205.

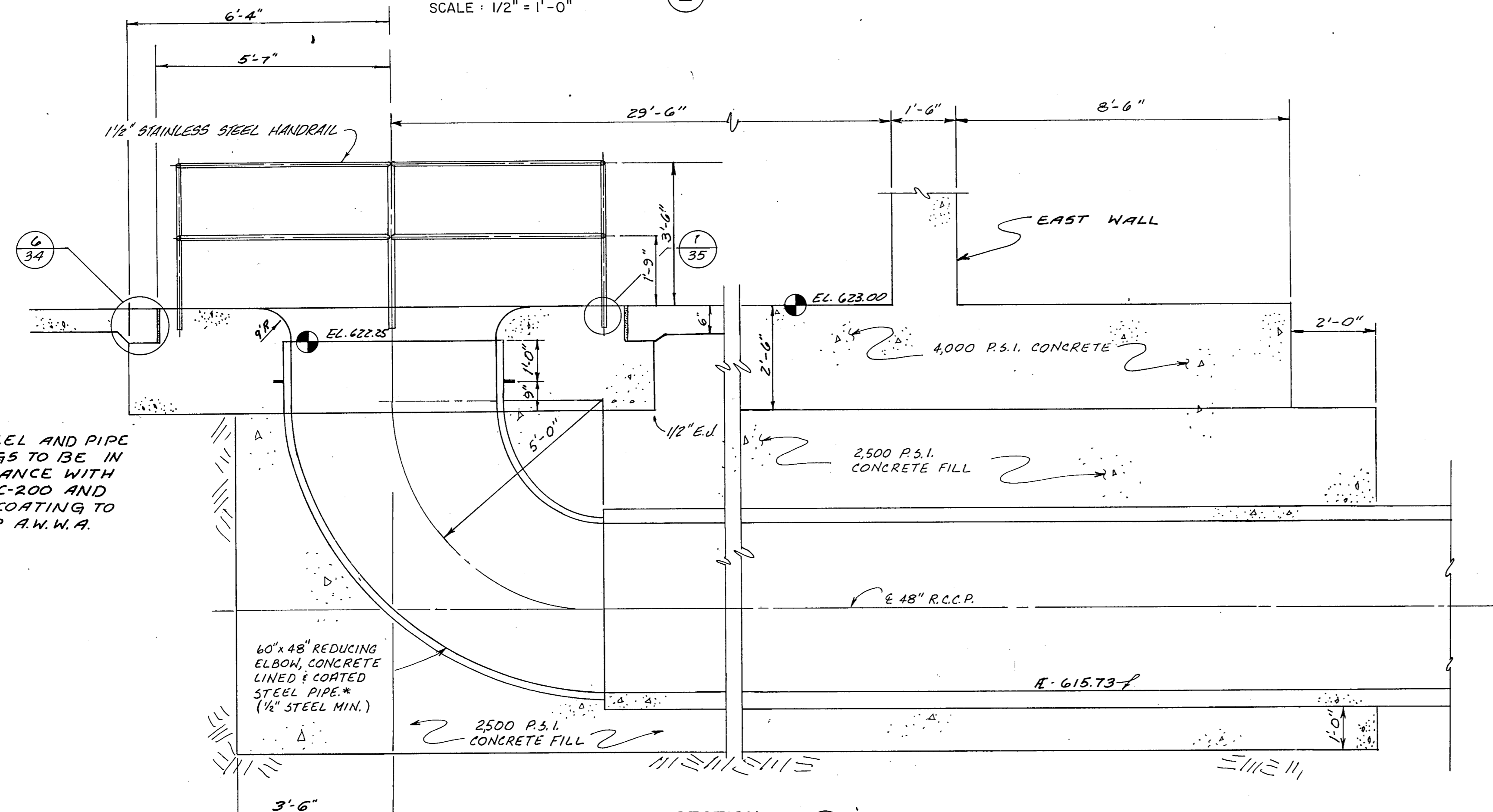


NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
RESERVOIR - 84" Ø INLET CONNECTION			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
TurnerCollie & Braden Inc.			
DESIGN	F.R.W.	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		
			SHEET NO. 36 OF 44



PLAN
RESERVOIR OUTLET

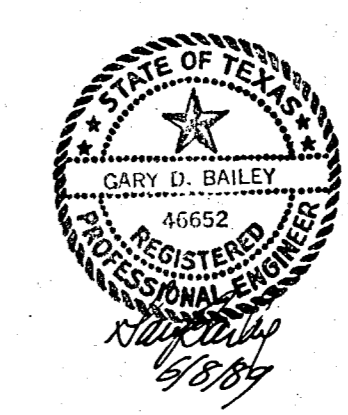
SCALE: 1/2" = 1'-0"



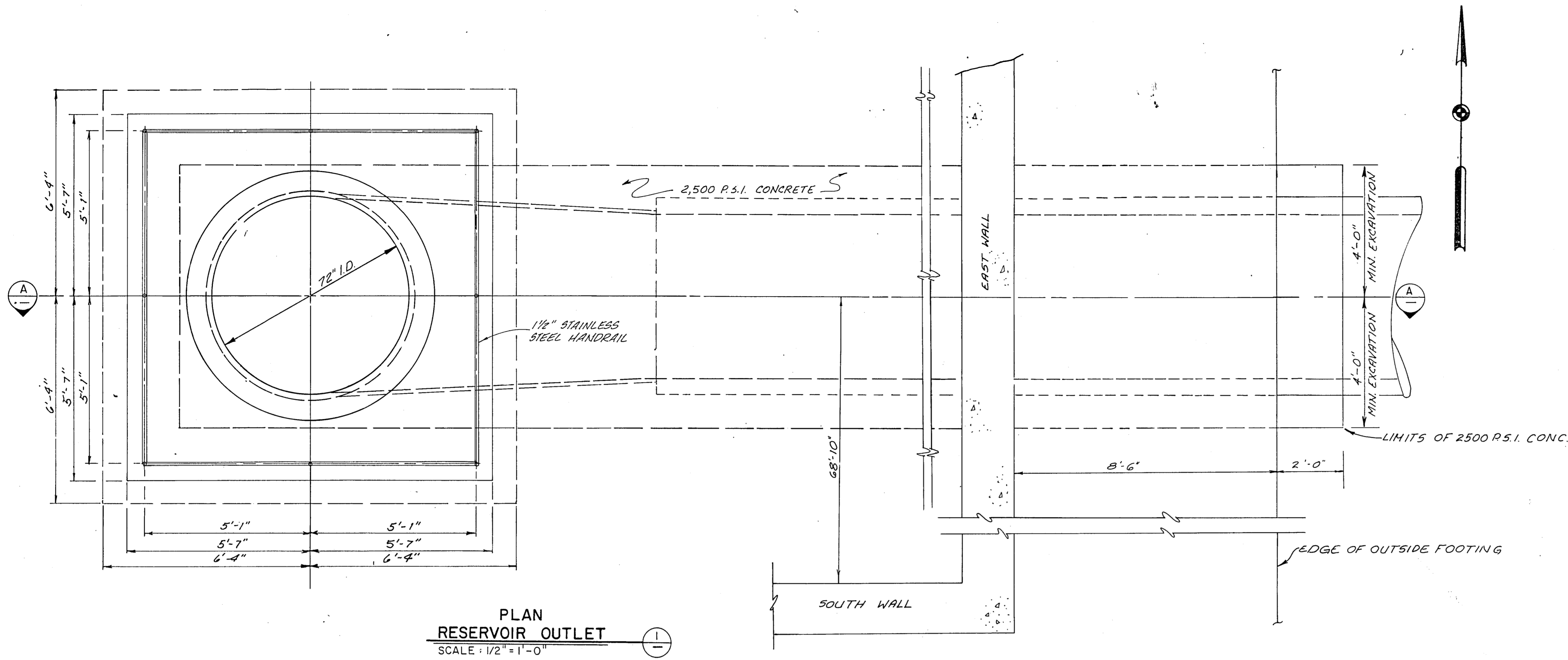
SECTION

SCALE: 1/2" = 1'-0"

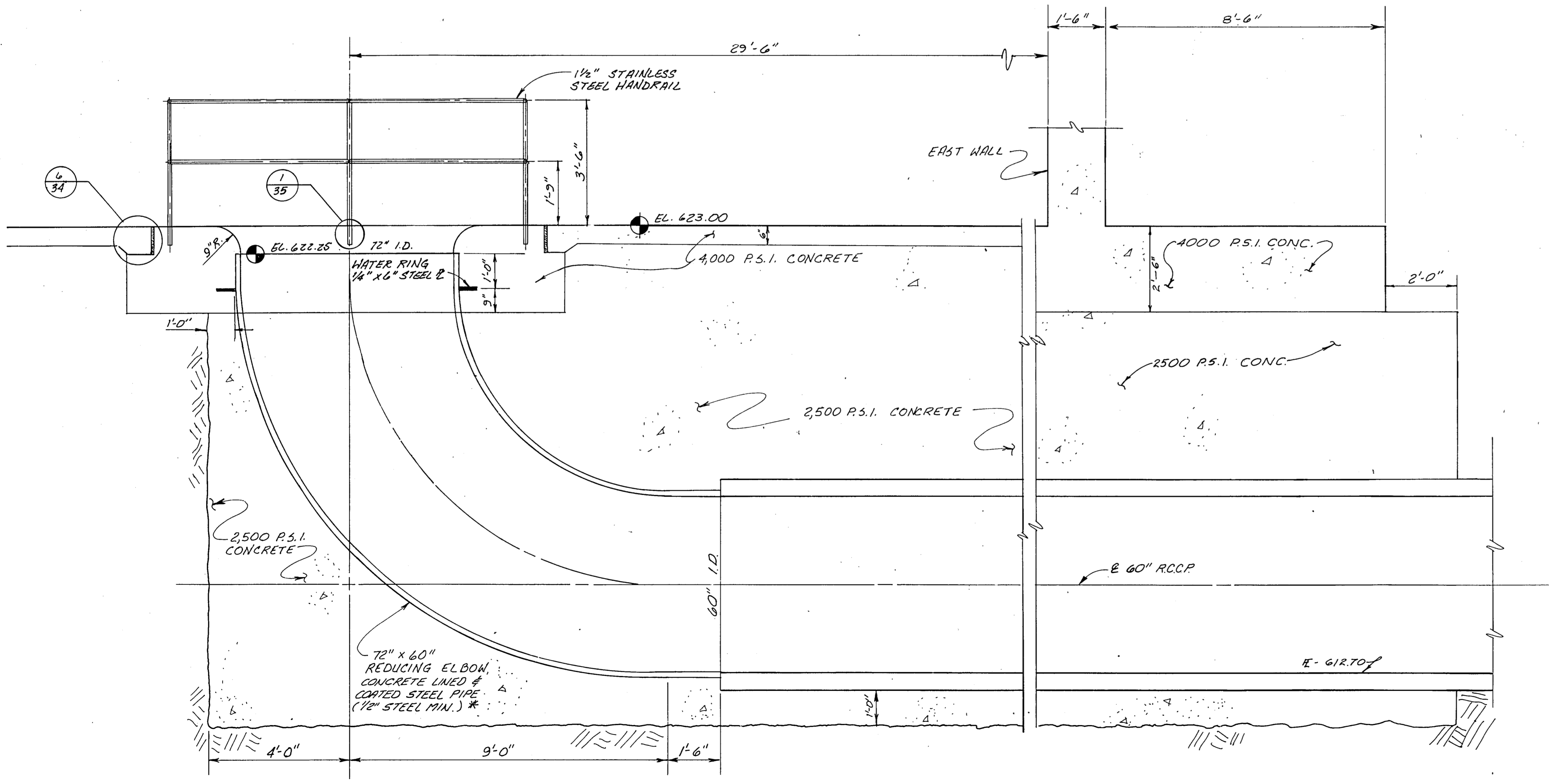
* NOTE: ALL STEEL AND PIPE FITTINGS TO BE IN ACCORDANCE WITH A.W.W.A. C-200 AND C-208. COATING TO BE PER A.W.W.A. C-205.



NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
RESERVOIR - 48" Ø OUTLET CONNECTION			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
TurnerCollie & Braden Inc.			
DESIGN	FRW	CONTRACT NO.	89-79
DRAWN	C.A.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE	5/89		
			SHEET 37 OF 44

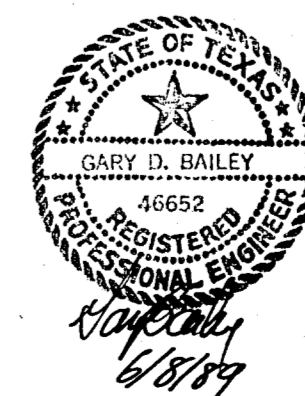


PLAN
RESERVOIR OUTLET
SCALE: 1/2" = 1'-0"

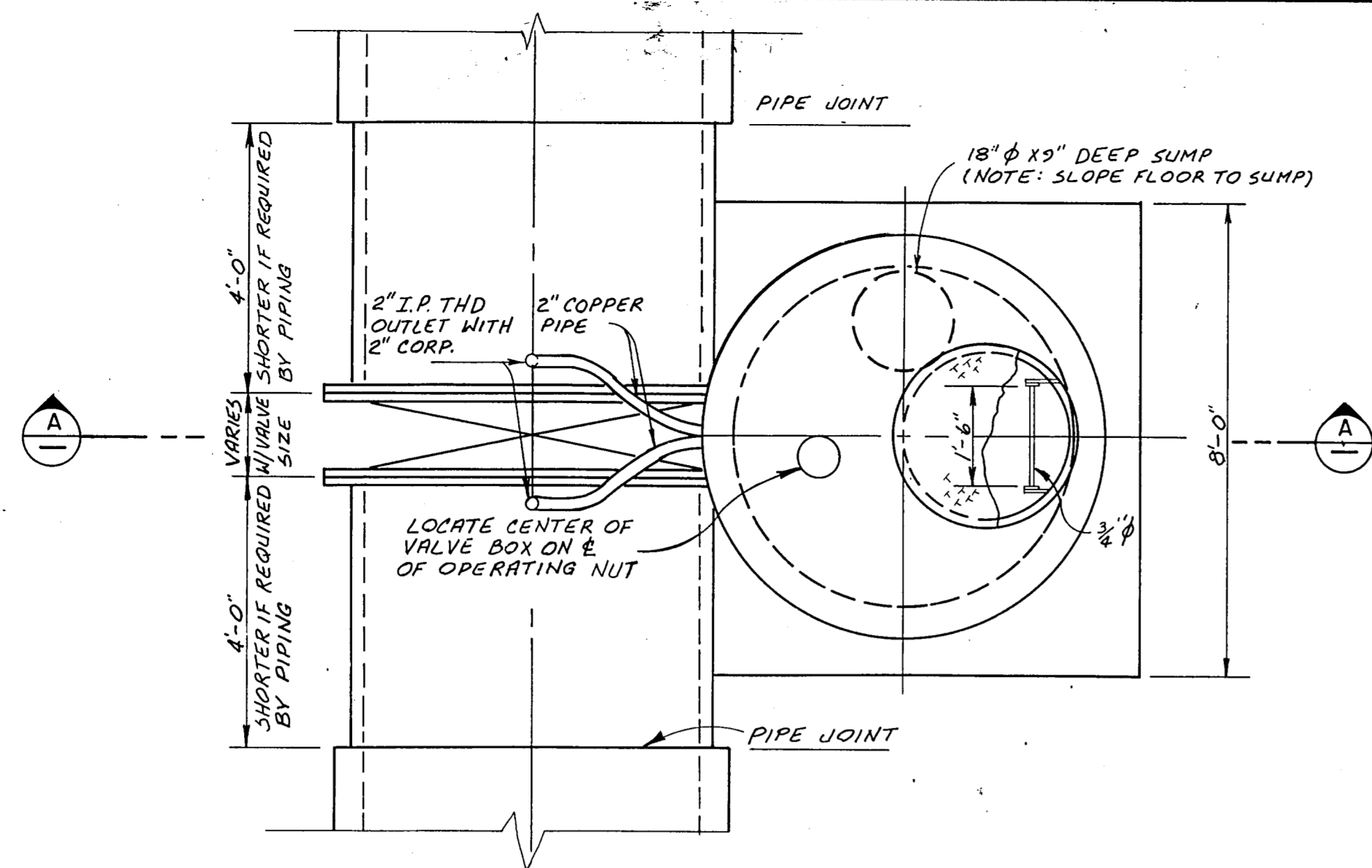


SECTION
SCALE: 1/2" = 1'-0"

* NOTE: ALL STEEL PIPE & FITTINGS TO BE IN ACCORDANCE WITH AWWA C-200 & C-208 COATING TO BE PER AWWA C-205

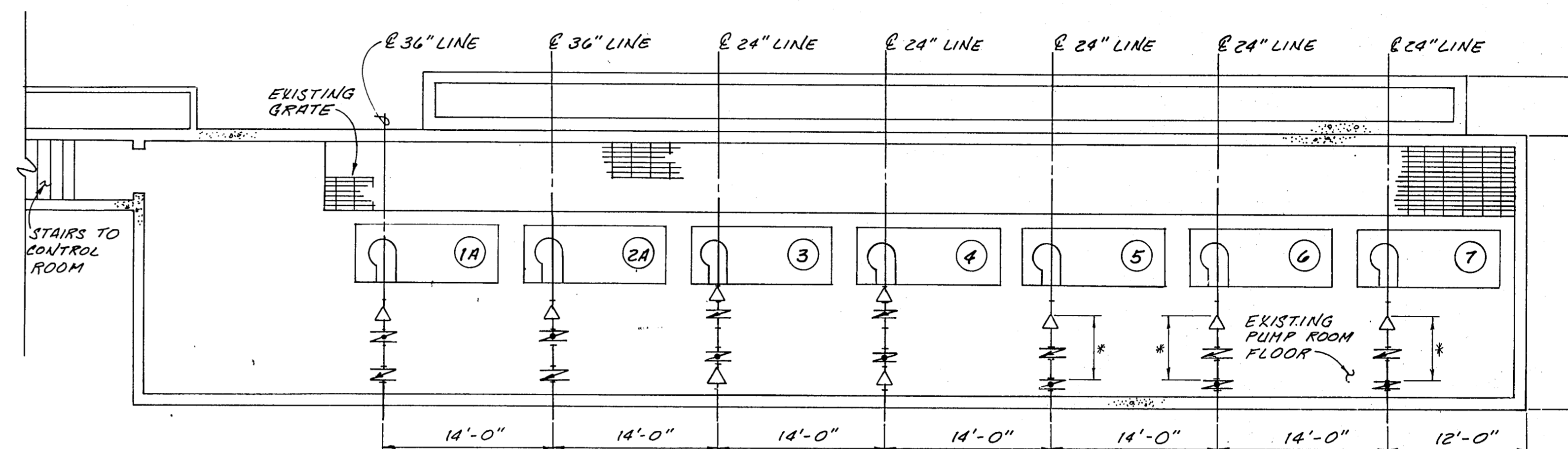


NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION RESERVOIR - 60" Ø OUTLET CONNECTION			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS TurnerCollie & Braden Inc.			
DESIGN	ERW	CONTRACT NO.	SHEET NO.
DRAWN	C.A.	89-79	38
TRACED		FILE NO.	
CHECKED		630 Q 700 F	OF 44
DATE	5/89		



TYPICAL BUTTERFLY VALVE INSTALLATION

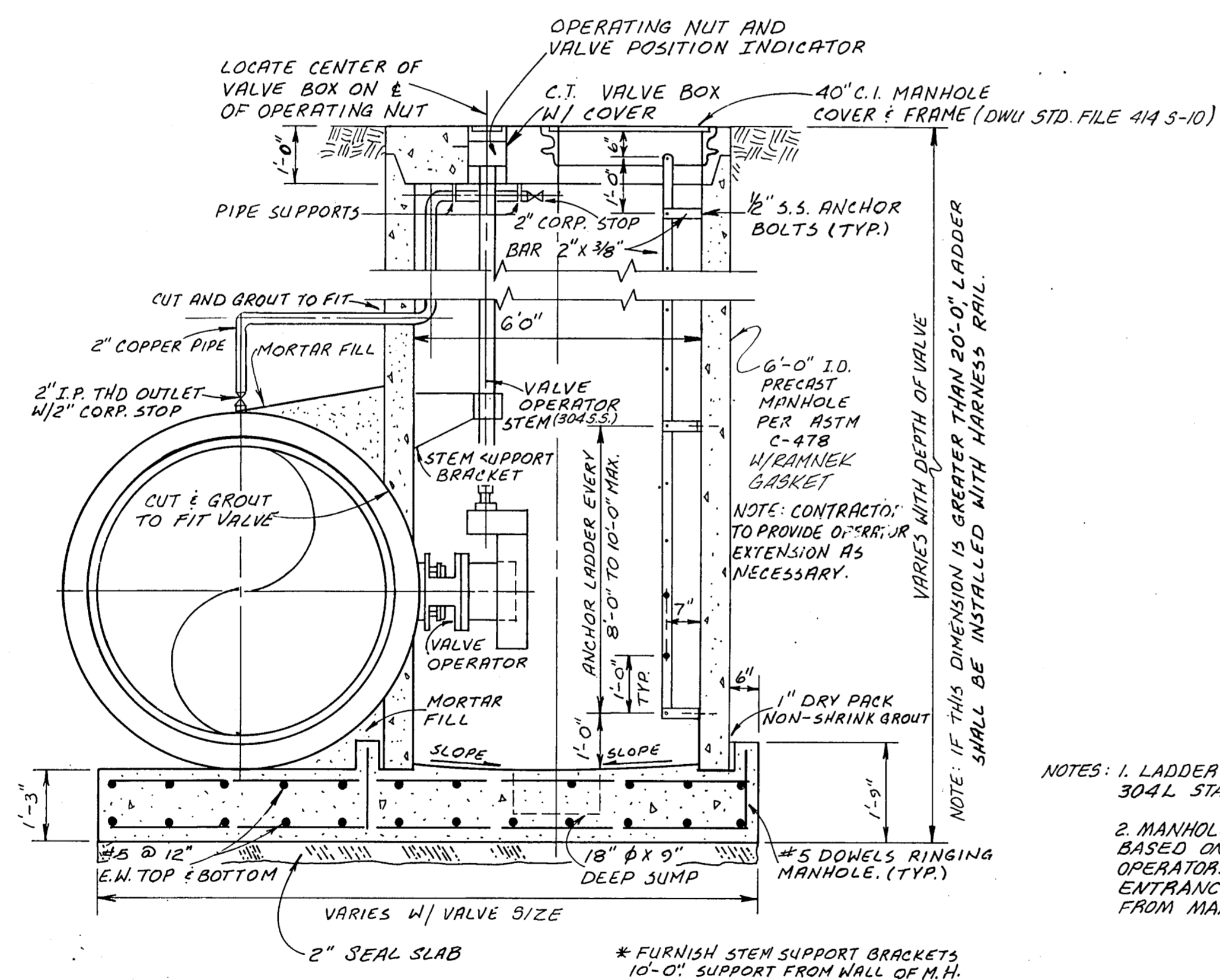
SCALE: 1/2" = 1'-0"



* DENOTES LIMITS OF TILTING DISC CHECK VALVE INSTALLATION. EXISTING CHECK VALVE AND ASSOCIATED PIPEWORK TO BE REMOVED AND REPLACED. REMOVE EXISTING INCREASES, CHECK VALVES AND PIPE SPOOLS. INSTALL NEW INCREASES, TILTING DISC CHECK VALVES, PIPE SPOOLS, AND FLANGED COUPLING ADAPTERS BASED ON CONTRACTOR'S FIELD MEASUREMENTS (PUMPS 5, 6, AND 7) SIZES TO BE THE SAME AS EXISTING. VALVES TO BE THE SAME SIZE AS EXISTING.

PUMP ROOM PLAN

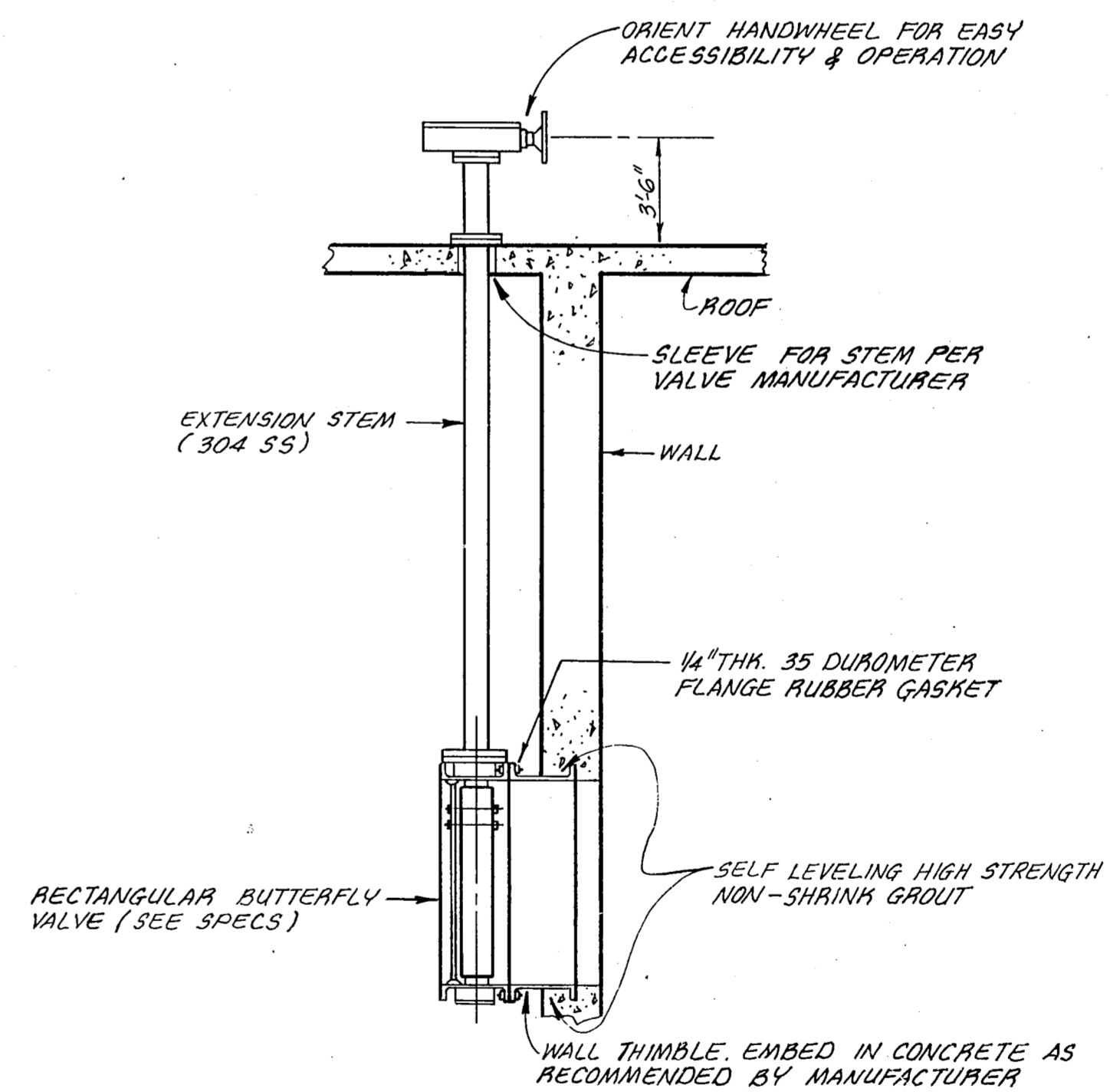
SCALE: 1/8" = 1'-0"



NOTES: 1. LADDER SHALL BE 304 STAINLESS STEEL AND 304L STAINLESS STEEL IF WELDING IS TO BE USED.
2. MANHOLE AND ENTRANCE OPENING ARE SIZED BASED ON LIMITORQUE OPERATORS. IF OTHER OPERATORS ARE USED, ADJUST MANHOLE AND ENTRANCE SIZES FOR EASY REMOVAL OF OPERATORS FROM MANHOLE AT NO ADDITIONAL COST TO OWNER.

SECTION A-A

SCALE: 1/2" = 1'-0"

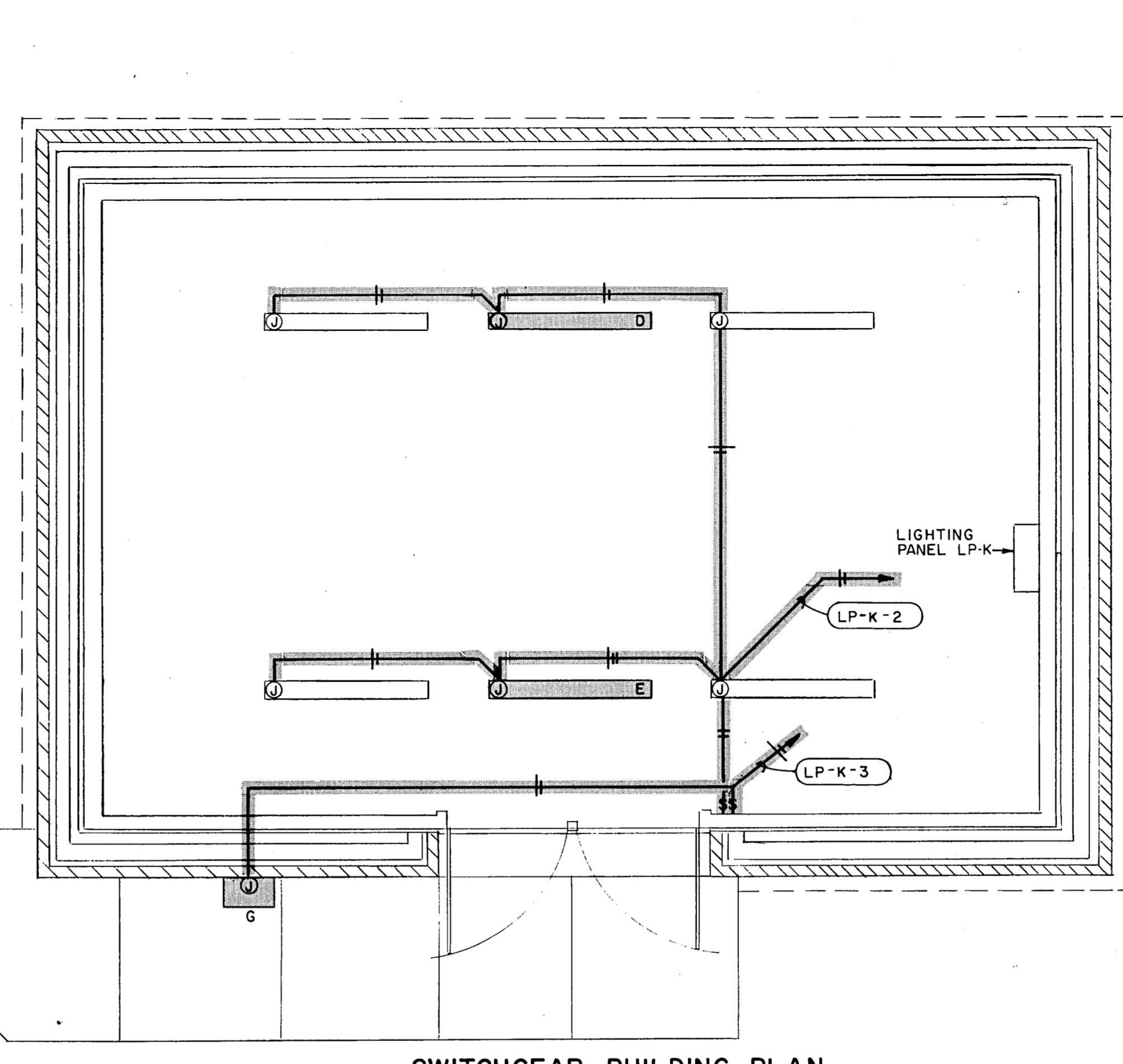
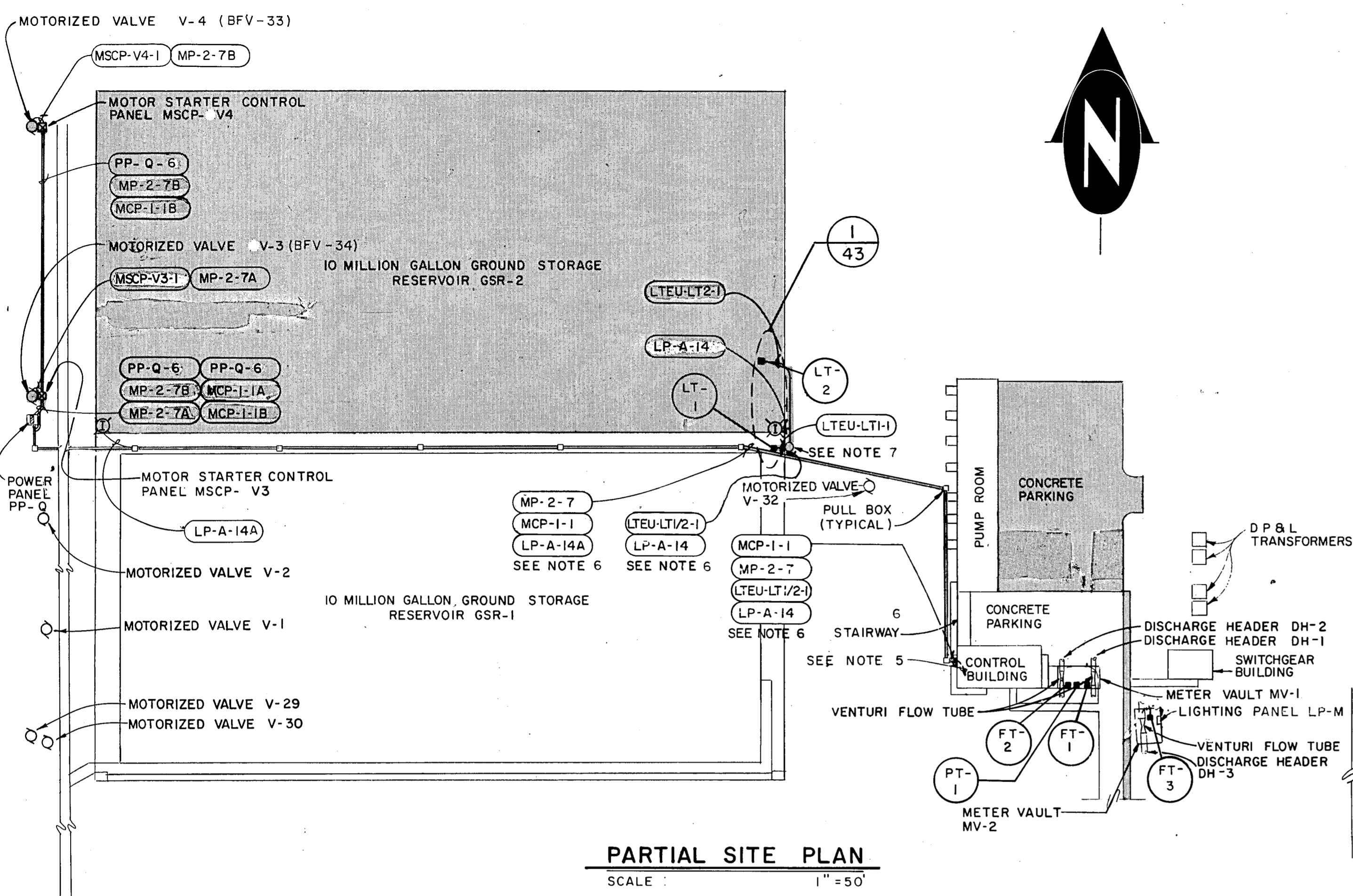


TYPICAL RECTANGULAR BUTTERFLY VALVE MOUNTING DETAIL

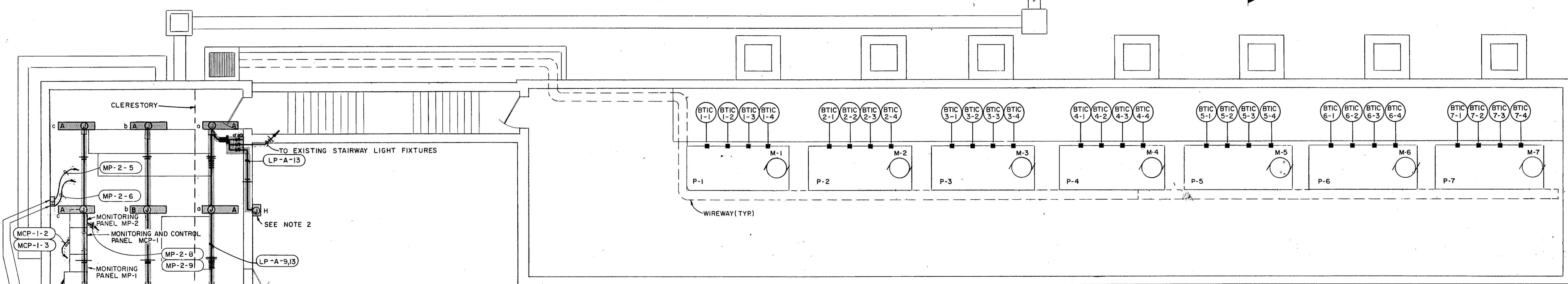
N.T.S.



NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
MISCELLANEOUS MECHANICAL DETAILS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collier & Braden Inc.			
DESIGN	F.R.W.	CONTRACT NO.	SHEET NO.
DRAWN	D.J.B.	89-79	39
TRACED		FILE NO.	
CHECKED		630 Q 700 F	
DATE	5/89		OF 44



- ONE-LINE DIAGRAM AND PLAN LEGEND**
- EXISTING
 - PROPOSED
 - PB PULL BOX
 - FIELD MOUNTED DEVICE
 - FT-1 FIELD MOUNTED DEVICE IDENTIFICATION TAG, FT-1 = DEVICE DESIGNATION
 - J JUNCTION BOX
 - A LIGHT FIXTURES, LETTER REPRESENTS FIXTURE TYPE AS DESCRIBED ON LIGHTING FIXTURE SCHEDULE
 - H
 - I
 - PP-Q-4 CONDUIT/CABLE IDENTIFICATION TAG, PP-Q-4 = CIRCUIT TAG NUMBER
 - ELECTRICAL MOTOR
 - CIRCUIT WITH NO. OF WIRES INDICATED. 1 = HOT, | = NEUTRAL
 - HOME RUN CIRCUIT
 - 3, WP 4 LIGHT SWITCH, 3 = THREE WAY, 4 = FOUR WAY WP = WEATHERPROOF
 - BTICs BEARING TEMPERATURE INDICATOR CONTROLLERS
 - FT FLOW TRANSMITTER
 - PT PRESSURE TRANSMITTER
 - LTEU LEVEL TRANSMITTER ELECTRONIC UNIT
 - LT LEVEL TRANSMITTER



NOTES:

1. Existing Control Building interior and exterior light fixtures to be replaced with proposed light fixtures as shown. All existing wire powering and controlling light fixtures, all existing light switches, and all existing light switch cover plates to also be replaced with proposed wire, proposed light switches, and proposed light switch cover plates as shown. Existing light fixture conduits can be utilized; however, Contractor responsible for any additional conduit required for a complete and workable system at no additional cost to Owner. Any conduit installed in Control Building to be concealed above proposed ceiling or below floor. Existing light switches and appurtenances not reutilized to be removed. Blank cover plates to be provided for abandoned light switches as required. Nameplates to be provided and installed above light switches indicating which lights are controlled by switch when not obvious.
2. Type II light fixture to be installed at locations as shown. Existing floodlight fixtures mounted in soffit adjacent to proposed Type II fixtures to be removed. Junction box to be installed in place of existing fixture outlet box in soffit and proposed aluminum conduit to be routed to Type II fixture. Junction box and conduit to be concealed in soffit as required.
3. Proposed Switchgear Building light fixtures to be installed at location as shown. All existing wire powering and controlling light fixtures, all existing light switches, and all existing light switch cover plates to be replaced with proposed wire, proposed light switches, and proposed cover plates as shown. Existing light fixture located on southeast corner of Switchgear Building to be removed and not replaced. Existing light switches not replaced with proposed light fixture conduits can be utilized; however, Contractor responsible for any additional conduit required for a complete and workable system at no additional cost to Owner. All existing exposed conduits not utilized to also be removed.
4. All existing removed equipment to become property of Contractor per Owner's discretion.
5. Proposed conduits to be routed on underside of Control Building floor and stubbed-up into appropriate panels.
6. Proposed conduits to be routed into existing pull boxes as shown. Existing conduits routed into existing pull boxes to be coordinated with proposed conduit installation as required.
7. Electrical pull box to be 1-foot by 1 1/2-foot minimum with depth coordinated with respective below grade conduit. Pull box to include cast iron traffic cover marked "ELEC" and sump with size as required per manufacturer's recommendations. Top of pull box to be installed 1 inch above finished grade. Manufacturer of pull box to be Brooks or Dalworth-Quickset.
8. Light switch, exposed conduit, and appurtenances to be removed.

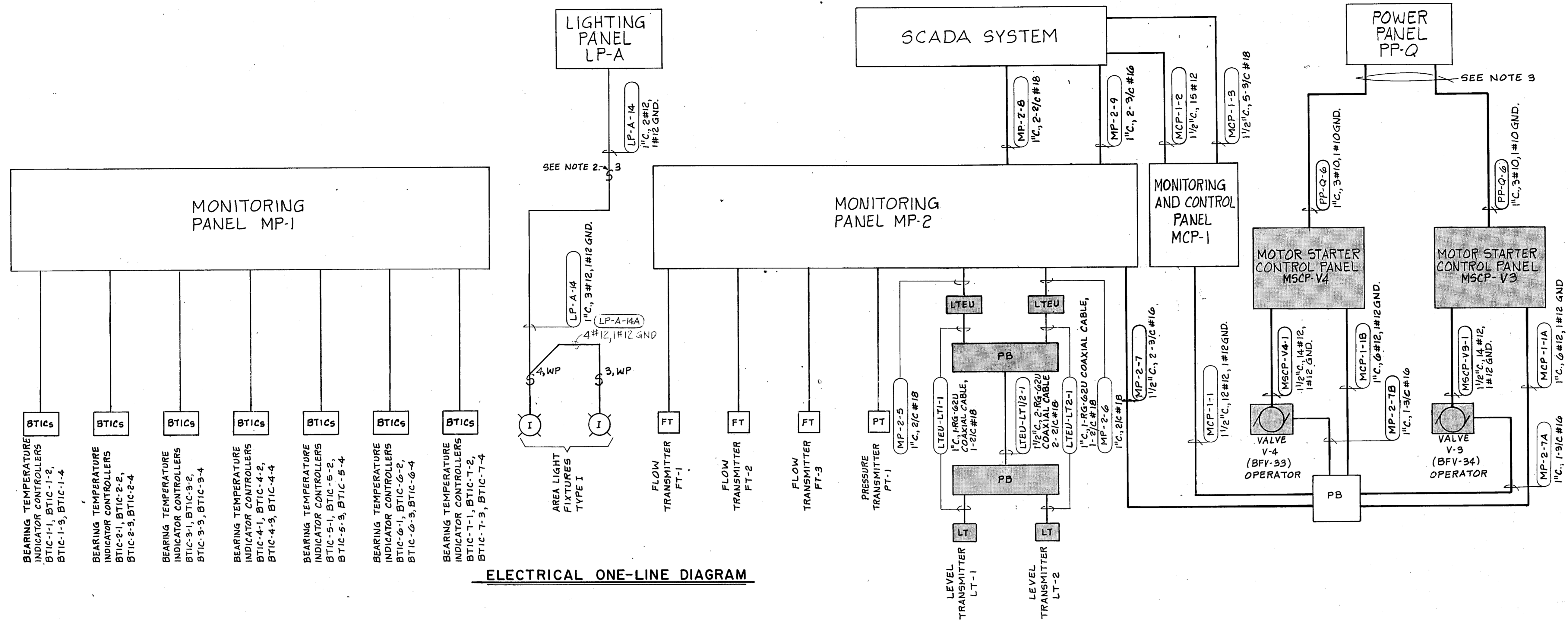
PLAN ABBREVIATIONS

- a CIRCUIT DESIGNATION
- b RELATING LIGHT FIXTURE
- c WITH ASSOCIATED LIGHT SWITCH
- BFV BUTTERFLY VALVE
- BTD BEARING TEMPERATURE DETECTOR
- DH DISCHARGE HEADER
- DP&L DALLAS POWER AND LIGHT
- FT FLOW TRANSMITTER
- GSR GROUND STORAGE RESERVOIR
- IMCS INSTRUMENTATION, MONITORING, AND CONTROL SYSTEM
- LP LIGHTING PANEL
- LT LEVEL TRANSMITTER
- M MOTOR
- MSCP MOTOR STARTER CONTROL PANEL
- MV METER VAULT
- P PUMP
- PP POWER PANEL
- PT PRESSURE TRANSMITTER
- SCADA SUPERVISORY CONTROL AND DATA ACQUISITION
- V VALVE
- VCP VALVE CONTROL PANEL

NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION ELECTRICAL PLAN			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS TurnerCollie&Braden Inc.			
DESIGN	R.A.B.	CONTRACT NO.	89-79
DRAWN	N.H.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE			

SHEET NO. 40
OF 44

Edward A. Cain
7/14/87



ONE-LINE DIAGRAM ABBREVIATIONS

BFV	BUTTERFLY VALVE
BTIC(s)	BEARING TEMPERATURE INDICATOR CONTROLLER(S)
C	CONDUIT
DH	DISCHARGE HEADER
FT	FLOW TRANSMITTER
GND	GROUND
LP	LIGHTING PANEL
LT	LEVEL TRANSMITTER
LTEU	LEVEL TRANSMITTER ELECTRONIC UNIT
MCP	MONITORING AND CONTROL PANEL
MP	MONITORING PANEL
MSCP	MOTOR STARTER CONTROL PANEL
PB	PULL BOX
PP	POWER PANEL
PT	PRESSURE TRANSMITTER
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
2-3/C#18	TWO 3-CONDUCTOR NUMBER 18 AMERICAN WIRE GAUGE SHIELDED INSTRUMENTATION CABLE
V	VALVE
WP	WEATHERPROOF

NOTES

- Legend on sheet 40 to be referenced for applicable One-Line Diagram symbols.
- Light switch to be installed inside south door of Control Building adjacent to existing light switches. Nameplate to be provided and installed above proposed light switch that states "Reservoir Area Lights."
- Circuits to be connected to existing 30 amp spare circuit breaker in the bottom north corner of power panel.

ELECTRICAL ONE-LINE DIAGRAM

LIGHTING FIXTURE SCHEDULE

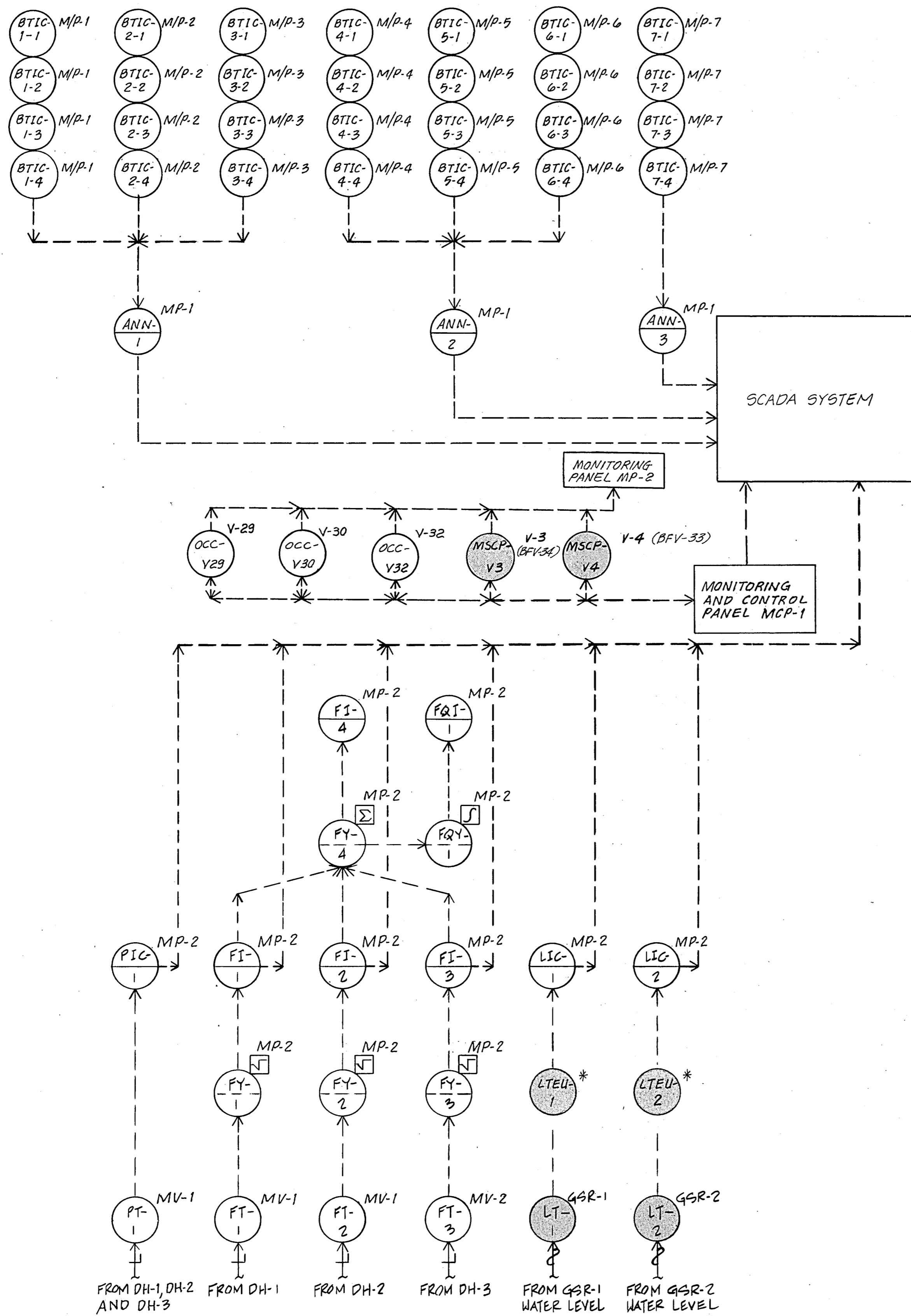
TYPE	DESCRIPTION	VOLTS	LAMPS	MOUNTING	REMARKS
A*	"DAY-BRITE" #WA142 OR "LITHONIA" #LB240A.	120	2-F40, T12 CW, FLUOR-ESCENT.	FIXTURE TO BE PENDANT MOUNTED FROM CEILING IN CONTROL BUILDING, 10-FEET ABOVE FINISHED FLOOR. FIXTURE TO REPLACE EXISTING INCANDESCENT AND FLUORESCENT FIXTURES.	FIXTURE TO BE U.L. LISTED AND TO INCLUDE ENERGY SAVING BALLAST, END PLATES, ACRYLIC LENS, AND HIGH-GLOSS, BAKED WHITE ENAMEL FINISH.
B*	"DAY-BRITE" #WA142 OR "LITHONIA" #LB240AEL.	120	SAME AS TYPE A.	SAME AS TYPE A.	SAME AS TYPE A AND INCLUSIVE OF EMERGENCY POWER PACK CAPABLE OF POWERING FIXTURE LAMP FOR 90 MINUTES MINIMUM UPON AC POWER FAILURE. POWER CIRCUITS TO BE WIRED AS REQUIRED TO ALLOW CONTINUOUS, UNINTERRUPTED POWER TO EMERGENCY POWER PACK.
C*	SAME AS TYPE A.	120	SAME AS TYPE A.	FIXTURE TO BE SURFACE MOUNTED ON CEILING IN CONTROL BUILDING. FIXTURE TO REPLACE EXISTING INCANDESCENT FIXTURE.	SAME AS TYPE A.
D*	"DAY-BRITE" #C240 OR "LITHONIA" #C240.	120	SAME AS TYPE A.	FIXTURE TO BE SURFACE MOUNTED ON CHANNEL IN SWITCHGEAR BUILDING. CHANNEL(S) TO BE PROVIDED AND INSTALLED AS REQUIRED TO SUPPORT FIXTURES. PROPOSED CHANNEL(S) TO MATCH EXISTING CHANNEL WITH RESPECT TO COLOR AND STRUCTURAL INTEGRITY.	SAME AS TYPE A EXCLUSIVE OF ACRYLIC LENS.
E*	"DAY-BRITE" #EC240 OR "LITHONIA" #C240EL.	120	SAME AS TYPE A.	SAME AS TYPE D.	SAME AS TYPE B EXCLUSIVE OF ACRYLIC LENS.

LIGHTING FIXTURE SCHEDULE CONTINUED

TYPE	DESCRIPTION	VOLTS	LAMPS	MOUNTING	REMARKS
F	"CROUSE-HINDS" SERIES DW.	120	1-70W, HIGH PRESSURE SODIUM.	FIXTURE TO BE SURFACE MOUNTED ON EXTERIOR WALL OF CONTROL BUILDING. FIXTURE TO REPLACE EXISTING INCANDESCENT FIXTURE.	FIXTURE TO BE VANDAL AND CORROSION RESISTANT AND U.L. APPROVED FOR WET LOCATIONS. FIXTURE TO INCLUDE PHOTOCELL, INTERNALLY FUSED NORMAL POWER FACTOR BALLAST, CYLINDRICAL WHITE GLASS GLOBE, AND DIE CAST ALUMINUM HOUSING.
G	"CROUSE-HINDS" SERIES WALP.	120	1-70W, HIGH PRESSURE SODIUM.	FIXTURE TO BE SURFACE MOUNTED ON EXTERIOR WALL OF SWITCHGEAR BUILDING, 28-FEET ABOVE FINISHED GRADE. FIXTURE TO REPLACE EXISTING INCANDESCENT FIXTURE.	FIXTURE TO BE VANDAL AND CORROSION RESISTANT AND U.L. APPROVED FOR WET LOCATIONS. FIXTURE TO INCLUDE PHOTOCELL, INTERNALLY FUSED HIGH POWER FACTOR BALLAST, POLYCARBONATE REFRACTOR, AND DIE-CAST ALUMINUM HOUSING.
H	SAME AS TYPE G.	120	SAME AS TYPE G.	FIXTURE TO BE SURFACE MOUNTED ON EXTERIOR WALL OF CONTROL BUILDING, DIRECTLY BELOW SOFFIT. FIXTURE TO REPLACE EXISTING INCANDESCENT FIXTURE.	SAME AS TYPE G AND INCLUSIVE OF SURFACE MOUNTING CONDUIT KIT.
I	"KIM" TYPE 5 FIXTURE WITH "KIM" SERIES POOR POLE.	120	1-400W, HIGH PRESSURE SODIUM.	FIXTURE TO BE POST TOP MOUNTED ON 20-FOOT TAPERED SQUARE STEEL POLE. POLE TO BE AFFIXED TO TOP OF RESERVOIR AND TO INCLUDE 1-INCH NON-SHRINK GROUT BETWEEN POLE AND CONCRETE. NON-SHRINK GROUT TO BE PER NOTE 6 ON SHEET 43.	FIXTURE TO BE U.L. LISTED. FIXTURE TO INCLUDE PHOTOCELL, INTERNALLY FUSED HIGH POWER FACTOR BALLAST, CLEAR GLASS LENS AND EXTRUDED ALUMINUM HOUSING. POLE TO INCLUDE BASE COVER PLATE AND SINGLE TENON POST TOP MOUNTING BRACKET. FIXTURE, POLE, AND APPURTENANCES TO HAVE NATURAL ALUMINUM ENAMEL FINISH. LIGHT SWITCH WITH WEATHERPROOF COVER PLATE AND CAST DEVICE BOX TO BE PROVIDED AND INSTALLED ON POLE, 4-8 FEET FROM BOTTOM OF POLE, IN COORDINATION WITH POLE MANUFACTURER'S RECOMMENDATION AND ITEM "ELECTRICAL CONSTRUCTION."

* ALL FLUORESCENT FIXTURES PROVIDED TO BE BY SAME MANUFACTURER.

NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
ELECTRICAL ONE - LINE DIAGRAM			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collier & Braden Inc.			
DESIGN	R.A.B.	CONTRACT NO.	89-79
DRAWN	M.H.	FILE NO.	630 Q 700 F
TRACED			
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DATE			
			SHEET NO. 41 OF 44



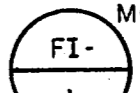
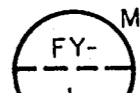



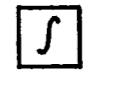

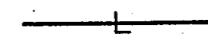



INSTRUMENTATION, MONITORING, AND CONTROL SYSTEM DIAGRAM


* CONTROL BUILDING INTERIOR, SOUTH WALL

INSTRUMENTATION ABBREVIATIONS

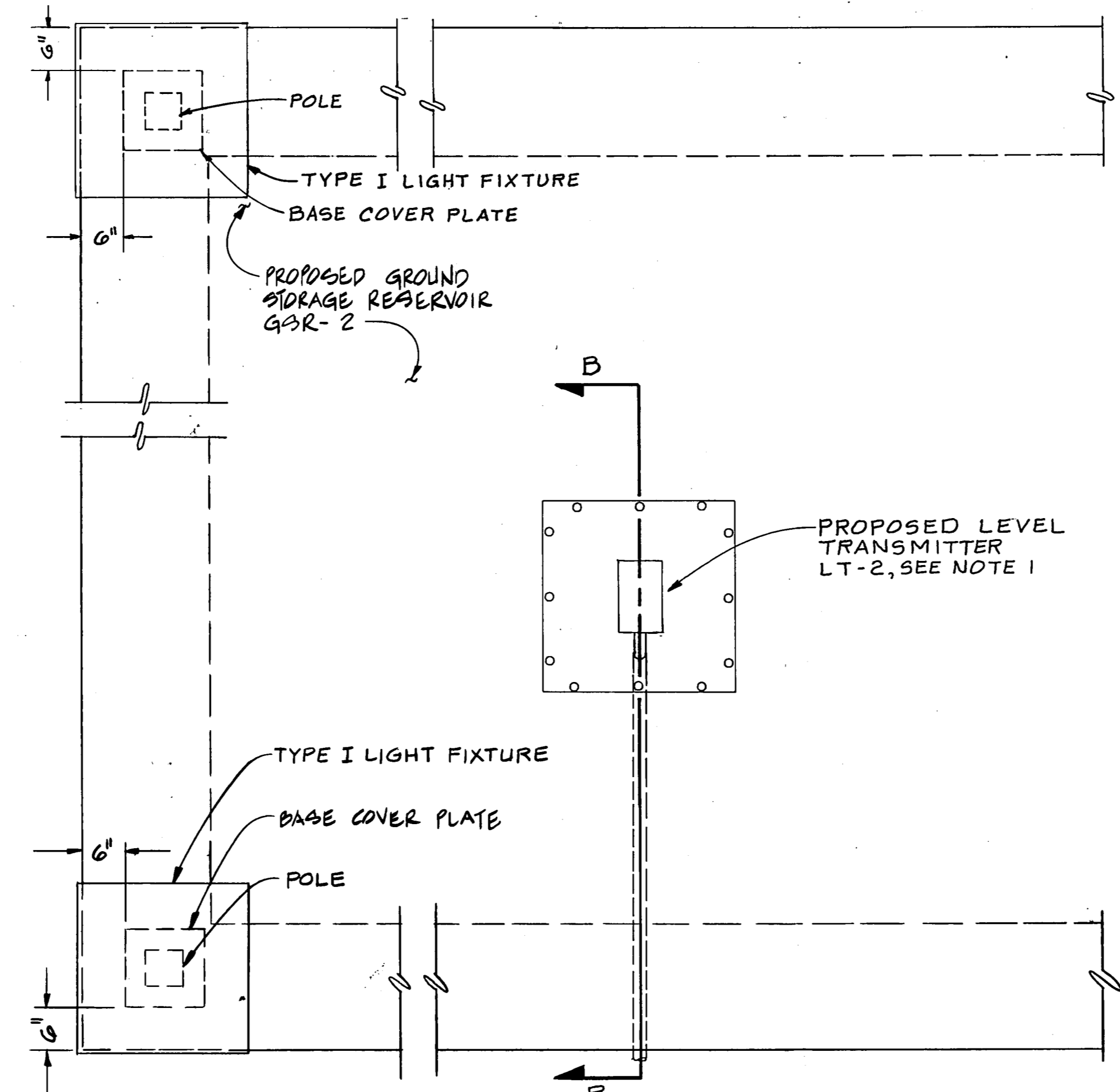
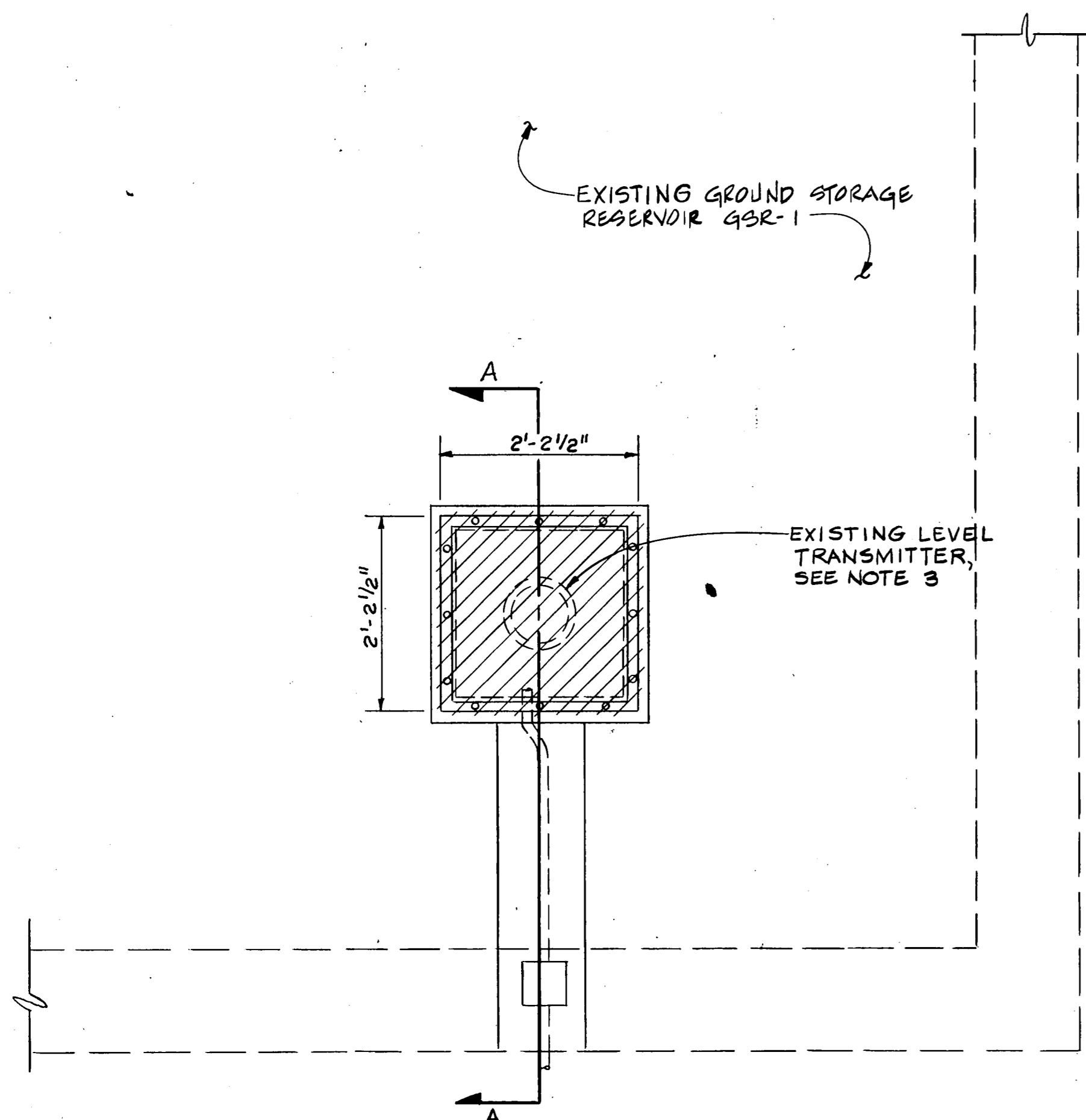
- ANN ANNUNCIATOR
- BFV BUTTERFLY VALVE
- BTIC BEARING TEMPERATURE INDICATOR CONTROLLER
- DH DISCHARGE HEADER
- FI FLOW INDICATOR
- FQI FLOW TOTALIZER INDICATOR
- FQY FLOW TOTALIZER SUMMATOR
- FT FLOW TRANSMITTER
- FY FLOW SUMMATOR
- GSR GROUND STORAGE RESERVOIR
- IMCS INSTRUMENTATION, MONITORING AND CONTROL SYSTEM
- LT LEVEL TRANSMITTER
- LTEU LEVEL TRANSMITTER ELECTRONIC UNIT
- LIC LEVEL INDICATOR CONTROLLER
- MCP MONITORING AND CONTROL PANEL
- MP MONITORING PANEL
- MSCP MOTOR STARTER CONTROL PANEL
- MV METER VAULT
- M/P MOTOR/PUMP
- OCC OPERATOR CONTROL COMPARTMENT
- PIC PRESSURE INDICATOR CONTROLLER
- PT PRESSURE TRANSMITTER
- SCADA SUPERVISORY CONTROL AND DATA ACQUISITION
- V VALVE
- VCP VALVE CONTROL PANEL

INSTRUMENTATION LEGEND

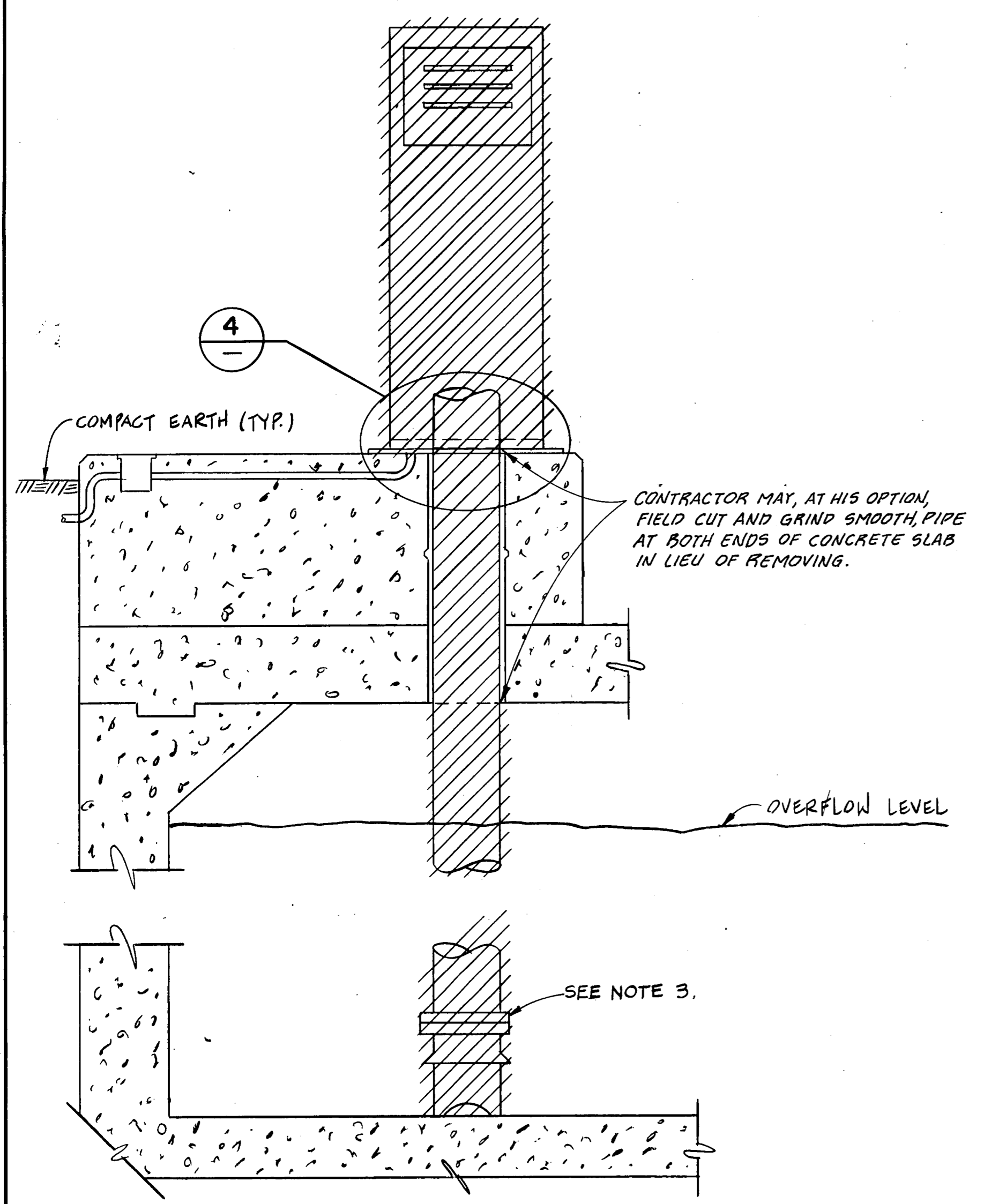
-  MCP-IMCS-1 INSTRUMENT SURFACE MOUNTED ON PANEL, FI-1 = DEVICE DESIGNATION, MCP-IMCS-1 = PANEL DESIGNATION
-  MCP-IMCS-1 INSTRUMENT MOUNTED IN PANEL, FY-1 = DEVICE DESIGNATION, MCP-IMCS-1 = PANEL DESIGNATION
-  GSR-1 INSTRUMENT MOUNTED IN FIELD, FT-1 = DEVICE DESIGNATION, GSR-1 = FIELD LOCATION DESIGNATION
-  SQUARE ROOT EXTRACTOR
-  SUMMATOR
-  INTEGRATOR
-  INSTRUMENTATION WIRING
-  HYDRAULIC LINE
-  ULTRASONIC SIGNAL
-  EXISTING
-  PROPOSED

Edward A. Lam

 7/16/87

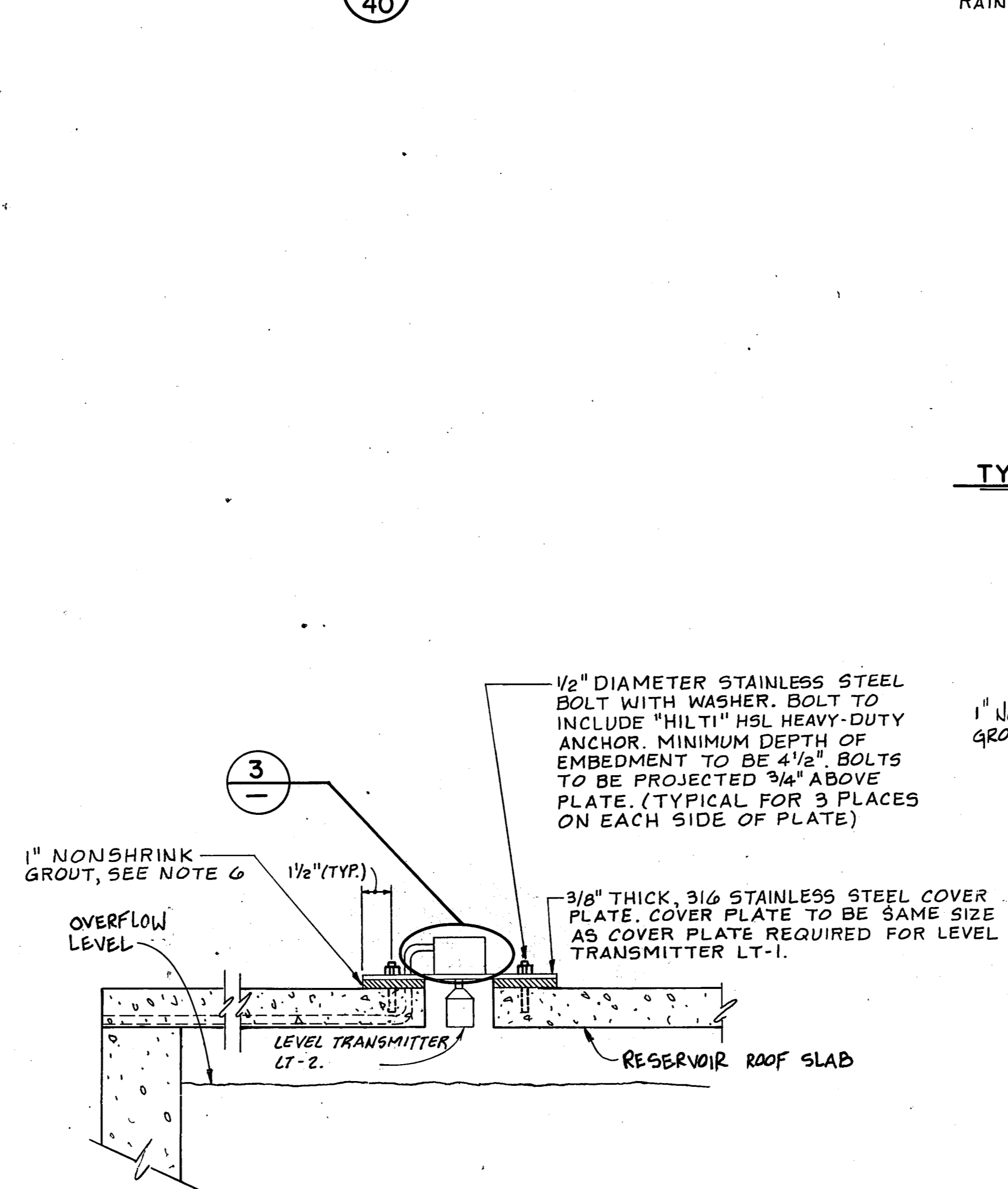
NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION ELECTRICAL INSTRUMENTATION			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collie & Braden Inc.			
DESIGN	R.A.B.	CONTRACT NO.	89-79
DRAWN	M.H.	FILE NO.	630 Q 700 F
TRACED		SHEET NO.	42
CHECKED		OF	44
DATE			



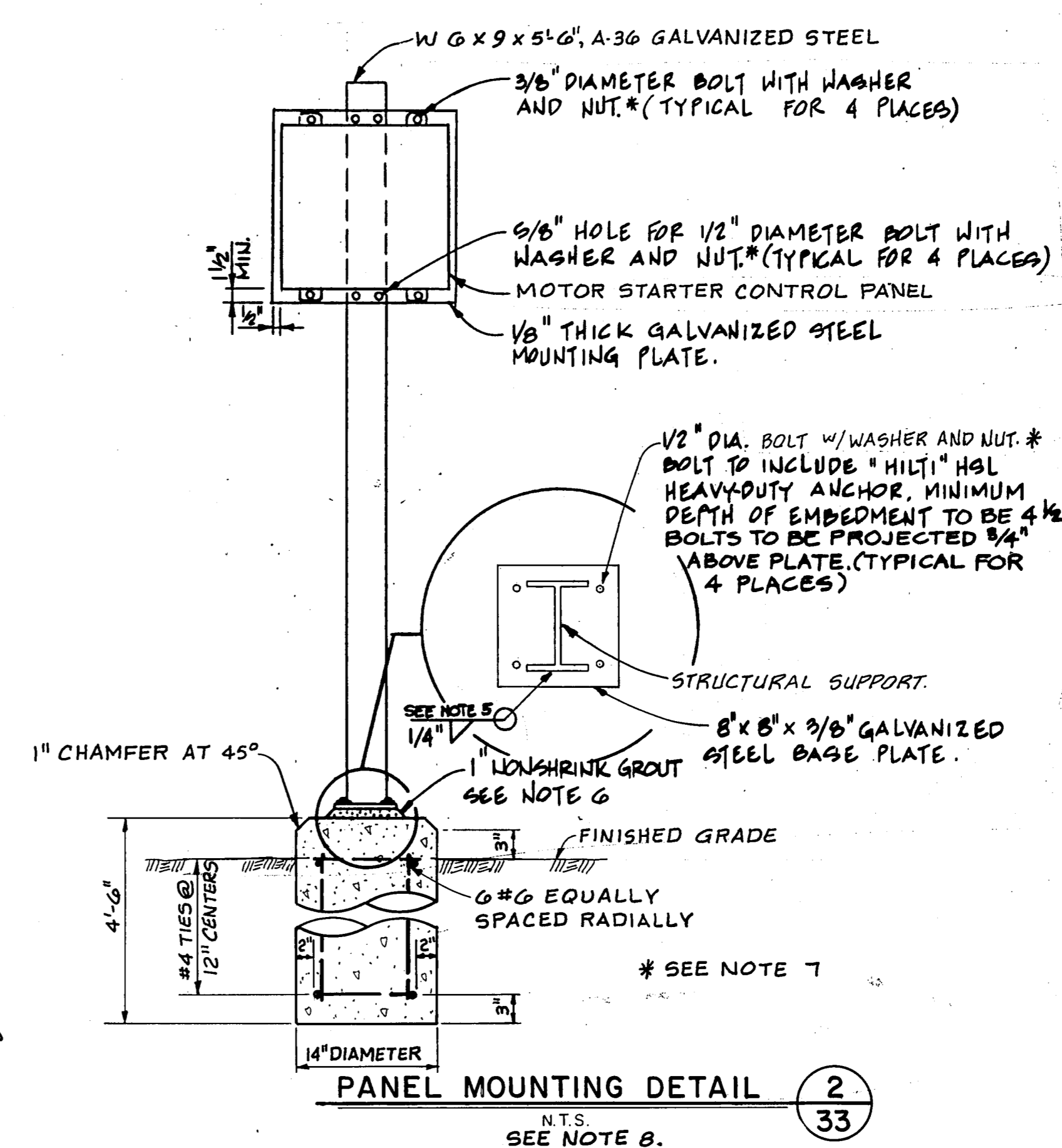
LEVEL TRANSMITTERS AND AREA LIGHTS DETAIL (1) 40
N.T.S.



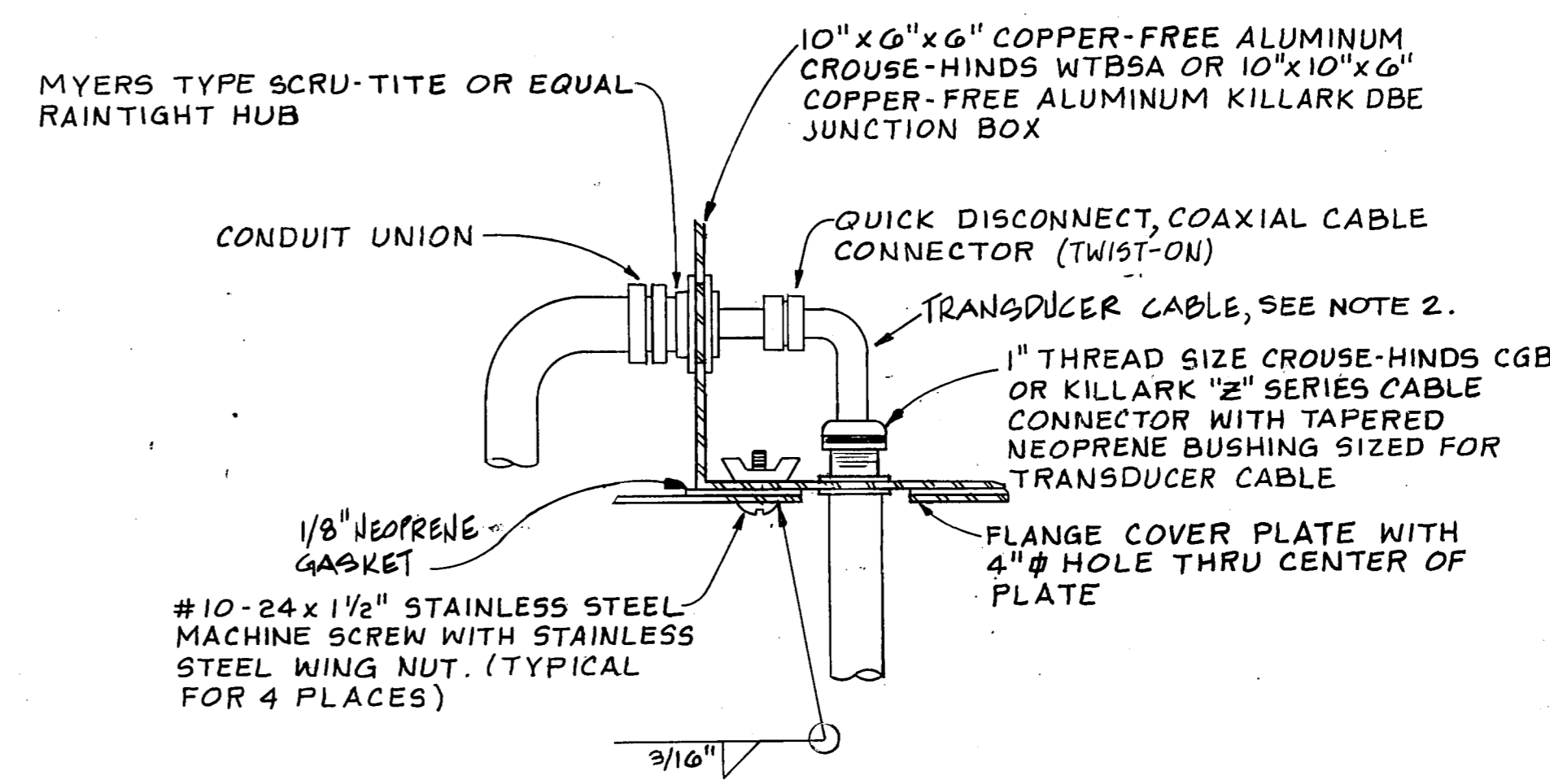
SECTION "A-A"
N.T.S.



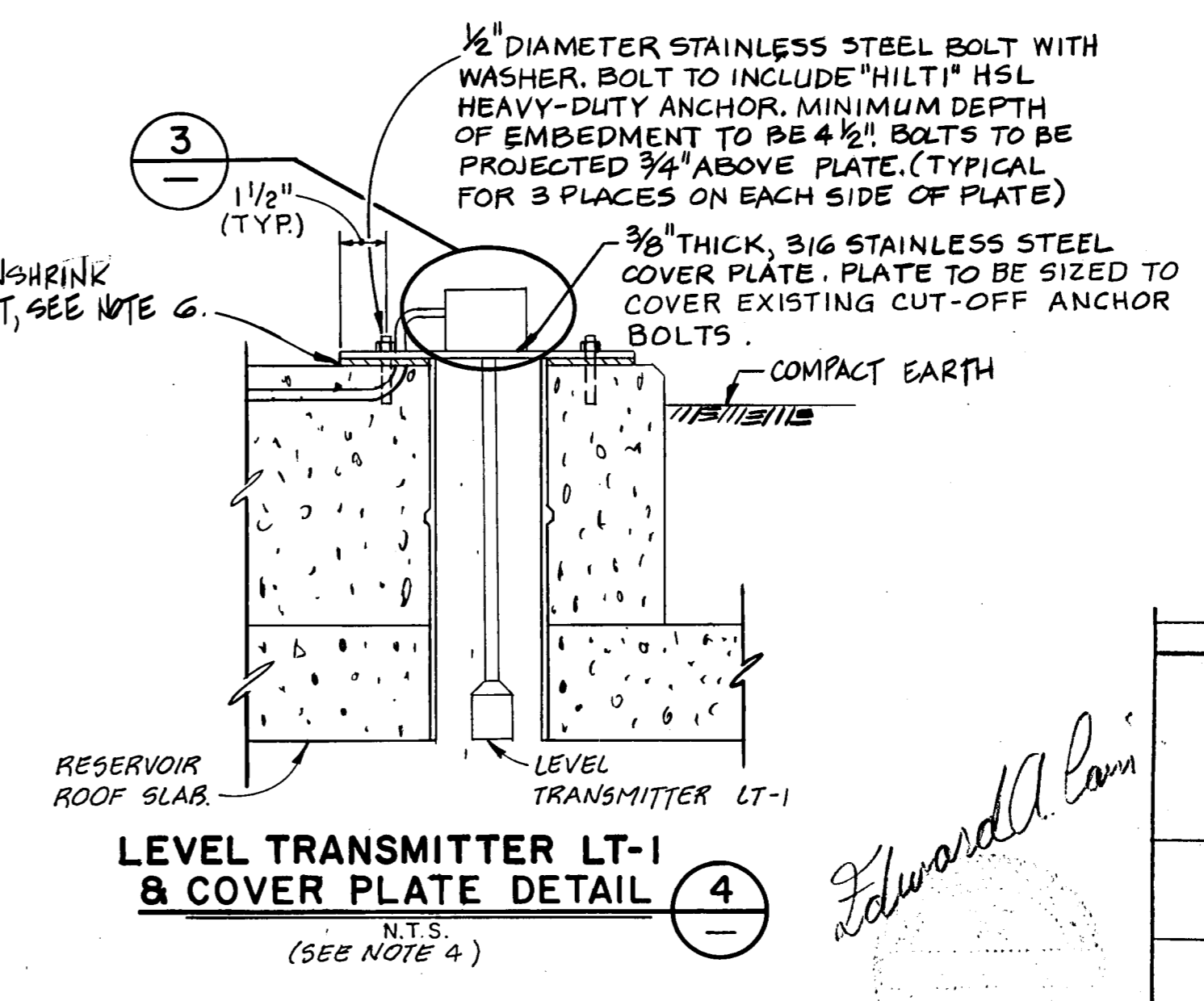
SECTION "B-B"
N.T.S.



PANEL MOUNTING DETAIL (2) 33
N.T.S. SEE NOTE 8.



TYPICAL JUNCTION BOX AND CABLE MOUNTING DETAIL (3) 34
N.T.S. SEE NOTE 9.



LEVEL TRANSMITTER LT-1 & COVER PLATE DETAIL (4) 35
N.T.S. (SEE NOTE 4)

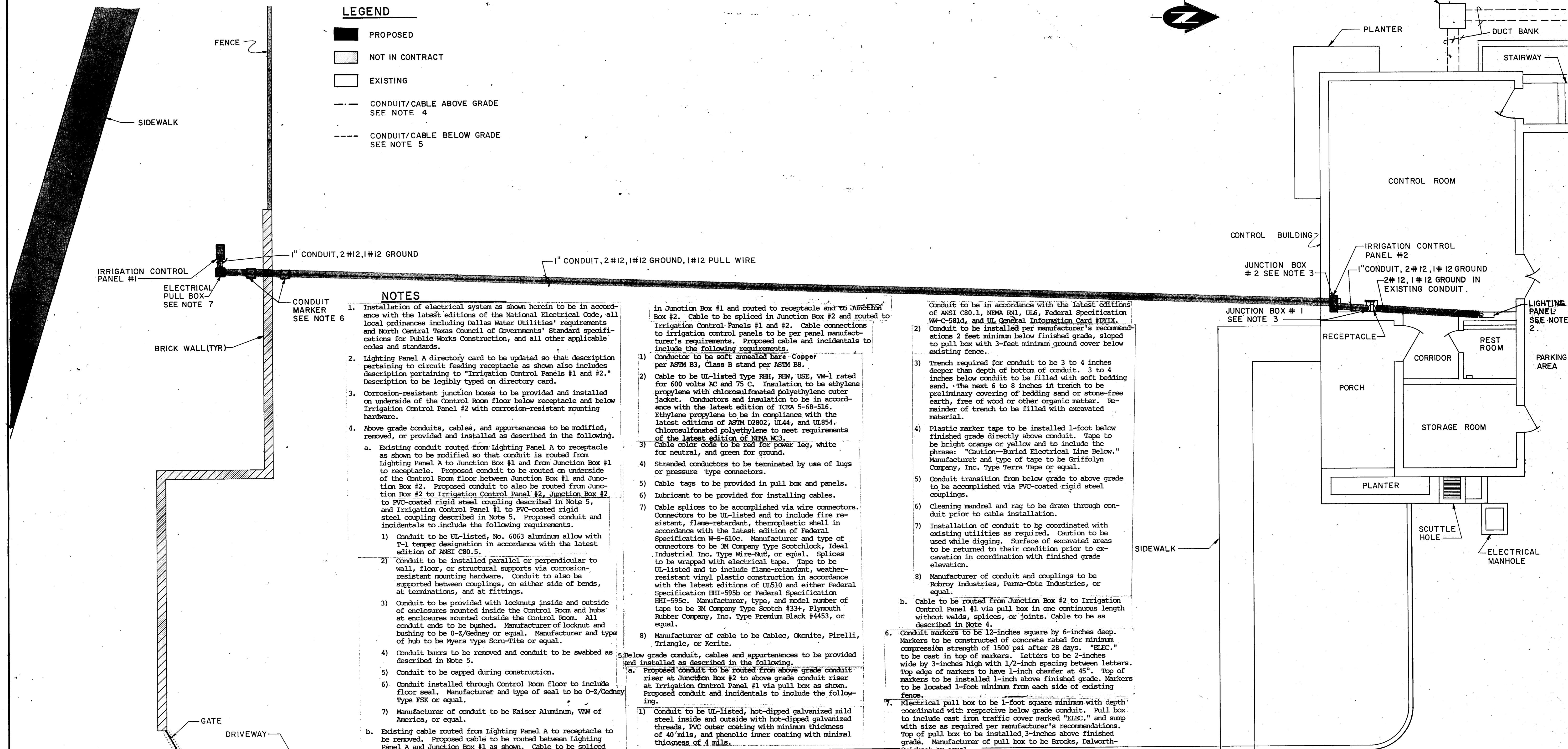
- NOTES**
- Hole in proposed Ground Storage Reservoir GSR-2 for proposed Level Transmitter LT-1 to be same size as hole in existing Ground Storage Reservoir GSR-1 for existing float-actuated level transmitter. Proposed hole in GSR-2 to be located as a mirror image of existing hole in GSR-1.
 - Excess cable to be coiled in box.
 - Shaded equipment to be removed and to become property of City of Dallas Pumping Division.
 - Cover plate, Level Transmitter LT-1, and appurtenances to be installed as shown after removal of equipment referenced in Note 3.
 - All field welded steel to be recoated with "GALV-WELD" in accordance with manufacturer's recommendations.
 - Nonsink grout to be premixed nonmetallic, noncorrosive, and nonstaining. Grout to contain specially selected silicon sands, cement, shrinkage compensating agents, plasticizing and water reducing agents. Grout to conform to requirements of Corps of Engineers CRD-C588 Test Method CRD-C-589. Grout to have minimum 28-day compressive strength of 8,000 psi. Grout to be prepared and placed according to grout manufacturer's specifications maintaining grout temperature during placement between 50°F and 90°F. Manufacturer and type to be U.S. Grout Corporation, Five Star epoxy grout or equal.
 - Bolt, washer, and nut to be stainless steel.
 - Detail is applicable to Motor Starter Control Panels MSCP-V3 and MSCP-V4.
 - Junction box to be ordered with factory drilled holes as required. Holes to be tapped when required. Hole to be cut in center of plate as shown and to be ground smooth.

NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION			
ELECTRICAL DETAILS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
Turner Collier & Braden Inc.			
DESIGN	R.A.B.	CONTRACT NO.	89-79
DRAWN	M.H.	FILE NO.	630 Q 700 F
TRACED			
CHECKED			
DATE			
			SHEET NO. 43
			OF 44

Edward A. Parn
7/16/82

LEGEND

- PROPOSED
- NOT IN CONTRACT
- EXISTING
- CONDUIT/CABLE ABOVE GRADE
SEE NOTE 4
- CONDUIT/CABLE BELOW GRADE
SEE NOTE 5



NOTES

1. Installation of electrical system as shown herein to be in accordance with the latest editions of the National Electrical Code, all local ordinances including Dallas Water Utilities' requirements and North Central Texas Council of Governments' Standard specifications for Public Works Construction, and all other applicable codes and standards.
2. Lighting Panel A directory card to be updated so that description pertaining to circuit feeding receptacle as shown also includes description pertaining to "Irrigation Control Panels #1 and #2." Description to be legibly typed on directory card.
3. Corrosion-resistant junction boxes to be provided and installed on underside of the Control Room floor below receptacle and below Irrigation Control Panel #2 with corrosion-resistant mounting hardware.
4. Above grade conduits, cables, and appurtenances to be modified, removed, or provided and installed as described in the following.
 - a. Existing conduit routed from Lighting Panel A to receptacle as shown to be modified so that conduit is routed from Lighting Panel A to Junction Box #1 and from Junction Box #1 to receptacle. Proposed conduit to be routed on underside of the Control Room floor between Junction Box #1 and Junction Box #2. Proposed conduit to also be routed from Junction Box #2 to Irrigation Control Panel #2, Junction Box #2 to PVC-coated rigid steel coupling described in Note 5, and Irrigation Control Panel #1 to PVC-coated rigid steel coupling described in Note 5. Proposed conduit and incidentals to include the following requirements.
 - 1) Conduit to be UL-listed, No. 6063 aluminum alloy with T-1 temper designation in accordance with the latest edition of ANSI C80.5.
 - 2) Conduit to be installed parallel or perpendicular to wall, floor, or structural supports via corrosion-resistant mounting hardware. Conduit to also be supported between couplings, on either side of bends, at terminations, and at fittings.
 - 3) Conduit to be provided with locknuts inside and outside of enclosures mounted inside the Control Room and hubs at enclosures mounted outside the Control Room. All conduit ends to be bushed. Manufacturer of locknut and bushing to be O-Z/Gedney or equal. Manufacturer and type of hub to be Myers Type Scru-Tite or equal.
 - 4) Conduit burrs to be removed and conduit to be swabbed as described in Note 5.
 - 5) Conduit to be capped during construction.
 - 6) Conduit installed through Control Room floor to include floor seal. Manufacturer and type of seal to be O-Z/Gedney Type FSK or equal.
 - 7) Manufacturer of conduit to be Kaiser Aluminum, VAW of America, or equal.
 - b. Existing cable routed from Lighting Panel A to receptacle to be removed. Proposed cable to be routed between Lighting Panel A and Junction Box #1 as shown. Cable to be spliced

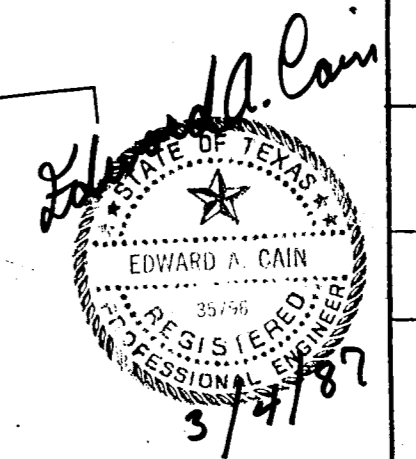
- in Junction Box #1 and routed to receptacle and to Junction Box #2. Cable to be spliced in Junction Box #2 and routed to Irrigation Control Panels #1 and #2. Cable connections to Irrigation Control Panels to be per panel manufacturer's requirements. Proposed cable and incidentals to include the following requirements:
- 1) Conductor to be soft annealed bare Copper per ASTM B3, Class B stand per ASTM B8.
 - 2) Cable to be UL-listed Type RHH, RHW, USE, VW-1 rated for 600 volts AC and 75 C. Insulation to be ethylene propylene with chlorosulfonated polyethylene outer jacket. Conductors and insulation to be in accordance with the latest edition of ICEA 5-68-516. Ethylene propylene to be in compliance with the latest editions of ASTM D2802, UL44, and UL854. Chlorosulfonated polyethylene to meet requirements of the latest edition of NEMA WC3.
 - 3) Cable color code to be red for power leg, white for neutral, and green for ground.
 - 4) Stranded conductors to be terminated by use of lugs or pressure type connectors.
 - 5) Cable tags to be provided in pull box and panels.
 - 6) Lubricant to be provided for installing cables.
 - 7) Cable splices to be accomplished via wire connectors. Connectors to be UL-listed and to include fire resistant, flame-retardant, thermoplastic shell in accordance with the latest edition of Federal Specification W-8-610c. Manufacturer and type of connectors to be 3M Company Type Scotchlock, Ideal Industrial Inc. Type Wire-Nut, or equal. Splices to be wrapped with electrical tape. Tape to be UL-listed and to include flame-retardant, weather-resistant vinyl plastic construction in accordance with the latest editions of UL510 and either Federal Specification HHI-595b or Federal Specification HHI-595c. Manufacturer, type, and model number of tape to be 3M Company Type Scotch #33+, Plymouth Rubber Company, Inc. Type Premium Black #4453, or equal.
 - 8) Manufacturer of cable to be Cablec, Okonite, Pirelli, Triangle, or Kerite.
- Below grade conduit, cables and appurtenances to be provided and installed as described in the following.
- a. Proposed conduit to be routed from above grade conduit riser at Junction Box #2 to above grade conduit riser at Irrigation Control Panel #1 via pull box as shown. Proposed conduit and incidentals to include the following.
 - 1) Conduit to be UL-listed, hot-dipped galvanized mild steel inside and outside with hot-dipped galvanized threads, PVC outer coating with minimum thickness of 40 mils, and phenolic inner coating with minimal thickness of 4 mils.

- Conduit to be in accordance with the latest editions of ANSI C80.1, NEMA RUL, UL6, Federal Specification WW-C-581d, and UL General Information Card #DXIX. Conduit to be installed per manufacturer's recommendations 2 feet minimum below finished grade, sloped to pull box with 3-foot minimum ground cover below existing fence.
- 2) Trench required for conduit to be 3 to 4 inches deeper than depth of bottom of conduit. 3 to 4 inches below conduit to be filled with soft bedding sand. The next 6 to 8 inches in trench to be preliminary covering of bedding sand or stone-free earth, free of wood or other organic matter. Remainder of trench to be filled with excavated material.
 - 4) Plastic marker tape to be installed 1-foot below finished grade directly above conduit. Tape to be bright orange or yellow and to include the phrase: "Caution—Buried Electrical Line Below." Manufacturer and type of tape to be Griffoly Company, Inc. Type Terra Tape or equal.
 - 5) Conduit transition from below grade to above grade to be accomplished via PVC-coated rigid steel couplings.
 - 6) Cleaning mandrel and rag to be drawn through conduit prior to cable installation.
 - 7) Installation of conduit to be coordinated with existing utilities as required. Caution to be used while digging. Surface of excavated areas to be returned to their condition prior to excavation in coordination with finished grade elevation.
 - 8) Manufacturer of conduit and couplings to be Robroy Industries, Parma-Cote Industries, or equal.
 - b. Cable to be routed from Junction Box #2 to Irrigation Control Panel #1 via pull box in one continuous length without welds, splices, or joints. Cable to be as described in Note 4.
 6. Conduit markers to be 12-inches square by 6-inches deep. Markers to be constructed of concrete rated for minimum compression strength of 1500 psi after 28 days. "ELEC." to be cast in top of markers. Letters to be 2-inches wide by 3-inches high with 1/2-inch spacing between letters. Top edge of markers to have 1-inch chamfer at 45°. Top of markers to be installed 1-inch above finished grade. Markers to be located 1-foot minimum from each side of existing fence.
 7. Electrical pull box to be 1-foot square minimum with depth coordinated with respective below grade conduit. Pull box to include cast iron traffic cover marked "ELEC." and sump with size as required per manufacturer's recommendations. Top of pull box to be installed 3-inches above finished grade. Manufacturer of pull box to be Brooks, Dalworth-Quickset or equal.

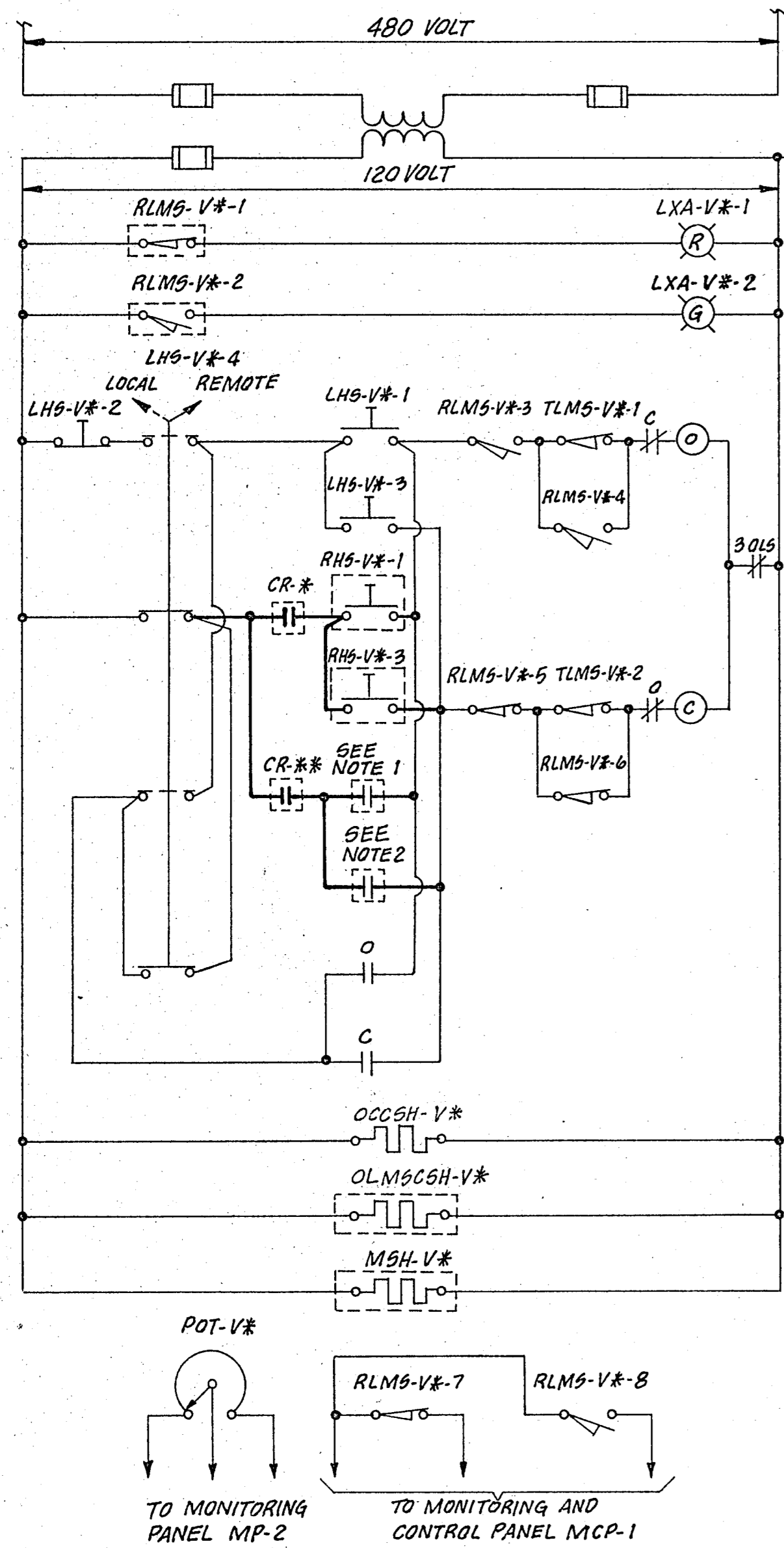
BELTWOOD RESERVOIR EXPANSION
ELECTRICAL DETAILS

DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

Turner Collie & Braden Inc.



DESIGN	CONTRACT NO.	89-79	SHEET NO.
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CHECKED			
DATE			



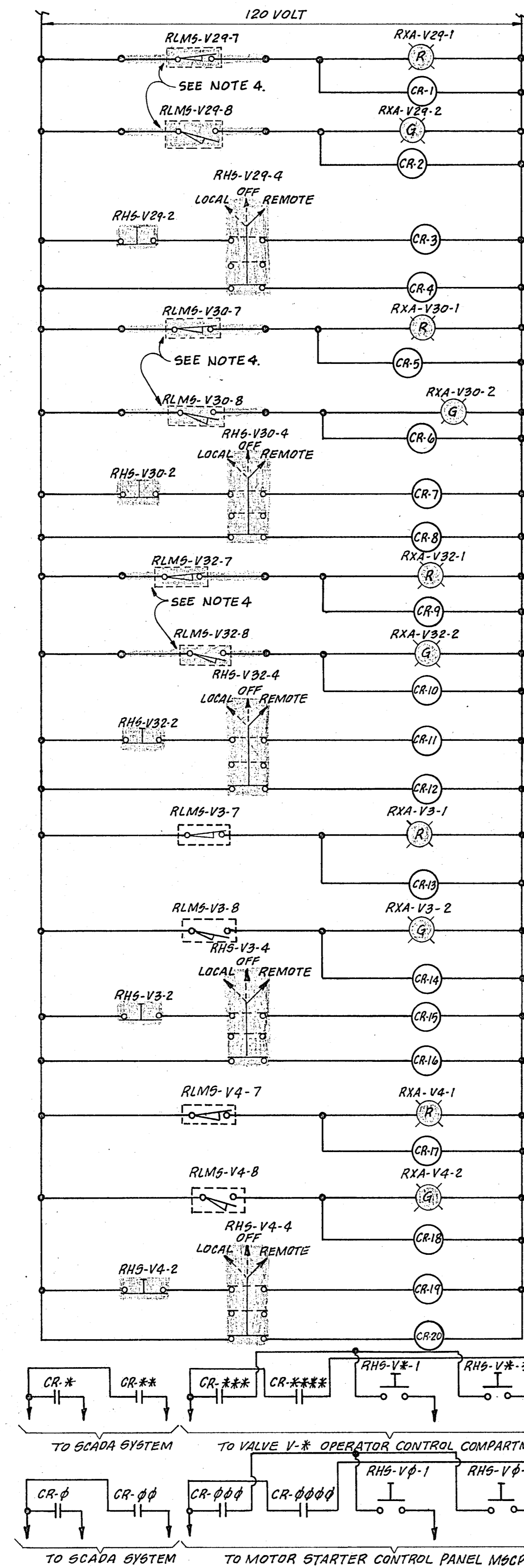
EXISTING VALVE V-* MOTOR STARTER CONTROL SCHEMATIC

(AT OCC-V*)

V*, V-*, CR-*, CR-***: V29, V-29, CR-3, CR-4 FOR VALVE NO. 29
 V30, V-30, CR-7, CR-8 FOR VALVE NO. 30
 V32, V-32, CR-11, CR-12 FOR VALVE NO. 32

LIMIT SWITCH SCHEDULE	
SWITCH NO.	FUNCTION
RLMS-V*-1	ROTOR LIMIT SWITCH OPENS WHEN VALVE IS FULLY CLOSED, DE-ENERGIZING VALVE OPEN LIGHT.
RLMS-V*-2	ROTOR LIMIT SWITCH OPENS WHEN VALVE IS FULLY OPEN, DE-ENERGIZING VALVE CLOSED LIGHT.
RLMS-V*-3	ROTOR LIMIT SWITCH OPENS WHEN VALVE IS FULLY OPEN, DE-ENERGIZING VALVE OPEN MOTOR STARTER COIL.
RLMS-V*-4	ROTOR LIMIT SWITCH CLOSING WHEN VALVE IS FULLY CLOSED, BYPASSING OPENING TORQUE LIMIT SWITCH.
RLMS-V*-5	ROTOR LIMIT SWITCH OPENS WHEN VALVE IS FULLY CLOSED, DE-ENERGIZING VALVE CLOSED MOTOR STARTER COIL.
RLMS-V*-6	ROTOR LIMIT SWITCH CLOSING WHEN VALVE IS FULLY OPEN, BYPASSING CLOSED TORQUE LIMIT SWITCH.
RLMS-V*-7	SAME AS RLMS-V*-1.
RLMS-V*-8	SAME AS RLMS-V*-2.
TLMS-V*-1	TORQUE LIMIT SWITCH OPENS WHEN MECHANICAL OVERLOAD OCCURS DURING VALVE OPENING CYCLE, DE-ENERGIZING VALVE OPEN MOTOR STARTER COIL.
TLMS-V*-2	TORQUE LIMIT SWITCH OPENS WHEN MECHANICAL OVERLOAD OCCURS DURING VALVE CLOSING CYCLE, DE-ENERGIZING VALVE CLOSED MOTOR STARTER COIL.

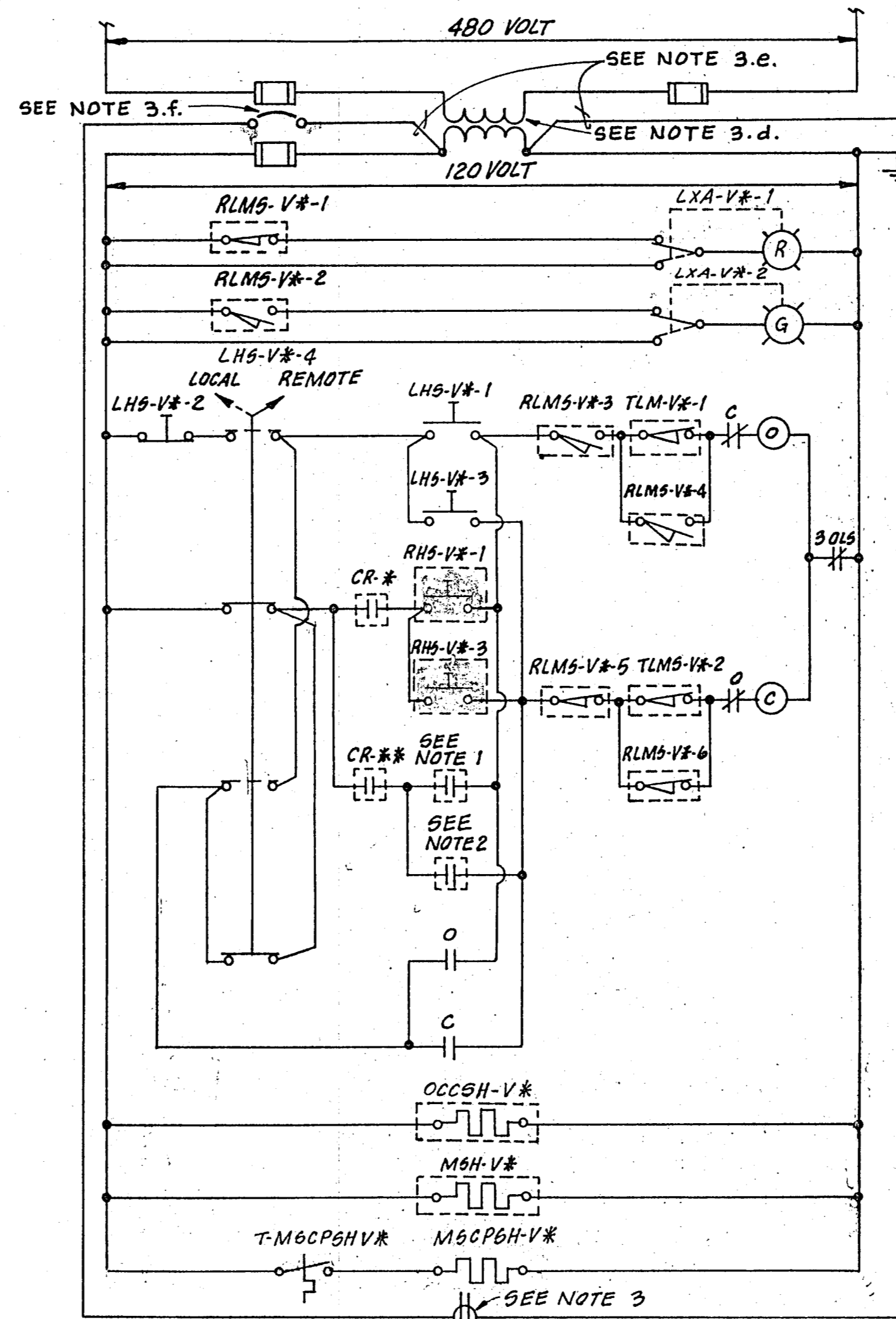
V*: V29 FOR VALVE NO. 29
 V30 FOR VALVE NO. 30
 V32 FOR VALVE NO. 32
 V3 FOR VALVE NO. 3
 V4 FOR VALVE NO. 4



PROPOSED VALVE V-* SYSTEM CONTROL SCHEMATIC

(AT MCP-1)

CR-*, CR-**, CR-***, CR-****, V*, V-*: CR-1, CR-2, CR-3, CR-4, V29, V29 FOR VALVE NO. 29
 CR-5, CR-6, CR-7, CR-8, V30, V30 FOR VALVE NO. 30
 CR-9, CR-10, CR-11, CR-12, V32, V32 FOR VALVE NO. 32
 CR-0, CR-00, CR-000, CR-0000, V0, V-0: CR-13, CR-14, CR-15, CR-16, V3, V-3 FOR VALVE NO. 3
 CR-17, CR-18, CR-19, CR-20, V4, V-4 FOR VALVE NO. 4



PROPOSED VALVE V-* MOTOR STARTER CONTROL SCHEMATIC

(AT MSCP-V*)

V*, V-*, CR-*, CR-***: V3, V-3, CR-15, CR-16 FOR VALVE NO. 3
 V4, V-4, CR-17, CR-20 FOR VALVE NO. 4

CONTROL SCHEMATIC LEGEND

- EXISTING
- PROPOSED
- FUSE
- CONTROL POWER TRANSFORMER
- GROUND
- EXTERNALLY MOUNTED DEVICE
- NORMALLY CLOSED LIMIT SWITCH CONTACT
- NORMALLY OPEN LIMIT SWITCH CONTACT
- PILOT LIGHT, R=red/valve open, G=green/valve closed
- PUSH-TO-TEST PILOT LIGHT, R=red/valve OPEN, G=green/valve closed
- NORMALLY CLOSED MOMENTARY PUSH-BUTTON HAND SWITCH
- NORMALLY OPEN MOMENTARY PUSH-BUTTON HAND SWITCH
- LOCAL-REMOTE, TWO POSITION SELECTOR HAND SWITCH
- LOCAL-OFF-REMOTE, THREE POSITION SELECTOR HAND SWITCH
- MOTOR STARTER OPEN (FORWARD) COIL, NORMALLY OPEN CONTACT, NORMALLY CLOSED CONTACT, RESPECTIVELY
- MOTOR STARTER (REVERSE) COIL, NORMALLY OPEN CONTACT, NORMALLY CLOSED CONTACT, RESPECTIVELY
- CONTROL RELAY, NORMALLY OPEN CONTACT, NORMALLY CLOSED CONTACT, RESPECTIVELY
- THREE MOTOR THERMAL OVERLOADS
- NORMALLY OPEN THERMOSTAT CONTACT WITH CLOSING ON TEMPERATURE DECREASE
- SPACE HEATER
- POTENTIOMETER

CONTROL SCHEMATIC ABBREVIATIONS

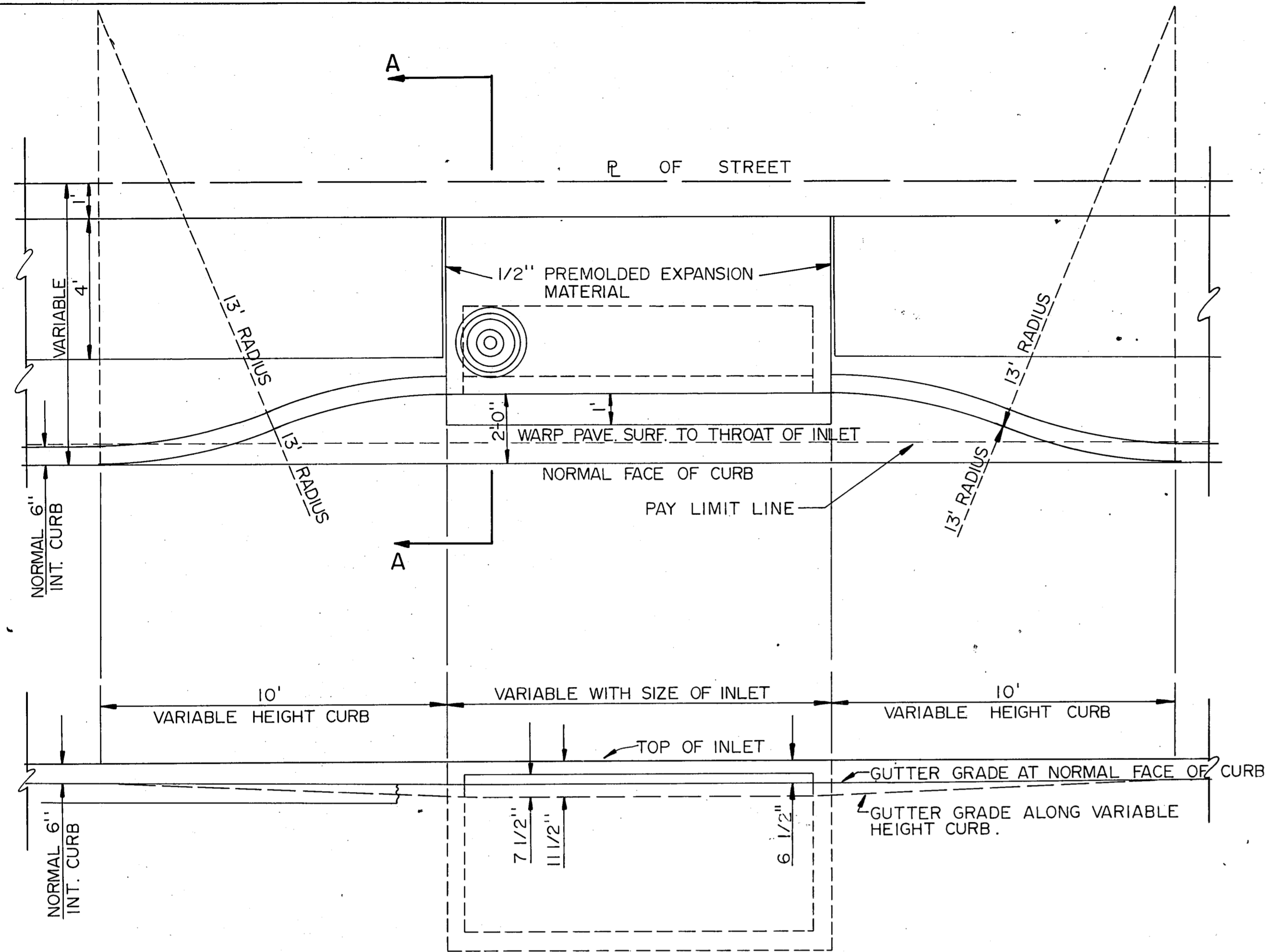
- C: COIL
- CR: CONTROL RELAY
- G: GREEN
- LHS: LOCAL HAND SWITCH
- LXA: LOCAL PILOT LIGHT
- MCP: MONITORING AND CONTROL PANEL
- MP: MONITORING PANEL
- MSCP: MOTOR STARTER CONTROL PANEL
- MSCP SH: MOTOR STARTER CONTROL PANEL SPACE HEATER
- MSH: MOTOR SPACE HEATER
- NO: NUMBER
- O: OPEN
- OCC: OPERATOR CONTROL COMPARTMENT
- OCCSH: OPERATOR CONTROL COMPARTMENT SPACE HEATER
- OLMSCSH: OPERATOR LIMIT SWITCH COMPARTMENT SPACE HEATER
- OLS: OVERLOADS
- POT: POTENTIOMETER
- R: RED
- RHS: REMOTE HAND SWITCH
- RLMS: ROTOR LIMIT SWITCH
- RXA: REMOTE PILOT LIGHT
- SCADA: SUPERVISORY CONTROL AND DATA ACQUISITION
- T: THERMOSTAT
- TLMS: TORQUE LIMIT SWITCH
- V: VALVE

NOTES

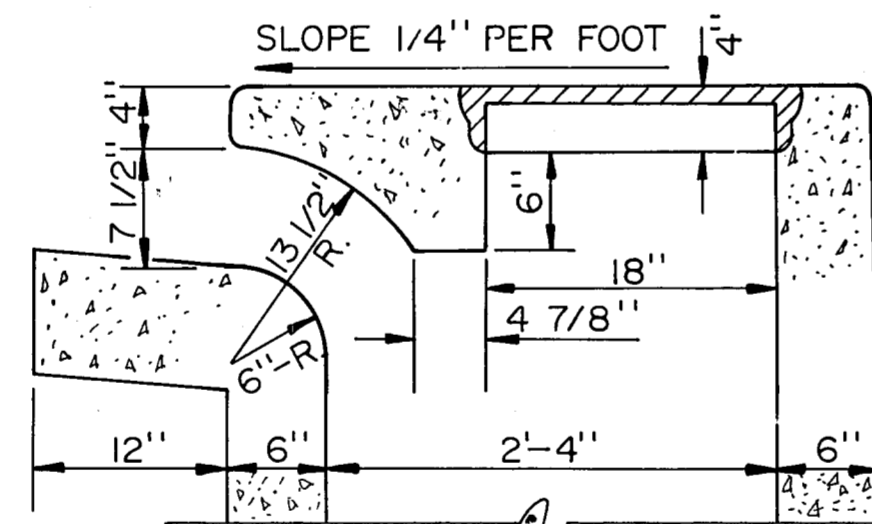
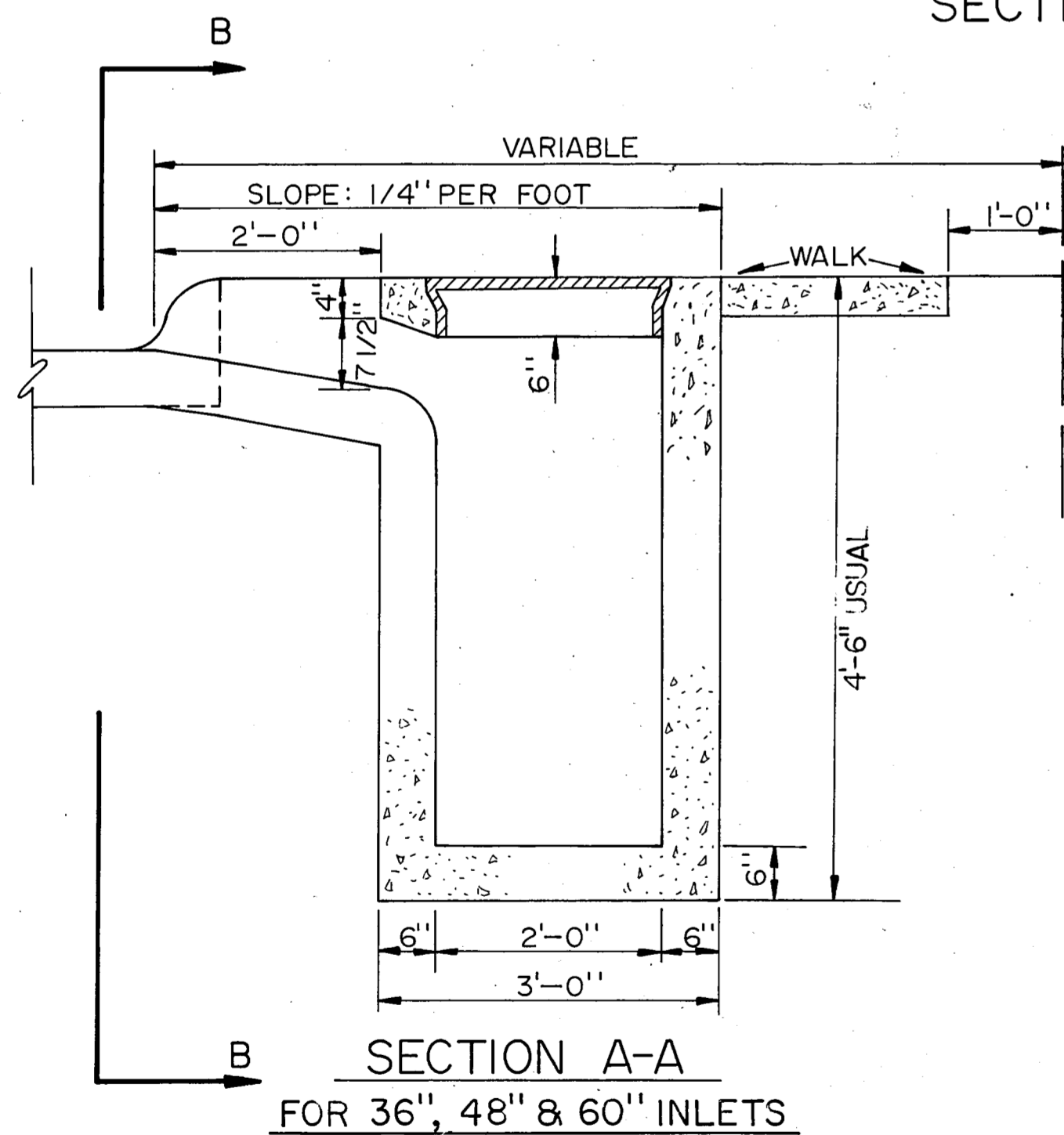
1. Contact from SCADA System to open respective valve while contact is closed.
2. Contact from SCADA System to close respective valve while contact is closed.
3. 30 amp rated duplex receptacle to be provided in accordance with all applicable requirements of Item "Electrical Construction" and the following requirements.
 - a. Receptacle to be utilized for portable sump pump provided by City of Dallas Pumping Division.
 - b. Receptacle to be coordinated with sump pump's plug via City of Dallas Pumping Division.
 - c. Receptacle to be flush-mounted on motor starter control panel dead front.
 - d. Size of control power transformer that provides power to receptacle and motor starter control circuit to be 5.0 kilovolt-amperes.
 - e. Size of conductors required for receptacle circuit to be No. 10 American Wire Gauge.
 - f. Receptacle circuit to be protected via a 30 amp circuit breaker. Circuit breaker to be accessible from motor starter control panel dead front without opening dead front.
4. Existing valve limit switch conductors to be disconnected from SCADA system and reconnected to Monitoring and Control Panel MCP-1. Indicated control relay to be provided and relay contacts connected to SCADA System to replace disconnected valve limit switch as shown.

NO.	DATE	REVISION	APPROVED
BELTWOOD RESERVOIR EXPANSION ELECTRICAL CONTROLS			
DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS Turner Collie & Braden Inc.			
DESIGN	R.A.B.	CONTRACT NO.	89-79
DRAWN	A.R.	FILE NO.	630 Q 700 F
TRACED		SHEET NO.	44A
CHECKED		DATE	6/7/81
DATE		OF	44

STANDARD RECESSED STORM DRAINAGE INLETS & CURBS



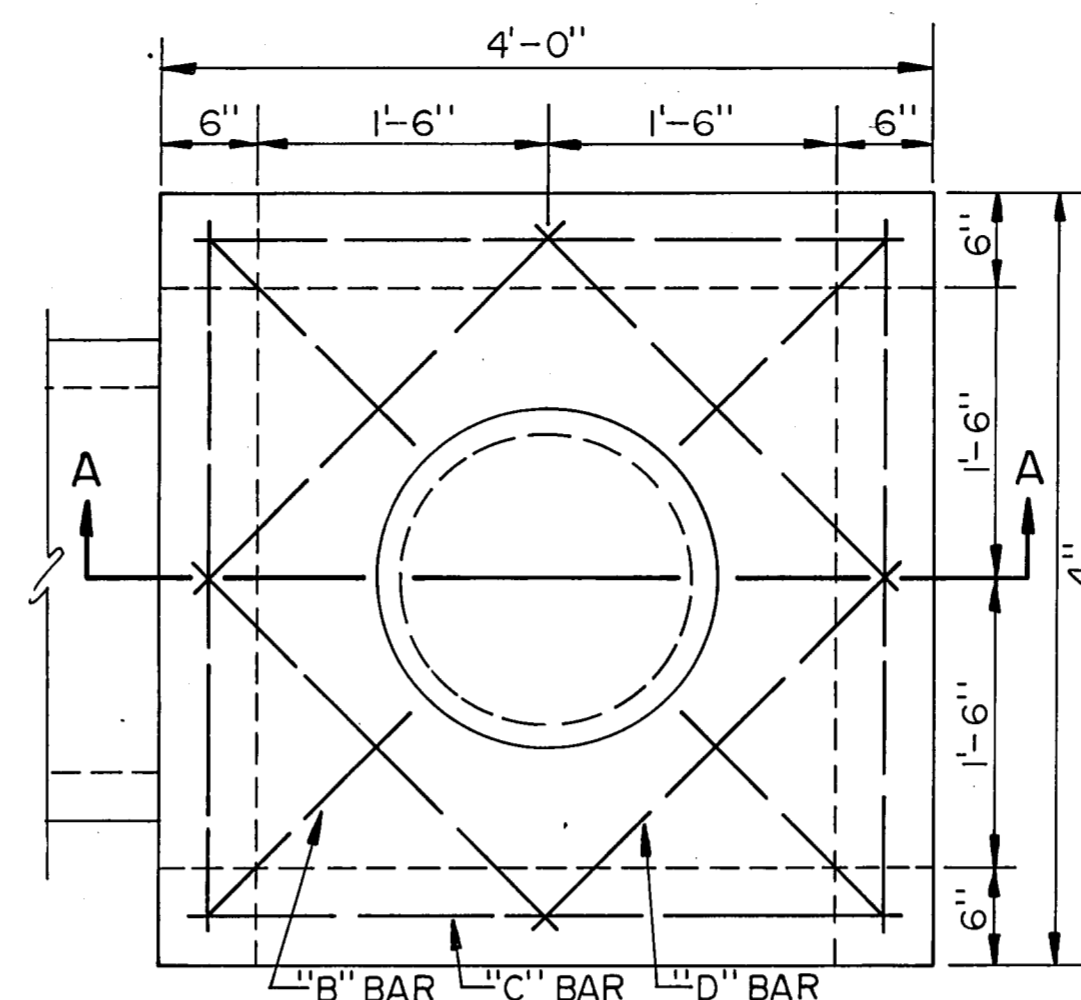
SECTION B-B



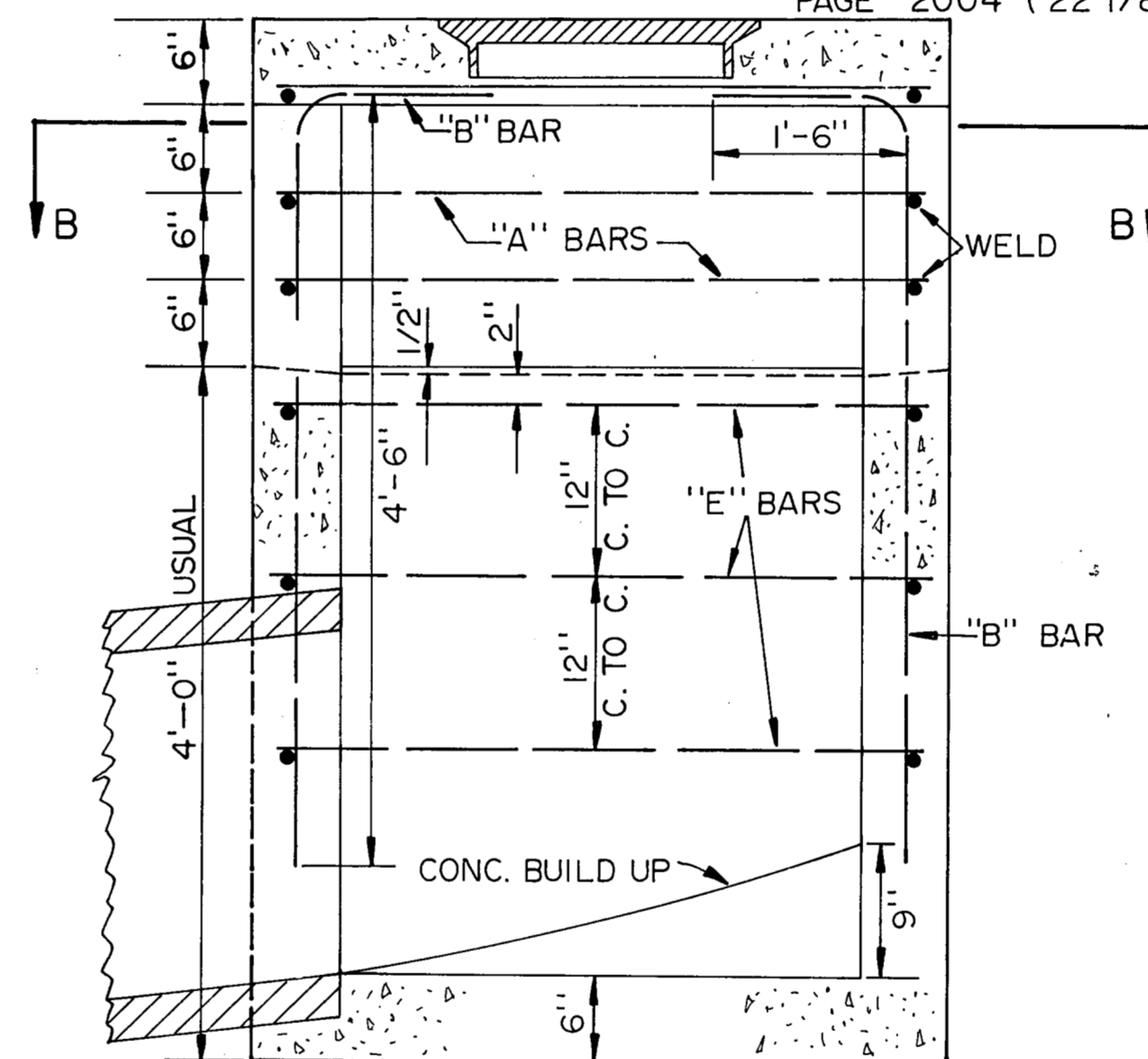
SECTION A-A
FOR 6", 8" & 10" INLETS

NOTE:
SEE PAGE 2004 FOR REINFORCING & BEAM DESIGN

SPECIAL "Y" INLET

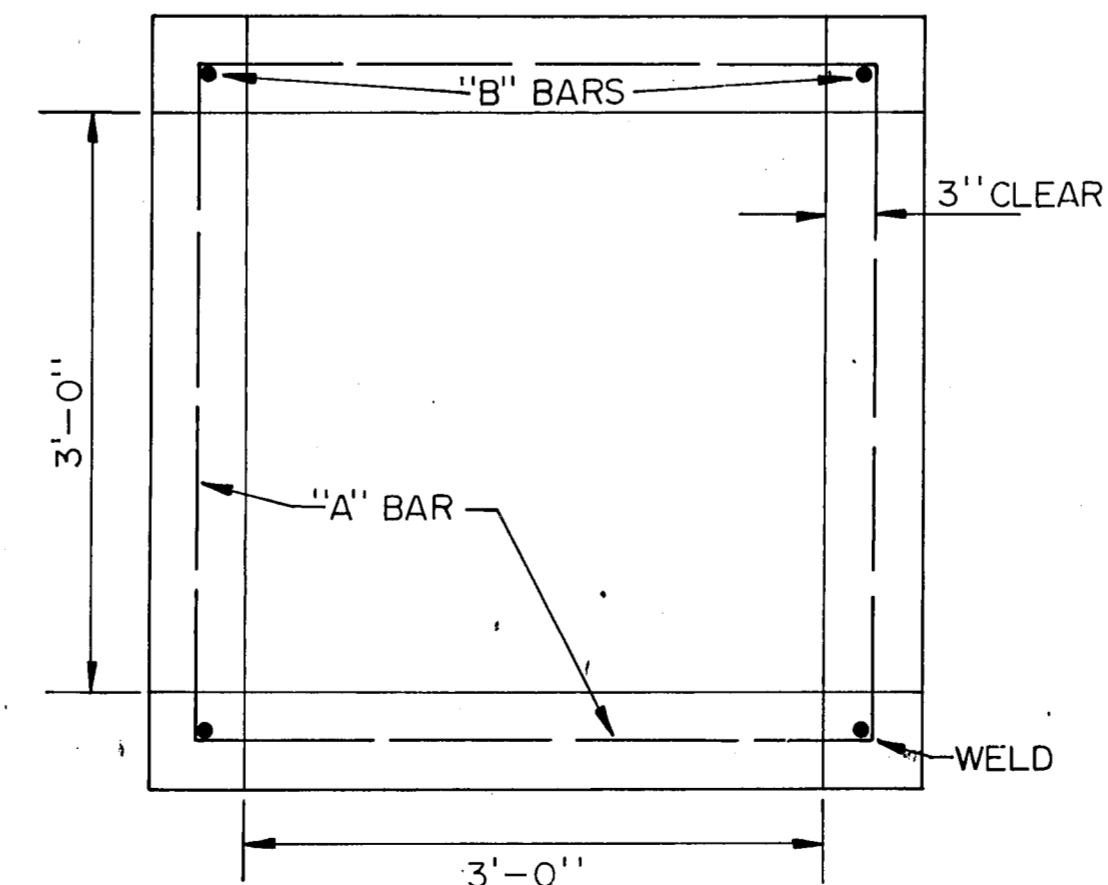


NOTES ALL CONCRETE TO BE 3000 P.S.I.
DEPTH OF INLETS MAY VARY TO SUIT CONDITIONS IN THE FIELD
OR AS SPECIFIED ON PLANS.
USE CITY OF DALLAS STANDARD INLET FRAME & COVER
PAGE 2004 (22 1/8" FRAME)



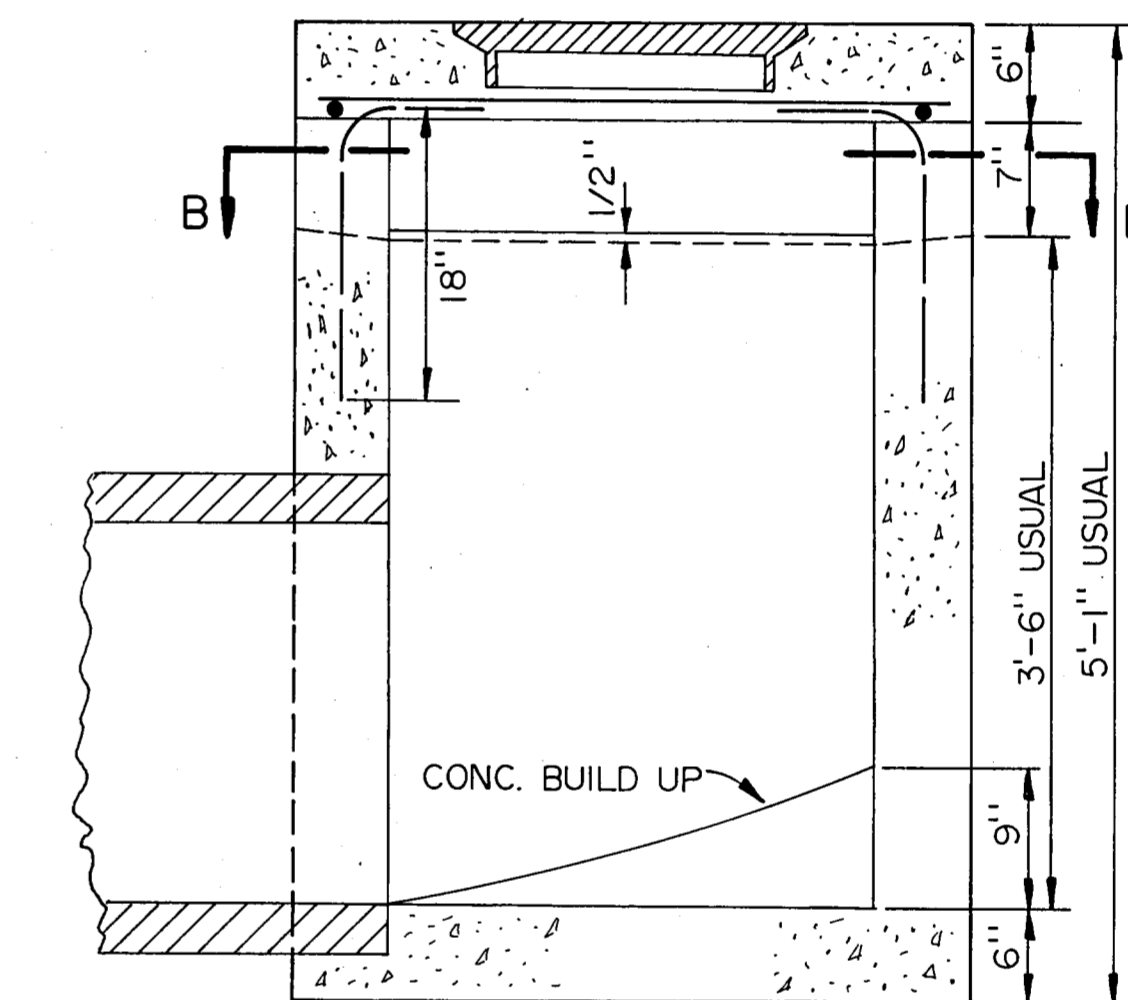
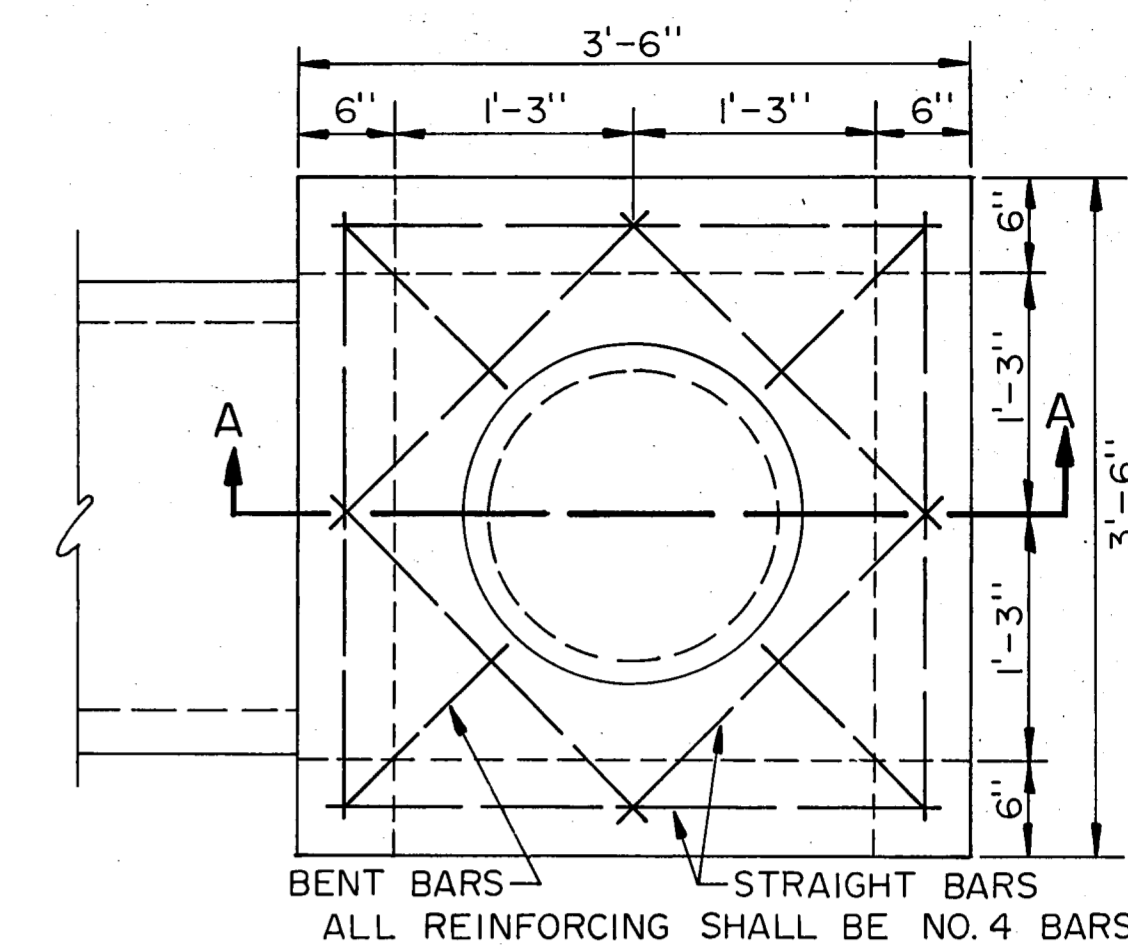
SECTION A-A

"A" BARS SHALL BE NO. 8 BARS PLACED AS SHOWN
& WELDED AT EACH CORNER OF THE INLET.
ALL OTHER BARS SHALL BE NO. 5 BARS PLACED
AS SHOWN.

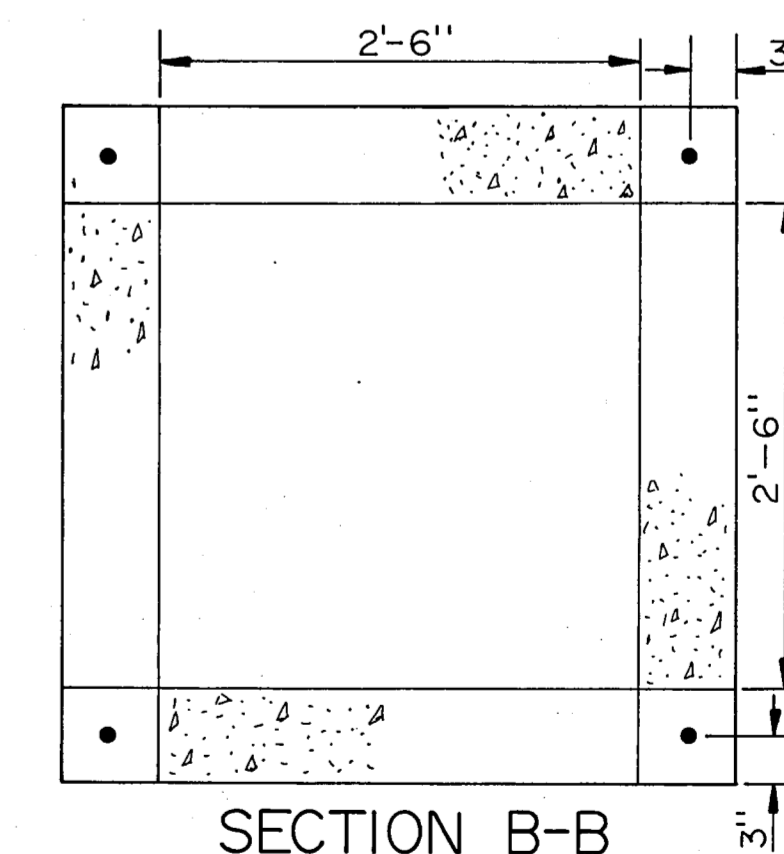


SECTION B-B

STANDARD TYPE "Y" INLET



SECTION A-A



SECTION B-B

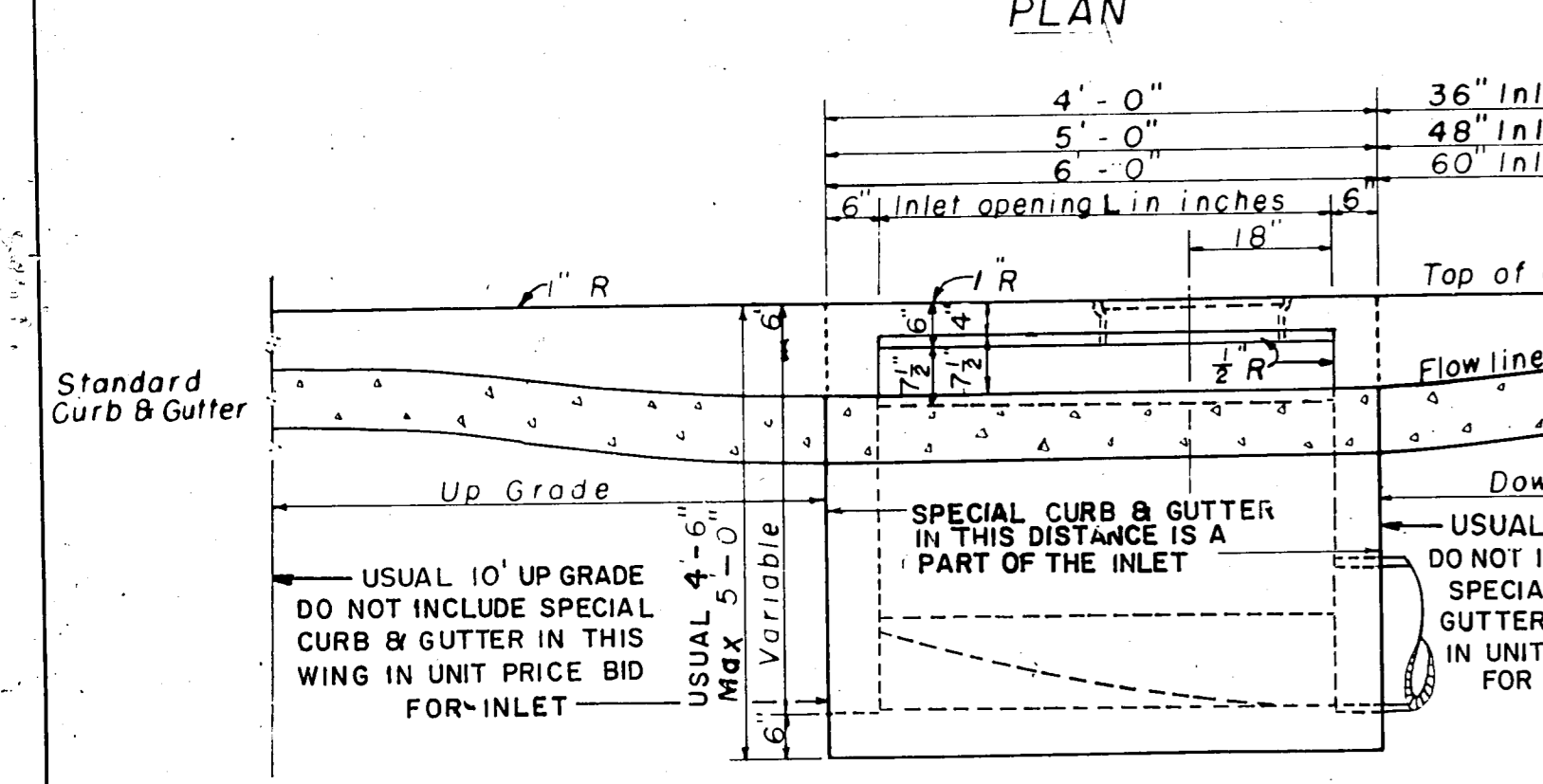
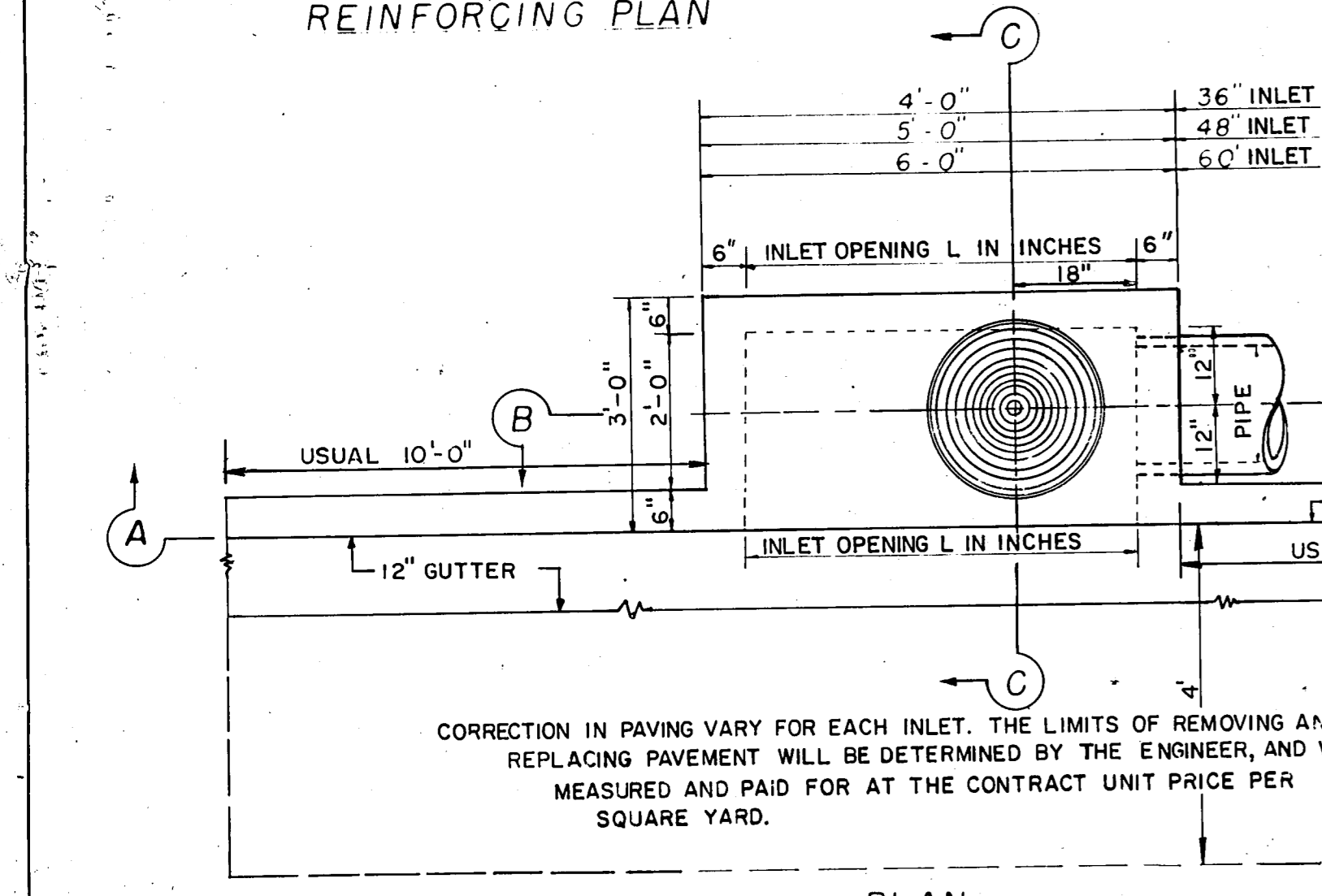
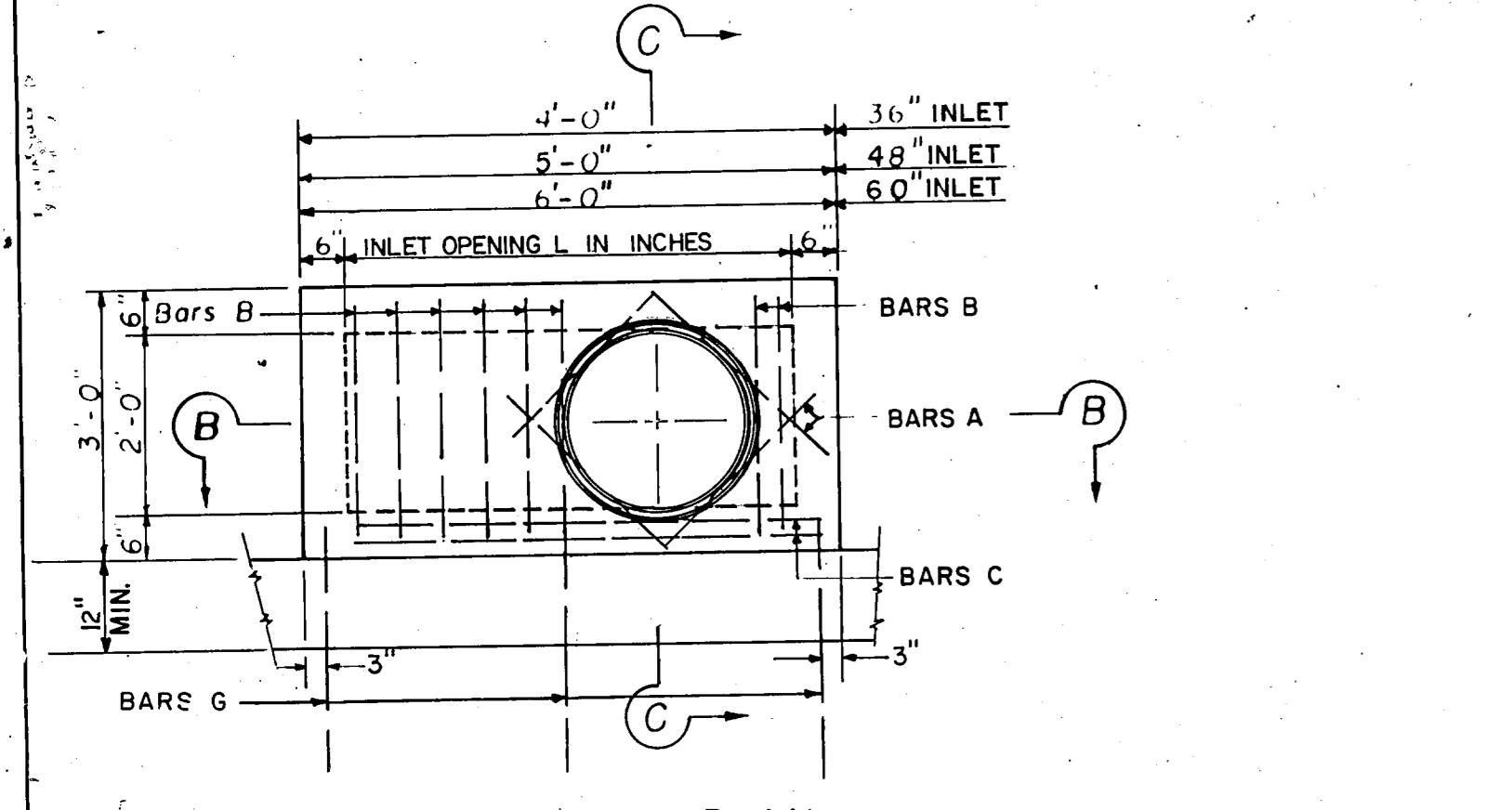
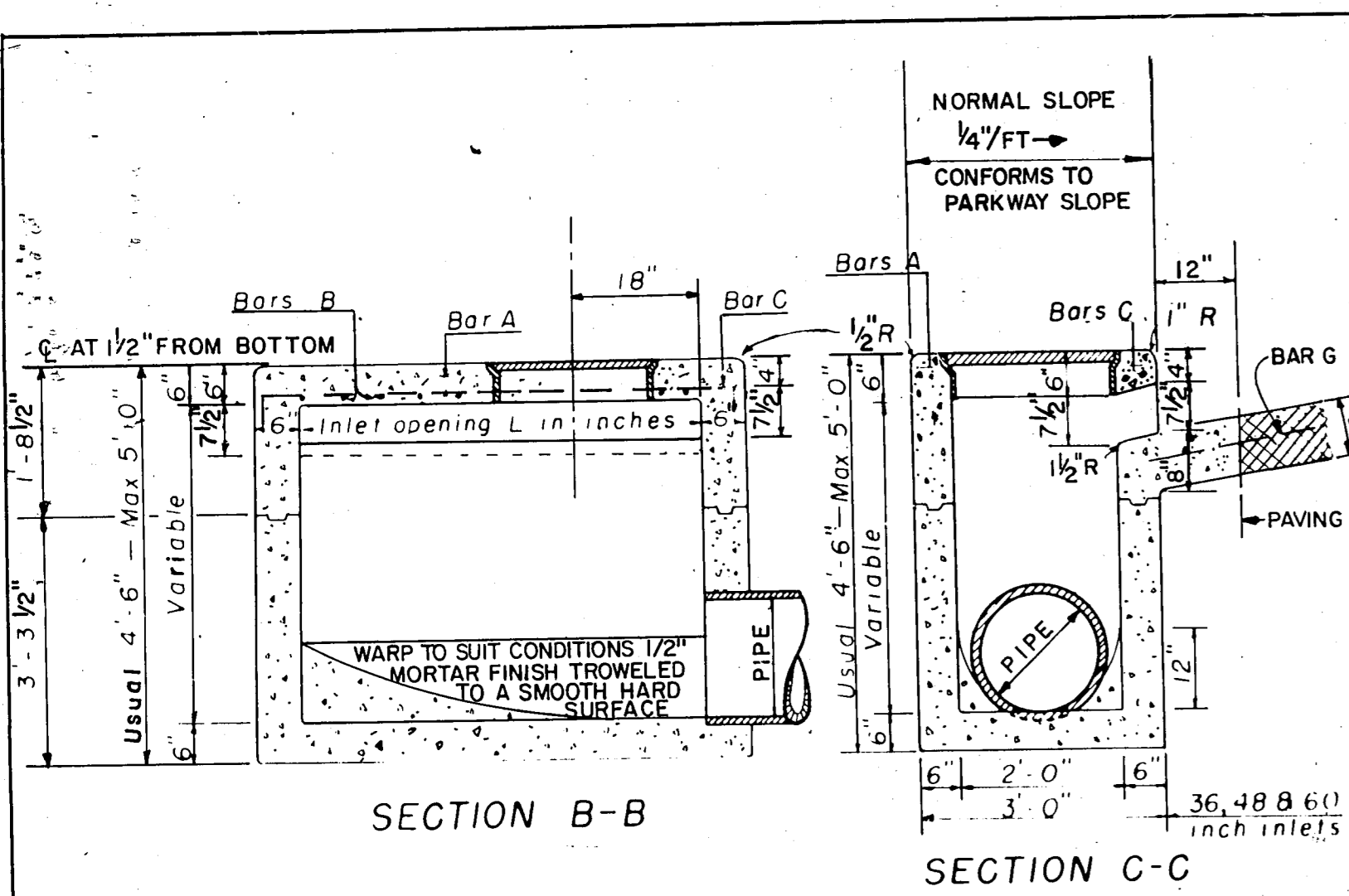
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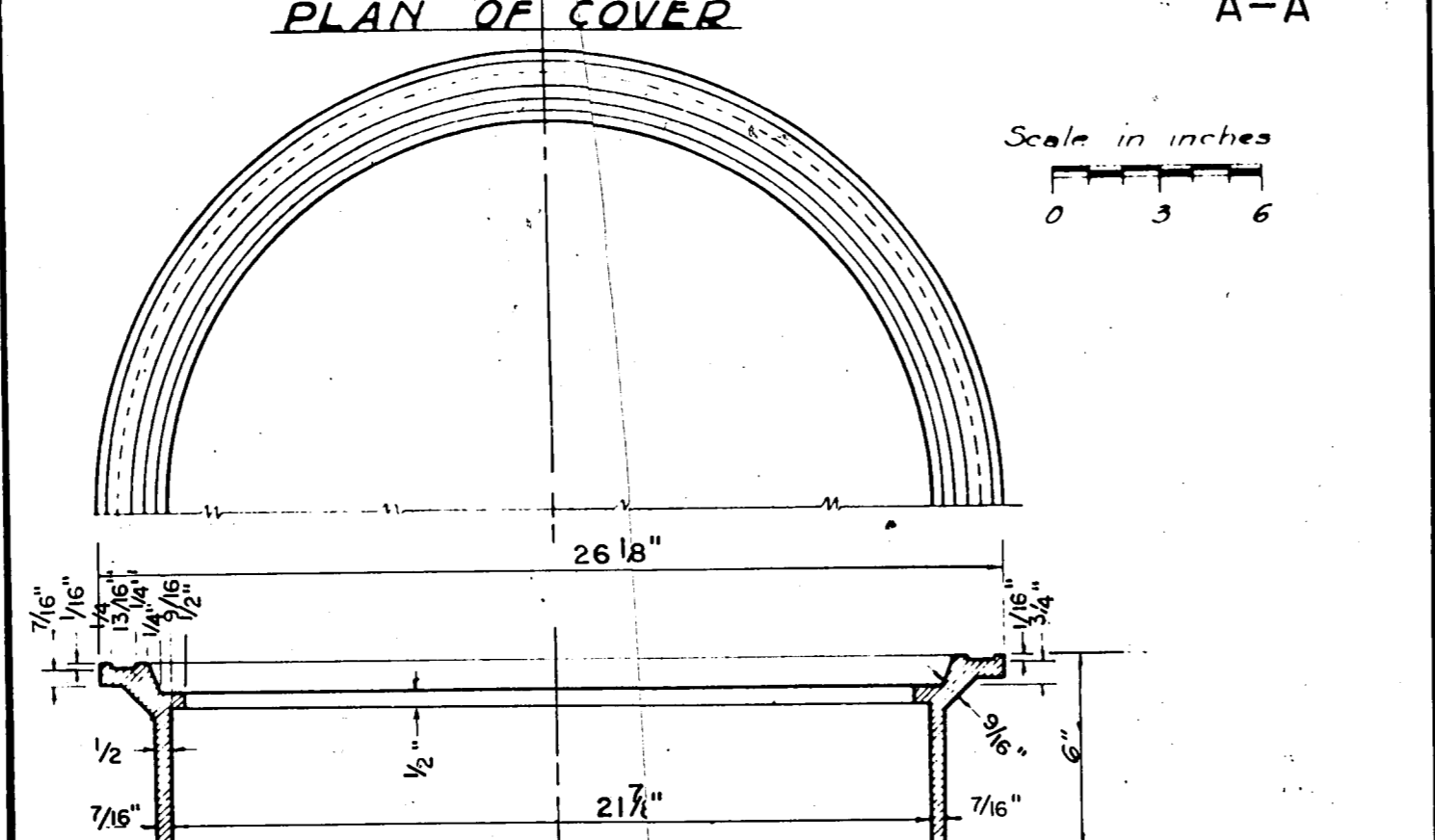
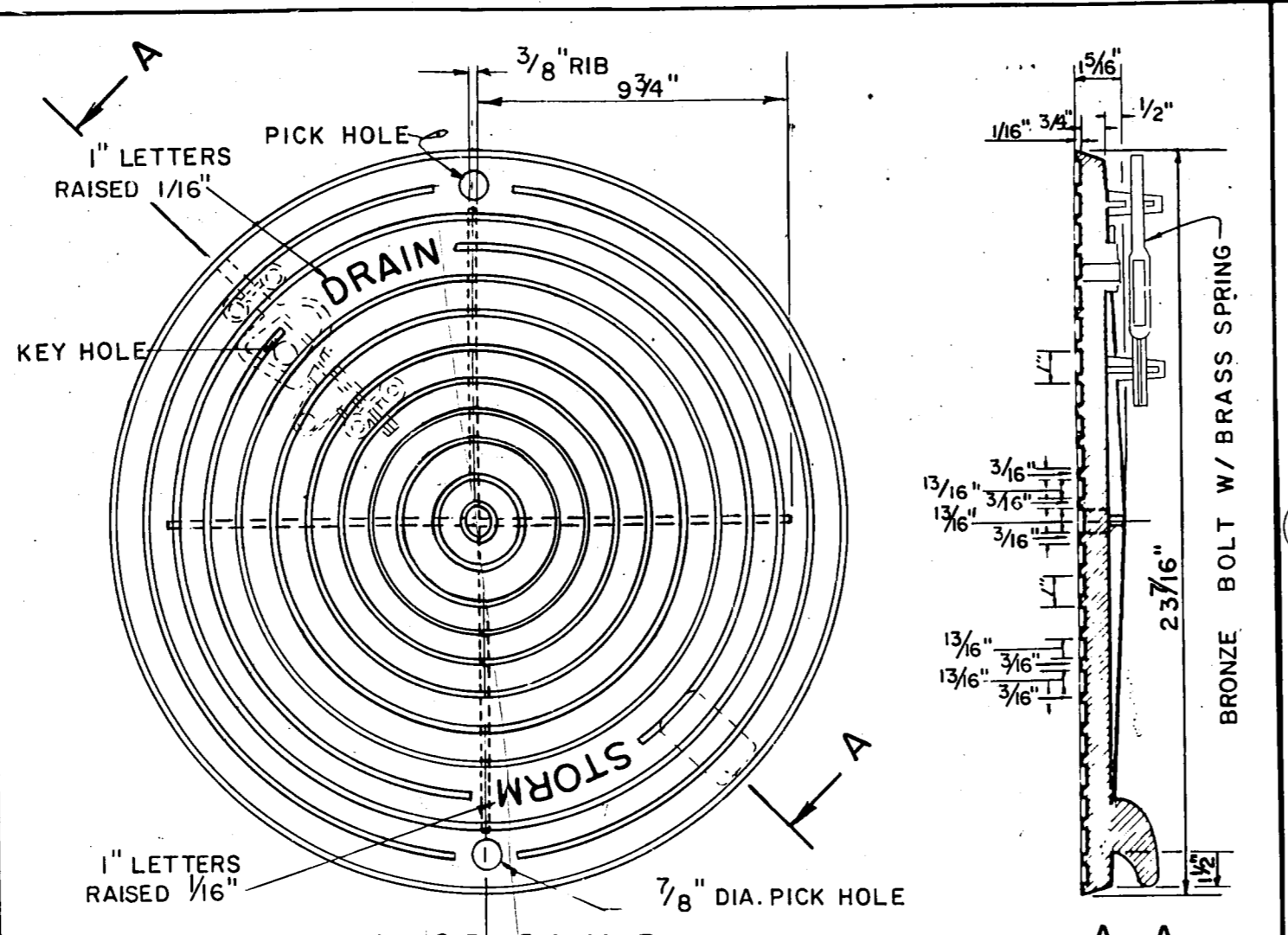
DRAINAGE DETAILS
STANDARD INLETS & CURBS
"Y" TYPE INLETS
DEPARTMENT OF PUBLIC WORKS
CITY OF DALLAS, TEXAS

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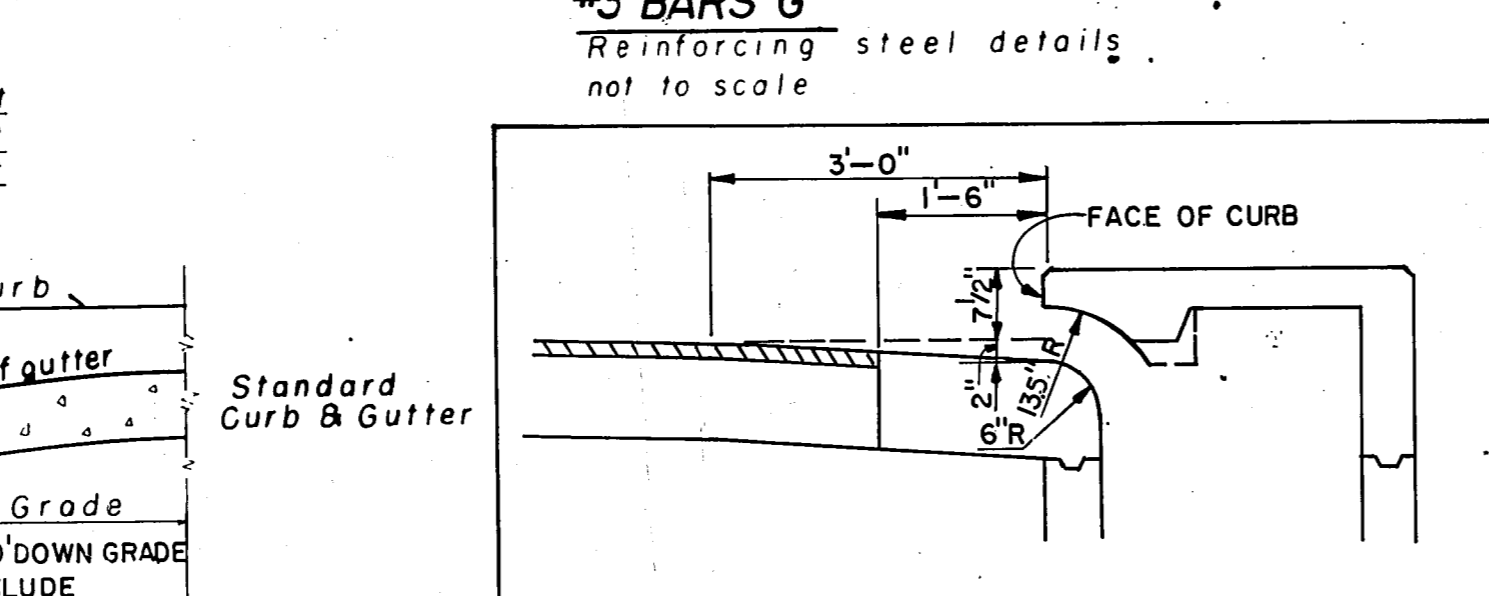
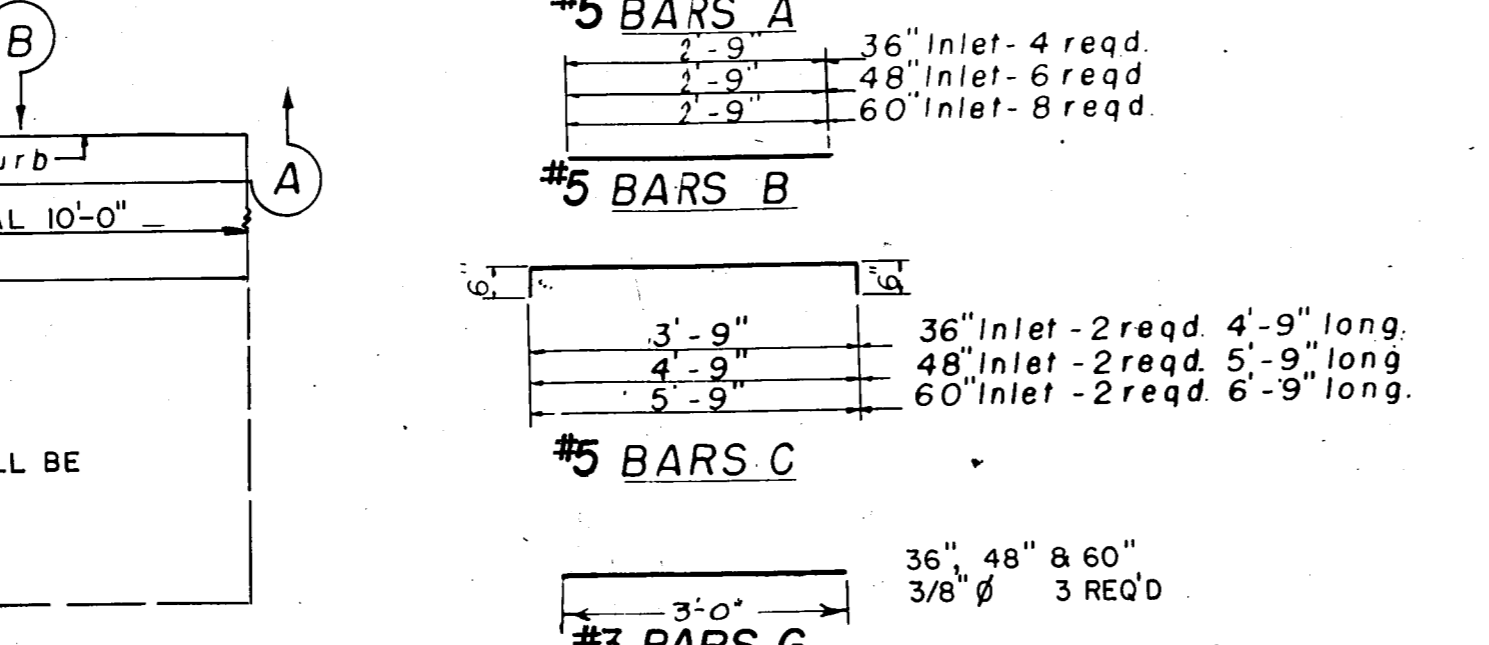


36, 48 AND 60 INCH INLETS



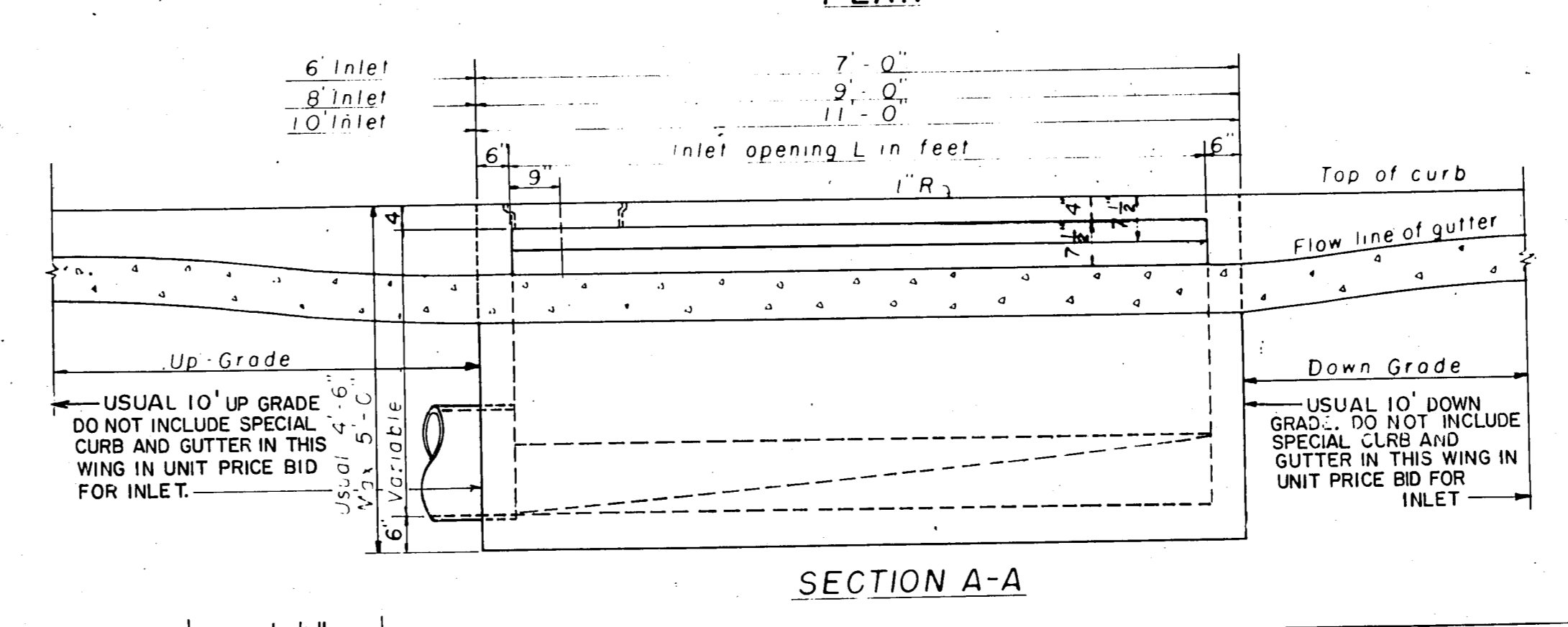
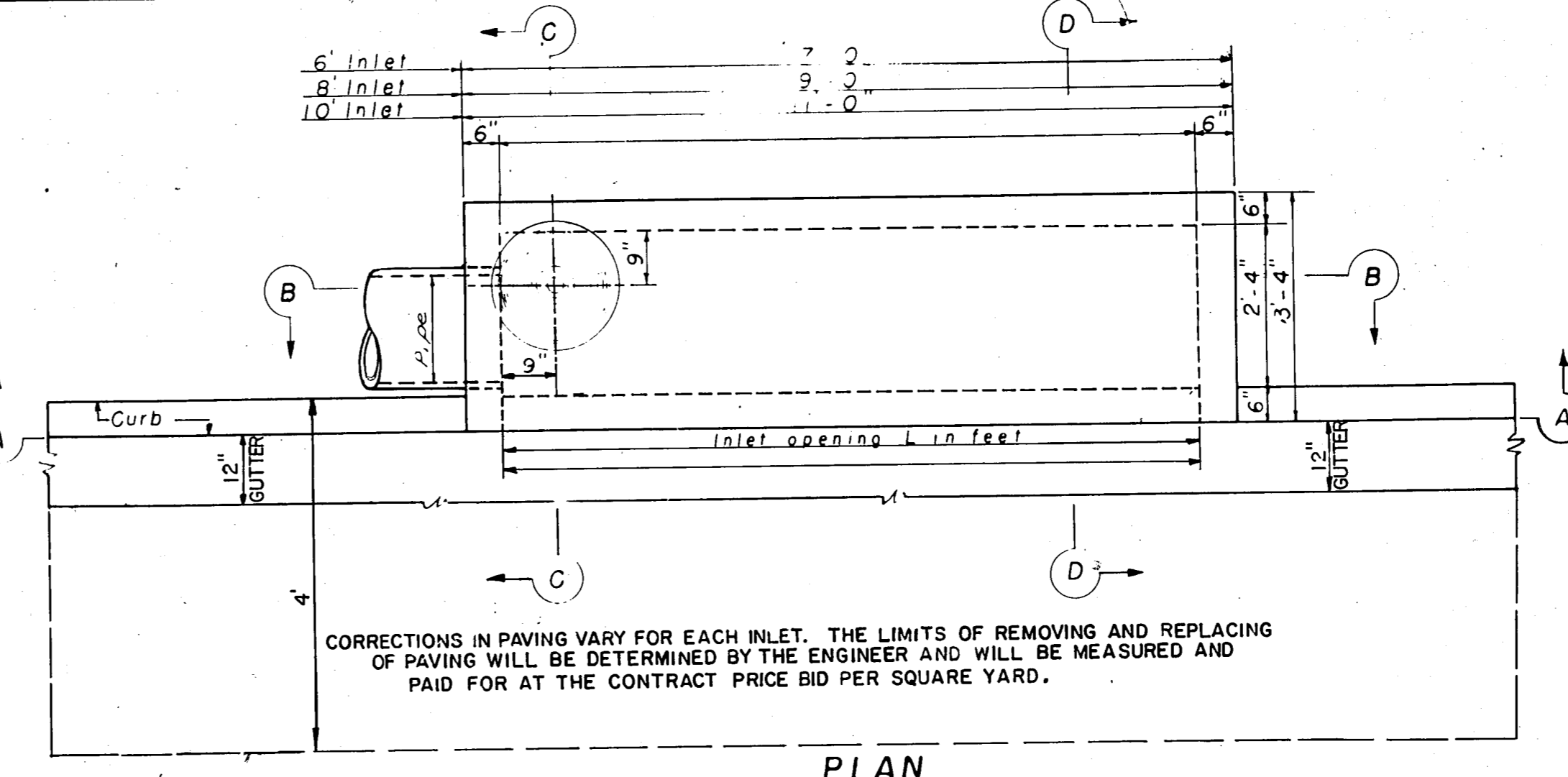
SECTION OF FRAME INLET FRAME AND COVER

NOTE: ON 48" & 60" INLETS, THE INLET FRAME AND COVER SHALL BE AT SAME END OF INLET AS PIPE.

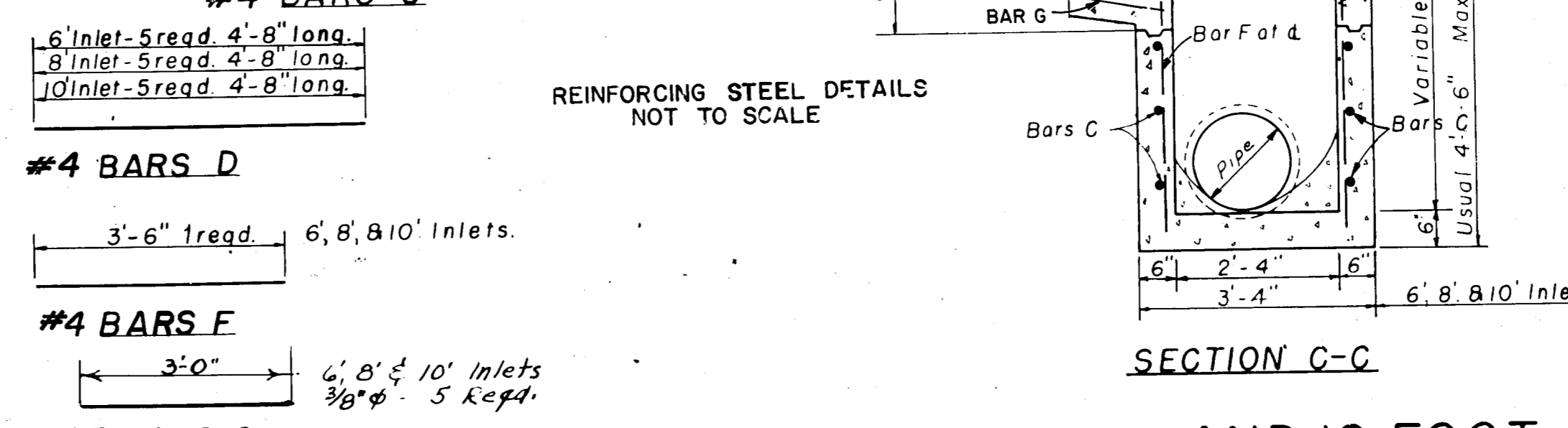
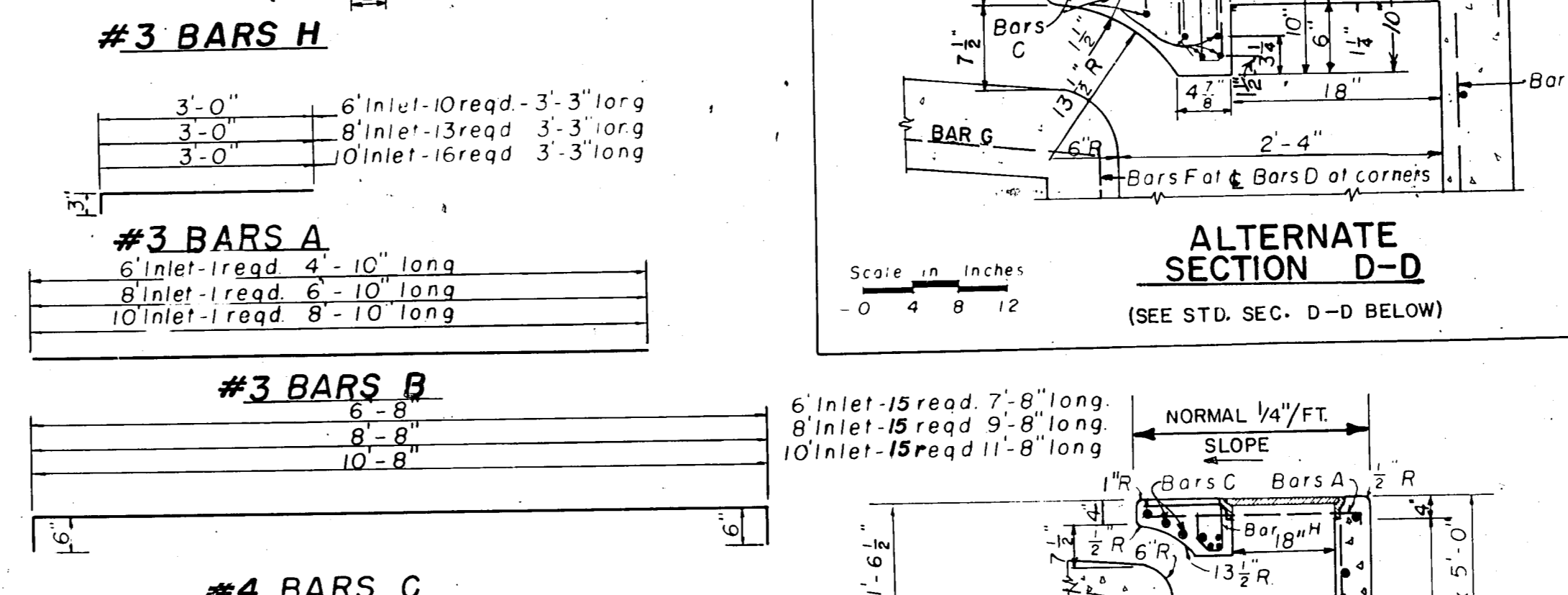


DETAIL FOR SHALLOW DEPRESSION INLETS

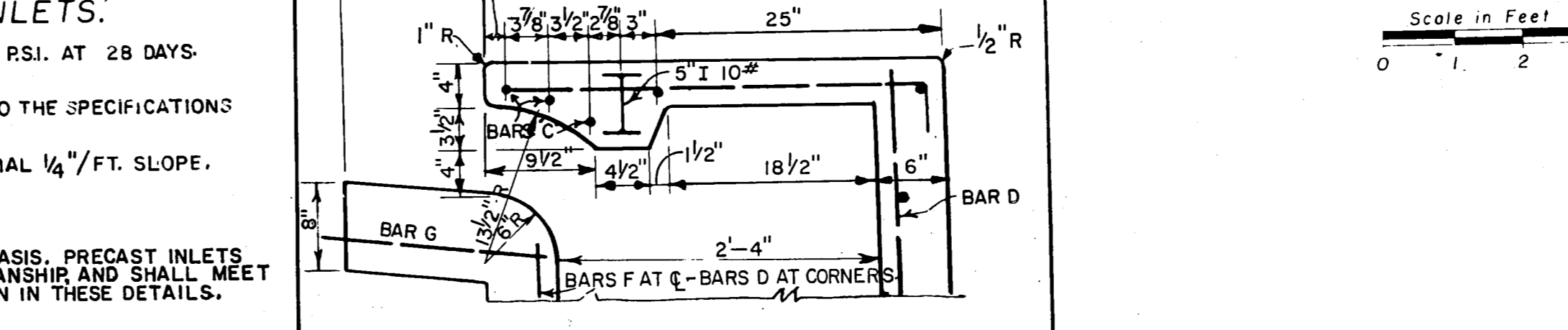
NOTES APPLICABLE TO ALL INLETS:
 CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. AT 28 DAYS.
 LATERAL PIPE MAY ENTER INLET AT ANY LOCATION.
 REINFORCEMENT, STRUCTURAL STEEL AND CASTINGS SHALL CONFORM TO THE SPECIFICATIONS.
 TOP OF INLET SLOPE SHALL CONFORM TO ADJACENT PARKWAY NORMAL 1/4" / FT. SLOPE.
 ALTERNATE CONSTRUCTION:
 ALTERNATE PRECAST INLETS MAY BE APPROVED ON AN INDIVIDUAL BASIS. PRECAST INLETS SHALL BE OF EQUAL OR BETTER STRENGTH MATERIAL, AND WORKMANSHIP AND SHALL MEET THE STANDARD DESIGN CRITERIA OF THE CAST-IN-PLACE INLETS SHOWN IN THESE DETAILS.



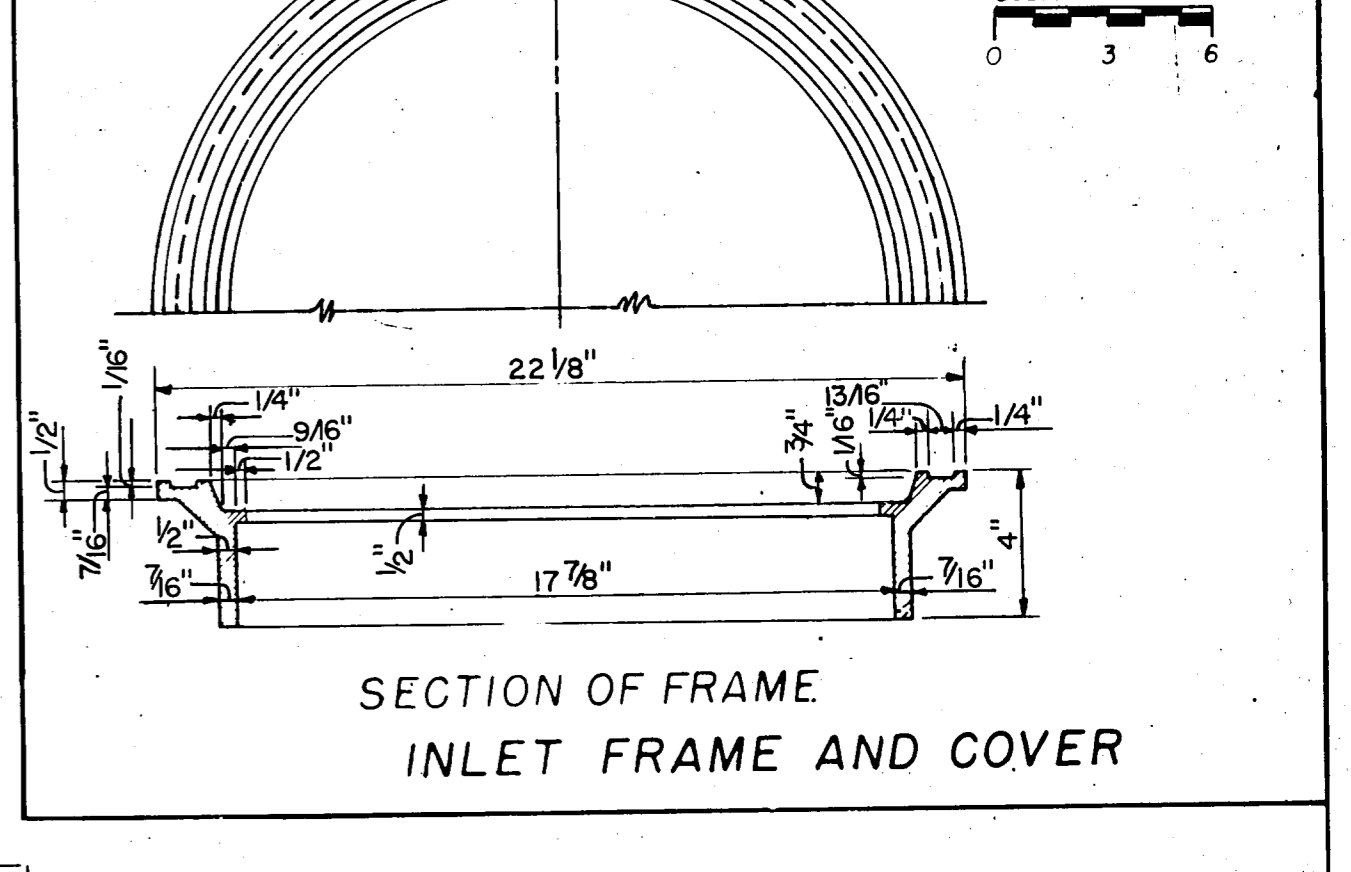
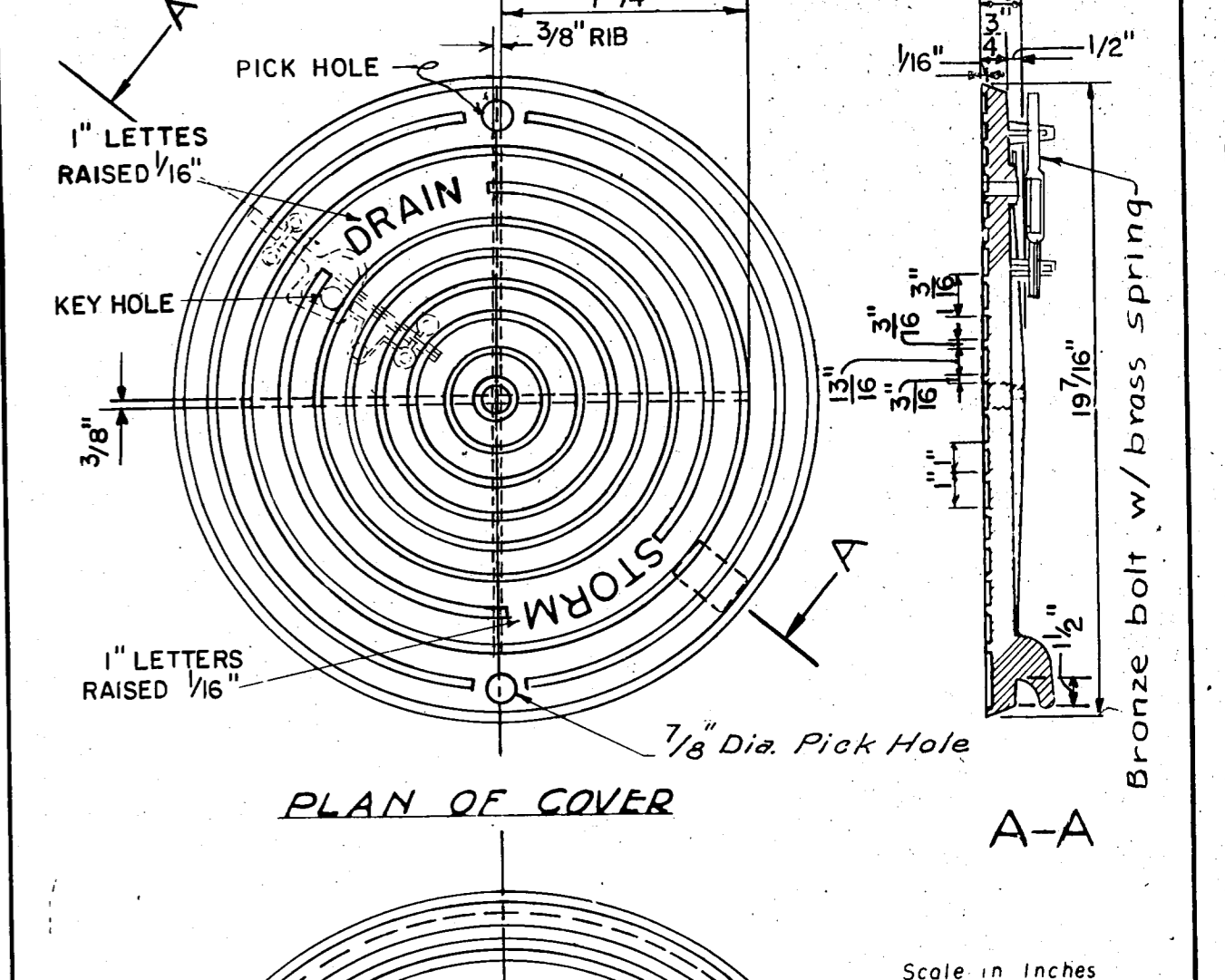
SECTION A-A



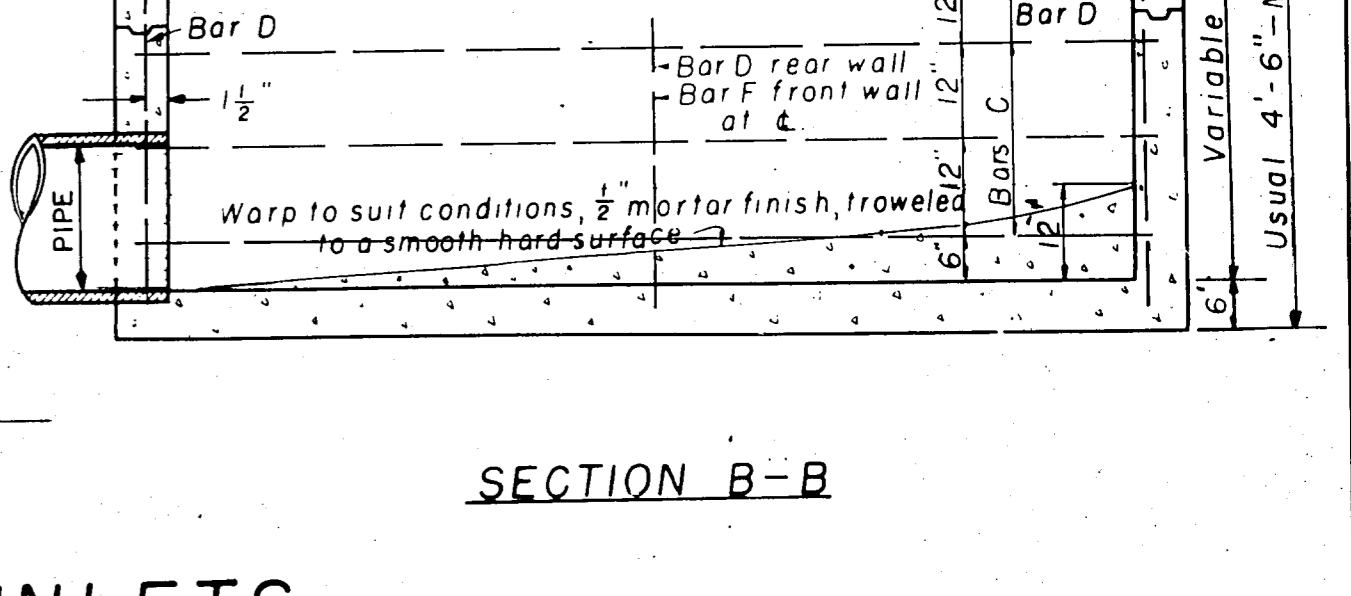
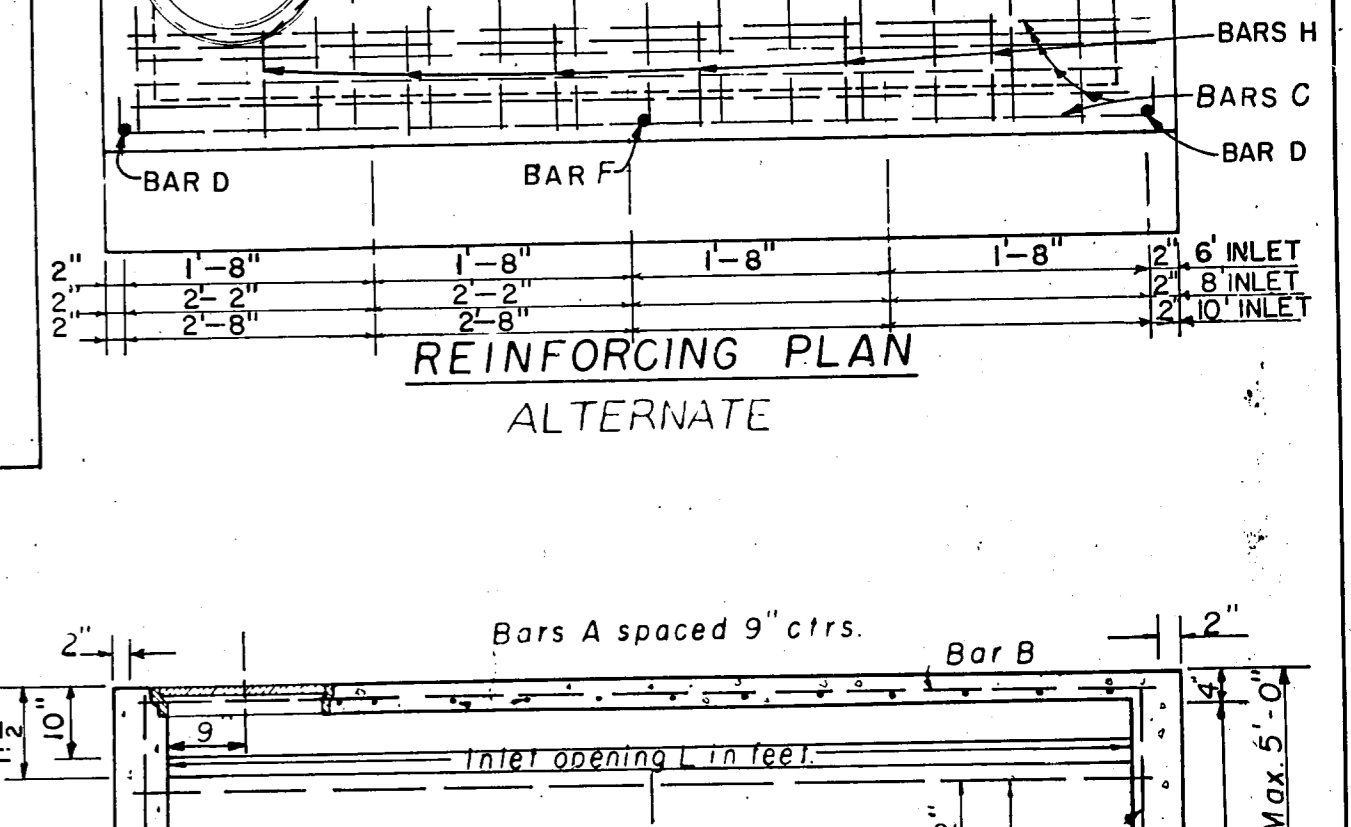
SECTION C-C



SECTION D-D FOR STANDARD INLETS



SECTION OF FRAME INLET FRAME AND COVER



SECTION B-B

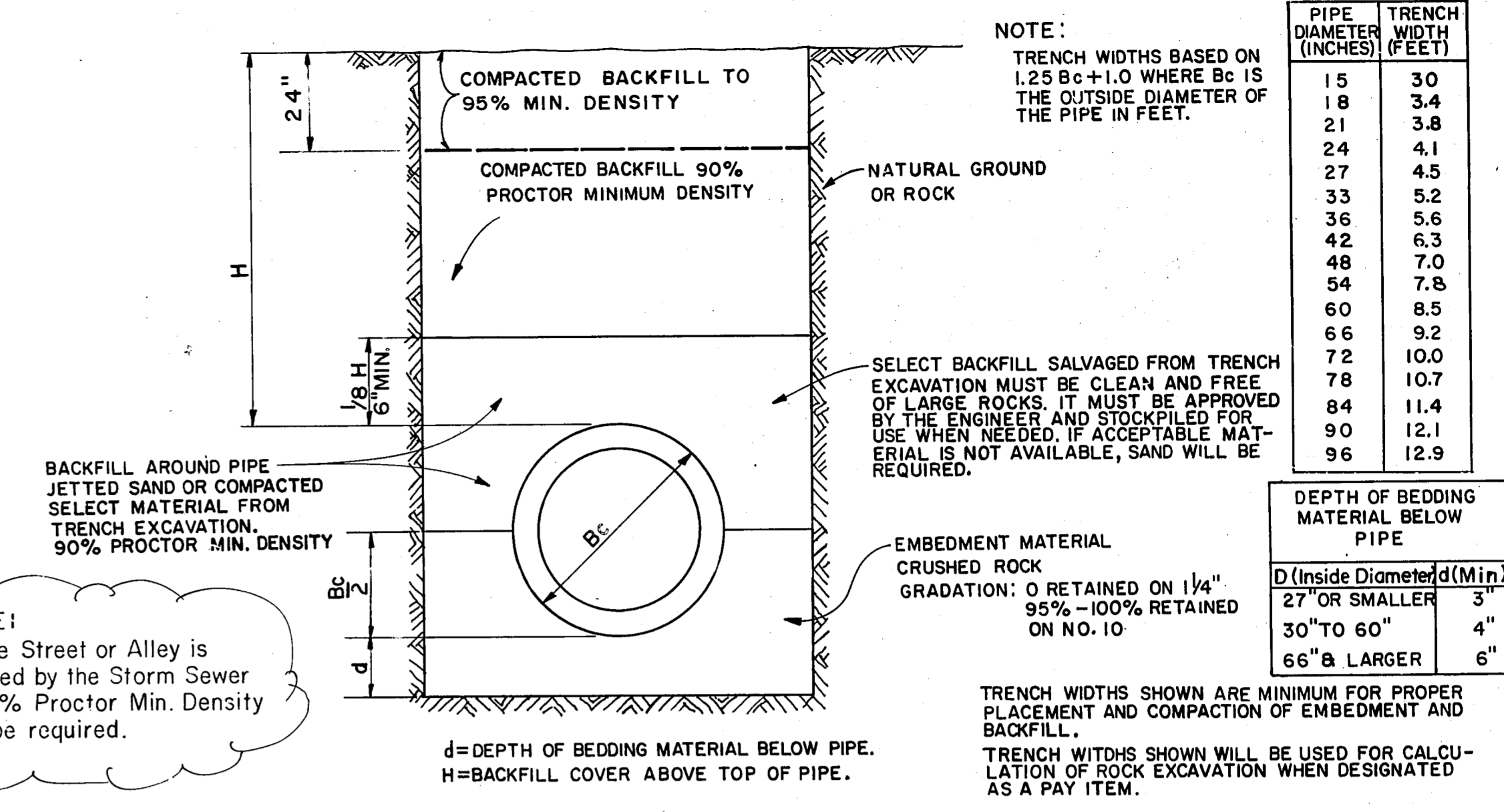
6, 8 AND 10 FOOT INLETS

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DRAINAGE DETAILS
 36, 48 AND 60 INCH INLETS
 6, 8 AND 10 FOOT INLETS
 DEPT. OF PUBLIC WORKS
 CITY OF DALLAS, TEXAS

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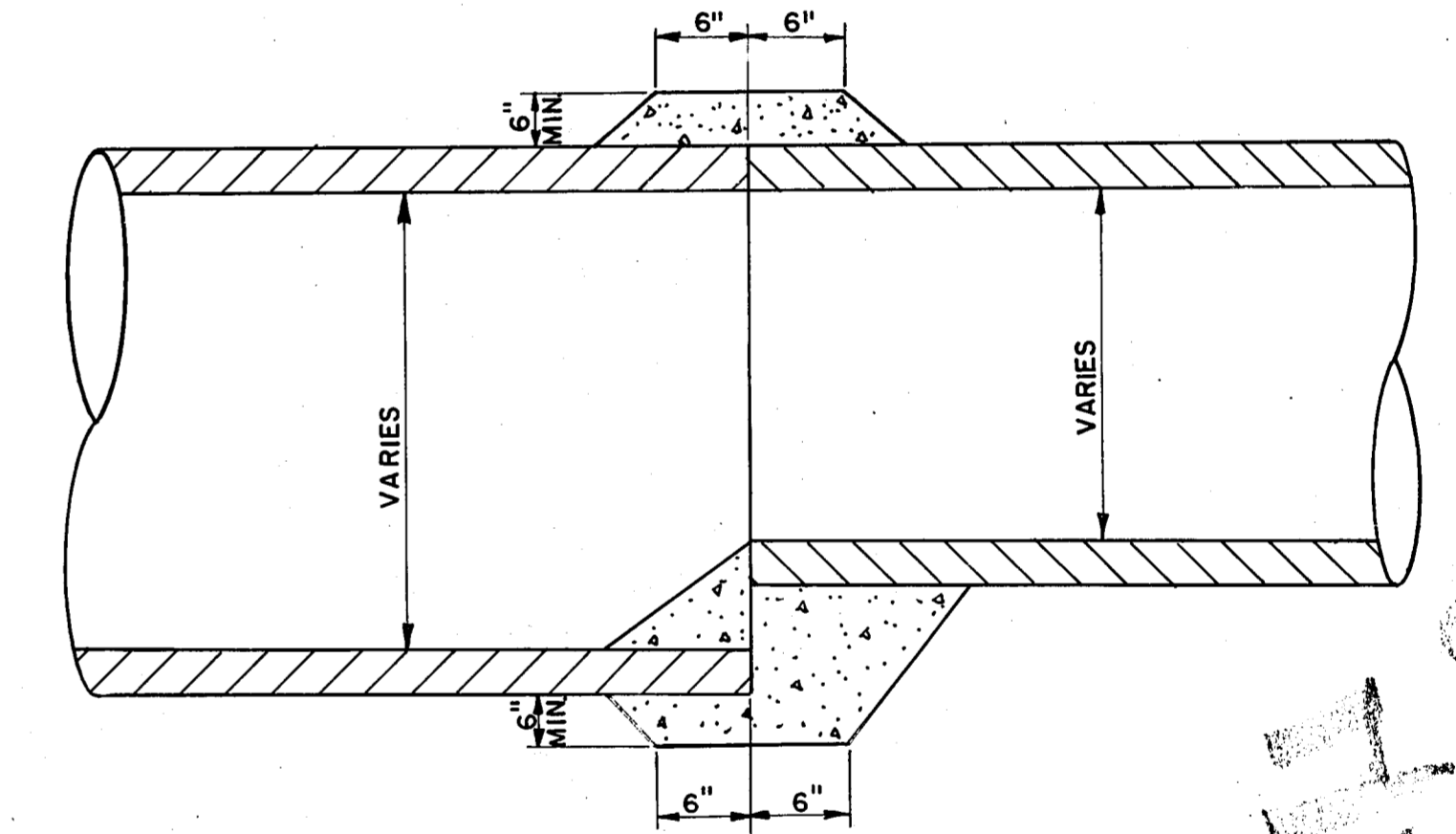
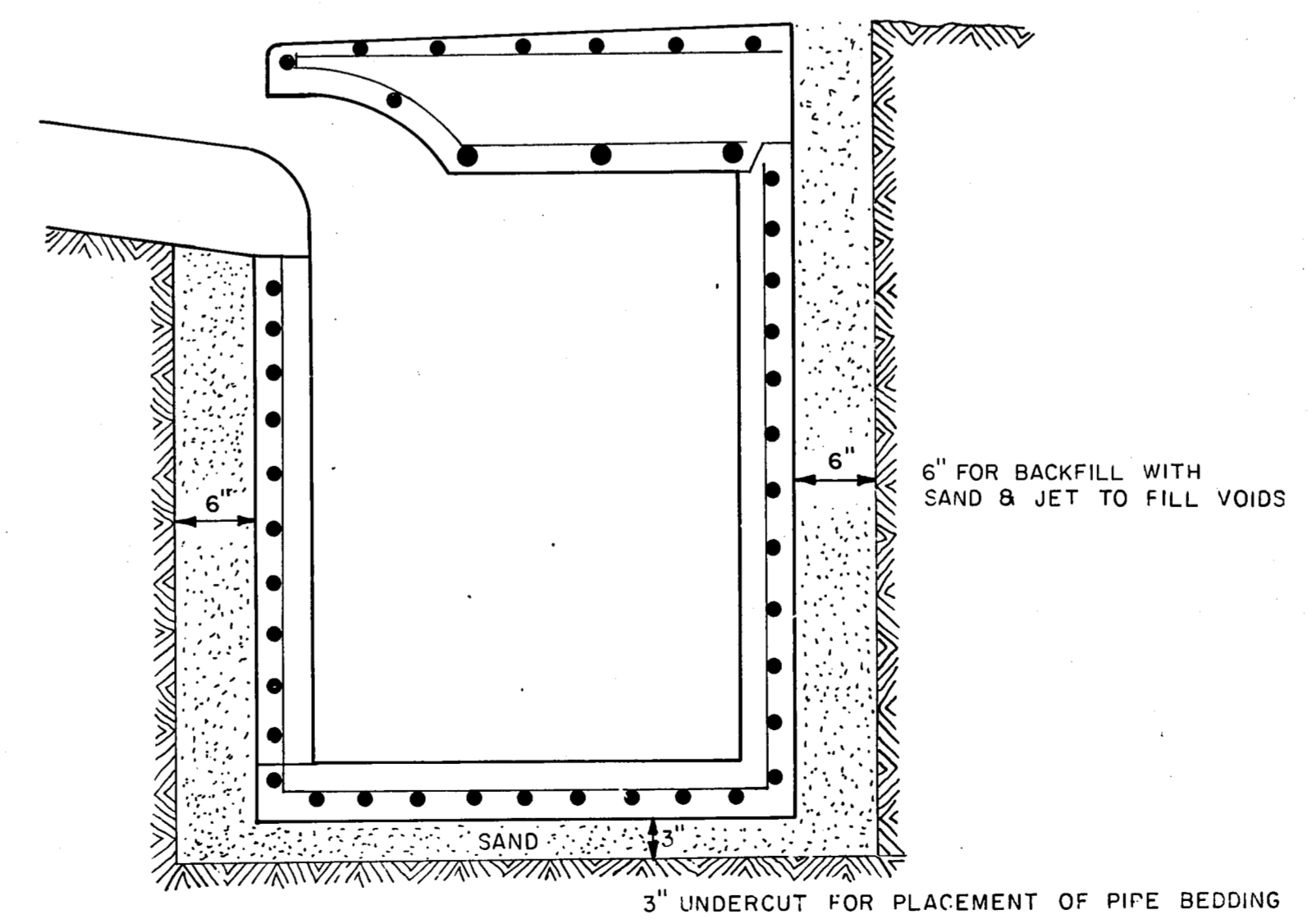
NOTE:
Where Street or Alley is crossed by the Storm Sewer a 95% Proctor Min. Density will be required.

REINFORCED CONCRETE CLASS III PIPE INSTALLATION

INSTALLATION WILL BE AS SHOWN OR AS DESCRIBED IN THE GENERAL SPECIFICATIONS FOR CONSTRUCTION

NOTE:
FOR H > 10' DESIGN MUST BE CHECKED. UNLIMITED TRENCH WIDTH WILL NOT BE PERMITTED FOR CLASS III PIPE AND HIGHER TYPE PIPE EMBEDMENT MAY BE REQUIRED.
TOP 24" OF BACKFILL MUST BE COMPACTED TO 95% DENSITY UNDER PAVEMENT.

PREFAB. INLET BOX INSTALLATION



DETAIL OF CONCRETE COLLAR FOR END TO END EXTENSIONS

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DRAINAGE DETAILS				
CONCRETE PIPE INSTALLATION				
DEPARTMENT OF PUBLIC WORKS				
CITY OF DALLAS, TEXAS				
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