SHEET NO.	TOTAL SHEETS
1	11

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E., CITY ENGINEER

STORM WATER DRAIN NO. 81

IN

CORPORATE LAKES

CITY OF WICHITA PROJECT NO. 468-76-245-81975-000-000-001

INDEX NO. 750083

INDEX OF SHEETS

1. TITLE SHEET
2. PLAT
3. TYPICAL SECTION & RIPRAP DETAILS
4. GENERAL NOTES, PLAN AND MISCELLANEOUS DETAILS
5. 3-8'-4"x10'-0"x35'-0" R.C.B.B. DETAILS
6. WALL SECTIONS
7. SECTION DETAILS
8. REINFORCEMENT DETAILS
9. SUPPORTS AND SPACERS FOR REINFORCING STEEL
10-11. CROSS SECTIONS

PROJECT SURVEY CONTROL

PROJECT DATUM: CITY OF WICHITA DATUM.

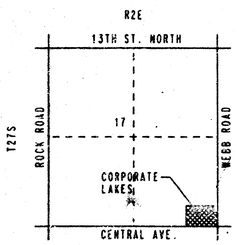
BENCH MARK: CHISELED "X" SOUTH END EAST CURB EAST ENTRANCE TO ART MUSEUM.
ELEV.=1165.35

BENCH MARK: CHISELED "X" NORTH END OF ISLAND NORTH OF CENTRAL AND WEBB.
ELEV.=1174.08

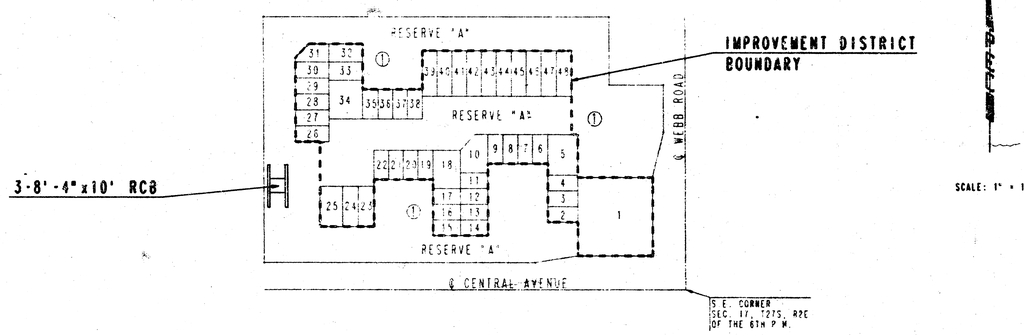
EARTHWORK

EXCAVATION
X-SECTIONS CU. YDS.

COMPACTED FILL
X-SECTIONS CU. YDS.



VICINITY MAP



SCALE: 1" = 150'

GENERAL NOTES

UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR. EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO HAND AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED.

CONTRACTOR SHALL SATISFY HIMSELF OF SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION.

TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

THE SUB CONTRACTOR SHALL COORDINATE HIS WORK WITH THE EARTHWORK CONTRACTOR FOR WORK ITEMS ADJACENT TO POND. (NOW UNDER CONSTRUCTION BY OTHERS).

THE SUB CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION OF ANY COFFERDAMS, EARTH BERMS, SHEET PILING ETC. AND/OR PUMPING REQUIRED TO INSURE PROPER CONSTRUCTION OF THE RCB AND PROPER INSTALLATION OF RIPRAP. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO OTHER WORK ITEMS.

CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF TWENTY-FOUR (24) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

SOUTHWESTERN BELL TELEPHONE COMPANY	1-316-571-7311
CABLEVISION	262-4270 OR 2[illegible]-7311
APL GAS SERVICE	2[illegible]-7311
KANSAS GAS & ELECTRIC	2[illegible]-1131
CITY OF WICHITA WATER DEPARTMENT	2[illegible]-4[illegible]
CITY OF WICHITA SEWER DEPARTMENT	2[illegible]-4[illegible]
ARKLA GAS COMPANY	942-8350 OR [illegible]-8351

ALL DISTURBED AREAS WITHIN RESERVE "A" AND OF WICHITA ART ASSOCIATION PROPERTY SHALL BE SEEDED, FERTILIZED AND MULCHED IN ACCORDANCE WITH CITY SPECIFICATIONS. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS.

RICHARD D. SCHMIDT — NUMBER 8024 — KANSAS — PROFESSIONAL ENGINEER

NOVEMBER, 1989

PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

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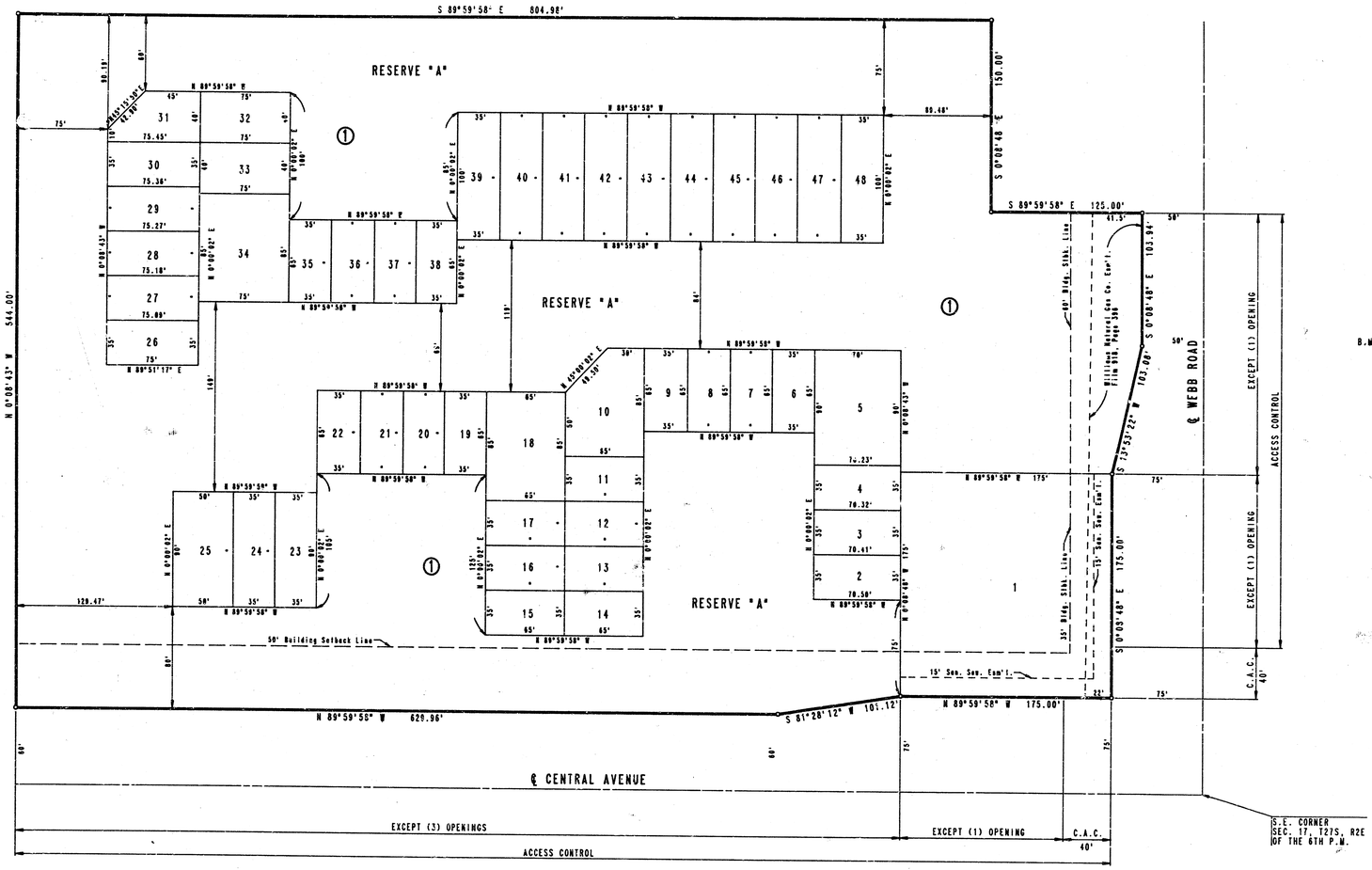
PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-81975-000-000-001	2	11

CORPORATE LAKES

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1" = 50'

o = IRON SET

B.M. - CITY OF WICHITA B.M. DISC
32 FT. NORTH AND 42 FT. WEST OF
OF INTERSECTION OF CENTERLINES
OF CENTRAL AND WEBB RD.
CITY DATUM ELEV.=1172.88

CORPORATE LAKES
STORM WATER DRAIN NO. 81

PLAT

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by		Checked by	
Drawn by	DEP	Date SEPT., 1989	Job No. 89277-3

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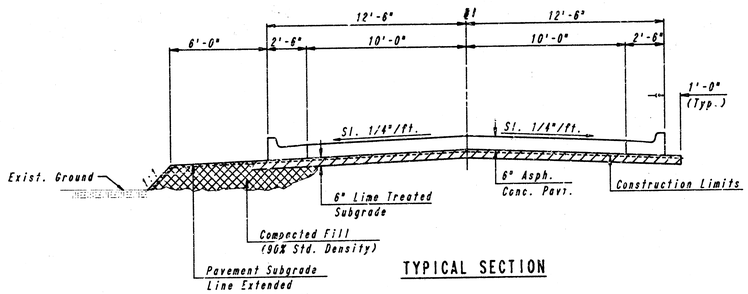
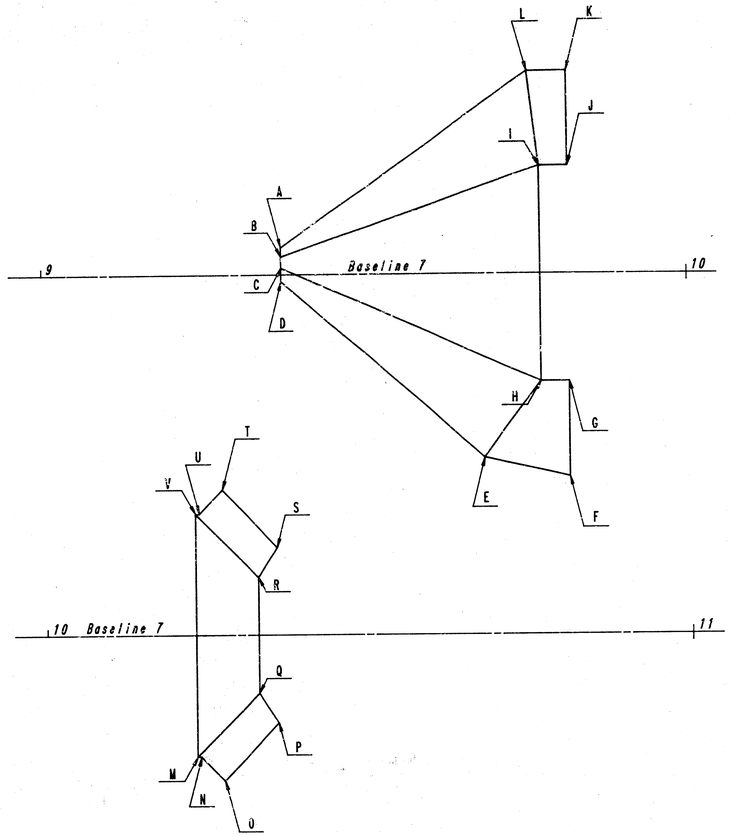


TYPICAL SECTION

NOTE:
Curb and Gutter, Asphalt and Lime Treated Subgrade are by Others.

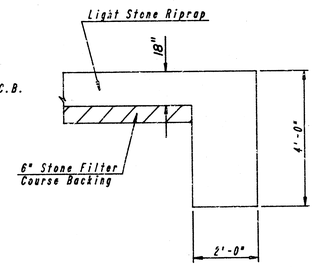


RIPRAP PLAN
Scale: 1"=10'

PROJECT NO.	SHEET NO.	TOTAL SHEETS
466-76-245-81975-000-000-001	3	11

LOCATION	OFFSET ℄ 7	ELEVATION	STATION ℄ 7
A	4.00' Lt.	156.0	9+37.08
B	2.50' Lt.	155.0	9+37.08
C	1.00' Lt.	155.0	9+37.08
D	1.00' Rt.	156.0	9+37.08
E	27.00' Rt.	162.0	9+68.50
F	29.83' Rt.	162.0	9+81.50
G	15.33' Rt.	155.0	9+81.50
H	15.83' Rt.	155.0	9+77.08
I	15.83' Lt.	155.0	9+77.08
J	15.83' Lt.	155.0	9+81.50
K	29.83' Lt.	162.0	9+81.50
L	29.83' Lt.	159.5	9+75.50
M	17.83' Rt.	155.0	10+22.92
N	17.83' Rt.	155.0	10+23.50
O	21.37' Rt.	155.0	10+27.04
P	12.88' Rt.	151.0	10+35.53
Q	8.50' Rt.	151.0	10+32.50
R	8.50' Lt.	151.0	10+32.50
S	12.88' Lt.	151.0	10+35.53
T	21.37' Lt.	155.0	10+27.04
U	17.83' Lt.	155.0	10+23.50
V	17.83' Lt.	155.0	10+22.92

NOTE:
Omit Toewall adjecent to R.C.B. and Wingwalls.



TYPICAL SECTION THRU TOEWALL

NOTES
1. ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE. NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED.
2. TOEWALLS SHALL BE INSTALLED ALONG ALL EDGES OF STONE RIPRAP EXCEPT AS NOTED.
3. GROUTING OF THE SURFACE OF THE RIPRAP SHALL NOT BE PERFORMED. GROUTING OF THE TOEWALLS SHALL BE PERFORMED PER CITY SPECIFICATIONS.

CORPORATE LAKES
STORM WATER DRAIN NO. 81
TYPICAL SECTION AND RIPRAP DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	R.A.S.	Checked by	R.A.S.
Drawn by	W.L.L.	Date	Sept. 1989

Job No. 89277-3

DWG. NO. 567

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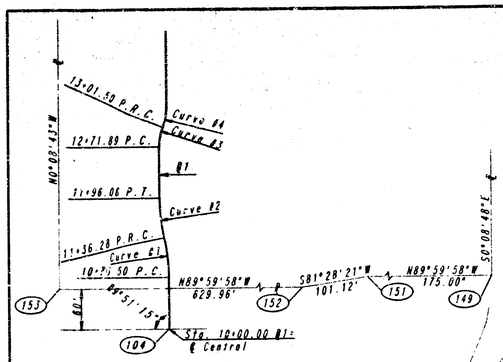
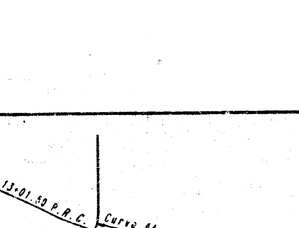
PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-89975-000-333-001	4	11

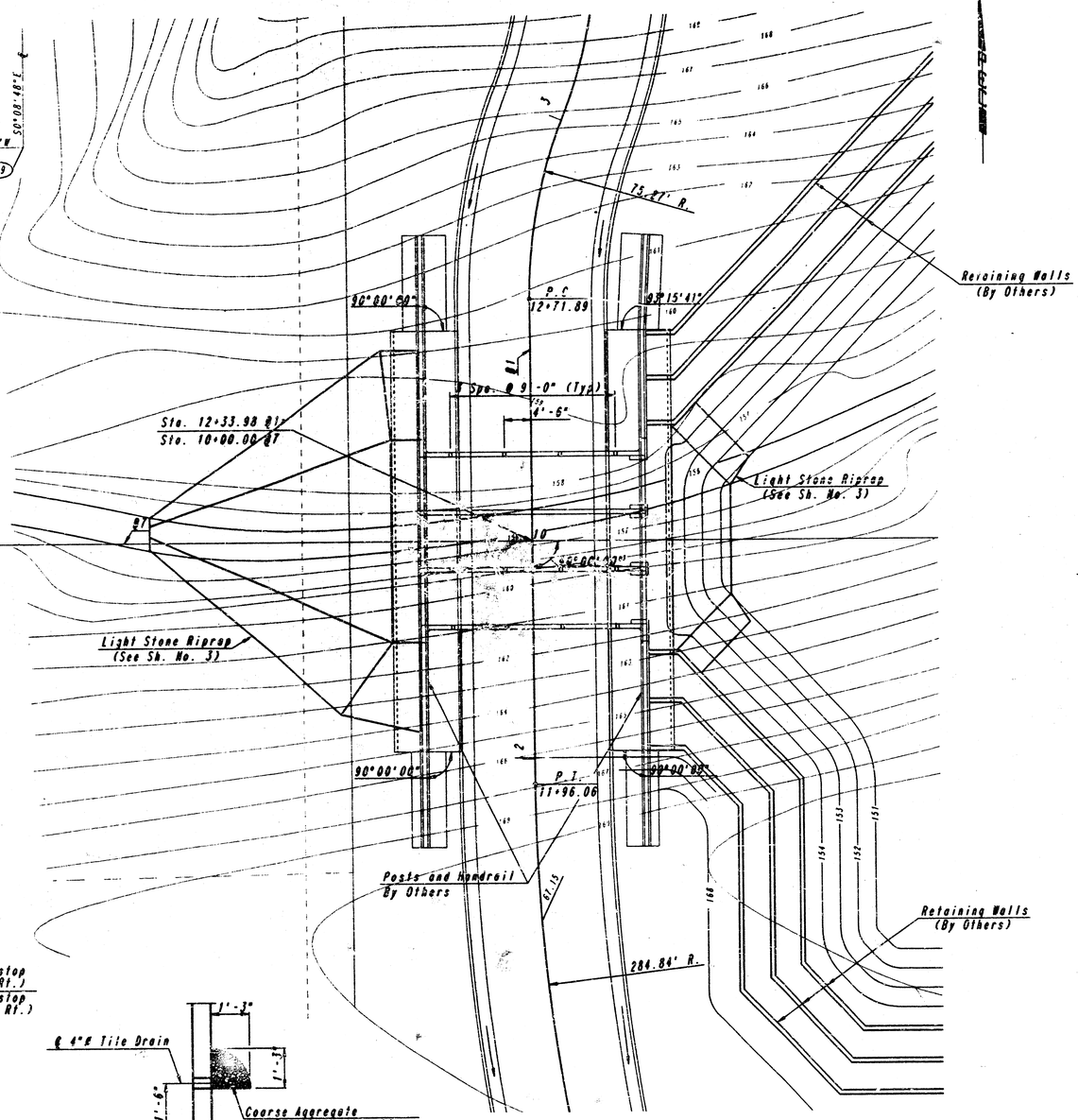


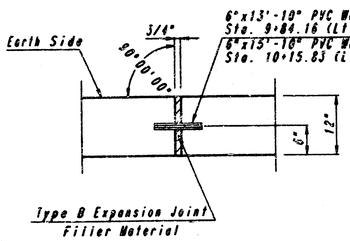
COORDINATE TABLE		
POINT NO.	NORTH	EAST
104	4696.70031048	9069.40529733
149	4769.69015136	9931.77792600
151	4768.69221300	9756.71292600
152	4768.40339188	9656.71275093
153	4758.70681300	9626.75315099

CURVE TABLE						
CURVE NO	Δ	D	R	T	L	E
1	12°01'29"	20°06'54"	284.84'	30.00'	59.78'	1.58'
2	12°01'29"	20°06'54"	284.84'	30.00'	59.78'	1.58'
3	22°32'25"	76°07'07"	75.27'	15.00'	29.61'	1.48'
4	22°32'25"	76°07'07"	75.27'	15.00'	29.61'	1.48'



CROWN GRADE PROFILE
℄ 1





WATERSTOP DETAIL
(4-Required)

WEEPHOLE DETAIL
(Typical- 8 Required)

PLAN
Scale: 1"=10'

GENERAL NOTES

LOADING: HS20-44 A.A.S.H.T.O. SPECIFICATION, 1983 EDITION AND SUBSEQUENT INTERIMS.

UNIT STRESSES:
F'c = 4,000 P.S.I., Fy = 60,000 P.S.I.

CONCRETE: CLASS AAA CONCRETE (AE) SHALL BE USED THROUGHOUT. CLASS AAA CONCRETE (AE) AND CLASS A CONCRETE SHALL COMPLY TO SECTION 402 OF THE 1980 KANSAS STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION. BEVEL ALL EXPOSED EDGES WITH A 3/4" TRIANGULAR MOULDING, UNLESS OTHERWISE NOTED.

SEAL COURSE: A SEAL COURSE, CONSISTING OF 3'' OF CLASS A CONCRETE SHALL BE CONSTRUCTED. NO REINFORCING SHALL BE PLACED UNTIL THE SEAL COURSE HAS GAINED SUFFICIENT STRENGTH TO PERMIT WORKING UPON IT WITHOUT INJURY.

REINFORCING STEEL: ALL DIMENSIONS RELATIVE TO REINFORCING ARE TO CENTERLINE OF BARS UNLESS OTHERWISE NOTED. BAR BENDING AND DIMENSIONS SHALL BE AS SHOWN AND NOTED ON THE BAR BENDING DIAGRAMS. THE CONCRETE COVER FOR ALL REINFORCING SHALL BE A MINIMUM OF 1 1/2" UNLESS OTHERWISE NOTED.

JOINTS: CONSTRUCTION JOINTS SHALL ONLY BE FORMED AT LOCATIONS SHOWN OR AS APPROVED BY THE ENGINEER.

EXCAVATION: ALL EXCAVATION AND BACKFILL SHALL EXTEND TO (2') BEYOND SIDES OF BOX AND WINGWALL.

WEEPHOLES: COURSE AGGREGATE SHALL BE DEPOSITED BEHIND EACH WEEPHOLE TO OCCUPY A SPACE EXTENDING (15") IN ALL DIRECTIONS ABOVE WEEPHOLE FLOWLINE.

MASONRY: THE SURFACES OF THE BOX CULVERT AND WALLS, AS SHOWN, SHALL BE FACED WITH BRICKS. THESE BRICKS SHALL BE AS MANUFACTURED BY NORMAL CORPORATION AND SHALL BE "MODULAR SMOOTH FACE" WITH THE COLOR OF BURGUNDY BLEND AND INTERMIXED WITH THESE SHALL BE "FEATHERLITE" BURNISHED MASONRY UNITS WITH THE COLOR OF LIMESTONE, 8"±16"±4" NOMINAL DEPTH.

BASIS OF PAYMENT

THE "3-8'-4"x11'-5" R.C.BOX CULVERT" SHALL BE BID LUMP SUM WHICH SHALL INCLUDE ALL LABOR, MATERIAL, EXCAVATION, CONCRETE, REINFORCING STEEL, WATERSTOPS, BRICKWORK AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK. QUANTITIES ARE FOR INFORMATION ONLY.

THE R.C.BOX CULVERT SHALL BE FACED WITH BRICK AS SHOWN IN SECTION B-B AND SECTION C-C, SHEET NO. 5 & 6, FOR 95'-8" EACH. NOTE ONLY THE UPSTREAM (EAST) FACE OF THE STRUCTURE HAS BRICK LEDGES LOWER THAN 1'-1 1/2" FROM TOP OF WALLS AND ONLY THE UPSTREAM (EAST) FACE OPENINGS HAVE ARCHED BRICKWORK EXTENDING 2'-0" INTO THE CULVERT CELLS ALONG THE LIMITS SHOWN. THE BRICK FACIA QUANTITY SHOWN ON SHEET NO. 4 IS BASED ON THE EXTERIOR OR INTERIOR VERTICAL WALL FACES TO BE BRICKED WITH NO ADJUSTMENT FOR PROJECTIONS INTO THE CULVERT CELLS OR TOP SURFACES. THE FOLLOWING IS AN ITEMIZED BREAKDOWN OF THE BRICK SURFACES FOR INFORMATION ONLY:

LOOKING WEST AT WEST WALL	107.2 S.F.
LOOKING EAST AT WEST WALL	107.2 S.F.
LOOKING EAST AT EAST WALL	107.2 S.F.
LOOKING WEST AT EAST WALL	695.9 S.F.

SUMMARY OF QUANTITIES (INFO. ONLY)	
CLASS AAA CONCRETE (AE)	255.7 C.Y.
REINFORCING STEEL (GRADE 60)	25,390 LBS.
BRICK FACIA	1017.5 S.F.
SEAL COURSE (CLASS A CONCRETE)	19 C.Y.

CORPORATE LAKES
STORM WATER DRAIN NO. 81

GENERAL NOTES, PLAN AND MISCELLANEOUS DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	R.A.S.	Checked by	P.D.F.
Drawn by	W.L.L.	Date Oct. 1989	Job No. 89277-3

32-89277-3 Corp GenNote
DWG. NO. 270 SFM10.04

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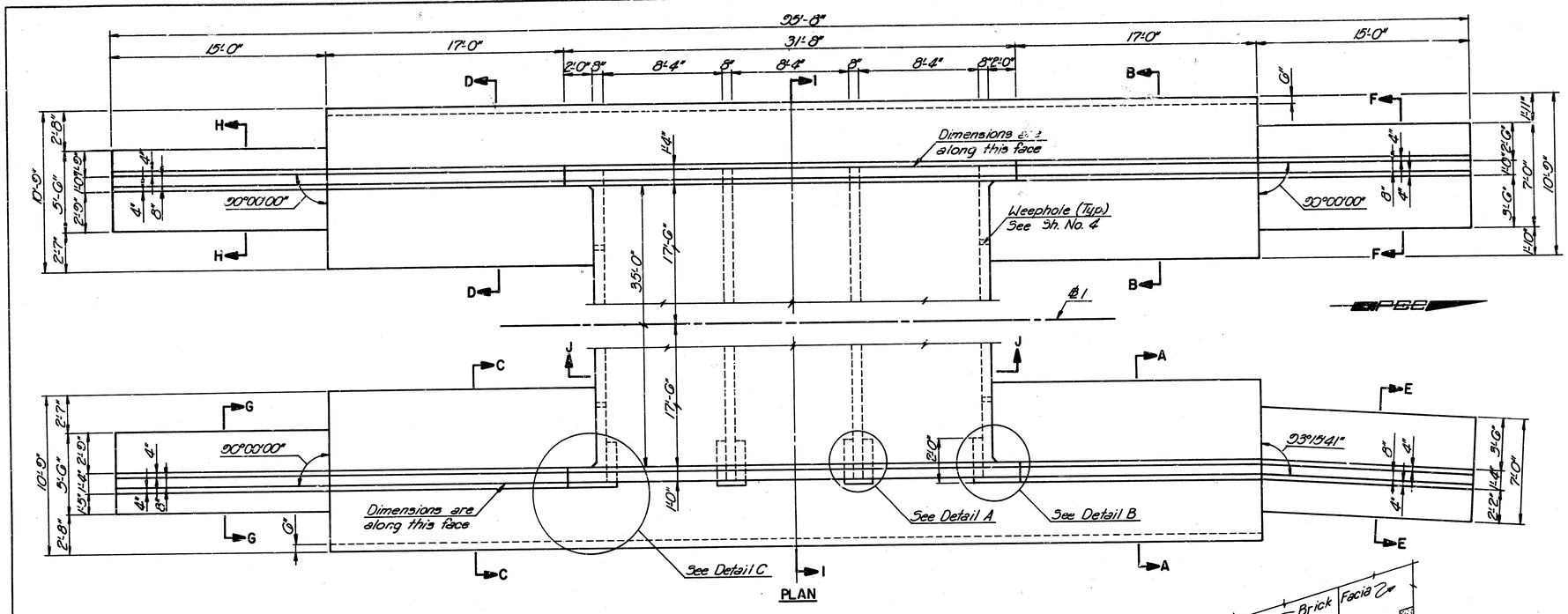
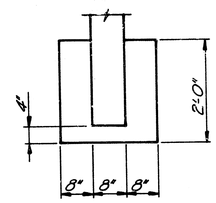
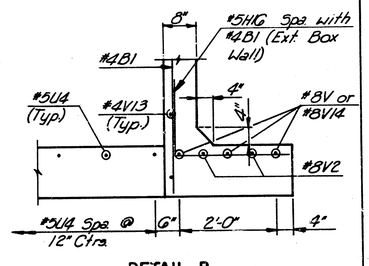
PROJECT NO.	SHEET NO.	TOTAL SHEETS
4G8-76-245-81975-000-000-001	5	11

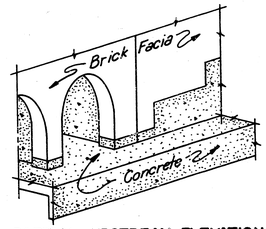




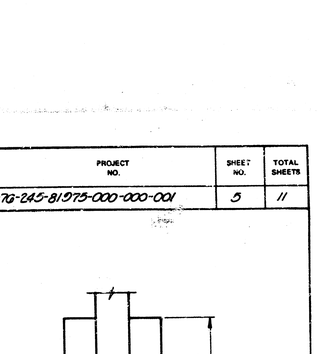
DETAIL A



DETAIL B



PARTIAL UPSTREAM ELEVATION

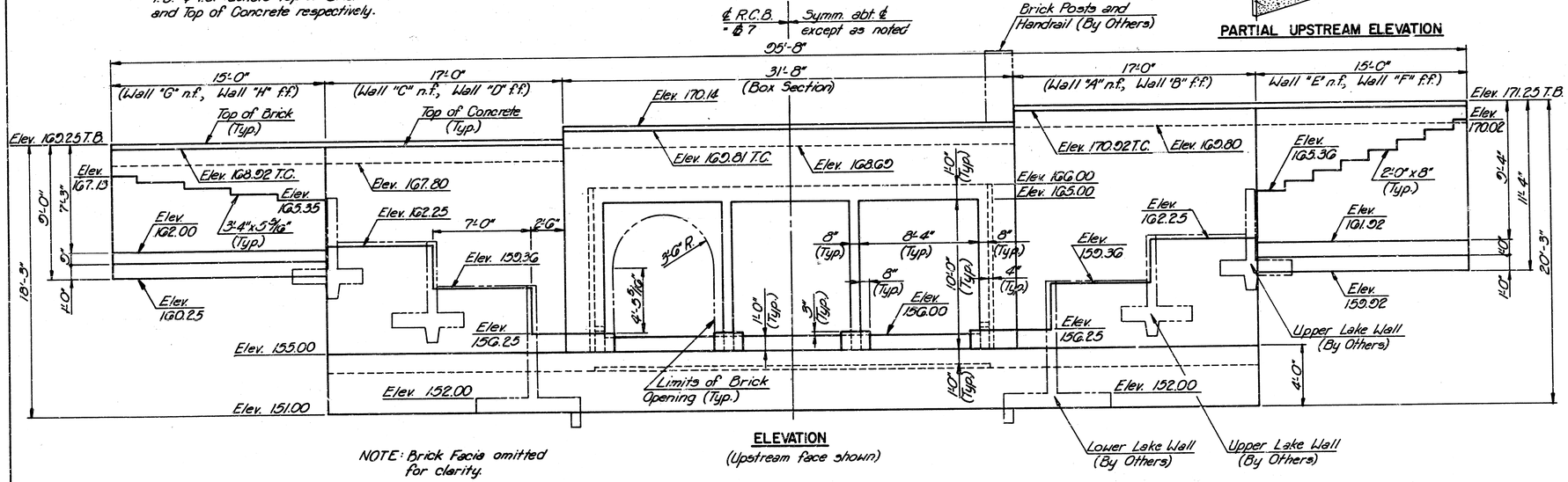


DETAIL C
(Upstream Only)

LEGEND

n.f. & f.f. denote near face and far face respectively.

T.B. & T.C. denote Top of Brick and Top of Concrete respectively.



ELEVATION
(Upstream face shown)

NOTE: Brick Facia omitted for clarity.

CORPORATE LAKES
STORM WATER DRAIN NO. 81
3-8'-4" x 10'-0" x 35'-0" R.C.B.B. DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	P.D.F.	Checked by	R.A.S.
Drawn by	V.J.K.	Date	Oct. 1980
		Job No.	80277-3

5

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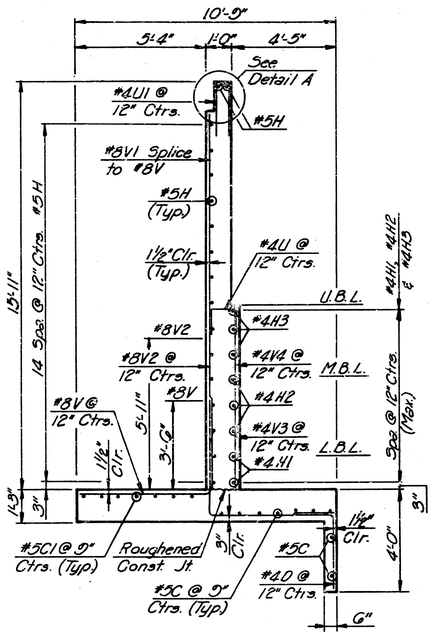
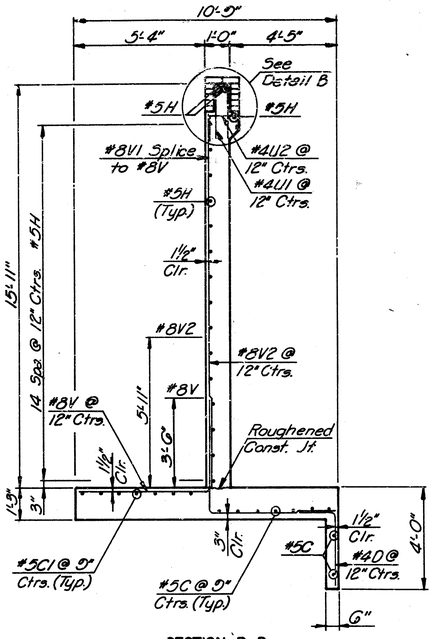
PROJECT NO.	SHEET NO.	TOTAL SHEETS
4GB-76-243-81975-000-000-001	G	11



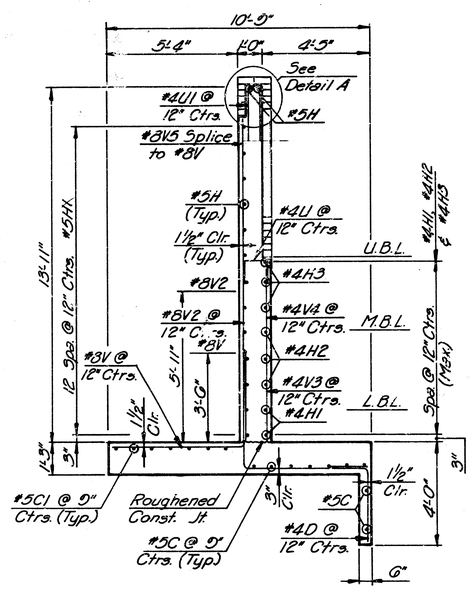
SECTION A-A

SEE WALL "A" OF REINFORCEMENT SUMMATION



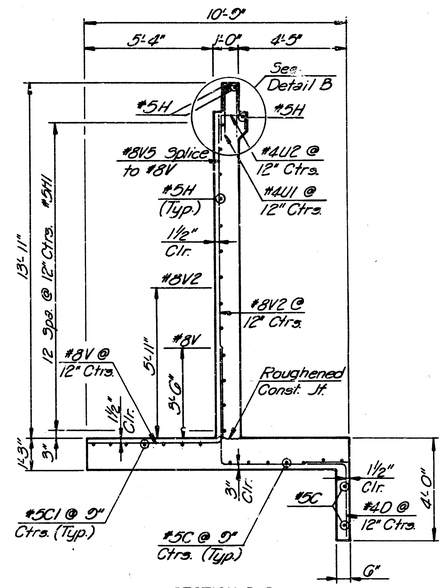
SECTION B-B

SEE WALL "B" OF REINFORCEMENT SUMMATION



SECTION C-C

SEE WALL "C" OF REINFORCEMENT SUMMATION

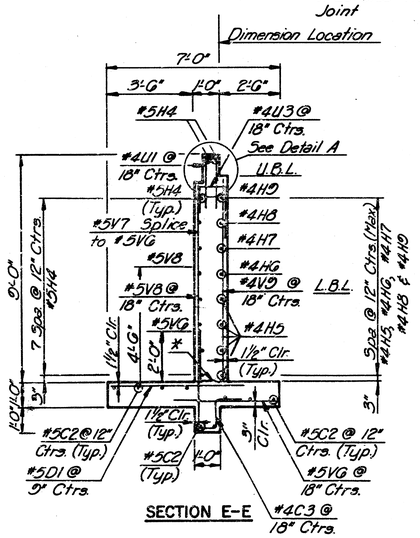


SECTION D-D

SEE WALL "D" OF REINFORCEMENT SUMMATION

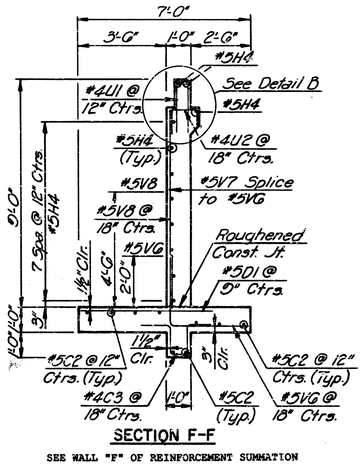
U.B.L., M.B.L. & L.B.L. denote Upper Brick Ledge, Middle Brick Ledge & Lower Brick Ledge respectively.

* denotes Roughened Construction Joint



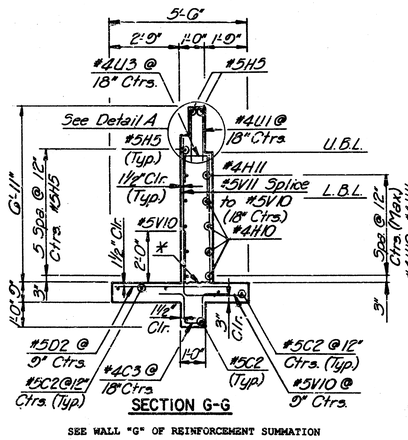
SECTION E-E

SEE WALL "E" OF REINFORCEMENT SUMMATION



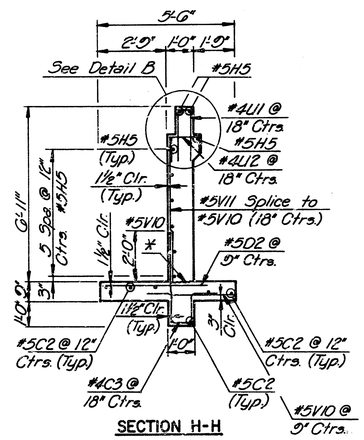
SECTION F-F

SEE WALL "F" OF REINFORCEMENT SUMMATION



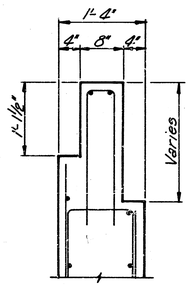
SECTION G-G

SEE WALL "G" OF REINFORCEMENT SUMMATION

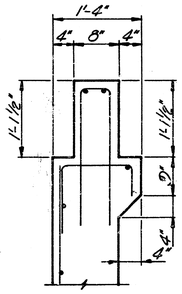


SECTION H-H

SEE WALL "H" OF REINFORCEMENT SUMMATION



DETAIL A



DETAIL B

See Sh. No. 8 for Reinforcement Details

CORPORATE LAKES
STORM WATER DRAIN NO. 81

WALL SECTIONS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	P.D.F.	Checked by	
Drawn by	V.J.K.	Date Oct, 1989	Job No. 30277-3

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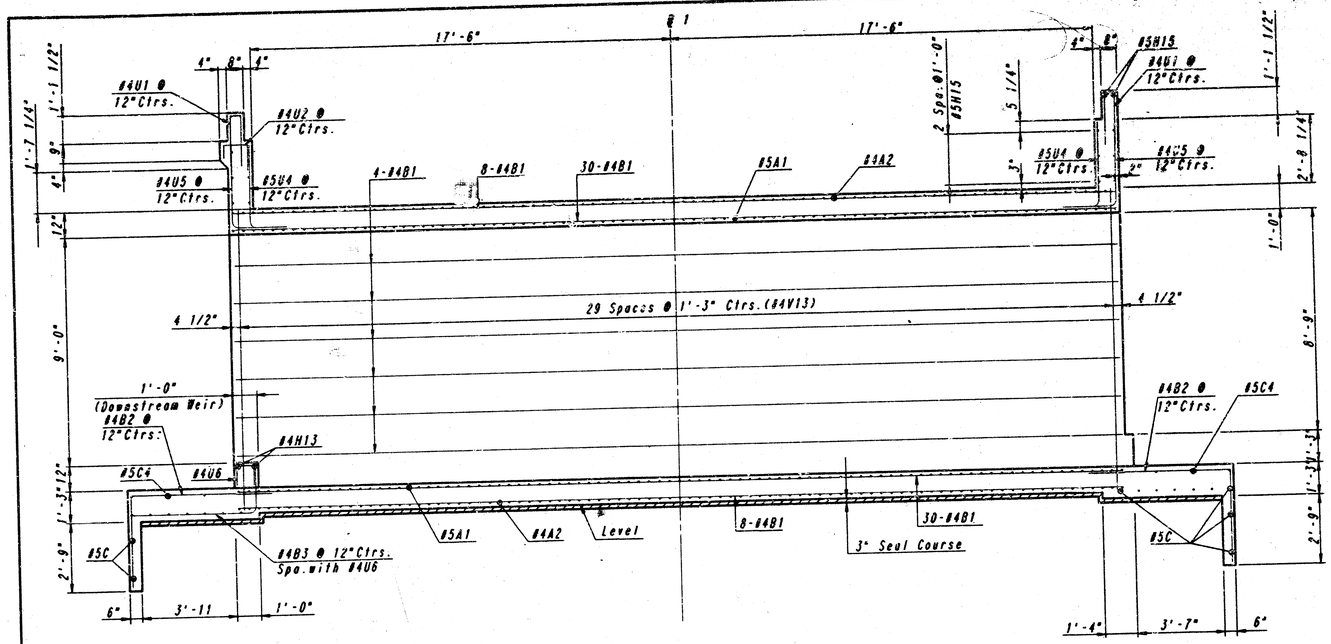
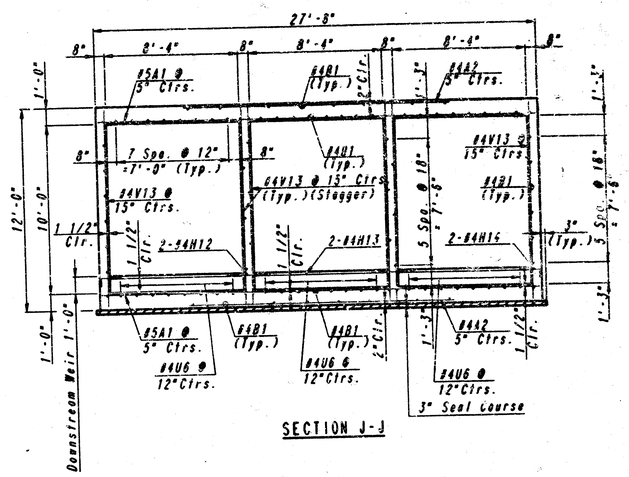
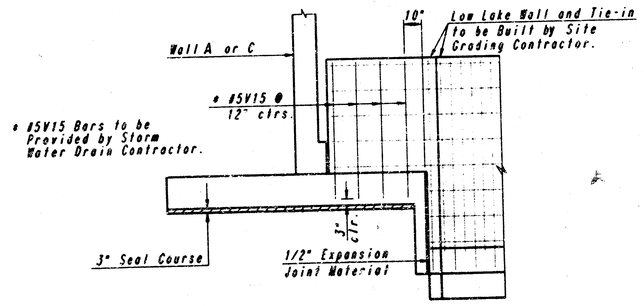
PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-81975-000-000-001	7	11



SECTION I-I



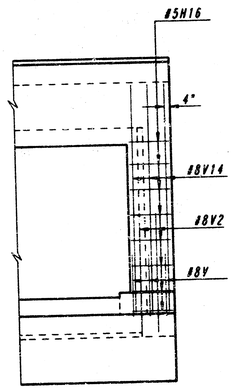
SECTION J-J



See Sh. No. 6 for Rebar Location.

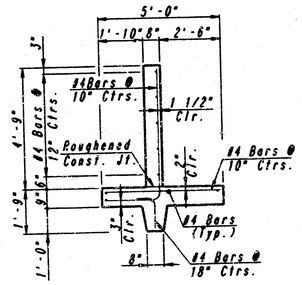
LOW LAKE WALL - BOX TIE-IN DETAIL

See Sh. No. 5 - Detail C for Plan View

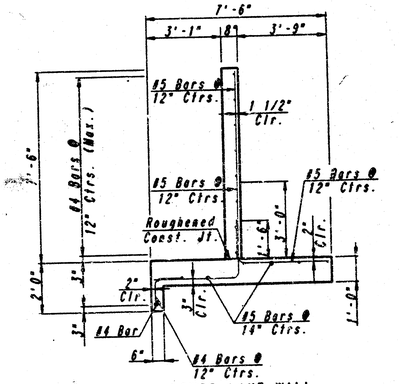


PARTIAL ELEVATION

See Sh. No. 5 - Detail B for Plan View



UPPER LAKE WALL
(TYPICAL)(BY OTHERS)



LOWER LAKE WALL
(TYPICAL)(BY OTHERS)

See Sh. No. 5 for Section Locations.

CORPORATE LAKES
STORM WATER DRAIN NO. 81

SECTION DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	P.D.F.	Checked by	R.A.S.
Drawn by	V.J.K.	Date	OCT., 1989
		Job No.	89277-3

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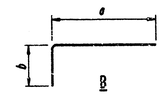
MARK	BEND TYPE	SIZE	NO.	LENGTH	DIMENSIONS a	b	c	d	e	f
"BOX SECTION"										
A1	STR	5	178	27'-5"						
A2	STR	4	178	17'-0"						
B1	STR	4	100	36'-6"						
B2	B	4	62	9'-7"	3'-9"	5'-10"				
B3	B	4	24	7'-1"	1'-11"	5'-2"				
C4	STR	5	6	35'-0"						
H12	STR	4	4	3'-0"						
H13	STR	4	6	8'-3"						
H14	B	4	4	1'-10"	1'-4"	6"				
H15	STR	5	15	31'-5"						
U16	B	5	14	3'-11"	2'-5"	1'-6"				
U4	B	5	54	4'-11"	3'-5"	1'-6"				
U5	B	4	54	4'-10"	3'-10"	1'-0"				
U6	C	4	24	2'-3"	9"	9"	9"			
V	P	8	12	8'-8"	5'-1"	3'-2"				
V13	STR	4	120	11'-7"						
V14	STR	8	6	13'-6"						
V15	B	5	8	6'-9"	5'-3"	1'-6"				
V2	P	8	8	12'-0"	4'-11"	6'-8"				
WALL "A"										
C	STR	5	9	33'-9"						
C1	STR	5	7	21'-0"						
D	B	4	17	4'-4"	2'-10"	1'-6"				
H	STR	5	17	16'-9"						
H1	STR	4	2	16'-9"						
H2	STR	4	3	14'-3"						
H3	STR	4	3	7'-3"						
U	C	4	17	3'-1"	1'-1"	1'-0"	1'-0"			
U1	C	4	17	4'-11"	5"	2'-3"	2'-3"			
V	P	8	17	8'-8"	5'-1"	3'-2"				
V1	STR	8	17	14'-6"						
V2	P	8	17	12'-0"	4'-11"	6'-8"				
V3	STR	4	7	4'-1"						
V4	STR	4	8	7'-0"						
WALL "B"										
C	STR	5	9	33'-9"						
C1	STR	5	7	21'-0"						
D	B	4	17	4'-4"	2'-10"	1'-6"				
H	STR	5	18	16'-9"						
U2	C	4	17	2'-7"	1'-1"	1'-0"	6"			
U1	C	4	17	4'-11"	5"	2'-3"	2'-3"			
V	P	8	17	8'-8"	5'-1"	3'-2"				
V1	STR	8	17	14'-6"						
V2	P	8	17	12'-0"	4'-11"	6'-8"				
WALL "C"										
C	STR	5	9	33'-9"						
C1	STR	5	7	21'-0"						
D	B	4	17	4'-4"	2'-10"	1'-6"				
H	STR	5	15	16'-9"						
H1	STR	4	2	16'-9"						
H2	STR	4	3	14'-3"						
H3	STR	4	3	7'-3"						
U	C	4	17	3'-1"	1'-1"	1'-0"	1'-0"			
U1	C	4	17	4'-11"	5"	2'-3"	2'-3"			
V	P	8	17	8'-8"	5'-1"	3'-2"				
V2	P	8	17	12'-0"	4'-11"	6'-8"				
V3	STR	4	7	4'-1"						
V4	STR	4	8	7'-0"						
V5	STR	8	17	12'-6"						

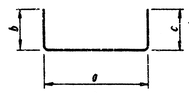
MARK	BEND TYPE	SIZE	NO.	LENGTH	DIMENSIONS a	b	c	d	e	f
WALL "D"										
C	STR	5	9	33'-9"						
C1	STR	5	7	21'-0"						
D	B	4	17	4'-4"	2'-10"	1'-6"				
H	STR	5	15	16'-9"						
U1	C	4	17	4'-11"	5"	2'-3"	2'-3"			
U2	C	4	17	2'-7"	1'-1"	1'-0"	6"			
V	P	8	17	8'-8"	5'-1"	3'-2"				
V2	P	8	17	12'-0"	4'-11"	6'-8"				
V5	STR	8	17	12'-6"						
WALL "E"										
C2	STR	5	9	14'-9"						
C3	L	4	10	5'-1"	9"	1'-2"	1'-0"	1'-0"	1'-2"	
D1	STR	5	20	5'-6"						
H4	STR	5	10	14'-9"						
H5	STR	4	4	14'-9"						
H6	STR	4	1	10'-9"						
H7	STR	4	1	8'-9"						
H8	STR	4	1	4'-9"						
H9	STR	4	1	2'-9"						
U3	C	4	10	4'-1"	1'-1"	1'-0"	2'-0"			
U1	C	4	10	4'-11"	5"	2'-3"	2'-3"			
V6	P	5	10	5'-11"	3'-0"	2'-6"				
V7	STR	5	10	7'-8"						
V8	P	5	10	8'-5"	3'-0"	5'-0"				
V9	Z	4	10	*		2'-9"		1		6"
WALL "F"										
C2	STR	5	9	14'-9"						
C3	L	4	10	5'-1"	9"	1'-2"	1'-0"	1'-0"	1'-2"	
D1	STR	5	20	5'-6"						
H4	STR	5	11	14'-9"						
U1	C	4	10	4'-11"	5"	2'-3"	2'-3"			
U2	C	4	10	2'-7"	1'-1"	1'-0"	6"			
V6	P	5	10	5'-11"	3'-0"	2'-6"				
V7	STR	5	10	7'-8"						
V8	P	5	10	8'-5"	3'-0"	5'-0"				
WALL "G"										
C2	STR	5	7	14'-9"						
C3	L	4	10	5'-1"	9"	1'-2"	1'-0"	1'-0"	1'-2"	
D2	STR	5	20	4'-9"						
H4	STR	5	8	14'-9"						
H10	STR	4	4	14'-9"						
H11	STR	4	1	4'-9"						
U3	C	4	10	4'-1"	1'-1"	1'-0"	2'-0"			
U1	C	4	10	4'-11"	5"	2'-3"	2'-3"			
V10	P	5	20	4'-11"	2'-3"	2'-3"				
V11	STR	5	10	5'-8"						
V12	Z	4	10	*		2'-8"		1		2 3/4"
WALL "H"										
C2	STR	5	7	14'-9"						
C3	L	4	10	5'-1"	9"	1'-2"	1'-0"	1'-0"	1'-2"	
D2	STR	5	20	4'-9"						
H4	STR	5	8	14'-9"						
U1	C	4	10	4'-11"	5"	2'-3"	2'-3"			
U2	C	4	10	2'-7"	1'-1"	1'-0"	6"			
V10	P	5	20	4'-11"	2'-3"	2'-3"				
V11	STR	5	10	5'-8"						

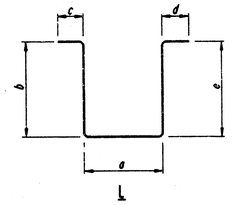
LEGEND

STR=Straight bar
*=See Bending Diagrams

PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-81975-000-000-001	8	11

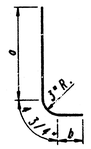






Incr. by ① from ③ cut ② each length

Z



BENDING DIAGRAMS

Dimensions are out to out of bars

COPORATE LAKES
STORM WATER DRAIN NO. 81

REINFORCING STEEL

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	P.D.F.	Checked by	R.A.S.
Drawn by	DCP	Date Oct. 1989	Job No. 69277-3

32-69277-3 CORP REIF STL
Dwg. No. 167 SFM10.04

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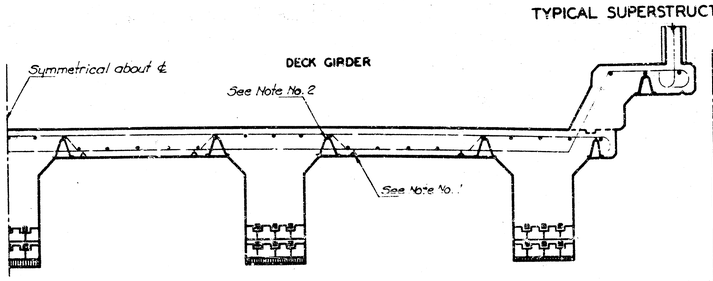
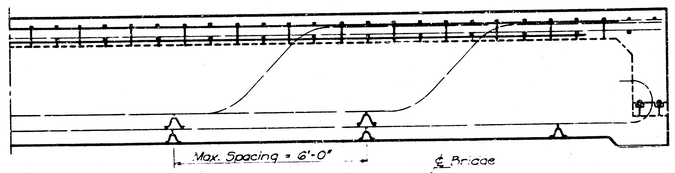
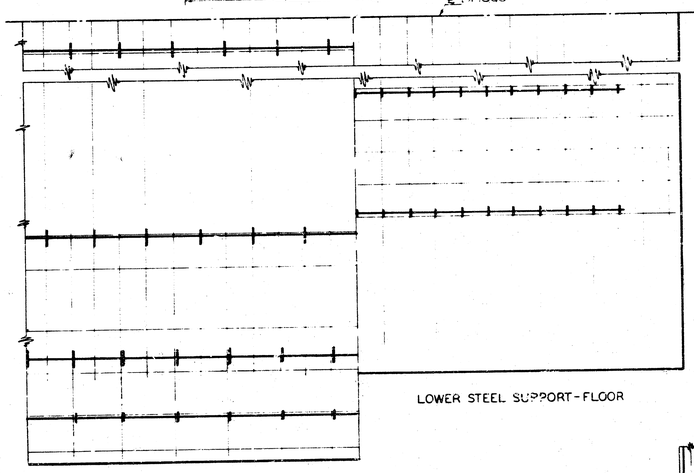
Project No.	Sheet No.	Total Sheets
4GB-76-245-81.975-000-000-001	9	11
	Section	

TYPICAL SUPERSTRUCTURE DETAILS

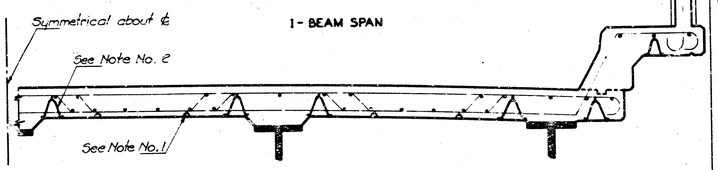
DECK GIRDER

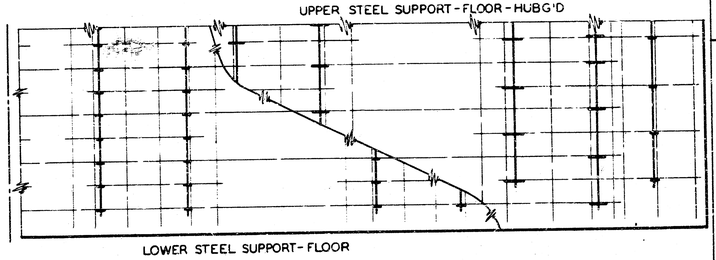




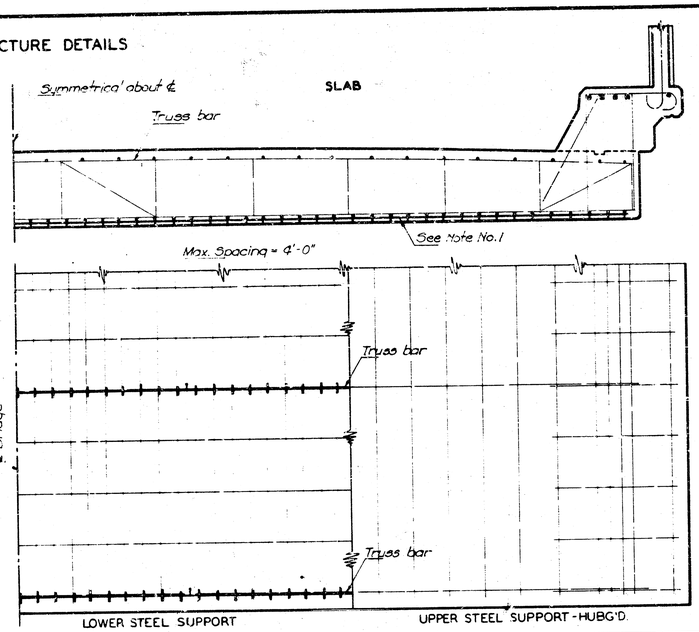


1 - BEAM SPAN

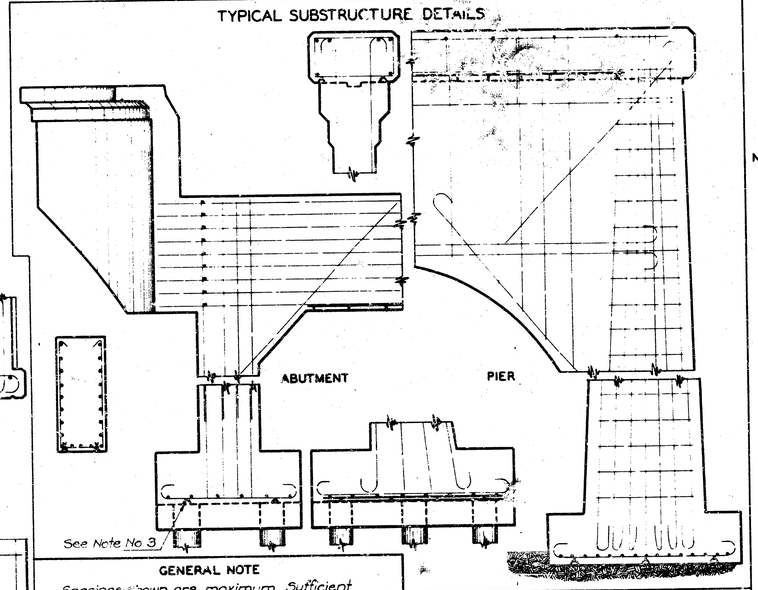




SLAB



TYPICAL SUBSTRUCTURE DETAILS



GENERAL NOTE

Spacings shown are maximum. Sufficient supports shall be used, as determined by the Engineer, to retain the reinf. steel in position.

Approved designs and arrangements of Supports or Spacers other than as shown on this sheet, may be used with the permission of the Engineer. Component parts of Supports and Spacers shall be securely welded at all contact points. Legs shall be so constructed that only the ends bear upon the forms.

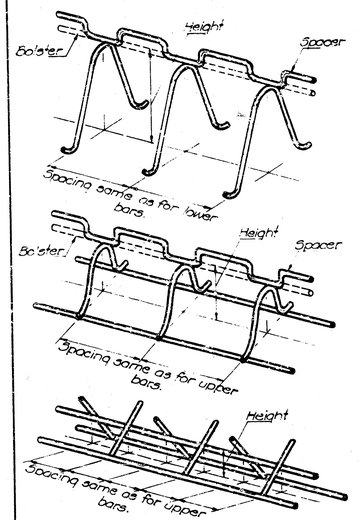
Wire used for Supports and Spacers shall be of sufficient size to insure stability of Reinforcing Steel at the position shown on the Plans, within the limits indicated by Notes 1 & 2. Wire supports shall be supplemented with form ties or other approved devices where necessary.

NOTE 1: The lower side of Reinforcing Steel in these locations shall be not less than one inch (1") from the surface of the concrete.

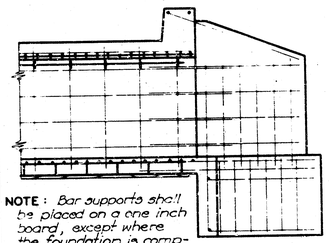
NOTE 2: The upper side of Reinforcing Steel in these locations shall be within the limits shown on the Plans.

NOTE 3: The use of Wire Supports for Reinforcing Steel in these locations is optional. Where they are not used the Steel shall be supported from the forms by means of wire ties or saddles.

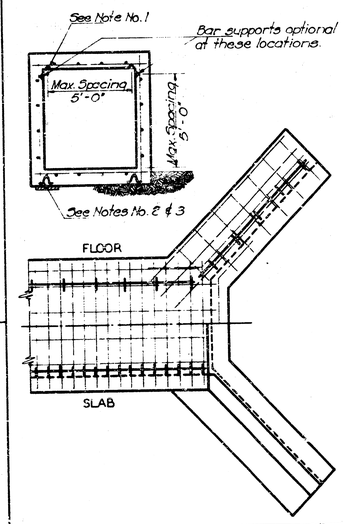
BEAM BAR SPACERS & BOLSTERS



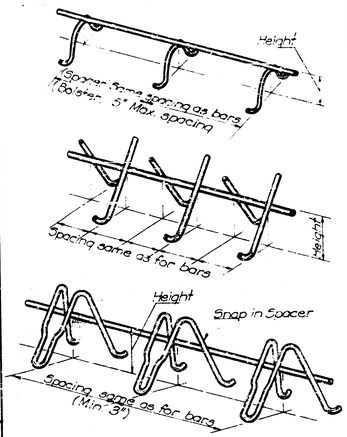
TYPICAL CULVERT DETAILS



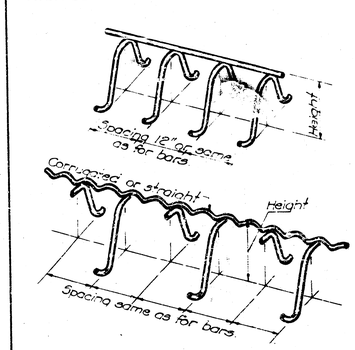
NOTE: Bar supports shall be placed on a one inch board, except where the foundation is composed of rock, firm shale or a seal course. See Note No. 3.



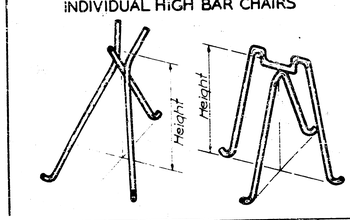
LOW SLAB BAR SPACERS & BOLSTERS



HIGH SLAB BAR SPACERS & BOLSTERS



INDIVIDUAL HIGH BAR CHAIRS



NO	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

SUPPORTS AND SPACERS FOR REINFORCING STEEL

STD. NO. 610 SCALE No Scale

DESIGNED BY A.A.R. DATE 7-43 DETAILED BY W.A.B. TRACED BY W.A.B.

CHECKED BY G.T. APPROVED BY K.H. Dimmitt DATE 4-17-44

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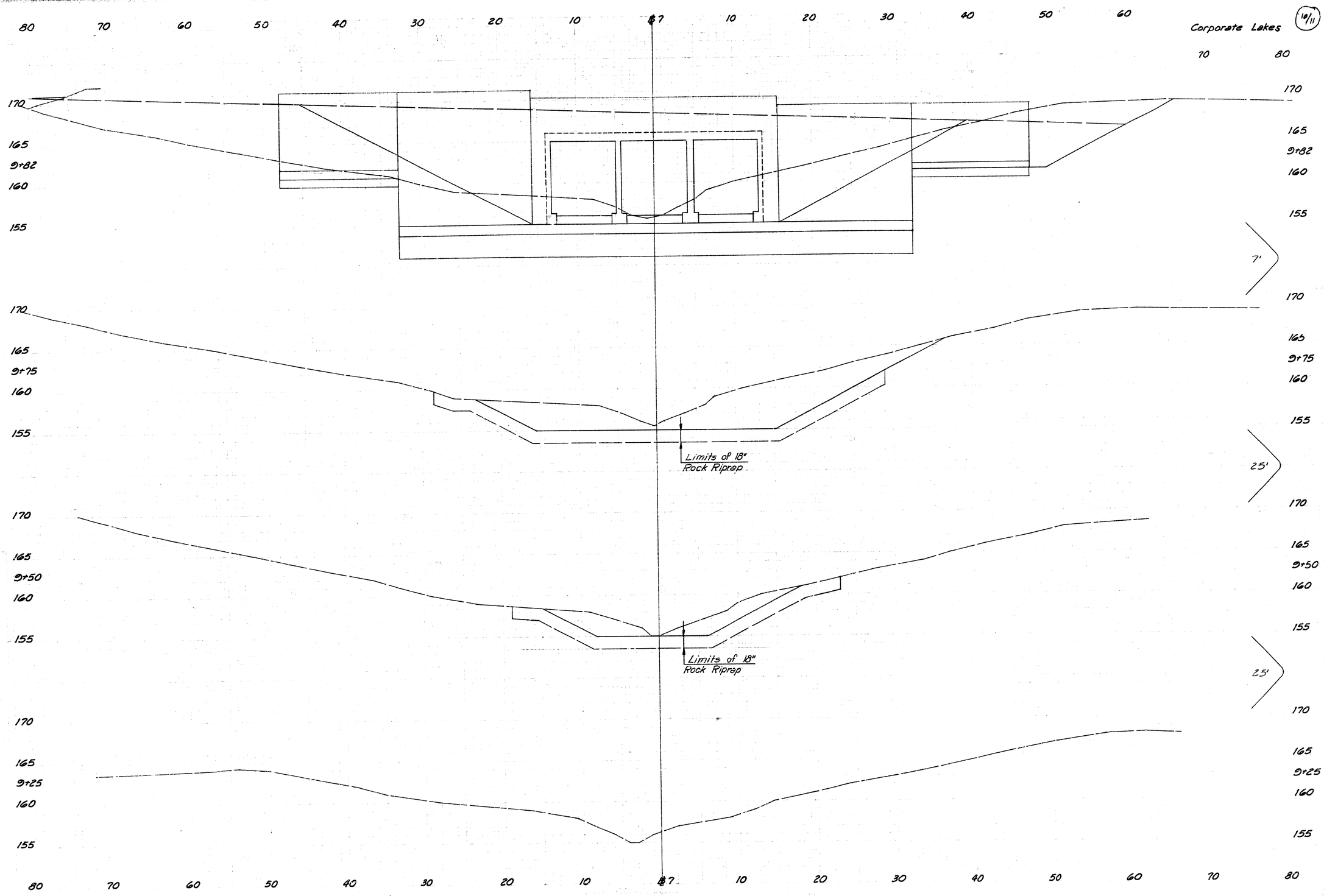

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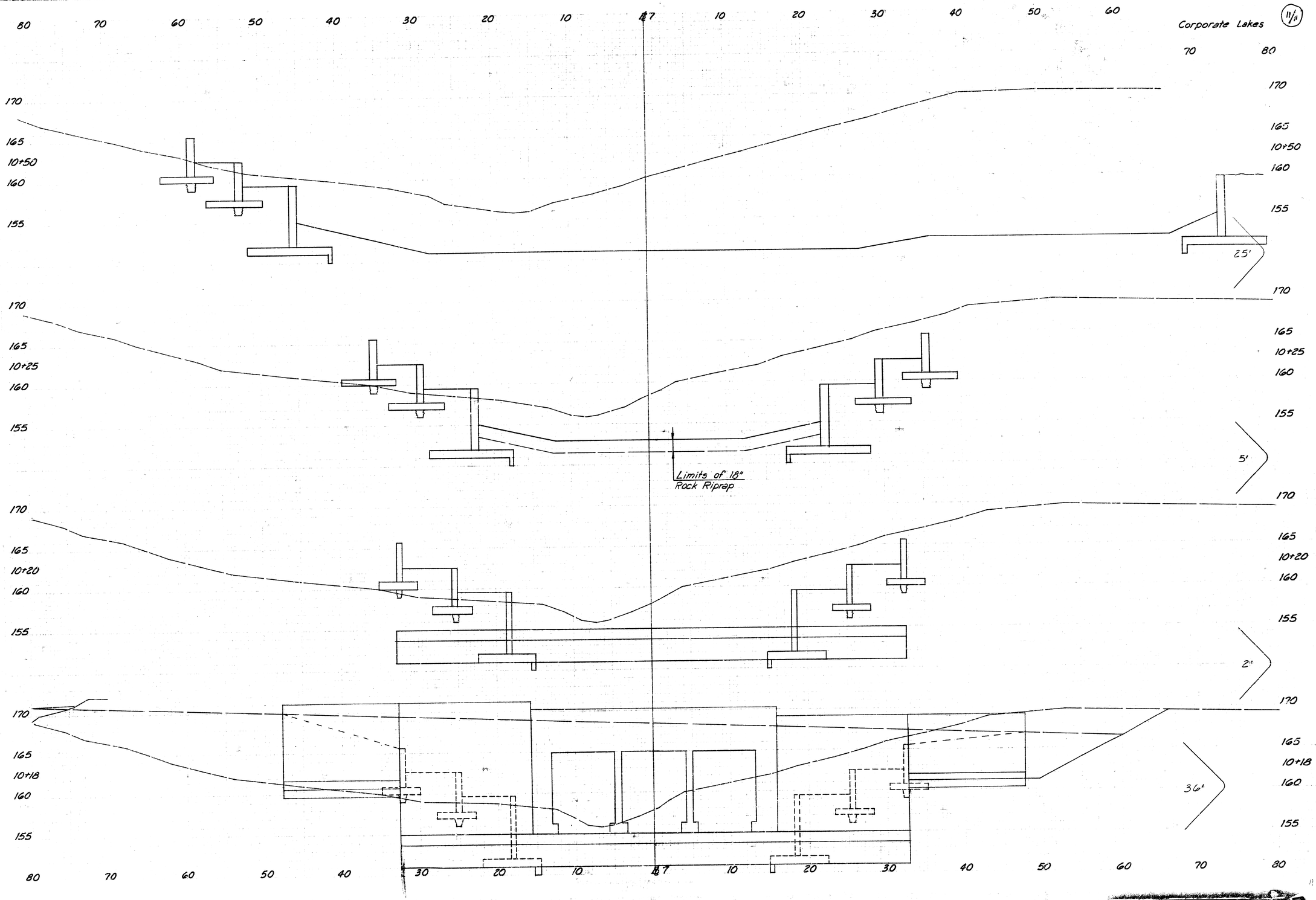

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