

LOCATION PLAN
1" = 800'

This is it

WASTEWATER TREATMENT PLANT IMPROVEMENTS

OAK HARBOR, OHIO

FINKBEINER, PETTIS AND STROUT, LIMITED — CONSULTING ENGINEERS — TOLEDO, OHIO

1971

APPROVED: VILLAGE OF OAK HARBOR, OHIO

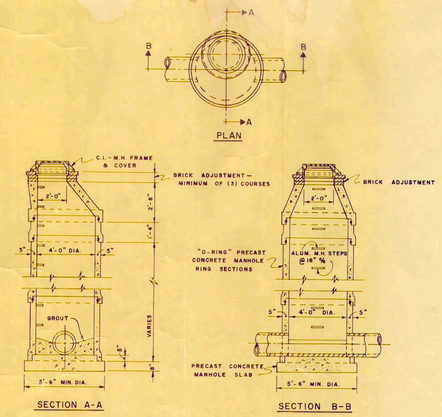
BY Thomas J Palmer
THOMAS PALMER
MAYOR
DATE 6-6-72

BY Thelma Casey
THELMA CASEY
CLERK - TREASURER
DATE 6-6-72

BY William E Priesman
WILLIAM PRIESMAN
CHAIRMAN, BOARD OF TRUSTEES OF PUBLIC AFFAIRS
DATE 6-6-72

1894

STATE OF OHIO
ROBERT
O'ROURKE
REGISTERED
PROFESSIONAL ENGINEER



CONCRETE O-RING MANHOLE

STANDARD MANHOLE DETAILS

NO SCALE

GENERAL NOTES

MISCELLANEOUS - After excavation is completed, obtain Engineer's approval on soil bearing before placing concrete. Foundation is designed for a soil pressure of 2,000 PSF.

All loosened earth under footings and slabs shall be thoroughly removed and the spaces backfilled with Class II concrete where shown, or sand or gravel well tamped in place before footings or slabs are poured.

Suitable pipe supports shall be provided and installed at points shown or as directed by the Engineer.

Set all sleeves, castings, inserts, bolts, etc. before placing concrete.

After excavation, before placing concrete, Engineer is to pass on quality of soil, order auger borings or tests needed and, if necessary, deepen or widen footings as provided in the specifications.

All excavation for pipe, etc. that occurs below a main foundation slab or footing shall be filled with Class II concrete to the bottom of the slab or footing.

Excessive excavation beyond limits shown on the plans to be filled with Class II concrete unless otherwise approved by the Engineer.

REINFORCING - Allow 1,000 lbs. of reinforcing bars to be used as directed by the Engineer. Extra reinforcing not to be fabricated or delivered to the project until ordered by Engineer.

All reinforcing steel, unless noted otherwise, shall be grade 60 as defined by A S T M A615, A616, or A617.

All detailing, fabrication and erection to comply with "Manual of Standard Practices for Detailing Reinforced Concrete Structures" (ACI A-315)

All bars to be supported and spaced in the forms with accessories meeting the regulations of the above manual. In addition, the cover for wall reinforcement for #5 bars and smaller shall be 1½" and for larger than #5 bars shall be 2" unless otherwise noted.

All walls when not otherwise reinforced to have #4 @ 12" c/c H. & V. each face.

At all corners of walls or slab openings, or where sleeves or pipe lines pass through walls or slabs, provide four sets of 2-#4 x 3'-0" longer than opening each face on all four diagonal sides unless otherwise noted.

Submit five copies of shop drawings for all reinforcing steel and secure approval of Engineer before fabrication.

All reinforcing bars shall be securely wired together in the forms. Two way mats of steel shall be tied sufficiently to hold them securely in place.

Bars not continuous throughout their length shall be lapped a minimum of 36 bar diameters (unless otherwise noted) but in no event shall lap be less than 12".

Minimum reinforcement transverse to the direction of main reinforcement shall be #4 @ 12" c/c unless otherwise noted.

Dowels placed in construction joints shall project at least 36 bar diameters each way from the joint, unless otherwise noted, and shall be of the same size and spacing as the bars they lap.

Where not otherwise noted, hook all outside wall bars at least 24 bar diameters around corners.

When foundation walls span from foundation to first floor, both foundation slab and first floor slab shall be in place before any backfill is placed. All slabs when not otherwise reinforced to have #4 @ 12" c/c each way in bottom.

CONCRETE - All Class I Concrete shall test 3750 psi at 28 days with not less than 6 sacks of cement per cu. yd. of concrete, regardless of strength obtained, and not over 6½ gallons of water per sack of cement and not over 5" slump.

All exposed concrete corners to be beveled with 3/4" x 3/4" chamfer strips unless otherwise noted.

Construction joints in other than places shown on the plans shall be provided and located only with the approval of the Engineer.

Provide P.V.C. waterstops for full length of construction joints in walls and slabs which are subject to any water and as called for on the plans.

Dimensions shown for door and window openings are merely nominal and Contractor shall check actual dimensions before pouring concrete or laying up masonry.

All Class II concrete where called for on the plans or in these General Notes shall contain 4 sacks of cement per cu. yd. of concrete with the remaining volume being made up with approximately equal parts of sand and stone. Not more than 30 gallons of water per cu. yd. shall be added at the mixer.

All dowels to be anchored in place before placing concrete.

Wall mats shall be securely wired to the forms at intervals of 5'-0" minimum.

STRUCTURAL STEEL:

All structural steel shall conform to the latest issue of A.S.T.M. A36. All fabrication and erection shall meet the latest issue of the steel construction manual of the A.I.S.C.

All connections of structural steel members must develop the full strength of the members being joined.

All shop and field welding shall conform to the latest issue of "Standard Code for Arc and Gas Welding in Building Construction" of the American Welding Society. All welding operators on this work shall be qualified by tests as prescribed in the American Welding Society's "Standard Qualification Procedure". All welds shall be made only by operators who are qualified to perform the type of work required as evidenced by their passing of the prescribed test.

Shop connections may be welded, field connections must be bolted.

All steelwork before leaving shop to have one good coat of red lead and oil (or iron oxide) paint. All parts inaccessible after erection to have two coats.

Sizes of structural steel members can be varied to suit fabricator's stock, provided strength is approximately equivalent.

All field connections are bolted connections with 3/4"-diameter bolts with shank diameter at least as large as O.D. of threaded portion (no rolled threads). All open holes 13/16" diameter. Shop connections may be riveted or welded.

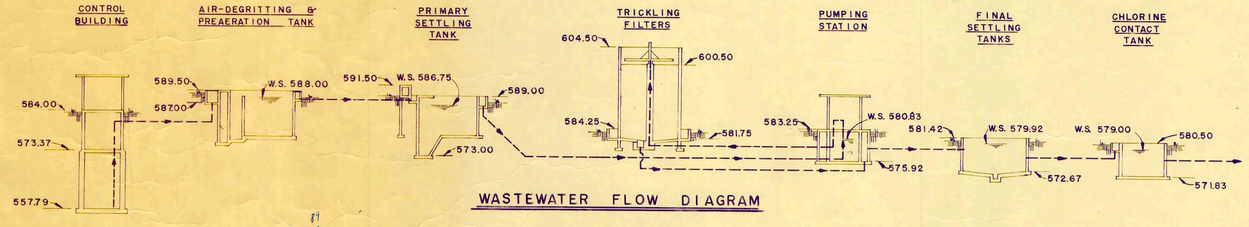
All welds to have a minimum capacity of 5000 pounds.

Supply all holes required by other trades.

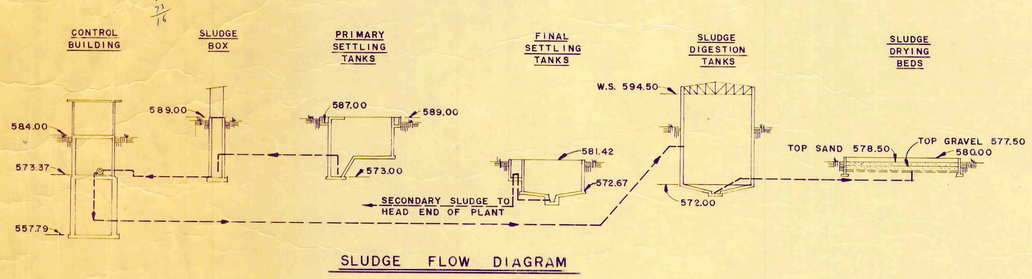
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    SCREENING MECHANISM
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35. ELECTRICAL
36. ELECTRICAL



WASTEWATER FLOW DIAGRAM



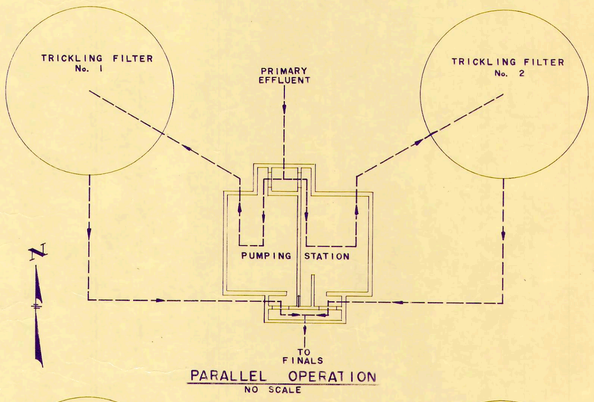
SLUDGE FLOW DIAGRAM



1. 8" WATER BOUND MACADAM BASE
2. BITUMINOUS PRIME COAT
3. 1" MINIMUM THICKNESS No. 4 STONE WEARING COURSE
4. BITUMINOUS SEAL COAT
5. No. 6 STONE SURFACE COURSE

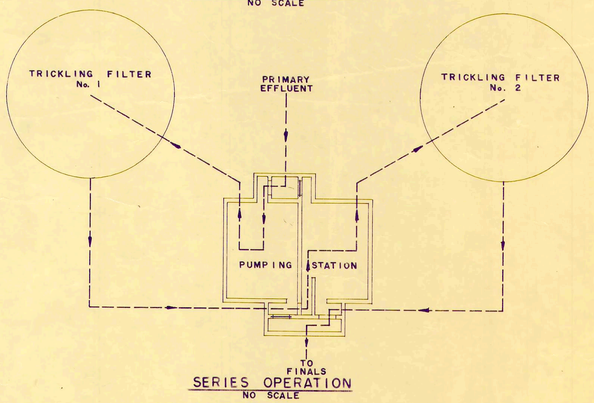
TYPICAL ROADWAY SECTION

1" = 2'-0"



PARALLEL OPERATION

NO SCALE



SERIES OPERATION

NO SCALE

PUMPING STATION OPERATION

REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

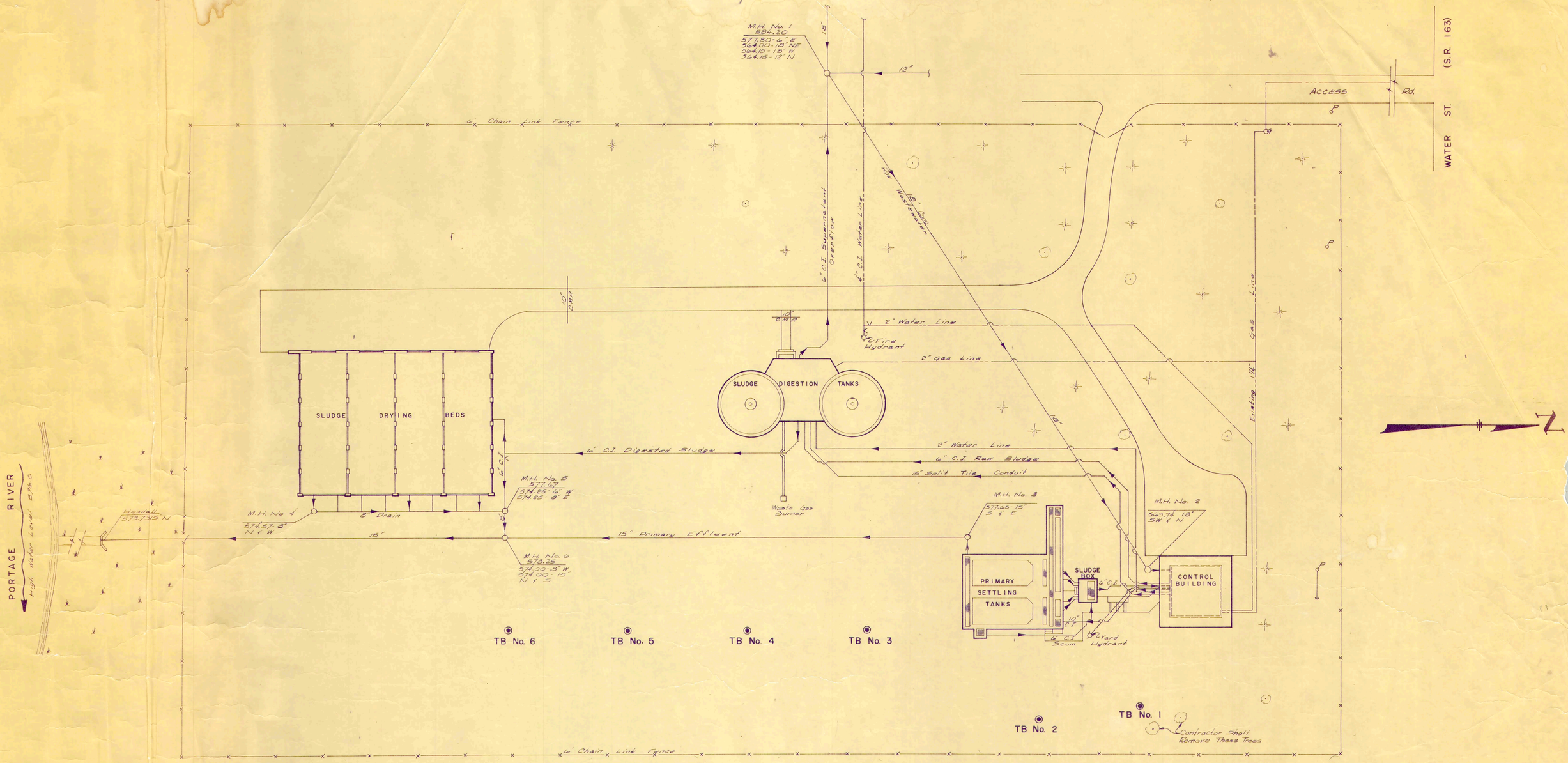
SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: P.L.C.
CHECKED BY: W.G.K.

INDEX, GENERAL NOTES, FLOW DIAGRAMS, ROADWAY SECTION

WASTEWATER TREATMENT PLANT IMPROVEMENTS

OAK HARBOR, OHIO

PROJECT NUMBER: OAKS001 BI
SECTION
DATE: 3-71
SHEET 1 OF



EXISTING PLOT PLAN
1" = 20'

REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

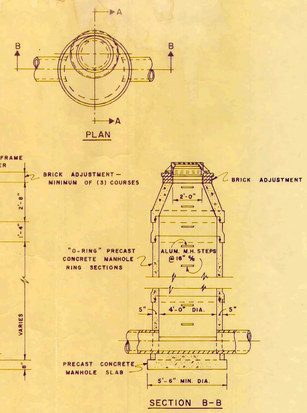
SCALE: 1" = 20
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

EXISTING PLOT PLAN

WASTEWATER TREATMENT PLANT IMPROVEMENTS

OAK HARBOR, OHIO

PROJECT NUMBER: OAKS001 B
SECTION:
DATE: 3-71
2 OF 36



CONCRETE O-RING MANHOLE

STANDARD MANHOLE DETAILS

NO SCALE

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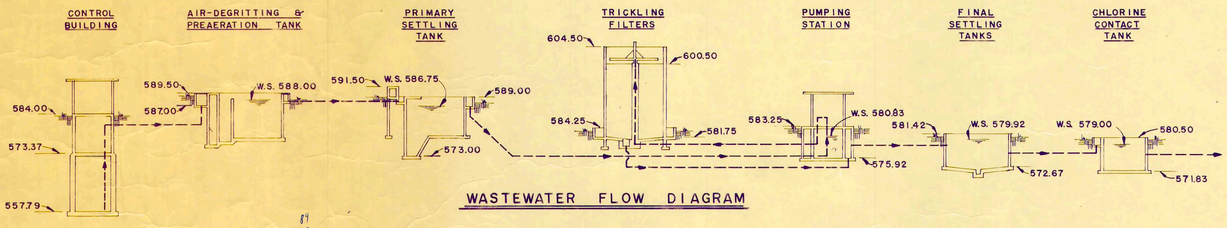
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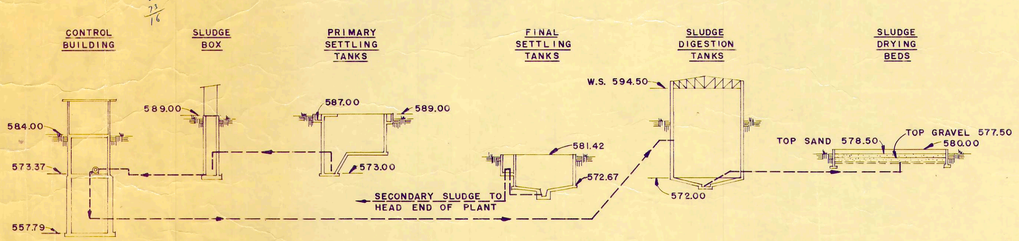
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WASTEWATER FLOW DIAGRAM



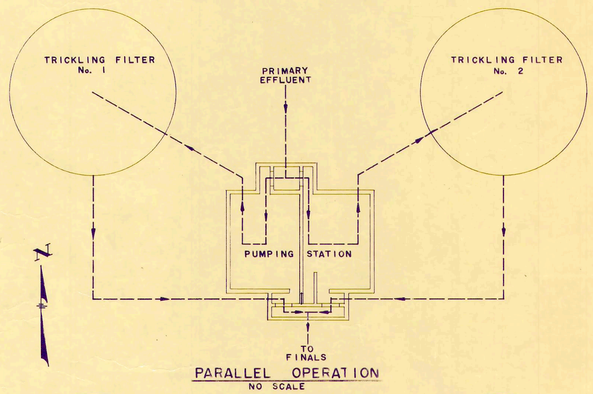
SLUDGE FLOW DIAGRAM



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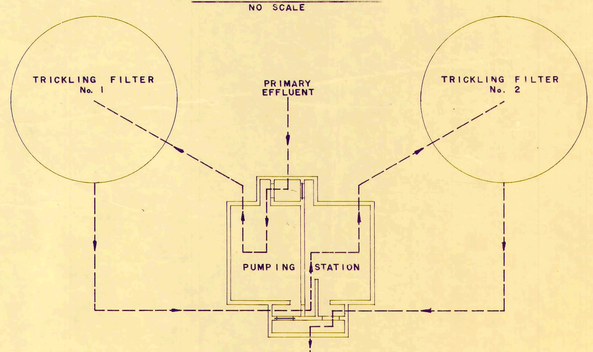
TYPICAL ROADWAY SECTION

1" = 2' - 0"



PARALLEL OPERATION

NO SCALE



SERIES OPERATION

NO SCALE

PUMPING STATION OPERATION

REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

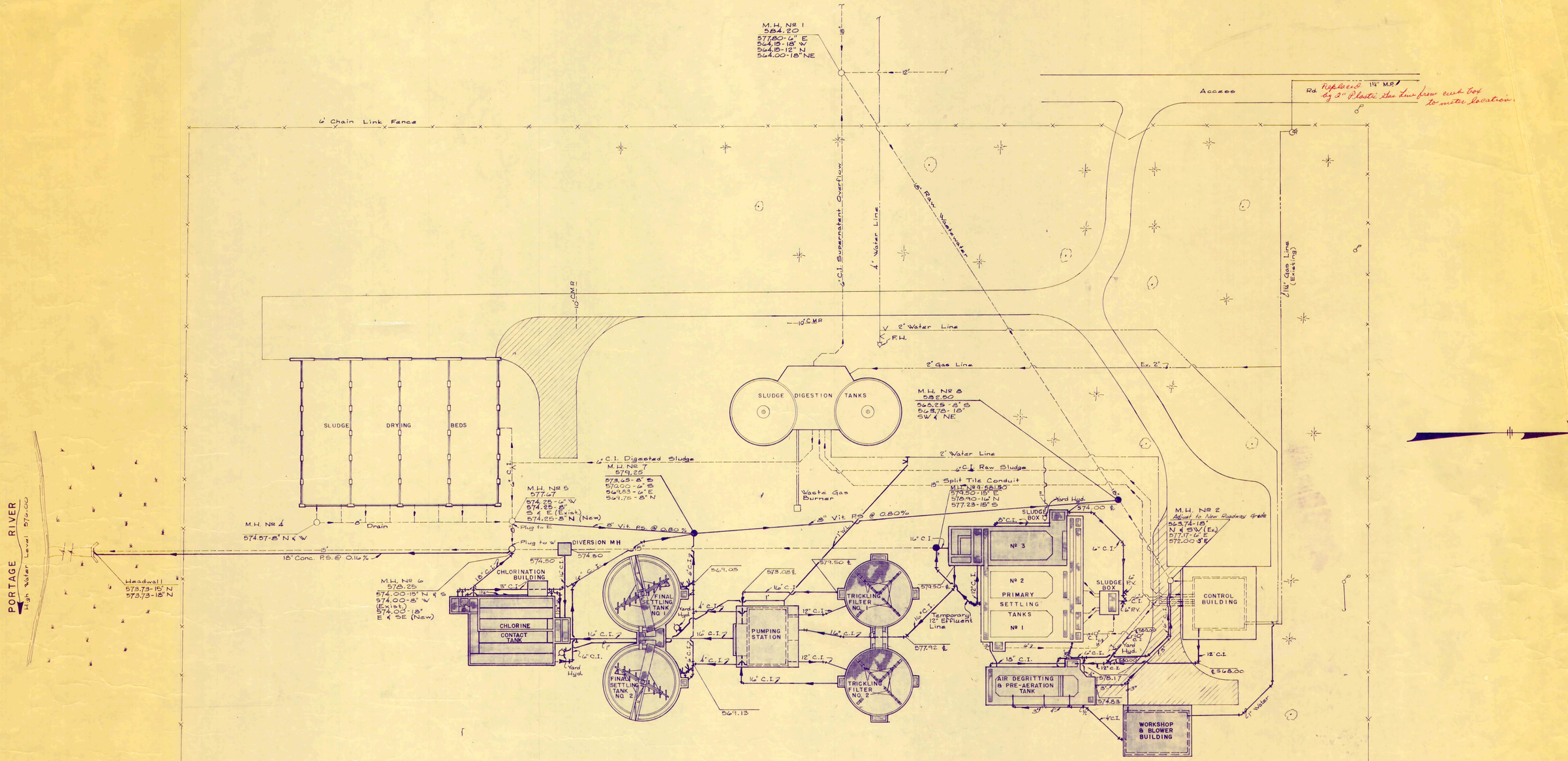
SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: P.L.C.
CHECKED BY: W.C.K.

INDEX, GENERAL NOTES, FLOW DIAGRAMS, ROADWAY SECTION

WASTEWATER TREATMENT PLANT IMPROVEMENTS

OAK HARBOR, OHIO

PROJECT NUMBER: OAKS001
SECTION:
DATE: 3-71



PIPING PLAN
1" = 20'

REV. NO.	DESCRIPTION	DATE	BY	APP'D
1	Added 1" W.L. to Workshop Revised Utilities	6-15-72	R.L.C.	R.B.W.

FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

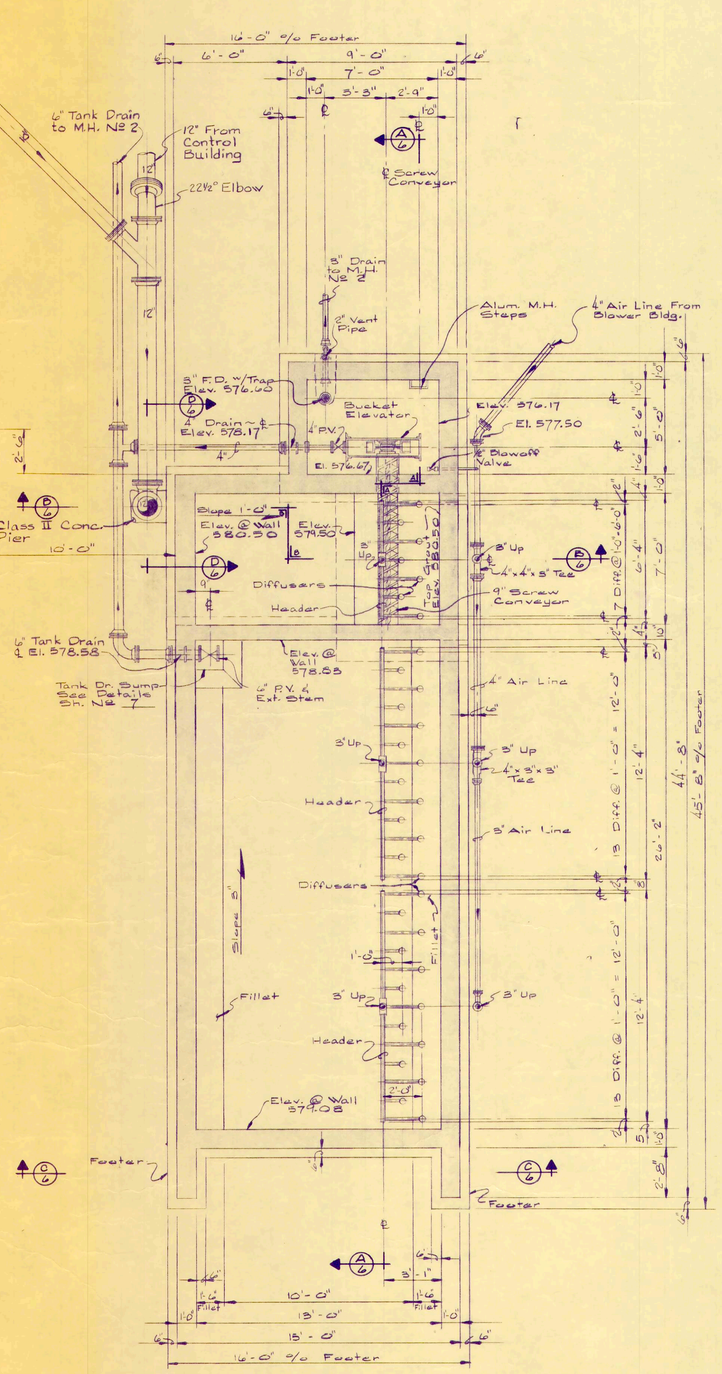
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DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

PIPING PLAN

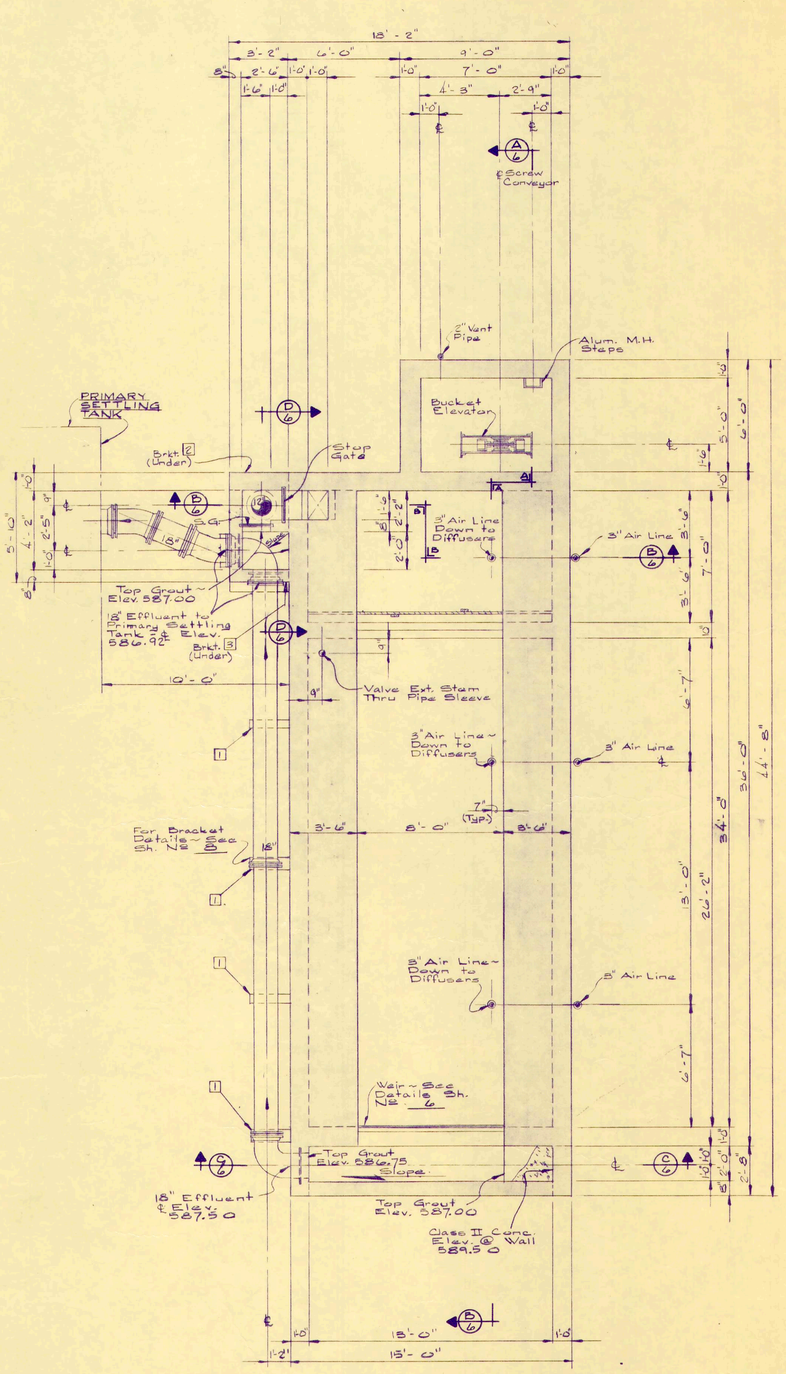
WASTEWATER TREATMENT PLANT IMPROVEMENTS

OAK HARBOR, OHIO

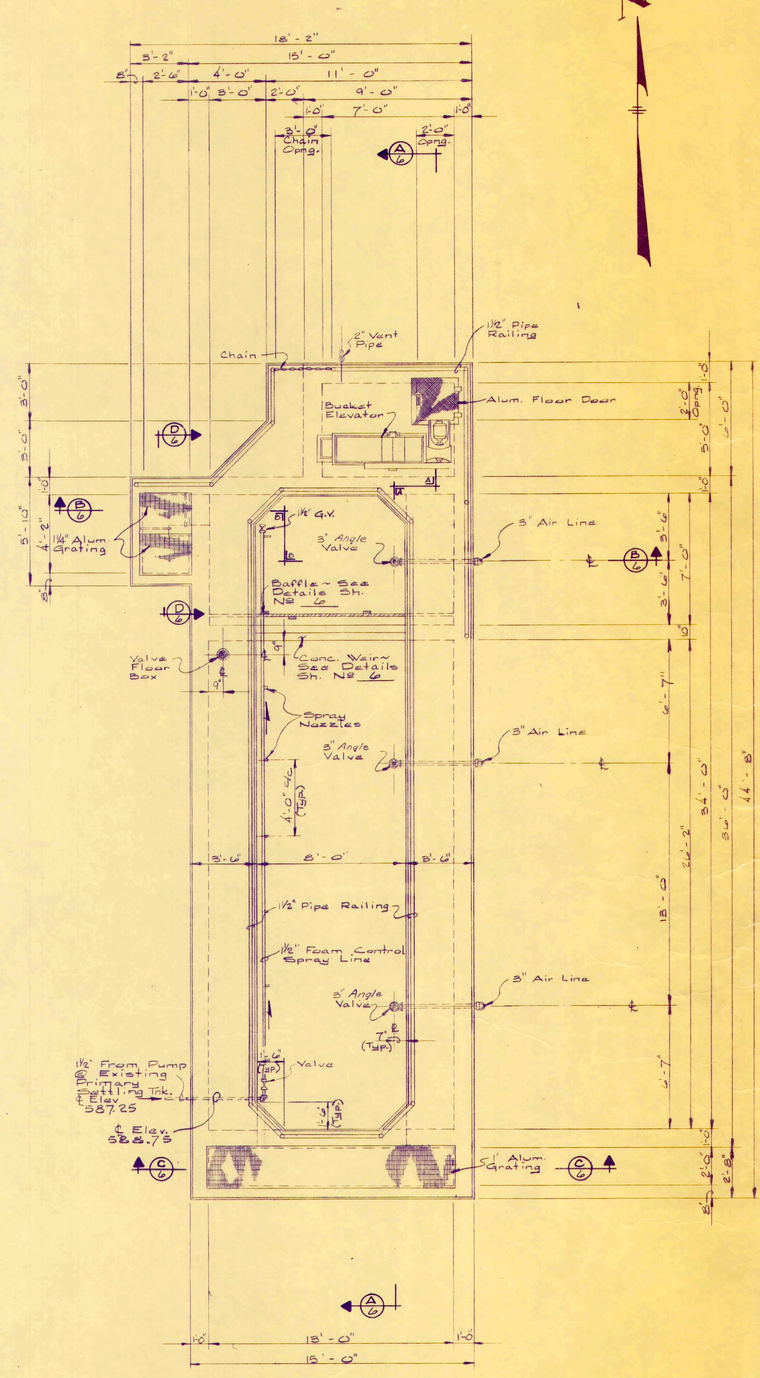
PROJECT NUM: OAKS001
SECTION:
DATE: 3-71
4 OF



FOOTER PLAN
1/4" = 1'-0"



SECTIONAL PLAN
1/4" = 1'-0"



PLAN
1/4" = 1'-0"

REV. NO.	DESCRIPTION	DATE	BY	APP'D

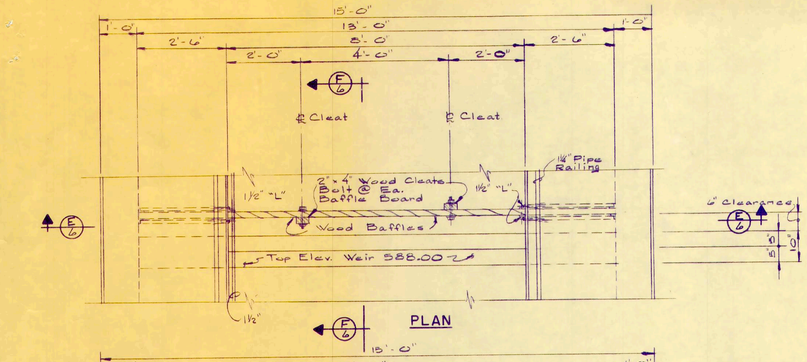
FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

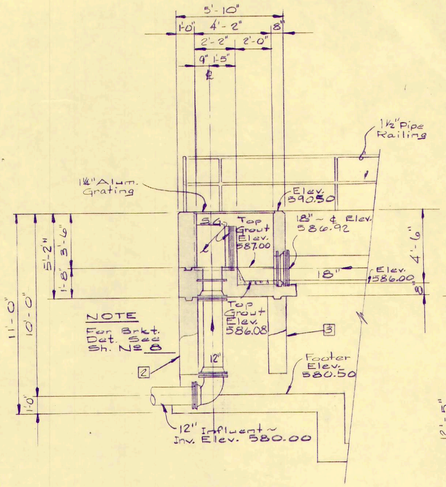
SCALE 1/4" - 1' - 0"
DESIGNED BY R.B.W.
DRAWN BY P.L.C.
CHECKED BY V.C.K.

AIR DEGRITTING AND PREAERATION TANK
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

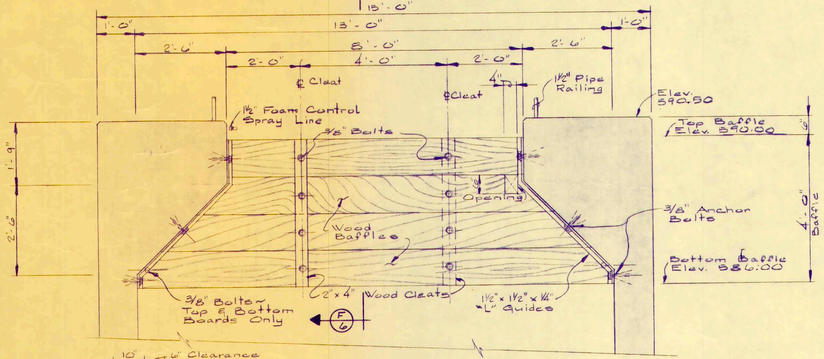
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DAT 3-7
5 OF

548-1234 • www.usabluebook.com

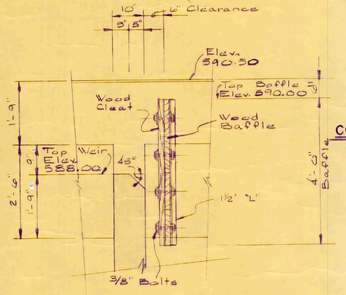




SECTION D-D
¼" = 1'-0"

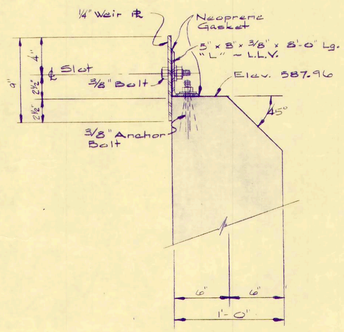


SECTION E-E

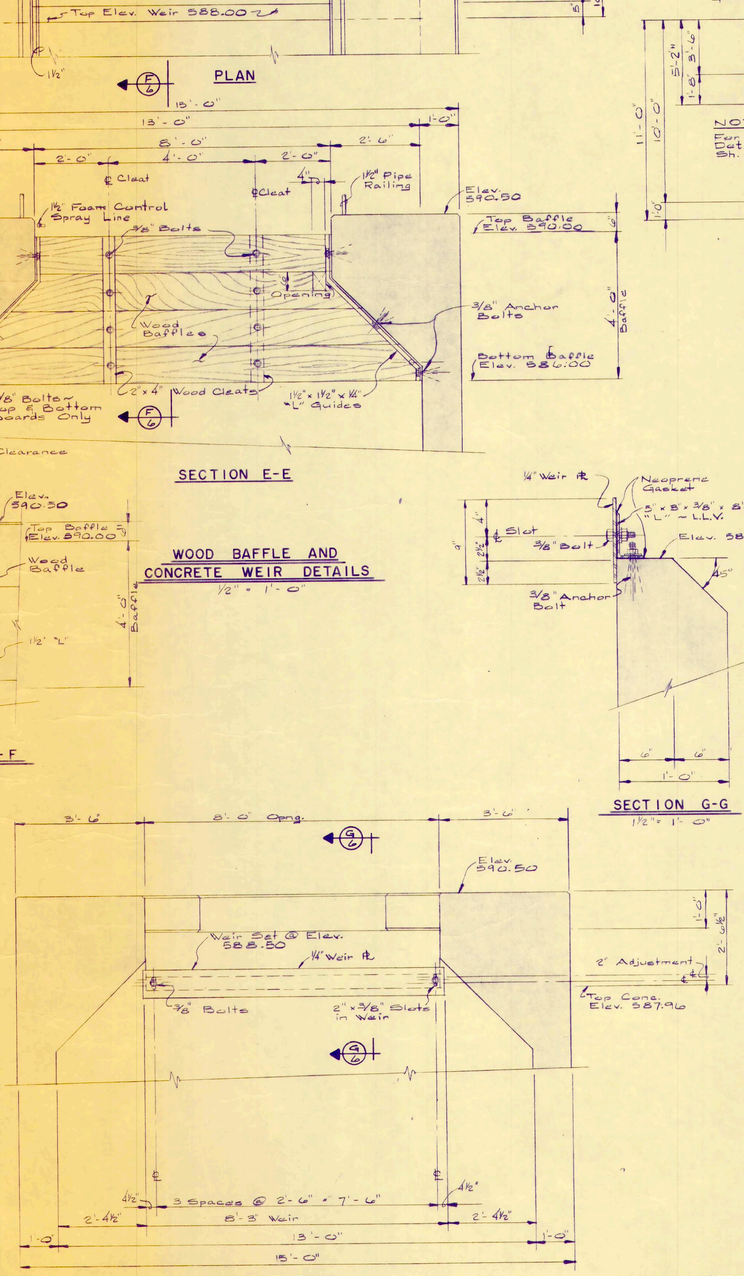


SECTION F-F

WOOD BAFFLE AND CONCRETE WEIR DETAILS
½" = 1'-0"

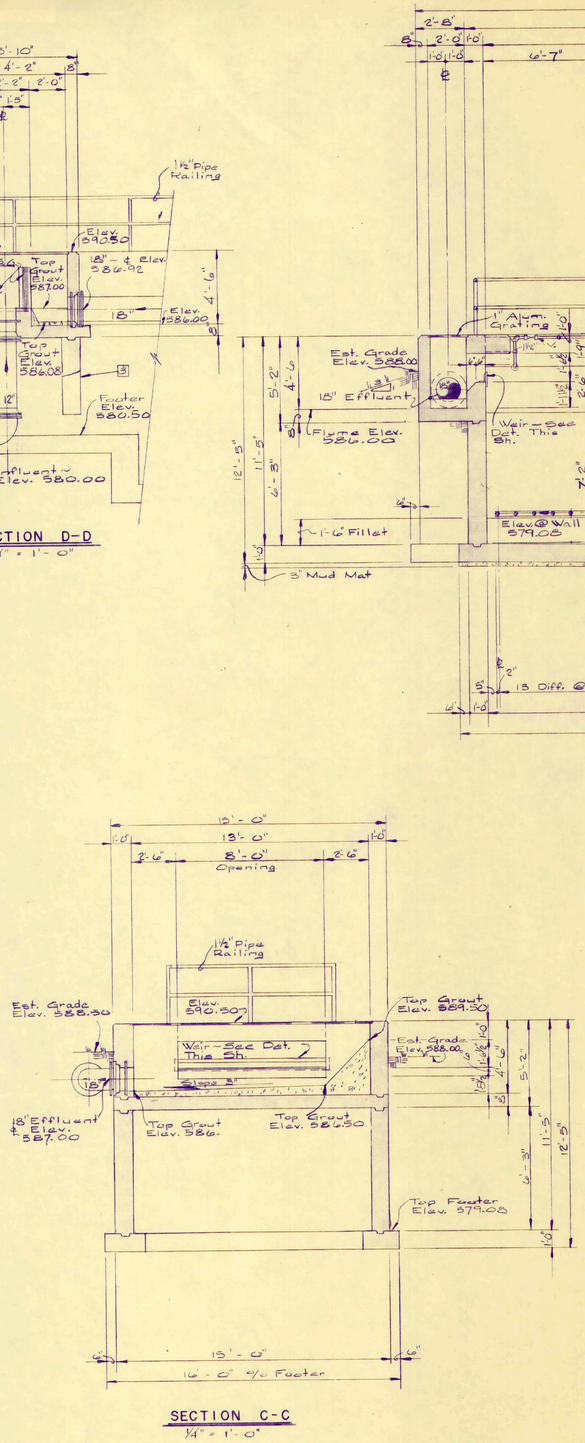


SECTION G-G
1½" = 1'-0"



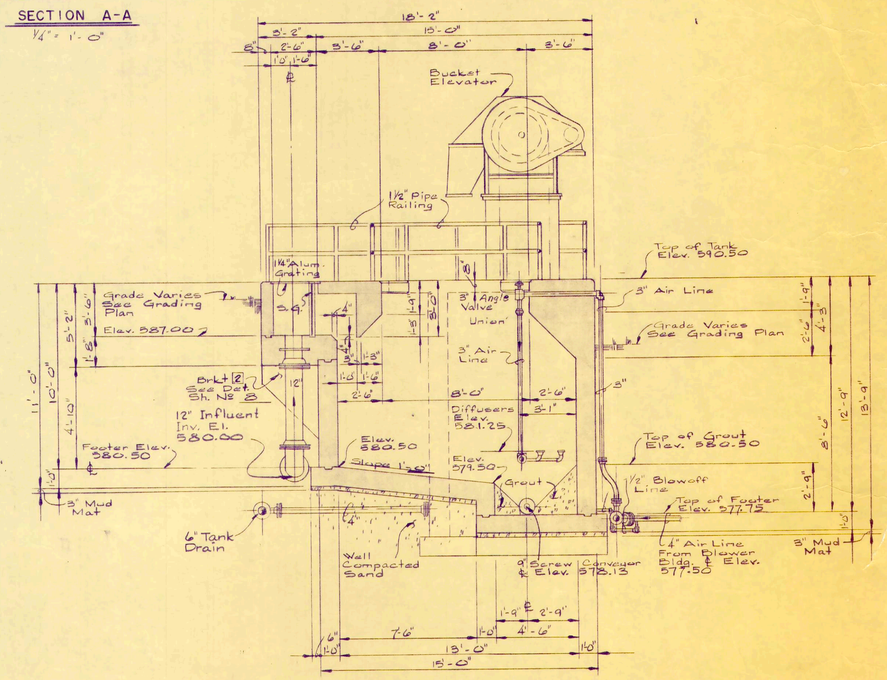
ELEVATION
½" = 1'-0"
STEEL WEIR DETAILS

NOTE
All Structural Steel To be Galvanized



SECTION C-C
¼" = 1'-0"

SECTION A-A
¼" = 1'-0"



SECTION B-B
¼" = 1'-0"

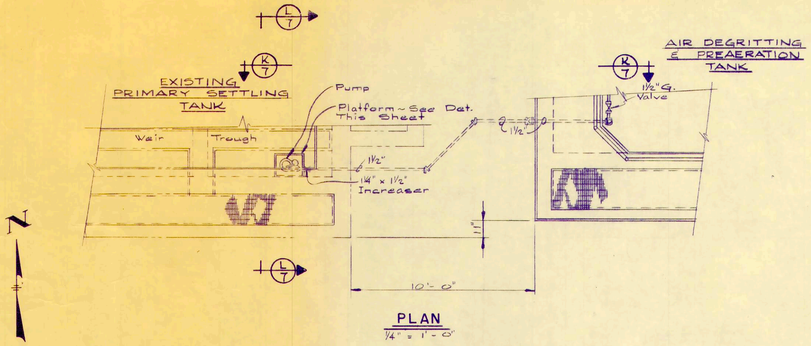
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

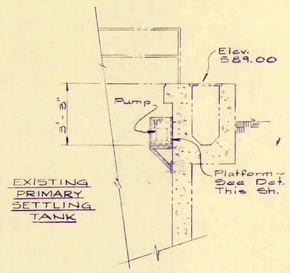
SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: P.L.C.
CHECKED BY: W.C.K.

AIR DEGRITTING AND PREAERATION TANK
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

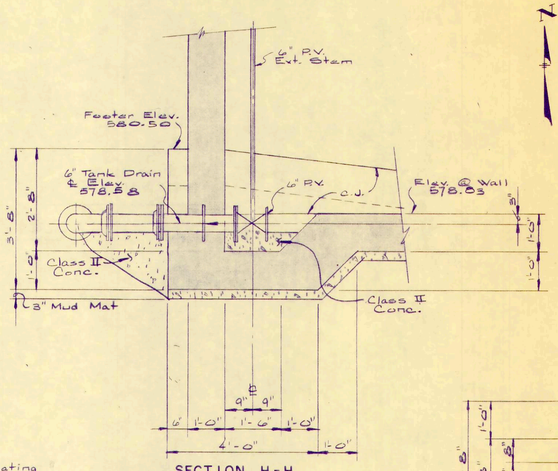
PROJECT: OAKSCOT BI
SECTION
DATE: 3-71
6 OF 36



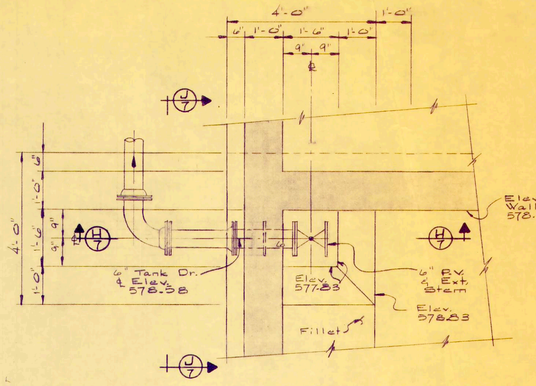
PLAN
1/4" = 1'-0"



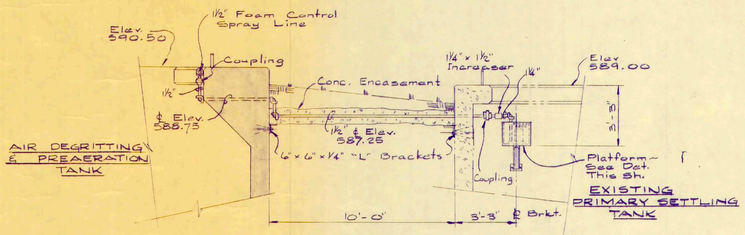
SECTION L-L
1/4" = 1'-0"



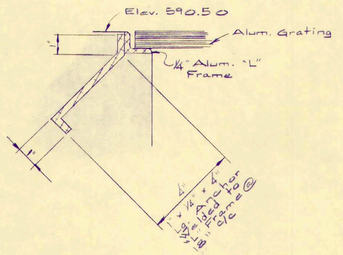
SECTION H-H



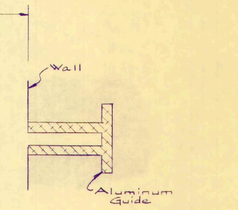
PLAN



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



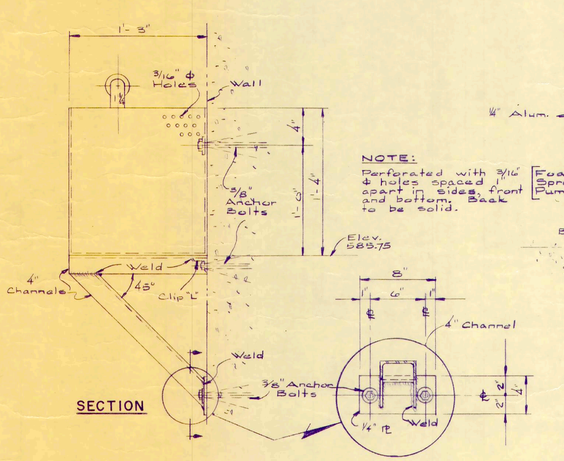
GRATING SUPPORT
No Scale



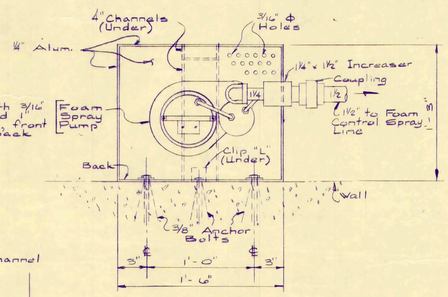
PLAN

SECTION J-J

SUMP DETAILS
1/2" = 1'-0"



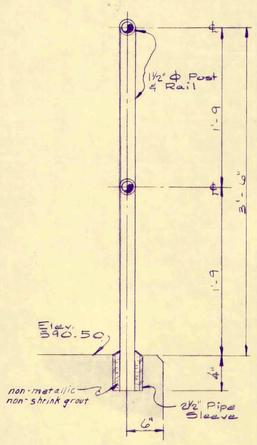
SECTION



PLAN

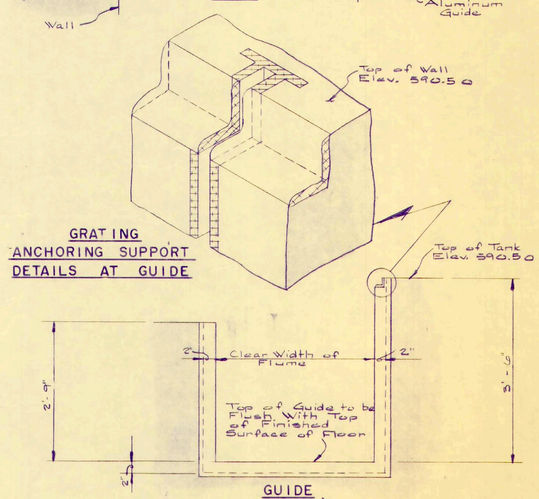
NOTE:
Perforated with 3/16" ϕ holes spaced 4" apart in sides, front and bottom. Back to be solid.

FOAM SPRAY PUMP DETAILS
1½" = 1'-0"



RAILING DETAILS
1½" = 1'-0"

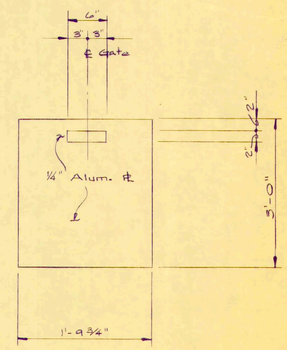
NOTE:
All Structural Steel to be Galvanized.



GRATING ANCHORING SUPPORT DETAILS AT GUIDE

GUIDE
(2 Req'd.)

STOP GATE DETAILS
No Scale



GATE
(1 Req'd.)

NOTE:
All Aluminum Surfaces In Contact With Concrete To Be Painted With a Bitumastic Paint.

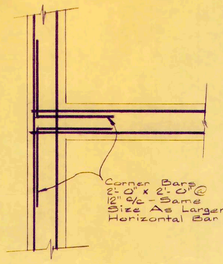
REV. NO.	DESCRIPTION	DATE	BY	APP'D

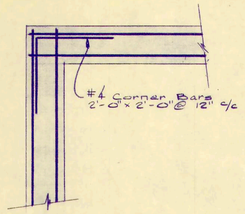
FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

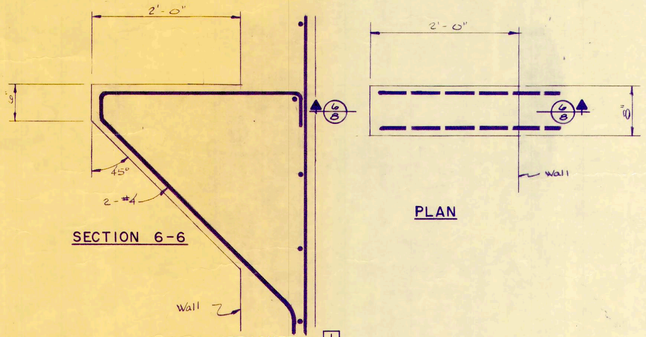
AIR DEGRITTING AND PREAERATION TANK
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

PROJECT NUMBER: OAKS001 BI
SECTION:
DATE: 3-71
7 OF 36





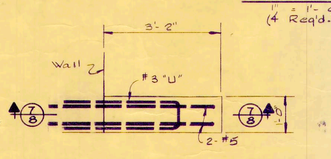
CORNER DETAILS
1/2" = 1'-0"



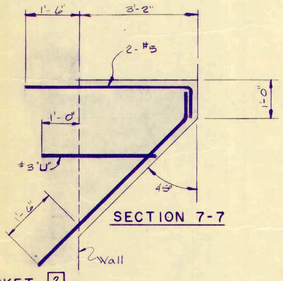
SECTION 6-6

PLAN

BRACKET 1
1" = 1'-0"
(4 Req'd.)

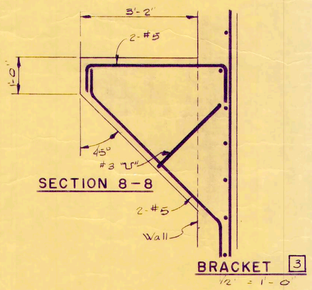


PLAN



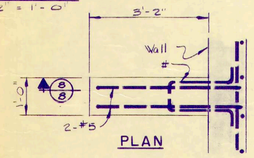
SECTION 7-7

BRACKET 2
1/2" = 1'-0"



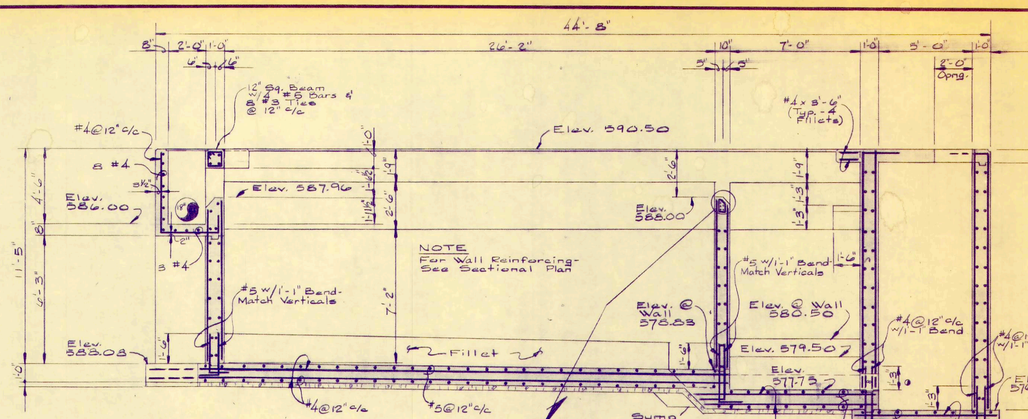
SECTION 8-8

BRACKET 3
1/2" = 1'-0"

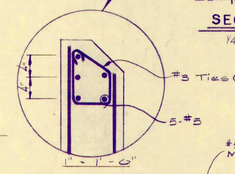


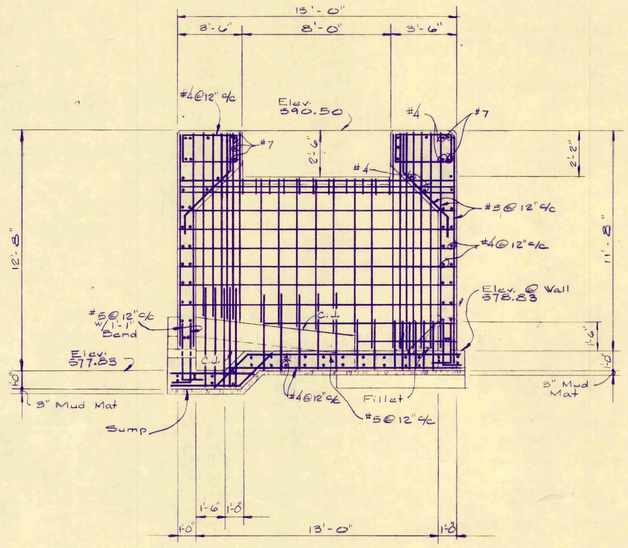
PLAN

BRACKET DETAILS
As Noted

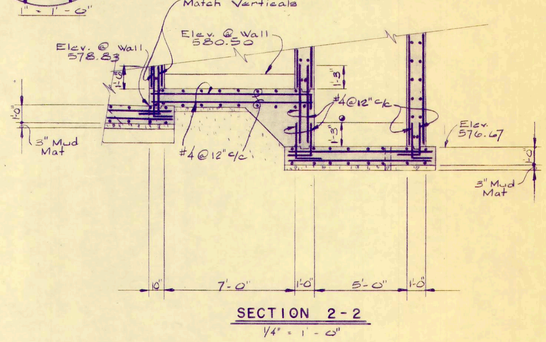


SECTION 1-1
1/4" = 1'-0"

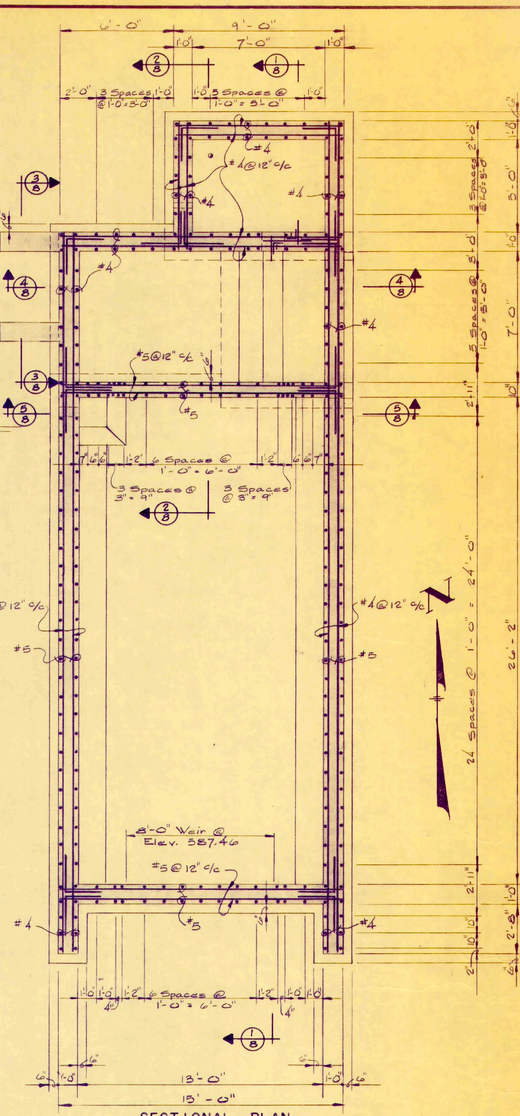




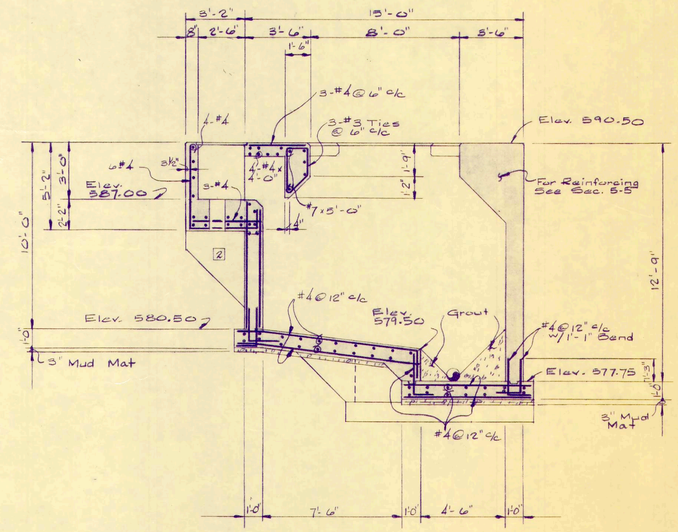
SECTION 5-5
1/4" = 1'-0"



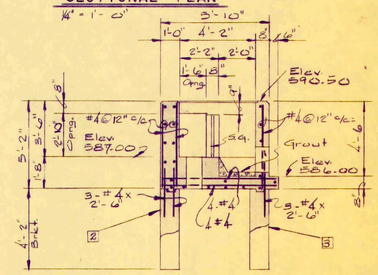
SECTION 2-2
1/4" = 1'-0"



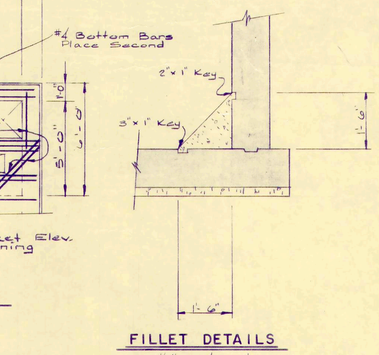
SECTIONAL PLAN
1/4" = 1'-0"



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



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



SLAB PLAN
AT BUCKET ELEVATOR
1/4" = 1'-0"

FILLET DETAILS
1/2" = 1'-0"

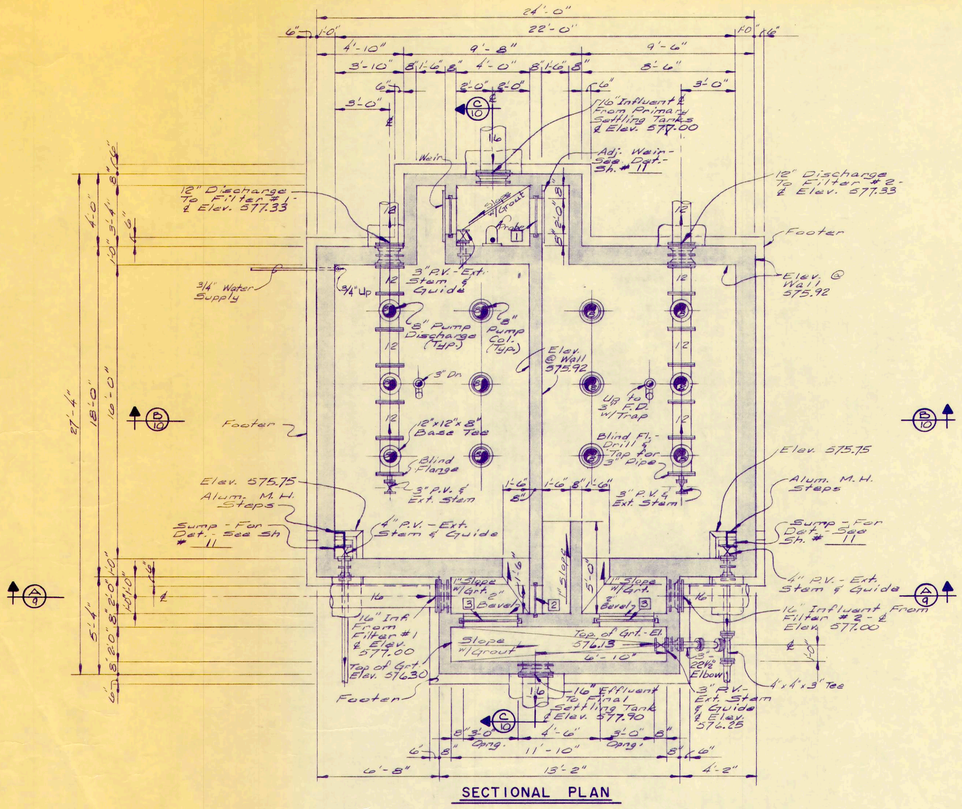
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

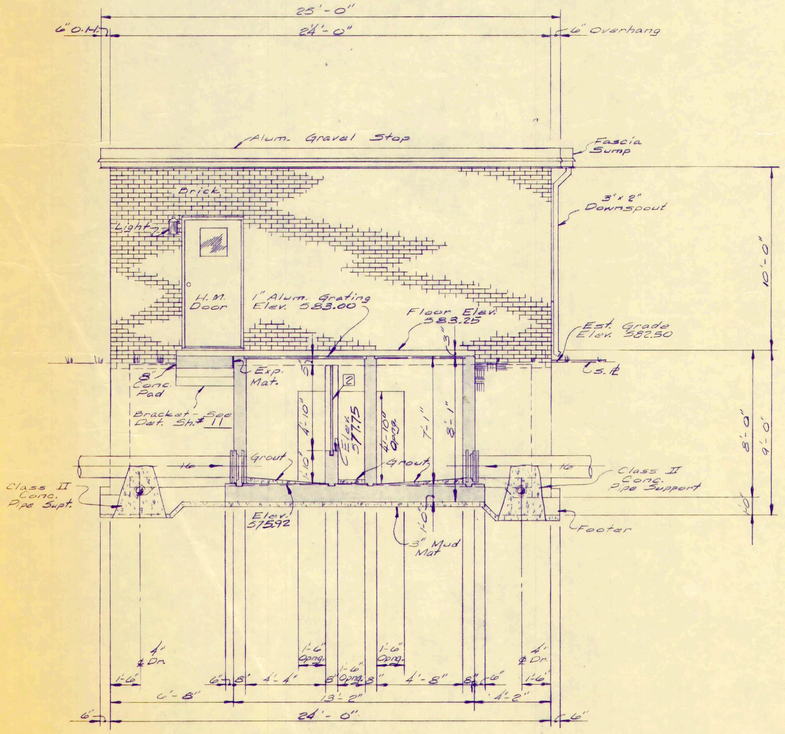
SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

AIR DEGRITTING AND
PREAERATION TANK REINFORCING
WASTEWATER TREATMENT
PLANT IMPROVEMENTS
OAK HARBOR, OHIO

PROJECT NU: OAKS001
SECTION
DATE: 3-71
8 OF

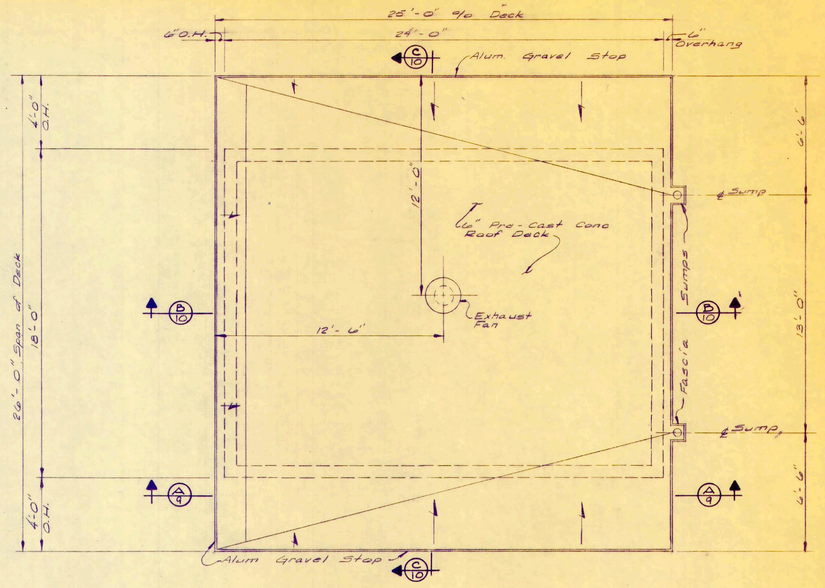


SECTIONAL PLAN

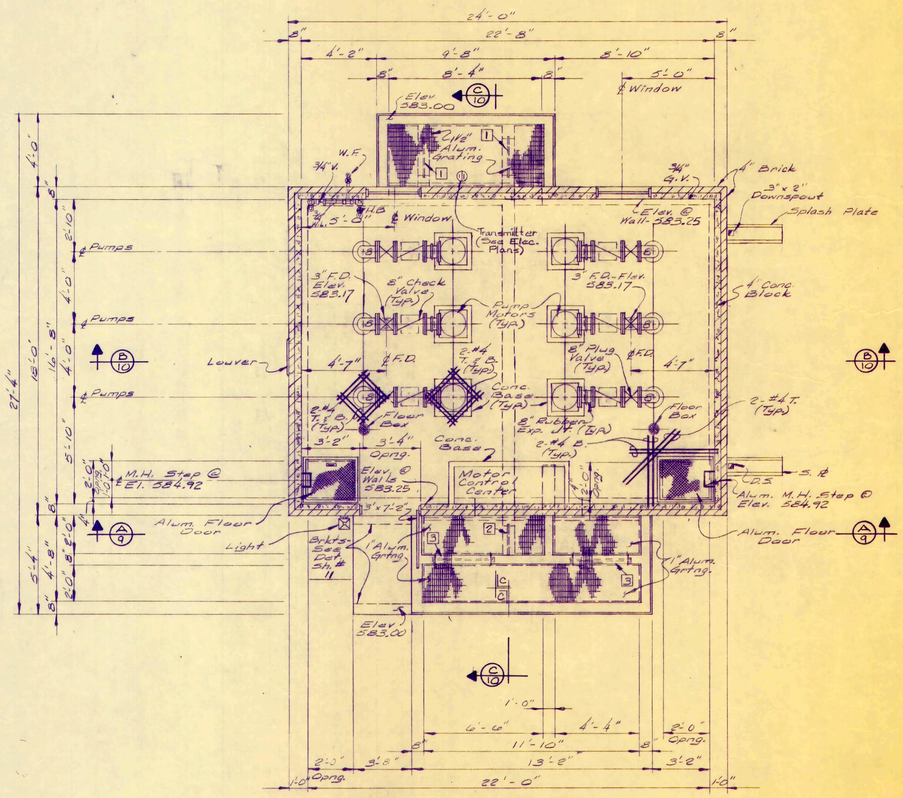


SECTION A-A





ROOF PLAN



PLAN

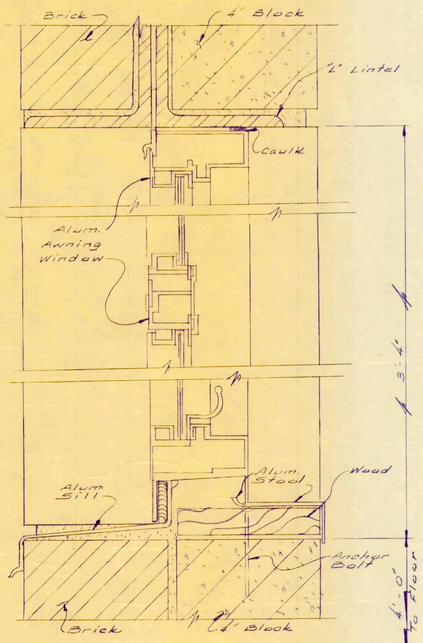
REV. NO.	DESCRIPTION	DATE	BY	APP'D
1	Changed Influent & Effluent From 12" to 16"	6-15-72	R.L.C.	R.B.W.

FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

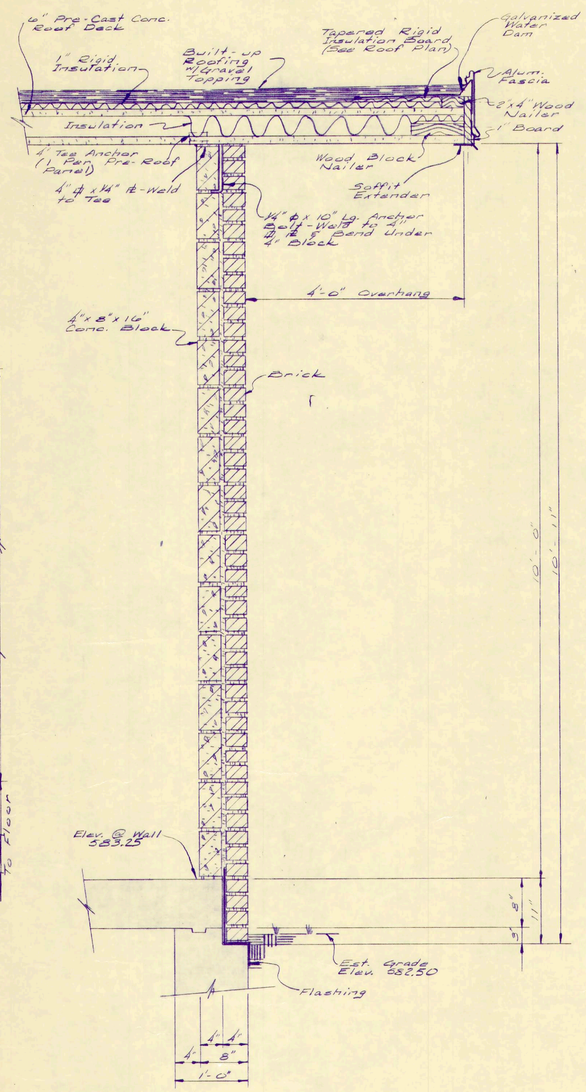
SCALE: 1/4" = 1'-0"
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

PUMPING STATION
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

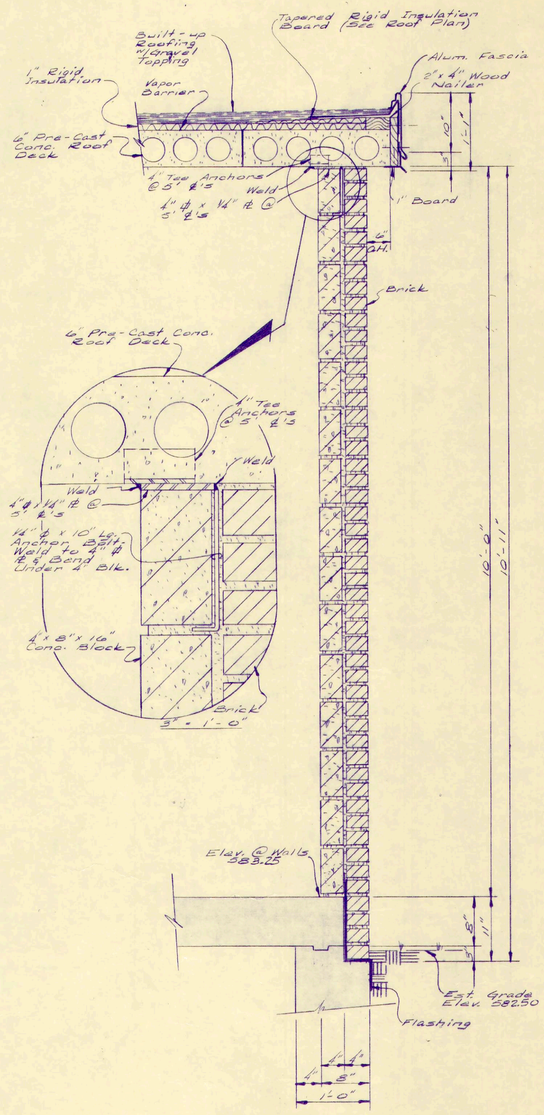
PROJECT NUMBER: OAKS001
SECTION:
DATE: 3-71
9 OF 36



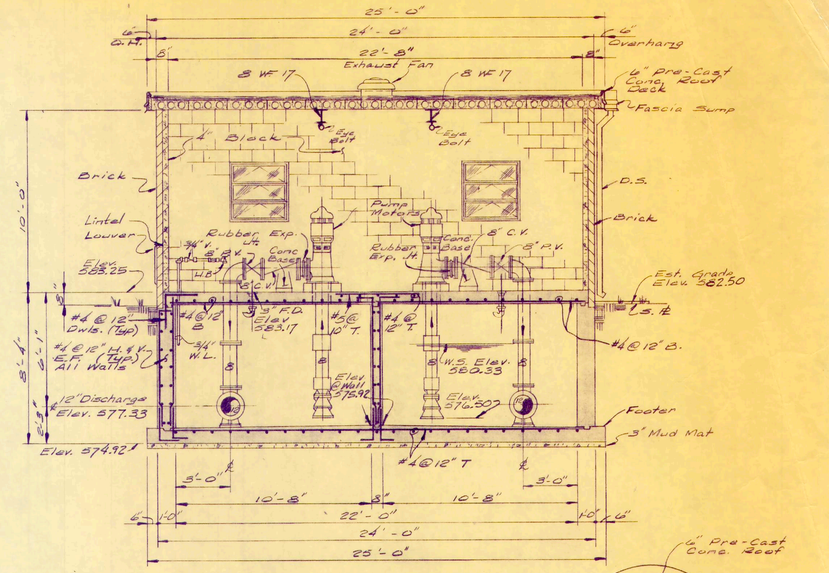
SECTION THRU AWNING WINDOW
3/4" = 1'-0"



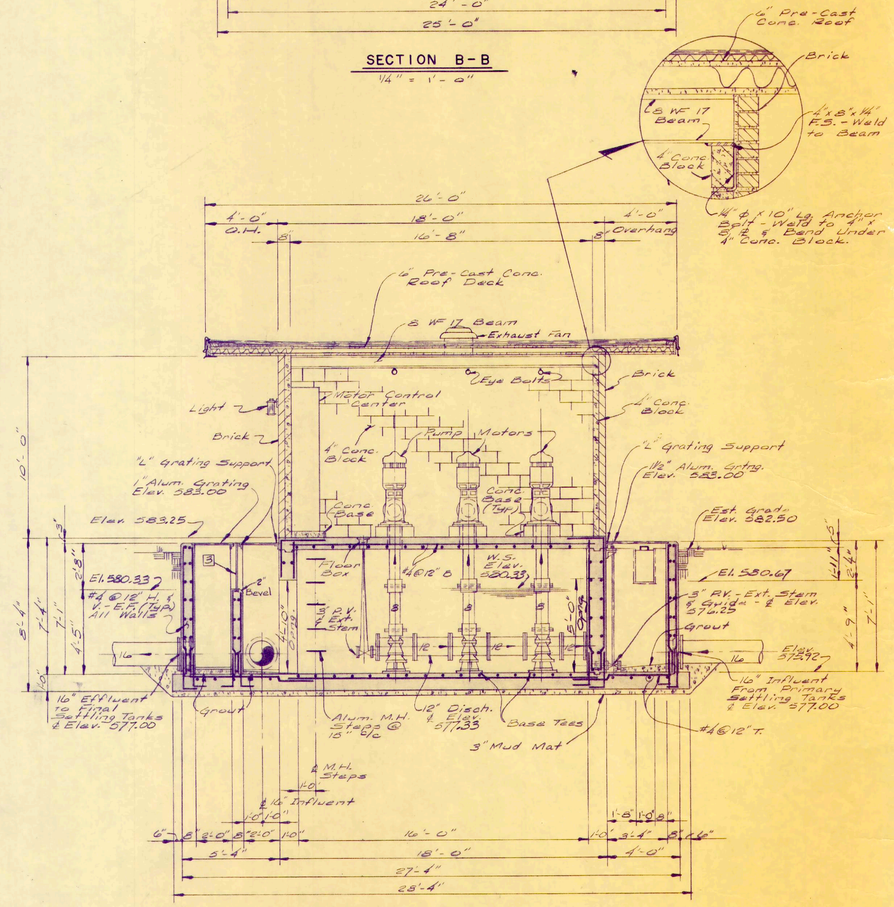
TYPICAL SECTION AT BRICK LEDGE
NORTH & SOUTH WALLS
1" = 1'-0"



TYPICAL SECTION
EAST & WEST WALLS
1" = 1'-0"



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



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

WINDOW SCHEDULE

No Req'd.	Size	Lintel	Remarks
2	3'-2 3/8" High x 3'-1" Wide	(2) 3" x 3 1/2" x 5/16" "L's" x 2'-5" Lg. L.L.H.	Awning Type Windows-Alum Sill & Steel

DOOR SCHEDULE

No. Req'd.	Size	Lintel	Type	Remarks
1	7'-2" High x 3'-0" Wide	(2) 3" x 3 1/2" x 5/16" "L's" x 4'-10" Lg. With 19 ℄ x 3'-4 Lg. x 7" Wide L.L.H.	Hollow Metal Door w/Glass	Weatherproof

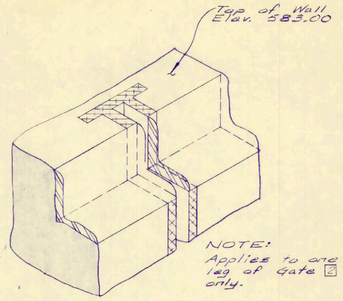
REV. NO.	DESCRIPTION	DATE	BY	APP'D
1	Changed Influent & Effluent From 12" Ext 16"	6-15-72	R.L.C.	R.B.W.

FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

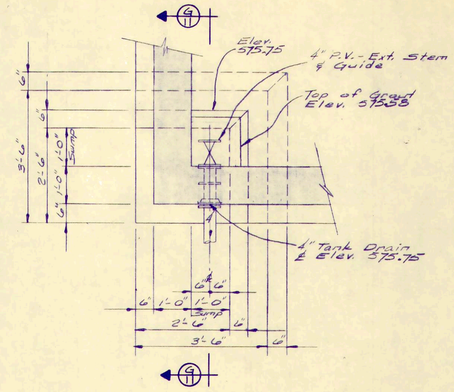
SCALE: As Noted
DESIGNED BY: R.B.W
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

PUMPING STATION
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

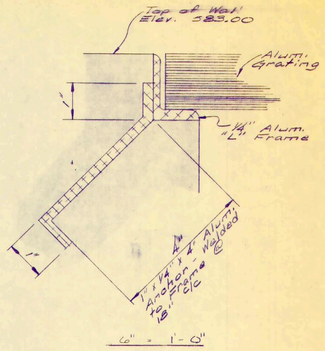
PROJECT NUMBER: OAKS001 B1
SECTION
DATE: 3-71
10 OF 36



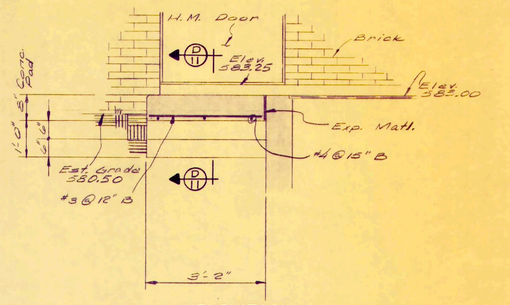
GRATING ANGLE SUPPORT
DETAIL AT GUIDE



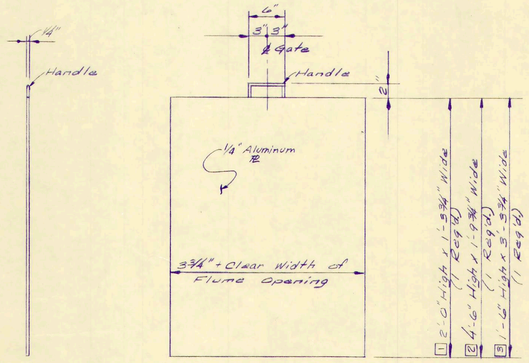
PLAN



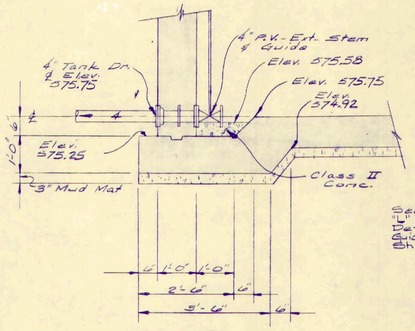
6" = 1'-0"



ELEVATION

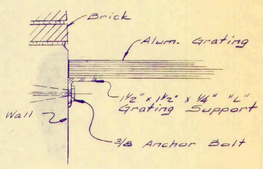


GATE
(3 Req'd)

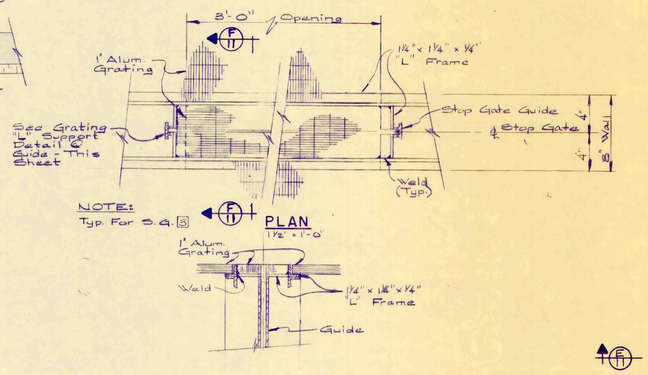


SECTION G-G

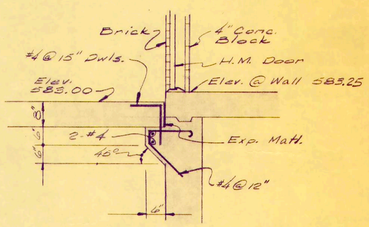
SUMP DETAILS
½" = 1'-0"



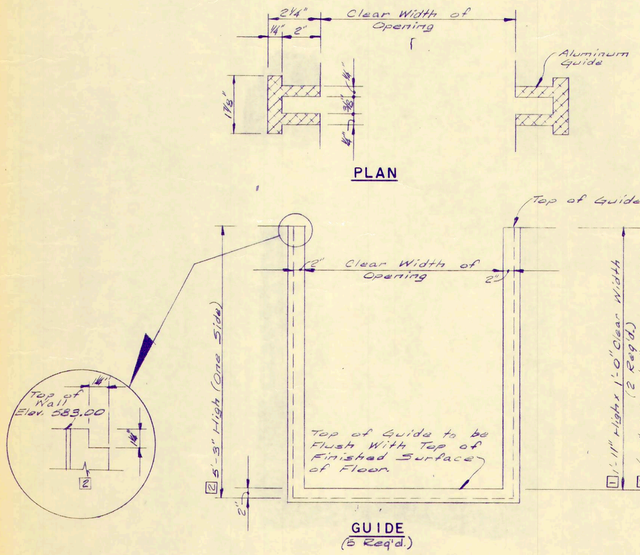
3" = 1'-0"



SECTION F-F
GRATING ANCHORING DETAILS
As Noted

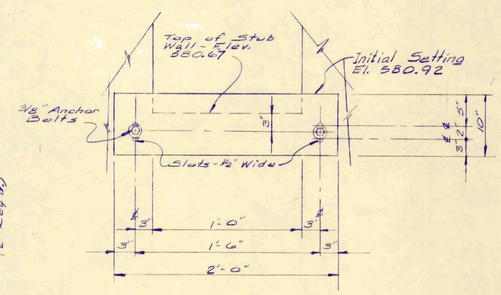


SECTION D-D

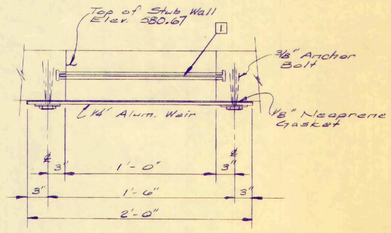


PLAN

GUIDE
(5 Req'd.)

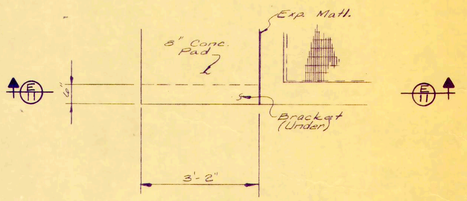


ELEVATION

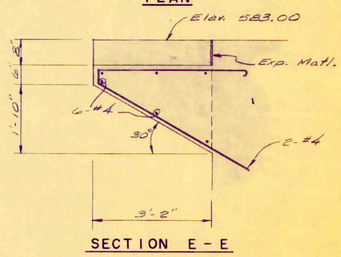


PLAN

WEIR DETAILS
(2 Req'd)
No Scale



PLAN



SECTION E-E

BRACKET DETAILS AT ENTRANCE
½" = 1'-0"

STOP GATE DETAILS
No Scale

NOTE:
All Aluminum Surfaces in Contact With Concrete to be Painted With a Bitumastic Paint.

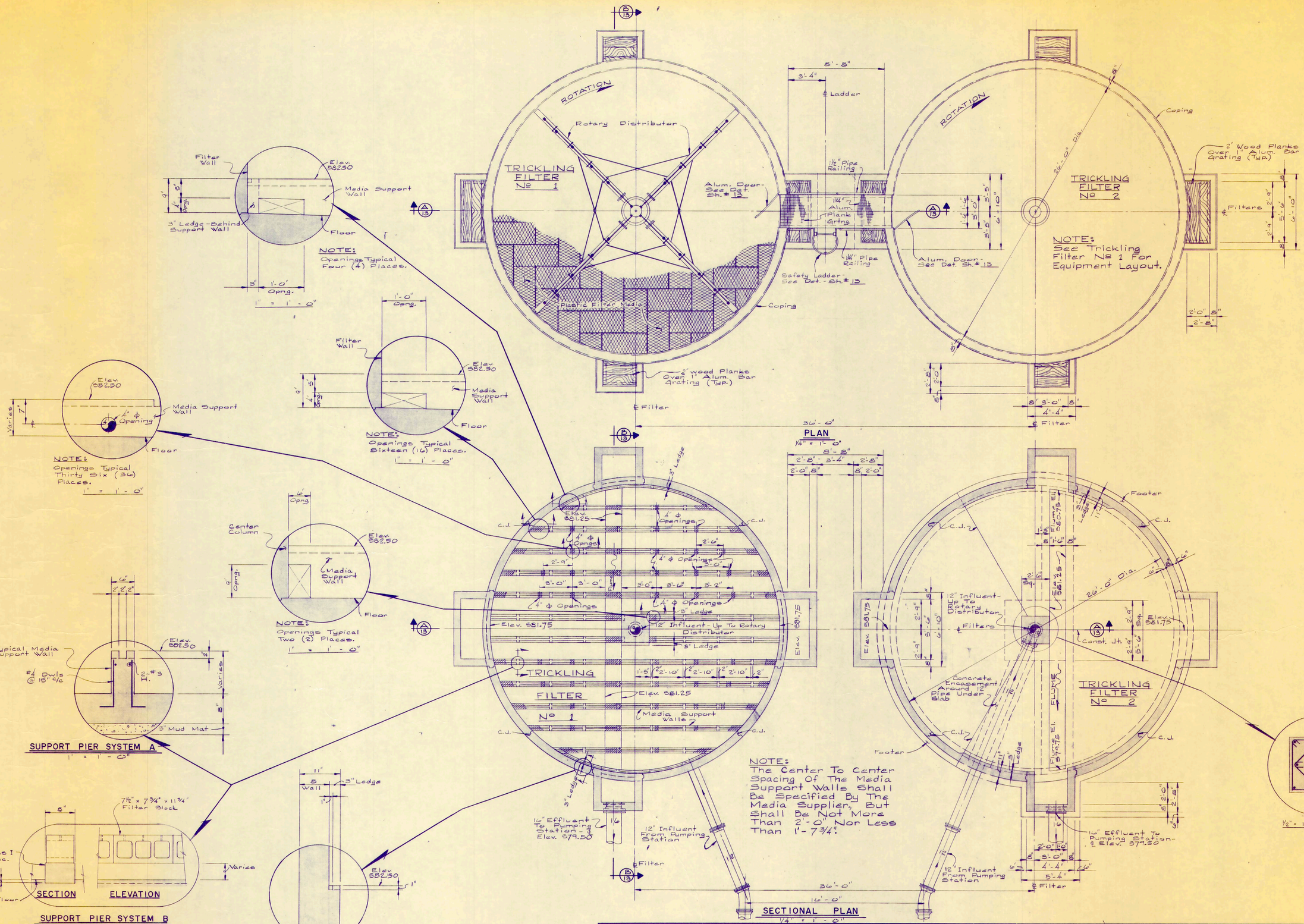
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

PUMPING STATION
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

PROJECT NUM: OAKS001
SECTION
DATE: 3-71
11 OF 3



REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

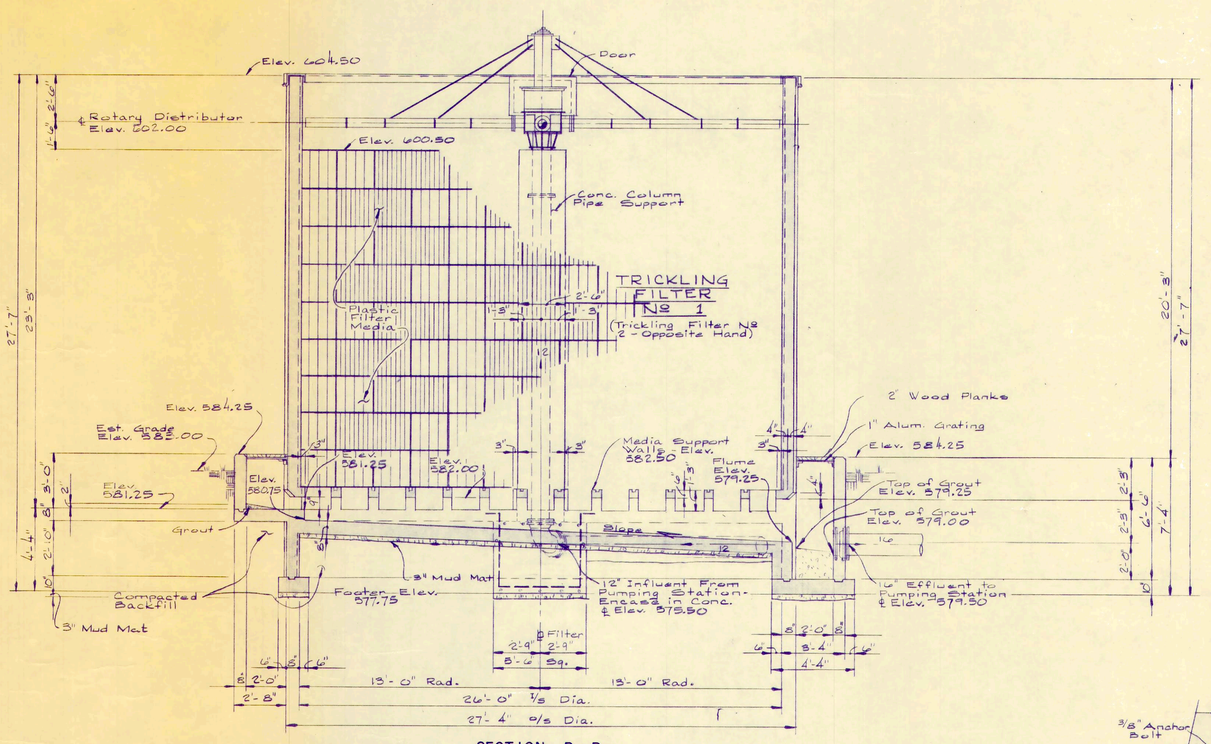
SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

TRICKLING FILTER

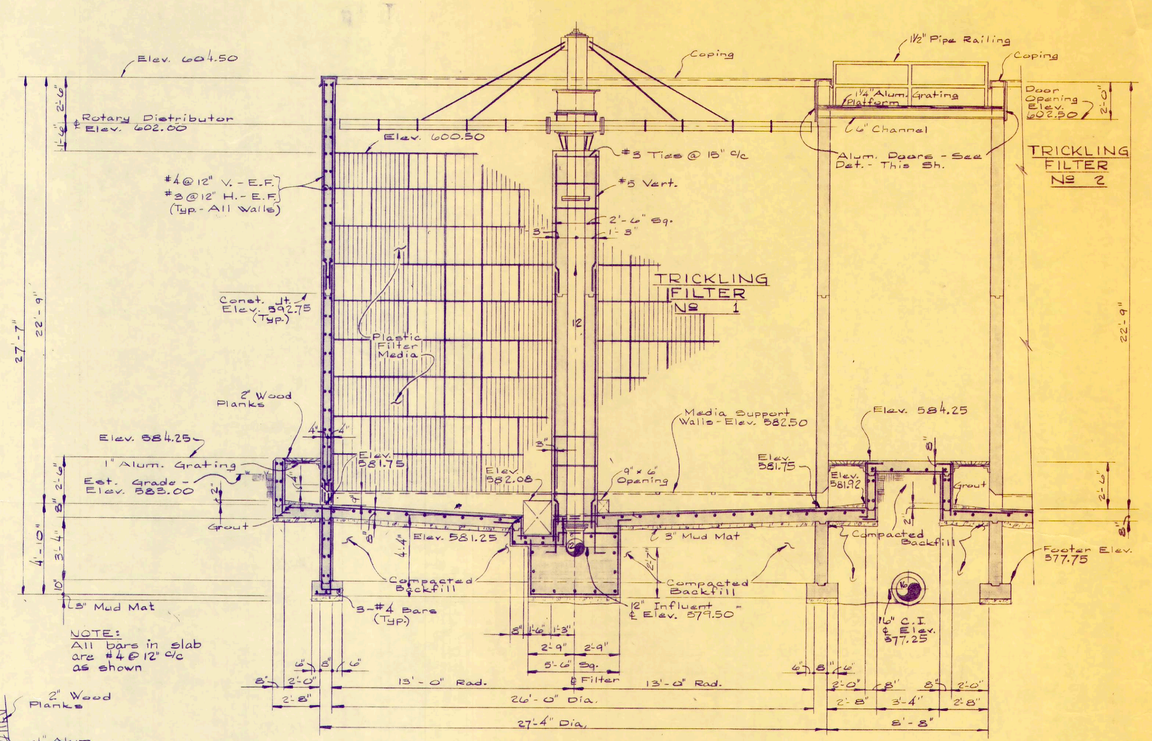
WASTEWATER TREATMENT PLANT IMPROVEMENTS

OAK HARBOR, OHIO

PROJECT NUMB: OAKS001
SECTION
DATE: 3-71
12 OF 36

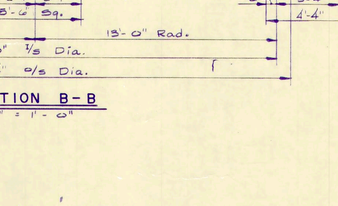


SECTION B-B
1/4" = 1'-0"

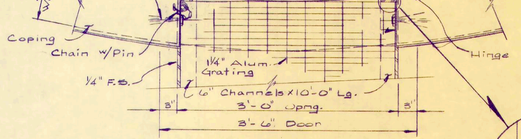


NOTE:
All bars in slab are #4 @ 12" o/c as shown

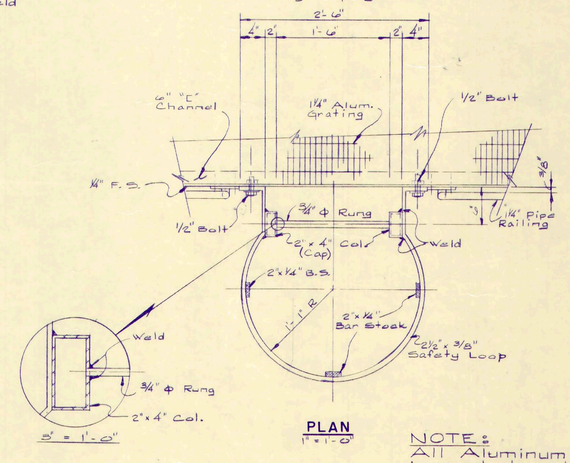
SECTION A-A
1/4" = 1'-0"



GRATING ANCHORING SUPPORT
3" = 1'-0"

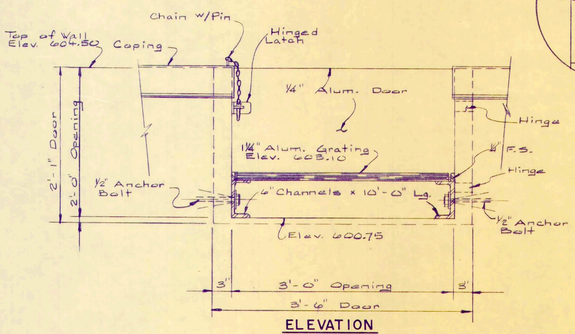


PLAN



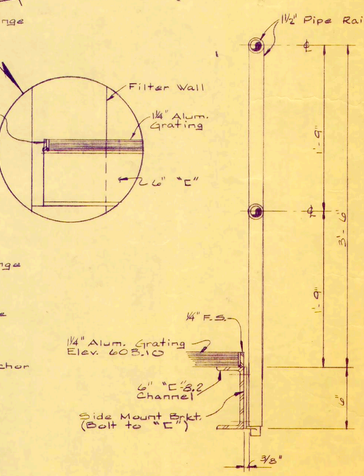
PLAN
1" = 1'-0"

NOTE:
All Aluminum Surfaces in Contact With Concrete to be Painted With a Bitumastic Paint.

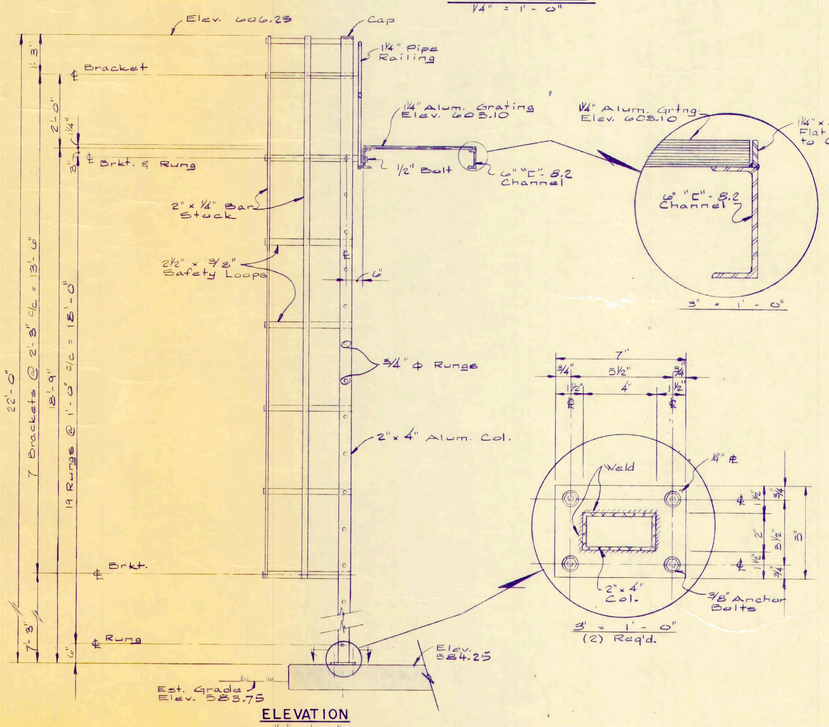


ELEVATION

ALUMINUM DOOR DETAILS
2 Req'd. ~ 1" = 1'-0"



RAILING DETAILS
1½" = 1'-0"



ELEVATION
½" = 1'-0"

LOOP LADDER DETAILS
As Noted

REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

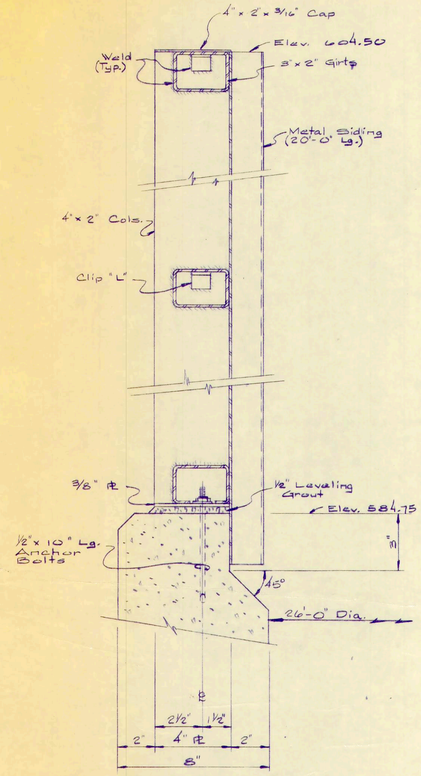
SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

TRICKLING FILTER

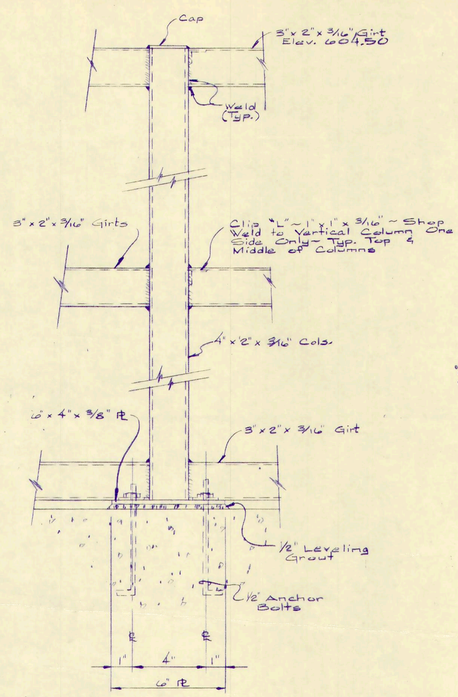
WASTEWATER TREATMENT PLANT IMPROVEMENTS

OAK HARBOR, OHIO

PROJECT NUMBER: OAKS001 B
SECTION:
DATE: 3-71
13 OF 36



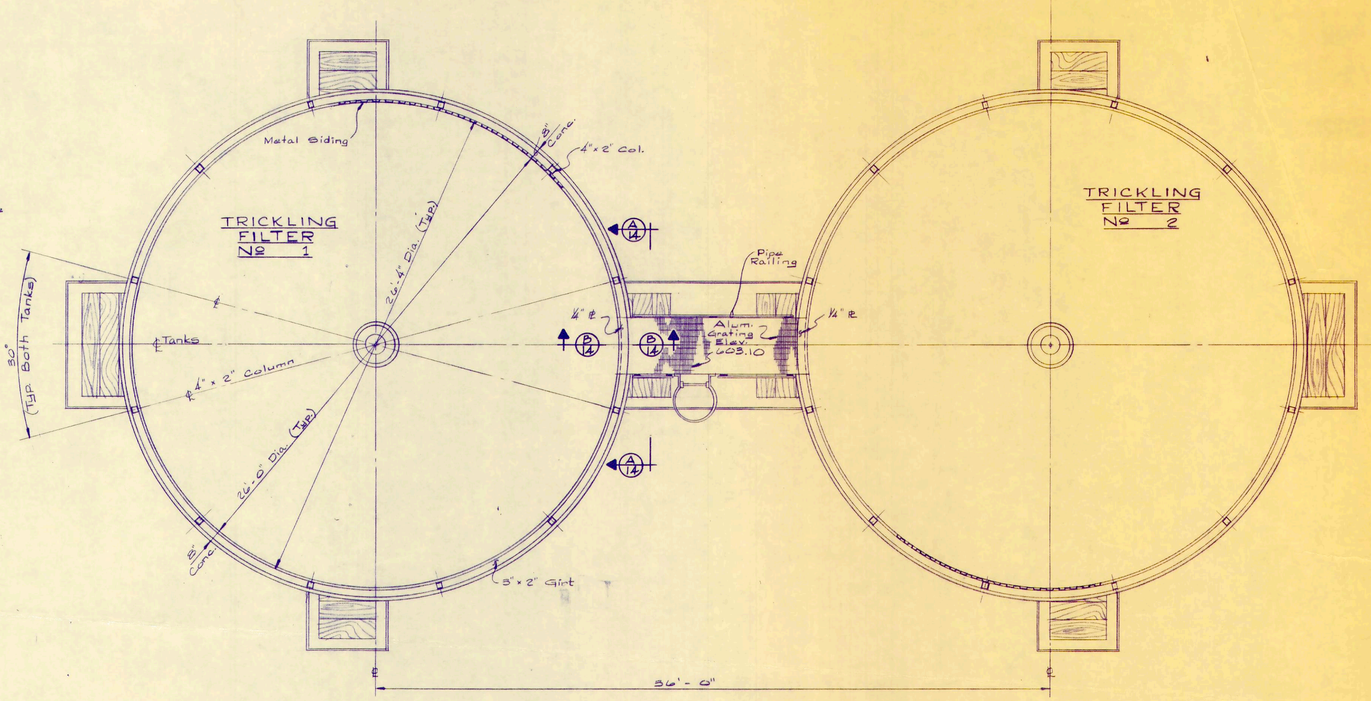
SECTION



ELEVATION

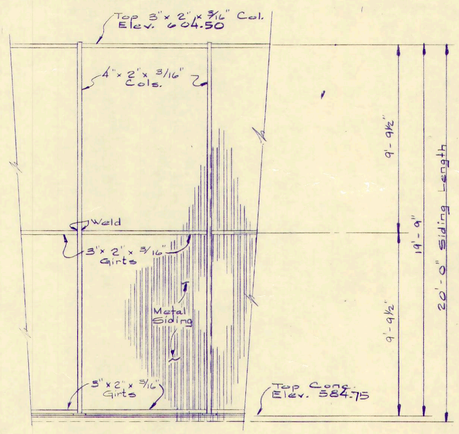
TYPICAL WALL COLUMN DETAILS

3" = 1'-0"



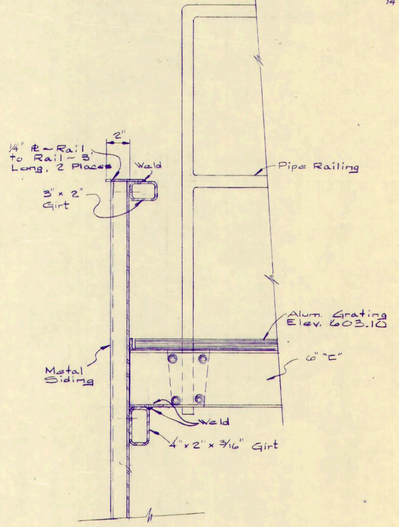
PLAN

1/4" = 1'-0"



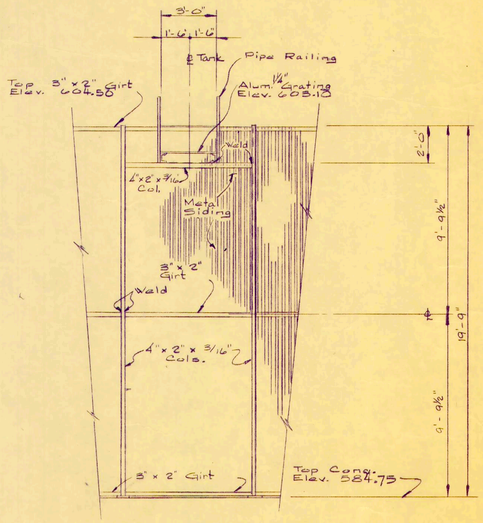
WALL ELEVATION

1/4" = 1'-0"



SECTION B-B

1½" = 1'-0"



SECTION A-A

1/4" = 1'-0"

REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

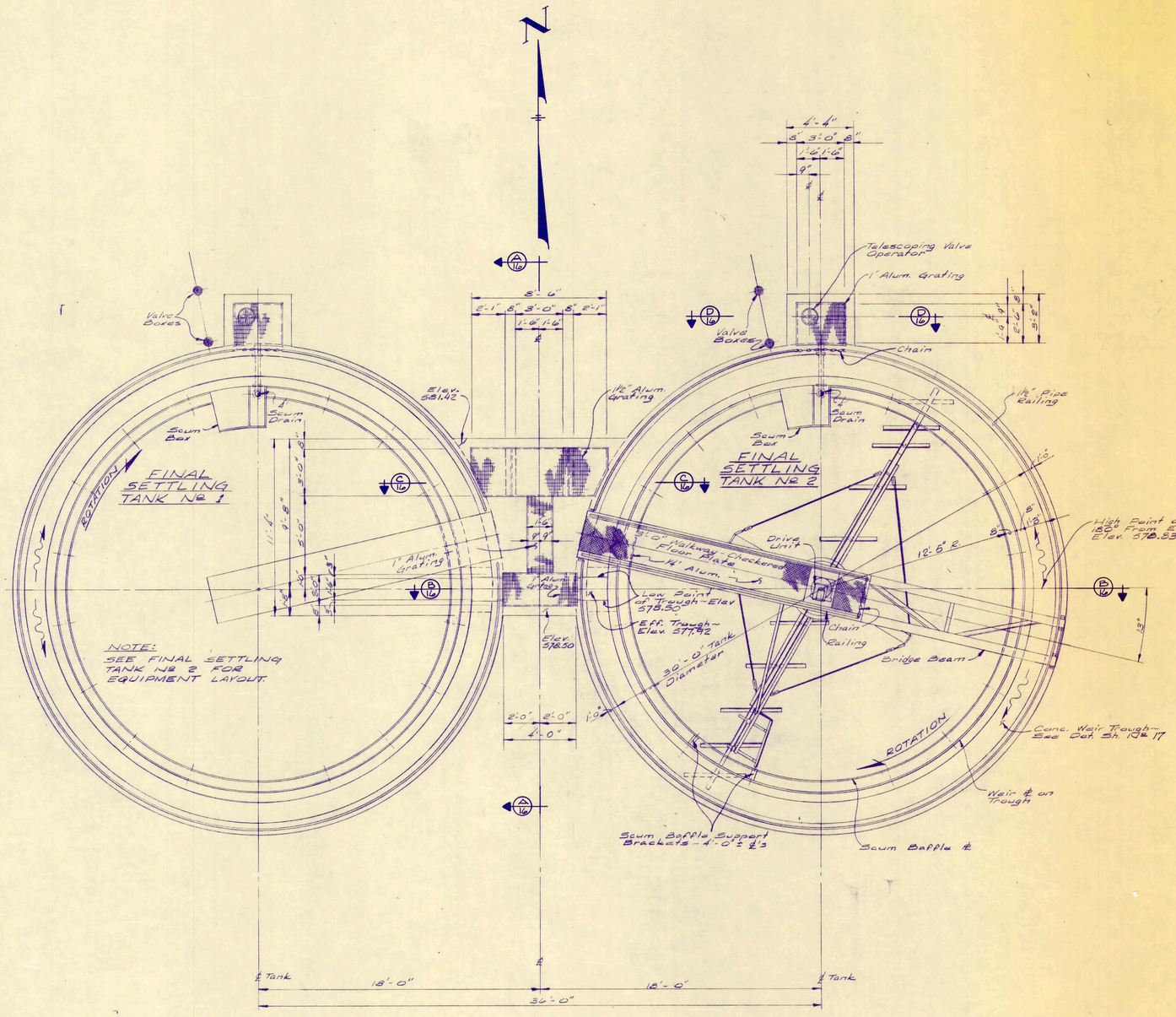
SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

ALTERNATE TRICKLING FILTER WALLS

WASTEWATER TREATMENT PLANT IMPROVEMENTS

OAK HARBOR, OHIO

PROJECT NU: OAKS001
SECTION
DATE: 3-71
14 OF



PLAN

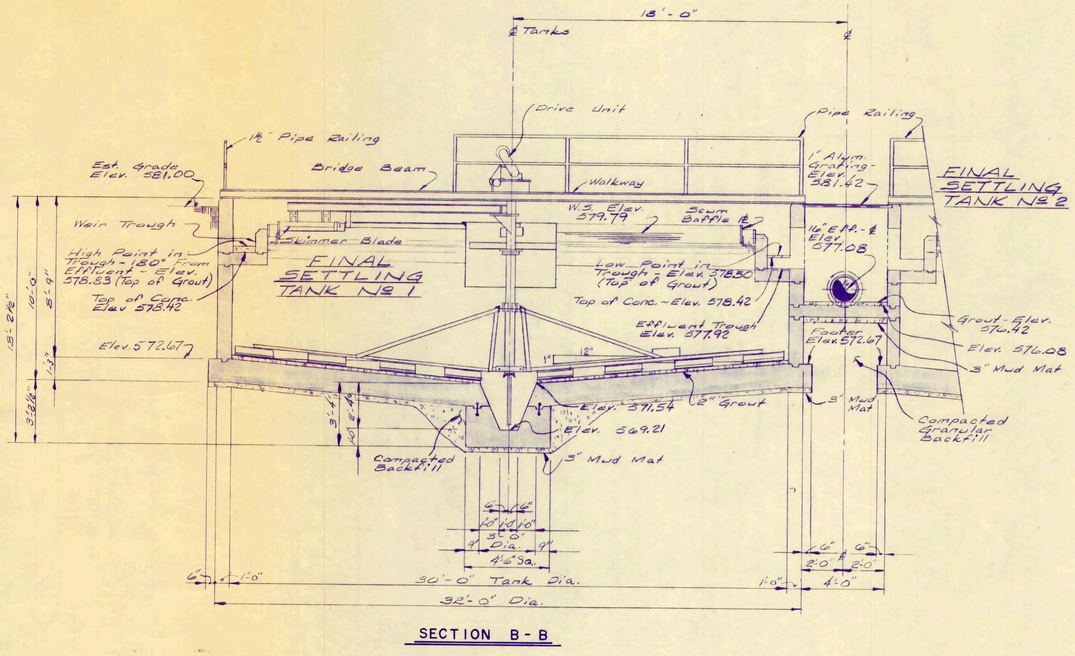
REV. NO.	DESCRIPTION	DATE	BY	APP'D

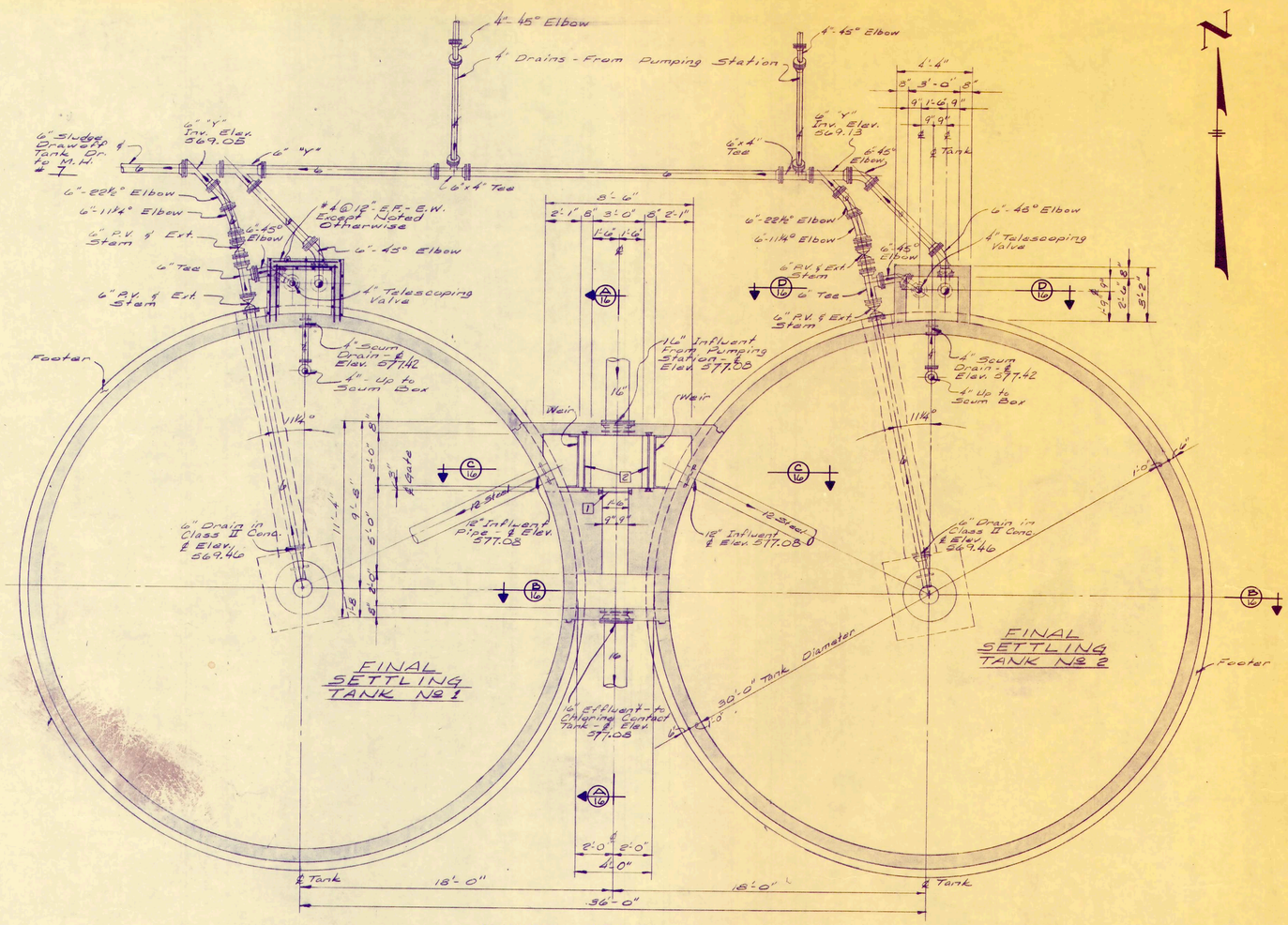
FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE 1¼" = 1'-0"
DESIGNED BY R.B.W.
DRAWN BY R.L.C.
CHECKED BY W.C.K.

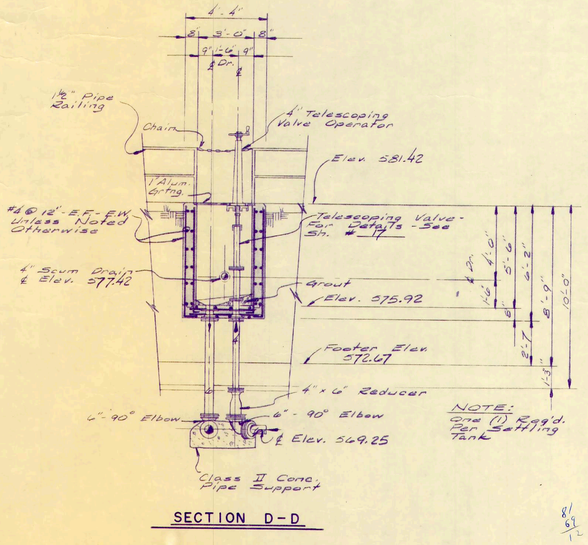
FINAL SETTLING TANK
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

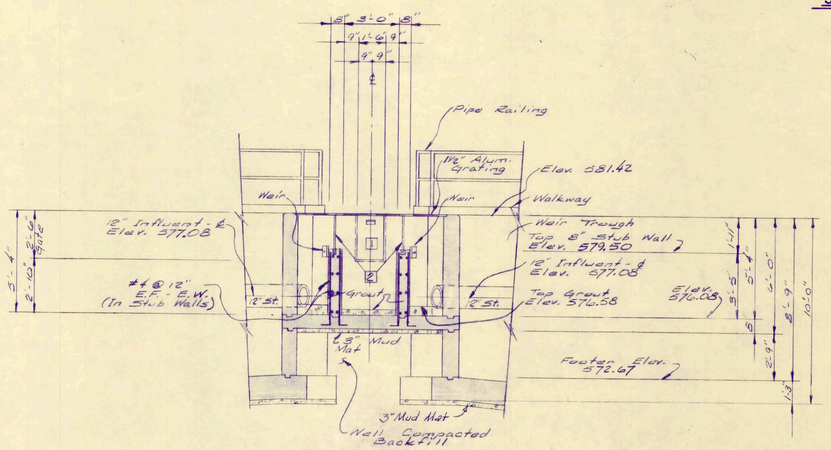
PROJECT NUMB OAKS001
SECTION
DATE 3-71
15 OF 36

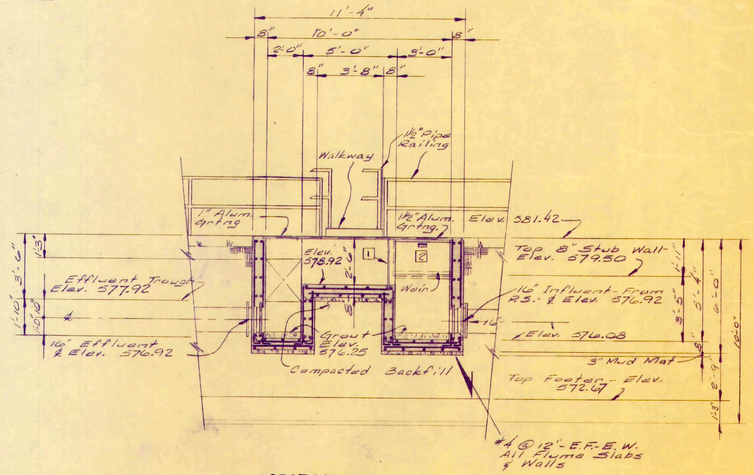




SECTIONAL PLAN







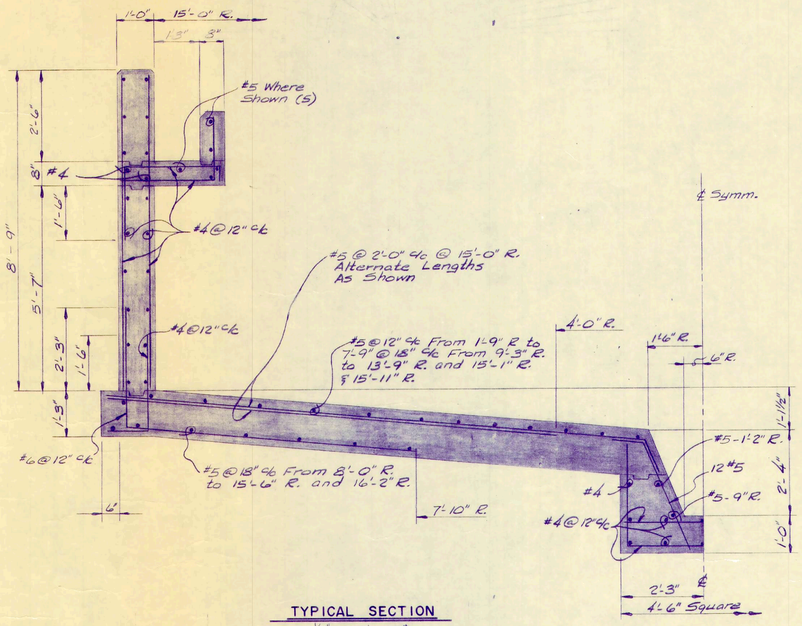
REV. NO.	DESCRIPTION	DATE	BY	APP'D
1	Corrected Elevations Sec. "A-A"	6-15-72	R.L.C.	R.B.W.

FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

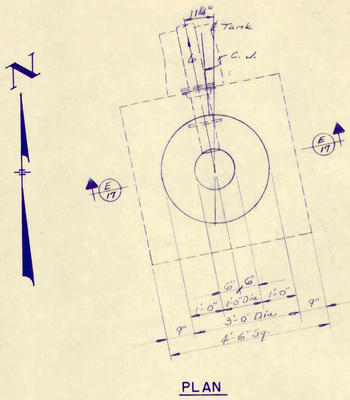
SCALE: ¼" - 1'-0"
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

FINAL SETTLING TANK
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

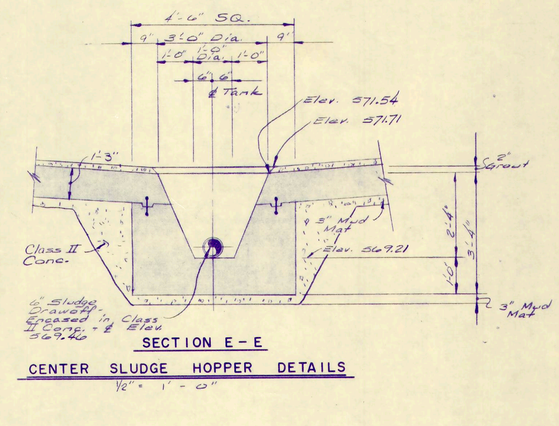
PROJECT NUMBER: OAKS001 B
SECTION:
DATE: 3-71
16 OF 36



TYPICAL SECTION
1/2" = 1'-0"

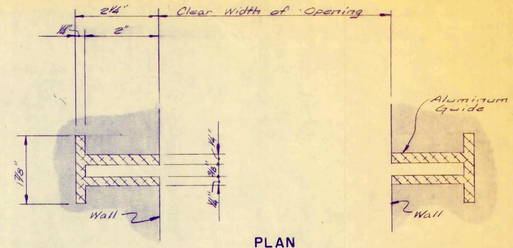


PLAN

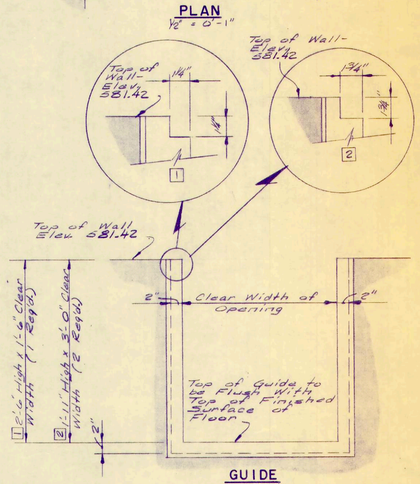


SECTION E-E

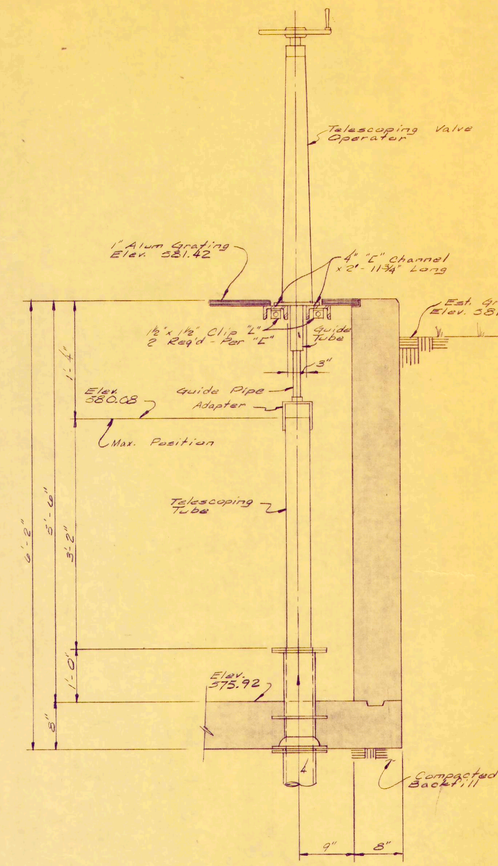
CENTER SLUDGE HOPPER DETAILS
1/2" = 1'-0"



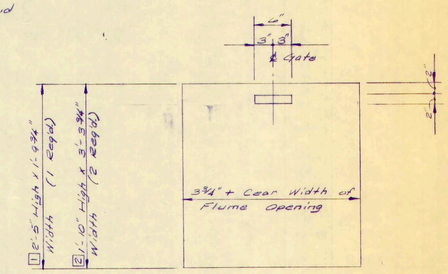
PLAN
1/2" = 0'-1"

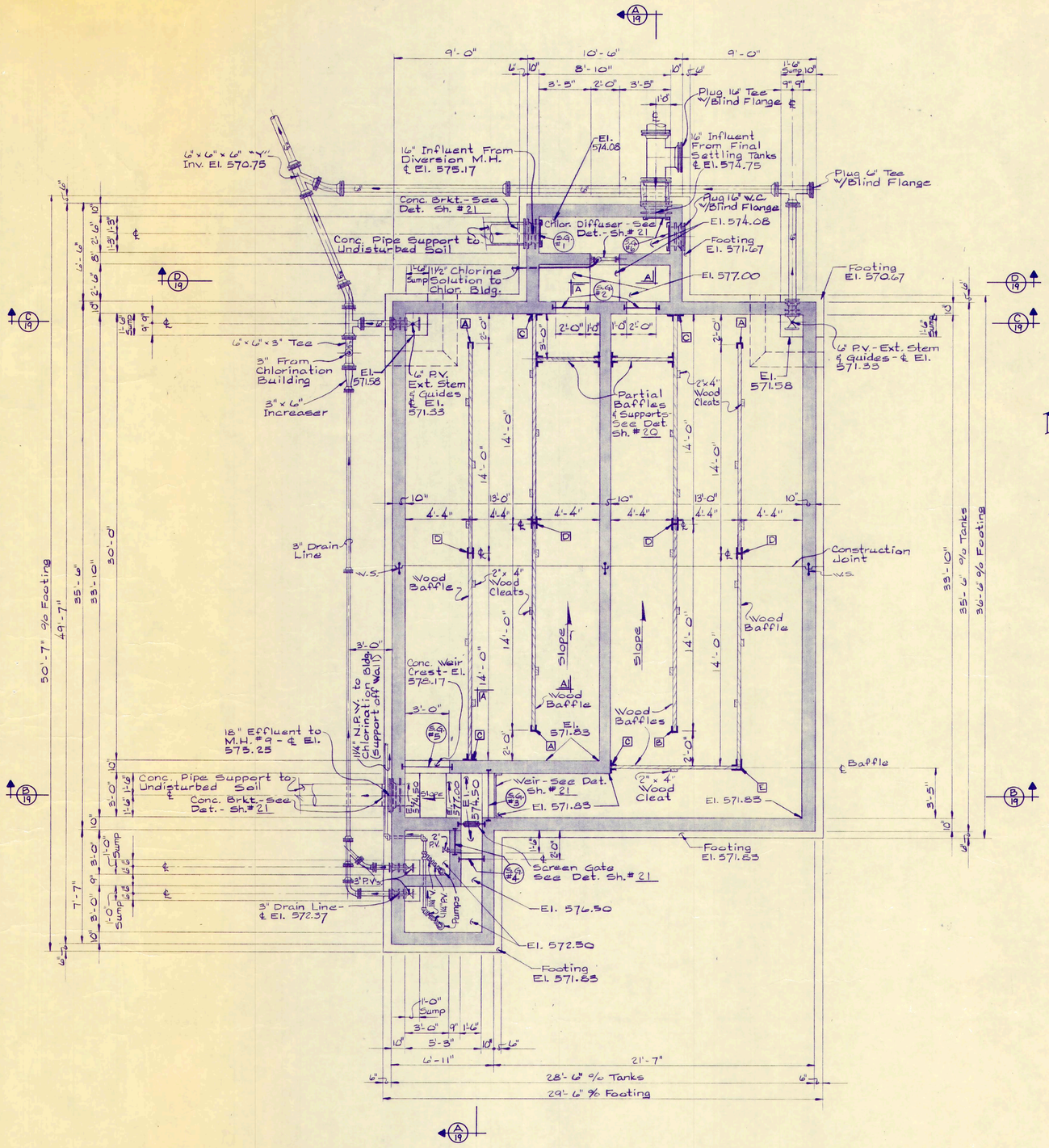


GUIDE
No Scale

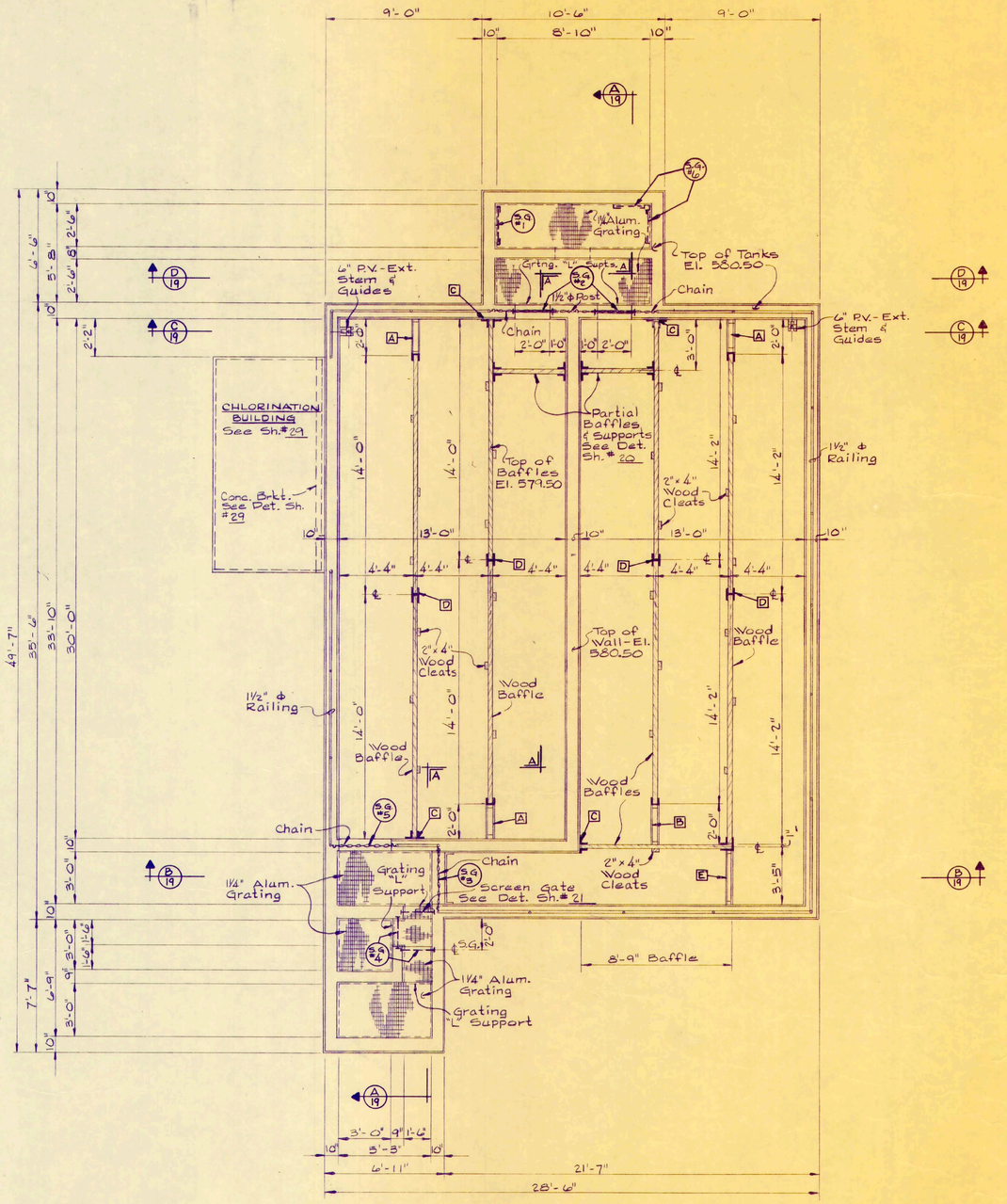


TELESCOPING VALVE DETAILS
No Scale


6"
3 3/4"
℄ Gate
6"
6"
6"



SECTIONAL PLAN



PLAN

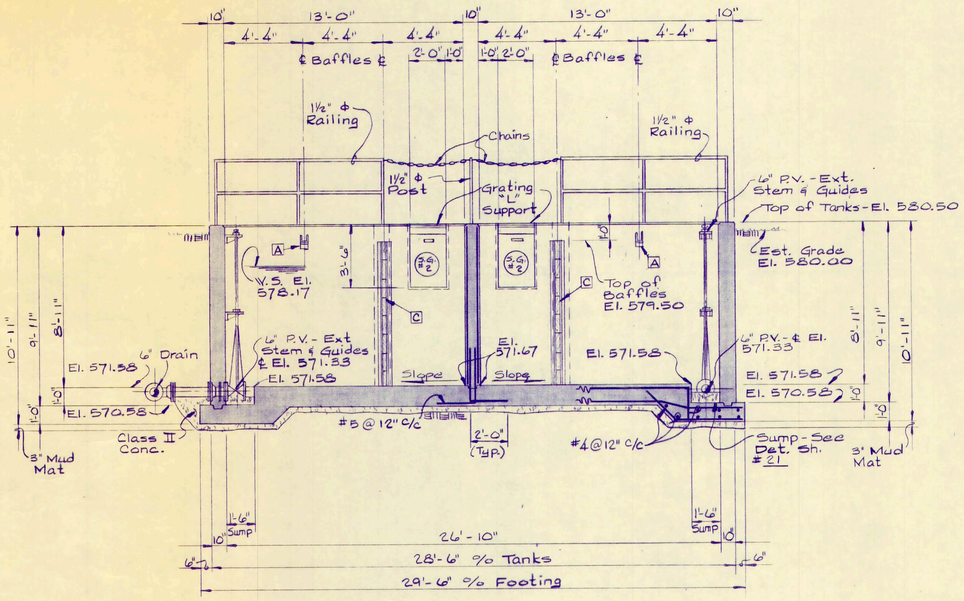
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT, LTD.
CONSULTING ENGINEERS
TOLEDO, OHIO

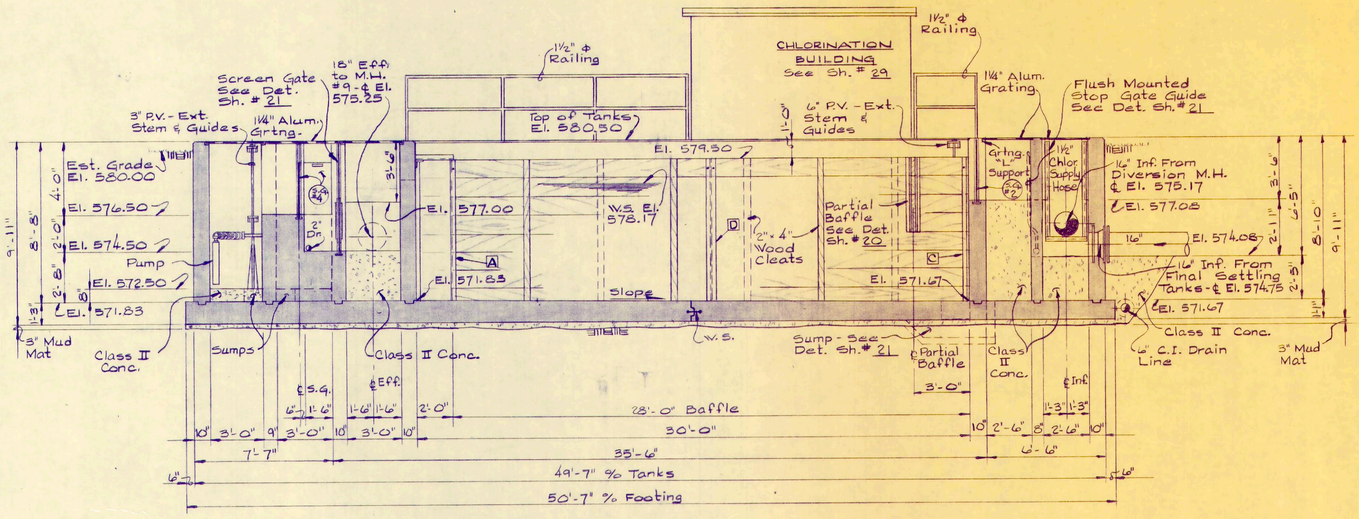
SCALE 1/4" = 1'-0"
DESIGNED BY R.B.W.
DRAWN BY R.L.C.
CHECKED BY W.C.K.

CHLORINE CONTACT TANK
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

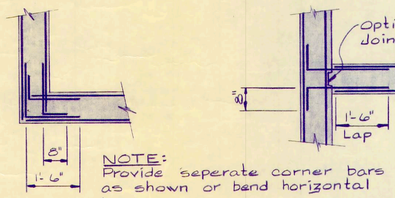
PROJECT NUMBER OAKS001 B1
SECTION
DATE 3-72
18 OF 36



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

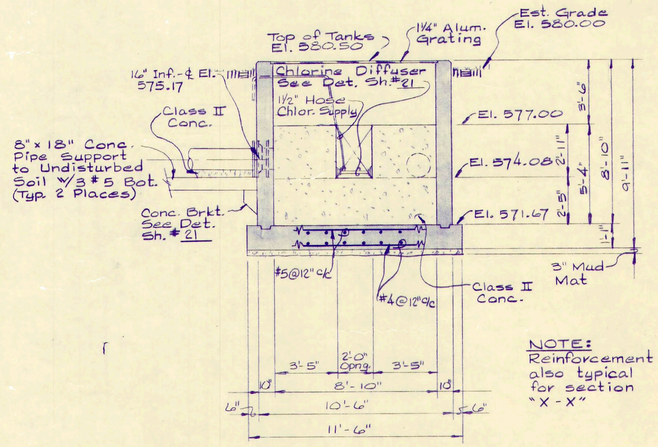


SECTION "A-A"
1/4" = 1'-0"



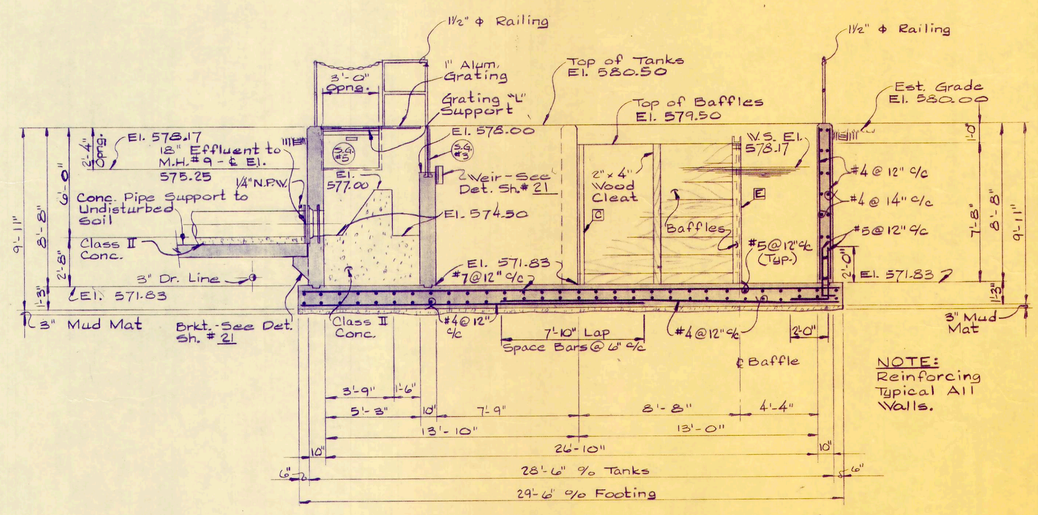
NOTE:
Provide seperate corner bars as shown or bend horizontal bars.

TYPICAL WALL CORNER DETAILS
1/2" = 1'-0"



NOTE:
Reinforcement also typical for section "X-X"

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



NOTE:
Reinforcing Typical All Walls.

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

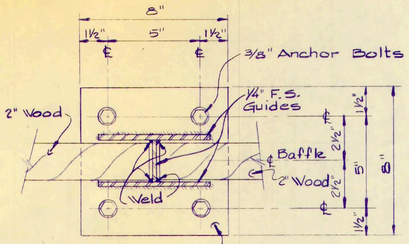
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT, LTD.
CONSULTING ENGINEERS
TOLEDO, OHIO

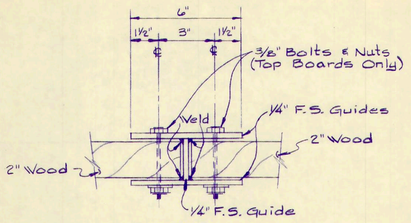
SCALE: As Noted
DESIGNED BY: R. B. W.
DRAWN BY: R. L. C.
CHECKED BY: W. C. K.

CHLORINE CONTACT TANK
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

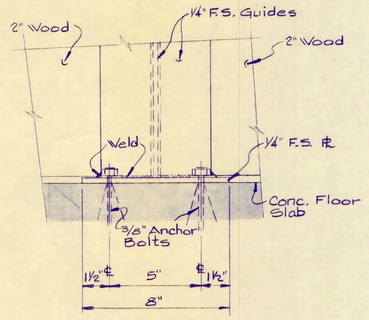
PROJECT NUMBER: OAKS001 B1
SECTION:
DATE: 3 - 72
19 OF 36



SECTIONAL PLAN



PLAN

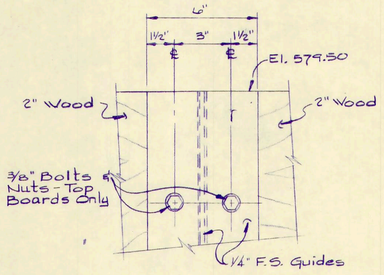


ELEVATION

BOTTOM ANCHORING DETAILS

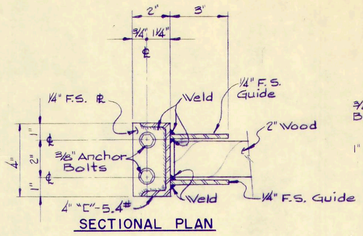
BAFFLE SUPPORT D

4 Req'd. 3" = 1'-0"

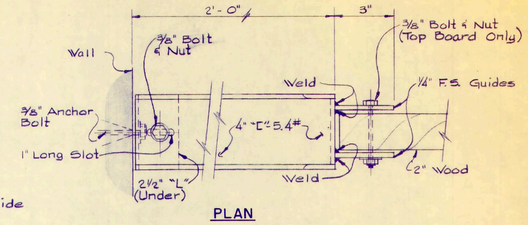


ELEVATION

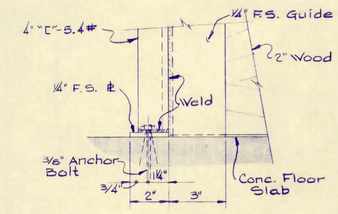
TOP ANCHORING DETAILS



SECTIONAL PLAN



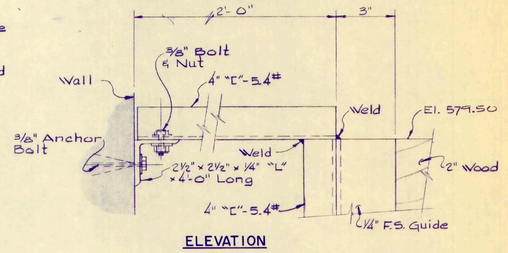
PLAN



ELEVATION

BOTTOM ANCHORING DETAILS

4 Req'd.



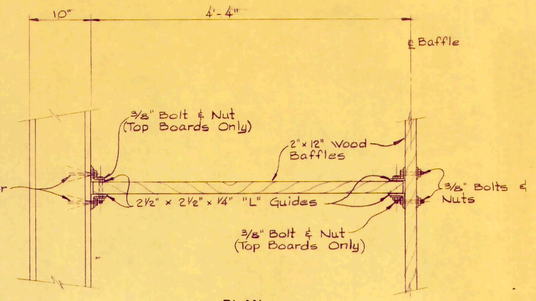
ELEVATION

TOP ANCHORING DETAILS

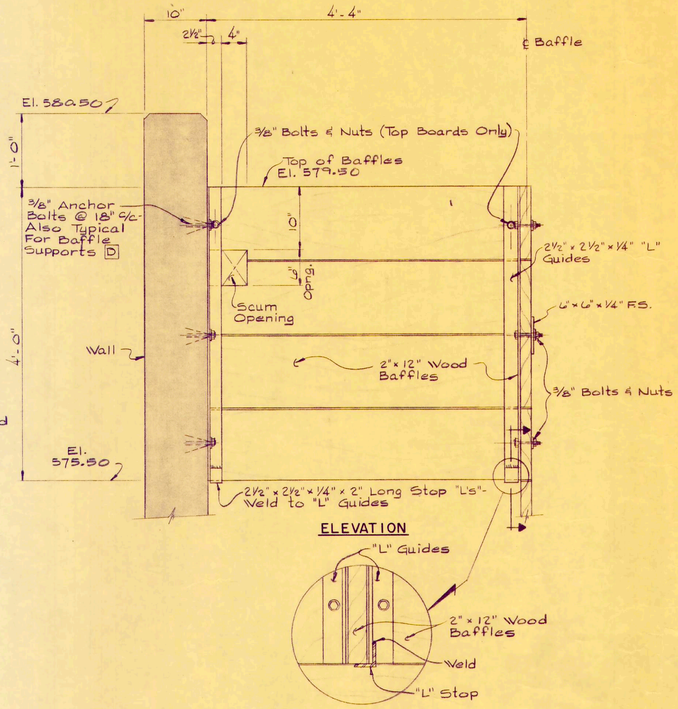
3 Req'd.

BAFFLE SUPPORT A

3" = 1'-0"



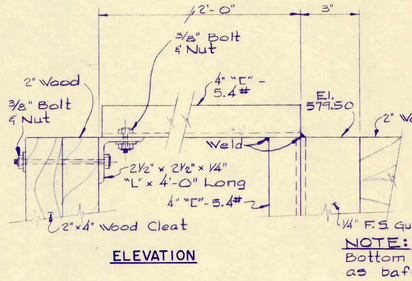
PLAN



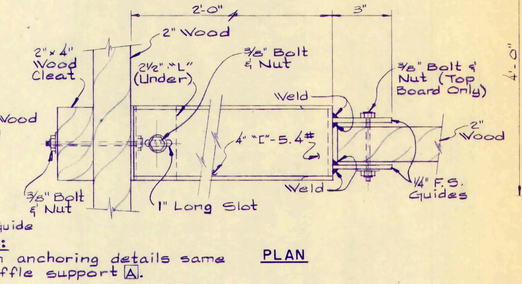
ELEVATION

PARTIAL BAFFLE DETAILS

1" = 1'-0"



ELEVATION

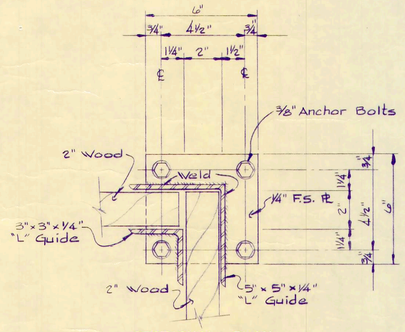


PLAN

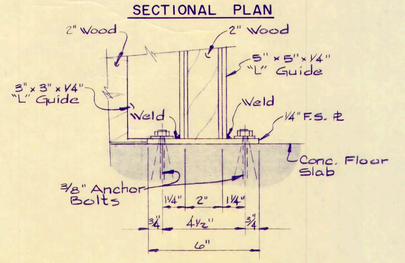
NOTE:
Bottom anchoring details same as baffle support A.

BAFFLE SUPPORT B

1 Req'd. 3" = 1'-0"



SECTIONAL PLAN

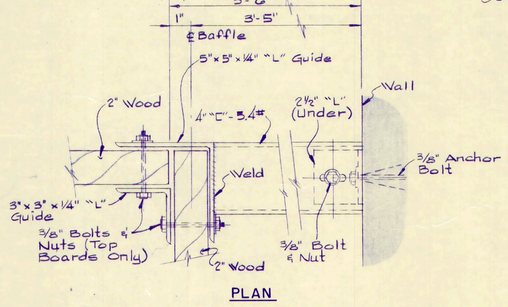


ELEVATION

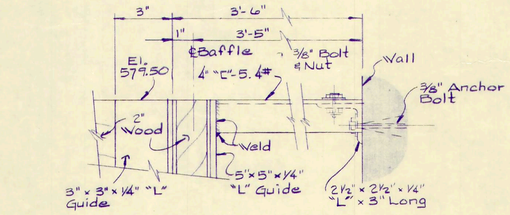
BOTTOM ANCHORING DETAILS

BAFFLE SUPPORT E

1 Req'd. 3" = 1'-0"

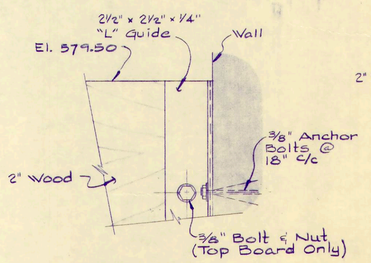


PLAN



ELEVATION

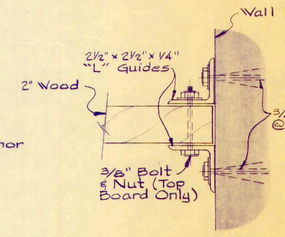
TOP ANCHORING DETAILS



ELEVATION

BAFFLE SUPPORT C

4 Req'd. 3" = 1'-0"



PLAN

NOTES:

All bolts and nuts to be bronze.

All aluminum surfaces in contact with concrete to be painted with a bitumastic paint.

All structural steel to be galvanized.

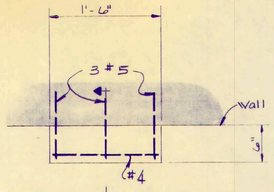
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT, LTD.
CONSULTING ENGINEERS
TOLEDO, OHIO

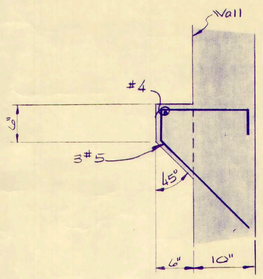
SCALE: As Noted
DESIGNED BY: R. B. W.
DRAWN BY: R. L. C.
CHECKED BY: W. C. K.

CHLORINE CONTACT TANK
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

PROJECT NUMBER: OAKS001 B1
SECTION:
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20 OF 36

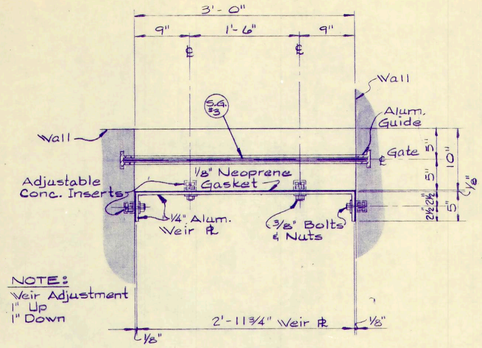


PLAN

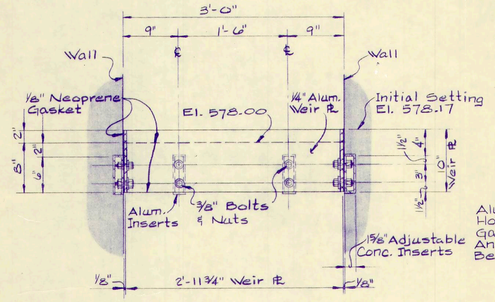


SECTION

CONCRETE BRACKET DETAILS
2 Req'd. 1" = 1'-0"

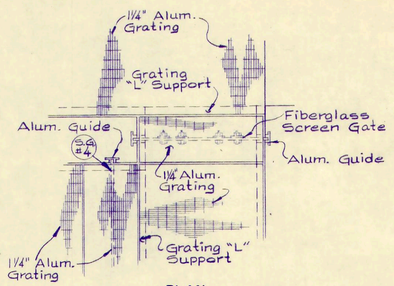


PLAN

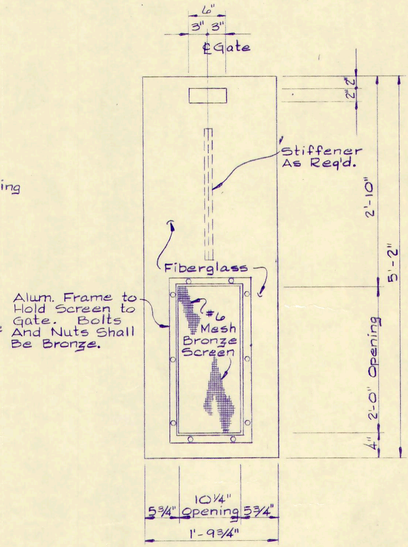


ELEVATION

WEIR DETAILS
1" = 1'-0"



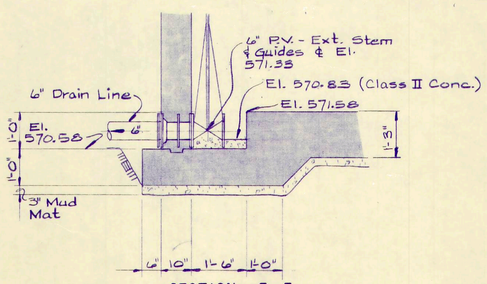
PLAN



ELEVATION

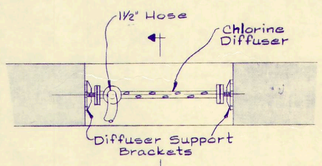
SCREEN GATE DETAILS
1" = 1'-0"

PLAN

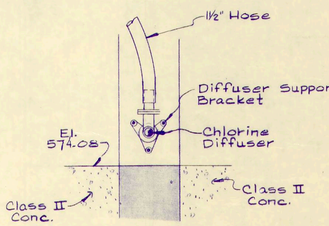


SECTION E-E

SUMP DETAILS
½" = 1'-0"

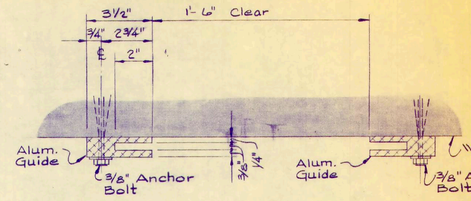


PLAN

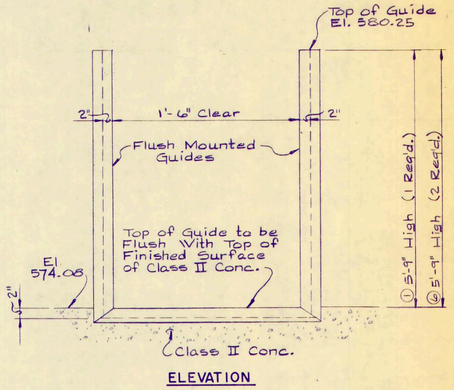


SECTION

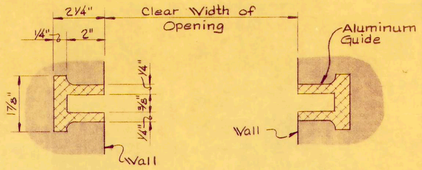
CHLORINE DIFFUSER DETAILS
1" = 1'-0"



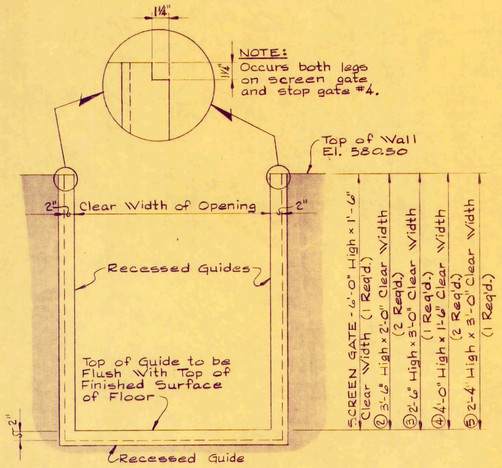
PLAN
FLUSH MOUNTED GUIDE



ELEVATION

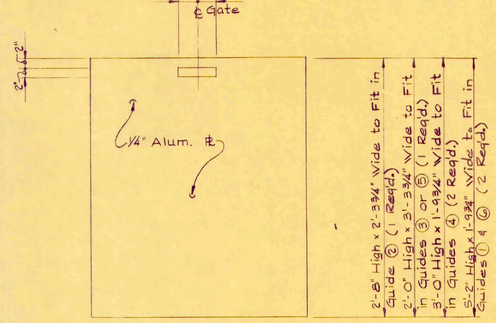


PLAN
RECESSED GUIDE

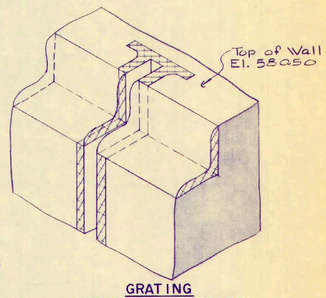


ELEVATION

GUIDES

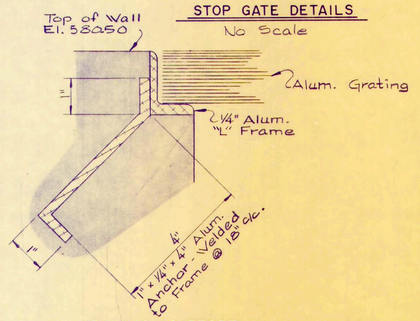


GATE



GRATING ANCHORING SUPPORT DETAILS AT GUIDE

STOP GATE DETAILS
No Scale



GRATING SUPPORT
No Scale

NOTE:
All aluminum surfaces in contact with concrete to be painted with a bitumastic paint.

All structural steel to be galvanized.

All bolts and nuts to be bronze.

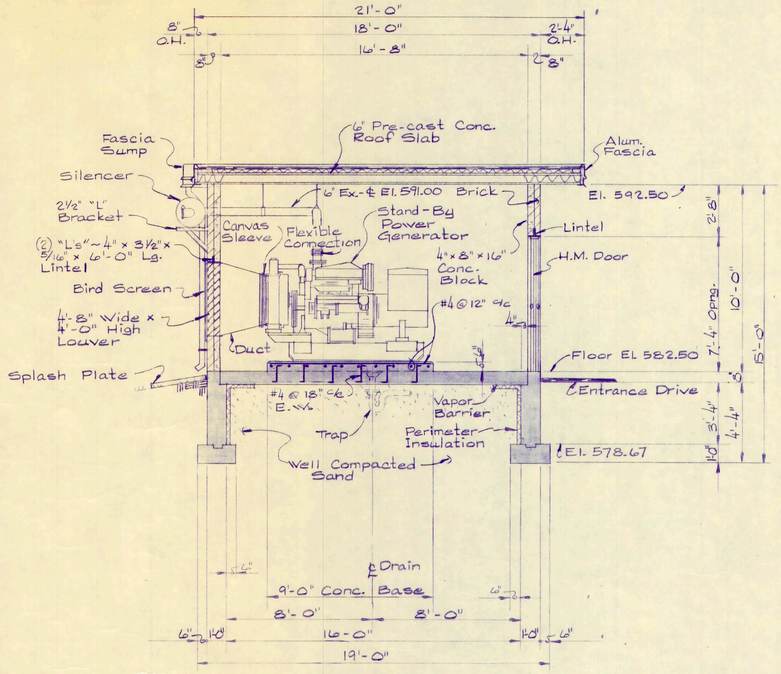
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT, LTD.
CONSULTING ENGINEERS
TOLEDO, OHIO

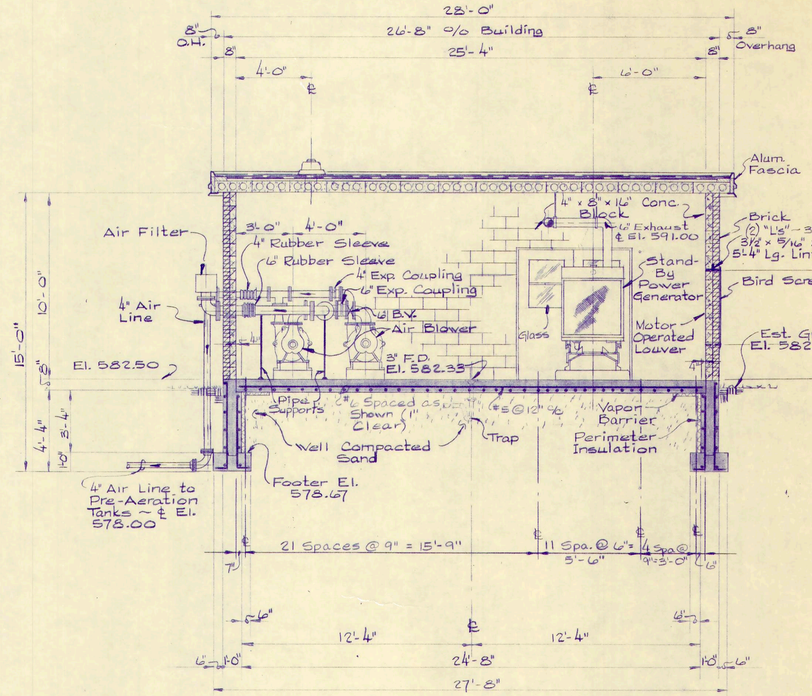
SCALE: As Noted
DESIGNED BY: R. B. W.
DRAWN BY: R. L. C.
CHECKED BY: W. C. K.

CHLORINE CONTACT TANK
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

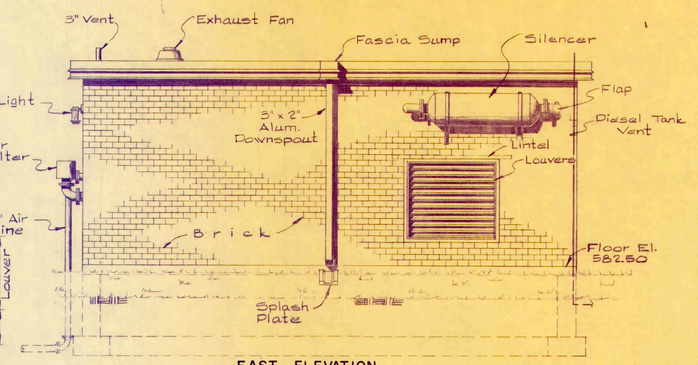
PROJECT NUMBER: OAKS001 B1
SECTION:
DATE: 3-72
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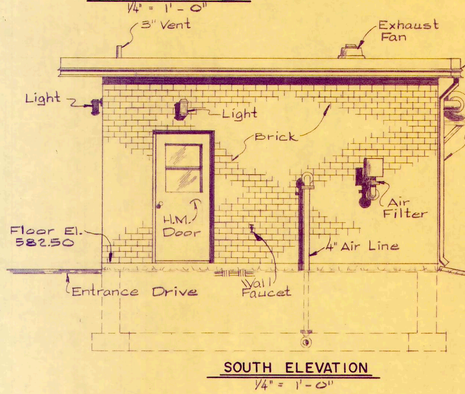
SECTION "B-B"
1/4" = 1'-0"



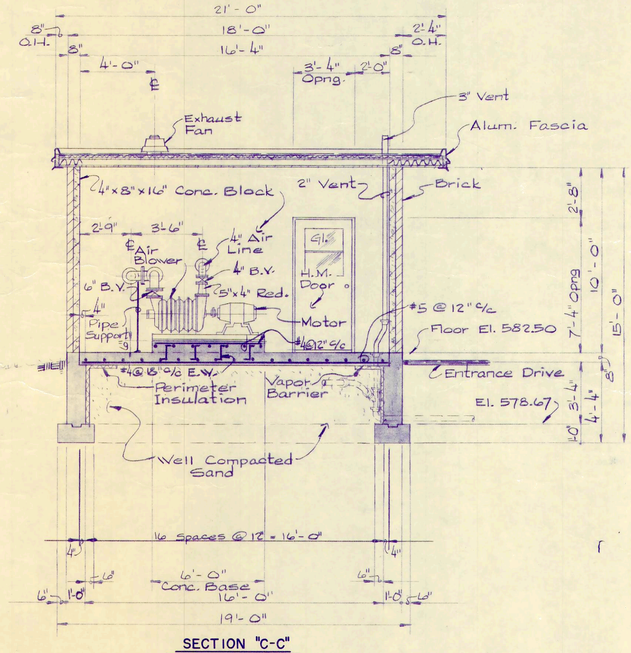
SECTION "A-A"
1/4" = 1'-0"



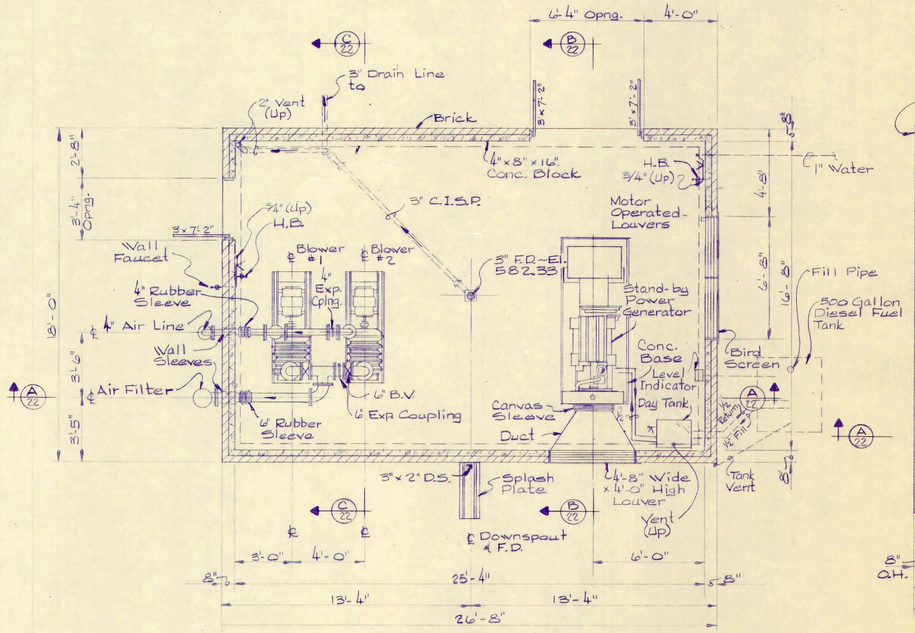
EAST ELEVATION
1/4" = 1'-0"



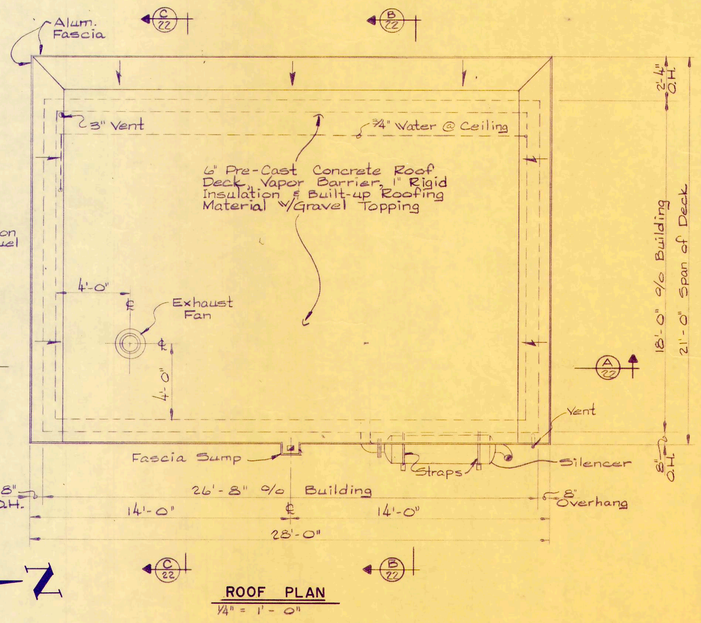
SOUTH ELEVATION
1/4" = 1'-0"



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



FLOOR PLAN
1/4" = 1'-0"



ROOF PLAN
1/4" = 1'-0"

REV. NO.	DESCRIPTION	DATE	BY	APP'D
1	CHANGED REINF. & FLOOR SLAB ENLARGED LOUVER	6-5-72	R.L.C.	R.B.W.
2	RELOCATED WATER LINE	6-15-72	R.L.C.	R.B.W.

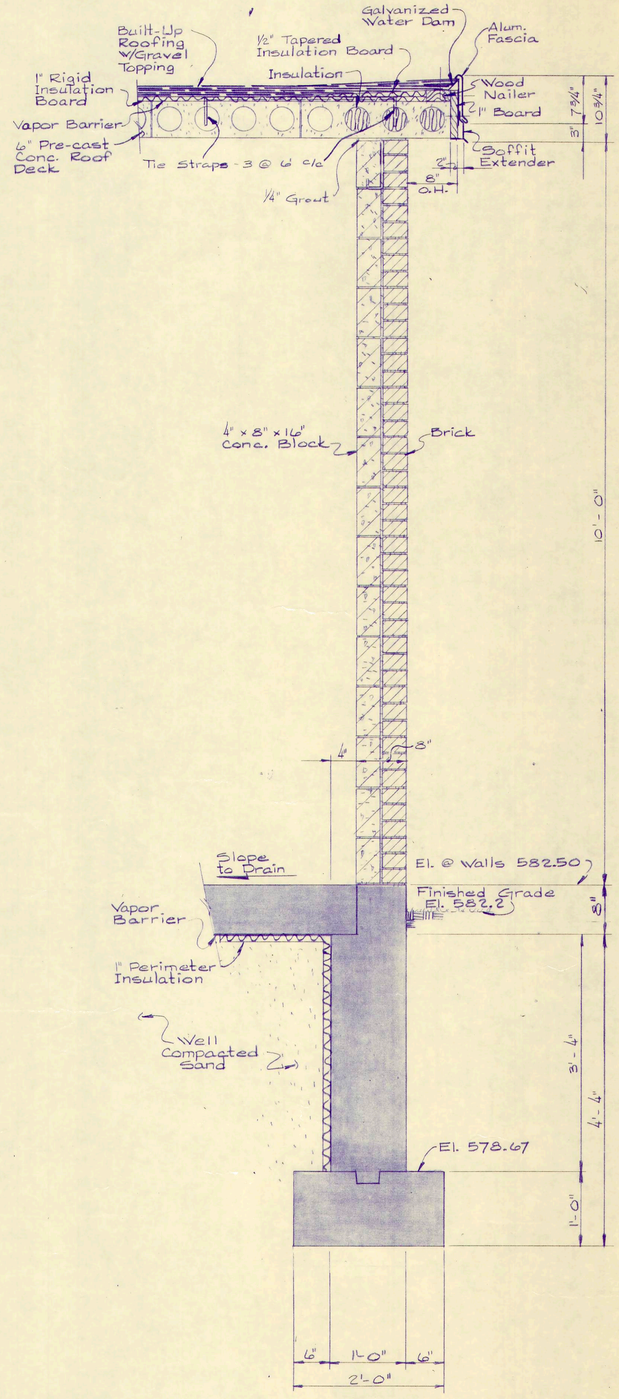
FINKBEINER, PETTIS & STROUT, LTD.
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE: 1/4" = 1'-0"
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

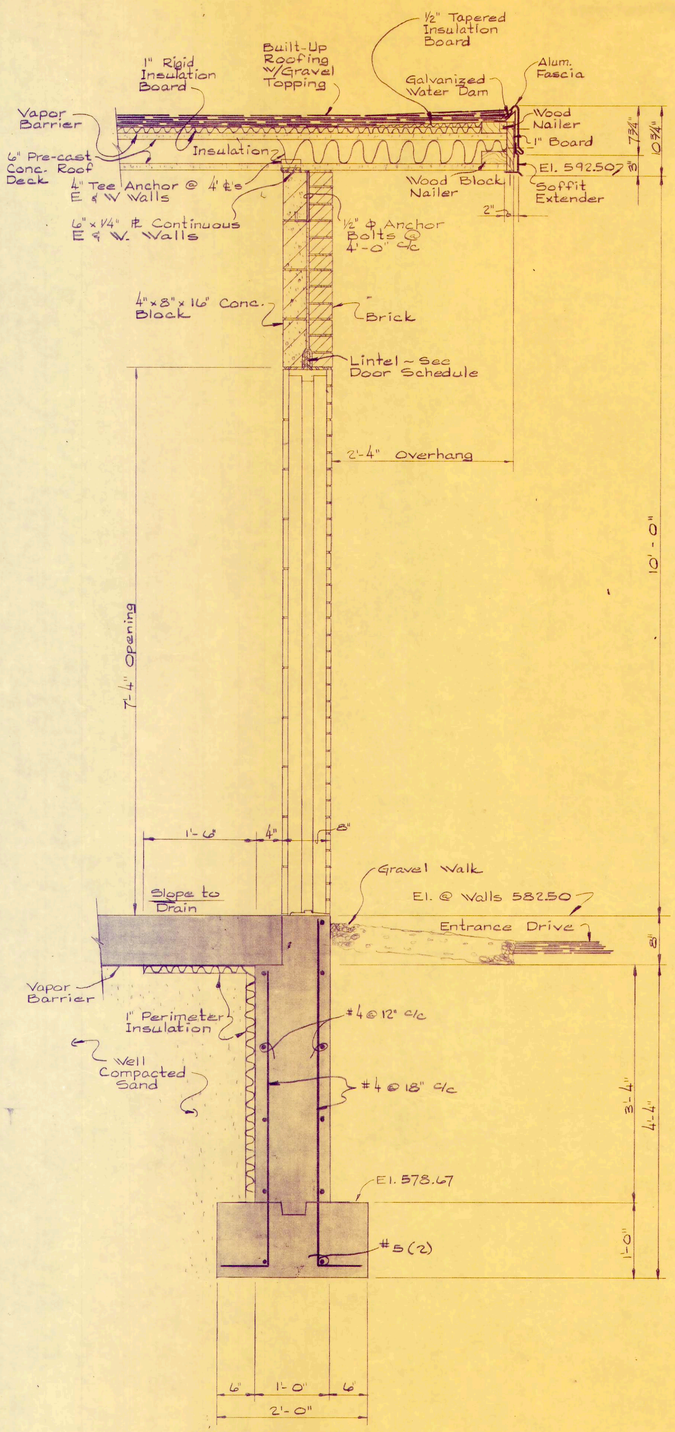
WORKSHOP & BLOWER BUILDING
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

PROJECT NUMBER: OAKS001 B
SECTION:
DATE: 3-71
22 OF 36

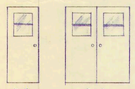
BRUNING 44-511—



WALL SECTION
1" = 1' - 0"



SECTION WEST WALL
1" = 1' - 0"



DOOR SCHEDULE

No. Req'd.	Type	Masonry Opening	Door Size	Lintel Size	Glass Size	Remarks
1	A	3'-4" x 7'-4"	3' x 7'-2"	(2) 3" x 3 1/2" x 5/16" x 4'-8" Lg. ⅃L L.L.H.	23 7/8 Wide 15 5/8 High 2 Lite	Hollow Metal w/Glass Weatherproof
2	B	6'-4" x 7'-4"	6' x 7'-2"	(2) 4" x 3 1/2" x 5/16" x 7'-4" Lg. ⅃L L.L.V.	(2) 23 7/8 Wide 15 5/8 High 2 Lite	Hollow Metal w/Glass Weatherproof

REV. NO.	DESCRIPTION	DATE	BY	APP'D
1	CHANGED REINF. & FLOOR SLAB REVISED CEILING SUPPORTS	6-5-72	R.L.C.	R.B.W.

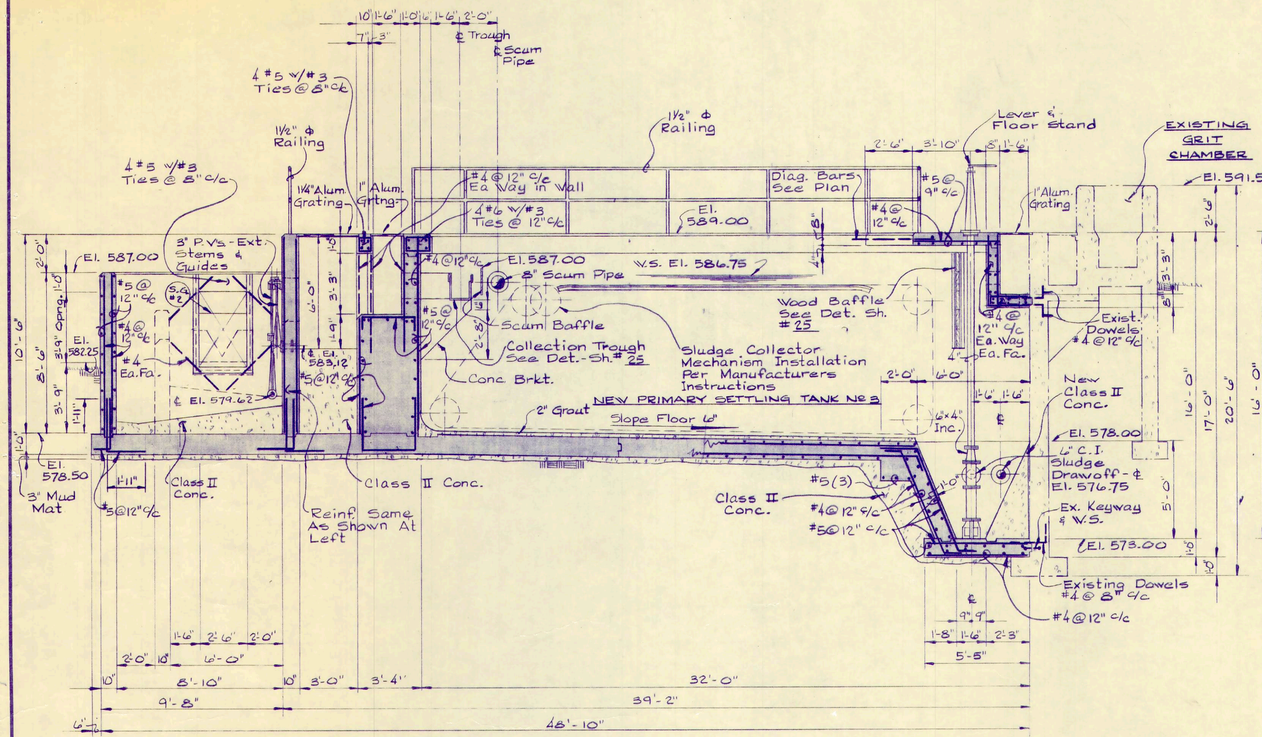
FINKBEINER, PETTIS & STROUT, LTD.
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE: As Noted
DESIGNED BY: R. B. W.
DRAWN BY: R. L. C.
CHECKED BY: W. C. K.

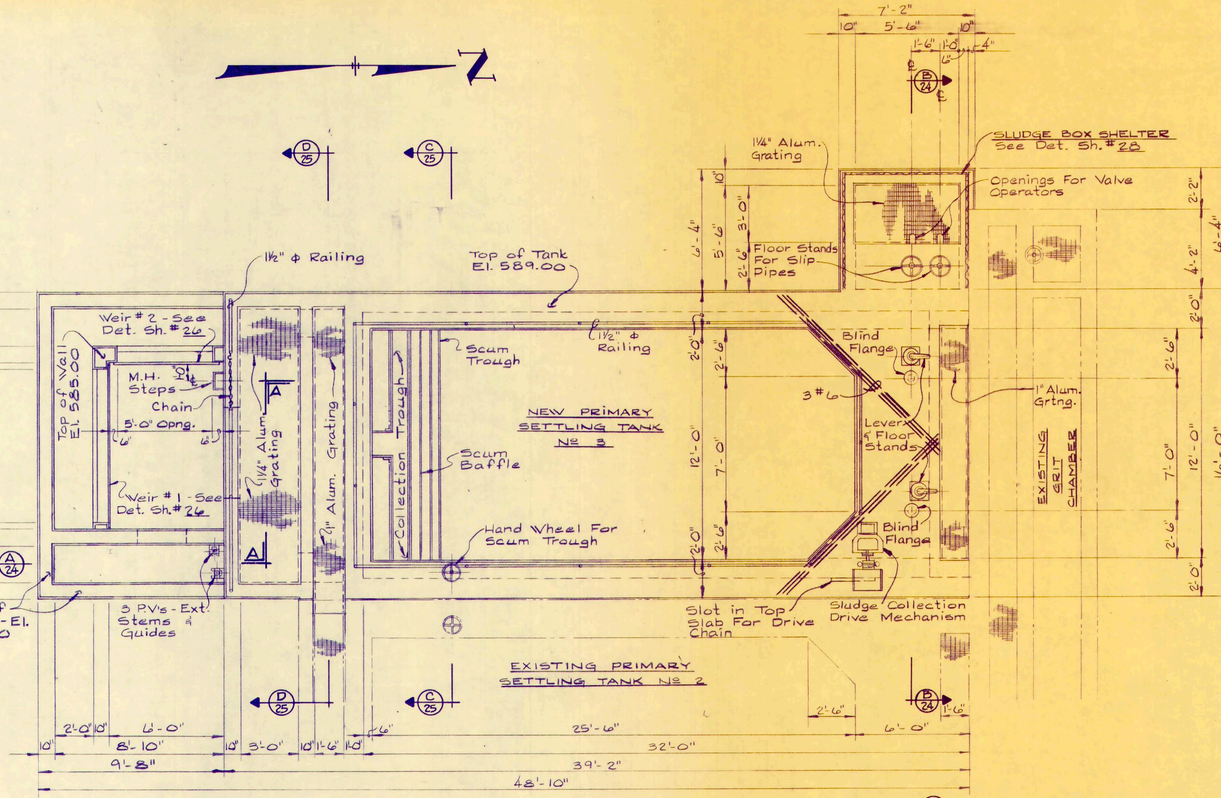
WORKSHOP & BLOWER BUILDING
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

PROJECT NUM: OAKS001
SECTION:
DATE: 3-71
23 OF 3

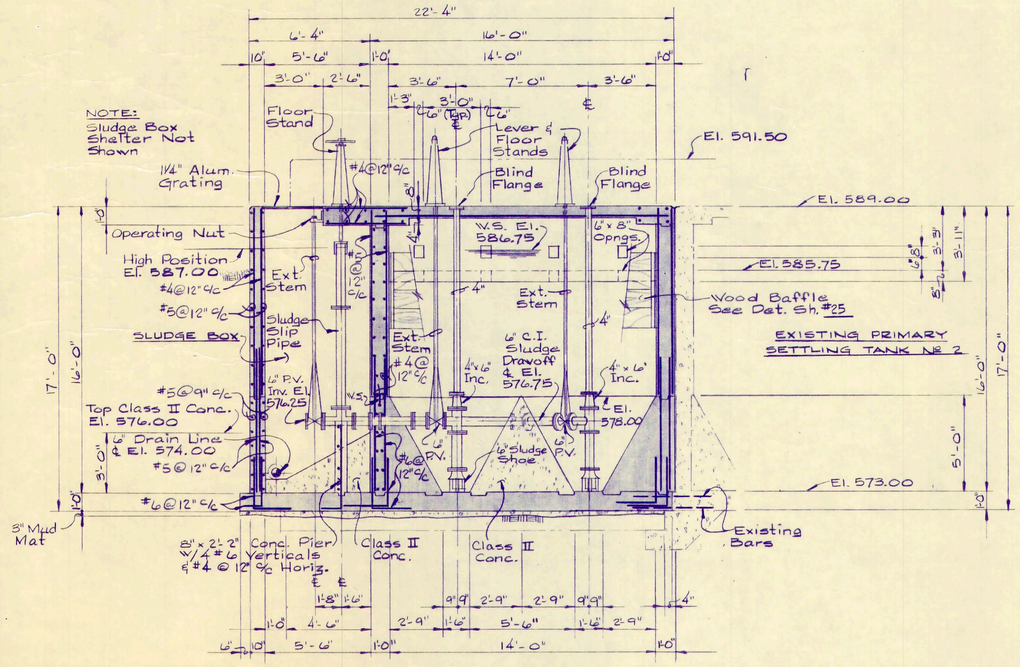
BRUNING 44-511



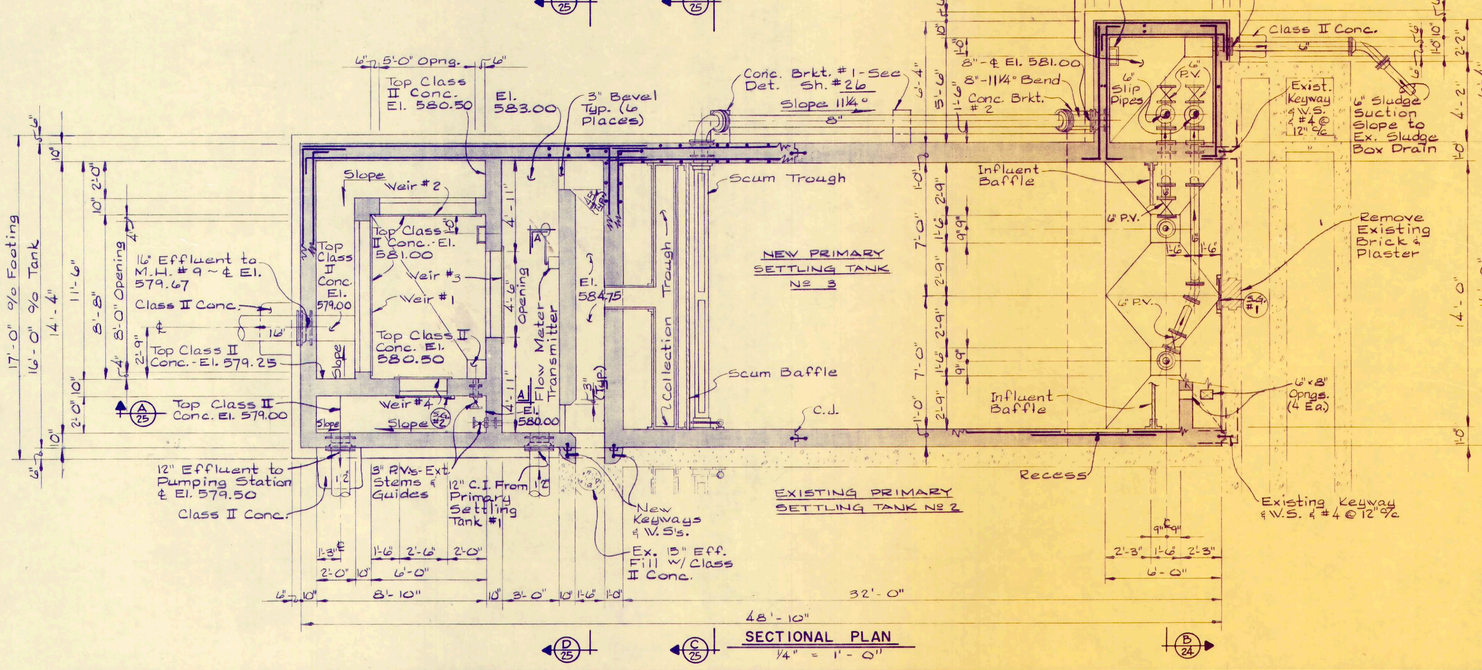
SECTION "A-A"
1/4" = 1'-0"



PLAN
1/4" = 1'-0"



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



SECTIONAL PLAN
1/4" = 1'-0"

REV. NO.	DESCRIPTION	DATE	BY	APP'D

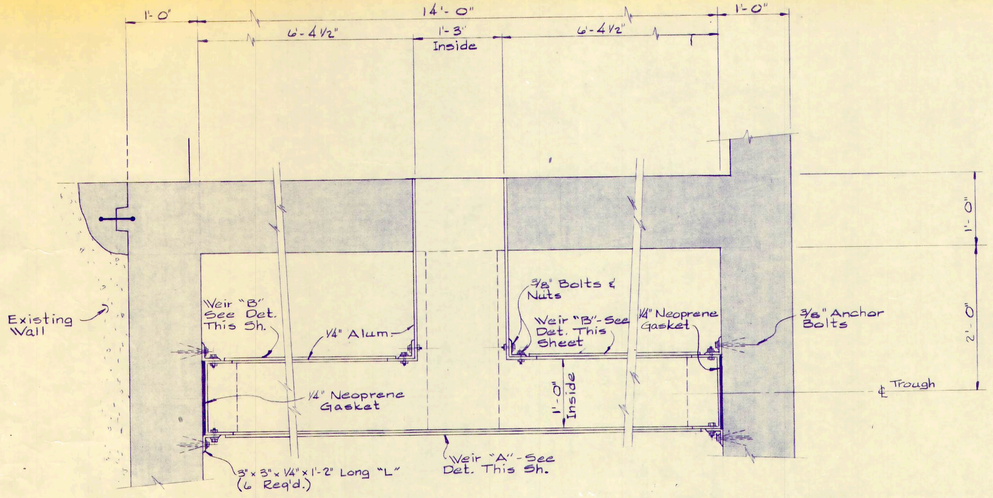
FINKBEINER, PETTIS & STROUT, LTD.
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE 1/4" = 1'-0"
DESIGNED BY R. B. W.
DRAWN BY R. L. C.
CHECKED BY W. C. K.

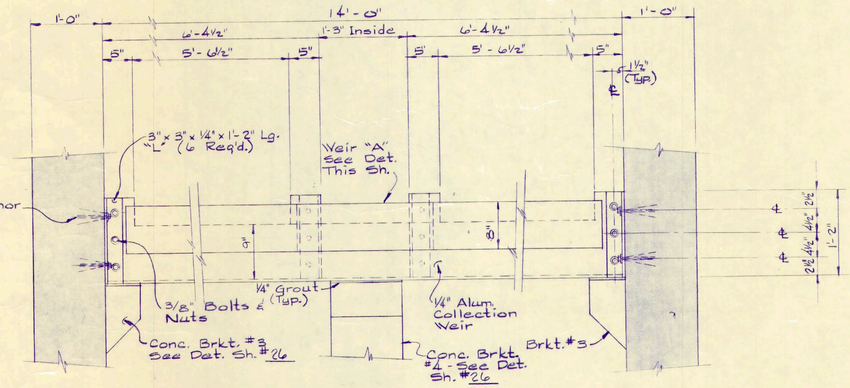
PRIMARY SETTLING TANK

WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

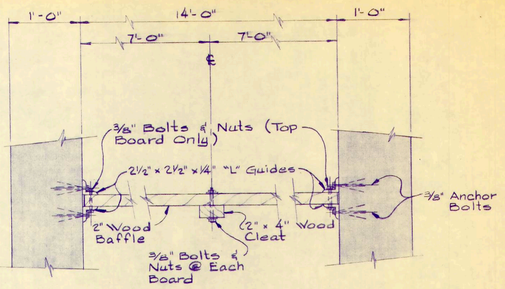
PRO OAK 24



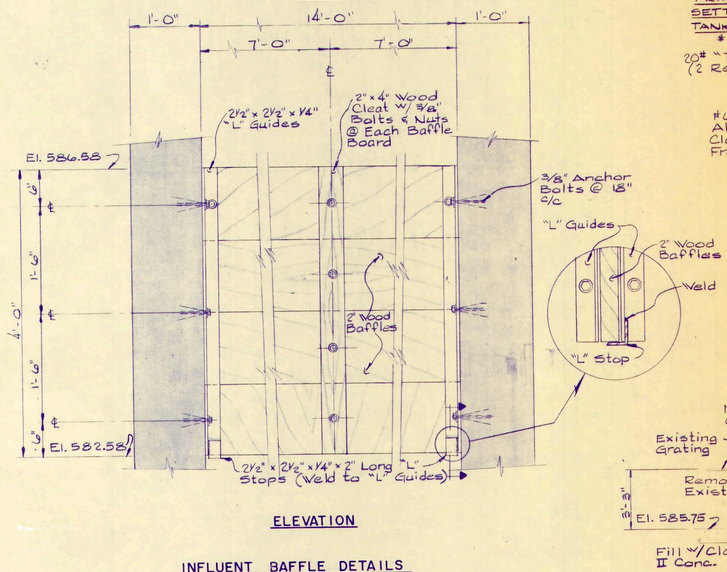
PLAN



ELEVATION



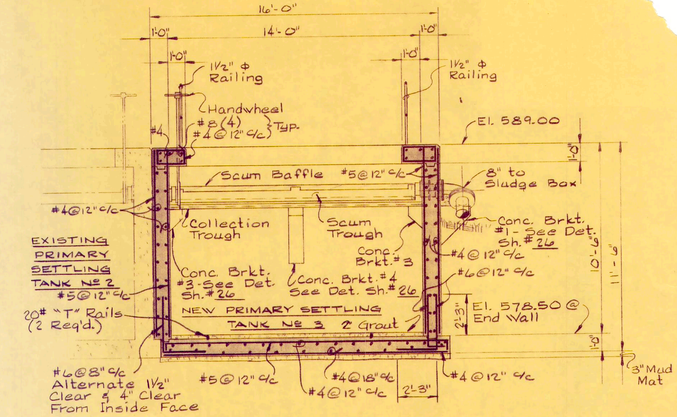
PLAN



ELEVATION

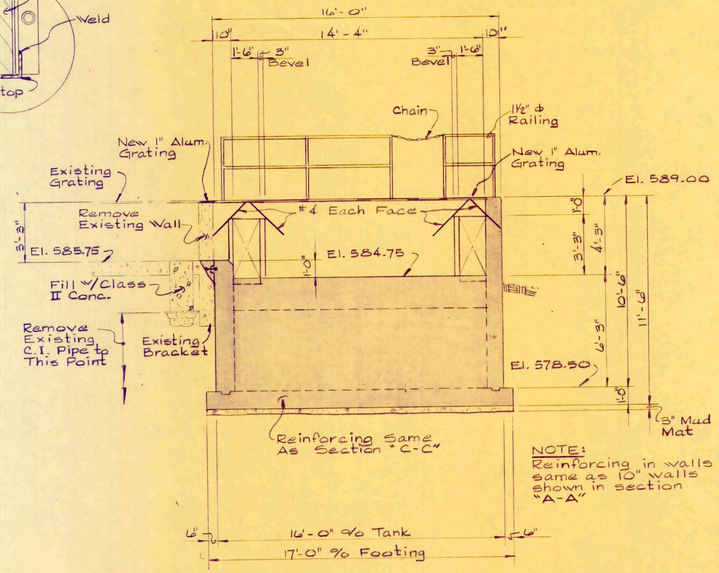
INFLUENT BAFFLE DETAILS

1" = 1'-0"



SECTION "C-C"

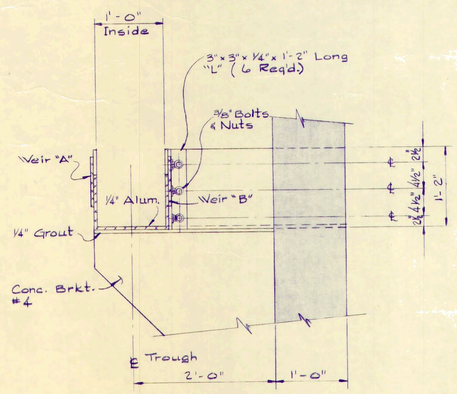
¼" = 1'-0"



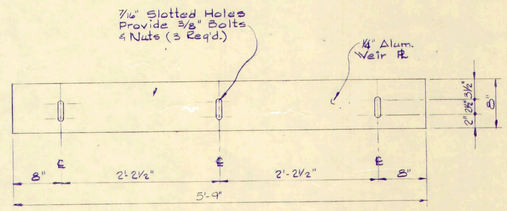
SECTION "D-D"

¼" = 1'-0"

NOTE:
Reinforcing in walls same as 10" walls shown in section "A-A"

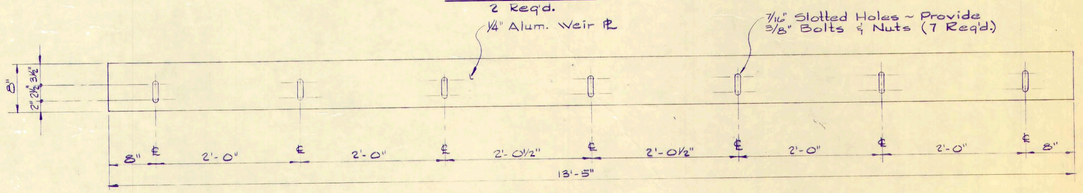


SECTION "E-E"



WEIR "B" DETAILS

2 Req'd.



WEIR "A" DETAILS

1 Req'd.

COLLECTION TROUGH DETAILS

1" = 1'-0"

NOTES

All aluminum surfaces in contact with concrete to be painted with a bitumastic paint.

All structural steel to be galvanized.

All bolts and nuts to be bronze.

REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT, LTD.
CONSULTING ENGINEERS
TOLEDO, OHIO

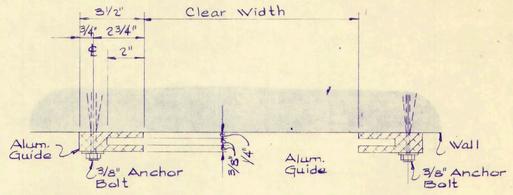
SCALE: As Noted
DESIGNED BY: R. B. W.
DRAWN BY: R. L. C.
CHECKED BY: W. C. K.

PRIMARY SETTLING TANK

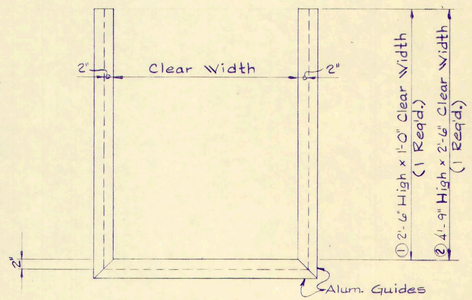
WASTEWATER TREATMENT PLANT IMPROVEMENTS

OAK HARBOR, OHIO

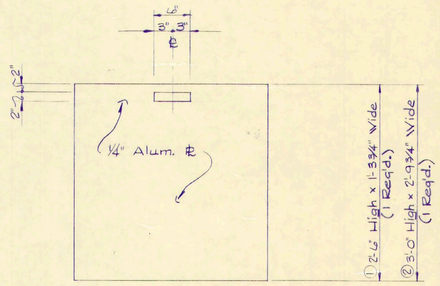
PROJECT NUMBER: OAKS001 BI
SECTION
DATE: 3 - 72
25 OF 36



PLAN

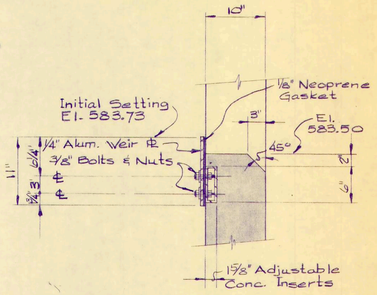


GUIDE

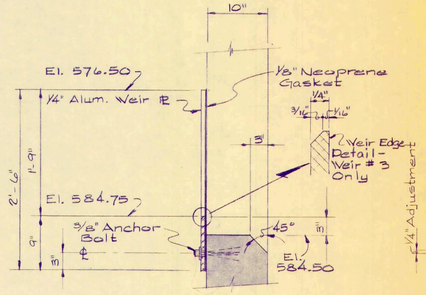


GATE

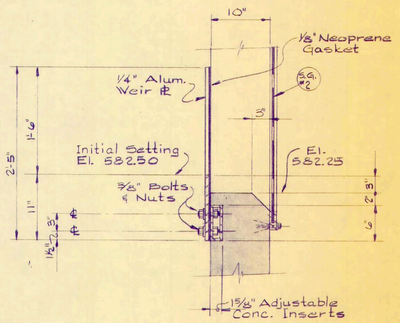
STOP GATE DETAILS
No Scale



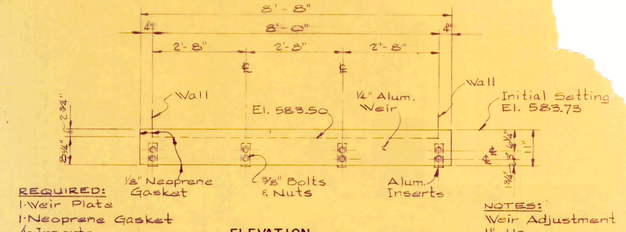
TYPICAL SECTION
WEIR Nº 1 & WEIR Nº 2
1" = 1'-0"



SECTION - WEIR Nº 3
1" = 1'-0"



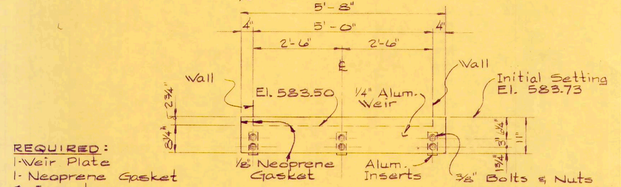
SECTION - WEIR Nº 4
1" = 1'-0"



REQUIRED:
1-Weir Plate
1-Neoprene Gasket
4-Inserts
8-3/8" Bolts & Nuts

NOTES:
Weir Adjustment
1" Up
1" Down

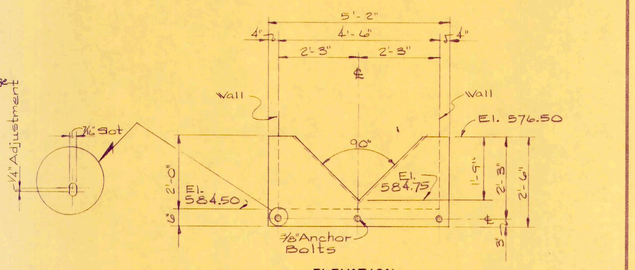
ELEVATION
WEIR Nº 1
½" = 1'-0"



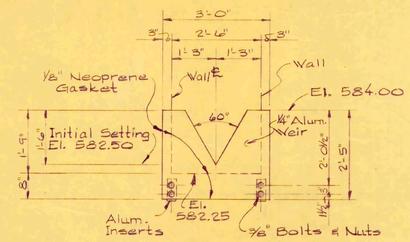
REQUIRED:
1-Weir Plate
1-Neoprene Gasket
3-Inserts
6-Bolts & Nuts

NOTES:
Weir Adjustment
1" Up
1" Down

ELEVATION
WEIR Nº 2
½" = 1'-0"



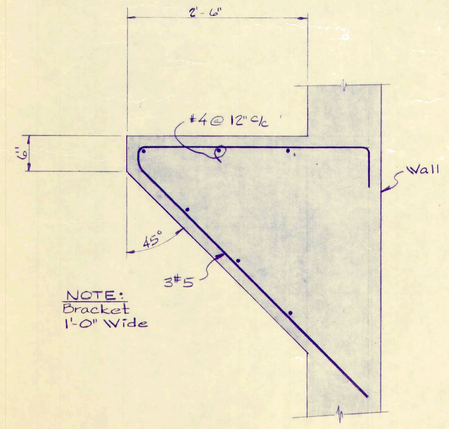
ELEVATION
WEIR Nº 3
½" = 1'-0"



ELEVATION
WEIR Nº 4
½" = 1'-0"

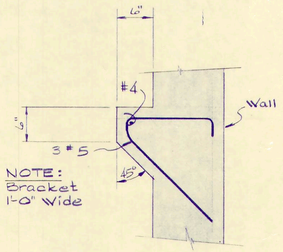
NOTES:
Weir Adjustment
1" Up
1" Down

WEIR DETAILS



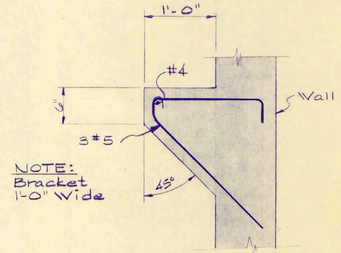
NOTE:
Bracket
1'-0" Wide

BRACKET Nº 4
1" = 1'-0" (1 Req'd.)



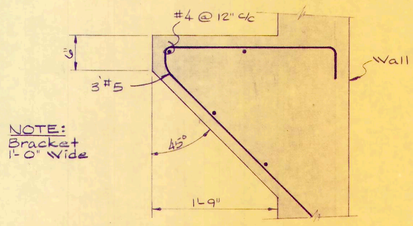
NOTE:
Bracket
1'-0" Wide

BRACKET Nº 3
1" = 1'-0" (2 Req'd.)



NOTE:
Bracket
1'-0" Wide

BRACKET Nº 2
1" = 1'-0" (1 Req'd.)



NOTE:
Bracket
1'-0" Wide

BRACKET Nº 1
1" = 1'-0" (2 Req'd.)

CONCRETE BRACKET DETAILS

NOTES:
All aluminum surfaces in contact with concrete to be painted with a bitumastic paint.

All structural steel to be galvanized.

All bolts and nuts to be bronze

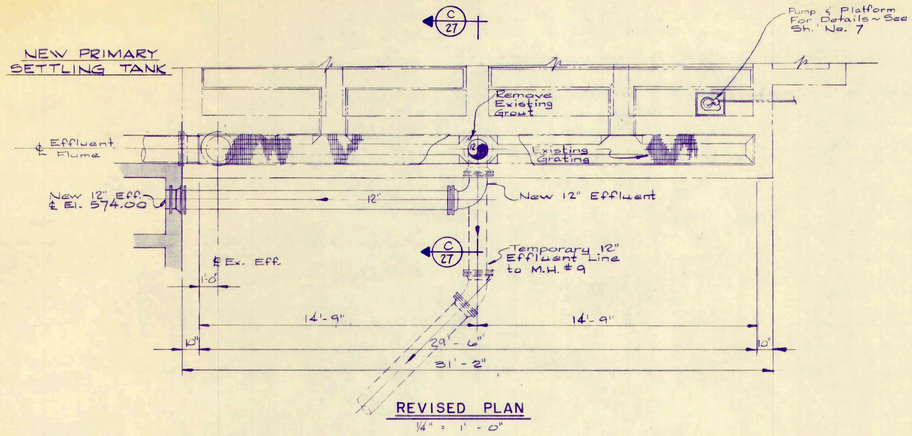
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT
CONSULTING ENGINEERS
TOLEDO, OHIO

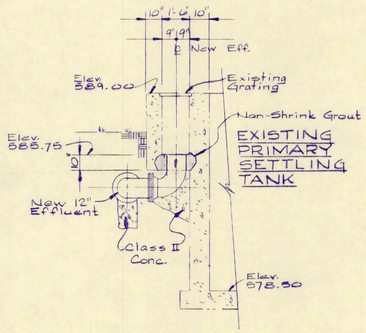
SCALE	As Noted
DESIGNED BY	R. B. W.
DRAWN BY	R. L. C.
CHECKED BY	W. C. K.

PRIMARY SETTLING TANK
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

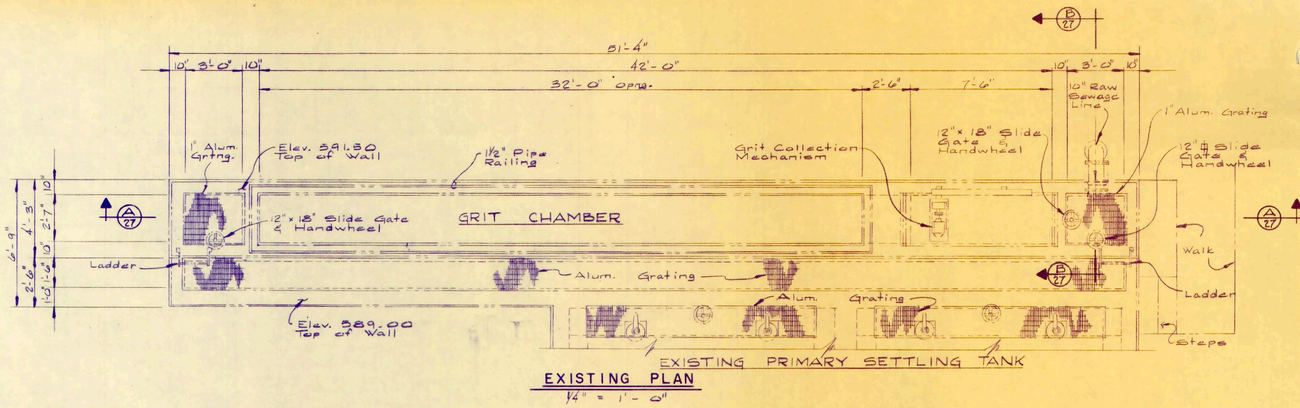
PROJECT NUMBER	OAKS001 B1
SECTION	
DATE	3 - 72
	26 OF 36



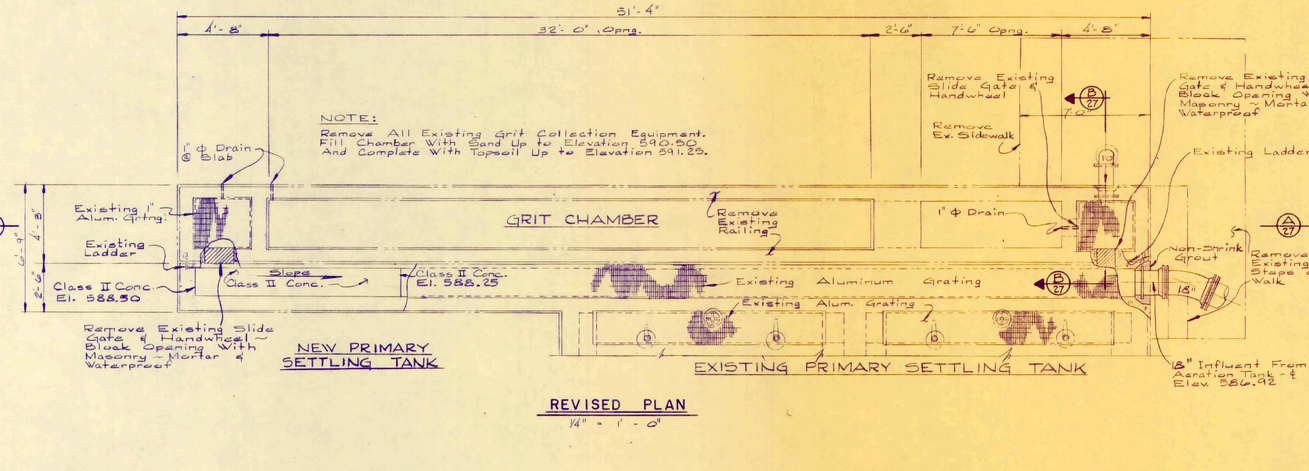
REVISED PLAN
1/4" = 1'-0"



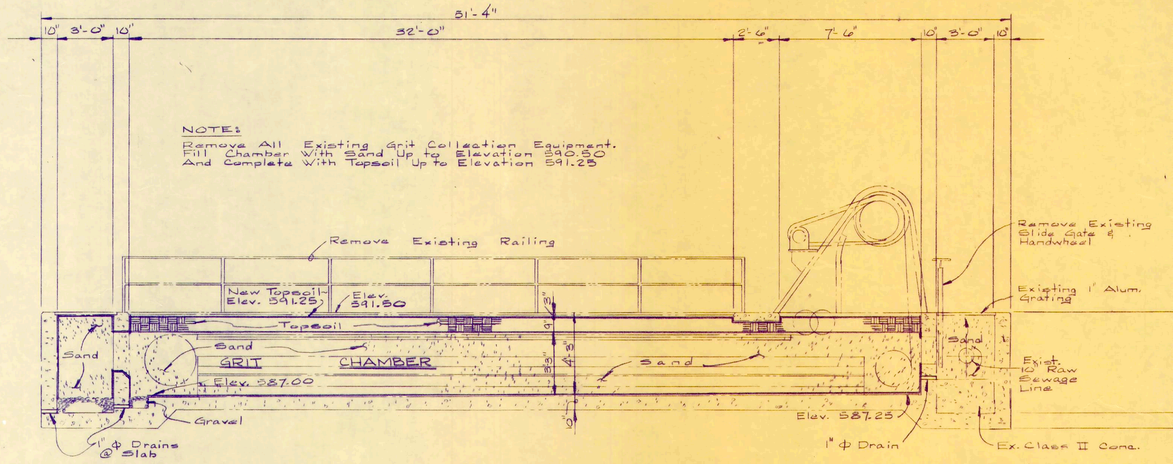
SECTION "C-C"
1/4" = 1'-0"



EXISTING PLAN
1/4" = 1'-0"



REVISED PLAN
1/4" = 1'-0"



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

NOTE:
All Aluminum Surfaces in Contact With Concrete to be Painted With a Bitumastic Paint.

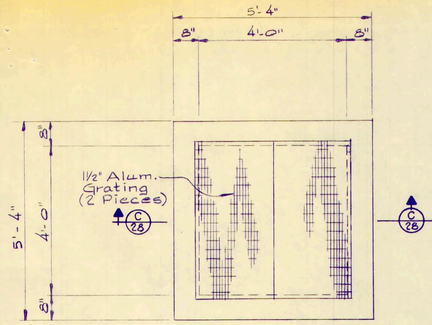
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

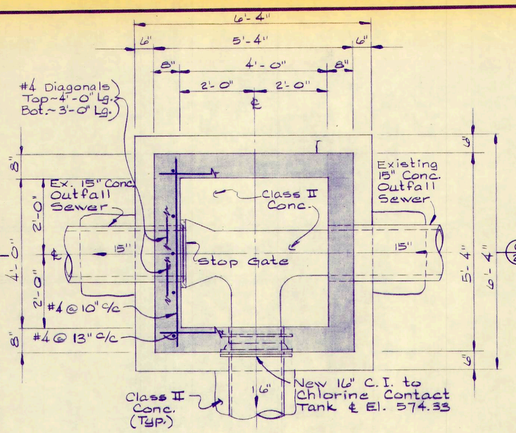
SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

PRIMARY SETTLING TANK ALTERATIONS
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

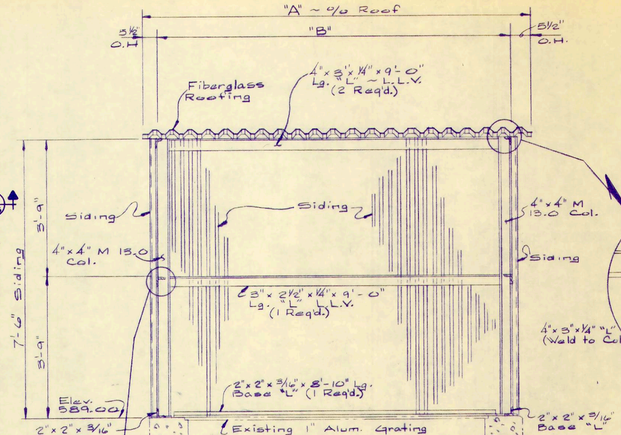
PROJECT: OAKSO
SECT
DA
3 -
27



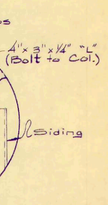
PLAN
1/2" = 1'-0"



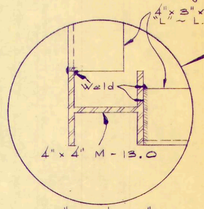
SECTIONAL PLAN
1/2" = 1'-0"



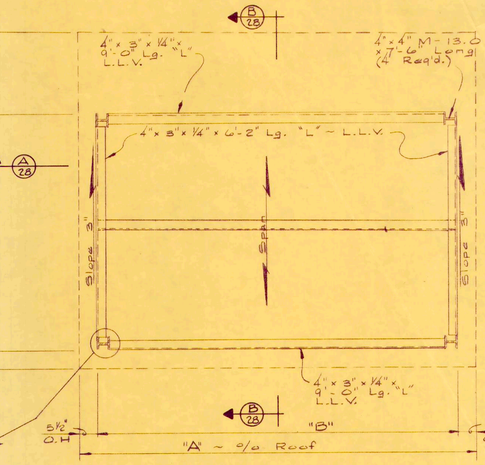
SECTION A-A
1/2" = 1'-0"



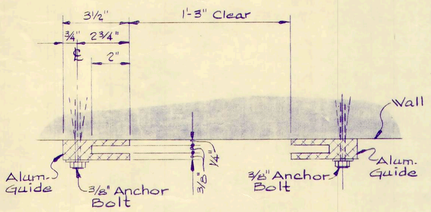
3" = 1'-0"



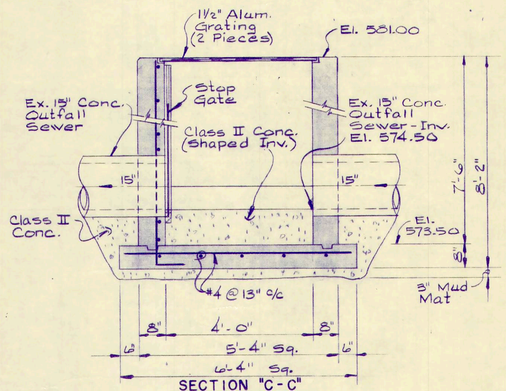
3" = 1'-0" (Typical)



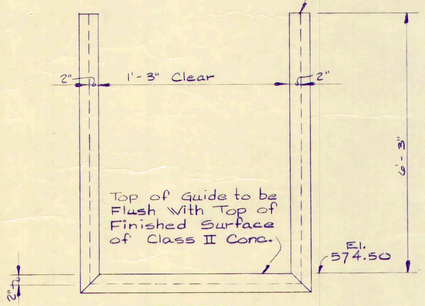
ROOF FRAMING PLAN 1/2" = 1'-0"



PLAN
No Scale

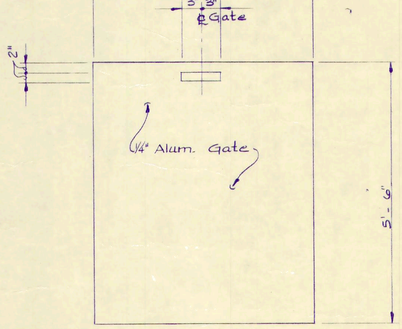


SECTION "C-C"
1/2" = 1'-0"



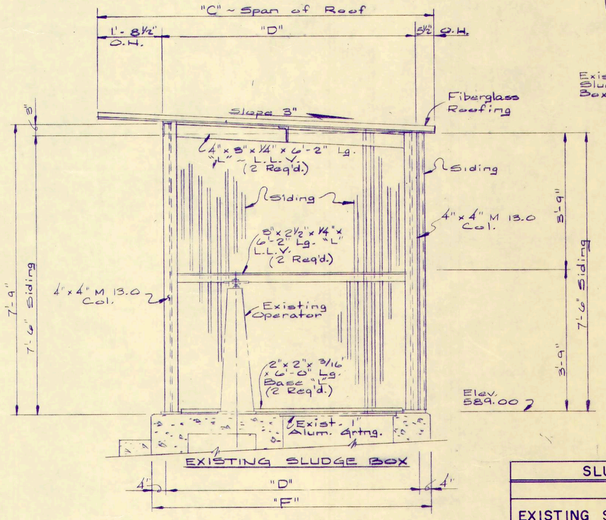
ELEVATION

GUIDE
No Scale

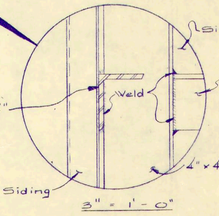


GATE
No Scale

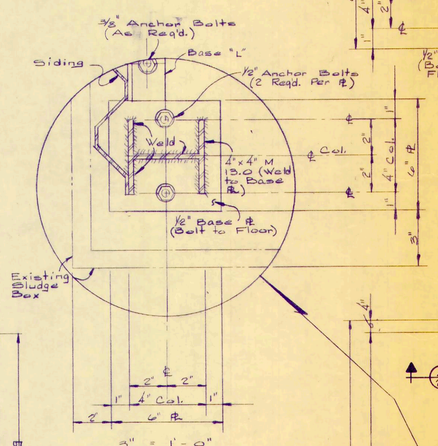
DIVERSION MANHOLE DETAILS



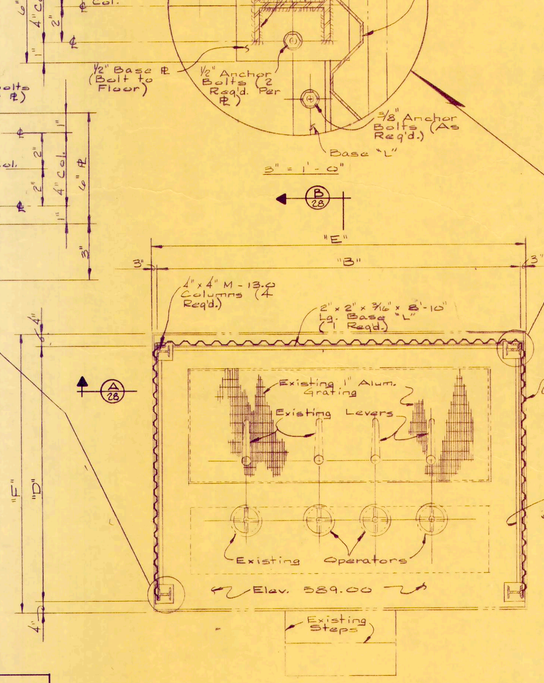
SECTION B-B
1/2" = 1'-0"



3" = 1'-0"



3" = 1'-0"



SECTIONAL PLAN
1/2" = 1'-0"

SLUDGE BOX SHELTERS SCHEDULE

	A	B	C	D	E	F	
EXISTING SLUDGE BOX	10'-5"	9'-6"	9'-0"	6'-10"	10'-0"	7'-6"	North Side Open
PRIMARY SETTLING TANK Nº 3 SLUDGE BOX	7'-7"	6'-8"	6'-7"	5'-8"	7'-2"	6'-4"	East Side Open

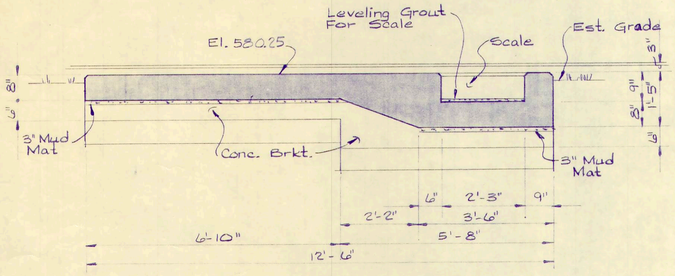
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

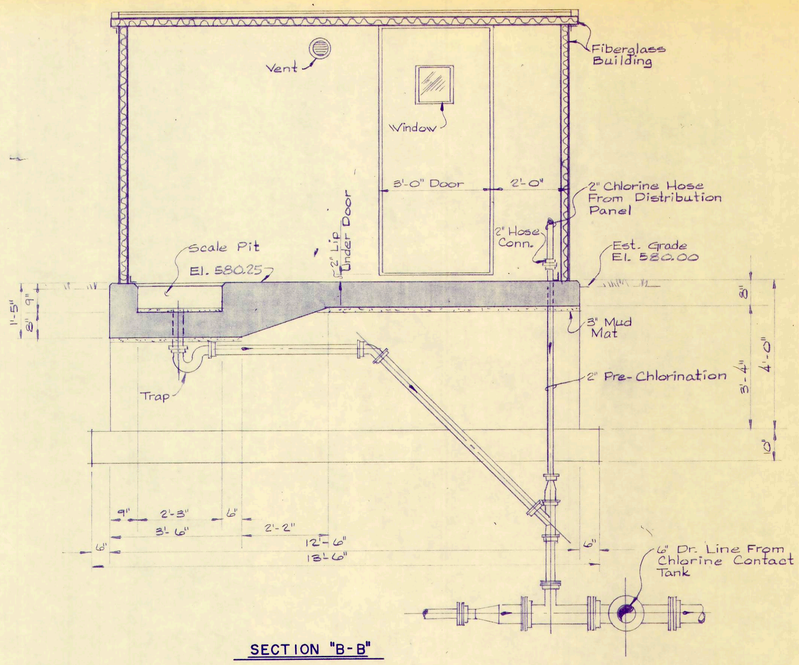
SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

SLUDGE BOX SHELTERS AND DIVERSION MANHOLE
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

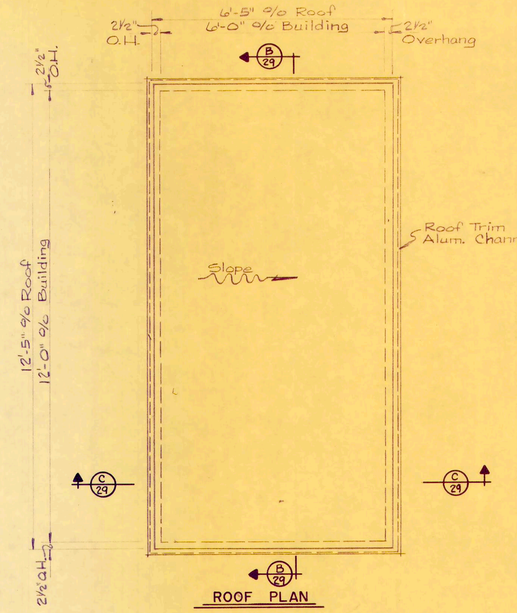
PROJECT NO: OAKSOO
SECTION
DATE: 3-
28 OF



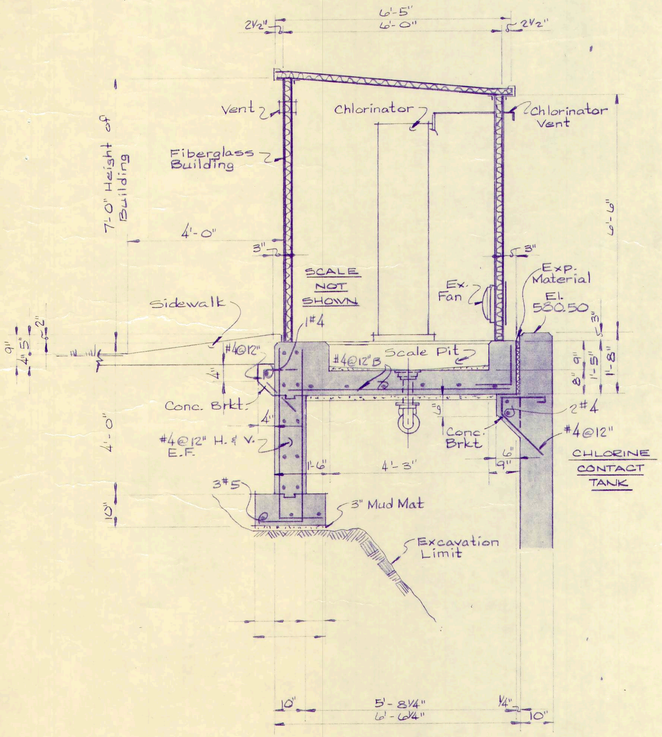
SECTION "A-A"



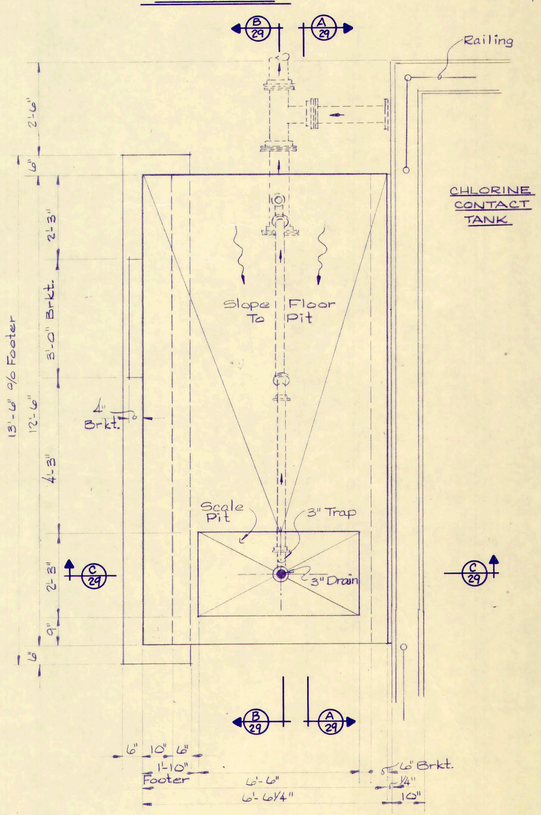
SECTION "B-B"



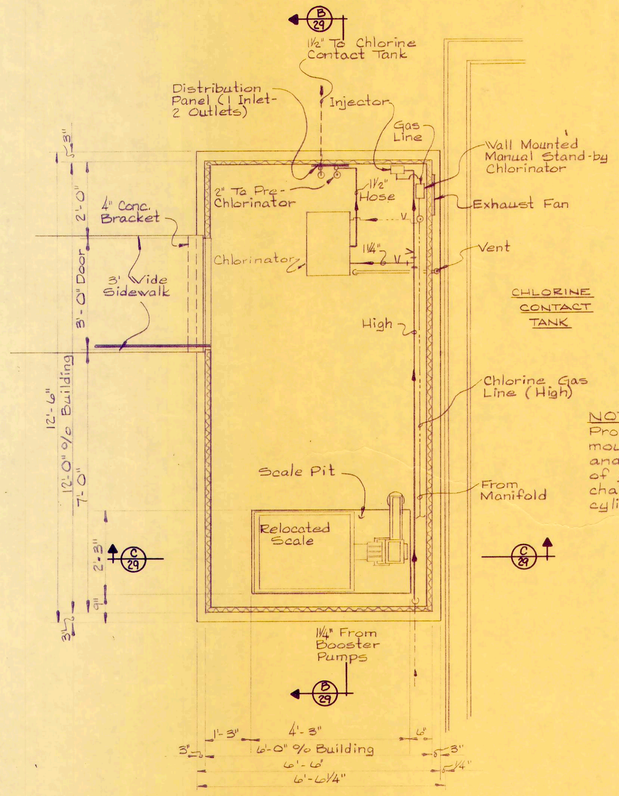
ROOF PLAN



SECTION "C-C"



FLOOR SLAB PLAN



NOTE:
Provide 3 wall mounted hooks and 2 - 8' lengths of galvanized chain for securing cylinders.

SECTIONAL PLAN

REV. NO.	DESCRIPTION	DATE	BY	APP'D

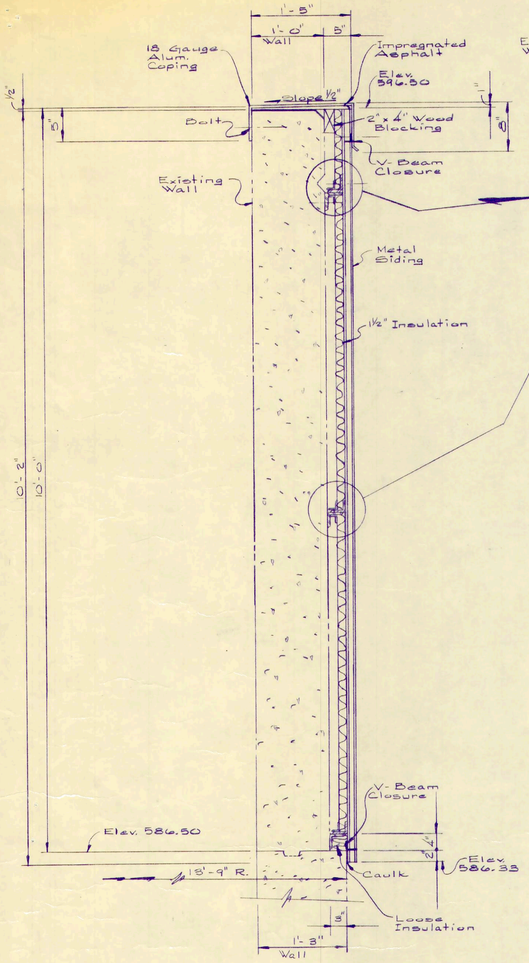
FINKBEINER, PETTIS & STROUT, LTD.
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE 1½" = 1'-0"
DESIGNED BY R. B. W.
DRAWN BY R. L. C.
CHECKED BY W. C. K.

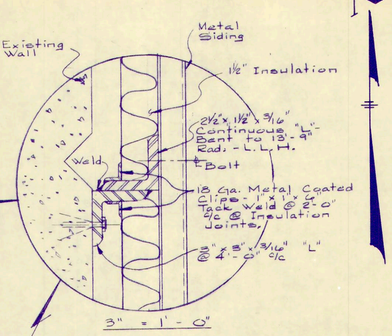
CHLORINATION BUILDING
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

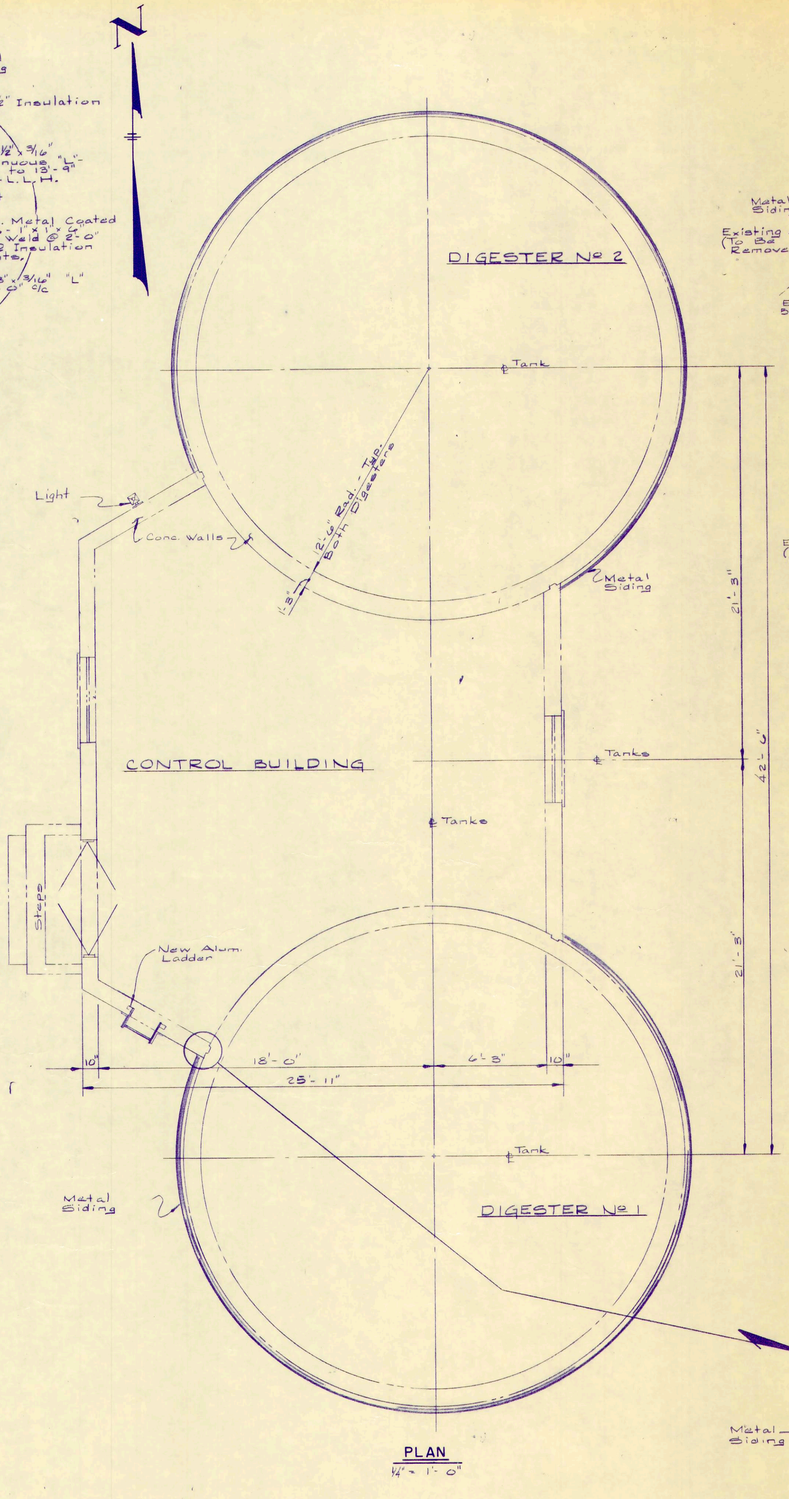
PROJECT NU OAKSOOI
SECTION
DATE 3-71
29 OF

BRUNING 44-511—

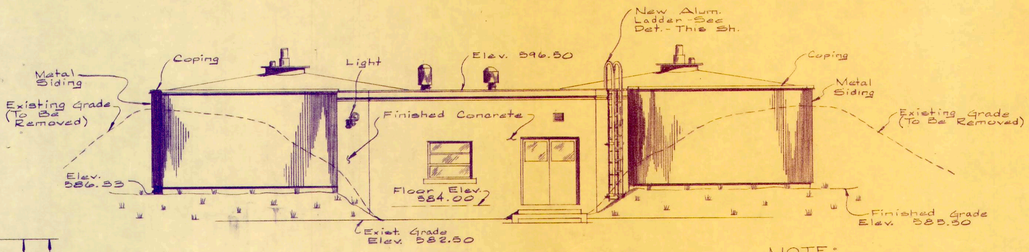


TYPICAL DIGESTER WALL
1" = 1'-0"



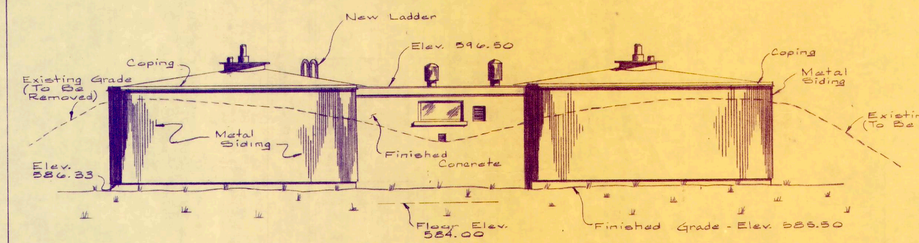


PLAN
1/4" = 1'-0"

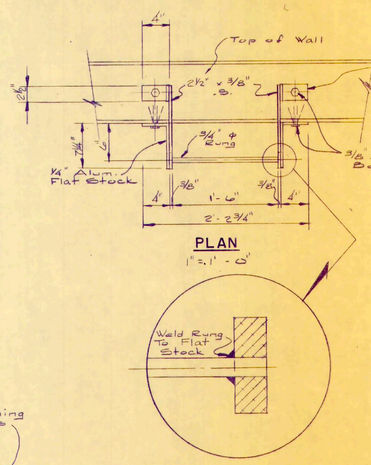


WEST ELEVATION
1/8" = 1'-0"

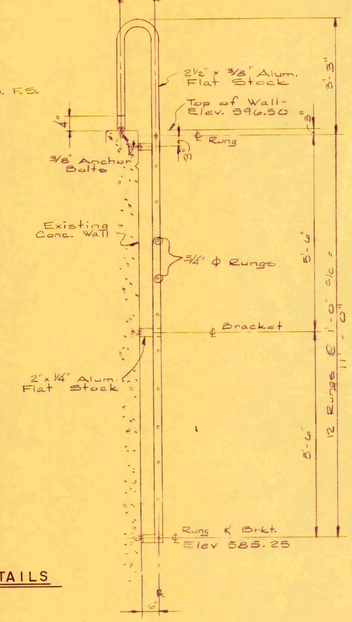
NOTE:
Clean and Paint All Existing and Newly Exposed Concrete Surfaces.



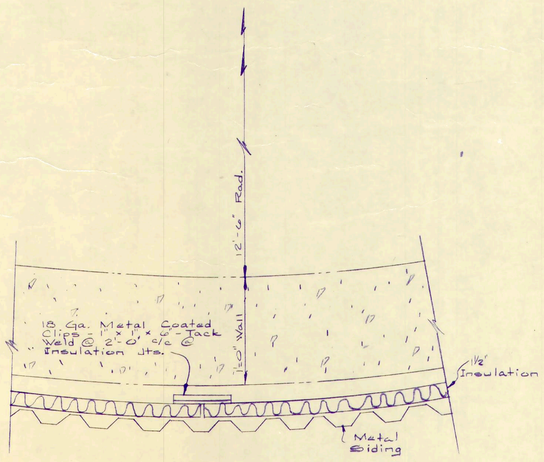
EAST ELEVATION
1/8" = 1'-0"



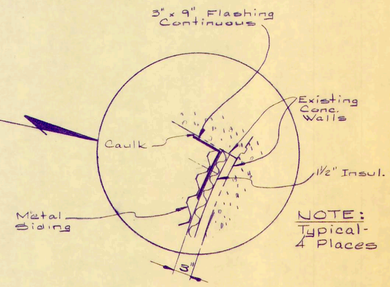
PLAN
1"=1'-0"



ALUMINUM LADDER DETAILS



INSULATION JOINT DETAILS
1½" = 1'-0"



NOTE:
Typical-
4 Places

REV. NO.	DESCRIPTION	DATE	BY	APP'D

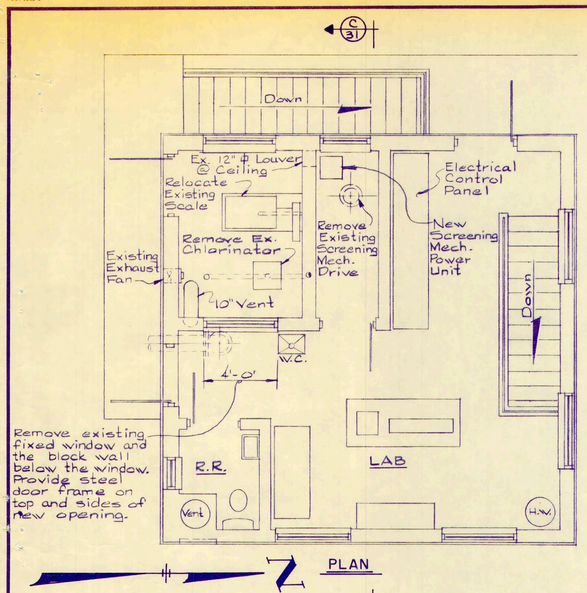
FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

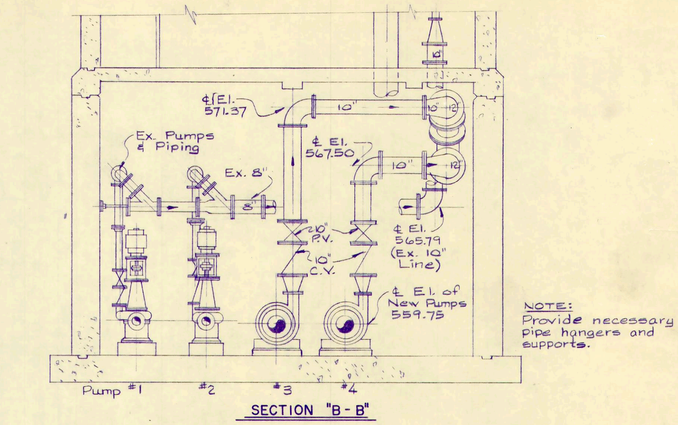
DIGESTER WALL PANELING

WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

PROJECT NUMBER: OAKS001
SECTION:
DATE: 3-71
30 of 36

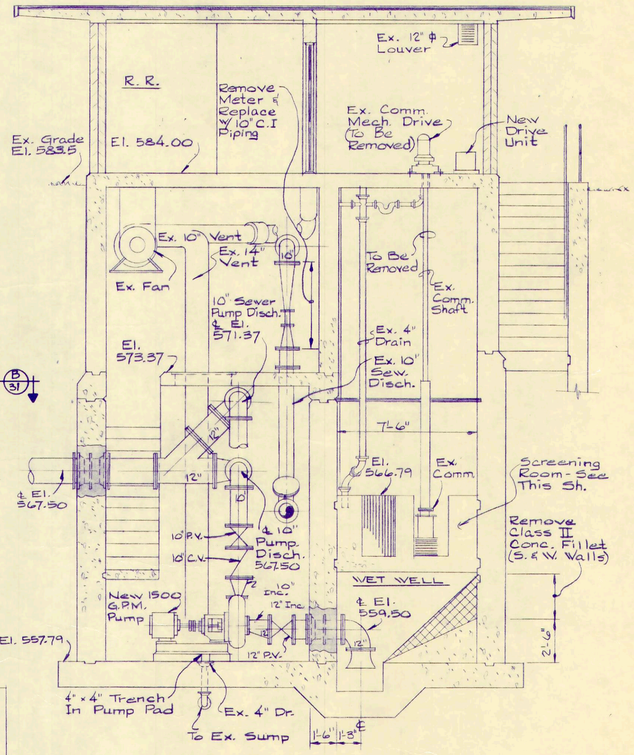


PLAN

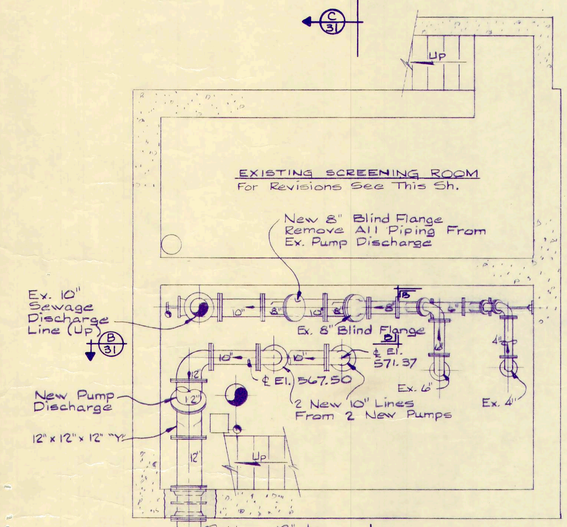


NOTE:
Provide necessary pipe hangers and supports.

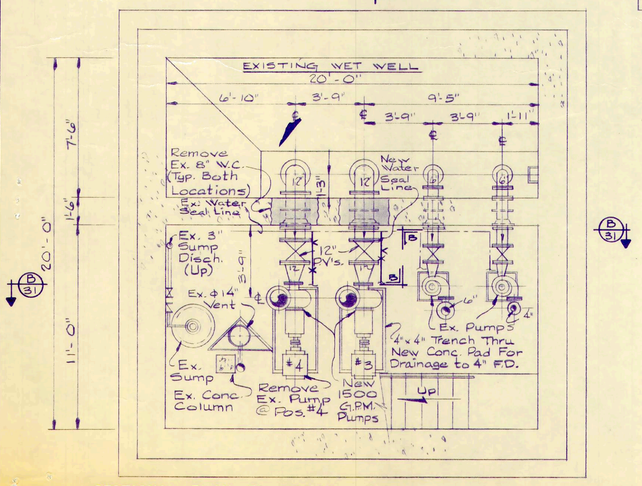
SECTION "B-B"



SECTION "C-C"

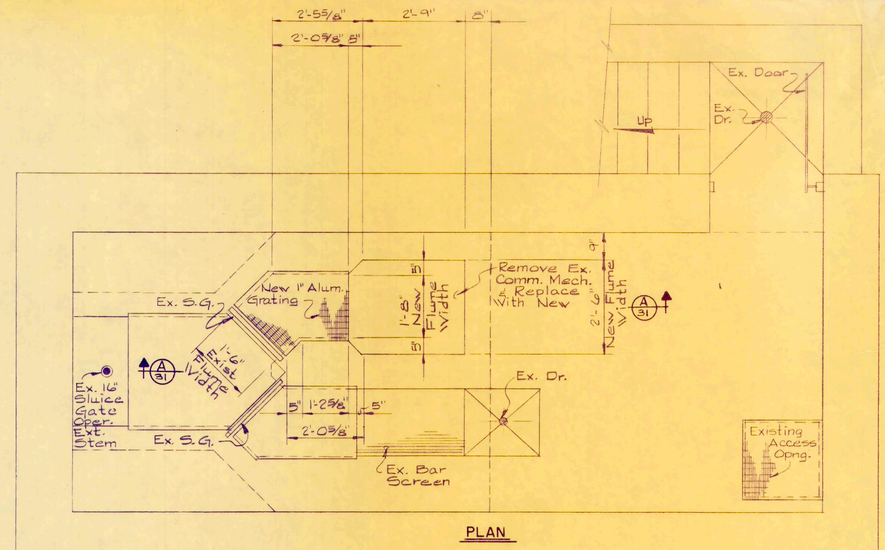


SECTIONAL PLAN EL. 572.50

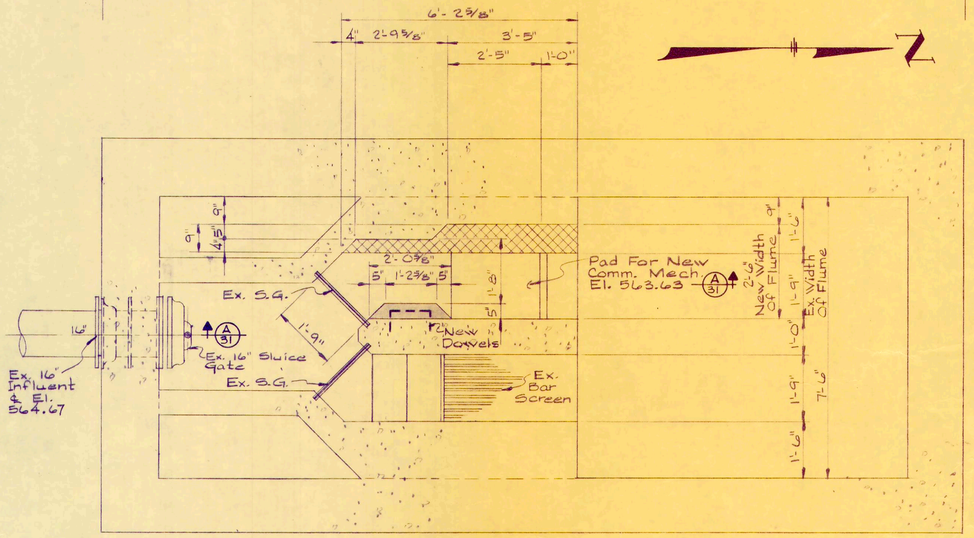


SECTIONAL PLAN EL. 562.00

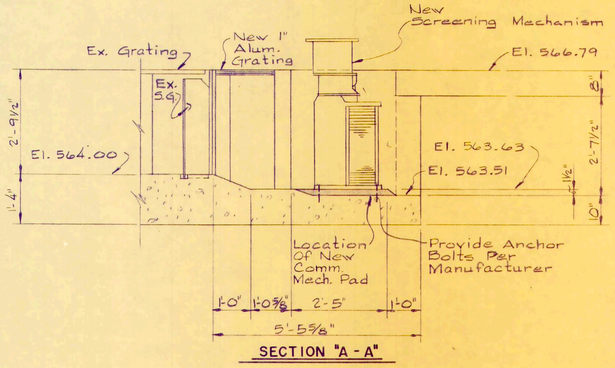
RAW WASTEWATER PUMPS
1/4" = 1'-0"



PLAN



SECTIONAL PLAN EL. 565.00



SECTION "A-A"

SCREENING MECHANISM
1/2" = 1'-0"

LEGEND

NEW CONCRETE

EXISTING CONCRETE TO BE REMOVED

REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE: As Noted
DESIGNED BY: R.B.W.
DRAWN BY: R.L.C.
CHECKED BY: W.C.K.

RAW WASTEWATER PUMPS AND SCREENING MECHANISM
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

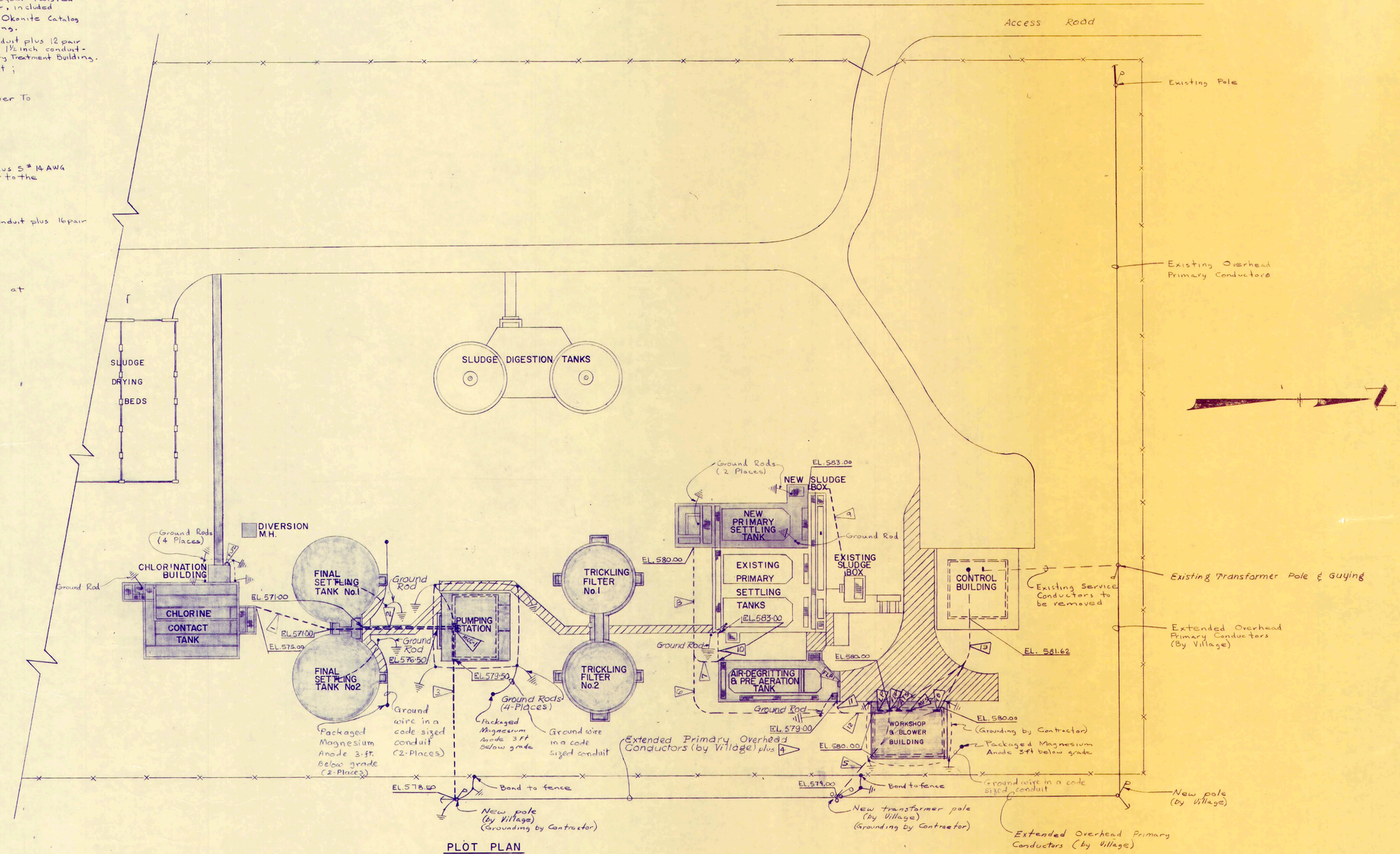
PROJECT NUMBER: OAKS001
SECTION
DATE: 3-72
31 OF 36

FLAG NOTES

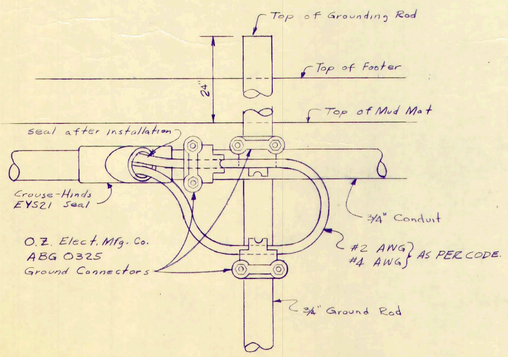
1. 3 #1 AWG In 2" Conduit. Plus 4 Pair #20 AWG Shielded Cable Per Okonite Cat. No. 261-30-2204 Or Approved Equal For Flowmeter Pacing
2. 3 #10 AWG In ¾" Conduit, 5 #14 AWG In ¾" Conduit, 4 #14 AWG In ¾ Conduit And 2 #12 AWG In ¾" Conduit. Duplicate For The Other Final Settling Tank.
3. 3 #3/0 AWG Underground Conductor In a 2½" Conduit, 12 Pair #20 AWG Shielded Control Cable Per Okonite Cat. No. 261-30-2212 Or Approved Equal in 2" Cond. for Remote Monitoring And Flowmeter Pacing. 2 #10 AWG Pull Wires In A 2" Conduit Provision For Telephone
4. 3 #3/0 AWG-CU Overhead Conductors per G.E. SI. 58069 or Approved equal twisted on a 5/16 inch, 30 % extra high strength, copper clad steel messanger, included herewith for self support plus 12 pair #20 AWG shielded control cable per Okonite Catalog No. 261-30-2210 or Approved equal for remote monitoring & flowmeter pacing.
5. 6 #350-MCM-CU in 2-3½ inch conduits plus 3 #3/0 AWG-CU in a 2½ inch conduit plus 12 pair #20 AWG shielded control cable in 2 inch conduit plus 2 #10 AWG pull wires in 1½ inch conduit-provision for telephone. 2 #10 AWG pull wires in 2 inch conduit-provision for Tertiary Treatment Building.
6. 3 #8 AWG In 1" Conduit For 3 ϕ, 3 W Power To The Sludge Collection Equipment; 4 Pair #20 AWG Shield Control Cable Per Okonite Cat. No. 261-30-2204 Or Approved Equal For Flowmeter X/MTR-RCVR Connection.
7. 2 #8 AWG In ¾" Conduit For 1 ϕ Power To Flowmeter. Duplicate For 1 ϕ Power To The Lights In The New Sludge Box
8. [6] Plus [7]
9. 5 #14 AWG In ¾" Conduit For Remote Control Of Sludge Pump
10. 2 #8 AWG In ¾" Conduit For 1 ϕ Power To The Foam Spray Pump
11. 3 #8 AWG in 1 inch conduit for 3 ϕ, 3 W power to the Grit Removal Motor plus 5 #14 AWG in a ¾ inch conduit plus 3 #6 AWG in a 1½ inch conduit for 1 ϕ, 3 W power to the Fusible Lighting Panelboard No. 1
12. [6] plus [11]
13. 3 #250 MCM-CU in a 3 inch conduit plus 2 #10 AWG pull wires in a 2 inch conduit plus 16 pair #20 AWG shielded control cable in a 2 inch conduit.

NOTES:

Elevations listed for ℄ of conduits and concrete envelopes at Pierce location on structure and at bottom of risers.
For additional flag notes see sheet No. 33/36.
For Symbols and Abbreviations see sheet No. 3/36.



PLOT PLAN



GROUNDING DETAIL

REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

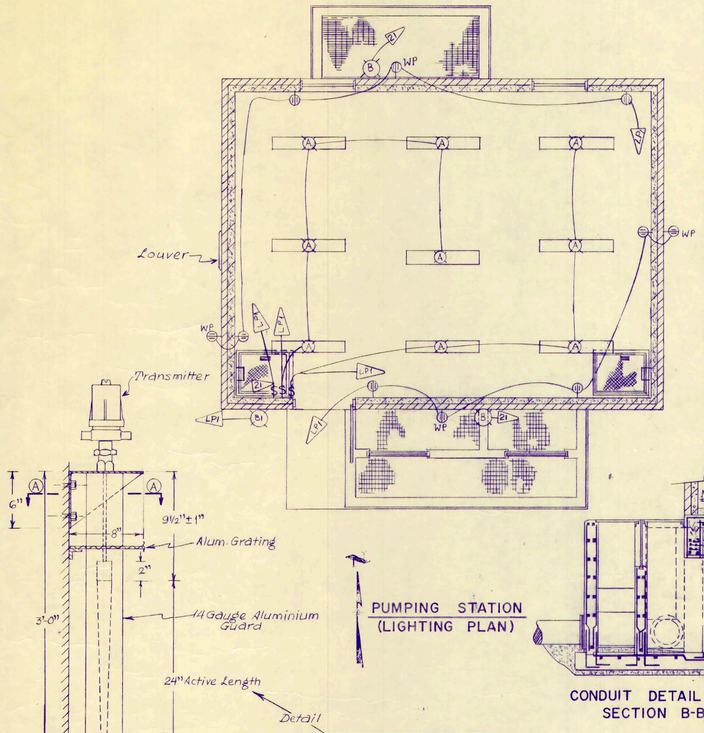
SCALE 1"=20'
DESIGNED BY R.D.T.
DRAWN BY S.R.D.
CHECKED BY J.W.H.

ELECTRICAL DETAILS - PLOT PLAN

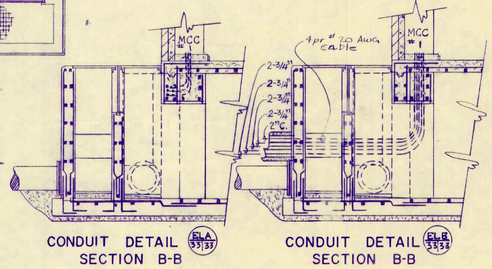
WASTEWATER TREATMENT PLANT IMPROVEMENTS

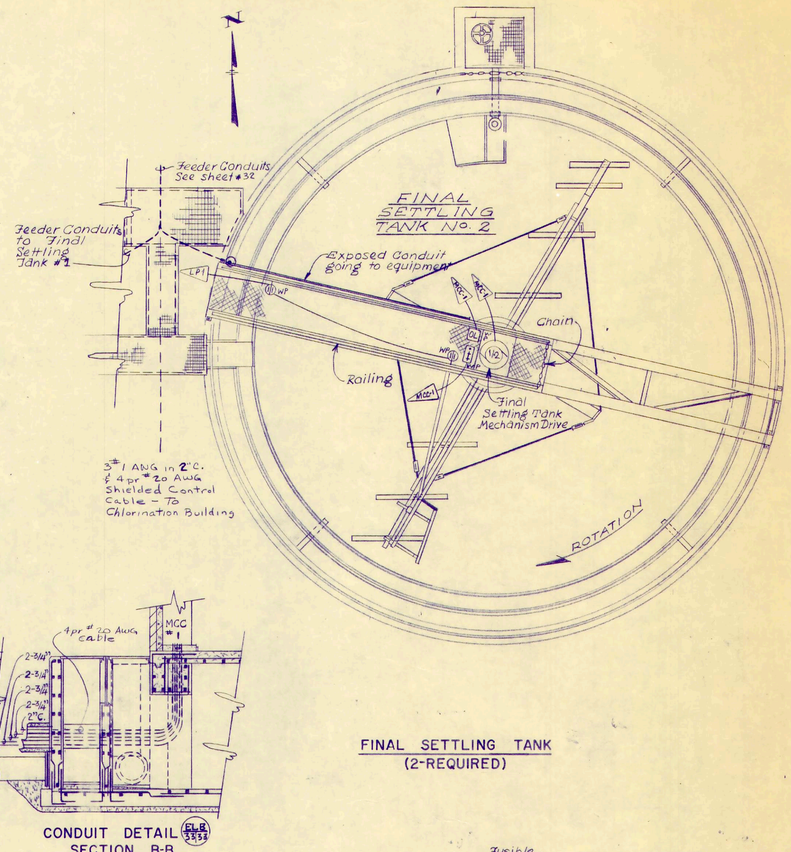
OAK HARBOR, OHIO

PROJECT NUMBER OAKS001 B
SECTION
DATE 3-71
32 OF 36

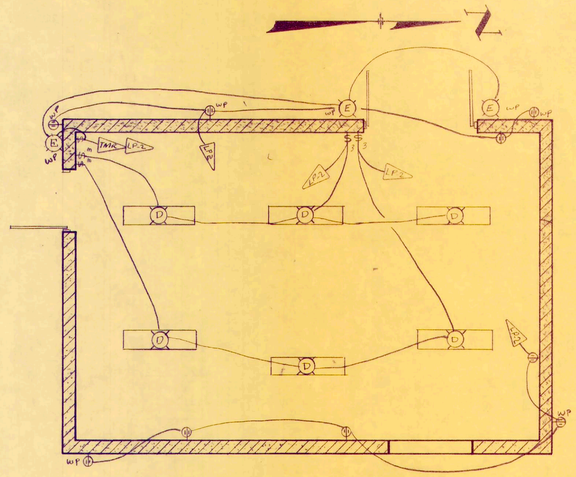


PUMPING STATION
(LIGHTING PLAN)

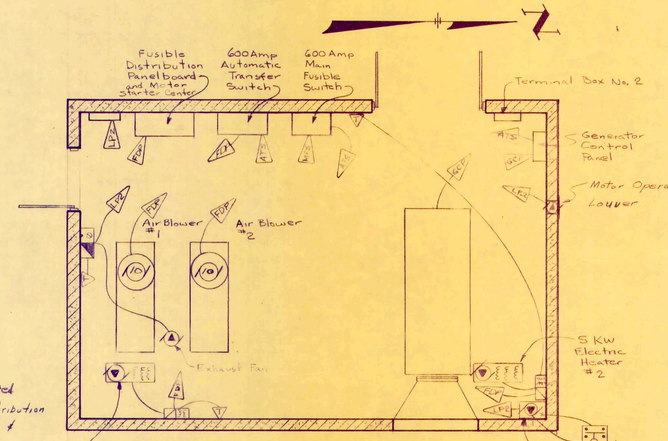




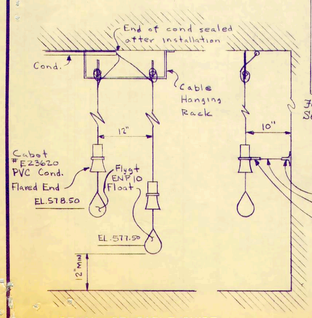
FINAL SETTLING TANK
(2-REQUIRED)



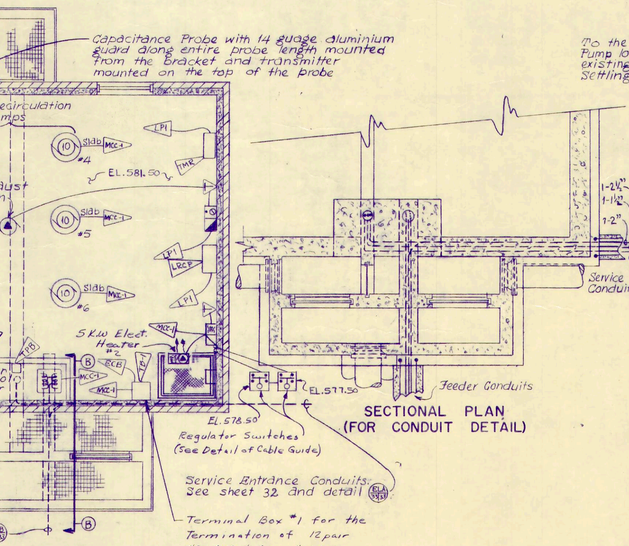
LIGHTING PLAN FOR
WORKSHOP & BLOWER BUILDING



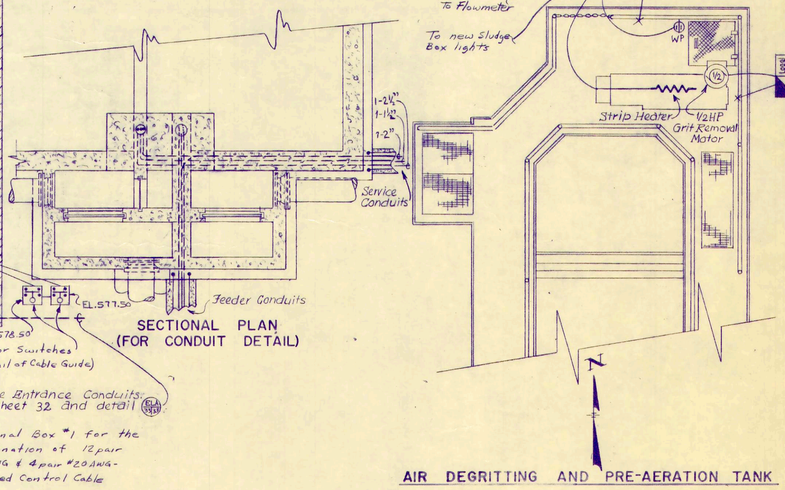
POWER LAYOUT FOR
WORKSHOP & BLOWER BUILDING

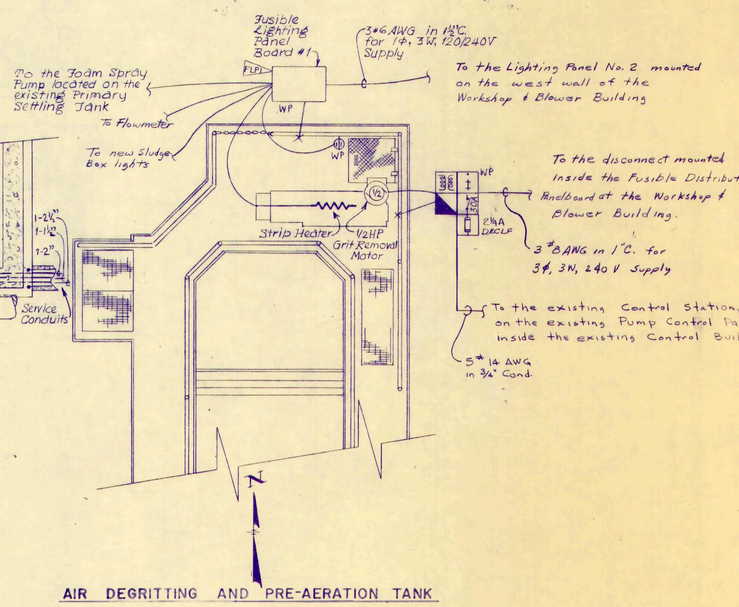


DETAIL OF CABLE GUIDE
FOR PUMP LEVEL CONTROLS



PUMPING STATION
(POWER LAYOUT)





AIR DEGRITTING AND PRE-AERATION TANK

Notes:

For One line Schematic, Control Schematics & MCC Layout of the Pumping Station see sheet No. 34/36

For One Line Schematic & FDP Layout of the Workshop & Blower Building see sheet No. 35/36

FLAG NOTES:-

- RCB — To Existing Control Building - See sheet #32
- TB-1 — Terminal Box #1
- TPB — Telephone Pull Box
- LRCP — Lift and Recirculation Control Panel
- FDP — Fusible Distribution Panelboard and Motor Starter Center
- ATS — Automatic Transfer Switch
- MFS — Main Fusible Switch
- GCP — Generator Control Panel

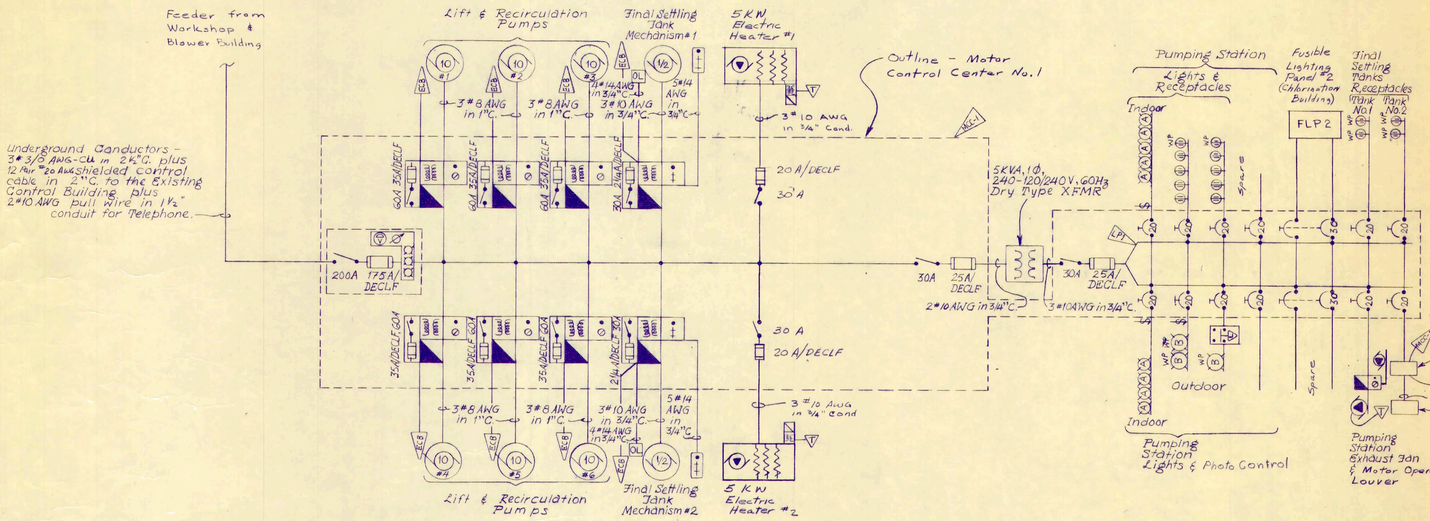
REV. NO.	DESCRIPTION	DATE	BY	APP'D

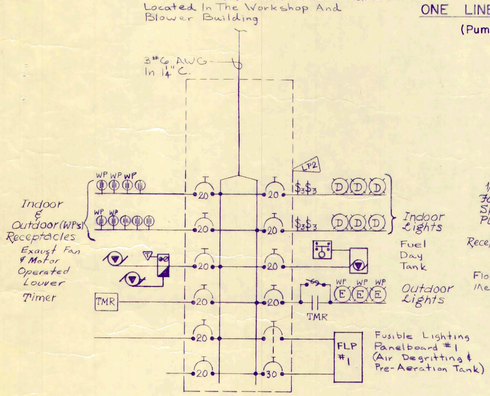
FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE	NO SCALE
DESIGNED BY	R.D.T.
DRAWN BY	S.R.D.
CHECKED BY	J.W.H.

ELECTRICAL DETAILS
LIGHTING PLAN & POWER LAYOUT
WASTEWATER TREATMENT
PLANT IMPROVEMENTS
OAK HARBOR, OHIO

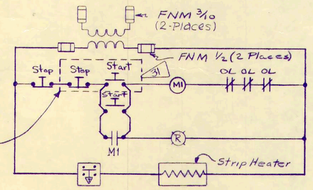
PROJECT NUMBER	OAKS001 BI
SECTION	
DATE	3-71
	33 OF 36



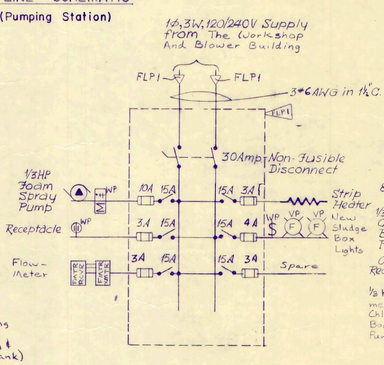


ONE LINE SCHEMATIC
(Pumping Station)

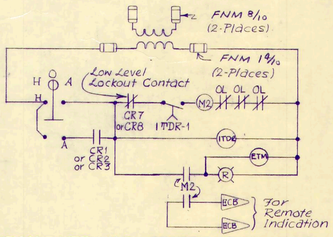
LIGHTING PANEL No. 2
(Workshop & Blower Building)



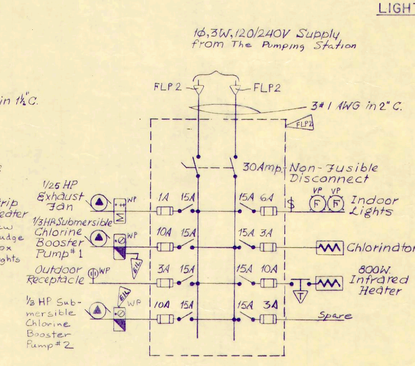
TYPICAL FOR SLUDGE COLLECTION MECHANISM GRIT REMOVAL MOTOR



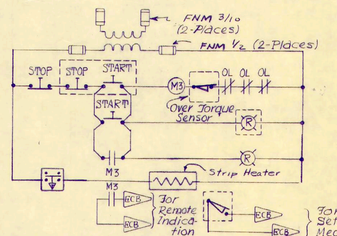
FUSIBLE LIGHTING PANELBOARD No. 1
(Air Degritting & Pre-aeration Tank)



TYPICAL LIFT AND RECIRCULATION PUMP
(6 - REQUIRED)



FUSIBLE LIGHTING PANELBOARD No. 2
(Chlorination Building)



TYPICAL FINAL SETTLING TANK MECHANISM
(2-REQUIRED)

LIGHTING PANEL No. 1
(Pumping Station)

A	B	C
Size 1 Combination Starter Final Settling Tank Mechanism #1	Size 2 Combination Starter Lift & Recirculation Pump #1	30 Amp Fusible Disconnect 5 KW Electric Heater #1
	Size 2 Combination Starter Lift & Recirculation Pump #2	30 Amp Fusible Disconnect 5KW Electric Heater #2
	Size 2 Combination Starter Final Settling Tank Mechanism #2	
	Size 2 Combination Starter Lift & Recirculation Pump #3	30 Amp Non-Fusible Disconnect
	Size 2 Combination Starter Lift & Recirculation Pump #4	30 Amp Fusible Disconnect
	Size 2 Combination Starter Lift & Recirculation Pump #5	20 Pole Lighting Panel #1
200 Amp. Main Fusible Switch	Size 2 Combination Starter Lift & Recirculation Pump #6	

MOTOR CONTROL CENTER NO. 1
(Pumping Station)

NOTE:
See sheet #36/36 for Lift & Recirculation Pump Automatic Control Schematic

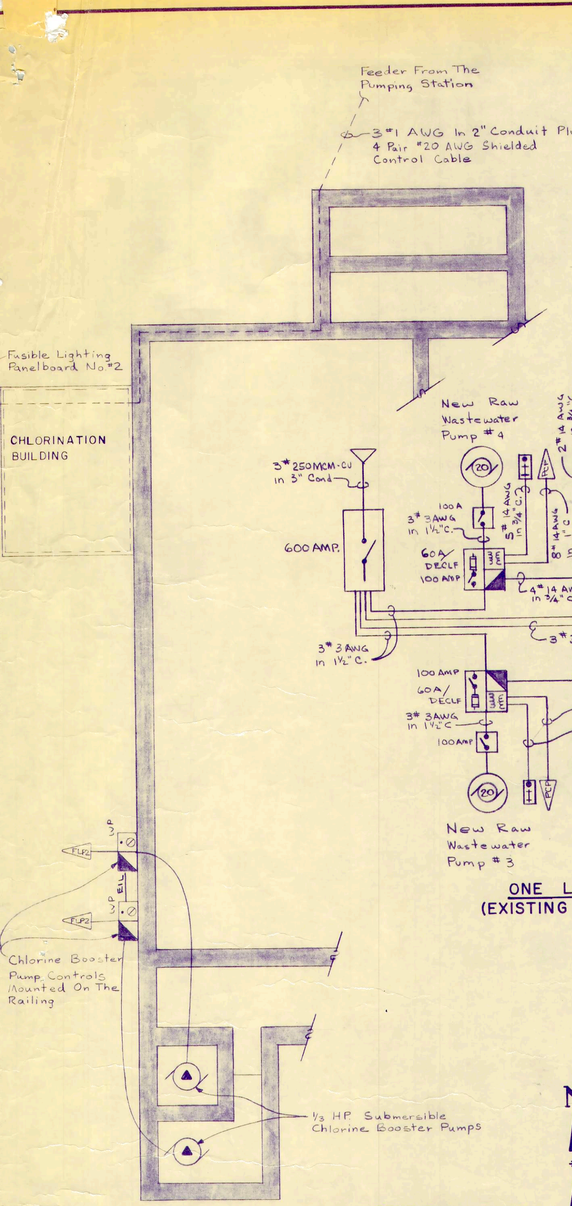
REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

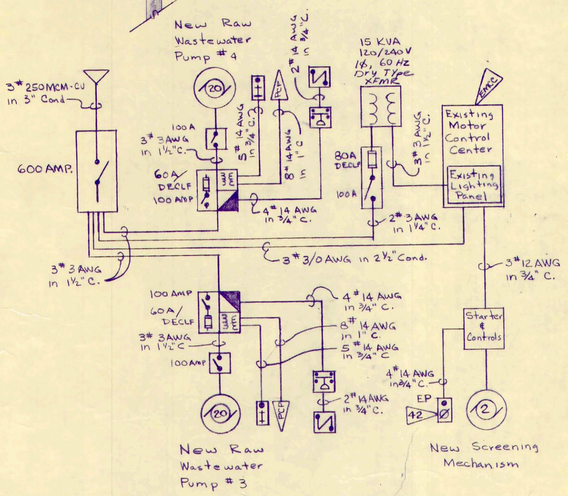
SCALE: NO SCALE
DESIGNED BY: R.D.T.
DRAWN BY: S.R.D.
CHECKED BY: J.W.H.

ELECTRICAL DETAILS
ONE LINE SCHEMATIC, CONTROL SCHEMATIC & MCC LAYOUT
WASTEWATER TREATMENT PLANT IMPROVEMENTS
OAK HARBOR, OHIO

PROJECT NUMBER: OAK5001 81
SECTION:
DATE: 3-71
34 OF 36

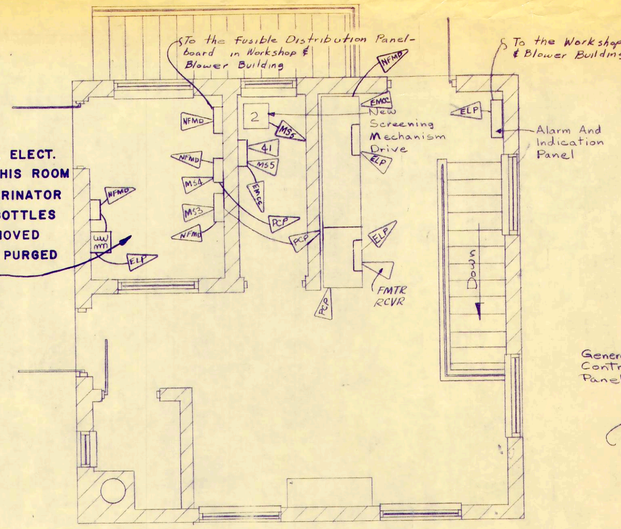


SECTIONAL PLAN
(CHLORINE CONTACT TANK)

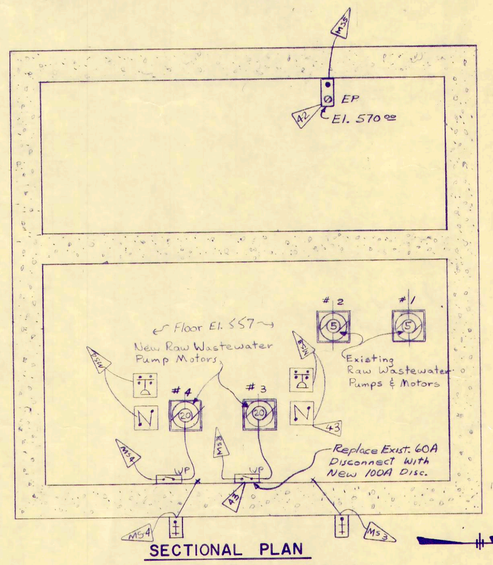


ONE LINE SCHEMATIC
(EXISTING CONTROL BUILDING)

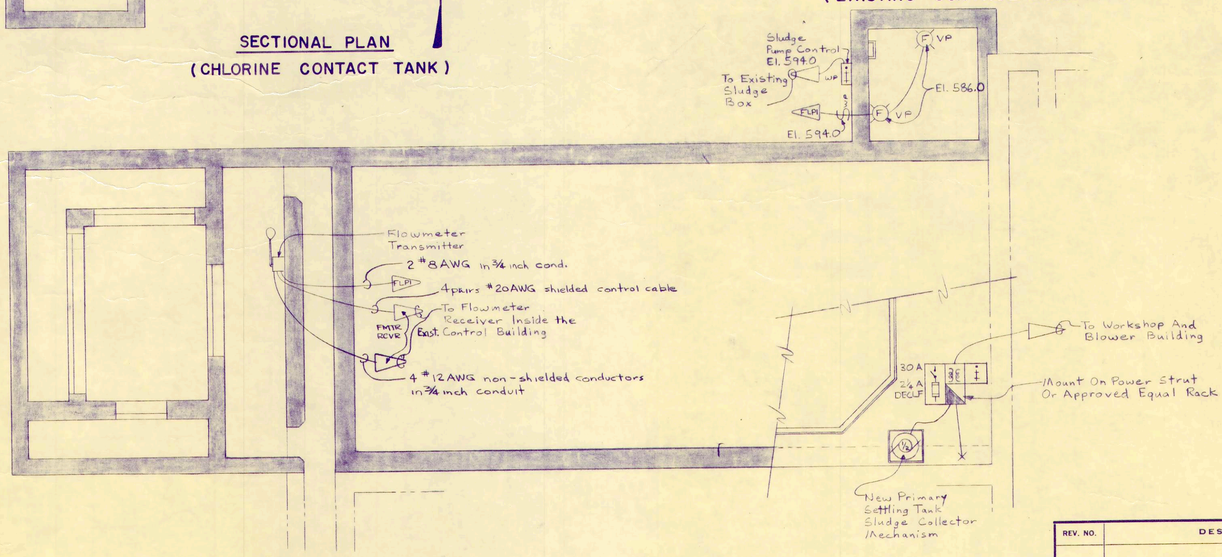
NOTE:
DO NOT INSTALL ELECT. EQUIPMENT IN THIS ROOM UNTIL THE CHLORINATOR AND STORAGE BOTTLES HAVE BEEN REMOVED AND THE ROOM PURGED OF CL_2 GAS.



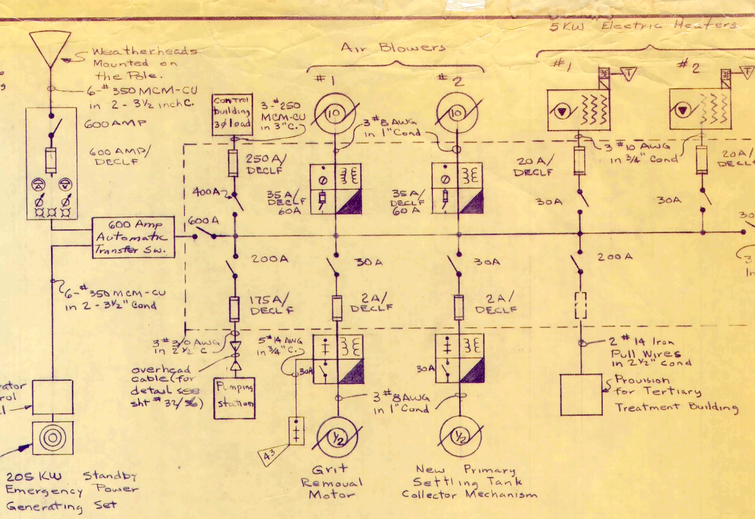
PLAN
(EXISTING CONTROL BUILDING)



SECTIONAL PLAN
(EXISTING CONTROL BUILDING)



SECTIONAL PLAN
(NEW PRIMARY SETTLING TANK)



ONE LINE SCHEMATIC
(WORKSHOP AND BLOWER BUILDING)

FLAG NOTE:

41 Starter & Controls to be Furnished by the Contractor responsible for the Screening Mechanism but installed by the Contractor responsible for the Electrical.

42 Remote Control Station (Explosion Proof) to be furnished and installed by the Contractor responsible for the Electrical.

A3 Existing Equipment - Wiring to be rerouted.

FDP Fusible Distribution Panelboard.

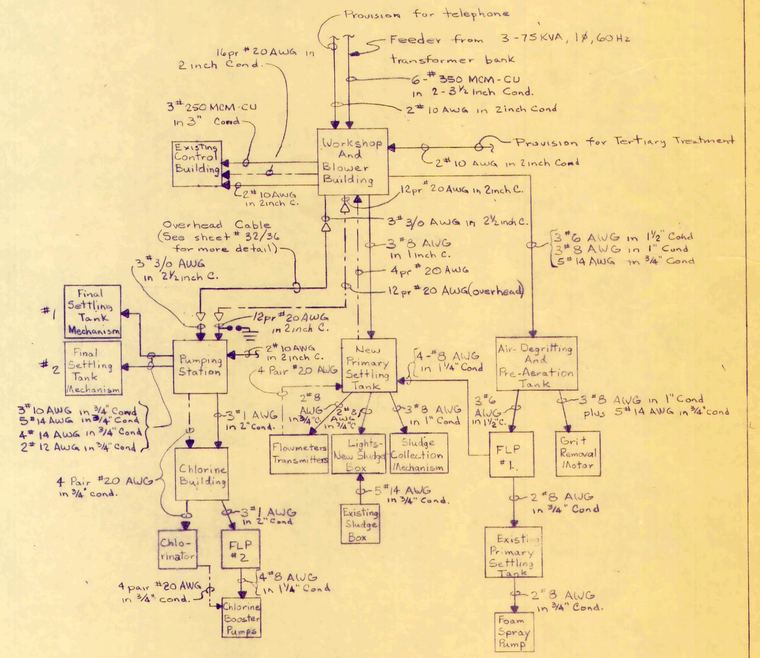
PCP Pump Control Panel (Existing)

FMTR RCVR Remove Existing Flowmeter Receiver and replace with new Flowmeter Receiver for Primary Settling Tank Effluent.

EMCC Existing Motor Control Center

NFMD Non-Fusible Main Disconnect

ELP Existing Lighting Panel



BLOCK SCHEMATIC

Filler Panel.	
30 AMP. Disc. Elect. Htr. #1	30 AMP Disc. Elect. Htr. #2
30 Amp. Disc. Grit Removal Motor	30 Amp. Disc. Sludge Collect. Mechanism
30 Amp. Disc. XFMR. Primary	30 Amp. Disc. Light Panel Main
60 Amp. Disc. Air Blower #1	60 Amp. Disc. Air Blower #2
Size 2 Magnetic Starter Air Blower #1	Size 2 Magnetic Starter Air Blower #2
200 Amp Fusible Disconnect Tertiary Treatment (Space Only)	
200 Amp Fusible Disconnect L & R Pumping Station	
400 Amp Fusible Disconnect Control Building	
600 Amp Main Non-fusible Switch	
MAIN LUG COVER	

FUSIBLE DISTRIBUTION
AND MOTOR STARTE

REV. NO.	DESCRIPTION	DATE	BY	APP'D

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CONSULTING ENGINEERS
TOLEDO, OHIO

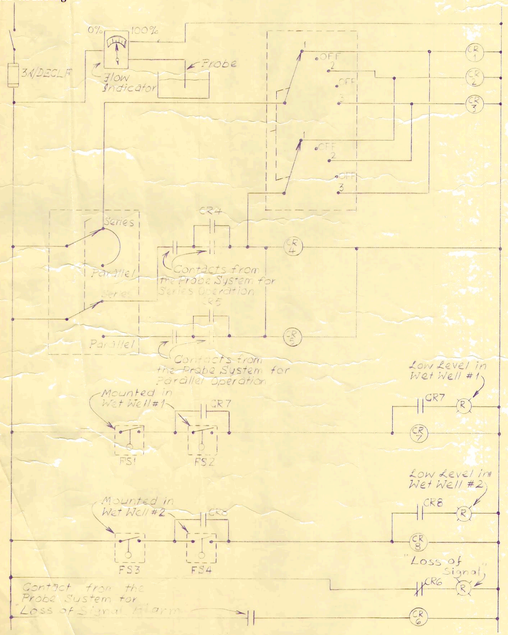
SCALE	AS NOTED
DESIGNED BY	R.D.T.
DRAWN BY	W.E.H.
CHECKED BY	J.W.H.

ELECTRI
WASTEWATE
PLANT I
OAK HA

MOTOR CONTROL CENTER NO. 1
(PUMPING STATION)

Section	Unit	Controlled Function	Circuit Breaker Size Amps.	Switch Size Amps.	Fuse Size Amps.	KVA	(Largest) HP	Volts	Poles	NEMA Size Starter	Unit Height in Inches	Include the Following Features and Remarks
A	1	Comb. Starter - Final Settling Tank Mechanism #1	—	30	2¼	-	1/2	240	3	1	12	(A) (FVNRMS) (240-120-4FT) (2XI) (R) (30L) (RCI)
A	2	Disconnect - Main Fusible Switch	-	200	175	50	-	240	3	-	30	(3KOP) (3GDPL) (V) (3ØS)(LF2)
B	3	Comb. Starter Lift and Recirculation - Pump #1	—	60	35	-	10	240	3	2	12	(C) (FVNRMS) (240-120-4FT-50) (ETM)(2XI) (R) (30L) (RCI) (TDR)
B	4	Comb. Starter Lift and Recirculation - Pump #2	—	60	35	-	10	240	3	2	12	(C) (FVNRMS) (240-120-4FT-50) (ETM) (2XI) (R) (30L) (RCI) (TDR)
B	5	Comb. Starter - Lift and Recirculation Pump #3	—	60	35	-	10	240	3	2	12	(C) (FVNRMS) (240-120-4FT-50) (ETM) (2XI) (R) (30L) (RCI) (TDR)
B	6	Comb. Starter - Lift and Recirculation Pump #4	—	60	35	-	10	240	3	2	12	(C) (FVNRMS) (240-120-4FT-50) (ETM) (2XI) (R) (30L) (RCI) (TDR)
B		Comb. Starter Lift and Recirculation Pump #5	—	60	35	-	10	240	3	2	12	(C) (FVNRMS) (240-120-4FT-50) (ETM) (2XI) (R) (30L) (RCI) (TDR)
B	3	Comb. Starter Lift and Recirculation Pump #6	—	60	35	-	10	240	3	2	12	(C) (FVNRMS) (240-120-4FT-50) (ETM) (2XI) (R) (30L) (RCI) (TDR)
C	9	Disconnect - 5KW Electric Heater #1	-	30	20	5	-	240	3	-	18*	(LF 2)
C	10	Disconnect - 5KW Electric Heater #2	-	30	20	5	-	240	3	-	18*	(LF 2)
C	11	Comb. Starter Final Settling Tank Mechanism #2	—	30	2¼	-	1/2	240	3	1	12	(A) (FVNRMS) (240-120-4FT) (2XI) (R) (30L) (RCI)
C	12	Disconnect - Transformer Primary	-	30	25	-	-	240	2	-	18*	(LF2)
C	13	Disconnect - Ltg. Panel #1 Main	-	30	25	-	-	120/240	2	-	18*	(LF2)
C	14	Panelboard - Lighting Panel #1	20	-	-	-	-	120/240	2	-	30	Include: 20-20A. 1.P.C.B., 2-20A.2P.C.B.

* Dual Mounting



LIFT AND RECIRCULATION PUMP AUTOMATIC CONTROL

MOTORS (continued)

28	Exhaust Fan - Workshop & Blower Building	1	1/3	1	115	-	-	-	-	-	Totally Enclosed	Vertical	Direct	Include built-in overload protection
26	Fuel Day Tank	1	-	1	115	-	-	-	-	-	Open Drip-proof	Horizontal	Direct	Include built-in overload protection
28	Motor Operated Louver - Pumping Station	1	-	1	115	-	-	-	-	-	Totally Enclosed	Horizontal	Direct	Include built-in overload protection
28	Motor Operated Louver - Workshop & Blower Building	1	-	1	115	-	-	-	-	-	Totally Enclosed	Horizontal	Direct	Include built-in overload protection

INDIVIDUAL MOTOR STARTERS

Unit	Controlled Function	Circuit Breaker Size Amps.	Switch Size Amps.	Fuse Size Amps.	Capacity KVA	(Largest) (HP)	Volts	Poles	NEMA Size Starter	NEMA Type Enclosure	Include the following Features and Remarks
1	Raw Wastewater Pump (2 required)	—	100	60	-	20	230	3	3	12	(A)(C)(FVNRMS) (240-120-4FT)(TDR) (3XI) (2AI) (R) (RCI) (30L) Square D 8538-SEA-25 or approved equal.
2	Grit Removal Mechanism	—	30	-	-	1/2	230	3	0	4	(A) (FVNRMS) (240-120-4FT) (3XI) (2AI) (R) (RCI) (30L) Square D 8538-SBW-12 or approved equal. Include thermostat & Strip Heater.
3	Chlorine Booster Pump (2 Required)	-	-	-	-	1/3	115	2	0	4	(B) (R) (3XI) (20L) Magnetic Starter per Square D 8536 SBW-11 or approved equal.
4	Exhaust Fan - Chlorination Building	-	-	-	-	1/50	115	2	0	4	(A) (R) (3XI) (20L) Manual Starter per Square D 2510-MBW-1 or approved equal.
5	Exhaust Fan - Pumping Station & Workshop & Blower Building	-	-	-	-	1/3	115	2	0	12	(C) (R) (3XI) (20L) Magnetic Starter per Square D 8536-SBA-1 or approved equal.
6	Foam Spray Pump	-	-	-	-	1/3	115	2	0	4	(A) (3XI) (2AI) (R) (20L) Square D 2510-MBW-1 or approved equal.
7	New Screening Mechanism *	-	30	-	-	2	230	3	0	12	Same As Unit #1 Except SBA-21 In Lieu Of SDA-22
8	New Primary Settling Tank Sludge Collection Mechanism	-	30	-	-	½	230	3	0	4	Same As Unit #2

* Furnished by the Contractor responsible for Equipment but installed by the Contractor responsible for Electrical.

MOTORS

Spec. Para. No.	Name of Driven Equipment	Quantity	Horsepower Size	Phase	Volts	Speed in R.P.M. Synch.	Speed in R.P.M. Full Load	Percent Efficiency	Percent Power Factor	Code Starting Character	Enclosure	Mounting Attitude	Type of Coupling or Equal	Remarks
25	Lift and Recirculation Pumps	6	10	3	230	1800	1760	86	82	H	Open Drip-proof	Vertical	-	Non-Reverse Ratchet
28	Pumping Station Exhaust Fan	1	1/3	1	115	1800	1725	-	-	-	Totally Enclosed	Horizontal	Direct	Include Built-in Overload Protection
27	Foam Spray Pump	1	1/3	1	115	1800	1725	-	-	-	Totally Enclosed	Horizontal	Direct	Include Built-in Overload Protection
29	Electric Unit Heater in Pumping Station	2	1/85	1	115	-	-	-	-	-	Totally Enclosed	Horizontal	Direct	Include Built-in Overload Protection
23	Final Settling Tanks Mechanism	2	1/2	3	230	-	-	-	-	-	Totally Enclosed	Vertical	Flexible	-
29	Electric Unit Heater in Workshop & Blower Building	2	1/85	1	115	-	-	-	-	-	Totally Enclosed	Horizontal	Direct	Include Built-in Overload Protection
19	Air Blower in Workshop & Blower Building	2	10	3	230	3600	3500	85	84.5	H	Open Drip-proof	Horizontal	Direct	-
28	Chlorination Building Exhaust Fan	1	1/25	1	115	-	-	-	-	-	Totally Enclosed	Horizontal	Direct	Include Built-in Overload Protection
17	Grit Collector Drive Motor	1	1/2	3	230	-	-	-	-	-	Totally Enclosed	Horizontal	Flexible	-
24	Chlorine Booster Pump	1 2	1/3	1	115	-	-	-	-	-	Submersible	Vertical	Direct	Include built in Overload Protection
20	New Primary Settling Tank Sludge Collector Mechanism	1	½	3	230	-	-	-	-	-	Totally Enclosed	Horizontal	Flexible	——
16	Raw Wastewater Pump	2	20	3	230	900	865	90.5	76.5	G	Totally Enclosed	Horizontal	Flexible	——
15	New Screening Mechanism	1	2	3	230	—	—	—	—	—		Vertical	—	——

LIGHTING FIXTURE SCHEDULE

Fixture	Description
A	Benjamin catalog number FE-1524-4, fluorescent fixture with two (2) 40W, rapid start lamps, Acrylic lens and baked white enamel steel housing, pendant mounted
B	Holophane catalog number 400 black incandescent lamp fixture with 150 watt incandescent lamp, outdoor, weatherproof, wall mounted
B-1	Holophane catalog number 408 PR2 Black incandescent lamp fixture with 200 watt incandescent lamp, outdoor, weatherproof, wall mounted.
D	Westinghouse type number ER-240-RM-WOK fluorescent fixture with Two (2) F40 lamps and perforated top reflector type 320C825G02, surface mounted
E	McPhilben catalog number 66-24VT incandescent lamp fixture with one (1) 200 watt incandescent lamp, outdoor, fully enclosed and gasketed, wall mounted
F	Crouse-Hinds catalog number VDA 25GRD incandescent lamp fixture with one (1) 150 watt incandescent lamp, globe and dome reflector, fully enclosed and gasketed, Vaportight, ceiling mounted.

ELECTRICAL SYMBOLS

$	Single pole wall switch (toggle)		Relay-cont
$2	Double pole wall switch (toggle)		Magnetic motor non-reversing
$3	Three way wall switch (toggle)		Reversing motor start
$4	Four way wall switch (toggle)		Reduced voltage mo
$WP WP	Weather proof or vapor proof wall switch		Safety switch - fusible
	Duplex convenience receptacle grounding type		Safety switch - non-fus
	Combination switch & conv. recep.		"Start-stop" "forward-r control station. t ind
	Floor conven. Recep.		Same as above but with
TP	Telephone conven. recep. (4-Pin, plug-in type)		Selector switch control
	Thermostat switch		Same as above but with p
	Light sensitive switch		2 Selector switch contro light - Local remote & H
	Probe Control Elements		Pilot light - red or gre
	Pressure switch	R	Pilot light - red
	Float switch	G	Pilot light - green
	Limit switch		Less than or equal t
	Solenoid operated device		Capacitor bank
	Luminaries (see spec. for type schedule)		Ba
	Single phase motor		Electric heater
	Single phase motor with built-in OL's with automatic resets	or	Overload detector switch and/or Detector switch
	Three phase motor		Centrifugal switch
	Transformer		Instrument Gage, Type as Indicate
M	Manual motor starter with start-stop-reset pushbuttons and pilot light		Circuit breaker
	Fuse		

ELECTRICAL ABBREVIATIONS

EP	Explosion proof (NEMA Type 7)	ETM	Elapsed tim
WP	Weather proof (NEMA Type 3R)	ø	Phase
VP	Vapor proof (NEMA Type 4)	P	Pole
LP	Light Panel	COND or C	Conduit
H-O-A	Hand-off-auto	W	Wire
FU	Fusible	RV	Reduced volta
NF	Non-fusible	V	Volts or Vo
PS	Pressure-switch	A	Amperes or
LS	Limit switch	KW	Kilowatts or K
FS	Float switch	KVA	Kilo-Volt-Ampere
TMR	Timing device- Cycler	T	Thermostat
OL	Overload protection	L	Light sensitive or Loc
SC	Short circuit protection	FMTR XMTR	Flow meter transmitter
TDR	Time delay relay	PG XMTR	Pressure gage transmitte
TO-E	Delay opening on energization	BOH	Bearing overheat detector
TO-D	Delay opening on de-energization	WOH	Winding overheat detector
TC-E	Delay closing on energization	A/R	Quantity or size as required
TC-D	Delay closing on de-energization	FMTR RCVR	Flowmeter receiver
EIL	Electrical Interlock	PG RCVR	Pressure gage receiver
MIL	Mechanical Interlock	LG XMTR	Level gage transmitter
CR	Control relay	LG RCVR	Level gage receiver
R	Motor running relay	DECLF	Dual Element Curren
S	Motor starting relay	MCC	Motor Control C
XFMR	Transformer	FLP	Fusible Lighting Pane

REV. NO.	DESCRIPTION	DATE	BY	APP'D

FINKBEINER, PETTIS & STROUT
LIMITED
CONSULTING ENGINEERS
TOLEDO, OHIO

SCALE: NO SCALE
DESIGNED BY: R.D.T.
DRAWN BY: S.R.D.
CHECKED BY: F.G.D.

ELECTRICAL DETAILS - TAB

WASTEWATER TREA
PLANT IMPROVEM

OAK HARBOR