

Template Version: Error! Unknown document property name.

APPENDIX C – RELEVANT DOCUMENTS

Relevant Documents

The following documents are available for viewing through the Project Manager at the Resource Centre located at 1199 Pacific Avenue.

Construct the Shoal Lake Aqueduct - Branch I Aqueduct underdrain access manholes, cleaning and inspection [W-455; Tender No. 0834-2000 or 834-2000].

Author: UMA Engineering Ltd

Call number: TA 180 .S658 2000 NO.34

Aqueduct Rehabilitation Program: Branch 1 Aqueduct capacity upgrading study: Work area 2.5.8 - underdrain assessment.

Author: UMA Engineering Ltd

Call number: TD 398 .C372 NO.4

The following as-constructed drawings are attached.

Reference: Supplementary Conditions; D5.2

<u>Drawing No.</u>	<u>Drawing Title</u>
C-143	Details of Culvert as STA 1868+00.0
C-182	Details of Culvert as STA. 1985+00
D-11544	Shoal Lake Aqueduct Drainage Siphon repairs Miles 50.31, 53.75 & 55.23; Drainage Siphon Mile 50.31 (Site 1) Plans and Sections.
D-11545	Shoal Lake Aqueduct Drainage Siphon repairs Miles 50.31, 53.75 & 55.23; Drainage Siphon Mile 53.75 (Site 2) Plans and Sections.
D-11546	Shoal Lake Aqueduct Drainage Siphon repairs Miles 50.31, 53.75 & 55.23; Drainage Siphon Mile 55.23 (Site 3) Plans and Sections.
D-11547	Shoal Lake Aqueduct Drainage Siphon repairs Miles 50.31, 53.75 & 55.23; Miscellaneous Details.

Reference: Supplementary Conditions; D5.3. Please note that Drawing D-6834 is a similar drawing with respect to D5.3(h).

<u>Drawing No.</u>	<u>Drawing Title</u>
D-283	Detail of Boat Entrance at Boggy River #2 SEC. 6.T8.R.15
D-302	Aqueduct Plan and Profile; Mile 81.82 to mile 84.66
D-469	Detail of Overflow and Blowoff structure at STA: 4384+00 (1).
D-470	Detail of Overflow and Blowoff structure at STA: 4384+00 (2).
D-473	Detail of Depressed Aqueduct at Boggy River #2 SEC 6.T8.R15.
D-475	Boggy River Crossing #2; Details of Risers for Depresses Section
D-6834	Shoal Lake Aqueduct Right-of-Way drainage improvements Mile 41.3 to Mile 42.05; Proposed Drainage Improvements Plan and Profile.
D-6835	Shoal Lake Aqueduct Right-of-Way drainage improvements Mile 41.3 to Mile 42.05; Proposed Drainage Improvements & Miscellaneous Details.

Template Version: Error! Unknown document property name.

Reference: Supplementary Conditions; D5.4. Please note that the drawings below were those of the boathouse superstructure previously located at Mile 64.14.

<u>Drawing No.</u>	<u>Drawing Title</u>
D-180	Aqueduct Plan and Profile; Mile 63.45 to 66.38
D-217	Detail of Overflow and Blowoff Structure at Whitemouth River SEC. 21.T8.R12 (1).
D-218	Detail of Overflow and Blowoff Structure at Whitemouth River SEC. 21.T8.R12 (2).
D-220	Detail of Boat Entrance at Whitemouth River Crossing.

Reference: Supplementary Conditions; D5.5.

<u>Drawing No.</u>	<u>Drawing Title</u>
A-540	Manhole Details over underdrains for Lock Joint Pipe
B-143	8'-0" Circular Reinforced Aqueduct
B-384	Comparison of Methods of Underdrainage of Aqueduct Section A

Reference: Supplementary Conditions; D5.7. The following is an image of the existing Aluminum Stop Log.



Template Version: Error! Unknown document property name.

Reference: Supplementary Conditions; D5.8. The following are Images of the existing Safety Hoist.

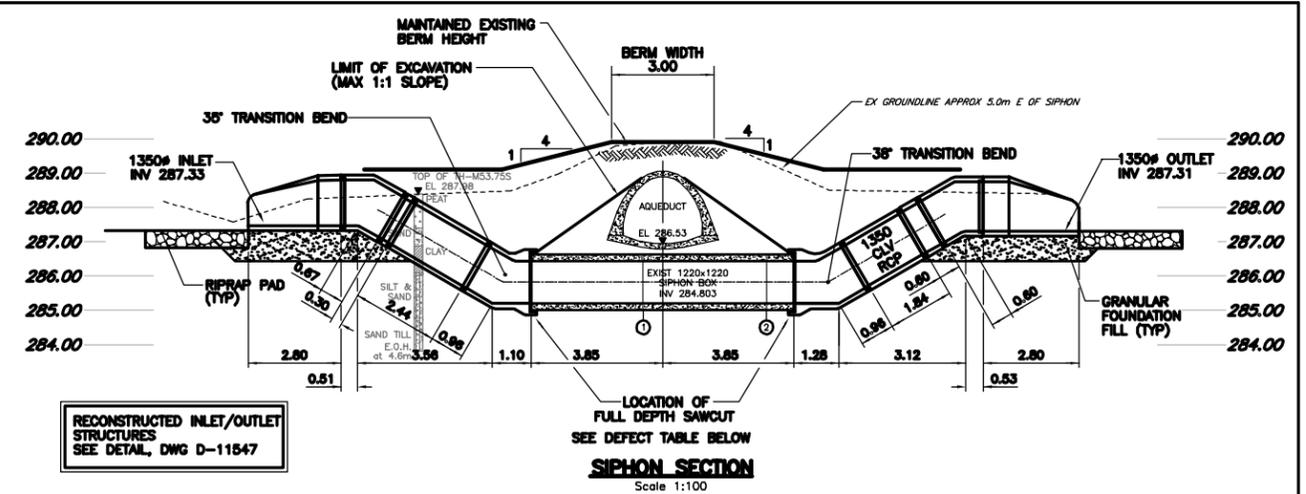
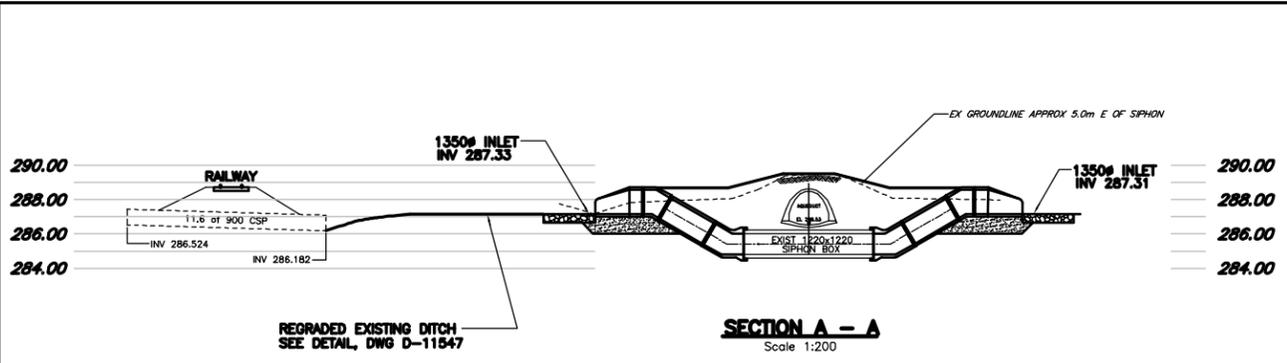


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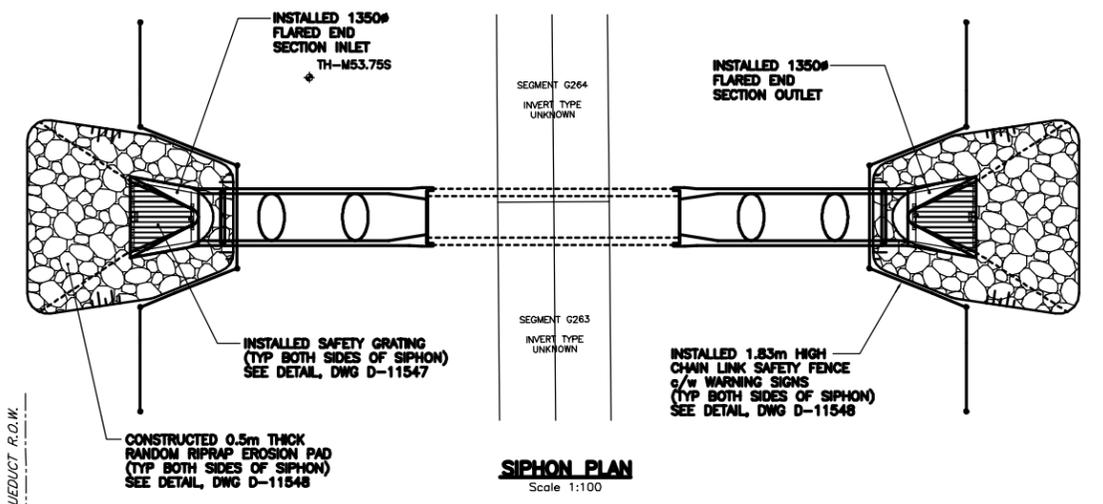
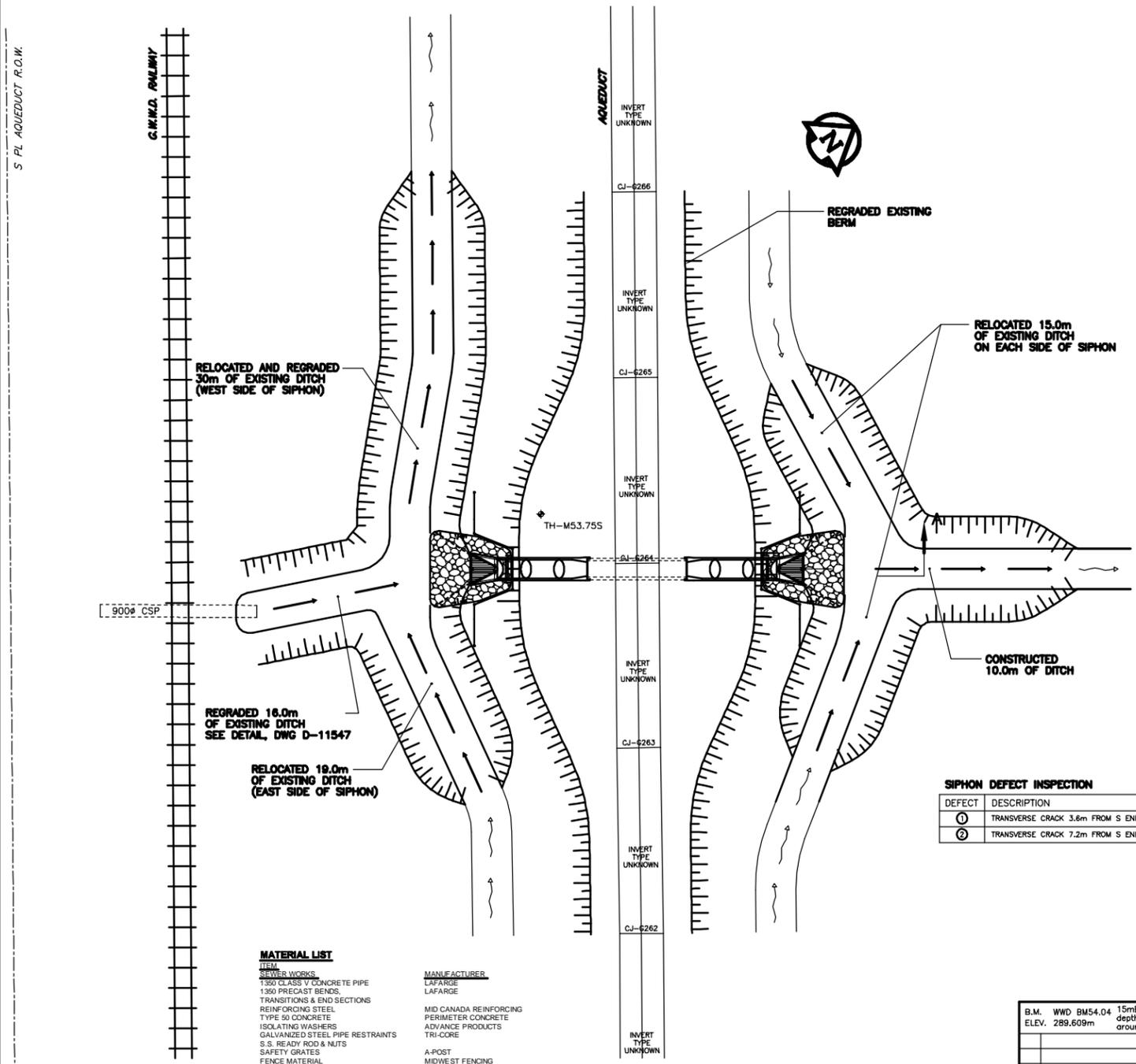
Drawings Relevant to Supplementary Conditions; D5.2

AUTOCAD RELEASE 14.0
AECOM REVIEW DRAFT CHK
FILE: L:\D265-241-00-537P\RE.DWG 2008-10-07 10:45am Wjd



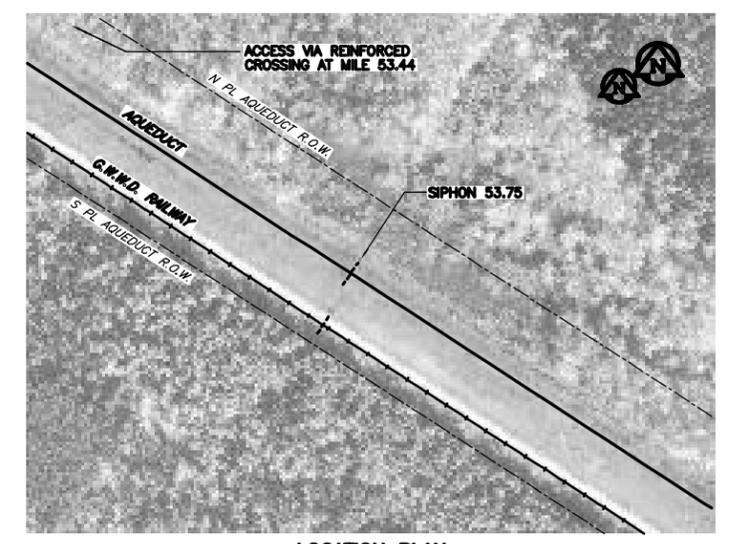
RECONSTRUCTED INLET/OUTLET STRUCTURES
SEE DETAIL, DWG D-11547

LOCATION OF FULL DEPTH SAWCUT
SEE DEFECT TABLE BELOW



SIPHON DEFECT INSPECTION

DEFECT	DESCRIPTION	REMEDIAL ACTION
①	TRANSVERSE CRACK 3.6m FROM S END OF BOX. OPEN 1mm. NO INFILTRATION.	REPAIRED WITH POLYURETHANE INJECTION
②	TRANSVERSE CRACK 7.2m FROM S END OF BOX. OPEN <1mm. NO INFILTRATION.	REPAIRED WITH POLYURETHANE INJECTION



MATERIAL LIST

ITEM	MANUFACTURER
SEWER WORKS	LAFARGE
1350 CLASS V CONCRETE PIPE	LAFARGE
1350 PRECAST BENDS, TRANSITIONS & END SECTIONS	LAFARGE
REINFORCING STEEL	MID CANADA REINFORCING
TYPE 50 CONCRETE PERIMETER CONCRETE	CONSEAL CS102
ISOLATING WASHERS	ADVANCE PRODUCTS
GALVANIZED STEEL PIPE RESTRAINTS	TRI-CORE
S.S. READY ROD & NUTS	
SAFETY GRATES	A-POST
FENCE MATERIAL	MIDWEST FENCING
PIPE JOINT SEALANT	CONSEAL CS102
SIKA SWELL S-2	SIKA CANADA INC.
POLYURETHANE	MULTIURETHANES
NON-SHRINK GROUT	EMACO 588
NON-WOVEN GEOTEXTILE	ARMTEC 250
RIPRAP	LAFARGE

CONTRACTOR: TRI-CORE PROJECTS MANITOBA
CONSTRUCTION PERIOD: FEBRUARY TO APRIL 2009
FIELDBOOK No: 08-078

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

NO.	REVISIONS	DATE	BY
1	ISSUED FOR RECORD	09/12/08	WJd

DESIGNED BY: MGM/MAG		CHECKED BY:	
DRAWN BY: MAG/WJd		APPROVED BY:	
HOR. SCALE: AS NOTED		RELEASED FOR CONSTRUCTION:	
VERTICAL: AS NOTED		DATE:	

CONSTRUCTION COMPLETION DATE
April, 2009

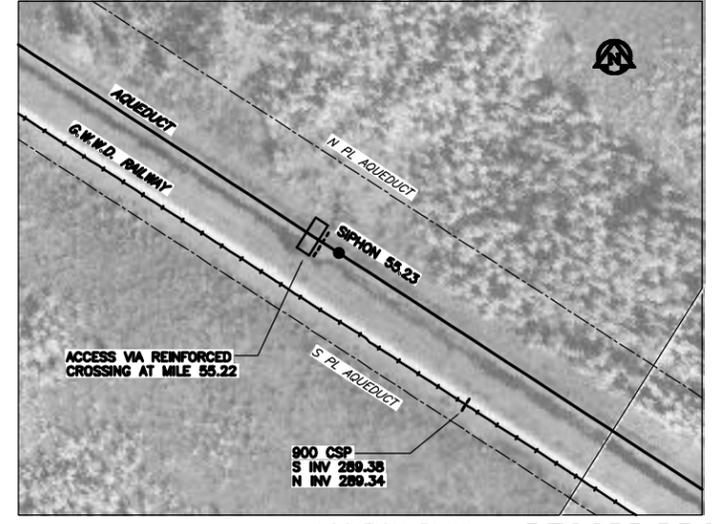
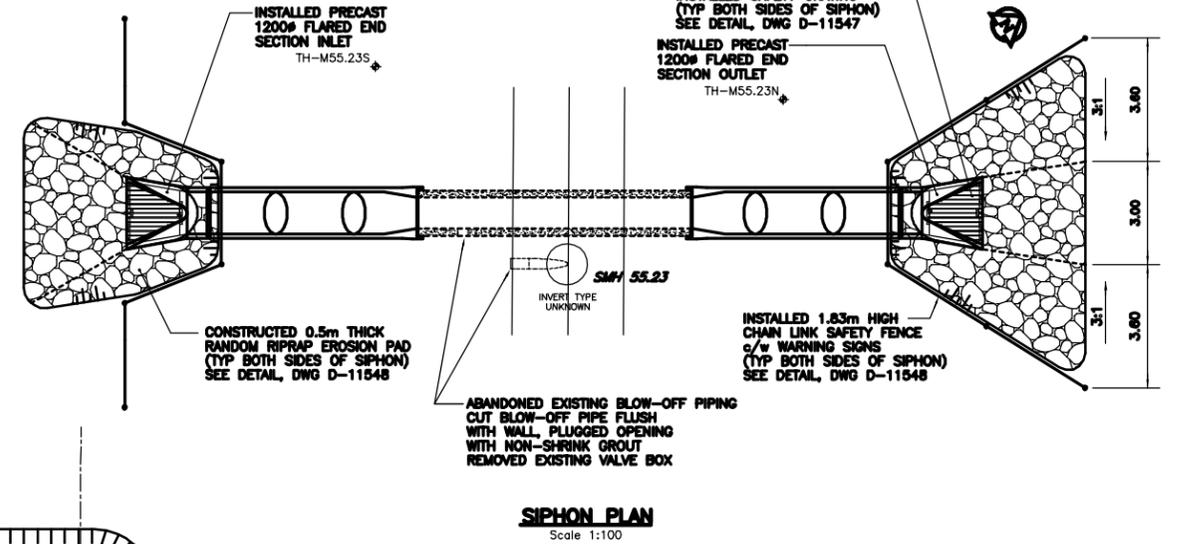
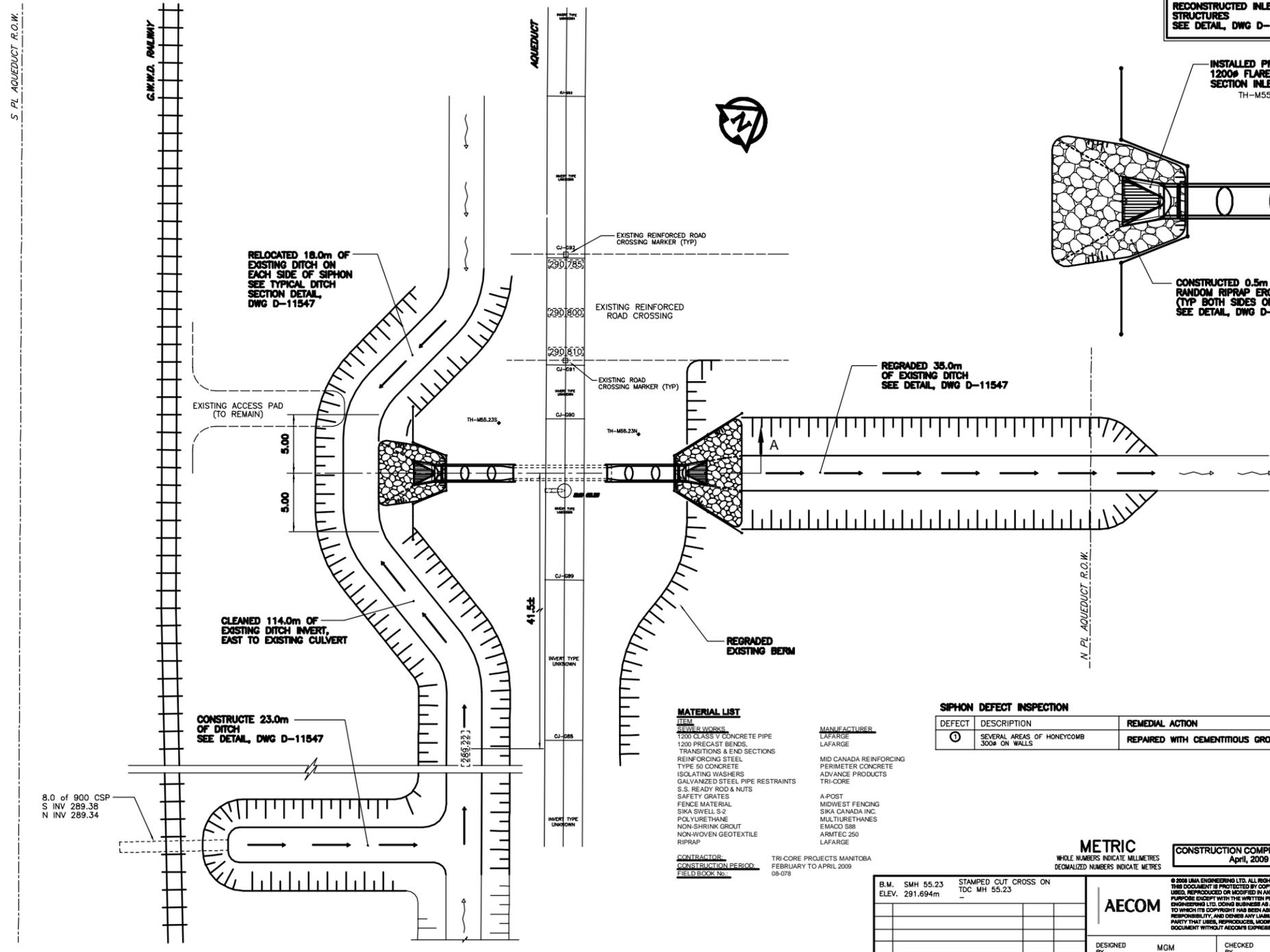
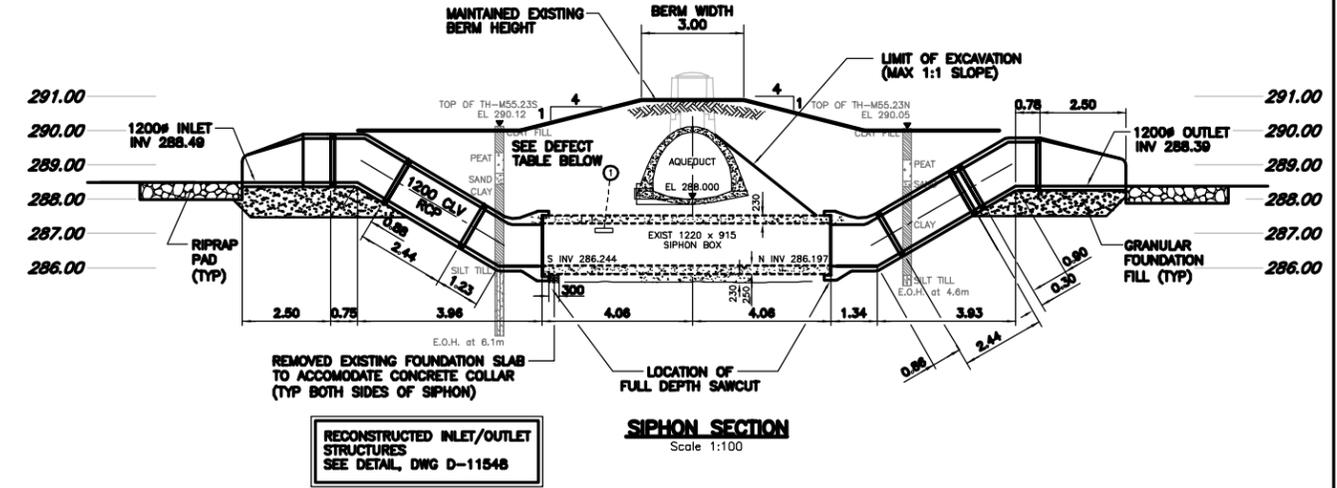
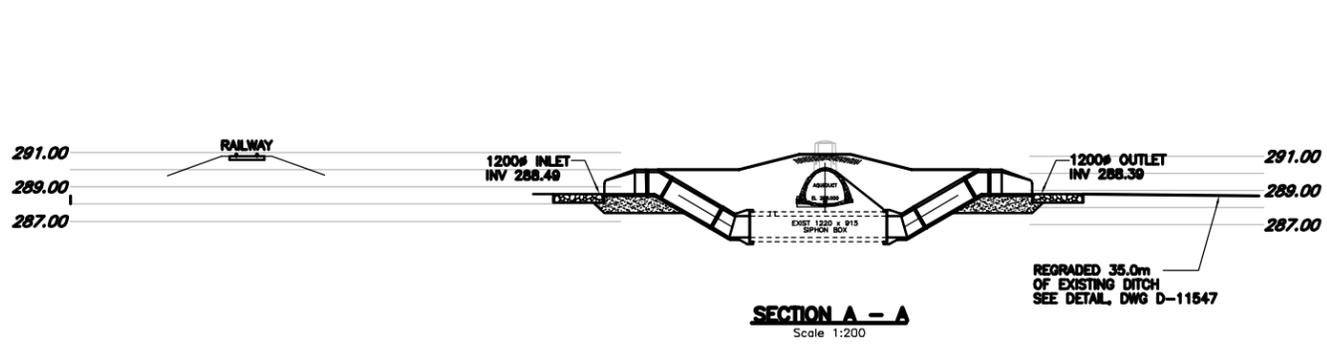
ENGINEER'S SEAL
ORIGINAL MYLAR SIGNED BY
C.C. MACEY
09/12/11
CONSULTANT DRAWING NO. 04
D265-241-00

THE CITY OF WINNIPEG
Winnipeg WATER AND WASTE DEPARTMENT

SHOAL LAKE AQUEDUCT DRAINAGE SIPHON REPAIRS
MILES 50.31, 53.75 & 55.23
DRAINAGE SIPHON 53.75 (SITE 2)
PLANS & SECTIONS

SHEET 4 OF 7
CITY DRAWING NUMBER
D-11545
REV 1

RECORD DRAWING
BID OPPORTUNITY No. 926-2008



MATERIAL LIST

ITEM	REMARKS	MANUFACTURER
1200 CLASS V CONCRETE PIPE		LAFARGE
1200 PRECAST BENDS, TRANSITIONS & END SECTIONS		LAFARGE
REINFORCING STEEL		MID CANADA REINFORCING
TYPE 50 CONCRETE		PERIMETER CONCRETE
ISOLATING WASHERS		ADVANCE PRODUCTS
GALVANIZED STEEL PIPE RESTRAINTS		TRI-CORE
S.S. READY ROD & NUTS		
SAFETY GRATES		A-POST
FENCE MATERIAL		MIDWEST FENCING
SIKA SWELL S-2		SIKA CANADA INC.
POLYURETHANE		MULTURETHANES
NON-SHRINK GROUT		EMACO 508
NON-WOVEN GEOTEXTILE		ARMTEC 250
RIPRAP		LAFARGE

CONTRACTOR: TRI-CORE PROJECTS MANTOBA
CONSTRUCTION PERIOD: FEBRUARY TO APRIL 2009
FIELD BOOK NO.: 08-078

SIPHON DEFECT INSPECTION

DEFECT	DESCRIPTION	REMEDIAL ACTION
①	SEVERAL AREAS OF HONEYCOMB 300# ON WALLS	REPAIRED WITH CEMENTITIOUS GROUT

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

CONSTRUCTION COMPLETION DATE
April, 2009

STAMPED CUT CROSS ON
ELEV. 291.694m

NO.	REVISIONS	DATE	BY
1	ISSUED FOR RECORD	09/12/08	WJd

AECOM		ENGINEER'S SEAL	
DESIGNED BY: MGM	CHECKED BY:	CONSULTANT DRAWING NO. 05 D265-241-00	
DRAWN BY: WJd	APPROVED BY:		
HOR. SCALE: AS NOTED	RELEASED FOR CONSTRUCTION		
VERTICAL: AS NOTED	DATE:		

LOCATION PLAN
Scale 1:2000

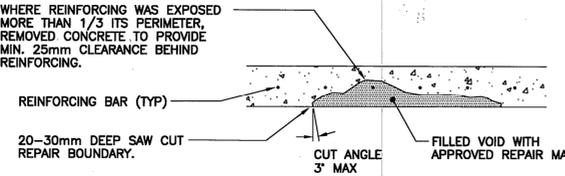
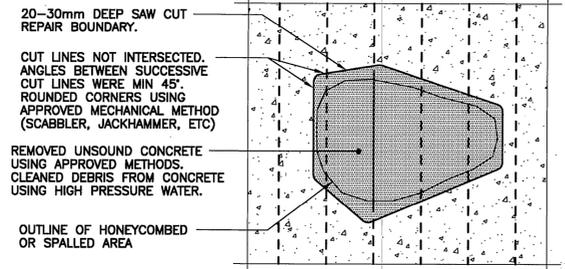
RECORD DRAWING
BID OPPORTUNITY No. 926-2008

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

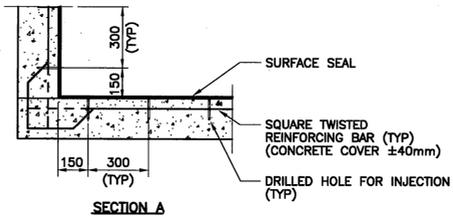
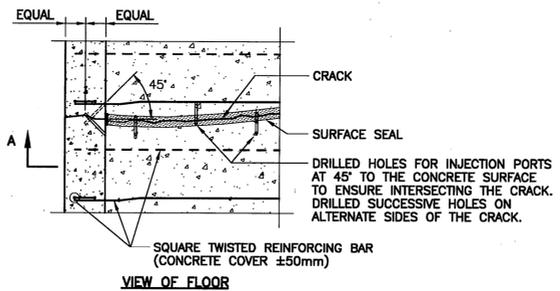
SHOAL LAKE AQUEDUCT DRAINAGE SIPHON REPAIRS
MILES 50.31, 53.75 & 55.23
DRAINAGE SIPHON MILE 55.23 (SITE 3)
PLANS & SECTIONS

SHEET 5 OF 7
CITY DRAWING NUMBER REV
D-11546 1

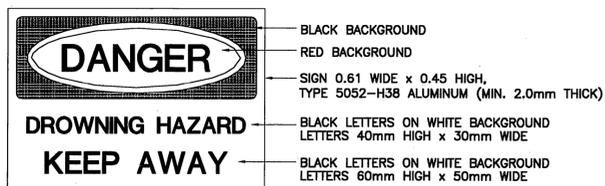
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AECOM REVIEW DRIFT CHK



CONCRETE SURFACE REPAIR
Scale NTS

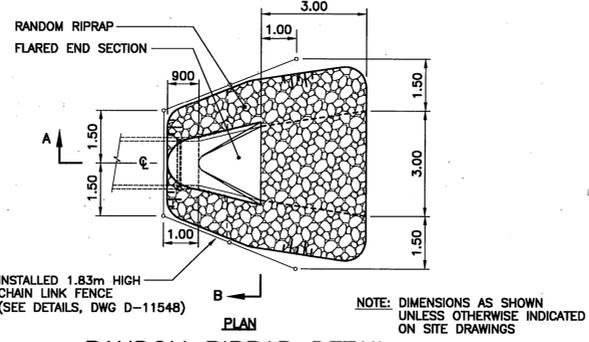
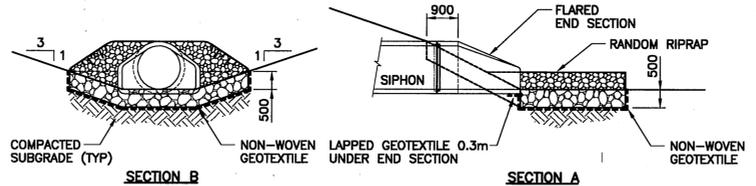


CRACK INJECTION REPAIR
Scale NTS

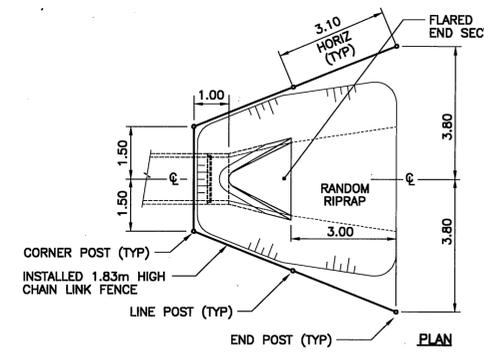
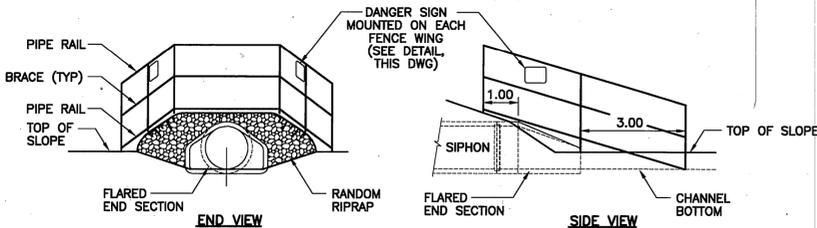


NOTE: WHITE BACKGROUND IS TYPE III RETROREFLECTIVE SHEETING.

SIPHON INLET WARNING SIGN

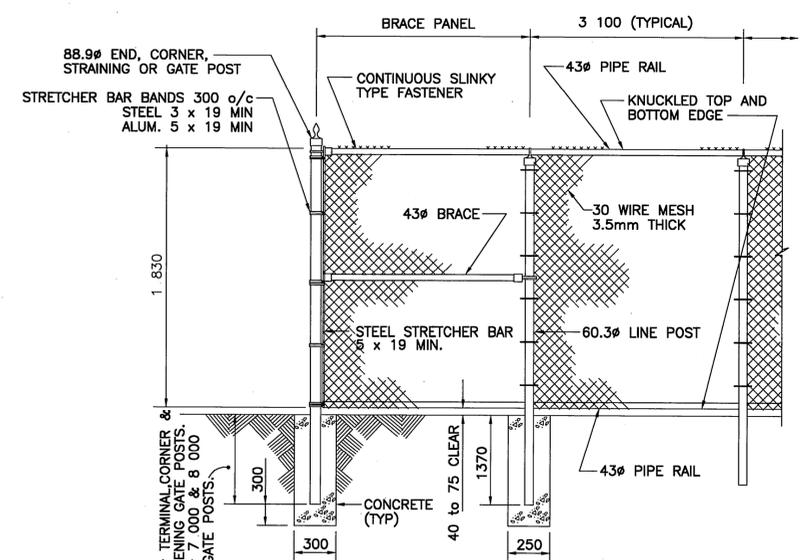


RANDOM RIPRAP DETAIL



SIPHON FENCING DETAIL
SCALE 1:100

NOTE: DIMENSIONS AS SHOWN UNLESS OTHERWISE INDICATED ON SITE DRAWINGS



STANDARD FENCE DETAIL

N.T.S.

FENCE POSTS WERE INSTALLED BY DRIVING. LENGTH OF POST DETERMINED AS FOLLOWS:

- MINIMUM DRIVEN LENGTH 1.37m
- BURIED LENGTH TO BE MIN 600mm INTO UNDISTURBED GROUND
- WHERE POSTS ARE FOUND IN UNSUITABLE MATERIAL SUCH AS PEAT, MIN BURIED LENGTH IS 600mm INTO SOUND MATERIAL. UNSUITABLE MATERIAL WAS REMOVED & REPLACED WITH COMPACTED GRANULAR MATERIAL TO MIN 600mm IN DIAMETER AROUND POST

FILE: L:\2005-241-00-SB0202.DWG 2008-07-24 08:53:00 WJD

AECOM REVIEW DRAFT CHK

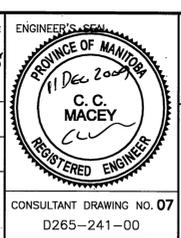


NO.	REVISIONS	DATE	BY
1	ISSUED FOR RECORD	09/12/08	WJD

B.M.	ELEV.
-	-

DESIGNED BY: MGM/MAG
DRAWN BY: MAG/WJD
HOR. SCALE: AS NOTED
VERTICAL: AS NOTED
DATE: 09/12/09

CHECKED BY: [Signature]
APPROVED BY: [Signature]
RELEASED FOR CONSTRUCTION: [Signature]
DATE: [Signature]



CONSTRUCTION COMPLETION DATE: April, 2009
RECORD DRAWING BID OPPORTUNITY No. 926-2008

THE CITY OF WINNIPEG
Winnipeg WATER AND WASTE DEPARTMENT

SHOAL LAKE AQUEDUCT
DRAINAGE SIPHON REPAIRS
MILES 50.31, 53.75 & 55.23

MISCELLANEOUS DETAILS (2)

SHEET 7 OF 7
CITY DRAWING NUMBER
D-11548

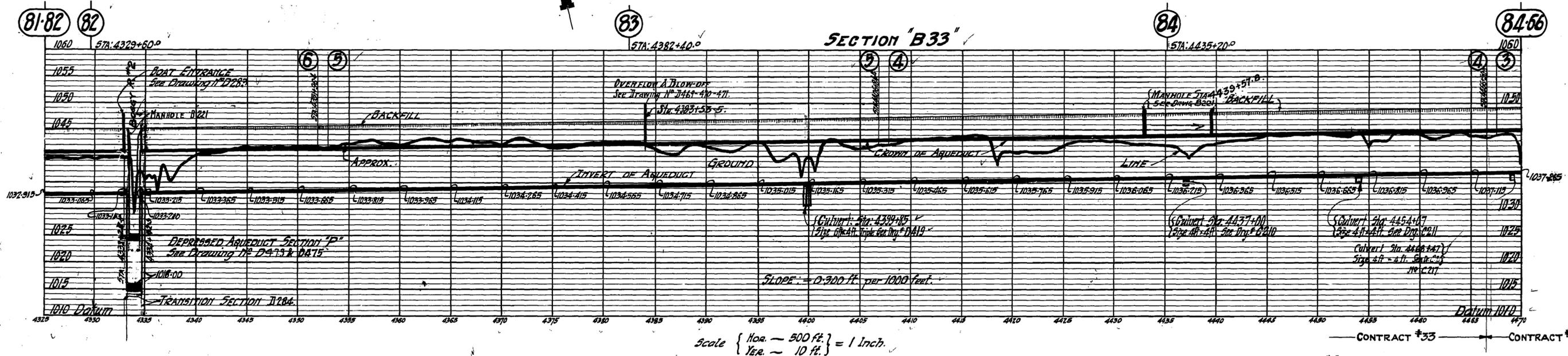
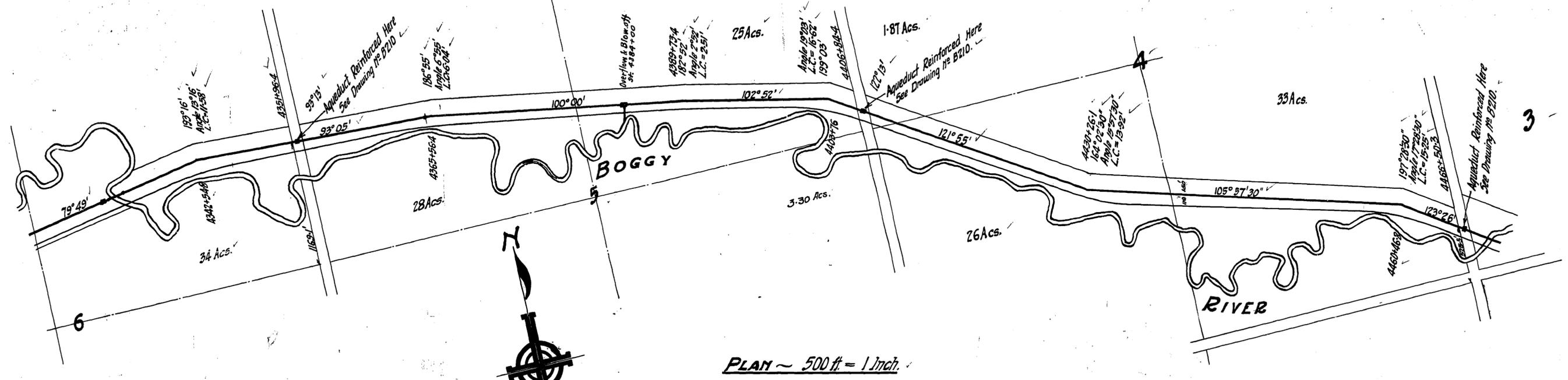
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

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CONSULTANT DRAWING NO. 07
D265-241-00

Drawings Relevant to Supplementary Conditions; D5.3

TOWNSHIP 8. RANGE 15. E.P.M.



Aqueduct Section 'B' See Drawing Nos B 128, B 337.
 Depressed Aqueduct Section See Drawing Nos D473, D475.
 Overflow & Blow-off Structure D469, D470, D471.
 Boat Entrance D283.

CONTRACT #33.

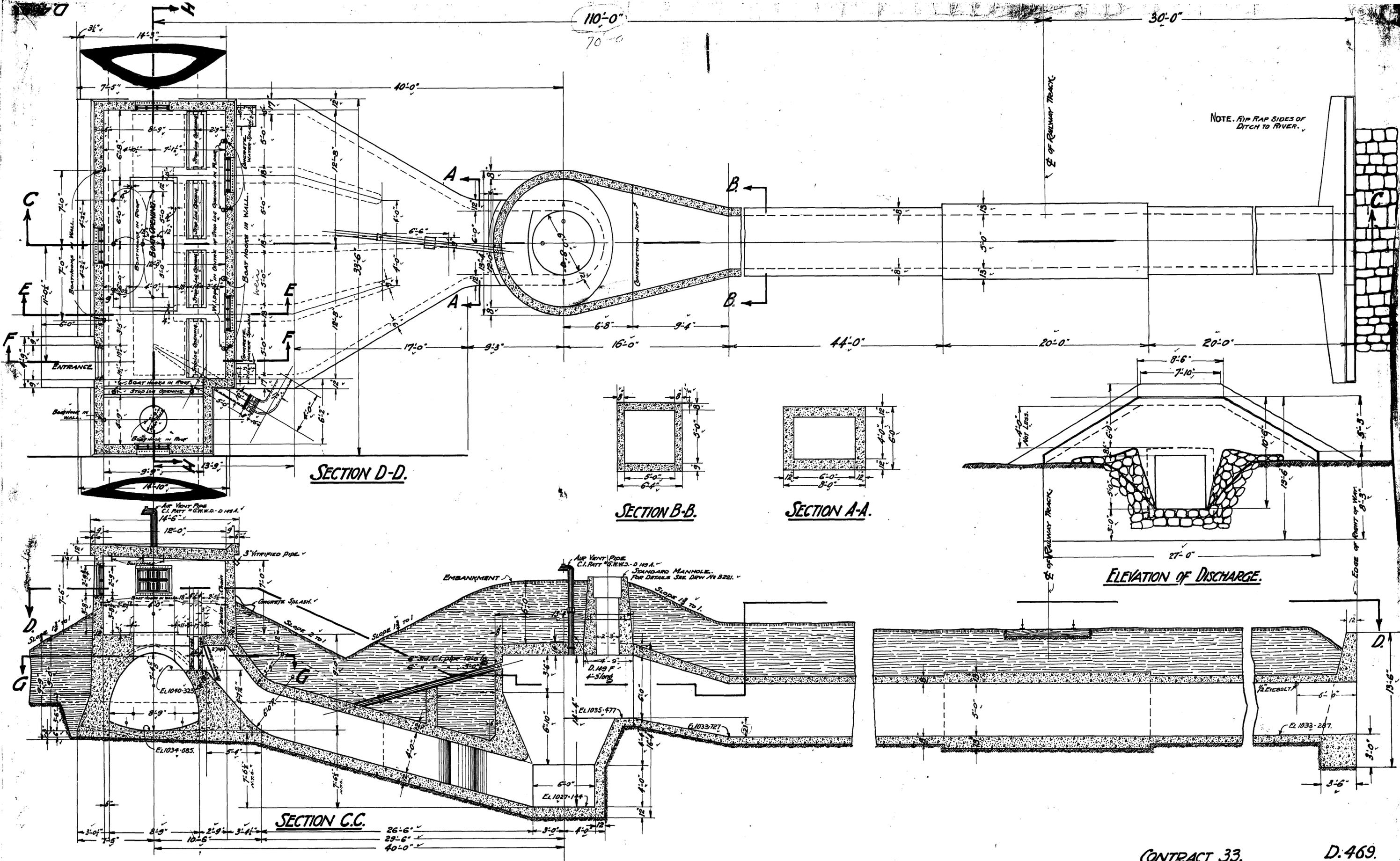
Drawn By: *A. J. McK.*
 Checked By: *A. J. McK.*
 Approved By: *M. W. Sauer*

Boggy River crossing revised & Overflow & blow off relocated. April 8-1918. J.H.

James H. Fuertes
 CONSULTING ENGINEER.
W. Schae
 CHIEF ENGINEER.

CONTRACT #33. D302

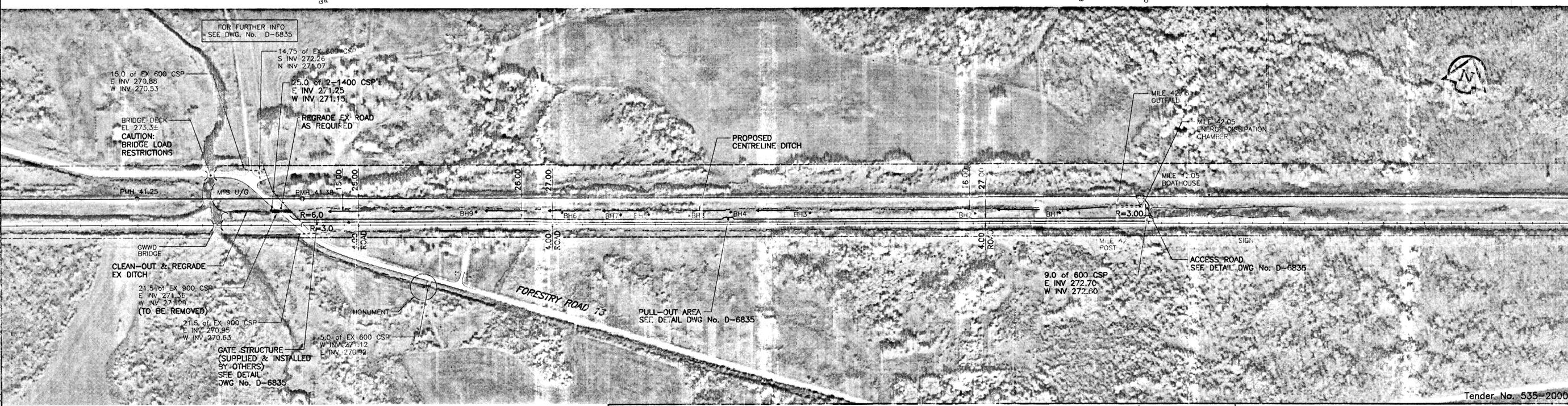
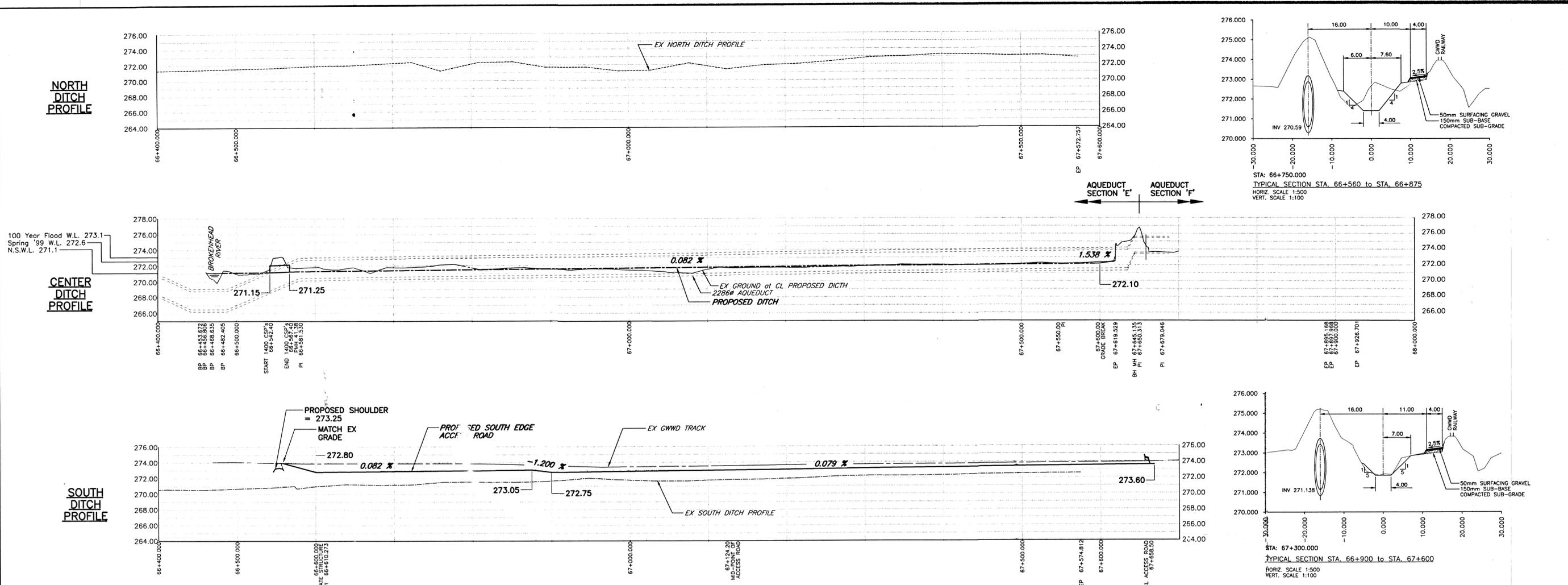
GREATER WINNIPEG WATER DISTRICT
 Aqueduct Plan & Profile
 Mile 81-82 to Mile 84-66.
 Date: 1-12-1915. Scale on sheets.



Drawn By *J.C.D.*
 Traced " *J.C.D.*
 Checked " *M.Sauer*
 Approved " *M.Sauer*

James H. Fuertes,
 Consulting Engineer.
W. L. Chace
 Chief Engineer.

GREATER WINNIPEG WATER DISTRICT.
 DETAIL OF OVERFLOW AND BLOWOFF STRUCTURE
 AT STA: 4384 + 00.
 DATE: JANUARY 24TH 1918. SCALE: 1/4" = 1'-0"



PLOT SCALE: 1:25
 AUTOCAD 14.0 D:\Drawings\Ongoing\4265-145-12\mile42cre.dwg 05/10/2000 1:10pm WJD

NO.	REVISIONS	DATE	BY
A	ISSUED FOR TENDER	00May10	WJD
	ISSUED FOR APPROVAL	00May05	

LOCATION APPROVED UNDERGROUND STRUCTURES	APPROVED	DATE
SUPR. U/G STRUCTURES COMMITTEE		

UMA Engineering Ltd.
Engineers and Planners

CGSS
CH2M GORE & STORRE LIMITED

DESIGNED BY: MGM
DRAWN BY: WJD
CHECKED BY: [Signature]
APPROVED BY: [Signature]

HOR. SCALE: 1:2500
VERTICAL: 1:250

RELEASED FOR CONSTRUCTION: [Signature]
DATE: [Date]

CONSULTANT DRAWING NO. 01
41-02-D2E5-145-12

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SHOAL LAKE AQUEDUCT
RIGHT-OF-WAY DRAINAGE IMPROVEMENTS
MILE 41.3 TO MILE 42.05

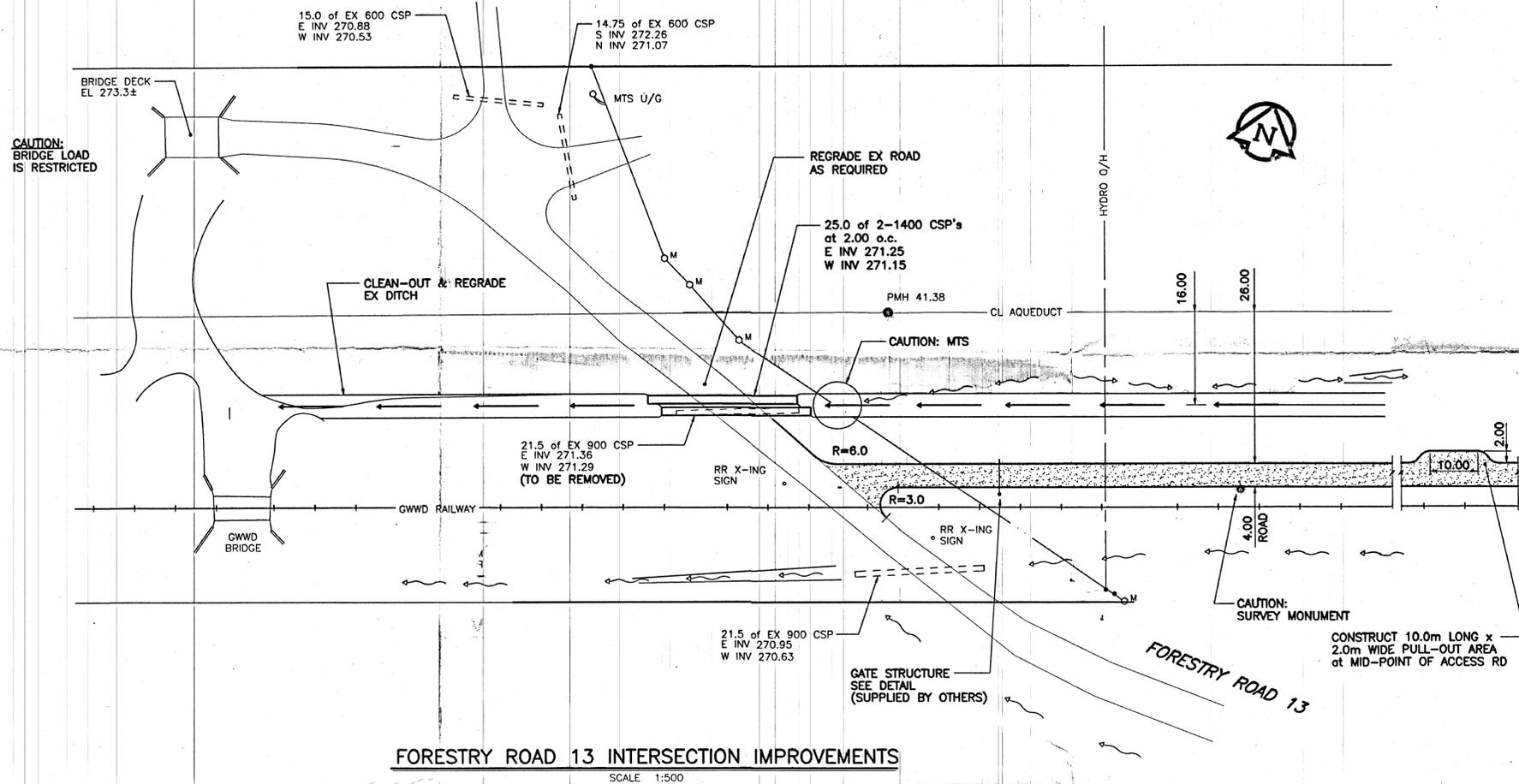
PROPOSED DRAINAGE IMPROVEMENTS
PLAN & PROFILE

SHEET 1 OF 2
CITY DRAWING NUMBER: D-6834 A

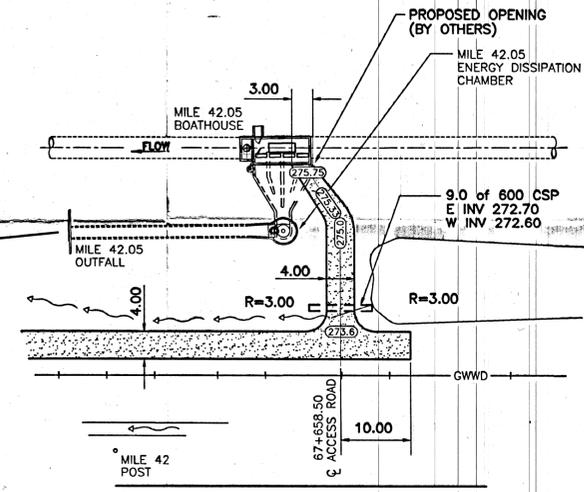
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE. BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

Tender No. 535-2000



FORESTRY ROAD 13 INTERSECTION IMPROVEMENTS
SCALE 1:500



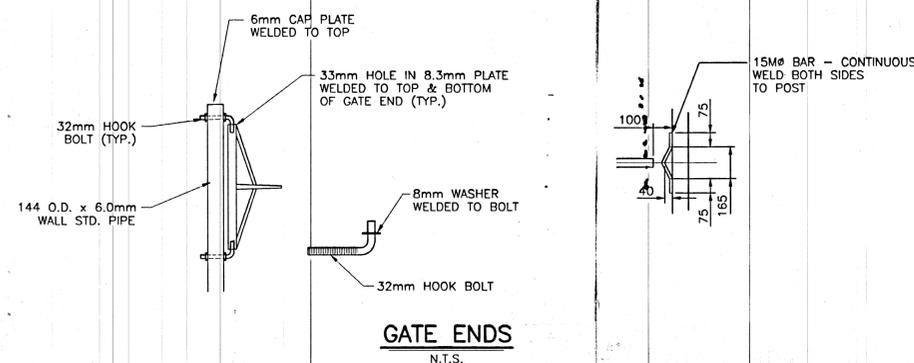
MILE 42.05 BOATHOUSE ACCESS
SCALE 1:500

Mile 42 Overflow Ditch Centreline
Combined Scale Factor 1.000000

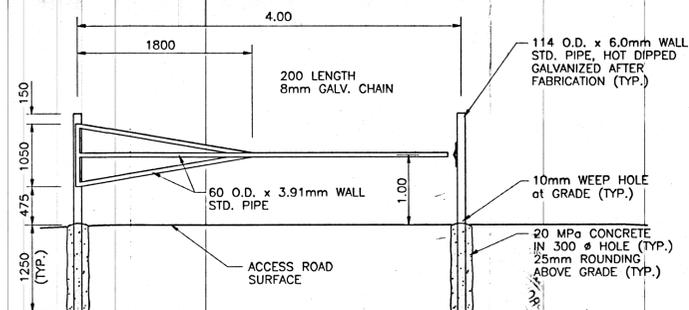
North	East	Station	Offset	Desc
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5516051.35	690320.94	665+42.40	16.00	Start 1400 CSP
5516058.64	690344.86	665+67.40	16.00	End 1400 CSP
5516062.76	690358.37	665+81.53	16.00	PMH 41.38
5516345.82	691284.55	675+50.00	16.00	PI
5516369.61	691349.96	676+19.50	12.37	Headwall

Monument Control Data Table

REFERENCE	NORTHING	EASTING	ELEVATION	CONTROL TYPE	SCALE FACTOR	MONUMENT DESCRIPTION / NOTES
PMH 41.25	5516016.754	690152.574	274.489	HORIZONTAL	1.000011	Stamped cut cross on TDC MH 41.25
PMH 41.25	5516016.215	690152.699	274.386	VERTICAL	1.000011	Cut Cross / SE Lip
PMH 41.38	5516078.064	690353.699	275.067	HORIZONTAL	1.000020	Stamped cut cross on TDC MH 41.38
PMH 41.38	5516077.657	690354.015	274.988	VERTICAL	1.000020	Cut Cross/ S Lip
VWD BM41.42	5516066.229	690419.073	273.280	HORIZONTAL / VERTICAL	1.000026	Berntsen Monument 66 m east of road allowance and 2.35 m North of the North Rail
BH 42.05 MANHOLE	5516388.923	691370.838	275.816	HORIZONTAL	1.000062	Stamped cut cross on TDC MH 42.05
BH 42.05 MANHOLE	5516388.418	691371.005	275.837	VERTICAL	1.000062	Cut Cross/ S Lip
SMH 42.05 OVERFLOW	5516378.347	691378.140	277.618	HORIZONTAL	1.000064	Stamped cut cross on TDC MH 42.05 OVERFLOW
SMH 42.05 OVERFLOW	5516377.805	691378.263	277.478	VERTICAL	1.000062	Cut Cross/ S Lip



GATE ENDS
N.T.S.

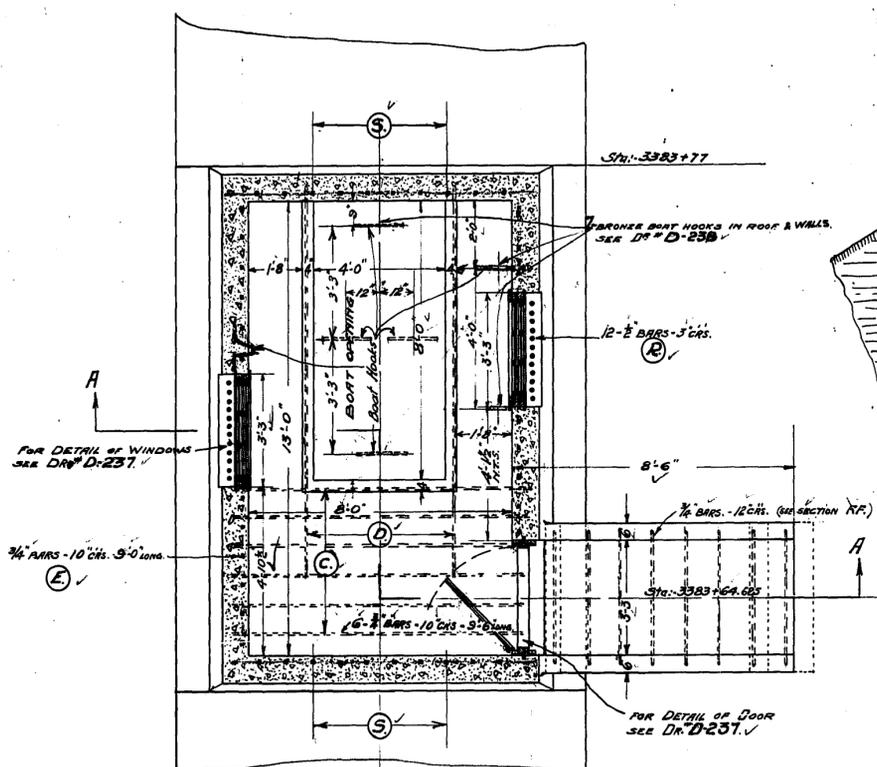


ACCESS GATE DETAIL
N.T.S.
(SUPPLIED & INSTALLED BY OTHERS)

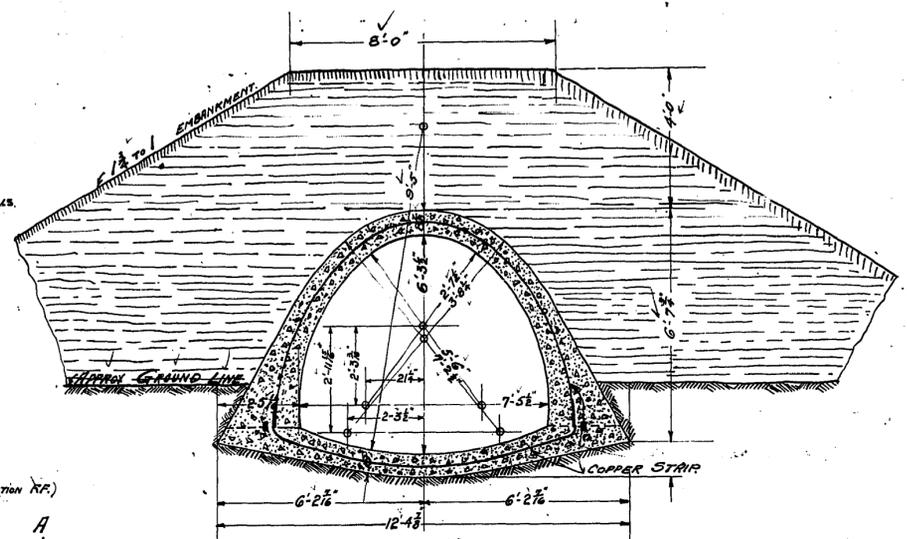
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATION APPROVED UNDERGROUND STRUCTURES SUPR. U/G STRUCTURES COMMITTEE DATE NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE. BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.	B.M. ELEV. --- --- ---	UMA Engineering Ltd. Engineers and Planners	CGGS CH2M GORE & STORRIE LIMITED	ENGINEER'S SEAL PROVINCE OF MANITOBA B.T. WEBER REGISTERED ENGINEER	THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT SHOAL LAKE AQUEDUCT RIGHT-OF-WAY DRAINAGE IMPROVEMENTS MILE 41.3 TO MILE 42.05 PROPOSED DRAINAGE IMPROVEMENTS INTERSECTION & MISCELLANEOUS DETAILS	SHEET 2 OF 2 CITY DRAWING NUMBER D-6835
	A ISSUED FOR TENDER 00May10 Wjd ISSUED FOR APPROVAL 00May05 NO. REVISIONS DATE BY	DESIGNED BY MGM DRAWN BY WJD HOR. SCALE: AS NOTED VERTICAL: AS NOTED DATE May 10 2010	CHECKED BY [Signature] APPROVED BY [Signature] RELEASED FOR CONSTRUCTION [Signature] DATE May 10 2010	CONSULTANT DRAWING NO. 02 41-02-0265-145-12	Tender No. 535-2000	

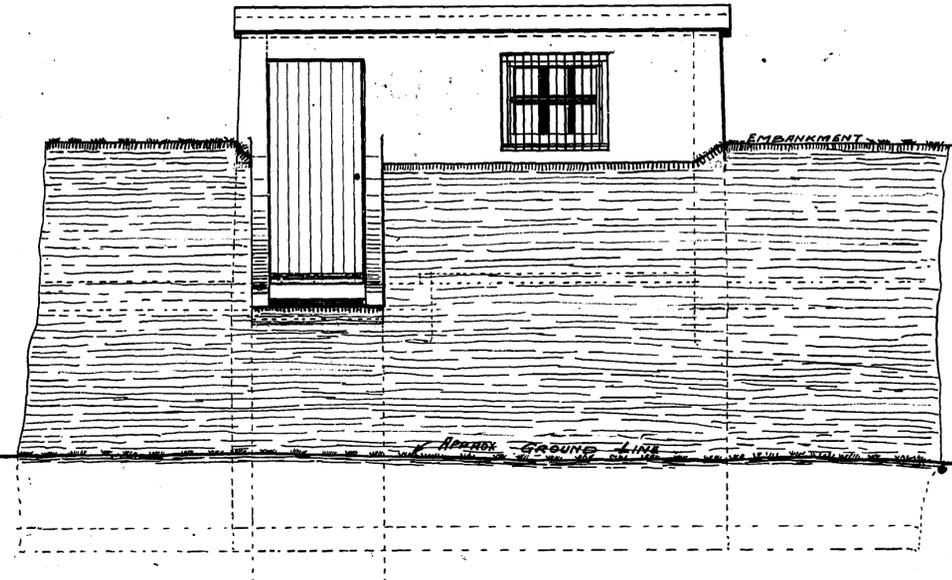
Drawings Relevant to Supplementary Conditions; D5.4



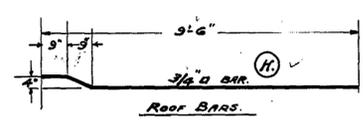
SECTION BB



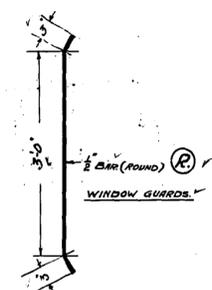
SECTIONS DD



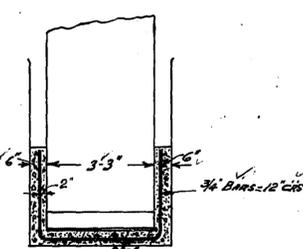
SOUTH ELEVATION, G.G.



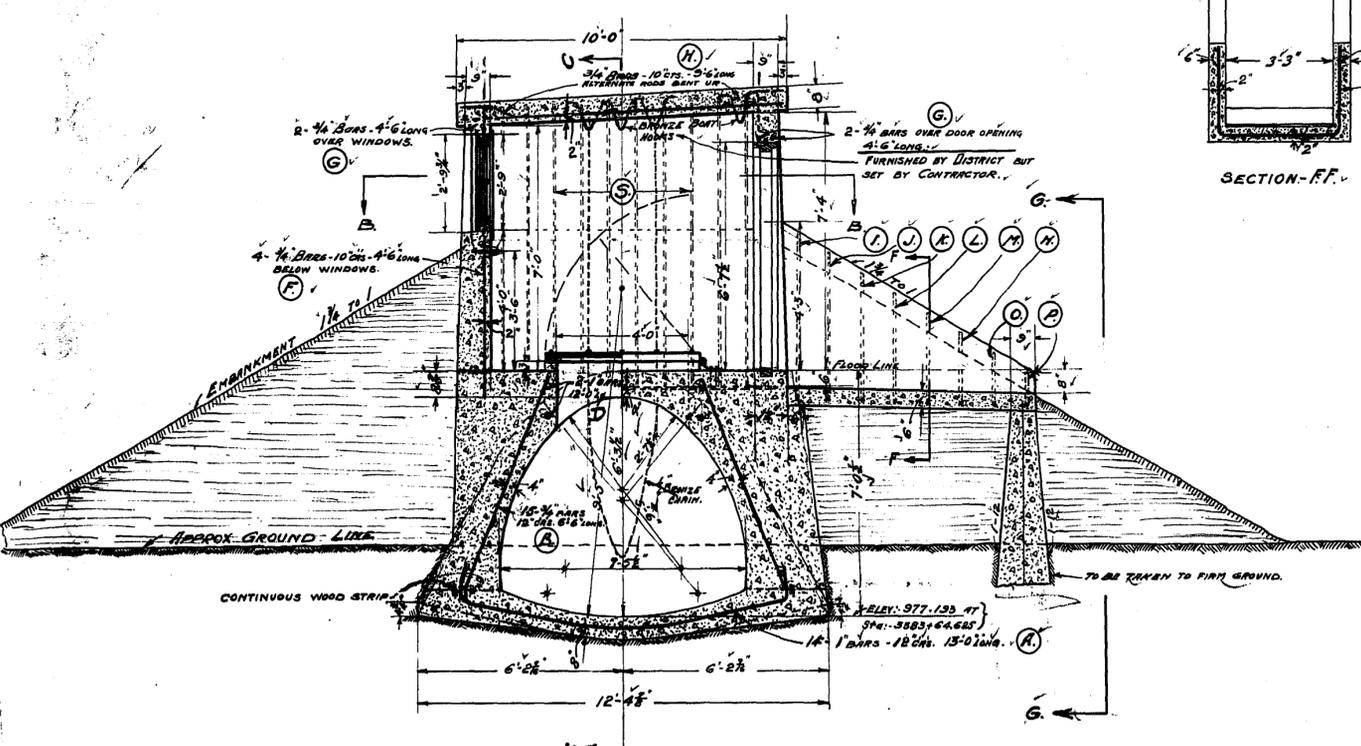
Roof Bars



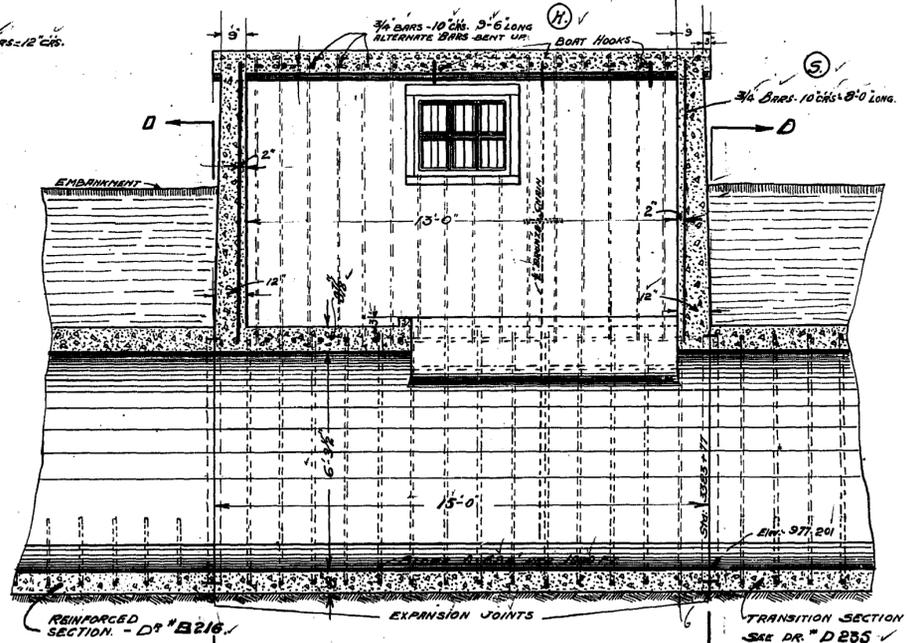
WINDOW GUARDS



SECTION FF



SECTION AA



SECTION CC

LETTER NOS	DIMENSIONS	WHERE PLACED
A. 18.	1" BARS - 13'0" LONG	INVERT
B. 28.	3/4" - 6'6"	SIDES OF ARCH.
C. 6.	3/4" - 3'6"	FLOOR.
D. 4.	1" - 12'0"	SIDES OF BOAT WALL
E. 28.	3/4" - 9'0"	WALLS
F. 8.	3/4" - 4'6"	BELOW WINDOWS
G. 6.	3/4" - 4'6"	OVER WINDOWS AND DOOR
H. 16.	3/4" - 3'6" WITH BENT	ROOF
I. 1.	3/4" - 13'0"	ENTRANCE
J. 1.	3/4" - 12'0"	"
K. 1.	3/4" - 10'9"	"
L. 1.	3/4" - 9'9"	"
M. 1.	3/4" - 8'9"	"
N. 1.	3/4" - 7'9"	"
O. 1.	3/4" - 6'9"	"
P. 1.	3/4" - 5'9"	"
R. 24	1/2" - 3'6"	WINDOW GUARDS
S. 12.	3/4" - 8'0"	WALLS

NOTE: ALL REINFORCING STEEL TO BE OF SQUARE SECTION.
 PAINT ALL EXPOSED IRON WORK WITH TWO COATS OF SHERWIN-WILLIAMS METALASTIC, OR EQUIVALENT.

REFERENCE TABLE

FOR DETAILS OF WINDOWS	SEE DR. NO.
DOOR	D-237
COVER FOR BOAT OPENING	D-237
BRONZE BOAT HOOKS	D-238
TRANSITION SECTION	D-235
REINFORCED SECTION	B-216
DEPRESSED AQUEDUCT	D-201

NOTE: BRONZE BOAT HOOKS AND CHAIN FURNISHED BY DISTRICT AND SET BY CONTRACTOR.

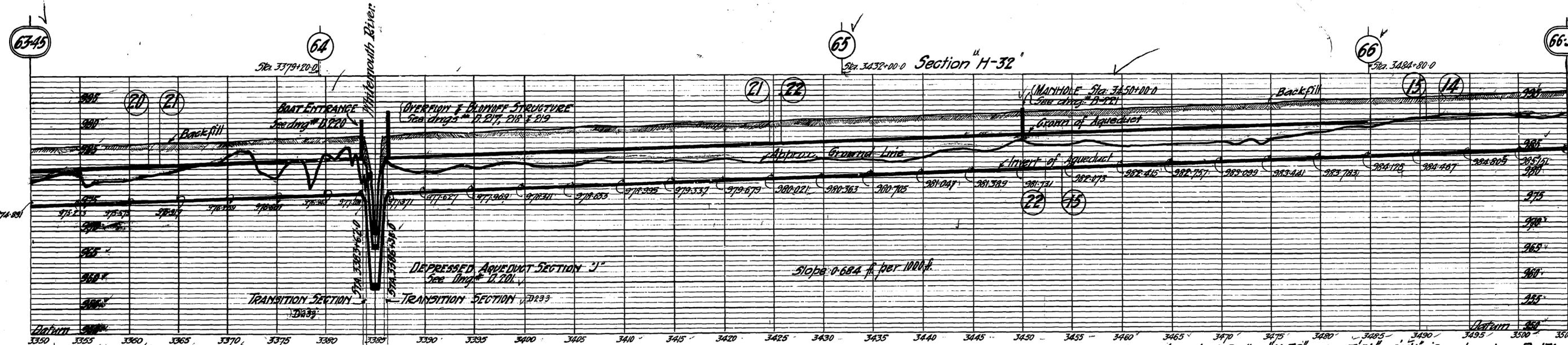
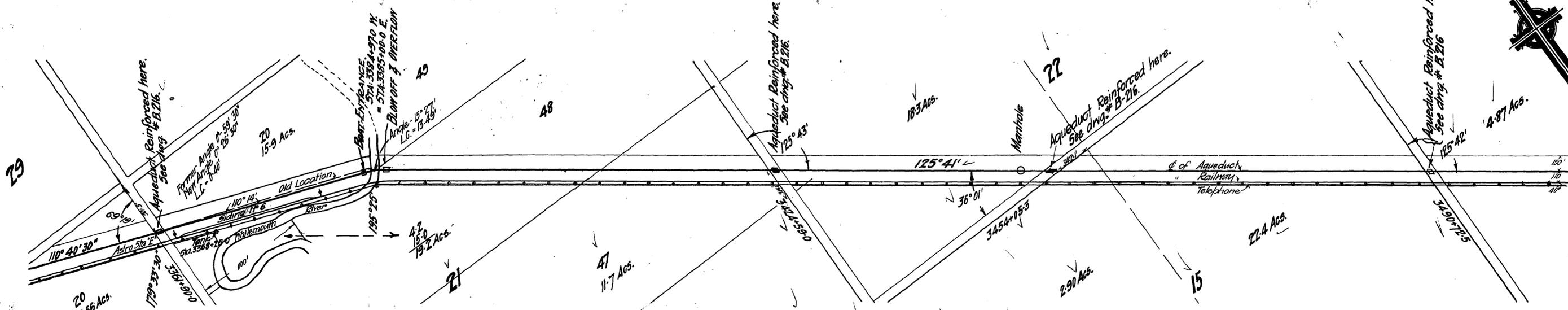
CONTRACT NO 32

D:220

DRAWN BY
 CHECKED BY
 APPROVED BY

Consulting Engineer
 W. Schaefer
 CHIEF ENGINEER

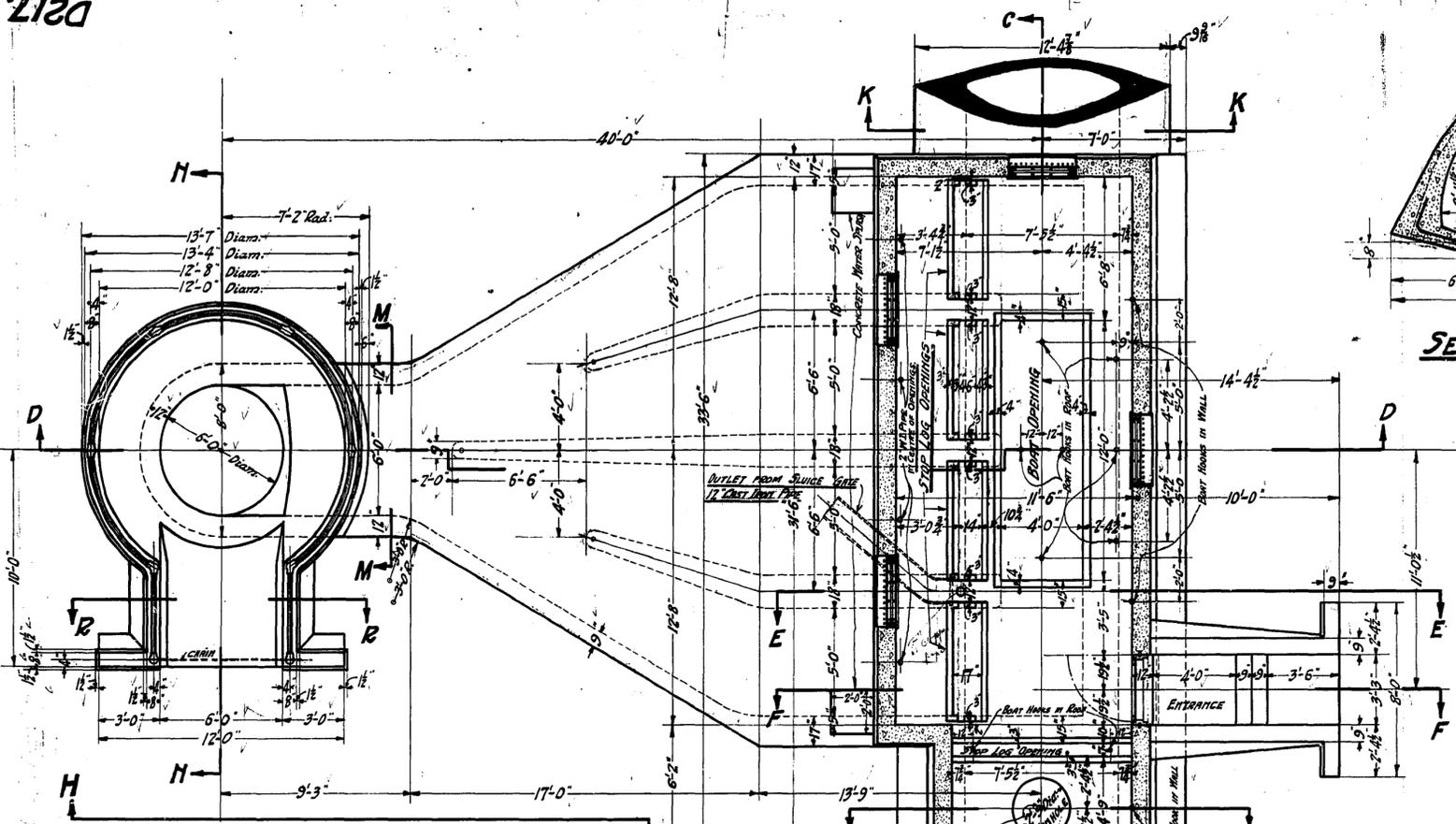
GREATER WINNIPEG WATER DISTRICT.
 DETAIL OF BOAT ENTRANCE AT
 WHITEMOUTH RIVER CROSSING
 DATE: 13-5-1915. SCALE: 3/8" = 1' 0"



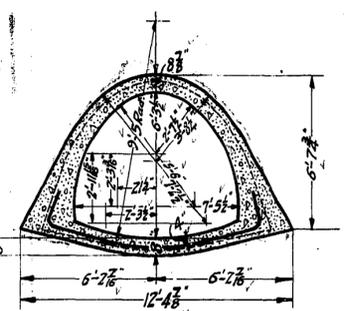
Equation in chainage -
Sta. 3384+97.0 H - 3385+00.0 E.

Scales { Hor - 500 f. } 1 inch
{ Ver - 10 f. }
CONTRACT 32.

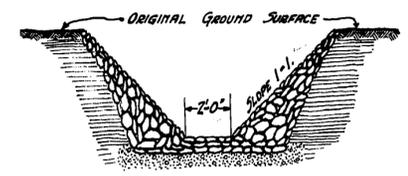
Aqueduct Section "H-32" - 7-5/8 x 6-3/8 - See drawing B-131
Overflap and Blowoff Structure & Transition Section - See drawings # D-217, D-218-219
Depressed Aqueduct Section - "J" 6'-3/8" Diameter - See drawing # D-201
Boat Entrance and Transition Section - See drawing # D-220.



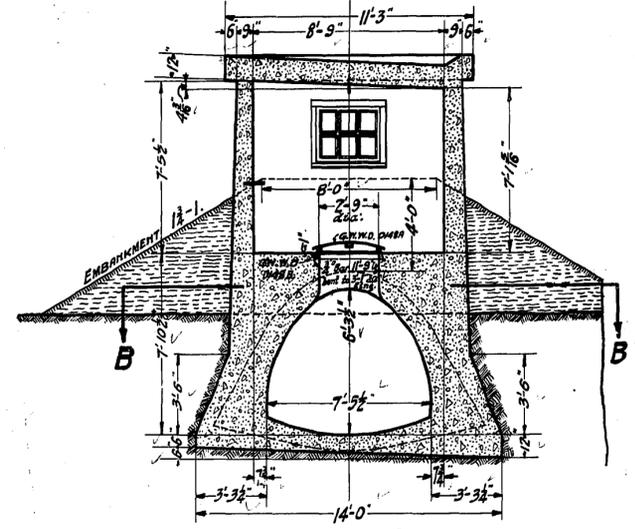
SECTION AA.



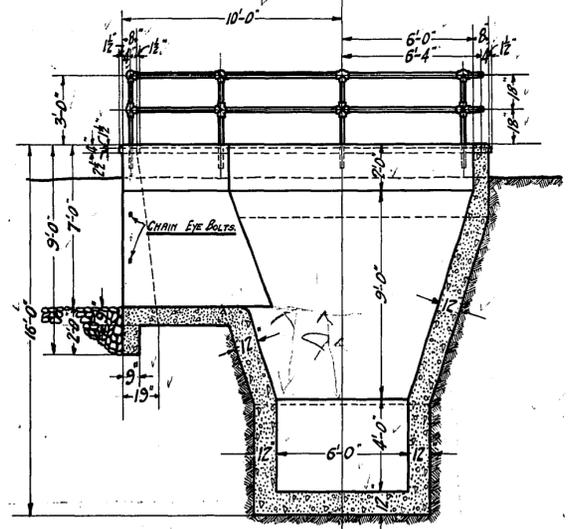
SECTION KK.



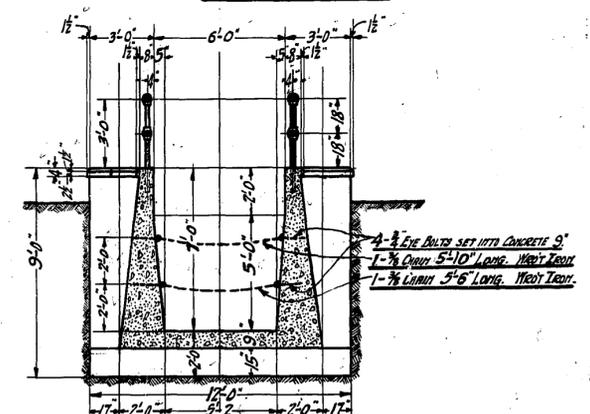
SECTION THROUGH DITCH.
SEE SPECIFICATIONS FOR RIP RAP.



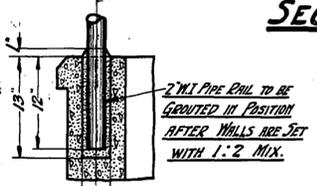
SECTION GG.



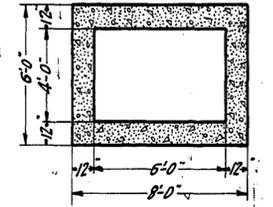
SECTION NN.



SECTION RR.



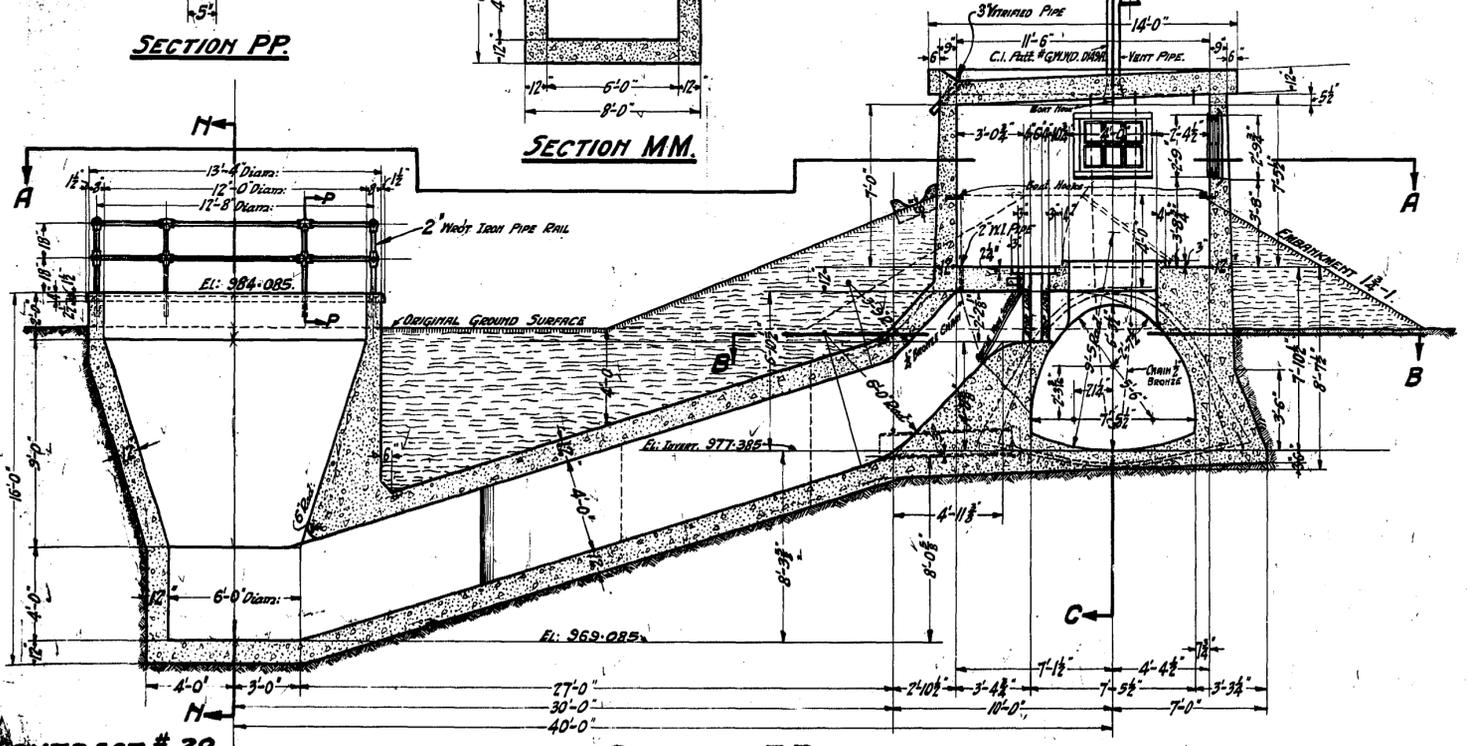
SECTION PP.



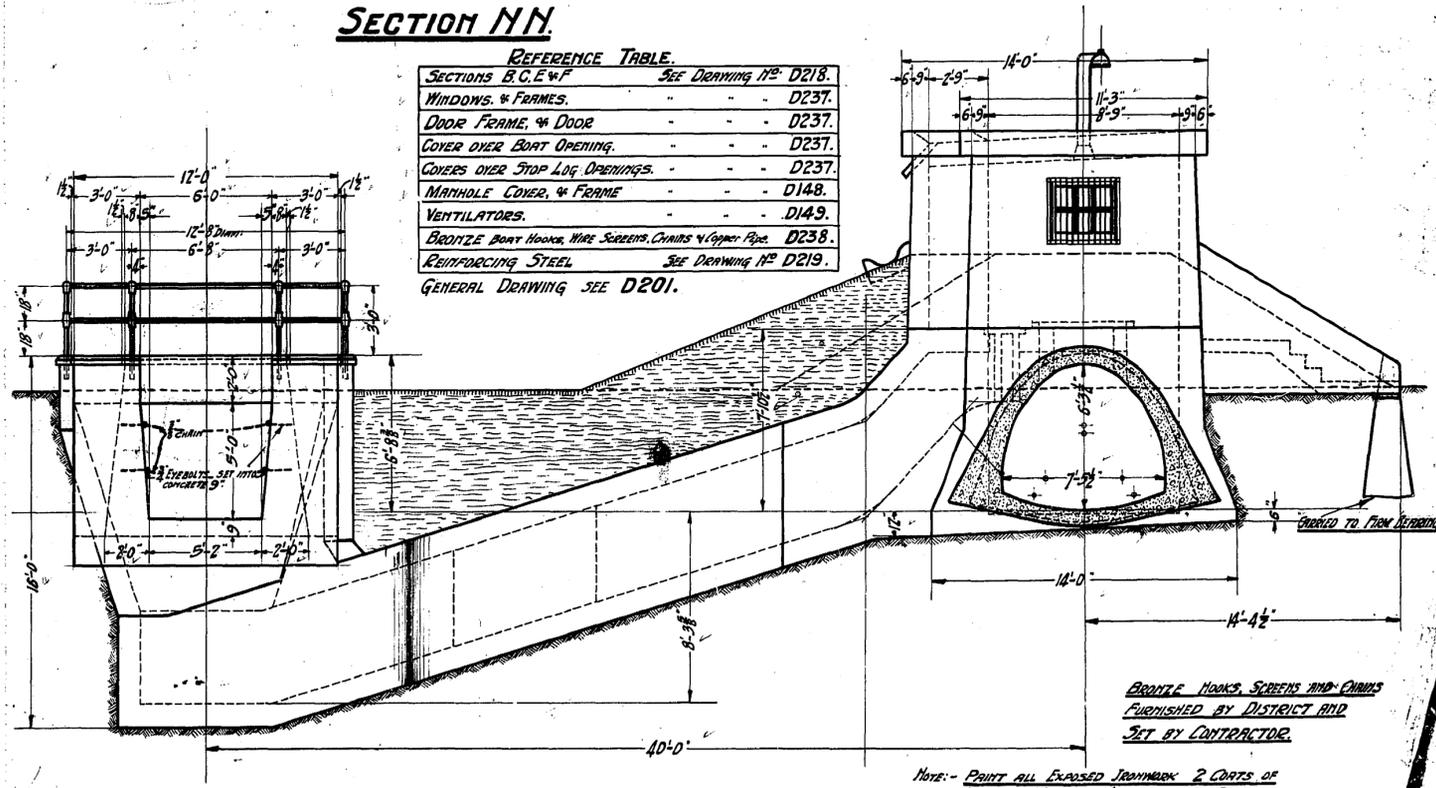
SECTION MM.

REFERENCE TABLE

SECTIONS B.C.E.W.F.	SEE DRAWING NO. D218.
WINDOWS & FRAMES.	D237.
DOOR FRAME, & DOOR.	D237.
COVER OVER BOAT OPENING.	D237.
COVERS OVER STOP LOG OPENINGS.	D237.
MANHOLE COVER, & FRAME.	D148.
VENTILATORS.	D149.
BRONZE BOLT HOOKS, WIRE SCREENS, CHAINS & COPPER PIPE.	D238.
REINFORCING STEEL.	SEE DRAWING NO. D219.
GENERAL DRAWING SEE D201.	



SECTION DD.



END ELEVATION. HH.

NOTE: PAINT ALL EXPOSED IRONWORK 2 COATS OF SHERWIN WILLIAMS METALASTIC OR EQUIVALENT. FOR DETAILS OF BLOWOFF SEE DRAWING # 5254.

CONTRACT # 32.

BY: [Signatures]

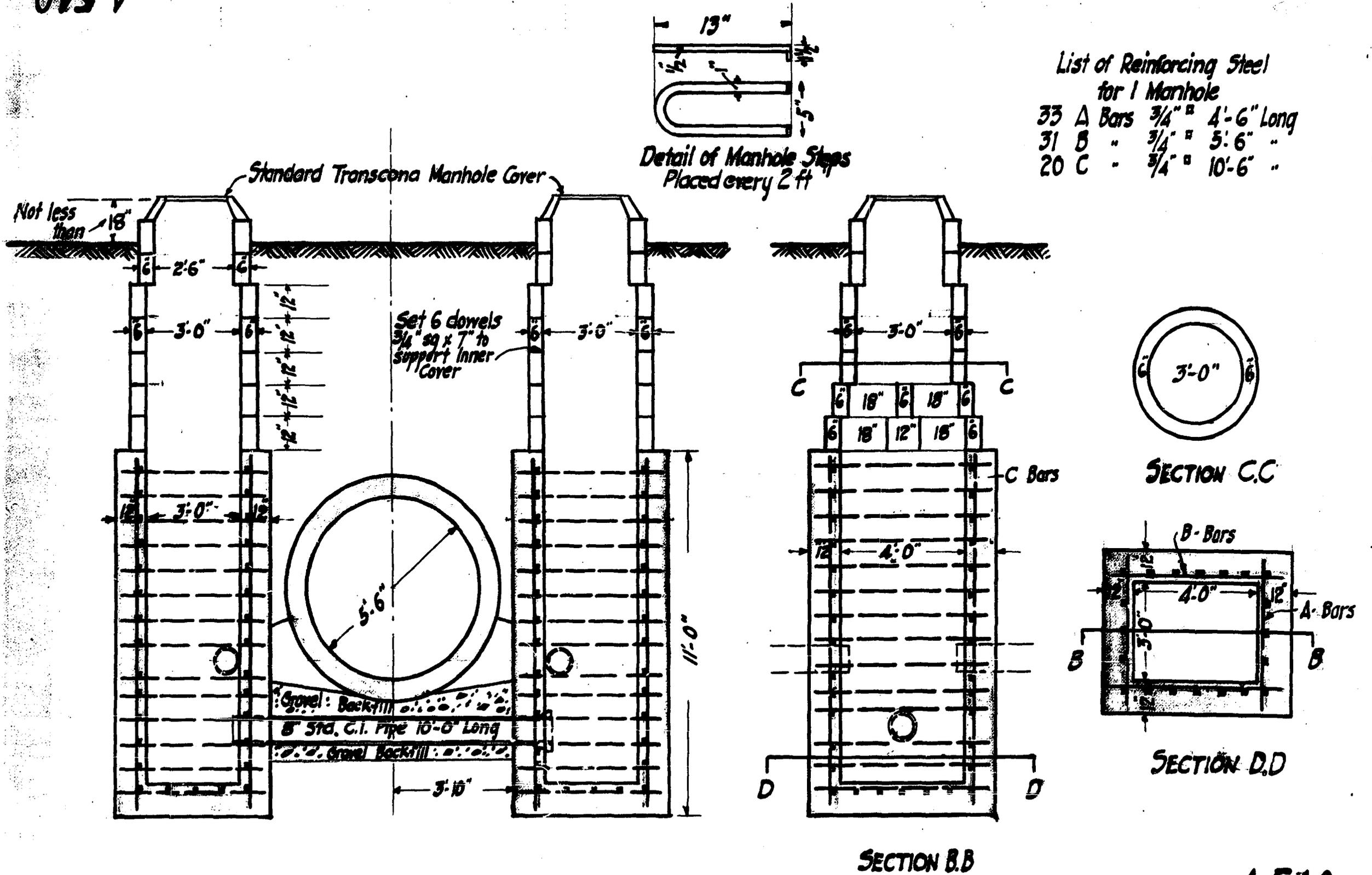
NOTE RE BLOWOFF ROAD - 11/9/1913.

Jeanette G. [Signature]
CONSULTING ENGINEER.
W. [Signature]
CHIEF ENGINEER.

GREATER WINNIPEG WATER DIST.
DETAIL OF OVERFLOW AND BLOWOFF STRUCTURE
AT WHITEMOUTH RIVER SEC. 21.T.8.R.12.
Date: 11-2-1913.

Drawings Relevant to Supplementary Conditions; D5.5

A 540



Drawn by [Signature]
 Traced .. [Signature]
 Checked - [Signature]
 Approved [Signature]

[Signature]
 Engineer

GREATER WINNIPEG WATER DISTRICT
 Manhole details over Underdrains
 for Lock Joint Pipe
 May 3rd 1921
 Scale 1" = 1ft.

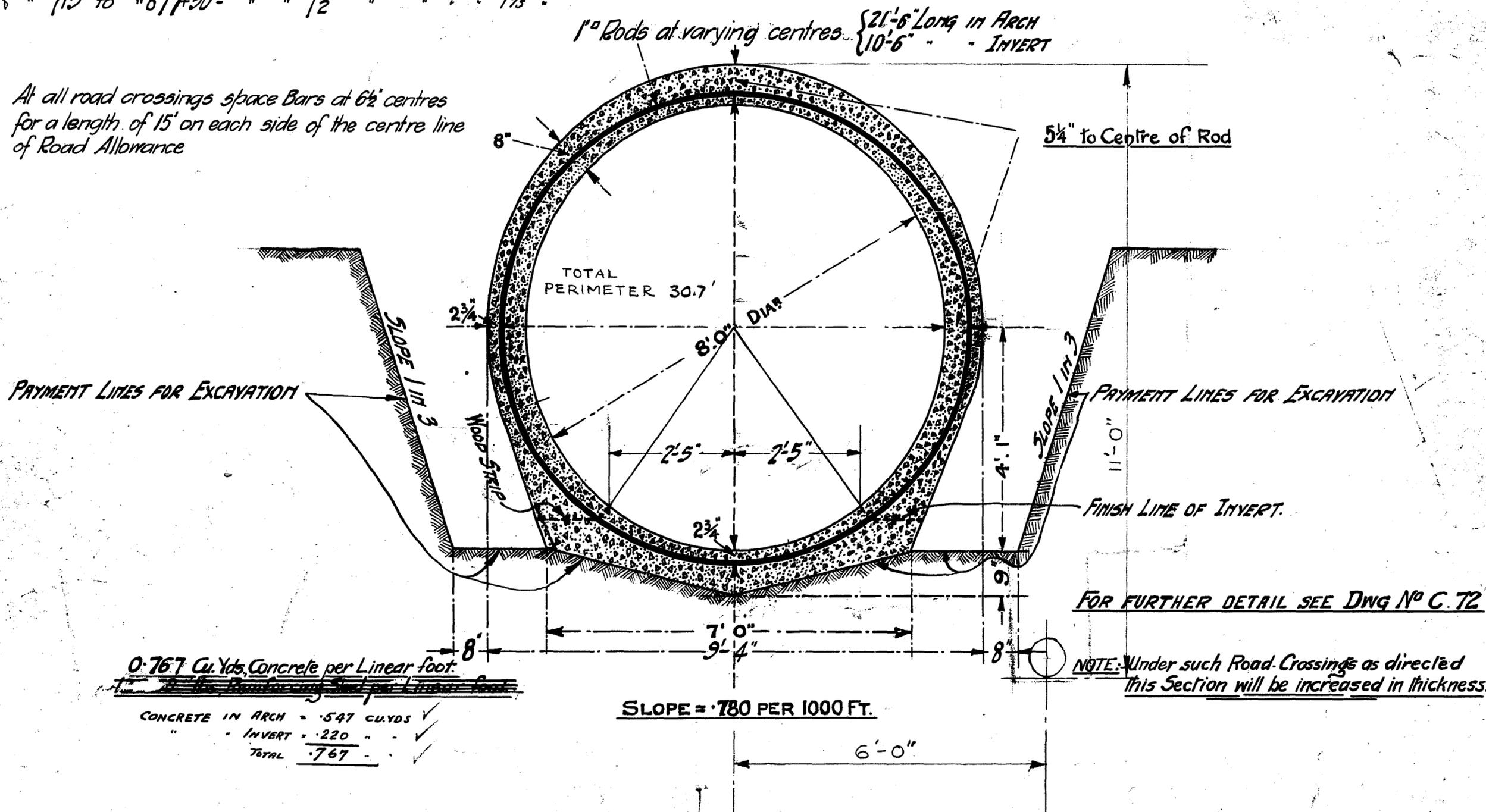
A 540

Spacing of Bars

W.M.S.

Sta. 900 to Sta. 860	- Bars at 10 1/2" centres	wt. per ft. 125 lbs
" 860 to " 795	" " 9 1/2" "	" " 130 "
" 795 to " 750	" " 8 3/4" "	" " 150 "
" 750 to " 715	" " 8" "	" " 164 "
" 715 to " 677+50	" " 7 1/2" "	" " 173 "

Note: At all road crossings space Bars at 6 1/2" centres for a length of 15' on each side of the centre line of Road Allowance



CONTRACT NO. 30.
SHEET NO. 3.

AQUEDUCT SEC "A"

B.143

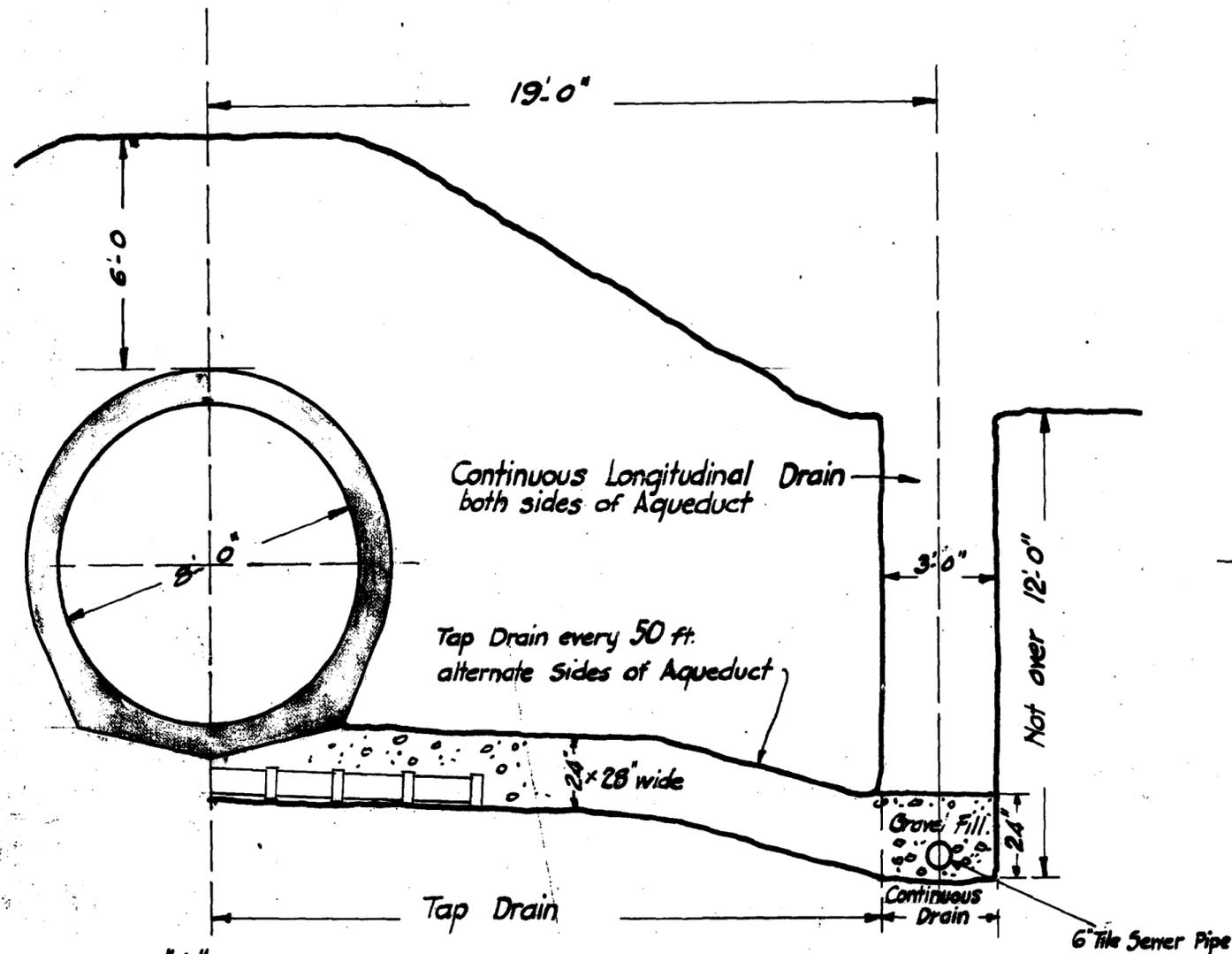
DESIGNED BY
CHECKED BY
APPROVED BY

Nov. 4-14. All Dimensions Checked and Revised. W.M.S.
PAYMENT LINES FOR EXCAVATION, FINISH LINE OF INVERT, LENGTH OF RODS ADDED } 8th Sept. 1915.
NOTE RE. OVERLAPPING OF RODS TAKEN OUT
Length of Rods in Arch changed from 22'-0" to 21'-6" - 27-9-15. F.S.A.
Rod spacing added: 8-5-16 F.S.A. also on 7-5-17. D.G.M.K.
Dimensions checked: 8-5-16. F.S.A. (Rd. King)

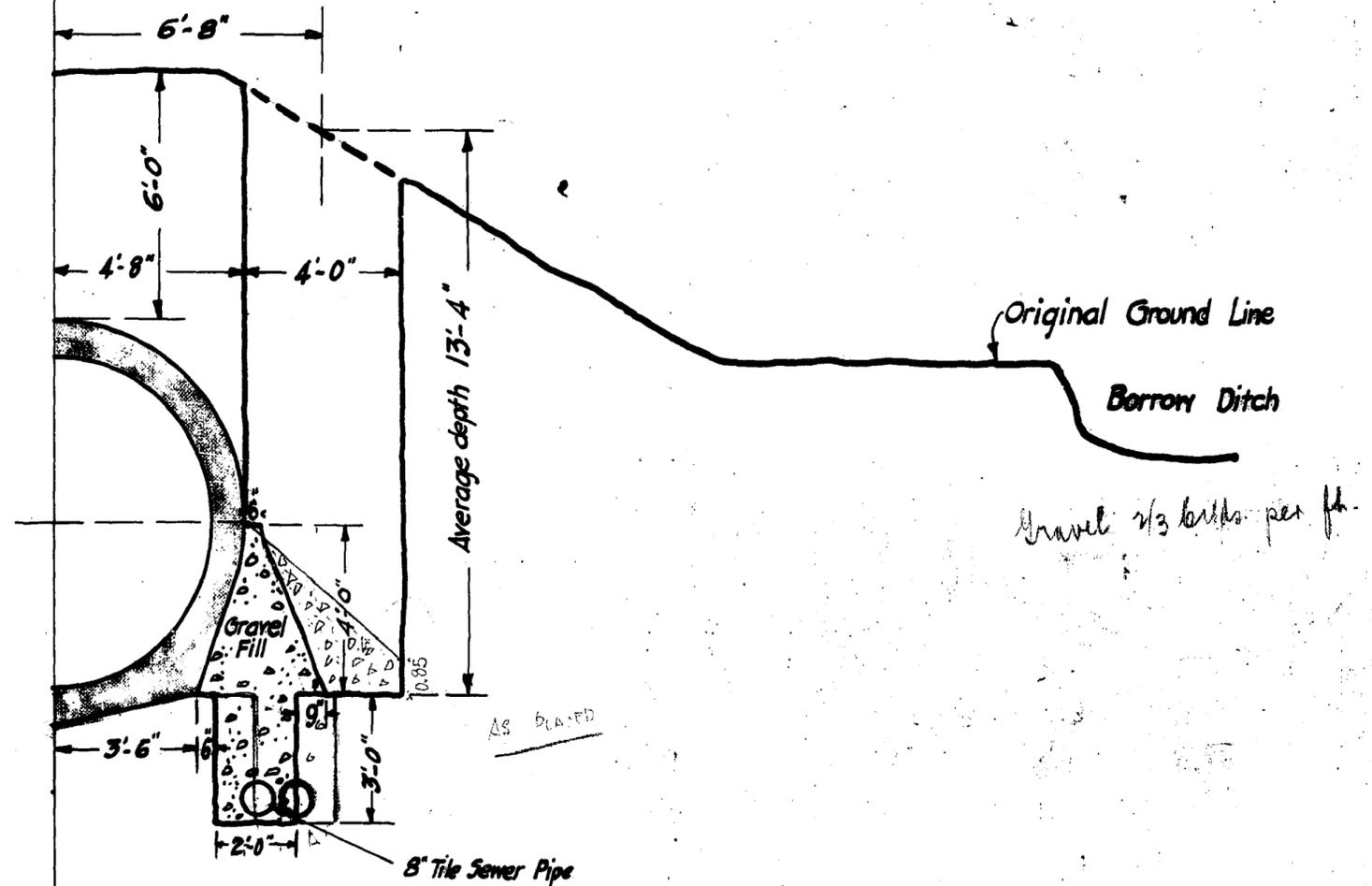
James H. Fuentes
CONSULTING ENGINEER
W. Schaefer
CHIEF ENGINEER

GREATER WINNIPEG WATER DISTRICT
8'-0" CIRCULAR REINFORCED AQUEDUCT
17. July, 1914.
Scale 1/2" = 1'

July 4. 210000
 Mile Pipe 19000
 229000



Method "A" of underdrainage which is the basis of payment to Fowler & Young and estimated to cost \$26,000⁰⁰ per Mile



Proposed Method "C" of Underdraining South side of Aqueduct Section "A" between sta. 795+07 & 846+94 and both sides of Aqueduct between sta. 677+50 & 795+07 Estimated to cost \$60,000⁰⁰ per Mile.

Drawn by *H.S.*
 Traced by *H.S.*
 Checked by *H.S.*
 Approved *H.S.*

M.R. Davis
 Engineer.

GREATER WINNIPEG WATER DISTRICT
 Comparison of Methods of Underdrainage
 of Aqueduct Section "A"
 Jan. 5. 1921
 Scale 1/4" = 1 foot