

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION
WATER RESOURCES AND FLOOD CONTROL SECTION

CONTRACT PLANS FOR

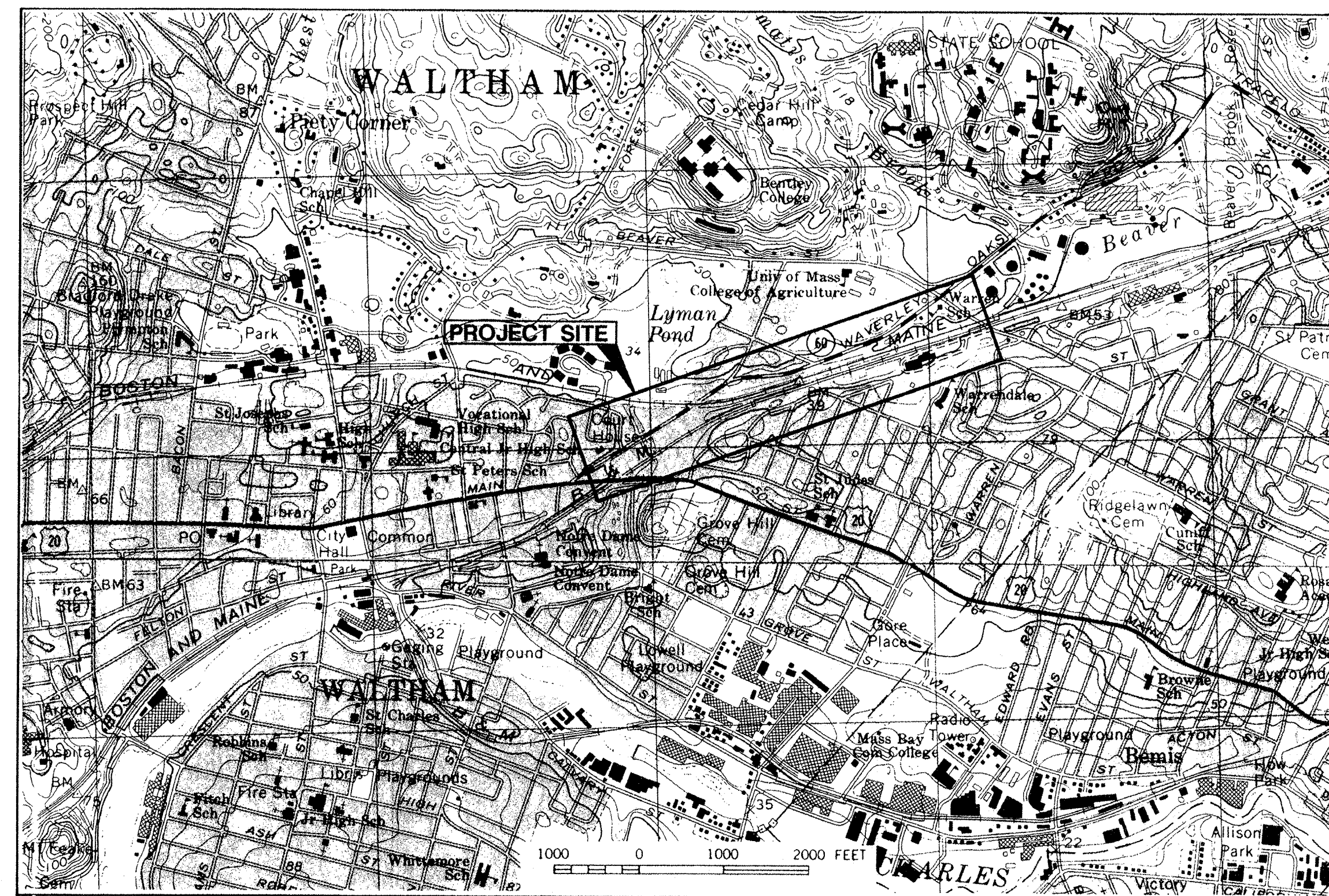
BEAVER BROOK FLOOD MITIGATION PROGRAM
WALTHAM, MASSACHUSETTS

CONTRACT NUMBER P 80 - 0844 - D1A

MAY, 1997

INDEX OF DRAWINGS

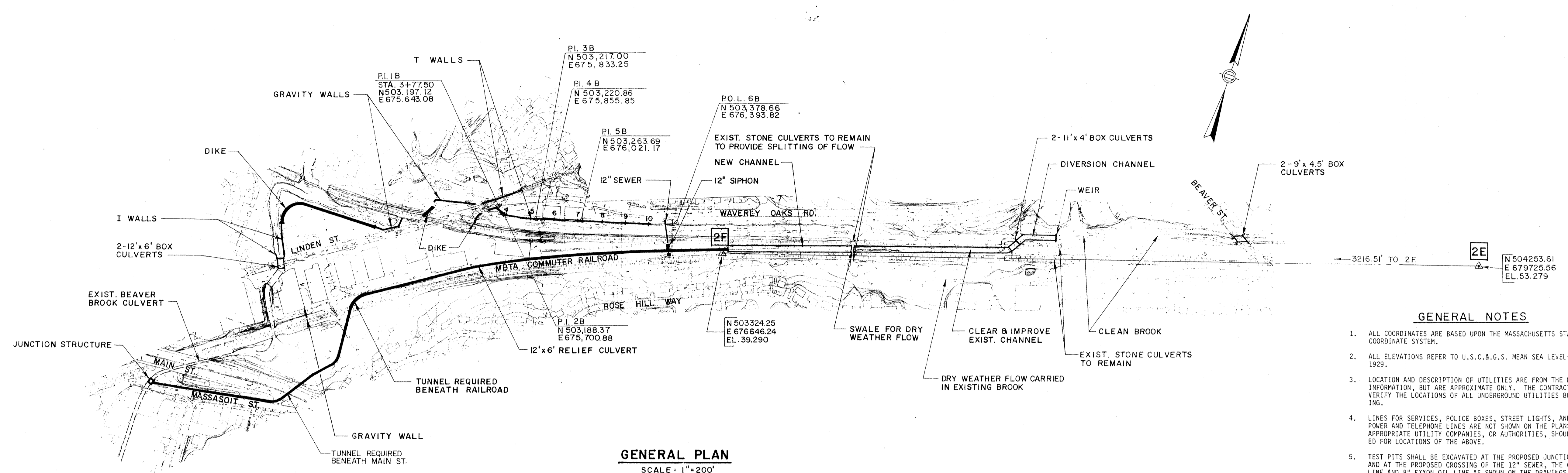
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DAVID BALFOUR, JR. COMMISSIONER

AVRIL T. ELKORT
DARRYL S. SETTLES
ROBERT H. CARR, JR.
CHARLES F. WU ASSOCIATE COMMISSIONERS

FRANCIS D. FAUCHER, P.E. DEPUTY DIRECTOR OF ENGINEERING

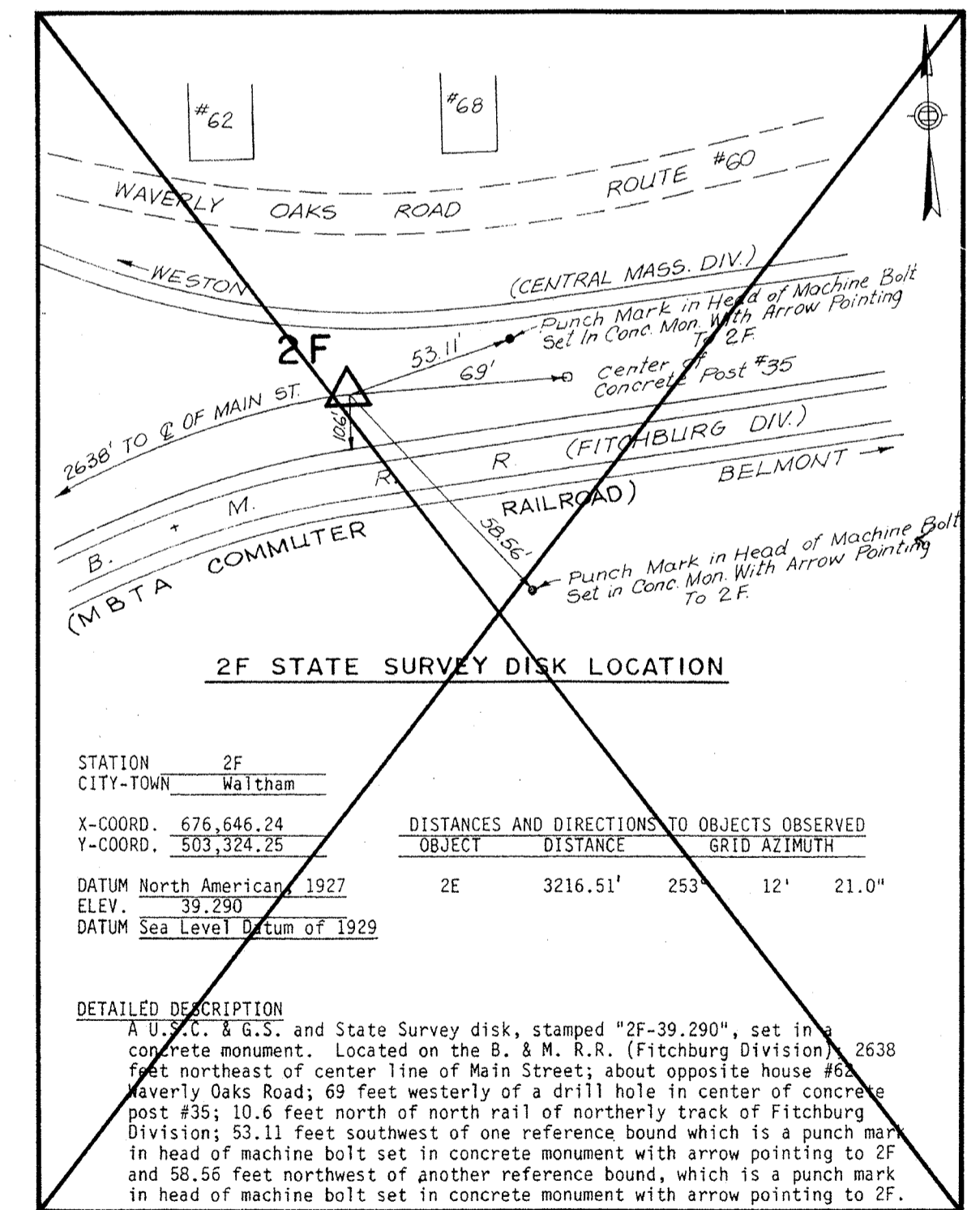


GENERAL PLAN
SCALE: 1"=200'

- GENERAL NOTES**
- ALL COORDINATES ARE BASED UPON THE MASSACHUSETTS STATE COORDINATE SYSTEM.
 - ALL ELEVATIONS REFER TO U.S.C. & G.S. MEAN SEA LEVEL DATUM OF 1929.
 - LOCATION AND DESCRIPTION OF UTILITIES ARE FROM THE BEST AVAILABLE INFORMATION, BUT ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES BEFORE EXCAVATING.
 - LINE FOR SERVICES, POLICE BOXES, STREET LIGHTS, AND OVERHEAD POWER AND TELEPHONE LINES ARE NOT SHOWN ON THE PLANS. THE APPROPRIATE UTILITY COMPANIES, OR AUTHORITIES, SHOULD BE CONSULTED FOR LOCATIONS OF THE ABOVE.
 - TEST PITS SHALL BE EXCAVATED AT THE PROPOSED JUNCTION STRUCTURE AND AT THE PROPOSED CROSSING OF THE 12" SEWER, THE 6" SHELL OIL LINE AND 8" EXXON OIL LINE AS SHOWN ON THE DRAWINGS OR AS SPECIFIED IN THE SPECIAL CONDITIONS SECTION OF THE SPECIFICATIONS. ALL TEST PIT EXCAVATIONS MADE TO DETERMINE THE LOCATIONS OF EXISTING UTILITIES SHALL BE PERFORMED WELL IN ADVANCE OF CONSTRUCTION OPERATIONS SO THAT ANY REQUIRED CHANGES IN ALIGNMENT AND/OR GRADE OF THE PROPOSED WORK OR UTILITY RELOCATIONS MAY BE DETERMINED. ALL DECISIONS RELATIVE TO UTILITY CONFLICTS AND RELOCATION REQUIREMENTS WILL BE MADE BY THE ENGINEER.
 - AT THOSE LOCATIONS WHERE EXPLORATORY TEST PITS ARE REQUIRED TO DETERMINE THE LOCATION OF EXISTING UTILITIES THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES INVOLVED AT LEAST 48 HOURS PRIOR TO EXCAVATION OF THE TEST PIT. CONTACT MR. R.T. SHOWALTER OF THE SHELL OIL COMPANY, FALL RIVER, MASS., 508/678-1994 AND MR. JAMES JAMERSON OF EXXON COMPANY, WALTHAM, MASS., 617/893-8300.
 - WHERE UTILITY RELOCATIONS ARE REQUIRED THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANY 30 DAYS IN ADVANCE OF CONSTRUCTION AND SHALL COORDINATE THE NEW WORK WITH THE UTILITY RELOCATION.
 - BORINGS WERE TAKEN FOR THE PURPOSE OF DESIGN AND INDICATE CONDITIONS AT THE LOCATION OF THE BORING ONLY. SUBSURFACE CONDITIONS ENCOUNTERED DURING CONSTRUCTION MAY VARY FROM THOSE SHOWN IN THE BORING LOGS. GROUND WATER LEVELS INDICATED IN THE BORING LOGS ARE THOSE EXISTING AT THE TIME SUBSURFACE INVESTIGATIONS WERE MADE AND DO NOT REPRESENT PERMANENT GROUND WATER LEVELS. FOR BORING LOGS, SEE "APPENDIX A" OF THE SPECIFICATIONS.
 - ALL PIPE SHOWN AS "DRAIN LINE" SHALL BE REINFORCED CONCRETE PIPE.
 - WHERE "SUITABLE BACKFILL MATERIAL" IS CALLED FOR ON THE DRAWINGS, THE CONTRACTOR SHALL USE ACCEPTABLE REFILL FROM EXCAVATED MATERIAL AS DEFINED IN THE SPECIFICATIONS, SECTION 110. IF SUFFICIENT MATERIAL IS NOT AVAILABLE FROM THE EXCAVATED MATERIAL, THE CONTRACTOR SHALL USE BANK RUN GRAVEL AS DEFINED IN SECTION 120.

LEGEND

Existing	Description	Proposed
W	Water	
G	Gas	
D	Storm Drain	D
S	Sanitary Sewer	S
T	Telephone	
E	Electric	
o	Manhole	•
□	Catch Basin	□
○	Utility Pole	
o	Sign Post	
⊕	Hydrant	
WG	Water Gate	
GG	Gas Gate	
*	Light Pole	
⊙	Borings	
⊙	Rip Rap	⊙
⊙	Top of Slope	⊙
⊙	Bottom of Slope	⊙
(R)	Work Item Number	
---	Remove	
---	Survey Baseline	
---	Gabion Wall	



STATION 2F
CITY-TOWN Waltham

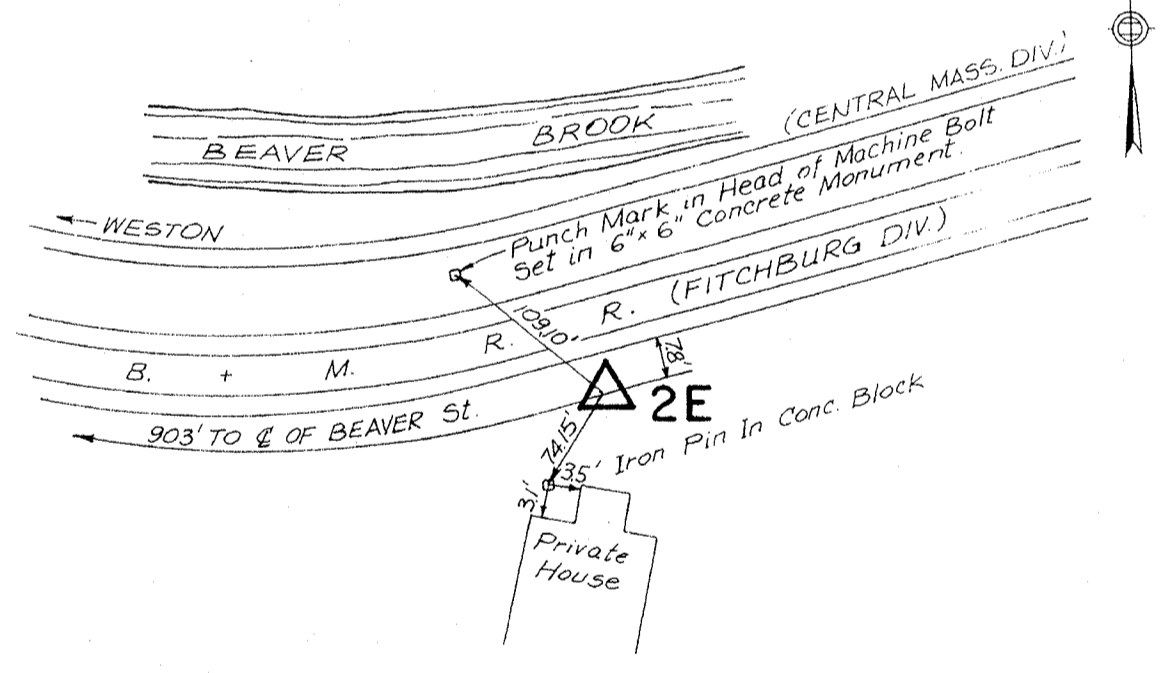
X-COORD.	Y-COORD.	OBJECT	DISTANCE	GRID AZIMUTH
676,646.24	503,324.25	2E	3216.51'	253° 12' 21.0"

DATUM North American, 1927
ELEV. 39.290
DATUM Sea Level Datum of 1929

DETAILED DESCRIPTION
A U.S.C. & G.S. and State Survey disk, stamped "2F-39.290", set in a concrete monument. Located on the B. & M. R.R. (Fitchburg Division); 2638 feet northeast of center line of Main Street; about opposite house #62, Waverly Oaks Road; 69 feet westerly of a drill hole in center of concrete post #35; 10.6 feet north of north rail of northerly track of Fitchburg Division; 53.11 feet southwest of one reference bound which is a punch mark in head of machine bolt set in concrete monument with arrow pointing to 2F and 58.56 feet northwest of another reference bound, which is a punch mark in head of machine bolt set in concrete monument with arrow pointing to 2F.

NOTE:
2F NO LONGER AVAILABLE.
SEE SHEETS 4 THRU 8 & SHEET 21
FOR NEW SURVEY CONTROL

TRAVERSE DATA
NOT TO SCALE



STATION 2E
CITY-TOWN Waltham

X-COORD.	Y-COORD.	OBJECT	DISTANCE	GRID AZIMUTH
679,725.56	504,253.61	2D	4056.79'	248° 41' 14.4"
		2F	3216.51'	73° 12' 21.0"

DATUM North American, 1927
ELEV. 53.279
DATUM Sea Level Datum of 1929

DETAILED DESCRIPTION
A U.S.C. & G.S. and State Survey disk, stamped "2E-53.279", set in a concrete monument. Located on the B. & M. R.R. (Fitchburg Division); 903 feet east of center line of Beaver Street; 105.10 feet southeast from one reference mark which is a punch mark in square head of machine bolt set in 6 in. x 6 in. concrete monument; 74.15 feet northeast from another reference monument which is an iron pin in concrete block 3.5 feet westerly from northwest corner of private house and 3.1 feet northerly from western corner of private house and 8.7 feet south of south rail of southerly track.

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION
WATER RESOURCES AND FLOOD CONTROL SECTION

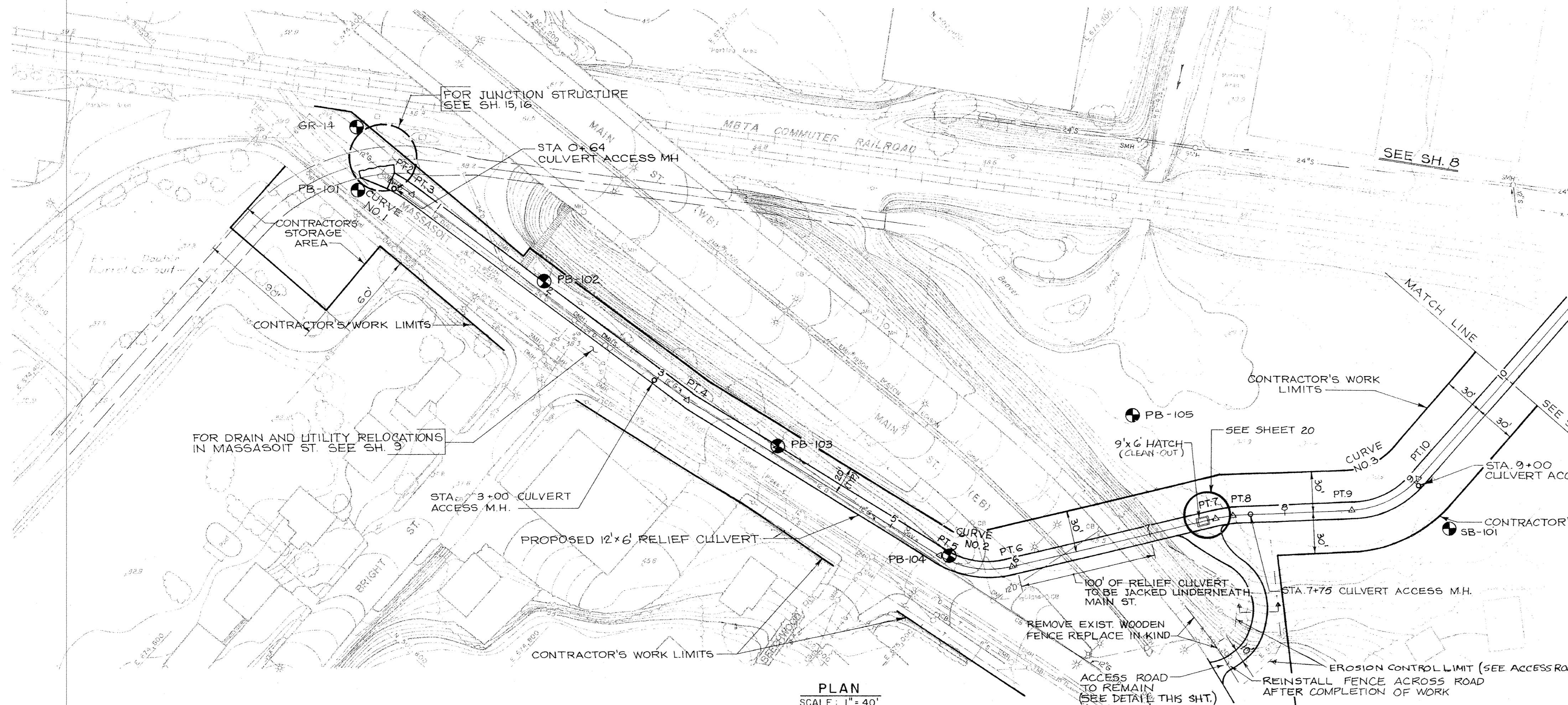
**BEAVER BROOK
FLOOD MITIGATION PROGRAM**
WALTHAM, MASSACHUSETTS

DES. BY: A.B.D. DR. BY: A.B.D. CK. BY: P.T.K.
SUBMITTED: _____
ARCHITECT-ENGINEER
REVIEWED: _____
MDC PROJECT MANAGER ENGINEER
APPROVAL RECOMMENDED
CHIEF, WRFC SECTION
APPROVED
DIRECTOR, PARKS ENGINEERING
CONSTRUCTION DIVISION
DATE: _____

**GENERAL PLAN, LEGEND,
GENERAL NOTES**

REF. A.C.C. 52178 X CONT. SCALE: AS NOTED DATE: SHEET: 2 OF:

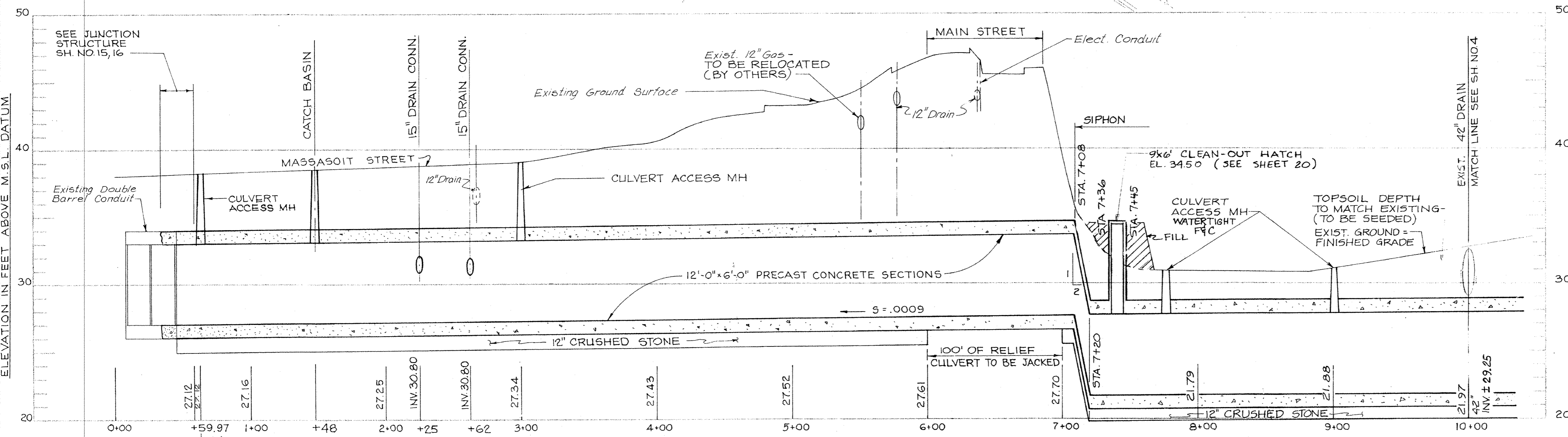
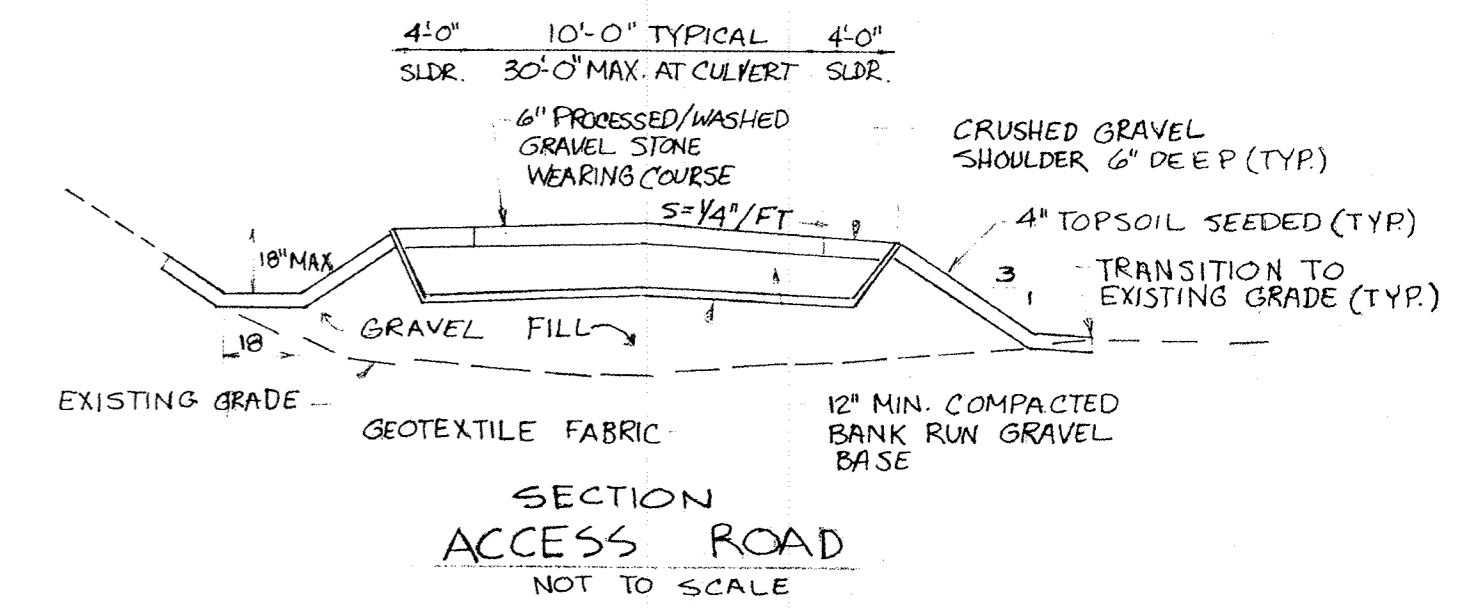
Magnate Group Inc.
Architects/Engineers/Planners
225 FOXBOROUGH BOULEVARD
FOXBOROUGH, MASSACHUSETTS 02035
RESPONSIBLE PRINCIPAL



NO.	POINT	COORDINATES	STATION	DIST.	BEARING
2	PC	N 502044.56 E 674496.99	0+59.97	18.84'	—
3	PT	N 502048.65 E 674514.43	0+77.81	249.00	N 84°-00'-00"E
4	PI	N 502074.67 E 674762.07	3+26.81	216.91	N 79°-06'-07"E
5	PC	N 502115.68 E 674975.07	5+43.72	54.09	—
6	PT	N 502144.73 E 675019.04	5+97.81	152.00	N 34°-00'-00"E
7	PI	N 502270.69 E 675103.99	7+49.74	14.00	N 39°-00'-00"E
8	PT	N 502281.57 E 675112.81	7+63.74	86.00	N 44°-00'-00"E
9	PC	N 502343.43 E 675172.55	8+49.74	53.97	—
10	PT	N 502392.36 E 675191.82	9+03.71	—	—

CURVE DATA				
CURVE NO.	Δ	R	T	L
1	14°-42'-33"	68.71'	9.48'	18.84'
2	45°-06'-07"	68.71'	28.53'	54.09'
3	45°-00'-00"	68.71'	28.46'	53.97'

NOTES:
 1. EXISTING AREA (STA. 7+10 TO 10+50) TO BE CLEARED TO THE MINIMUM EXTENT NECESSARY, IN INSTALLING THIS CONDUIT.



PROFILE
 SCALE: HORIZ. 1" = 40'
 VERT. 1" = 4'

COMMONWEALTH OF MASSACHUSETTS
 METROPOLITAN DISTRICT COMMISSION
 PARKS ENGINEERING AND CONSTRUCTION DIVISION
 WATER RESOURCES AND FLOOD CONTROL SECTION

BEAVER BROOK FLOOD MITIGATION PROGRAM
 WALTHAM, MASSACHUSETTS

RELIEF CULVERT, PLAN AND PROFILE

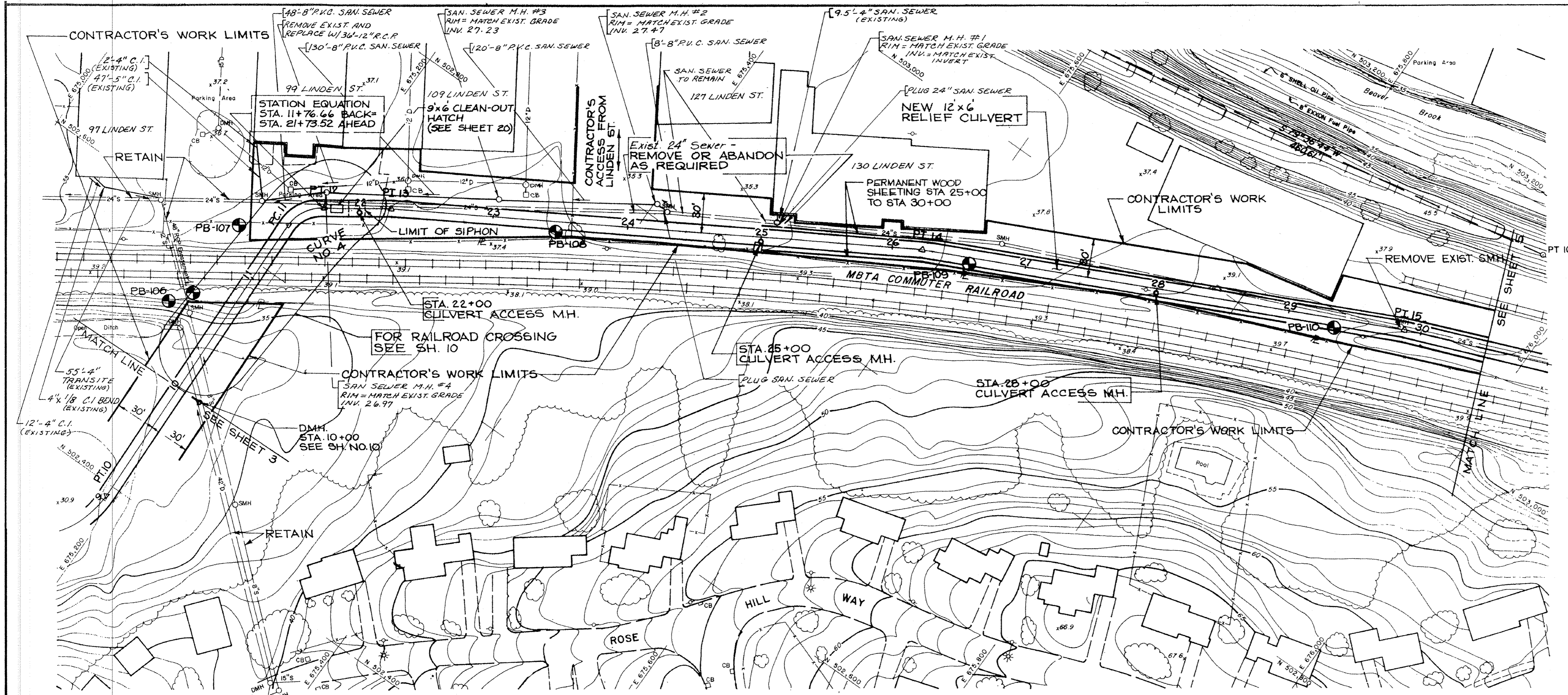
DES. BY: P.V.R. / DR. BY: Z.A.W./S.L.V. / CK. BY: P.V.R.
 SUBMITTED: _____
 ARCHITECT/ENGINEER: _____
 REVIEWED: _____
 MDC PROJECT MANAGER/ENGINEER: _____
 APPROVAL RECOMMENDED: _____
 CHIEF, WRFC SECTION: _____
 APPROVED: _____

REF. CONT. SCALE: AS NOTED
 A.C.C. 52179 X DATE: _____

DIRECTOR, PARKS ENGINEERING & CONSTRUCTION DIVISION
 DATE: _____

Magnite Group Inc.
 Architects/Engineers/Planners
 225 FORTBOROUGH BOULEVARD
 FORTBOROUGH, MASSACHUSETTS 02035

RESPONSIBLE PRINCIPAL



PLAN
SCALE: 1" = 40'

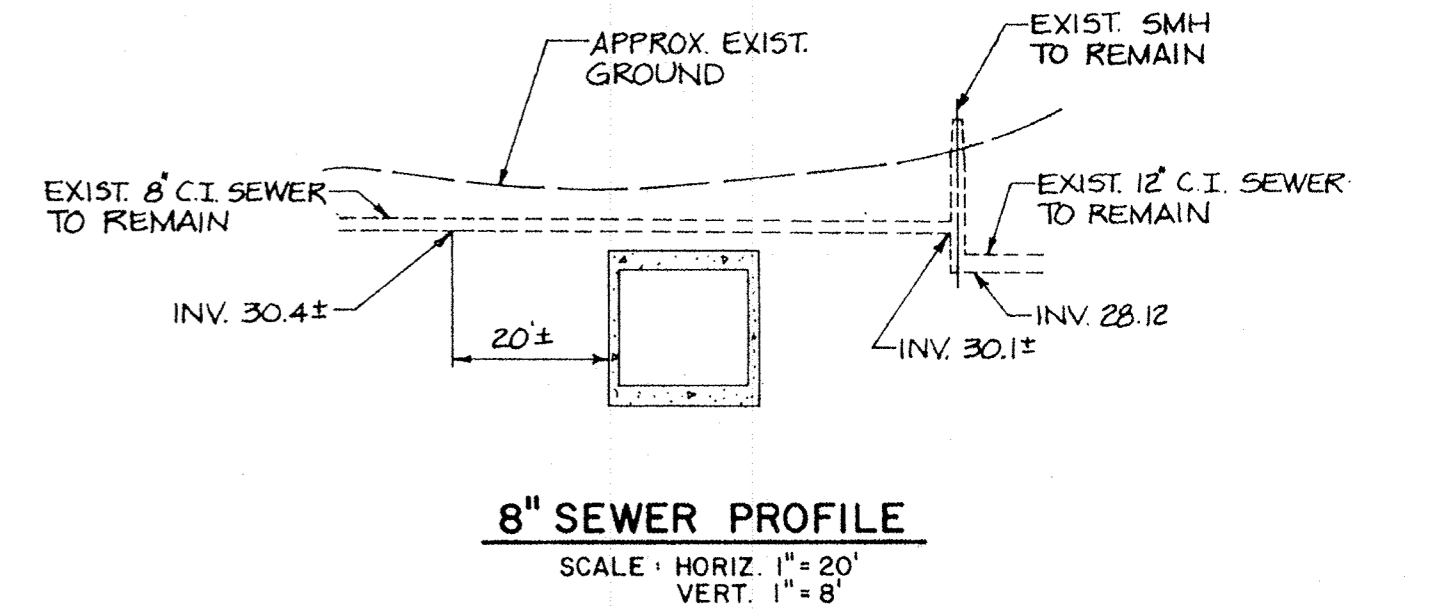
SANITARY SEWER MANHOLE COORDINATES

No.	NORTHING	EASTING
1*	502,850±	675,484±
2	502,810.00	675,402.00
3	502,745.00	675,304.50
4	502,674.00	675,195.00

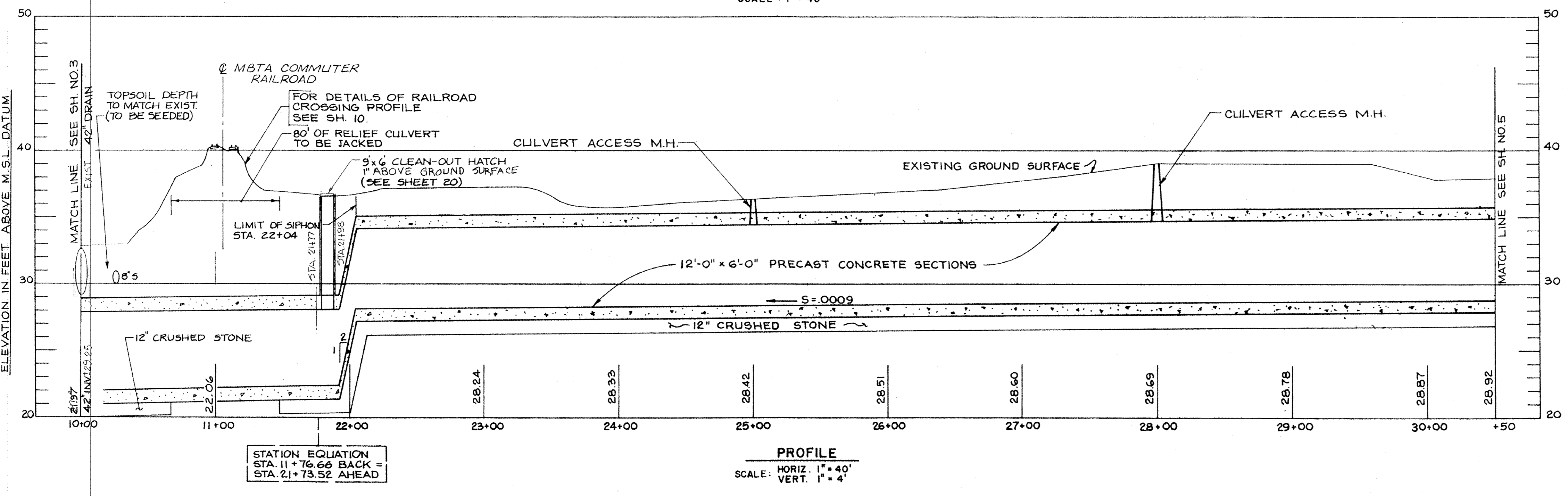
* Locate on EXISTING 24" Sanitary Sewer.
NOTE:
Sanitary Sewer Laterals Shown for #130, #99
And #97 Linden Street Are Existing.

NO.	POINT	COORDINATES	STATION	DIST.	BEARING
10	PT.	N 502 392.36 E 675 191.82	9+03.71	244.15	N 1°-00'-00"W
11	P.C.	N 502 636.47 E 675 187.56	11+47.86	28.80	-
12	P.T.	N 502 661.27 E 675 199.92	21+76.66 BACK 21+73.52 AHEAD	52.15	N 54°-00'-00"E
13	P.I.	N 502 691.92 E 675 242.11	22+25.67	398.00	N 59°-00'-00"E
14	P.I.	N 502 896.91 E 675 583.27	26+23.67	366.00	N 64°-00'-00"E
15	P.I.	N 503 057.35 E 675 912.23	29+89.67		

CURVE DATA				
CURVENO.	Δ	R	T	L
4	55°-00'-00"	30.00	15.62	28.80



8" SEWER PROFILE
SCALE: HORIZ. 1" = 20'
VERT. 1" = 8'



PROFILE
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

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METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION
WATER RESOURCES AND FLOOD CONTROL SECTION

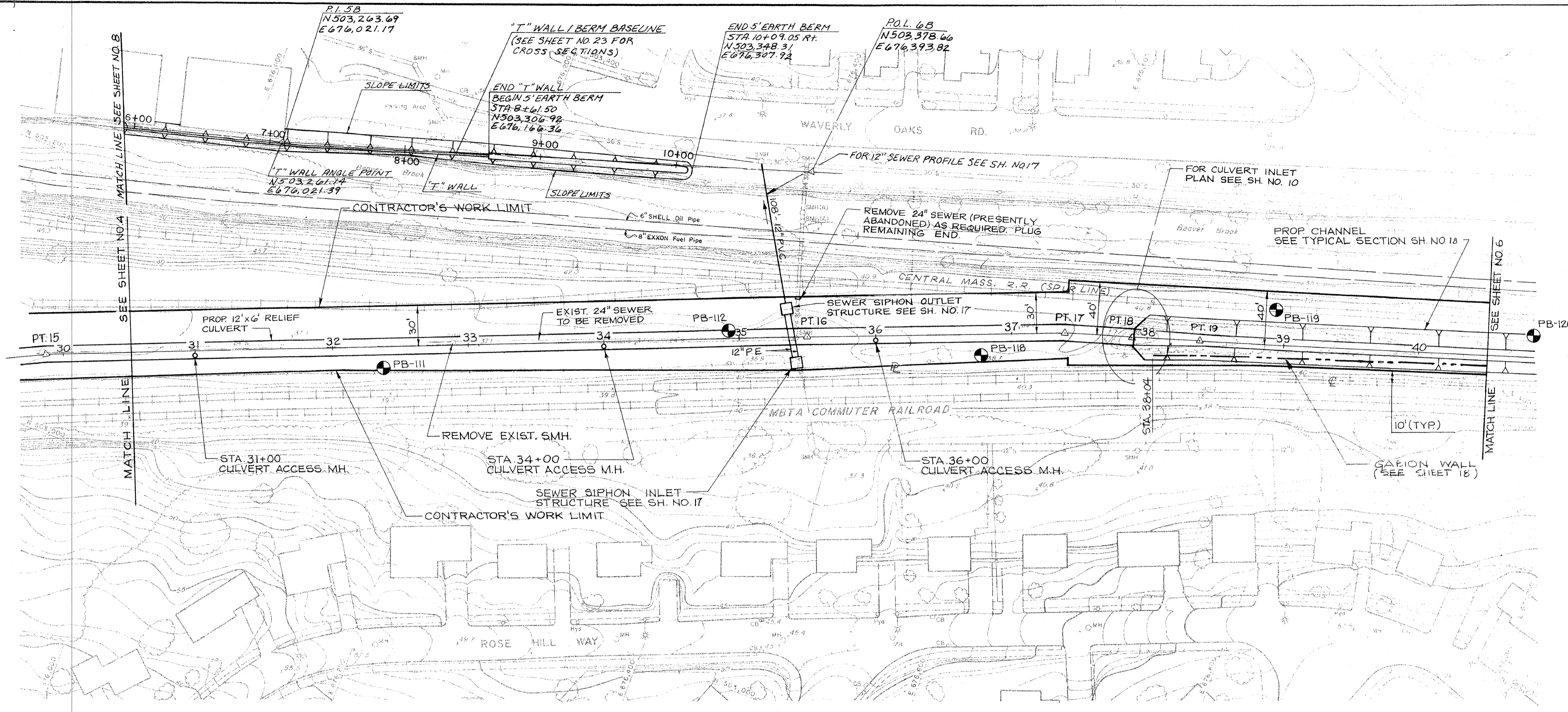
**BEAVER BROOK
FLOOD MITIGATION PROGRAM
WALTHAM, MASSACHUSETTS**

DES. BY: P.V.R. DR. BY: Z.A.W./S.V. CK. BY: P.V.R.
SUBMITTED: _____
ARCHITECT/ENGINEER: _____
REVIEWED: _____
MDC PROJECT MANAGER/ENGINEER: _____
APPROVAL RECOMMENDED: _____
CHIEF, WRFC SECTION: _____
APPROVED: _____
DATE: _____

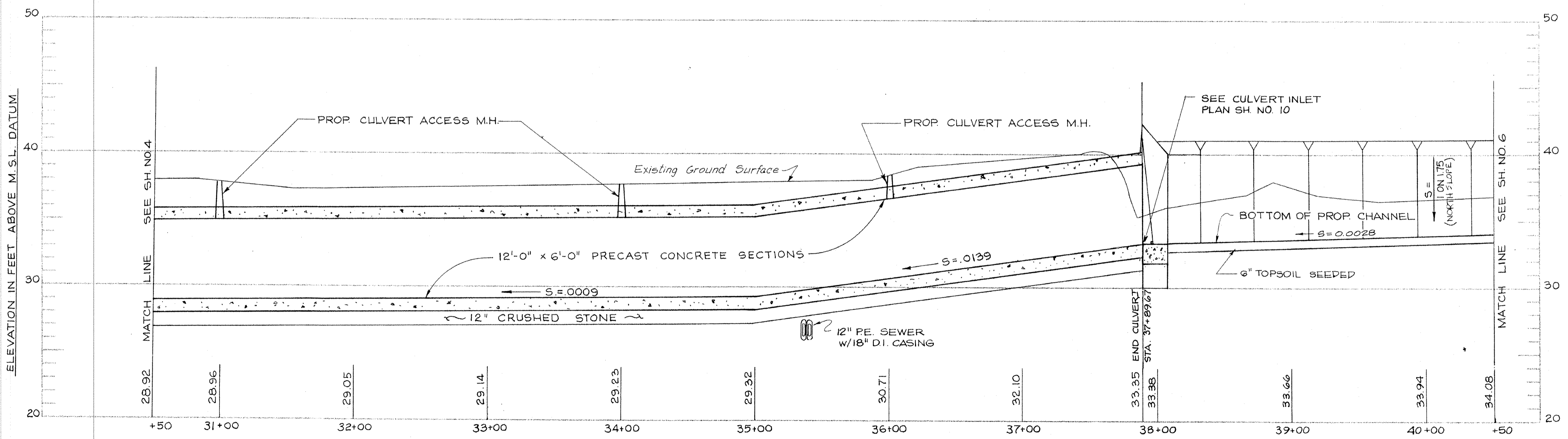
**RELIEF CULVERT
PLAN AND PROFILE**

REF. CONT. SCALE: AS NOTED SHEET: 4
A.C.C. 52180 X DATE: OF:

DIRECTOR, PARKS ENGINEERING & CONSTRUCTION DIVISION
Maguire Group Inc. Architects/Engineers/Planners
235 FOXBOROUGH BOULEVARD
FOXBOROUGH, MASSACHUSETTS 02035
RESPONSIBLE PRINCIPAL



PLAN
SCALE: 1" = 40'



PROFILE
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

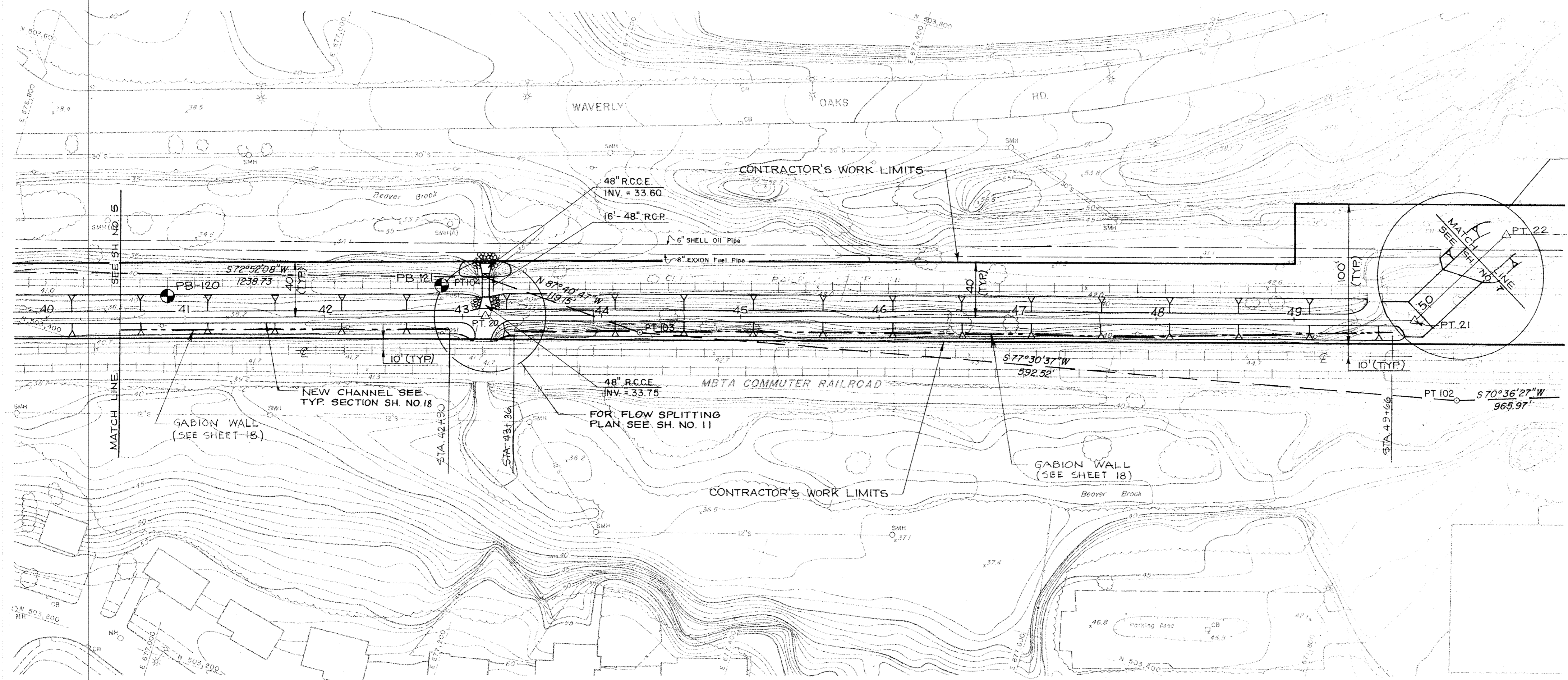
NO.	POINT	COORDINATES		STATION	DIST.	BEARING
15	PI.	N 503 057.35	E 675 912.23	29+89.67	560.00'	N 68°-30'-00"E
16	PI.	N 503 262.59	E 676 433.26	35+49.67	190.00'	N 68°-00'-00"E
17	PI.	N 503 333.77	E 676 609.42	37+39.67	50.00'	N 74°-00'-00"E
18	PI.	N 503 347.55	E 676 657.49	37+89.67	50.14'	N 73°-14'-58"E
19	PI.	N 503 362.00	E 676 705.50	38+39.81		
5B	PI.	N 503,263.69	E 676,021.17	7+10.02	389.98'	N 72°-51'-14.2"E
6B	PI.	N 503,378.66	E 676,393.82	11+00.00		

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WATER RESOURCES AND FLOOD CONTROL SECTION

**BEAVER BROOK
FLOOD MITIGATION PROGRAM
WALTHAM, MASSACHUSETTS**

DES. BY P.V.R.	DR. BY Z.A.W.	CK. BY P.V.R.	RELIEF CULVERT PLAN & PROFILE	DRAWING NO. SHEET: 5 OF:
SUBMITTED: ARCHITECT/ENGINEER				
REVIEWED: MDC PROJECT MANAGER/ENGINEER			SCALE: AS NOTED DATE:	
APPROVAL RECOMMENDED: CHIEF WRFC SECTION APPROVED				
DIRECTOR, PARKS ENGINEERING & CONSTRUCTION DIVISION			RESponsible Principal	
DATE:				

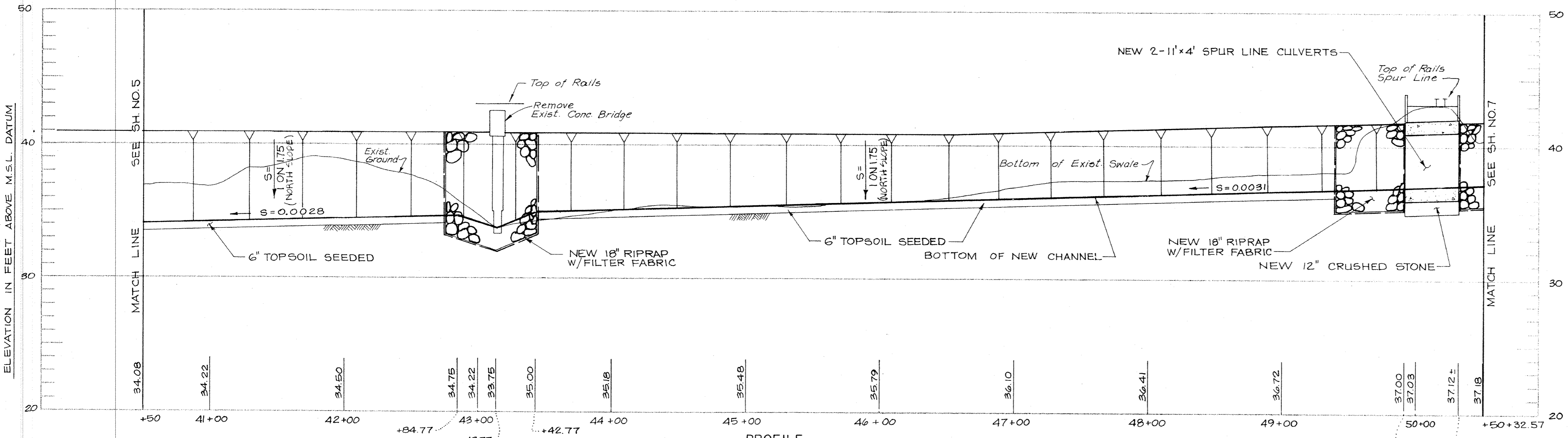
Maguire Group Contracting, Inc.
Engineers - Planners
225 FOXBOROUGH BOULEVARD
FOXBOROUGH, MASSACHUSETTS 02035



FOR SPUR LINE CULVERTS
SEE SH. NO. 11



NO.	POINT	COORDINATES		STATION	DIST	BEARING
19	P.I.	N 503,362.00	E 676,705.50	38 + 39.81	473.96	N 72° 41' 34" E
20	P.I.	N 503,503.00	E 677,158.00	43 + 13.77	671.73	N 73° 02' 07" E
21	P.I.	N 503,699.00	E 677,800.50	49 + 85.50	89.55	N 29° 25' 39" E
22	P.I.	N 503,777.00	E 677,844.50	50 + 75.05		



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**BEAVER BROOK
FLOOD MITIGATION PROGRAM
WALTHAM, MASSACHUSETTS**

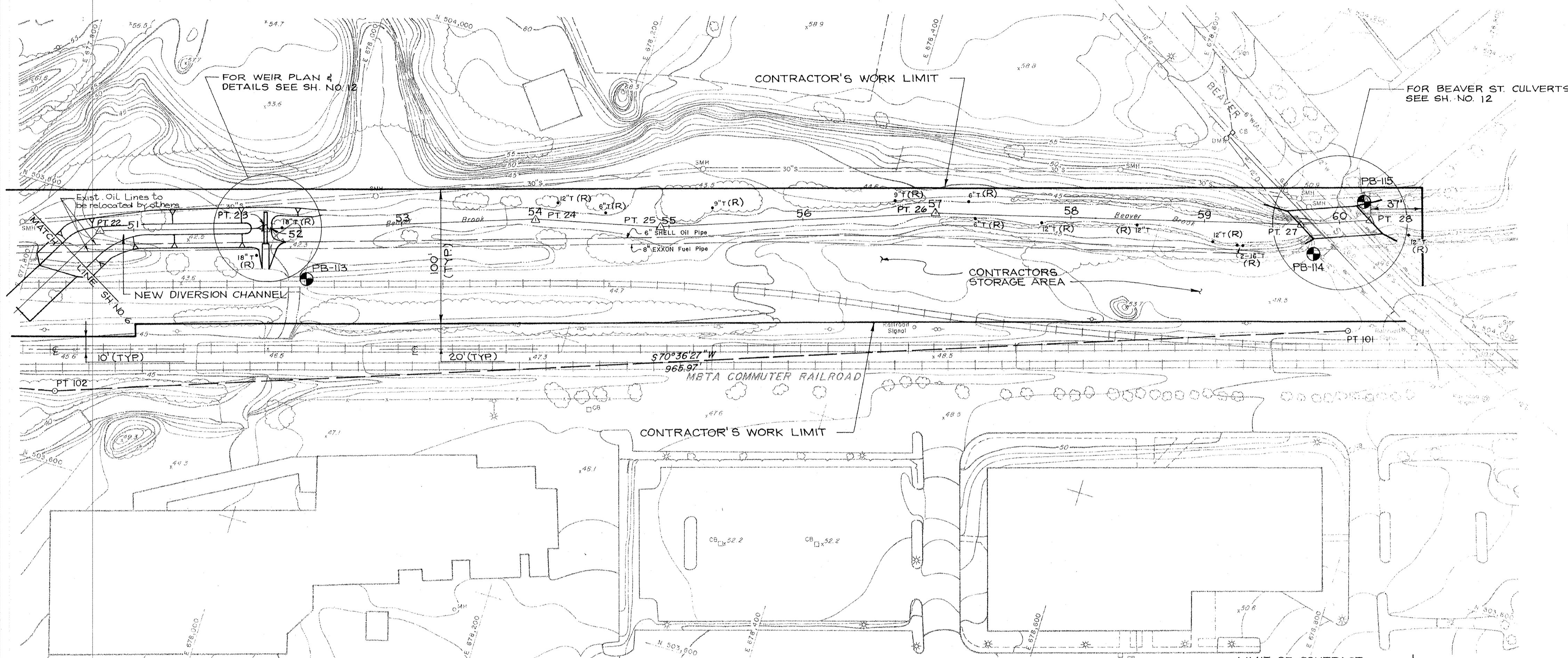
PROPOSED CHANNEL
PLAN & PROFILE

DRAWING NO. _____
SHEET: 6
OF: _____

DES. BY P.V.R. DR. BY A.B.D. CK. BY P.V.R.
SUBMITTED: _____
ARCHITECT/ENGINEER
REVIEWED: _____
MDC PROJECT MANAGER/ENGINEER
APPROVAL RECOMMENDED: _____
CHIEF, WRFC SECTION
APPROVED: _____
DIRECTOR, PARKS ENGINEERING & CONSTRUCTION DIVISION
DATE: _____

Maguire Group Inc.
Architects/Engineers/Planners
225 FOXBOROUGH BOULEVARD
FOXBOROUGH, MASSACHUSETTS 02035

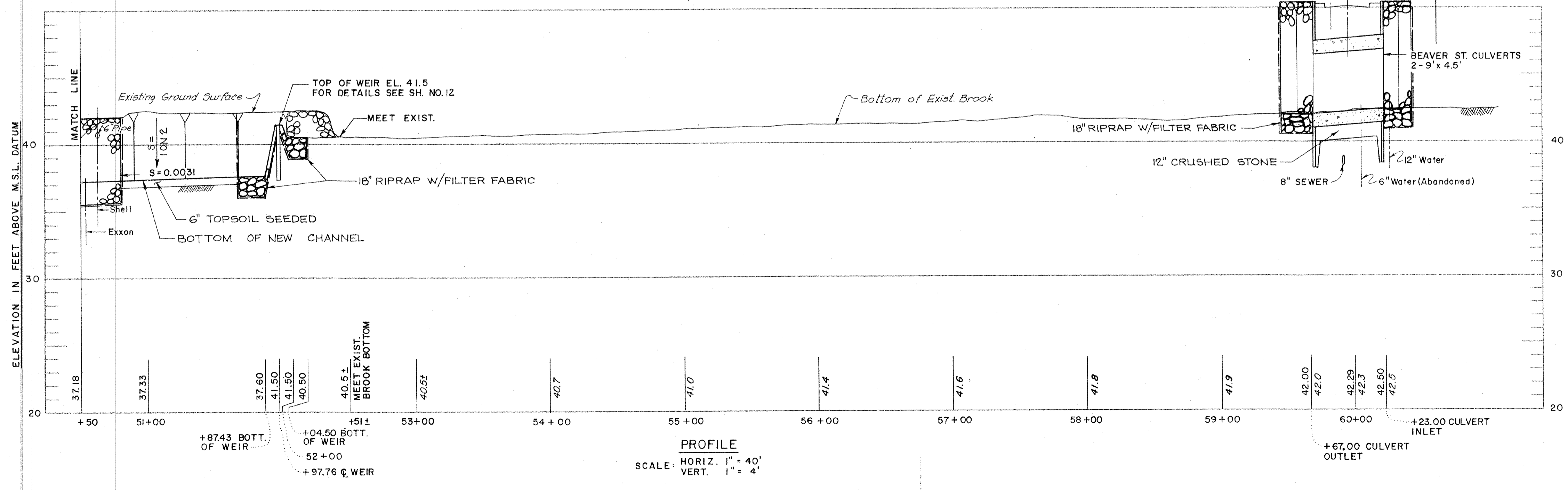
RESPONSIBLE PRINCIPAL



NO	POINT	COORDINATES		STATION	DIST.	BEARING
22	P.I.	N 503 777.00	E 677 844.50	50+75.05	122.71	N 72° 27' 04"E
23	P.I.	N 503 814.00	E 677 961.50	51+97.76	202.24	N 70° 53' 28"E
24	P.I.	N 503 880.21	E 678 152.60	54+00.00		94.00
25	P.I.	N 503 900.17	E 678 244.45	54+94.00	205.00	N 70° 19' 39"E
26	P.I.	N 503 969.19	E 678 437.49	56+99.00	272.12	N 75° 08' 06"E
27	P.I.	N 504 039.00	E 678 700.50	59+71.12		52.00
28	P.I.	N 504 056.89	E 678 749.32	60+23.12		

NOTES:
 1. FROM STA. 50+75 THRU STA. 60+60 CONTRACTOR TO REMOVE ONLY THOSE TREES INDICATED WITH AN (R).

PLAN
 SCALE: 1" = 40'



PROFILE
 SCALE: HORIZ. 1" = 40'
 VERT. 1" = 4'

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION
WATER RESOURCES AND FLOOD CONTROL SECTION

DES BY: P.V.R. DR BY: A.B.D. CK BY: P.V.R.

SUBMITTED: _____

REVIEWED: _____

MDC PROJECT MANAGER/ENGINEER: _____

APPROVAL RECOMMENDED: _____

CHIEF, WRFC SECTION: _____

APPROVED: _____

DIRECTOR, PARKS ENGINEERING & CONSTRUCTION DIVISION: _____

DATE: _____

BEAVER BROOK
FLOOD MITIGATION PROGRAM
 WALTHAM, MASSACHUSETTS

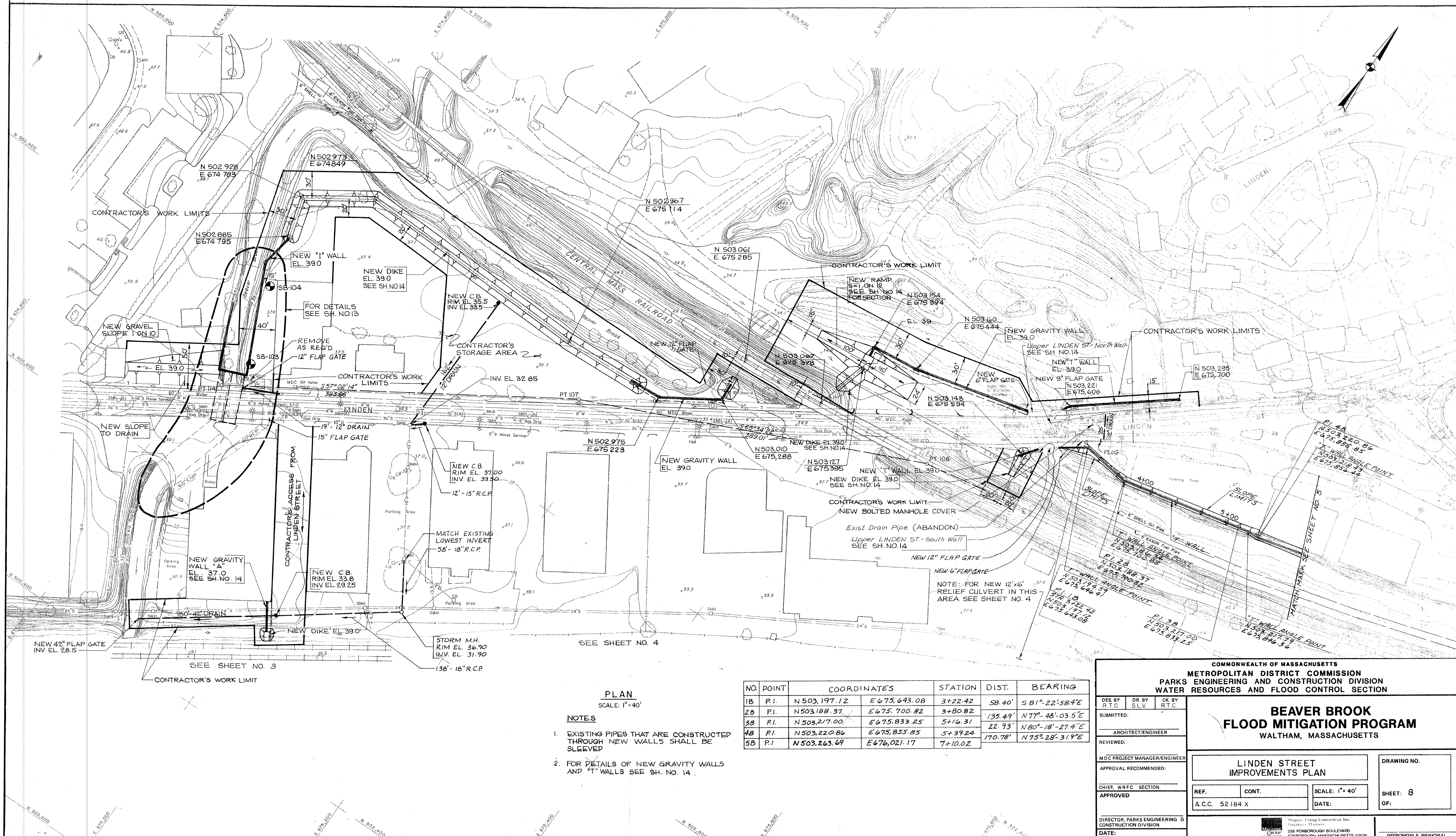
PROPOSED CHANNEL
PLAN AND PROFILE

REF. CONT. SCALE: AS NOTED
 A.C.C. 52183X DATE:

DRAWING NO. _____

SHEET: 7
 OF: _____

RESPONSIBLE PRINCIPAL: _____



PLAN
SCALE: 1" = 40'

NOTES

- EXISTING PIPES THAT ARE CONSTRUCTED THROUGH NEW WALLS SHALL BE SLEEVED
- FOR DETAILS OF NEW GRAVITY WALLS AND "T" WALLS SEE SH. NO. 14

NO.	POINT	COORDINATES	STATION	DIST.	BEARING
1B	P.I.	N 503,197.12 E 675,643.08	3+22.42	58.40'	S 81°-22'-58.4"E
2B	P.I.	N 503,188.37 E 675,700.82	3+80.82	135.49'	N 77°-48'-03.5"E
3B	P.I.	N 503,217.00 E 675,833.25	5+16.31	22.93'	N 80°-18'-27.4"E
4B	P.I.	N 503,220.86 E 675,855.85	5+39.24	170.78'	N 75°-28'-31.9"E
5B	P.I.	N 503,263.69 E 676,021.17	7+10.02		

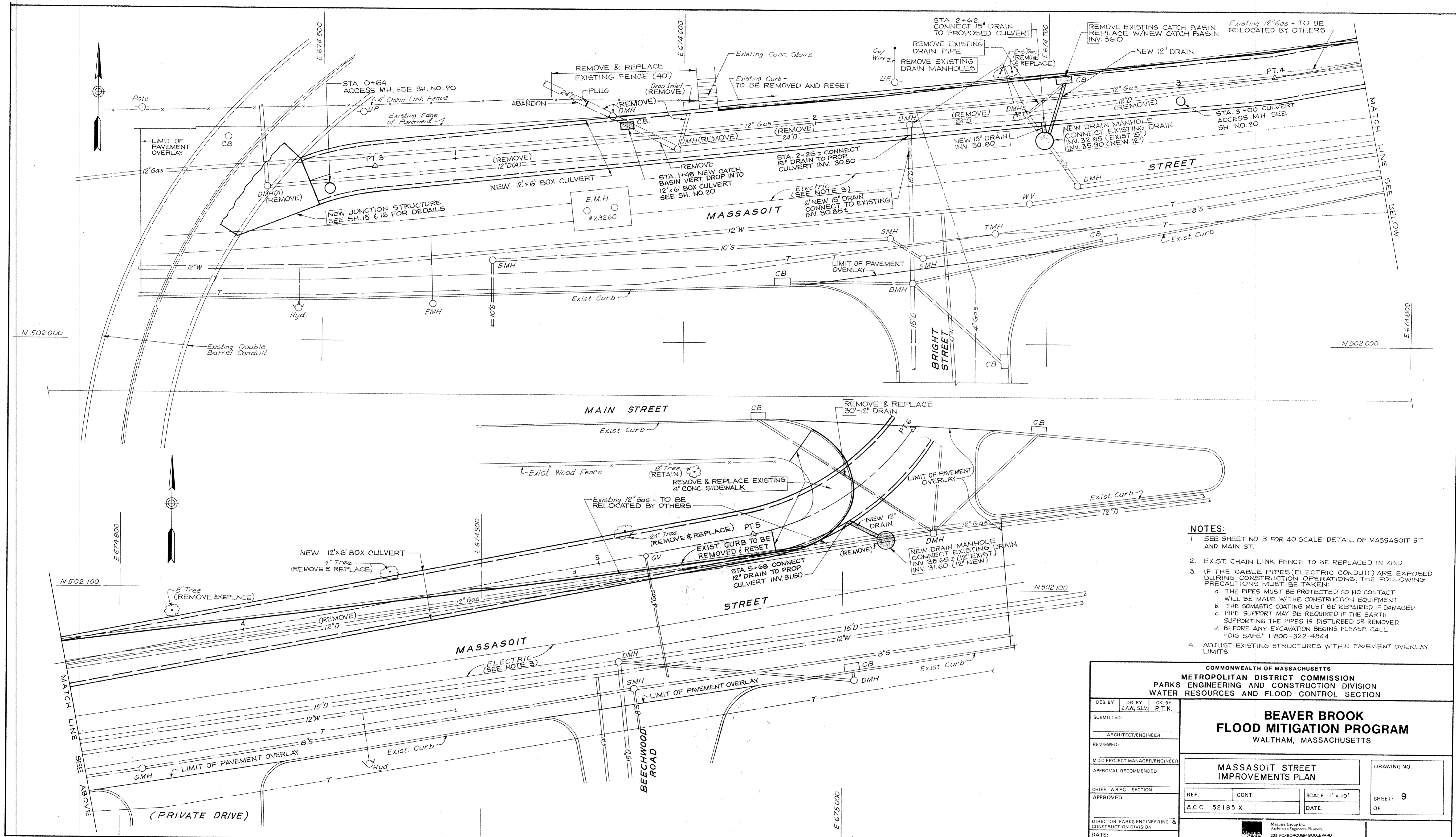
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION
WATER RESOURCES AND FLOOD CONTROL SECTION

BEAVER BROOK
FLOOD MITIGATION PROGRAM
WALTHAM, MASSACHUSETTS

DES. BY P.T.C.	DR. BY S.L.V.	CK. BY R.T.C.
SUBMITTED:		
ARCHITECT/ENGINEER		
REVIEWED:		
MDC PROJECT MANAGER/ENGINEER		
APPROVAL RECOMMENDED:		
CHIEF, WRFC SECTION		
APPROVED		
DATE:		

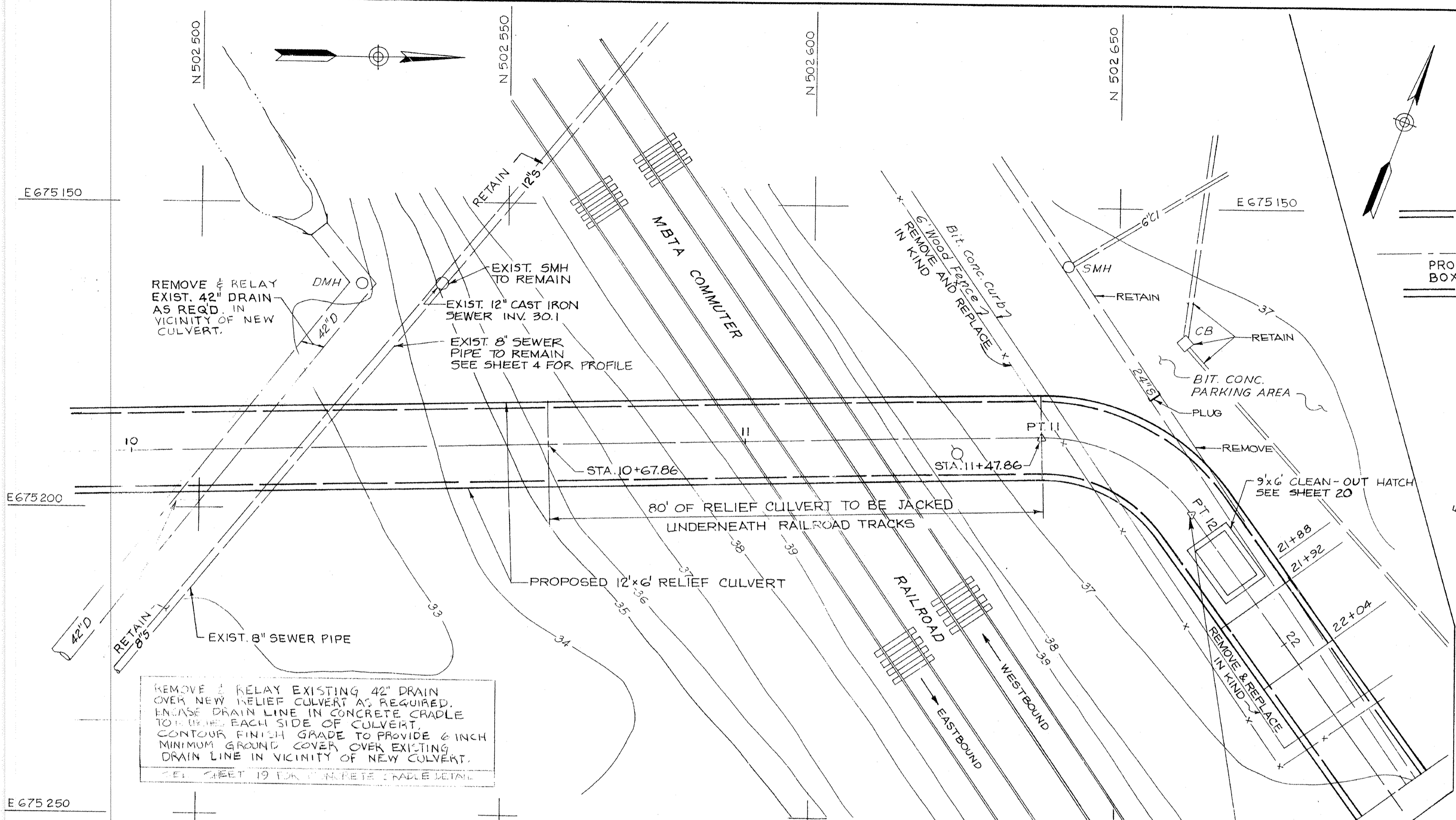
LINDEN STREET IMPROVEMENTS PLAN		DRAWING NO.
REF. A.C.C. 52184 X	CONT.	SHEET: 8 OF:
SCALE: 1" = 40'		DATE:

Algonquin Group Connecticut, Inc.
 225 FOKSBOROUGH BOULEVARD
 FOKSBOROUGH, MASSACHUSETTS 02035
RESPONSIBLE PRINCIPAL

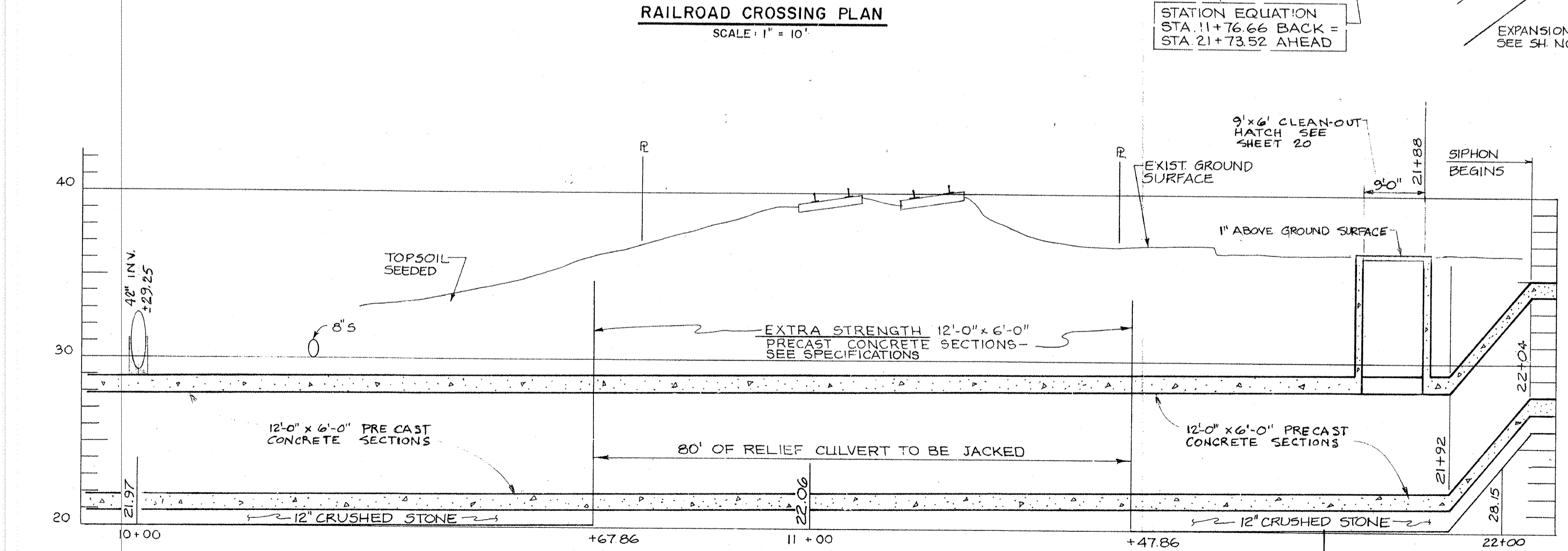


- NOTES:**
- SEE SHEET NO. 3 FOR 40 SCALE DETAIL OF MASSASOIT ST. AND MAIN ST.
 - EXIST CHAIN LINK FENCE TO BE REPLACED IN KIND
 - IF THE CABLE PIPES (ELECTRIC CONDUIT) ARE EXPOSED DURING CONSTRUCTION OPERATIONS, THE FOLLOWING PRECAUTIONS MUST BE TAKEN:
 - THE PIPES MUST BE PROTECTED SO NO CONTACT WILL BE MADE W/ THE CONSTRUCTION EQUIPMENT.
 - THE SOMASTIC COATING MUST BE REPAIRED IF DAMAGED
 - PIPE SUPPORT MAY BE REQUIRED IF THE EARTH SUPPORTING THE PIPES IS DISTURBED OR REMOVED
 - BEFORE ANY EXCAVATION BEGINS PLEASE CALL "DIG SAFE" 1-800-322-4844
 - ADJUST EXISTING STRUCTURES WITHIN PAVEMENT OVERLAY LIMITS.

COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION PARKS ENGINEERING AND CONSTRUCTION DIVISION WATER RESOURCES AND FLOOD CONTROL SECTION		
DES. BY: DR. BY: CK. BY: SUBMITTED: ZAW, SLV P. T. K.	BEAVER BROOK FLOOD MITIGATION PROGRAM WALTHAM, MASSACHUSETTS	
ARCHITECT/ENGINEER REVIEWED: MDC PROJECT MANAGER/ENGINEER APPROVAL RECOMMENDED: CHIEF, WRFC SECTION APPROVED:	MASSASOIT STREET IMPROVEMENTS PLAN	
DIRECTOR, PARKS ENGINEERING & CONSTRUCTION DIVISION DATE:	REF. A.C.C 52185 X CONT.	DRAWING NO. OF: SHEET: 9 OF: SCALE: 1" = 10' DATE:
RESPONSIBLE PRINCIPAL		Meguire Group Inc. Architects/Engineers/Planners 225 FOXBOROUGH BOULEVARD FOXBOROUGH, MASSACHUSETTS 02035

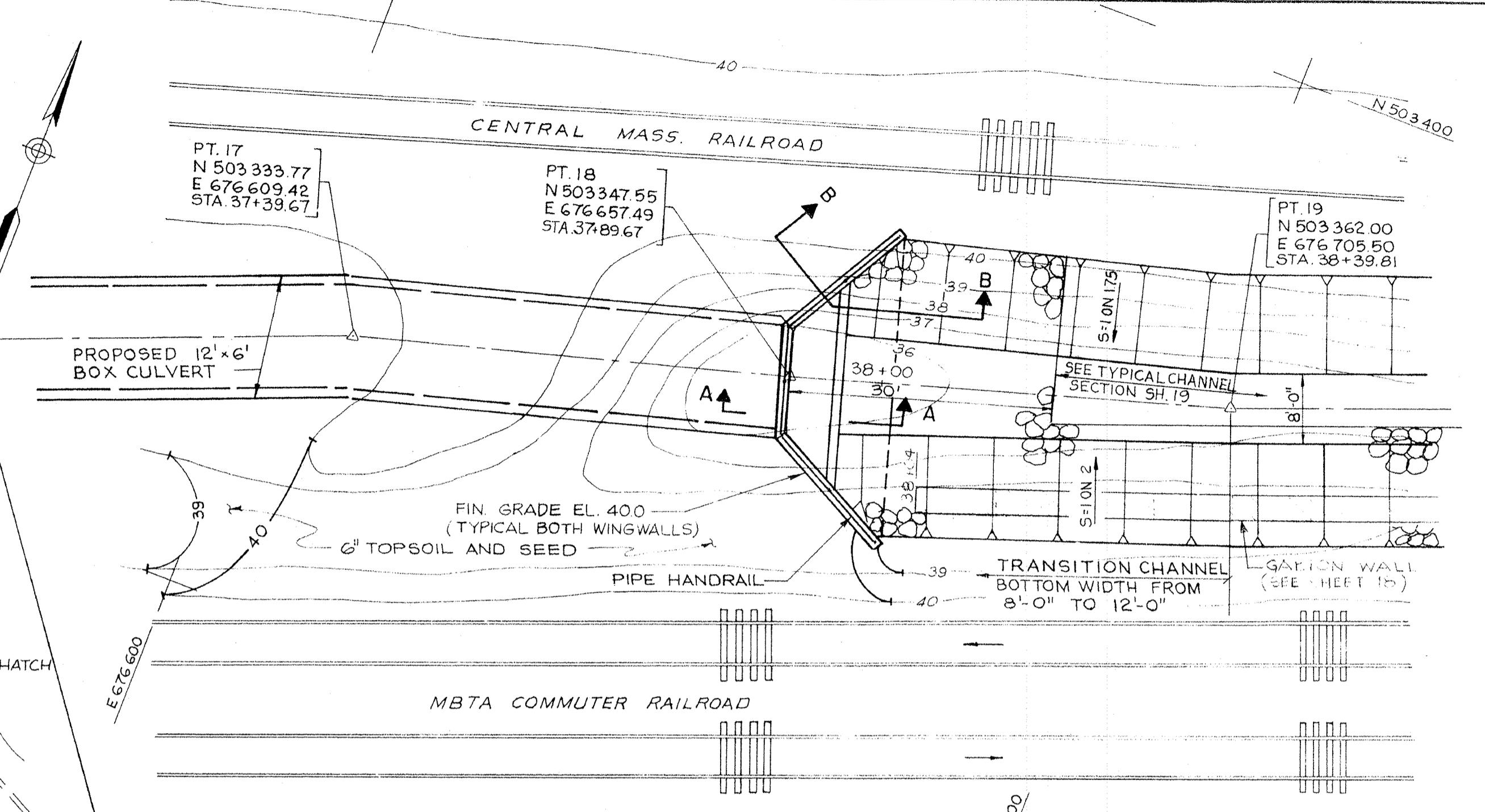


RAILROAD CROSSING PLAN
SCALE: 1" = 10'

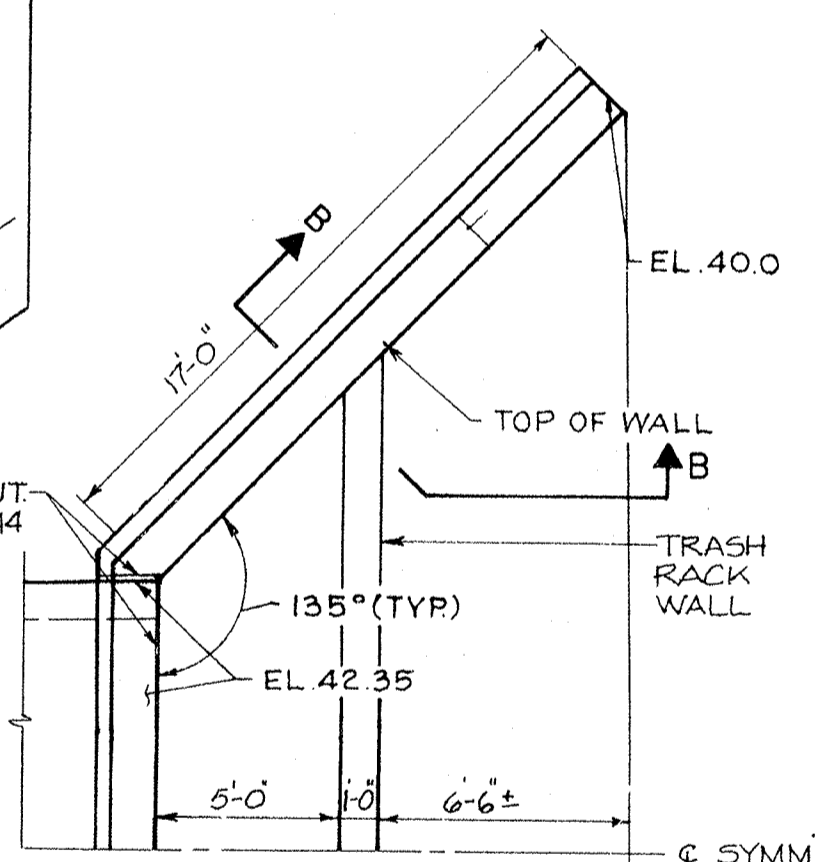


PROFILE
HORIZ: 1" = 10'
VERT: 1" = 4'

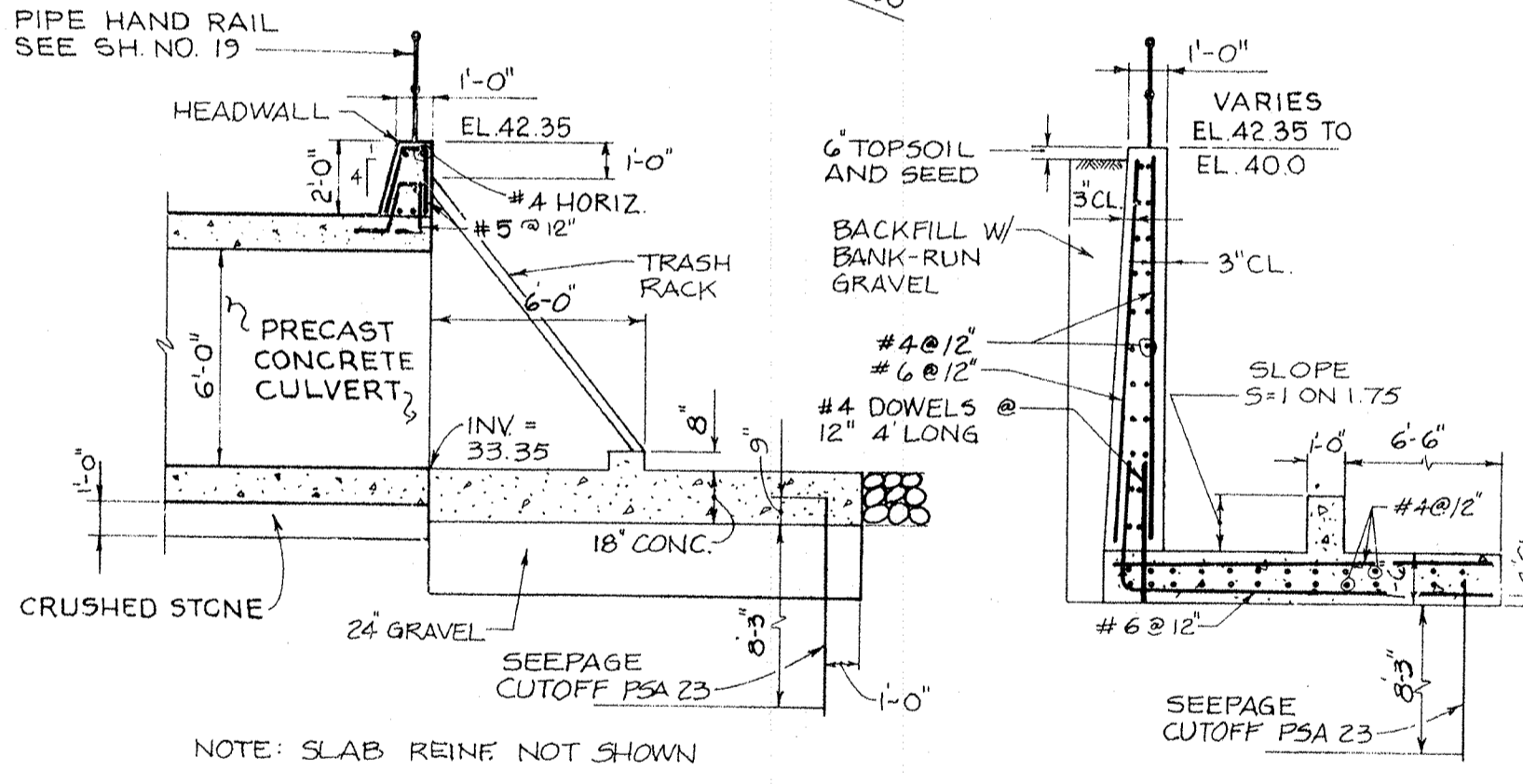
STATION EQUATION
STA 11+76.66 BACK =
STA 21+73.52 AHEAD



CULVERT INLET - PLAN
SCALE: 1" = 10'

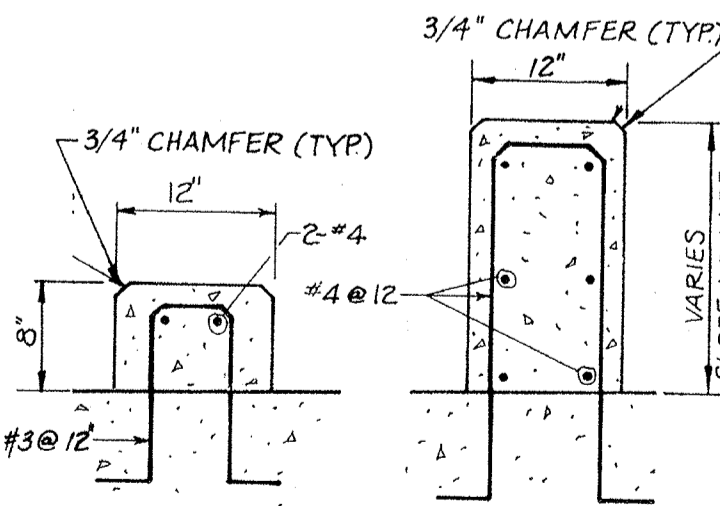


WINGWALL
SCALE: 1/4" = 1'-0"
NOTE: SOUTH WINGWALL SIMILAR AND OPPOSITEHAND.



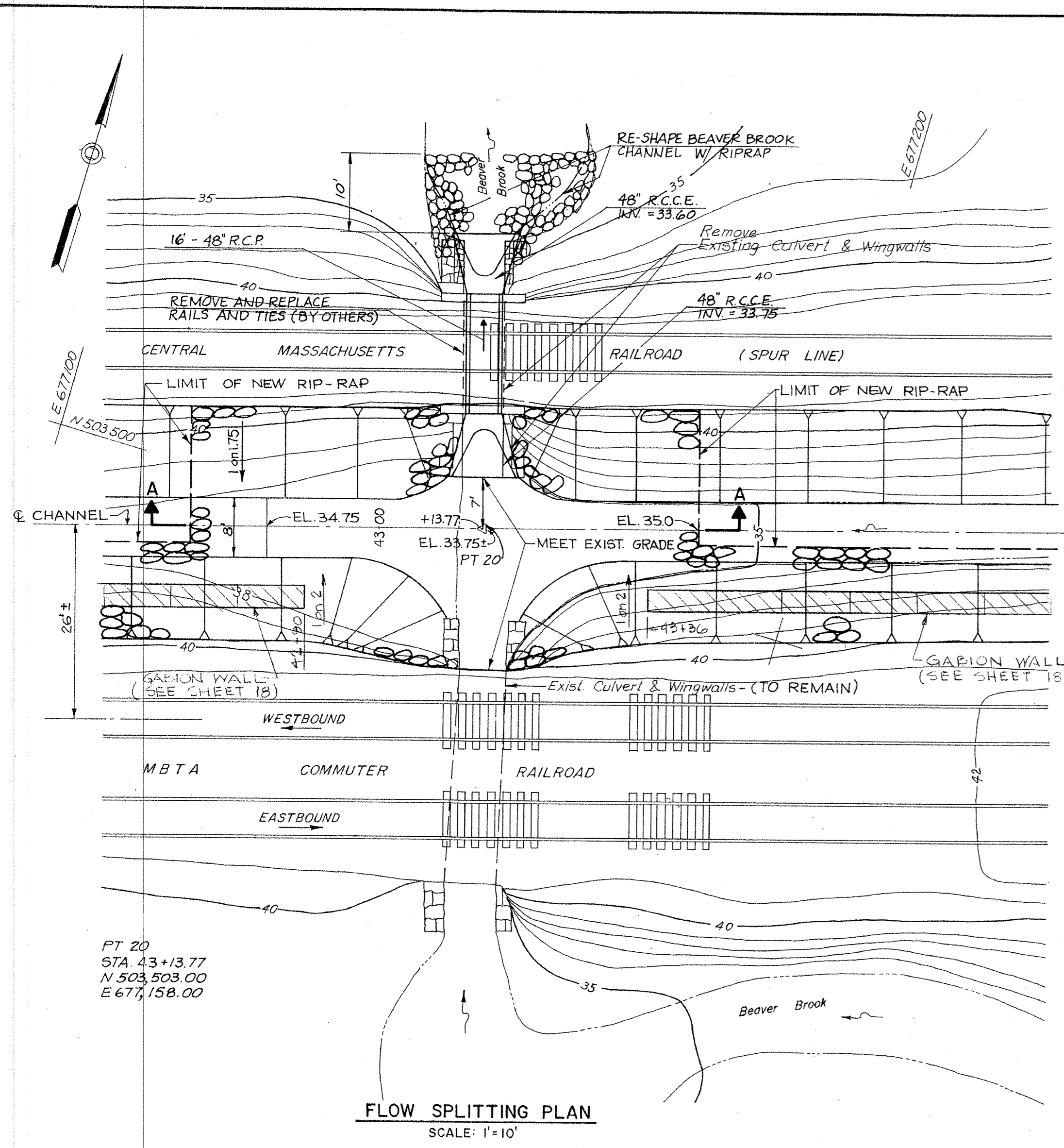
SECTION A-A
SCALE: 1/4" = 1'-0"

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

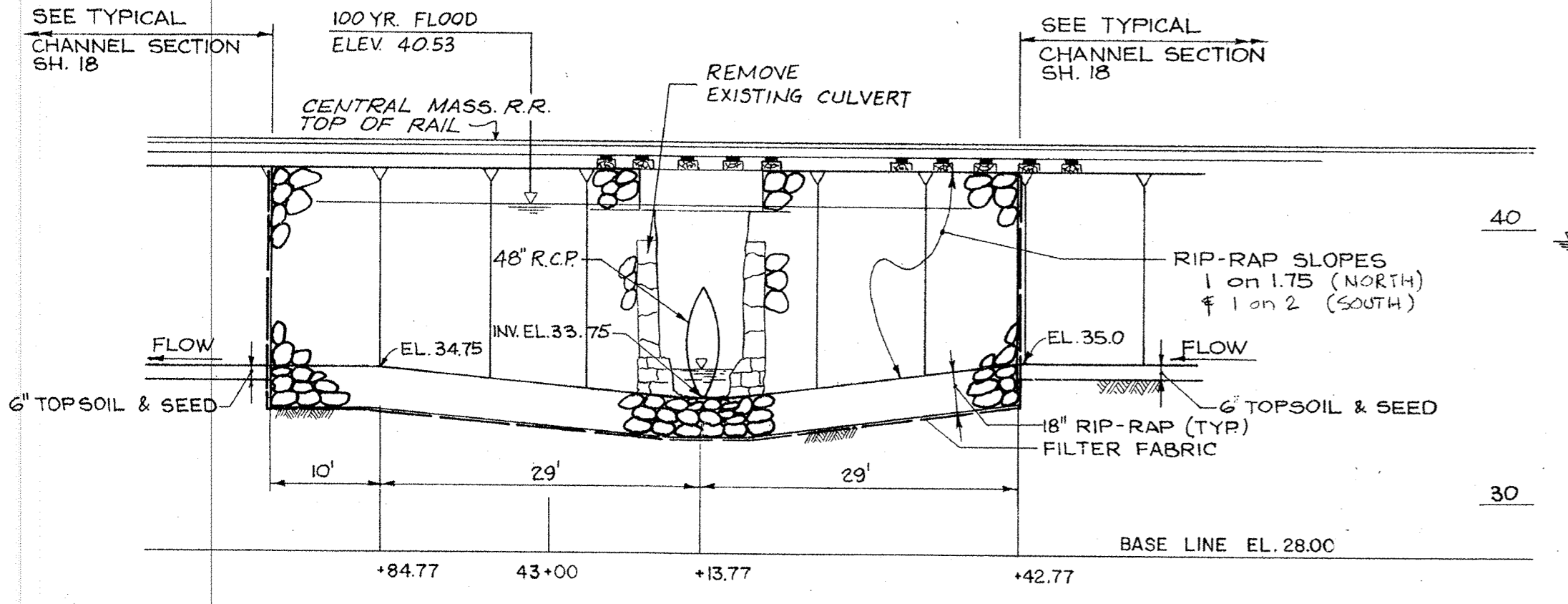


TRASH RACK WALL REINFORCING
SCALE: 1" = 1'-0"

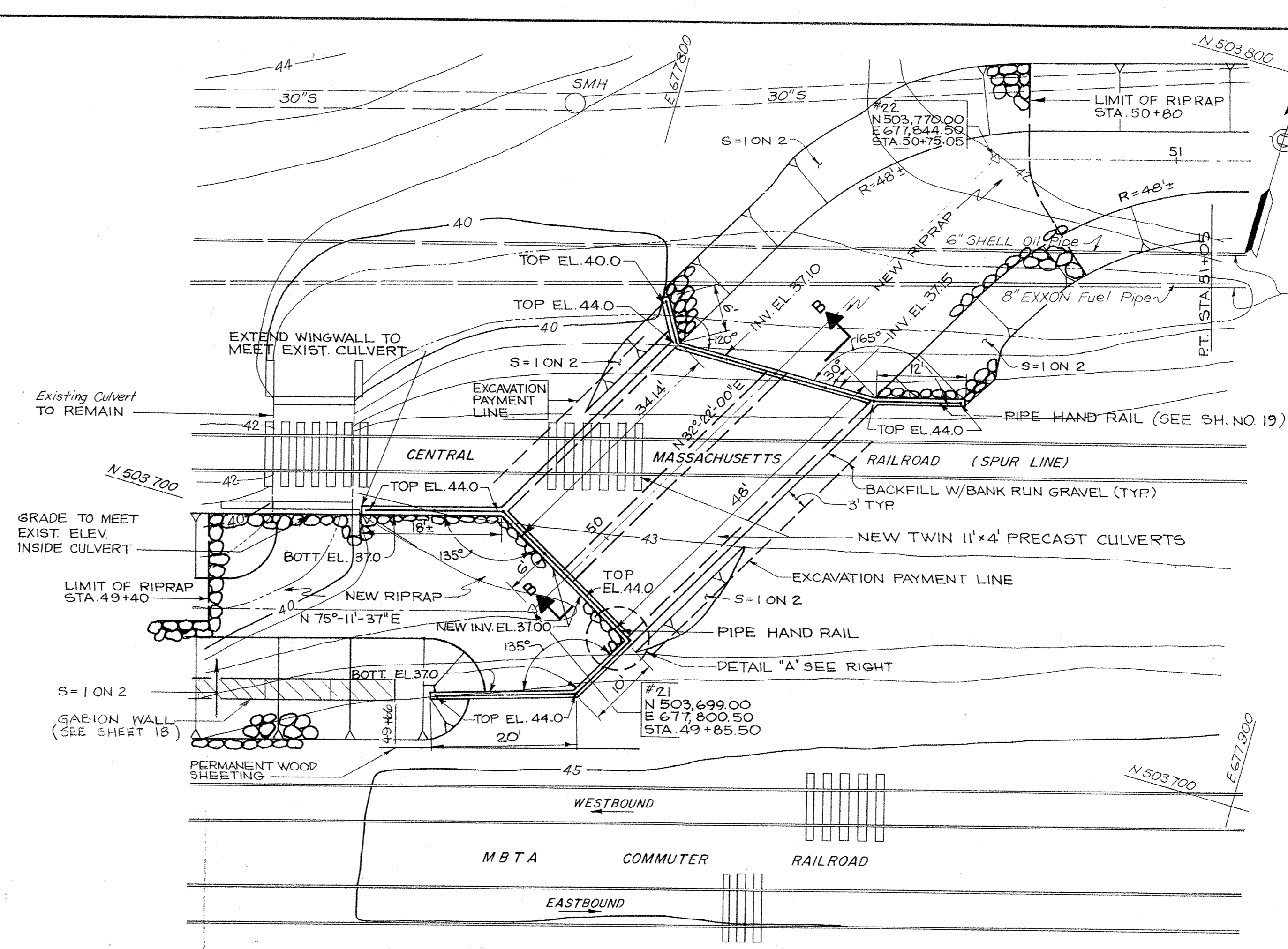
COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION PARKS ENGINEERING AND CONSTRUCTION DIVISION WATER RESOURCES AND FLOOD CONTROL SECTION		
DES. BY DR. BY CK. BY SUBMITTED:	DR. BY Z.A.W.S.V. P.T.K.	BEAVER BROOK FLOOD MITIGATION PROGRAM WALTHAM, MASSACHUSETTS
ARCHITECT/ENGINEER		
REVIEWED: MDC PROJECT MANAGER/ENGINEER APPROVAL RECOMMENDED:	RAILROAD CROSSING AND CULVERT INLET PLAN, PROFILE AND SECTIONS	
CHIEF WRFC SECTION APPROVED	REF. CONT. SCALE: AS NOTED A.C.C. 52186 X	DRAWING NO. SHEET: 10 OF:
DIRECTOR, PARKS ENGINEERING CONSTRUCTION DIVISION DATE:	DATE:	RESPONSIBLE PRINCIPAL



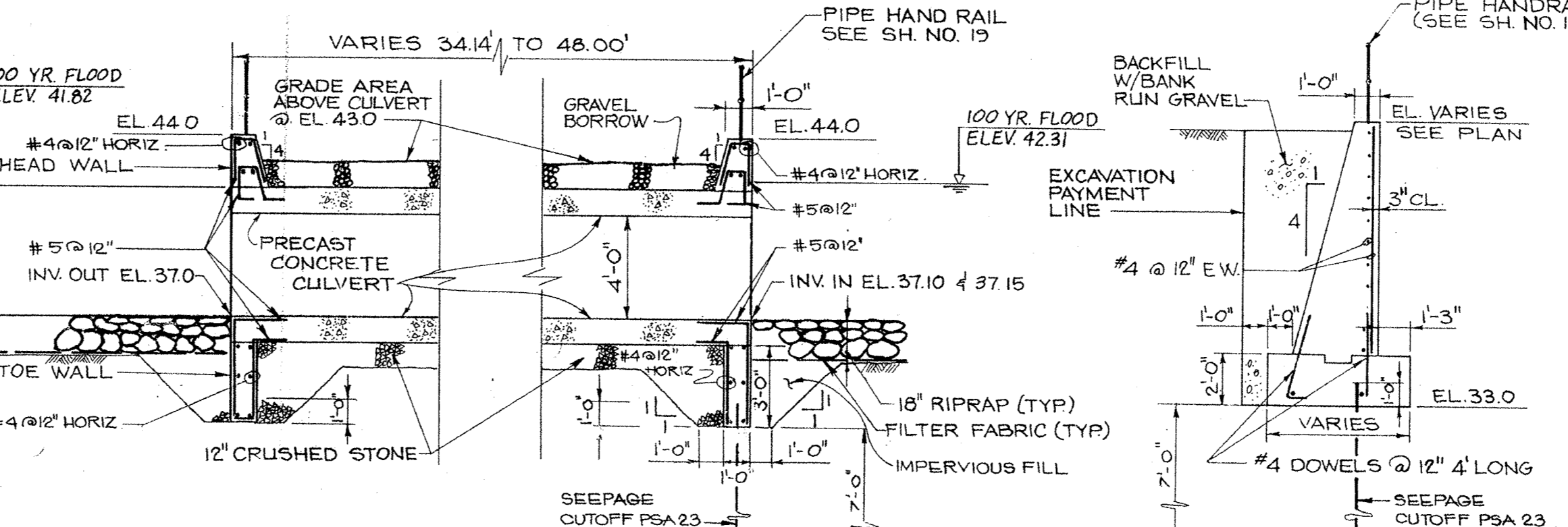
FLOW SPLITTING PLAN
SCALE: 1" = 10'



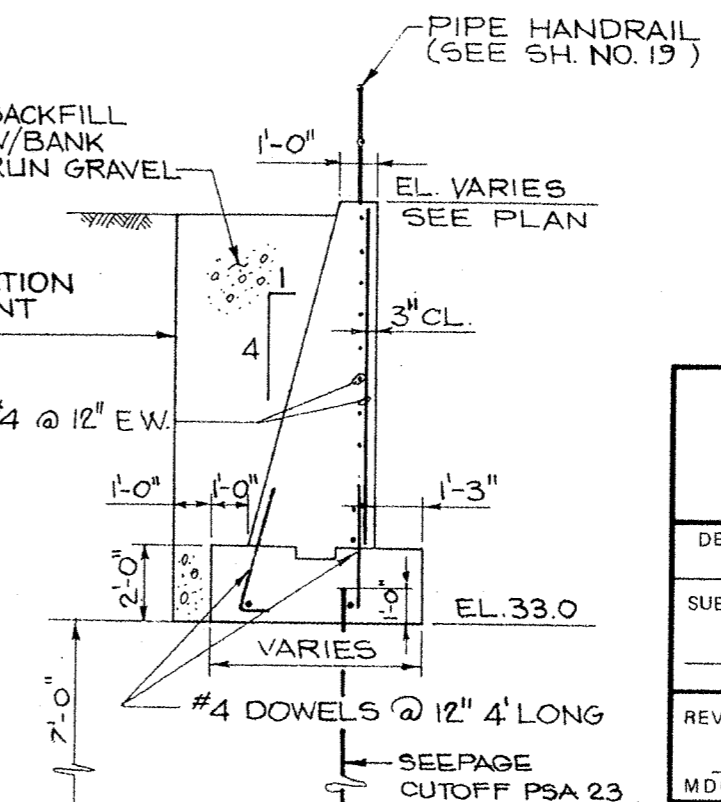
SECTION A-A
SCALE: HORIZ 1" = 10'
VERT 1" = 4'



SPUR LINE CULVERTS PLAN
SCALE: 1" = 10'

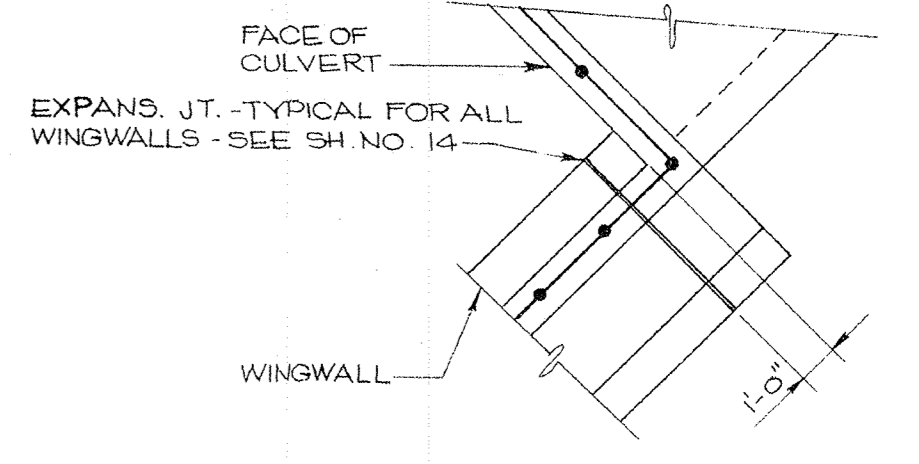


SECTION B-B
SCALE: 1/4" = 1'-0"



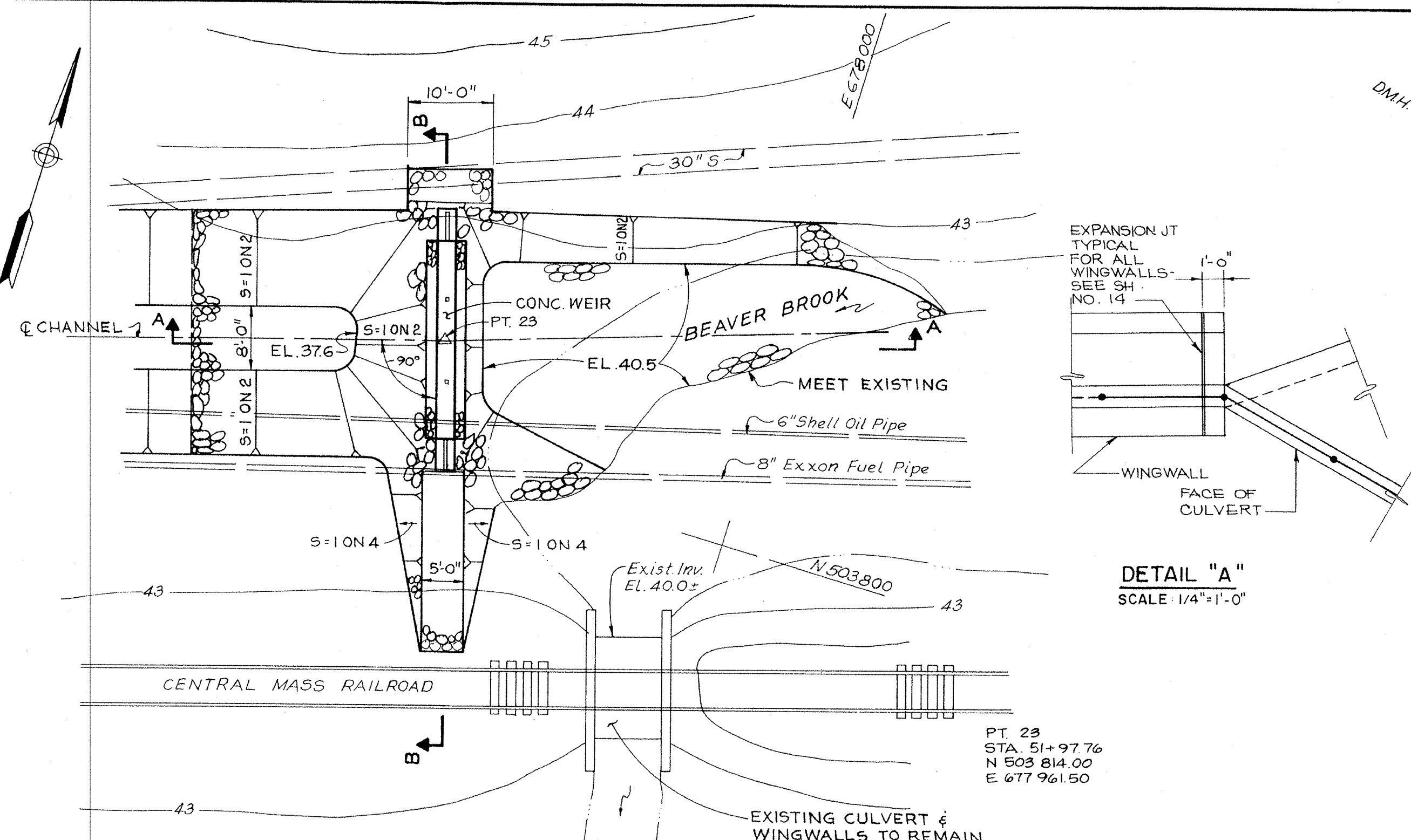
TYPICAL WINGWALL SECTION
SCALE: 1/4" = 1'-0"

SHELL & EXXON PIPE TO BE RELOCATED BY OTHERS

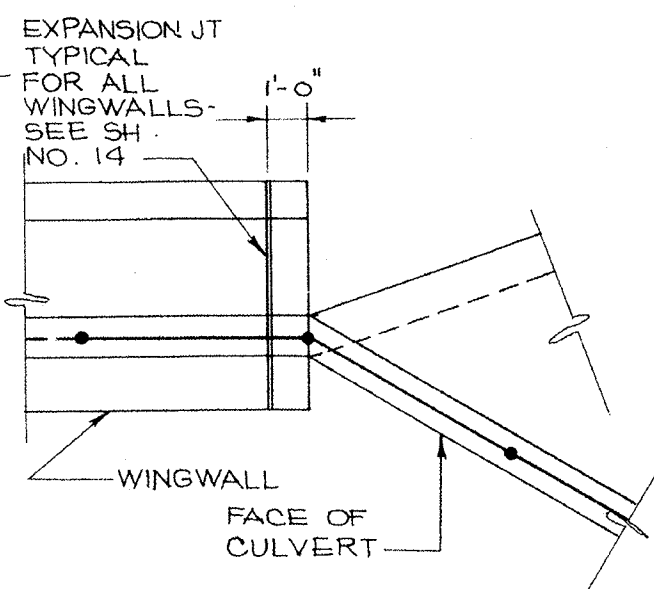


DETAIL "A"

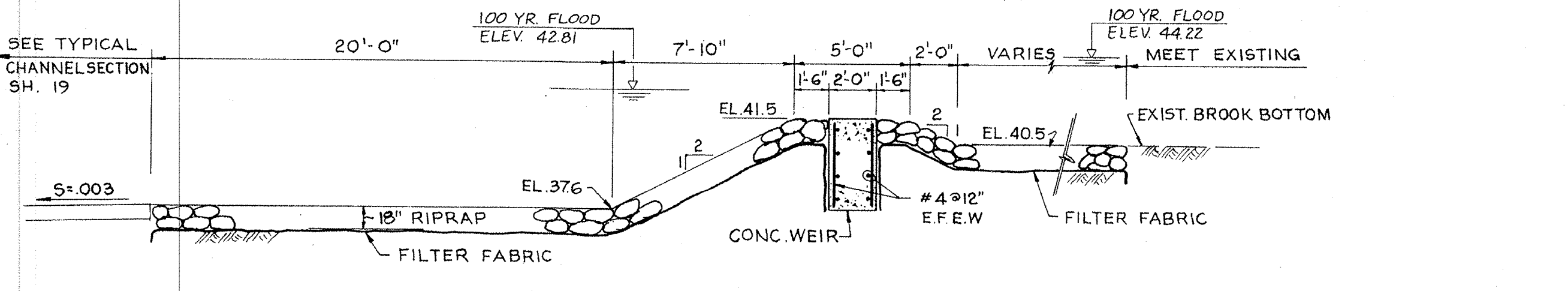
COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION PARKS ENGINEERING AND CONSTRUCTION DIVISION WATER RESOURCES AND FLOOD CONTROL SECTION		
DES. BY: _____ DR. BY: S.L.V. CK. BY: P.T.K.	BEAVER BROOK FLOOD MITIGATION PROGRAM WALTHAM, MASSACHUSETTS	
SUBMITTED: _____ ARCHITECT/ENGINEER	FLOW SPLITTING AND SPUR LINE CULVERT PLANS AND SECTIONS	
REVIEWED: _____ MDC PROJECT MANAGER/ENGINEER	APPROVAL RECOMMENDED: _____	
CHIEF, WRFC SECTION APPROVED	REF: _____ A.C.C. 52187 X	CONT: _____ SCALE: AS NOTED DATE: _____
DIRECTOR, PARKS ENGINEERING & CONSTRUCTION DIVISION DATE: _____	Maguire Group Inc. Architects/Engineers/Planners 225 FOXBOROUGH BOULEVARD FOXBOROUGH, MASSACHUSETTS 02035	DRAWING NO. _____ SHEET: 11 OF: _____ RESPONSIBLE PRINCIPAL



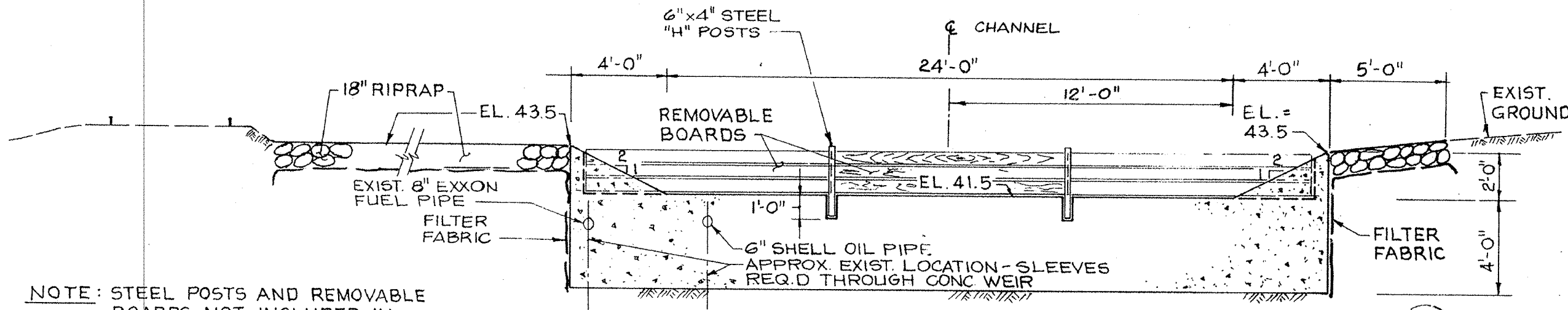
WEIR & CHANNEL - PLAN
SCALE: 1"=10'



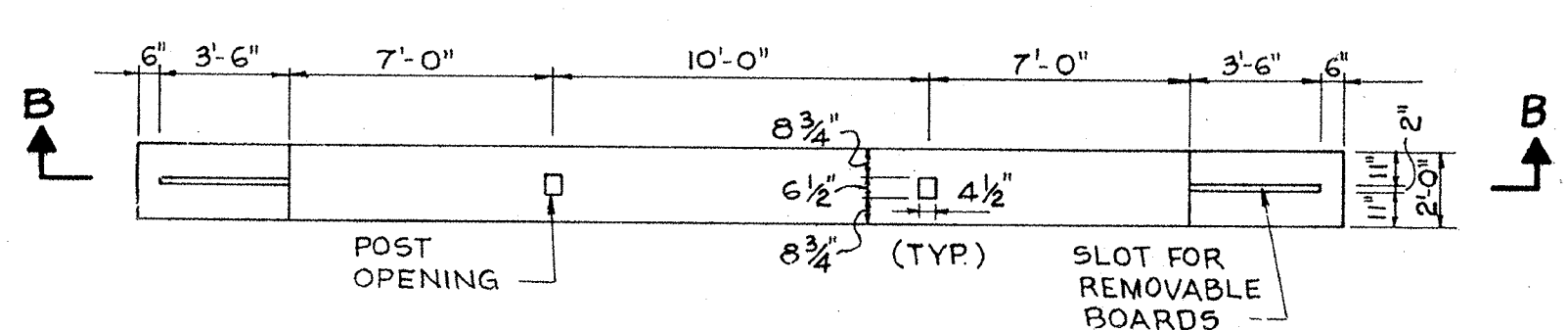
DETAIL "A"
SCALE: 1/4"=1'-0"



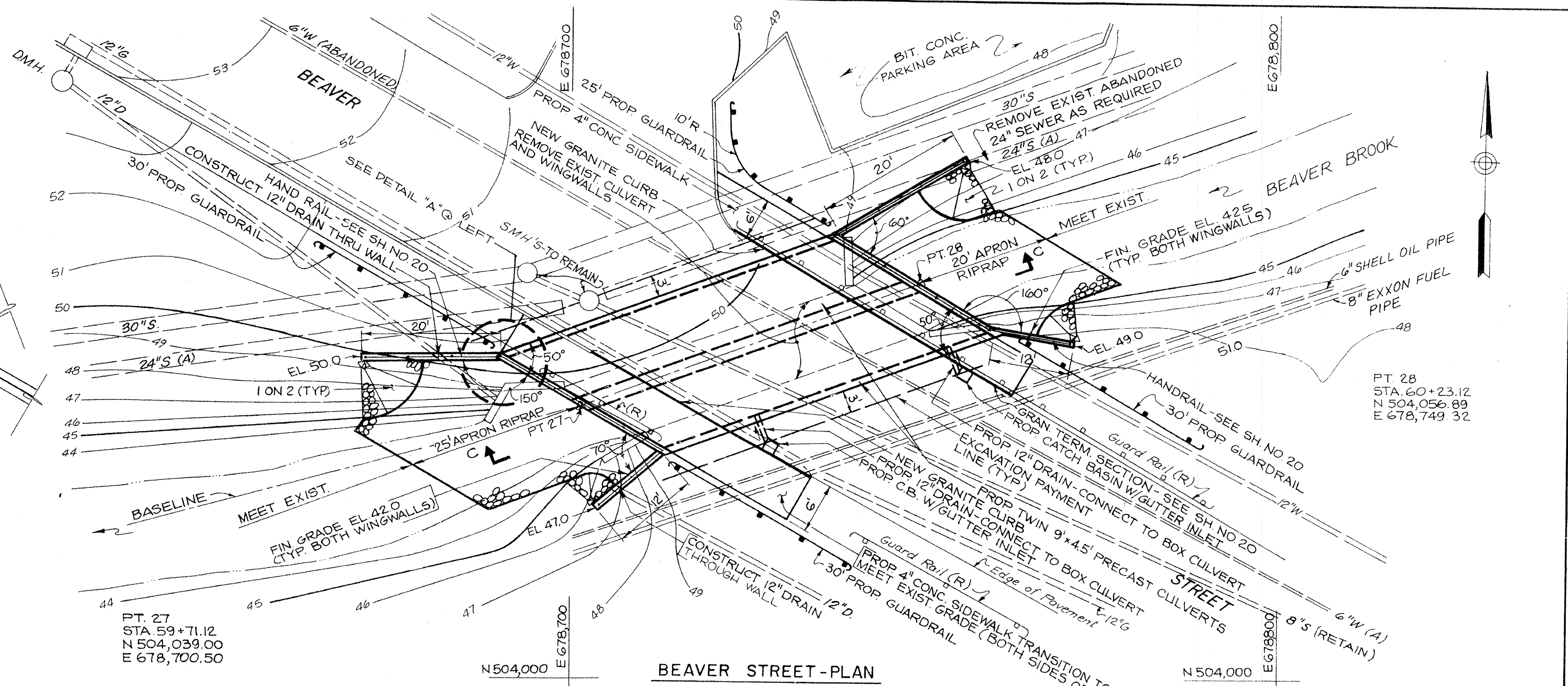
SECTION A-A
SCALE: 1/4"=1'-0"



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



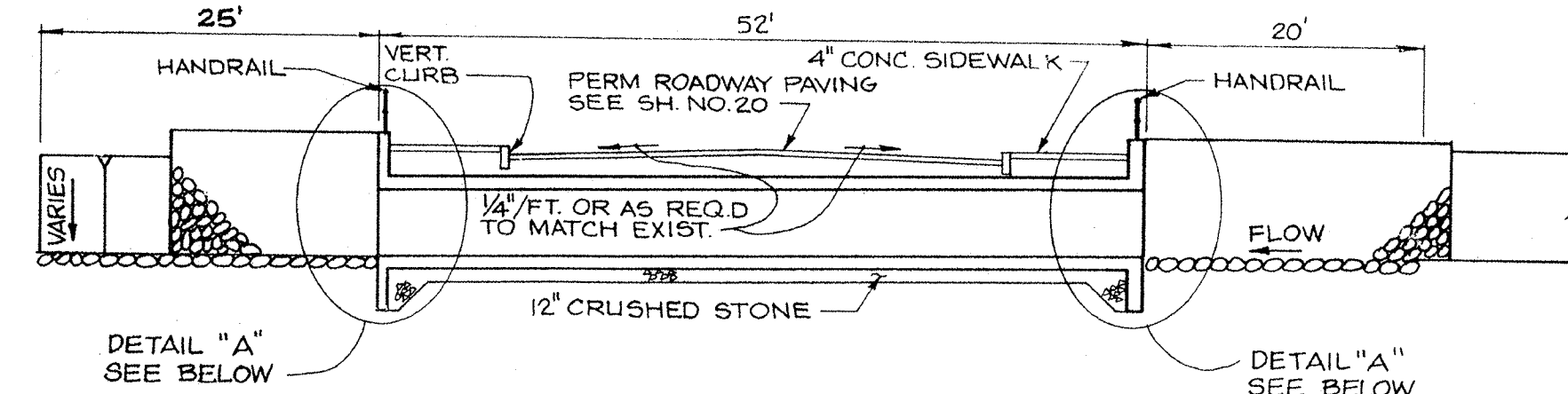
CONCRETE WEIR - PLAN
SCALE: 1/4"=1'-0"



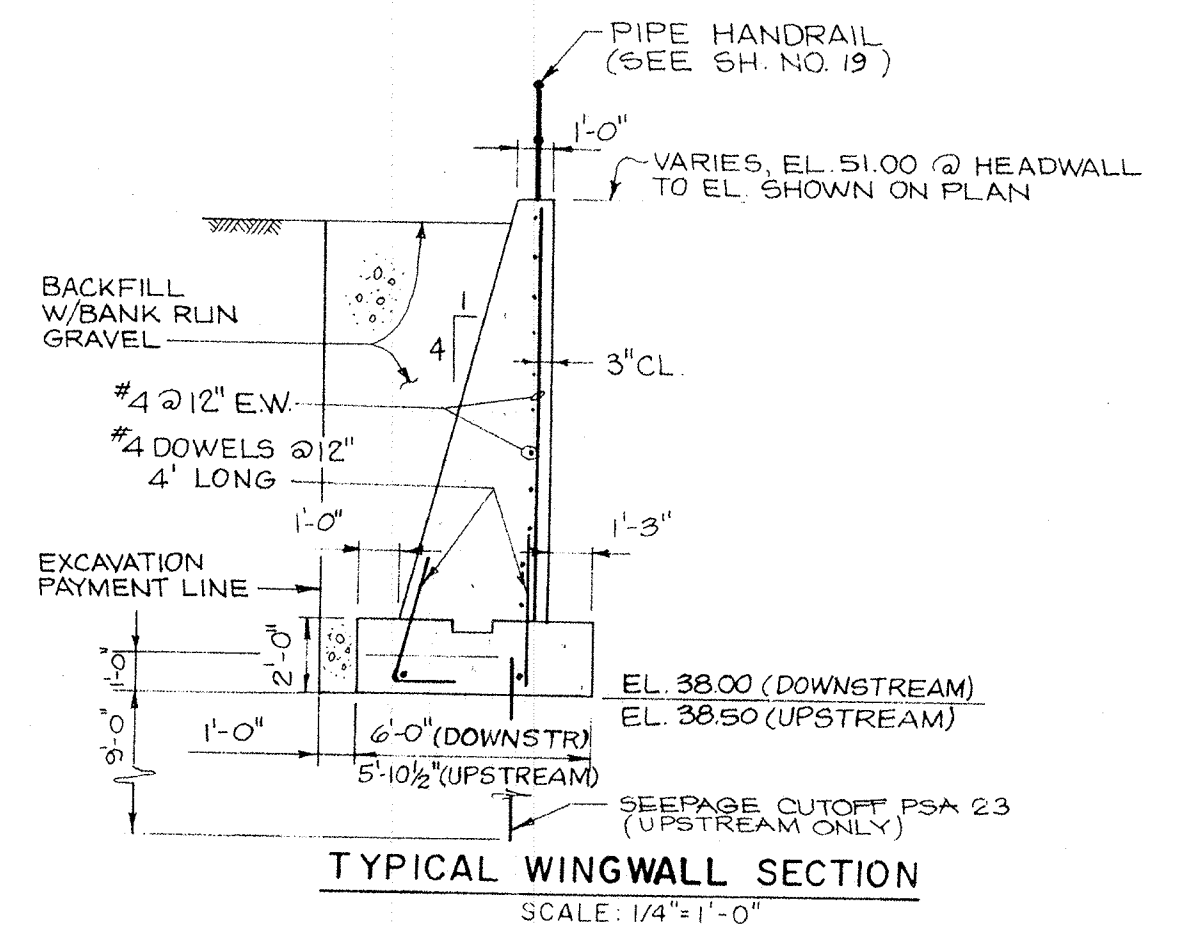
BEAVER STREET - PLAN
SCALE: 1"=10'

NOTES:

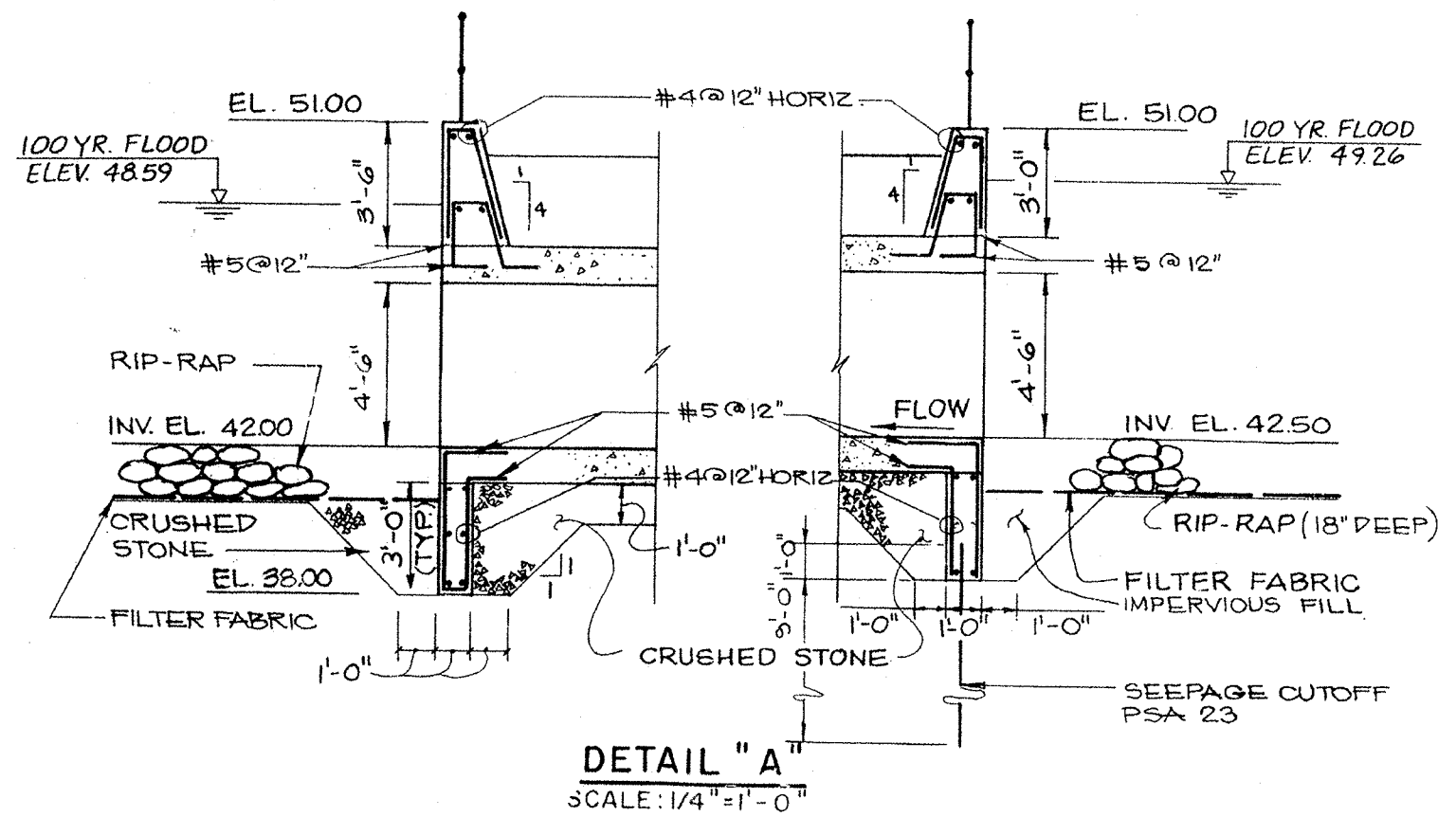
1. CONTRACTOR TO DIG TEST PITS AS DIRECTED PRIOR TO DRIVING SEEPAGE CUTOFFS TO DETERMINE EXACT LOCATION OF EXISTING 12" WATER LINE.
2. FOR TRAFFIC DIVERSION - SEE SH. NO. 22
3. PROPOSED GUARDRAIL TO BE SET PARALLEL TO CURB AND 9" FROM BACK OF WALK TO FACE OF GUARDRAIL.
4. ALIGNMENT OF VERTICAL CURBING SHALL BE PARALLEL TO NEW HEADWALL OF CULVERT OR AS DIRECTED BY THE ENGINEER TO MATCH EXISTING ROADWAY ALIGNMENT. PROVIDE MINIMUM 6' SIDEWALKS AS SHOWN.
5. EXCAVATION PAYMENT LINE IS 3' FROM WALL OF CULVERT BACKFILL W/BANK RUN GRAVEL.



SECTION C-C
SCALE: 1"=10'

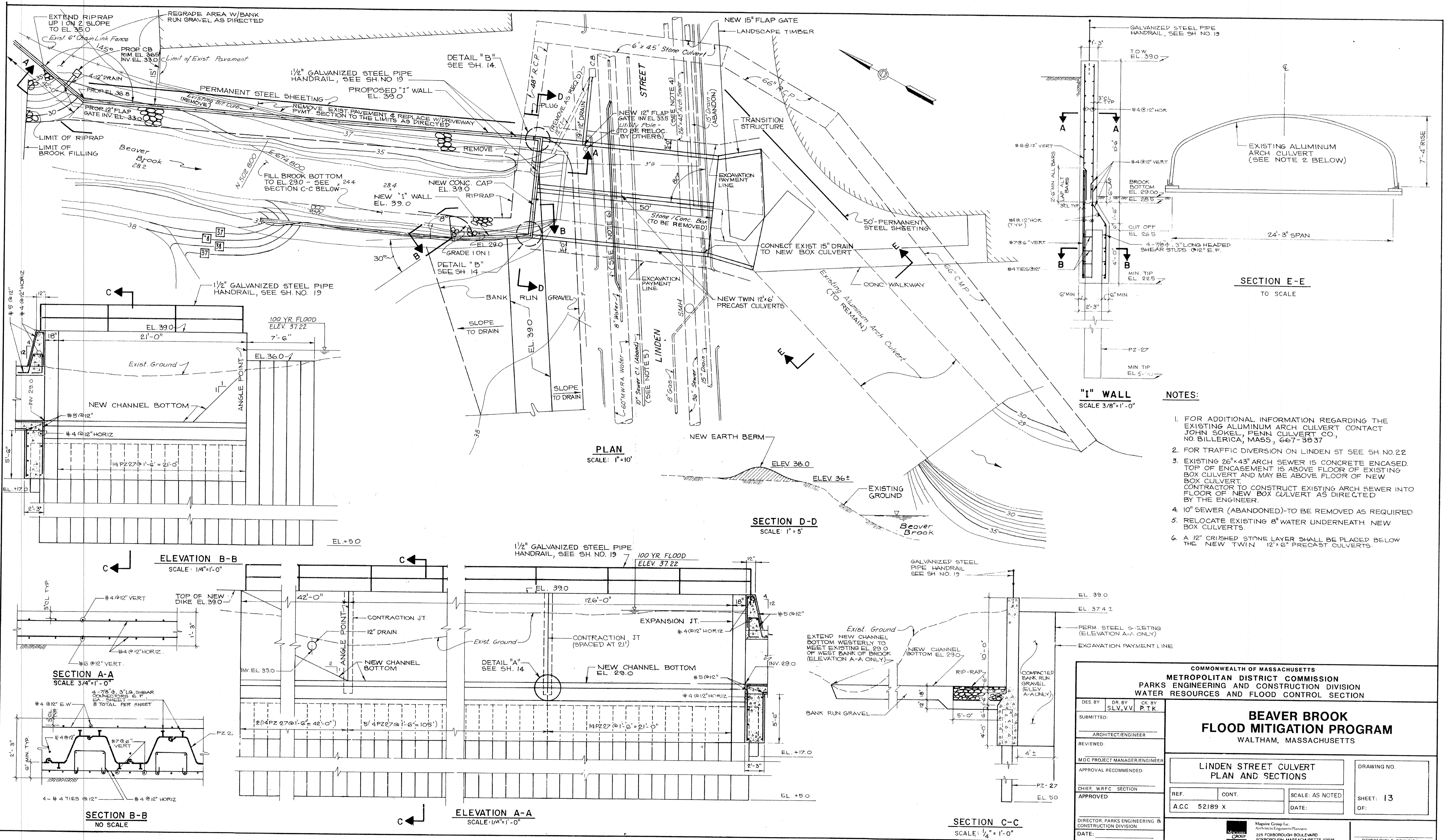


TYPICAL WINGWALL SECTION
SCALE: 1/4"=1'-0"



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

COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION PARKS ENGINEERING AND CONSTRUCTION DIVISION WATER RESOURCES AND FLOOD CONTROL SECTION			
DES. BY: Z.A.W., SV DR. BY: Z.A.W., SV SUBMITTED: _____ ARCHITECT/ENGINEER: _____ REVIEWED: _____ MDC PROJECT MANAGER/ENGINEER: _____ APPROVAL RECOMMENDED: _____ CHIEF, WRFC SECTION: _____ APPROVED: _____ DIRECTOR, PARKS ENGINEERING & CONSTRUCTION DIVISION: _____ DATE: _____		BEAVER BROOK FLOOD MITIGATION PROGRAM WALTHAM, MASSACHUSETTS	
WEIR & BEAVER ST. IMPROVEMENTS PLANS AND SECTIONS		DRAWING NO. _____ SHEET: 12 OF: _____	
REF. CONT. SCALE: AS NOTED A.C.C. 52188 X DATE: _____		RESPONSIBLE PRINCIPAL: _____	



PLAN
SCALE: 1" = 10'

SECTION D-D
SCALE: 1" = 5'

SECTION E-E
TO SCALE

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

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

SECTION A-A
SCALE: 3/4" = 1'-0"

SECTION B-B
NO SCALE

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

NOTES:

1. FOR ADDITIONAL INFORMATION REGARDING THE EXISTING ALUMINUM ARCH CULVERT CONTACT JOHN SOKEL, PENN CULVERT CO., NO. BILLERICA, MASS., 667-3037
2. FOR TRAFFIC DIVERSION ON LINDEN ST SEE SH. NO. 22
3. EXISTING 26"x43" ARCH SEWER IS CONCRETE ENCASED. TOP OF ENCASEMENT IS ABOVE FLOOR OF EXISTING BOX CULVERT AND MAY BE ABOVE FLOOR OF NEW BOX CULVERT. CONTRACTOR TO CONSTRUCT EXISTING ARCH SEWER INTO FLOOR OF NEW BOX CULVERT AS DIRECTED BY THE ENGINEER.
4. 10" SEWER (ABANDONED)-TO BE REMOVED AS REQUIRED
5. RELOCATE EXISTING 8" WATER UNDERNEATH NEW BOX CULVERTS.
6. A 12" CRUSHED STONE LAYER SHALL BE PLACED BELOW THE NEW TWIN 12"x6" PRECAST CULVERTS.

COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION PARKS ENGINEERING AND CONSTRUCTION DIVISION WATER RESOURCES AND FLOOD CONTROL SECTION		
DES BY: SLV, V.V.	DR BY: P.T.K.	CK BY:
SUBMITTED:		
ARCHITECT/ENGINEER		
REVIEWED:		
MDC PROJECT MANAGER/ENGINEER		
APPROVAL RECOMMENDED:		
CHIEF WRFC SECTION		
APPROVED:		
DIRECTOR, PARKS ENGINEERING & CONSTRUCTION DIVISION		
DATE:		
BEAVER BROOK FLOOD MITIGATION PROGRAM WALTHAM, MASSACHUSETTS		
LINDEN STREET CULVERT PLAN AND SECTIONS		DRAWING NO.
REF. A.C.C. 52189 X	CONT.	SHEET: 13
SCALE: AS NOTED	DATE:	OF:
Maguire Group Inc. Architects/Engineers/Planners 225 FOXBOROUGH BOULEVARD FOXBOROUGH, MASSACHUSETTS 02035		RESPONSIBLE PRINCIPAL