00 "5"

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4984-0-42	M 1201 (7)	1
6240-2-71	HES 0131(2)	1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C.T.H. "OO" INTERSECTION

CITY OF APPLETON

S.T.H. "47"

OUTAGAMIE COUNTY

STATE PROJECT NUMBER

6240-2-71

NORTHLAND AVENUE, CITY OF APPLETON

MASON STREET – S.T.H. "47"

C.T.H. "OO"

OUTAGAMIE COUNTY

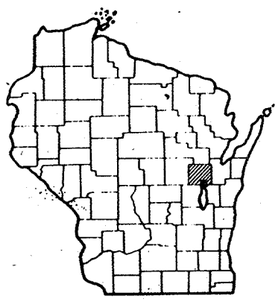
STATE PROJECT NUMBER

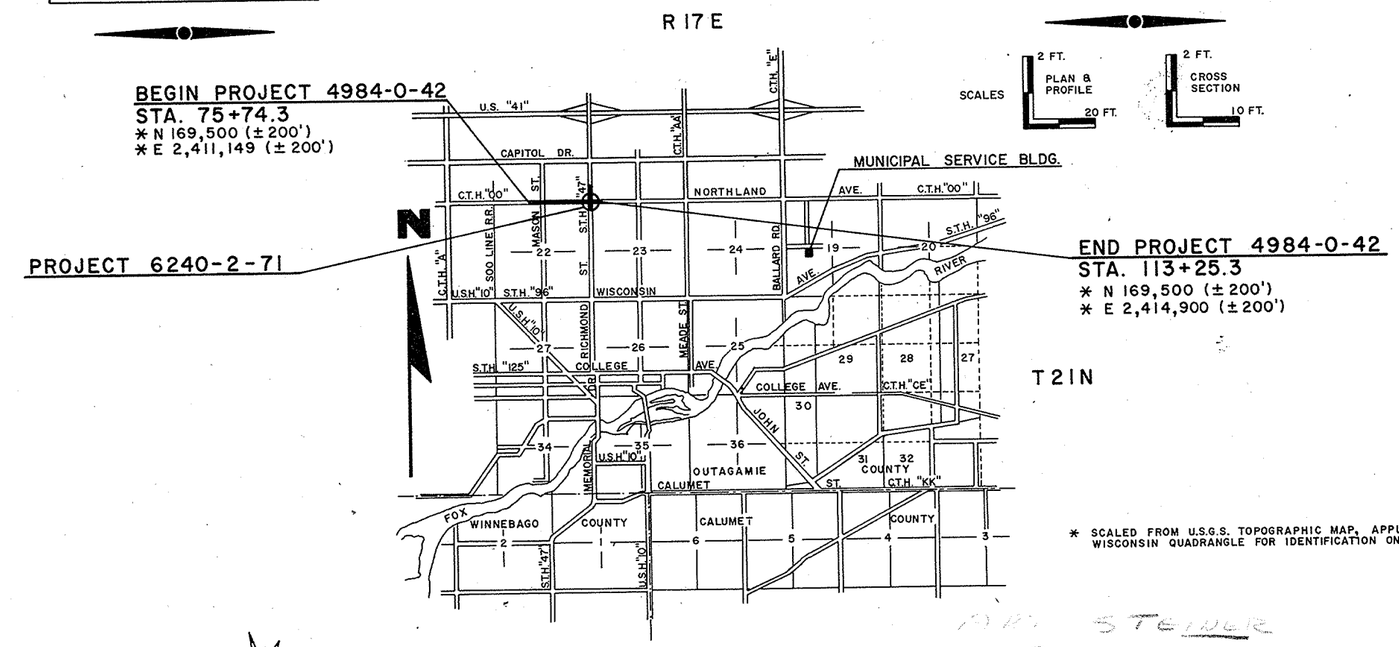
4984-0-42

Index of Sheets

Sheet No	1	Title
Sheet No	2-2.19*	Typical Sections and Details
Sheet No	3-3.1	Estimate of Quantities
Sheet No	3A	Miscellaneous Quantities
Sheet No	4	Right of Way Plat
Sheet No	5-5.11	Plan and Profile
Sheet No	6-6.7	Standard Detail Drawings
Sheet No	——	Standard Sign Plates
Sheet No	——	Structure Plans
Sheet No	——	Computer Earthwork Data
Sheet No	9-9.13	Cross Sections

TOTAL SHEETS = 59





SCALES: 2 FT. PLAN & PROFILE – 20 FT.; 2 FT. CROSS SECTION – 10 FT.

* SCALED FROM U.S.G.S. TOPOGRAPHIC MAP, APPLETON, WISCONSIN QUADRANGLE FOR IDENTIFICATION ONLY.

Design Designation

A.D.T. 1982	= 14,500
A.D.T. 2002	= 16,500
D.H.V. 2002	= 1,815
D.	= 55%
T.	= 3.5%
V.	= 40 M.P.H

Conventional Signs

County Line
Township or Range Line
Section Line
Corporate or City Limits
Property line
Lot Line
Existing Right of Way Line
New Right of Way Line
Base or Survey Line
Slope Intercept
Existing Roadway or Private Entrance
Facility To Be Removed
Caution Symbol (Combustible fluids under pressure)
Railroads
Fence
Culverts in Place
Culverts Required
Power Pole
Telephone or Telegraph Pole
Right of Way Markers
Marsh
Wooded Area
Grade Elevation

Layout
Scale 0 1 2 3 4 5000 FEET

Total Net Length of Centerline = 0.710 Mi. URBAN 4984-0-42
0.000 MI. 6240-2-71

PLANS AND GRADES WITHIN THE CITY OF APPLETON
Approved: 11/24/81 DATE (SIGNATURE OF OFFICIAL)

APPROVED FOR OUTAGAMIE COUNTY
Date 11/30/81 Commissioner

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Surveyor ____ District Checker ____
Designer ____ C O Checker BJE
District Supervisor ____ C O Coordinator RA PER

Approved
Date 1/11/82 Approved: Division Director
Date 1-26-82 Approved: Chief Traffic Engineer
Date 1-26-82 Chief Design Engineer

Approved
Date 1-26-82 Director of Development

U S DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 5 WISCONSIN DIVISION

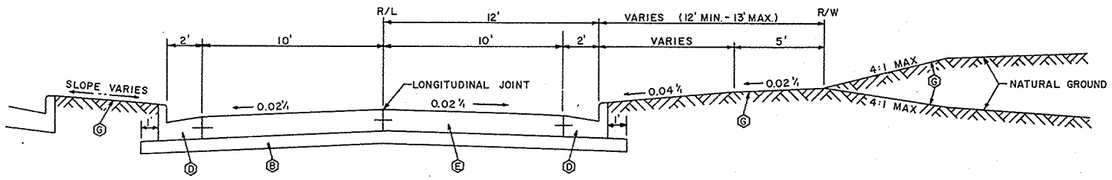
Approved
Date ____ Division Administrator

AM STEWER
733-9181

Cat. No. 2130 – 0110

STATE PROJECT NUMBER	SHEET NO.
4984-0-42 & 6240-2-71	2

TYPICAL SECTIONS



PROPOSED TYPICAL SECTION

NORTHLAND AVENUE SERVICE ROAD

(MASON STREET TO RICHMOND STREET)

Ⓐ — 9" NON-REINFORCED CONCRETE PAVEMENT
Ⓑ — 4" CRUSHED AGGREGATE BASE COURSE
Ⓒ — 18" CURB & GUTTER, TYPE "A"
Ⓓ — 30" CURB & GUTTER, TYPE "A"
Ⓔ — 7" NON-REINFORCED CONCRETE PAVEMENT
Ⓕ — 4" TOPSOIL, FERTILIZE AND SOD (4" C.S.W. WHERE SHOWN ON PLANS)
Ⓖ — 4" TOPSOIL, FERTILIZE, SEED AND MULCH
Ⓗ — 1" TOPSOIL, FERTILIZE, SEED AND MULCH

GENERAL NOTES

TRANSVERSE CONTRACTION JOINTS SHALL BE SPACED EVERY 20 FEET AND SKEWED.

ALL NEW BITUMINOUS SURFACE SHALL BE 3" THICK EXCEPT WHERE OTHERWISE NOTED ON PLANS.

ALL CURB & GUTTER RADII SHOWN ARE TO FACE OF CURB.

THE REMOVAL OF ASPHALT WIDENING LANES ON NORTHLAND AVENUE, AND ASPHALT DRIVEWAYS, WILL BE PAID AS UNCLASSIFIED EXCAVATION.

THE REMOVAL OF CONCRETE DRIVEWAYS WILL BE PAID AS CONCRETE PAVEMENT REMOVAL.

CONCRETE CURB BEHIND INLETS SHALL HAVE 2 - #4 X 8' LONG REINFORCING BARS, 6" O.C., PLACED 3" FROM TOP OF CURB AND CENTERED ON INLET. COST OF FURNISHING AND INSTALLING BARS SHALL BE INCLUDED IN BID ITEM FOR CURB & GUTTER. (SEE DETAIL "B")

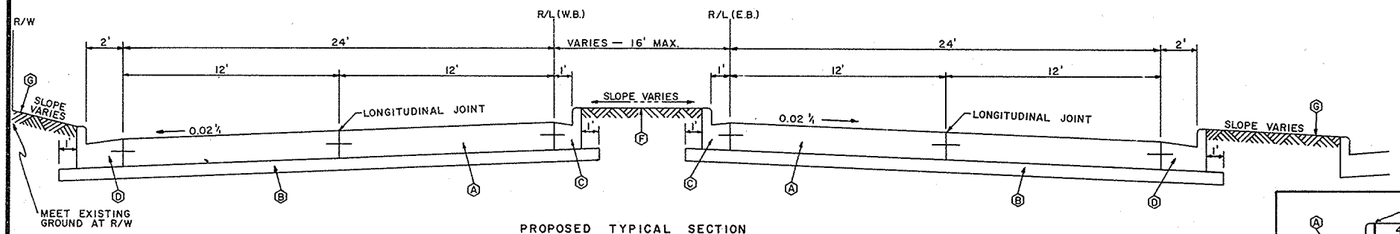
WHERE PLANS SHOW NEW 4" C.S.W. IN MEDIAN AREAS CRUSHED AGGREGATE BASE COURSE SHALL EXTEND TO BOTTOM OF 4" C.S.W. (SEE DETAIL "A")

PRIVATE UTILITY COMPANIES SHALL ADJUST OR MOVE ALL PRIVATELY OWNED FACILITIES TO FIT THE NEW CONSTRUCTION (POWER POLES, TELEPHONE POLES, GAS MANHOLES, TELEPHONE MANHOLES, ETC.)

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

WHEN THE QUANTITY OF ITEMS OF BASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON OR BY THE CUBIC YARD, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIAL AS DIRECTED BY THE ENGINEER.

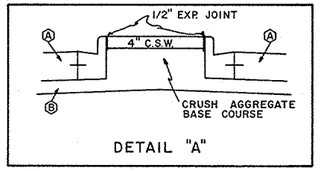
ALL LONGITUDINAL AND TRANSVERSE JOINTS REQUIRING SEALING SHALL BE SEALED IN ACCORDANCE WITH SUB-SECTION 409.2.5.2 OF THE STANDARD SPECIFICATIONS.



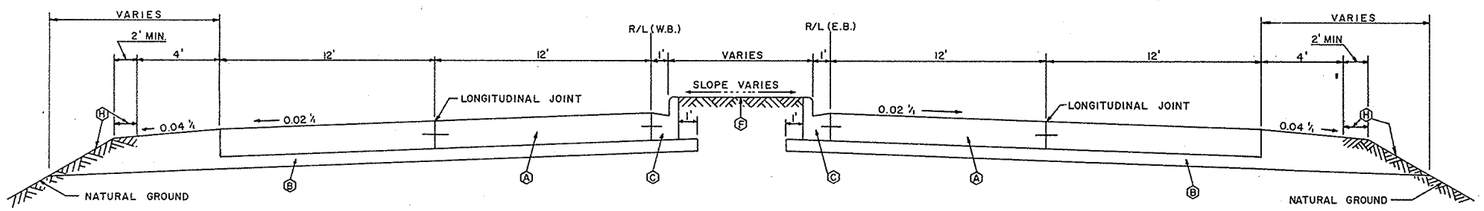
PROPOSED TYPICAL SECTION

NORTHLAND AVENUE

(MASON ST. TO STA. 110+55.3)



DETAIL "A"



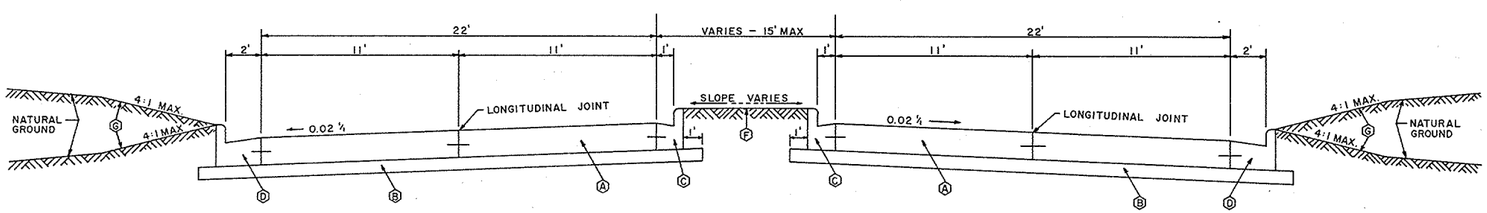
PROPOSED TYPICAL SECTION

NORTHLAND AVENUE

(STA. 110+55.3 TO STA. 113+05.3)

UTILITIES WITHIN PROJECT LIMITS

STORM SEWERS & SANITARY SEWERS	APPLETON ENGINEERING DEPARTMENT MR. TOM HARP, CITY ENGINEER 200 N. APPLETON ST. APPLETON, WISCONSIN 54911	735-6474
WATER	APPLETON WATER DEPARTMENT MR. RUSS FULCER, DISTRIBUTION SUPERINTENDENT 125 N. WALNUT STREET APPLETON, WISCONSIN 54911	733-2311
ELECTRIC	WISCONSIN ELECTRIC POWER COMPANY MR. JACK ARTER, DIVISION ENGINEER 807 S. ONEIDA ST. APPLETON, WISCONSIN 54911	735-8455
GAS	WISCONSIN NATURAL GAS COMPANY MR. JAMES GUNDERSON, SUPERINTENDENT OF OPERATIONS 800 N. LYNNDALE DRIVE APPLETON, WISCONSIN 54911	735-8351
TELEPHONE	WISCONSIN TELEPHONE COMPANY MR. ROGER POST, ENGINEERING SUPERINTENDENT 221 W. WASHINGTON STREET APPLETON, WISCONSIN 54911 CABLE LOCATE 1-800-242-8511 (TOLL FREE)	



PROPOSED TYPICAL SECTION

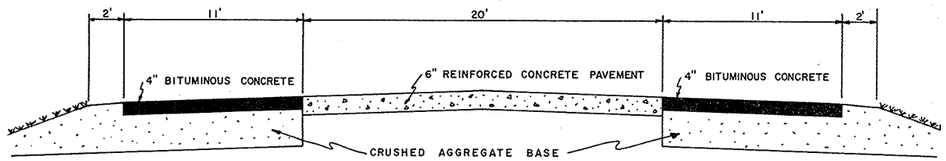
RICHMOND STREET

STANDARD DETAIL DRAWINGS

8B6-2 — MANHOLES - TYPE 1
8C2-3 — INLETS - TYPE 3
8D1-5 — CONCRETE CURB, C.& G., OR INTEGRAL CURB
8D5-6 — CURB RAMPS
9B2-2 — METAL, FIBER AND PVC CONDUIT
13C1-5 — CONCRETE PAVEMENT LONGITUDINAL JOINTS
13C3-2 — NON-REINFORCED CONC. PVT. (20' SKEWED TRANSVERSE JOINTS WITH POURED TYPE SEALER.
15C1-7 — CONSTRUCTION BARRICADES AND STANDARD SIGNS.

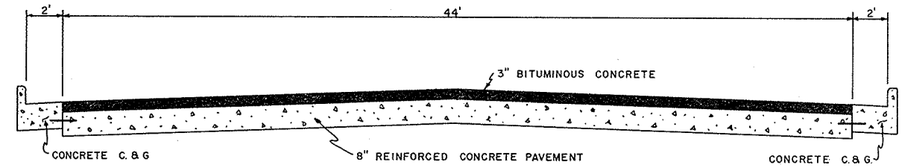
STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.1

TYPICAL SECTIONS



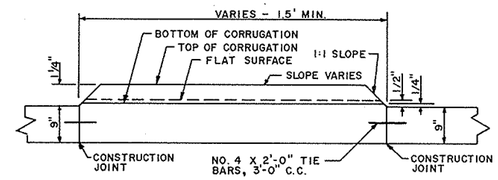
EXISTING TYPICAL SECTION

NORTHLAND AVENUE
(MASON TO RICHMOND)

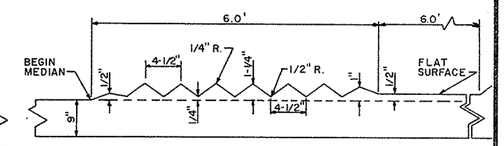


EXISTING TYPICAL SECTION

RICHMOND STREET
(STA. 5+68.7 TO NORTHLAND AVE.)

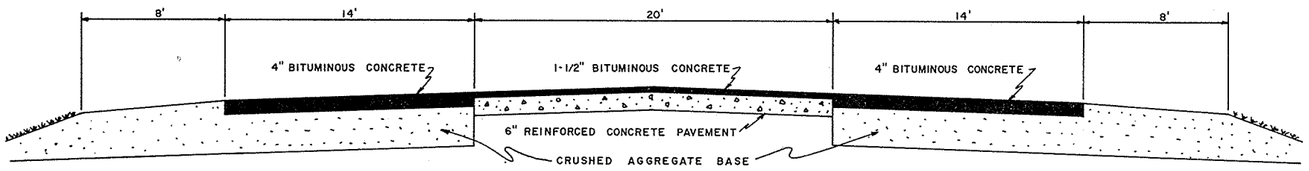


TRANSVERSE SECTION



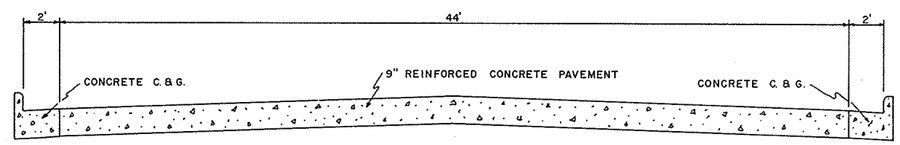
LONGITUDINAL SECTION

PROPOSED CONCRETE CORRUGATED MEDIAN



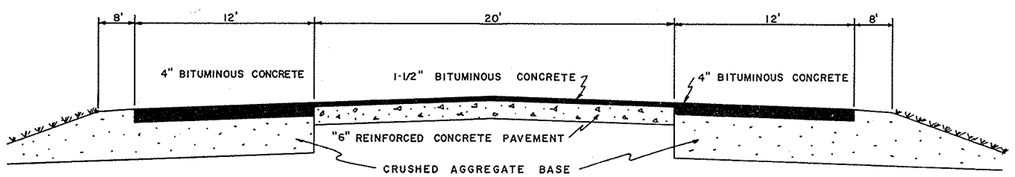
EXISTING TYPICAL SECTION

NORTHLAND AVENUE
(STA. 75+74.3 TO MASON ST.)



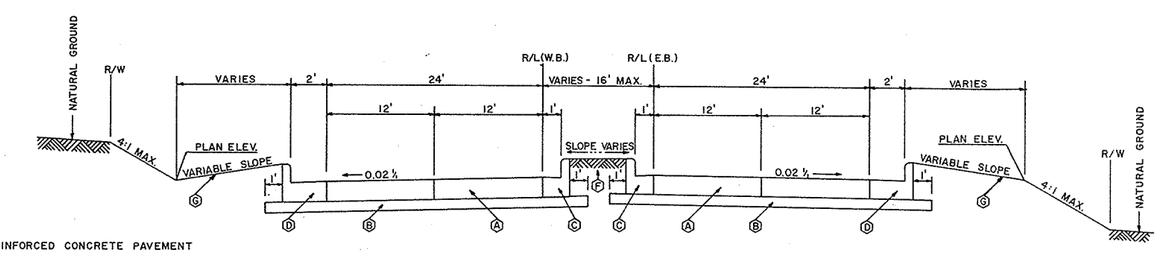
EXISTING TYPICAL SECTION

RICHMOND STREET
(NORTHLAND TO STA. 17+80.40)



EXISTING TYPICAL SECTION

NORTHLAND AVENUE
(RICHMOND TO STA. 113+25.3)



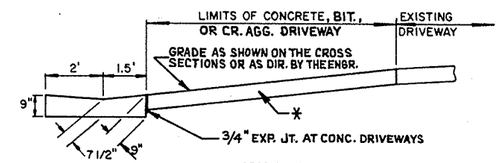
Ⓐ — 9" NON-REINFORCED CONCRETE PAVEMENT
Ⓑ — 4" CRUSHED AGGREGATE BASE COURSE
Ⓒ — 18" CURB & GUTTER, TYPE "A"
Ⓓ — 30" CURB & GUTTER, TYPE "A"
Ⓔ — 7" NON-REINFORCED CONCRETE PAVEMENT
Ⓕ — 4" TOPSOIL, FERTILIZE & SOD (4" C.S.W. WHERE SHOWN ON PLANS)
Ⓖ — 4" TOPSOIL, FERTILIZE, SEED AND MULCH

PROPOSED TYPICAL SECTION

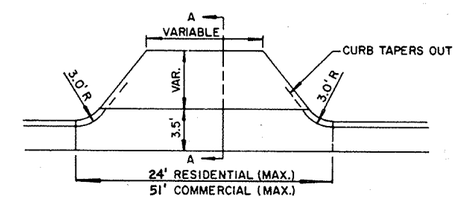
NORTHLAND AVENUE
(STA. 75+84.3 TO MASON ST.)

STATE PROJECT NUMBER	SHEET NO.
4984 - 0 - 42	2.2

CONSTRUCTION DETAILS



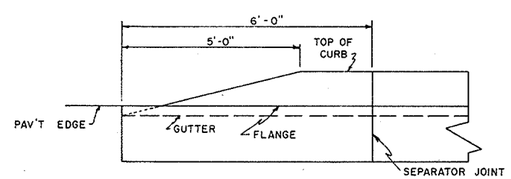
SECTION A-A



TYPICAL DRIVEWAY

ALL EXPANSION JOINT MATERIAL SHALL BE 1" DEEPER THAN THE CONCRETE SLAB BEING PLACED.

*— DRIVEWAYS SHALL BE RESTORED AS FOLLOWS:
GRAVEL — 6" DEPTH CRUSHED AGGREGATE BASE COURSE.
ASPHALT — 3" BITUMINOUS OVER 6" CRUSHED AGGREGATE BASE COURSE, EXCEPT WHERE 6" BITUMINOUS IS SHOWN ON PLANS IT SHALL BE PLACED ON SUBGRADE.
CONCRETE — 6" DEPTH



END SECTION - 30" CURB & GUTTER

(WHERE SHOWN ON PLANS)

STATE PROJECT NUMBER	SHEET NO.
4984-0-42 & 6240-2-71	2.3

CONSTRUCTION DETAILS

GENERAL NOTES - SEWER CONSTRUCTION

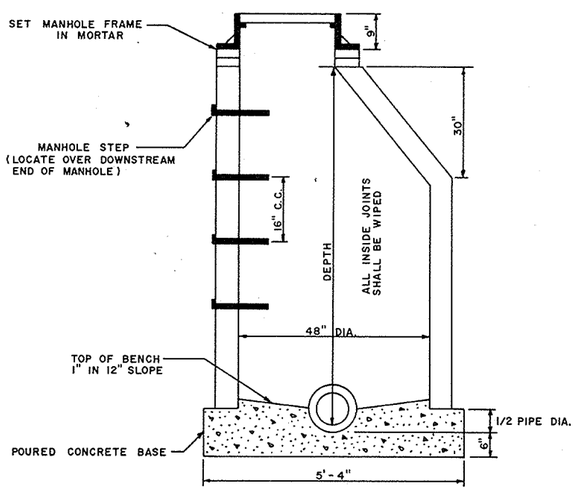
(1.) SANITARY MANHOLE CASTINGS AND INLET FRAMES AND GRATES WILL BE FURNISHED BY THE CITY AND INSTALLED BY THE CONTRACTOR.

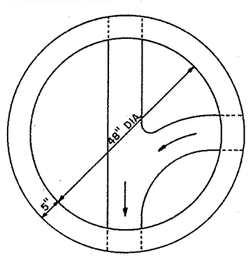
(2) MANHOLES AND INLETS SHALL HAVE PRECAST CONCRETE GRADE RINGS (4" MIN., 8" MAX.) GRADE RINGS SHALL NOT PROTRUDE BEYOND THE OUTSIDE WALL OF THE STRUCTURE.

(3.) CONCRETE PIPE SHALL HAVE RUBBER GASKET JOINTS.

(4.) ALL INLETS AND MANHOLES SHALL BE PRECAST CONCRETE AND SHALL HAVE POURED BOTTOMS CONFORMING TO ASTM C-478 AND C-443.

(5.) CONCRETE BLOCK SHALL BE USED FOR MANHOLE CONSTRUCTION OVER SEWERS 24" IN DIAMETER OR GREATER UP TO A POINT 6" ABOVE THE TOP OF THE PIPE. PRECAST SECTIONS SHALL BE USED FOR THE BALANCE OF THE MANHOLE. 6" THICK CONCRETE BLOCK SHALL BE USED WITH MORTAR FILLED CORES AND OUTSIDE SURFACE PLASTERED WITH 1/4" OF MORTAR.



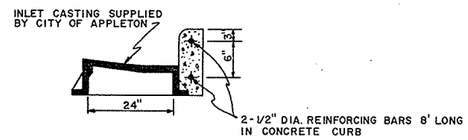


BREAK OFF PIPE AT TOP OF BENCH AND AT INSIDE WALLS SMOOTHLY AND NEATLY.

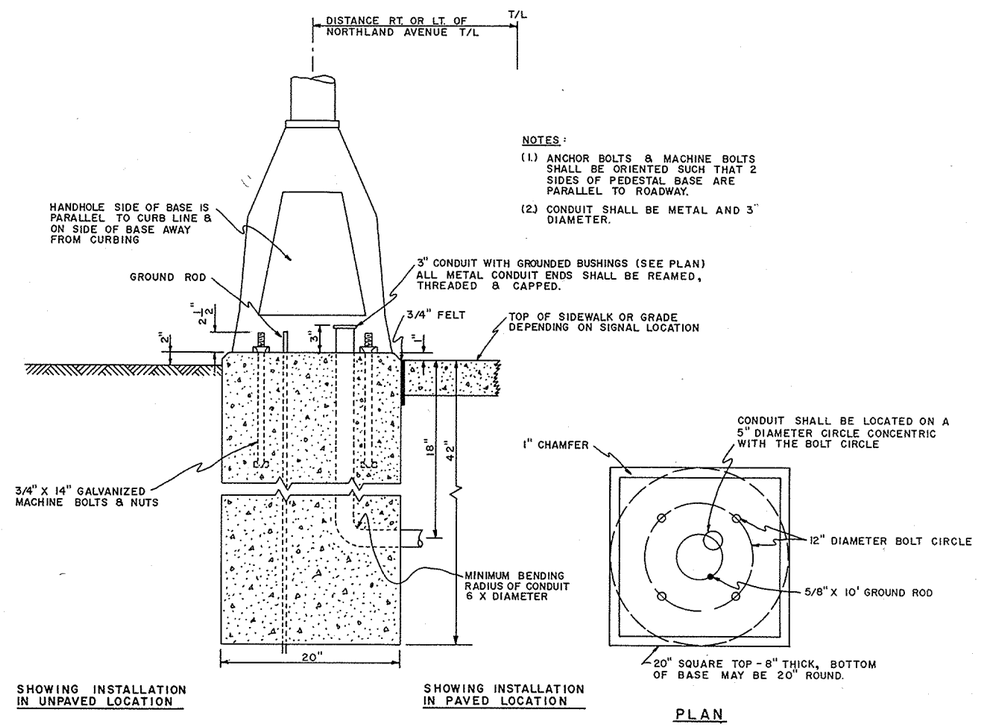
JOIN ALL INCOMING PIPES TO MAIN SEWER AS SHOWN OR SIMILARLY.

MANHOLE - TYPE I

SEE S.D.D. FOR ADDITIONAL INFORMATION



DETAIL "B"



NOTES:

(1.) ANCHOR BOLTS & MACHINE BOLTS SHALL BE ORIENTED SUCH THAT 2 SIDES OF PEDESTAL BASE ARE PARALLEL TO ROADWAY.

(2) CONDUIT SHALL BE METAL AND 3" DIAMETER.

SHOWING INSTALLATION IN UNPAVED LOCATION

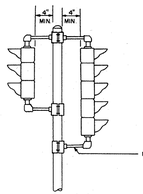
SHOWING INSTALLATION IN PAVED LOCATION

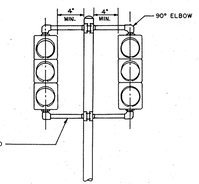
PLAN

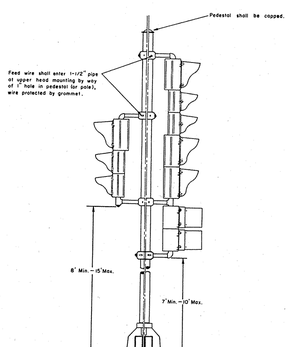
TYPE I MODIFIED TRAFFIC SIGNAL BASE

STATE PROJECT NUMBER	SHEET NO.
4984-0-42 & 6240-2-71	24

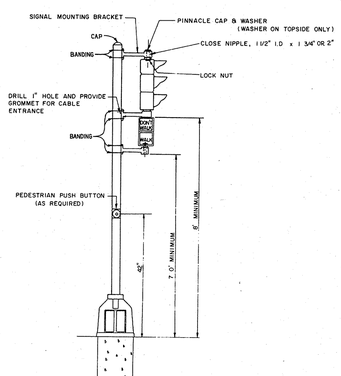
CONSTRUCTION DETAILS





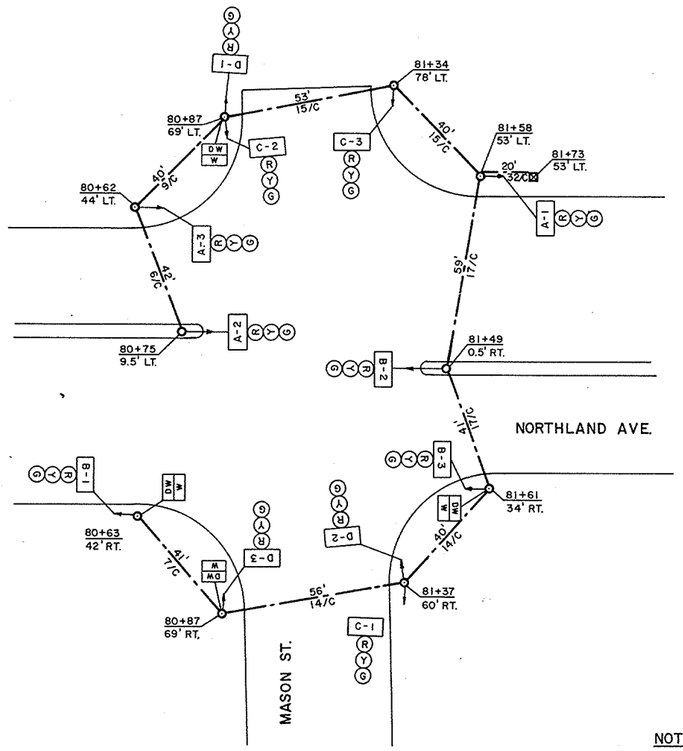


TYPICAL MOUNTING DETAIL
ADJUST TO CONDITION SHOWN ON THE PLAN



STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.5

TRAFFIC SIGNAL DETAILS



LEGEND

MODIFIED TYPE I SIGNAL BASE

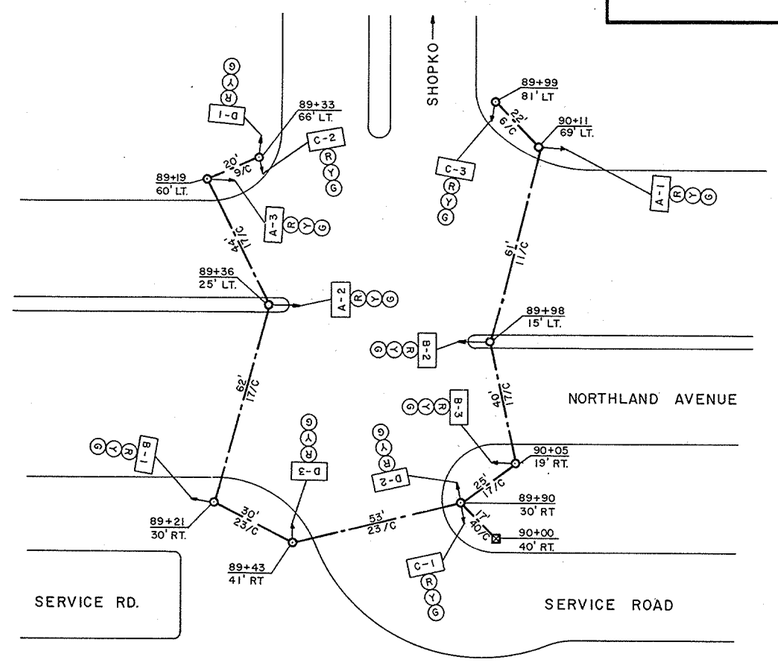
SIGNAL CONTROLLER (ON TYPE I MODIFIED SIGNAL BASE)

3" CONDUIT (60', 11 CONDUCTOR) — 60' 11/C

12" (RED) SIGNAL FACE

12" PEDESTRIAN SIGNAL

(THREE SECTION) SIGNAL HEAD (NO. A-2), POST MOUNTED



NOTE:

THESE SIGNALS SHALL BE INTERCONNECTED. INTERVAL NUMBER 1 OF THE FOLLOWING INTERSECTIONS SHALL BE INITIATED AFTER THE BEGINNING OF INTERVAL NUMBER 1 AT NORTHLAND AVENUE AND RICHMOND STREET:

NORTHLAND AVE. & BENNETT ST. = 72 SECONDS AFTER NORTHLAND AVE. & RICHMOND ST.
NORTHLAND AVE. & SHOPKO = 32 SECONDS AFTER NORTHLAND AVE. & RICHMOND ST.
NORTHLAND AVE. & MASON ST. = 40 SECONDS AFTER NORTHLAND AVE. & RICHMOND ST.

SIGNAL SEQUENCE

INTERVAL	NORTHLAND AVENUE		MASON STREET		TIME IN SECONDS
	S-X WALK PEDESTRIAN	A-1 - A-3, B-1 - B-3	C-1 - C-3, D-1 - D-3	W-Y WALK PEDESTRIAN	
1	W	G	R	DW	38.4
2	FDW	G	R	DW	12.8
3	FDW	Y	R	DW	4.0
4	DW	R	R	DW	0.8
5	DW	R	G	W	4.0
6	DW	R	G	FDW	14.4
7	DW	R	Y	FDW	4.0
8	DW	R	R	DW	1.6
FLASH	–	FY	FR	–	TOTAL 80.0

PROGRAMMED FLASHING OPERATION SHALL BEGIN AT 11:00 P.M. AND RETURN TO NORMAL OPERATION AT 6:00 A.M. THE CHANGE FROM NORMAL OPERATION TO FLASHING OPERATION SHALL BE MADE AT THE END OF INTERVAL 8 AND THE CHANGE FROM FLASHING OPERATION TO NORMAL OPERATION SHALL BE MADE AT THE BEGINNING OF INTERVAL 1.

SIGNAL SEQUENCE

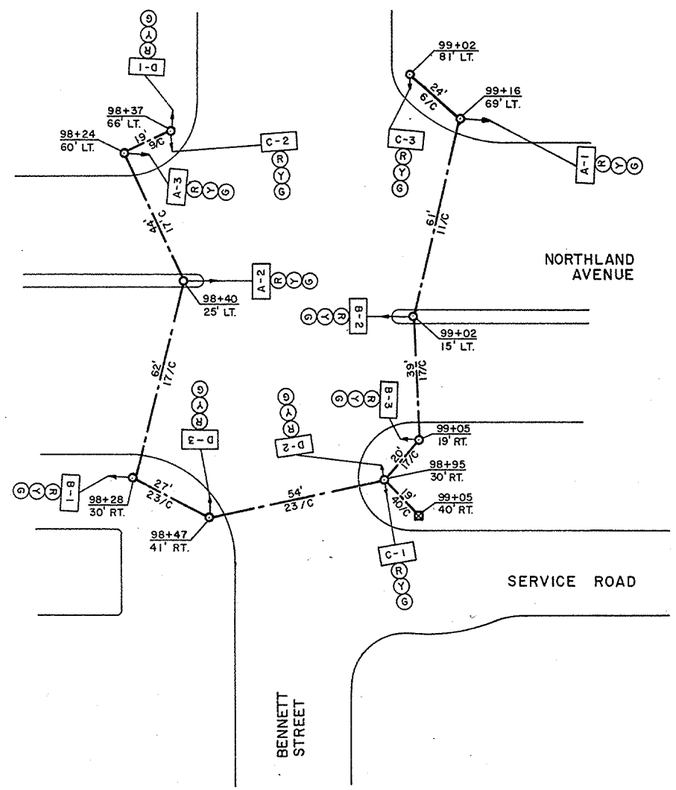
INTERVAL	NORTHLAND AVENUE	SHOPKO ENTRANCE	TIME IN SECONDS
	A-1 - A-3, B-1 - B-3	C-1 - C-3, D-1 - D-3	
1	G	R	44.8
2	Y	R	4.0
3	R	R	0.8
4	R	G	24.8
5	R	Y	4.0
6	R	R	1.6
FLASH	FY	FR	TOTAL 80.0

PROGRAMMED FLASHING OPERATION SHALL BEGIN AT 9:30 P.M. AND RETURN TO NORMAL OPERATION AT 7:00 A.M. THE CHANGE FROM NORMAL OPERATION TO FLASHING OPERATION SHALL BE MADE AT THE END OF INTERVAL 6 AND THE CHANGE FROM FLASHING OPERATION TO NORMAL OPERATION SHALL BE MADE AT THE BEGINNING OF INTERVAL 1.

STATE PROJECT NUMBER	SHEET NO.
4984-0-42 & 6240-2-71	2.6

TRAFFIC SIGNAL DETAILS

PROJECT I.D. NO. 4984-0-42



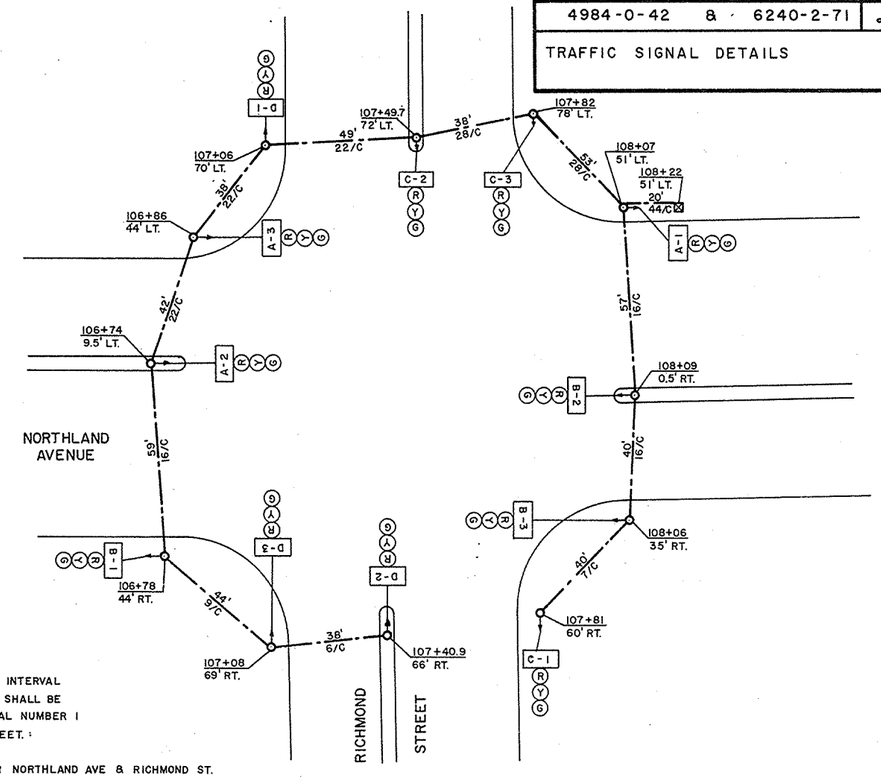
LEGEND

- MODIFIED TYPE I SIGNAL BASE
- SIGNAL CONTROLLER (ON TYPE I MODIFIED SIGNAL BASE)
- 3" CONDUIT (60', 11 CONDUCTOR) — 60' 11/C
- 12" (RED) SIGNAL FACE
- 12" PEDESTRIAN SIGNAL
- (THREE SECTION) SIGNAL HEAD (NO. A-2) POST MOUNTED

NOTE:

THESE SIGNALS SHALL BE INTERCONNECTED. INTERVAL NUMBER 1 OF THE FOLLOWING INTERSECTIONS SHALL BE INITIATED AFTER THE BEGINNING OF INTERVAL NUMBER 1 AT NORTHLAND AVENUE AND RICHMOND STREET.:

NORTHLAND AVE. & BENNETT ST. = 72 SECONDS AFTER NORTHLAND AVE & RICHMOND ST.
NORTHLAND AVE. & SHOPKO = 32 SECONDS AFTER NORTHLAND AVE & RICHMOND ST.
NORTHLAND AVE. & MASON ST. = 40 SECONDS AFTER NORTHLAND AVE. & RICHMOND ST.



PROJECT I.D. NO. 6240-2-71

SIGNAL SEQUENCE

INTERVAL	NORTHLAND AVENUE A-1 - A-3, B-1 - B-3	BENNETT STREET C-1 - C-3, D-1 - D-3	TIME IN SECONDS
1	G	R	53.6
2	Y	R	4.0
3	R	R	0.8
4	R	G	16.0
5	R	Y	4.0
6	R	R	1.6
FLASH	FY	FR	TOTAL 80.0

PROGRAMMED FLASHING OPERATION SHALL BEGIN AT 9:30 P.M. AND RETURN TO NORMAL OPERATION AT 7:00 A.M. THE CHANGE FROM NORMAL OPERATION TO FLASHING OPERATION SHALL BE MADE AT THE END OF INTERVAL 6 AND THE CHANGE FROM FLASHING OPERATION TO NORMAL OPERATION SHALL BE MADE AT THE BEGINNING OF INTERVAL 1.

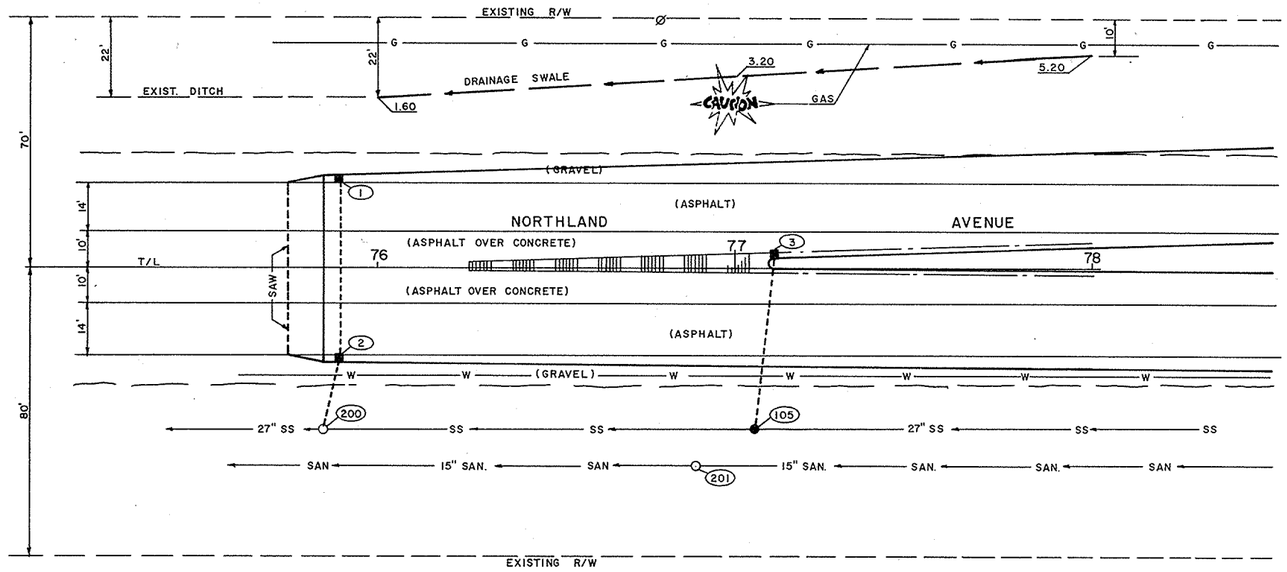
SIGNAL SEQUENCE

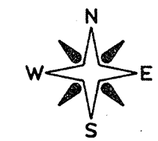
INTERVAL	NORTHLAND AVENUE A-1 - A-3, B-1 - B-3	RICHMOND STREET C-1 - C-3, D-1 - D-3	TIME IN SECONDS
1	G	R	38.4
2	Y	R	4.0
3	R	R	1.6
4	R	G	30.4
5	R	Y	4.0
6	R	R	1.6
FLASH	FR	FY	TOTAL 80.0

PROGRAMMED FLASHING OPERATION SHALL BEGIN AT 11:00 P.M. AND RETURN TO NORMAL OPERATION AT 6:00 A.M. THE CHANGE FROM NORMAL OPERATION TO FLASHING OPERATION SHALL BE MADE AT THE END OF INTERVAL 3 AND THE CHANGE FROM FLASHING OPERATION TO NORMAL OPERATION SHALL BE MADE AT THE BEGINNING OF INTERVAL 4.

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.7

UTILITIES, DRAINAGE & REMOVALS





CITY B.M.
ARROW ON HYD.
81+52 T/L 70' RT.
ELEV. 817.98

NOTES:
(1.) LOCATION LT. OR RT. TO INLETS IS TO FACE OF CURB
(2.) LOCATION LT. OR RT. TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3.) DEPTH - TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4.) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5.) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

PROPOSED STRUCTURES

CODE	LOCATION	STR.	TYPE	GRATE	DEPTH	REMARKS
1	75+90, 26.2' LT.	INLET	3	805.70	3.00	
2	75+90, 26.0' RT.	INLET	3	805.92	3.74	
3	77+11, 3.0' LT.	INLET	3	807.55	3.00	
105	77+06, 45' RT	STORM M.H.	1	807.42	5.14	USE FRAME & LID FROM M.H. 201

CLASS III STORM SEWER

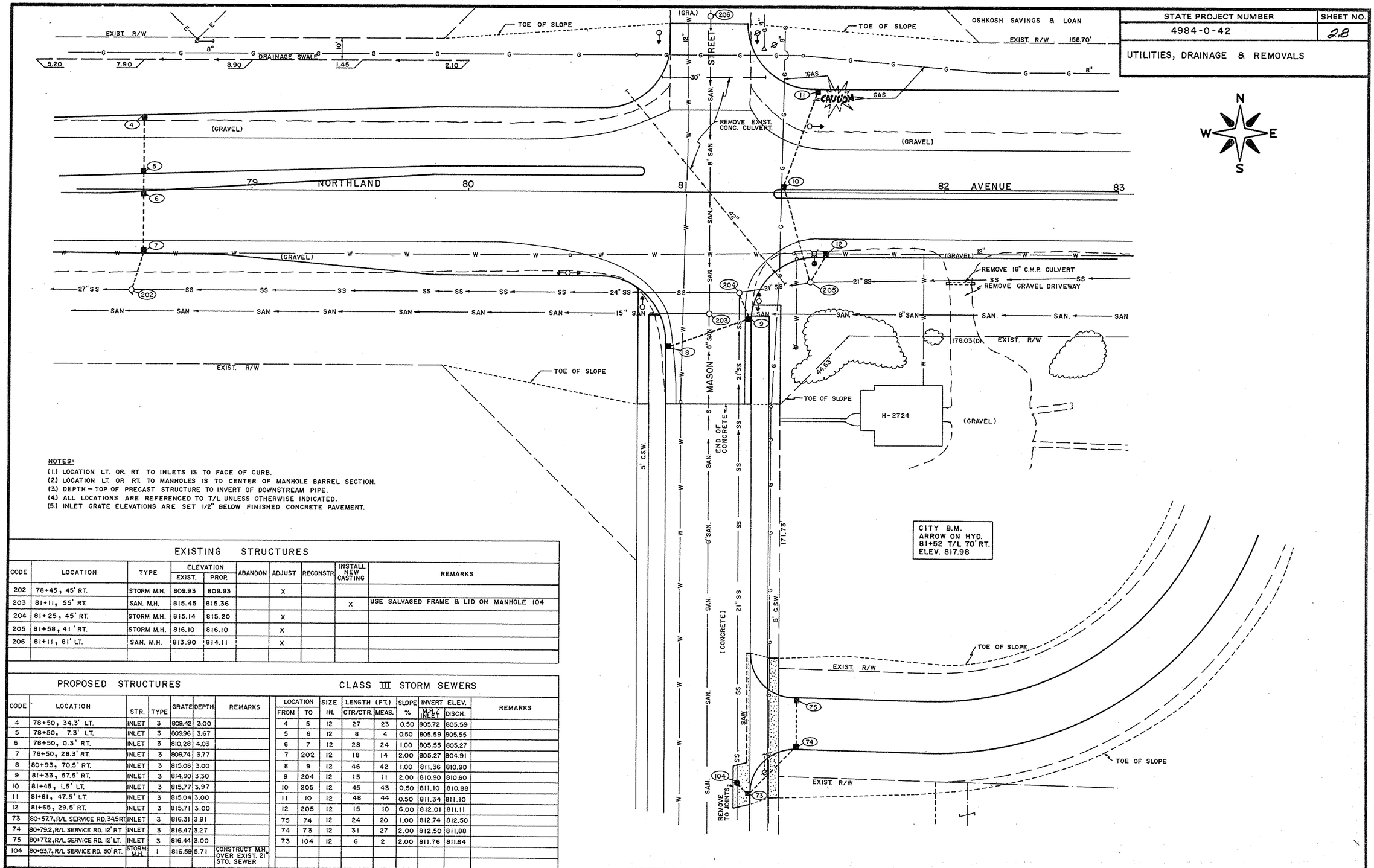
LOCATION FROM	LOCATION TO	SIZE IN.	LENGTH (FT.) CTR/CTR	LENGTH (FT.) MEAS.	SLOPE %	INVERT ELEV. M.H./INLET	INVERT ELEV. DISCH.	REMARKS
1	2	12	52	48	0.50	802.00	801.74	
2	200	12	20	18	1.00	801.74	801.54	
3	105	12	48	46	0.50	803.85	803.61	

EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION EXIST.	ELEVATION PROP	ABANDON	ADJUST	RECONST.	INSTALL NEW CASTING	REMARKS
200	75+85, 45' RT.	STORM M.H.	805.93	805.93		X			
201	76+89, 55' RT.	SAN. M.H.	801.99	806.04			X	X	REMOVE CONE AND ADD 4' M.H. BARREL SECTION - RESET CONE

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	28

UTILITIES, DRAINAGE & REMOVALS



NOTES:

(1.) LOCATION LT. OR RT. TO INLETS IS TO FACE OF CURB.
(2.) LOCATION LT. OR RT. TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3.) DEPTH – TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4.) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5.) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION EXIST.	ELEVATION PROP.	ABANDON	ADJUST	RECONSTR.	INSTALL NEW CASTING	REMARKS
202	78+45, 45' RT.	STORM M.H.	809.93	809.93		X			
203	81+11, 55' RT.	SAN. M.H.	815.45	815.36				X	USE SALVAGED FRAME & LID ON MANHOLE 104
204	81+25, 45' RT.	STORM M.H.	815.14	815.20		X			
205	81+58, 41' RT.	STORM M.H.	816.10	816.10		X			
206	81+11, 81' LT.	SAN. M.H.	813.90	814.11		X			

PROPOSED STRUCTURES

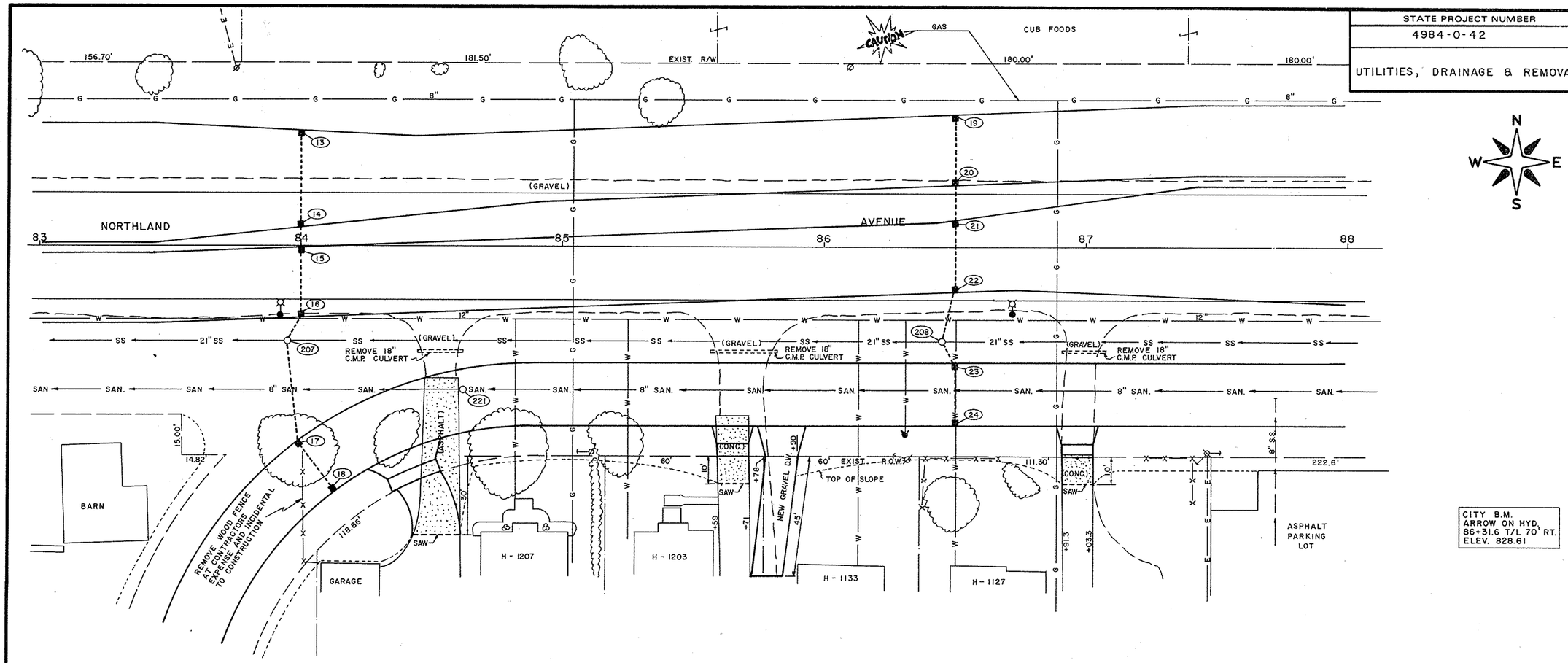
CODE	LOCATION	STR.	TYPE	GRATE	DEPTH	REMARKS
4	78+50, 34.3' LT.	INLET	3	809.42	3.00	
5	78+50, 7.3' LT.	INLET	3	809.96	3.67	
6	78+50, 0.3' RT.	INLET	3	810.28	4.03	
7	78+50, 28.3' RT.	INLET	3	809.74	3.77	
8	80+93, 70.5' RT.	INLET	3	815.06	3.00	
9	81+33, 57.5' RT.	INLET	3	814.90	3.30	
10	81+45, 1.5' LT.	INLET	3	815.77	3.97	
11	81+61, 47.5' LT.	INLET	3	815.04	3.00	
12	81+65, 29.5' RT.	INLET	3	815.71	3.00	
73	80+57.7, R/L SERVICE RD. 34.5' RT.	INLET	3	816.31	3.91	
74	80+79.2, R/L SERVICE RD. 12' RT.	INLET	3	816.47	3.27	
75	80+77.2, R/L SERVICE RD. 12' LT.	INLET	3	816.44	3.00	
104	80+53.7, R/L SERVICE RD. 30' RT.	STORM M.H.	1	816.59	5.71	CONSTRUCT M.H. OVER EXIST. 21" STO. SEWER

CLASS III STORM SEWERS

LOCATION FROM	LOCATION TO	SIZE IN.	LENGTH (FT.) CTR/CTR.	LENGTH (FT.) MEAS.	SLOPE %	INVERT ELEV. M.H./INLET	INVERT ELEV. DISCH.	REMARKS
4	5	12	27	23	0.50	805.72	805.59	
5	6	12	8	4	0.50	805.59	805.55	
6	7	12	28	24	1.00	805.55	805.27	
7	202	12	18	14	2.00	805.27	804.91	
8	9	12	46	42	1.00	811.36	810.90	
9	204	12	15	11	2.00	810.90	810.60	
10	205	12	45	43	0.50	811.10	810.88	
11	10	12	48	44	0.50	811.34	811.10	
12	205	12	15	10	6.00	812.01	811.11	
75	74	12	24	20	1.00	812.74	812.50	
74	73	12	31	27	2.00	812.50	811.88	
73	104	12	6	2	2.00	811.76	811.64	

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.9

UTILITIES, DRAINAGE & REMOVALS



CITY B.M.
ARROW ON HYD.
86+31.6 T/L 70' RT.
ELEV. 828.61

NOTES:
(1.) LOCATION LT. OR RT. TO INLETS IS TO FACE OF CURB.
(2) LOCATION LT. OR RT. TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3) DEPTH- TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

PROPOSED STRUCTURES

CODE	LOCATION	STR.	TYPE	GRATE	DEPTH	REMARKS
13	84+00, 44.6' LT.	INLET	3	819.74	3.00	
14	84+00, 7.9' LT.	INLET	3	820.47	4.10	
15	84+00, 0.3' RT.	INLET	3	820.88	4.59	
16	84+00, 27.3' RT.	INLET	3	820.34	4.28	
17	84+00, R/L SERV. RD. 12' LT.	INLET	3	822.57	3.24	
18	84+00, R/L SERV. RD. 12' RT.	INLET	3	822.57	3.00	
19	86+50, 51.3' LT.	INLET	3	824.81	3.00	
20	86+50, 24.4' LT.	INLET	3	825.35	3.68	
21	86+50, 9.0' LT.	INLET	3	825.88	4.28	
22	86+50, 17.6' RT.	INLET	3	825.34	3.96	
23	86+50, R/L SERV. RD. 12' LT.	INLET	3	826.06	3.48	
24	86+50, R/L SERV. RD. 12' RT.	INLET	3	826.06	3.00	

CLASS III STORM SEWER

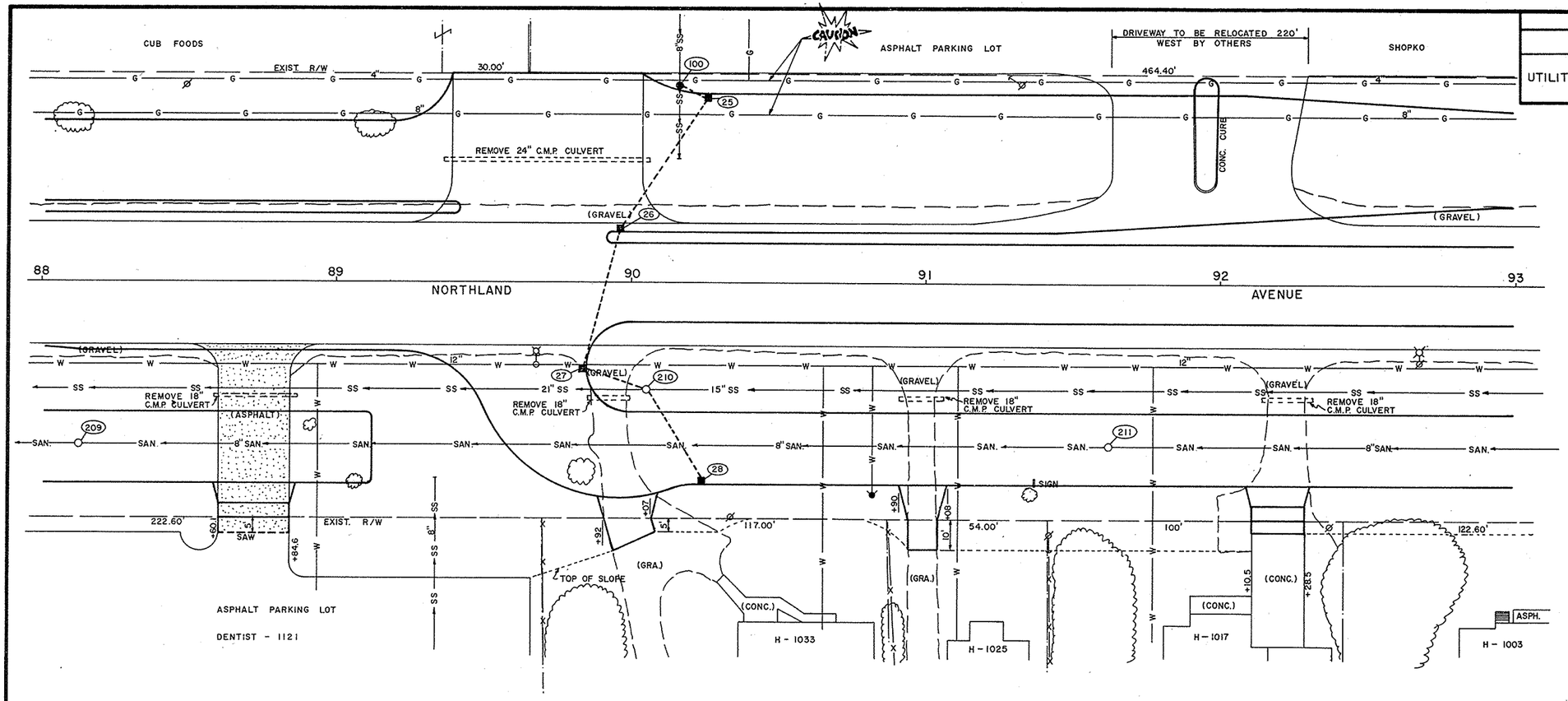
LOCATION FROM	LOCATION TO	SIZE IN.	LENGTH (FT.) CTR/CTR	LENGTH (FT.) MEAS	SLOPE %	INVERT ELEV. M.H. INLET	INVERT ELEV. DISCH.	REMARKS
13	14	12	37	33	1.00	816.04	815.67	
14	15	12	8	8	1.00	815.67	815.59	
15	16	12	27	23	1.00	815.59	815.36	
16	207	12	9	5	2.00	815.36	815.18	
18	17	12	24	20	2.00	818.87	818.39	
17	207	12	38	34	5.00	818.14	816.24	
19	20	12	27	23	0.50	821.11	820.97	
20	21	12	15	11	0.50	820.97	820.90	
21	22	12	27	23	0.80	820.90	820.68	
22	208	12	19	15	1.50	820.68	820.40	
24	23	12	24	20	2.00	822.36	821.88	
23	208	12	9	5	4.00	821.88	821.52	

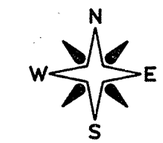
EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION EXIST.	ELEVATION PROP.	ABANDON	ADJUST	RECONST.	INSTALL NEW CASTING	REMARKS
207	83+95, 36' RT.	STORM M.H.	821.21	821.21		X			
221	84+61.3, 55' RT.	SAN. M.H.	823.18	823.32				X	
208	86+45, 36' RT.	STORM M.H.	826.28	826.28		X			

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.10

UTILITIES, DRAINAGE & REMOVALS





CITY B.M.
ARROW ON HYD.
90+81 T/L 71' RT.
ELEV. 836.52

NOTES:
(1.) LOCATION LT. OR RT. TO INLETS IS TO FACE OF CURB.
(2.) LOCATION LT. OR RT. TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3.) DEPTH - TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4.) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5.) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

PROPOSED STRUCTURES

CODE	LOCATION	STR.	TYPE	GRATE	DEPTH	REMARKS
100	90+16, 66' LT.	STO. M.H.	1	832.91	3.23	USE CUT-OUT PRECAST CONCRETE CONE. (SEE M.H. 211)
25	90+26, 63' LT.	INLET	3	832.28	3.00	
26	89+96, 17' LT.	INLET	3	832.68	3.95	
27	89+85, 29' RT.	INLET	3	831.67	3.66	
28	90+24, 68' RT.	INLET	3	832.08	3.00	

CLASS III STORM SEWER

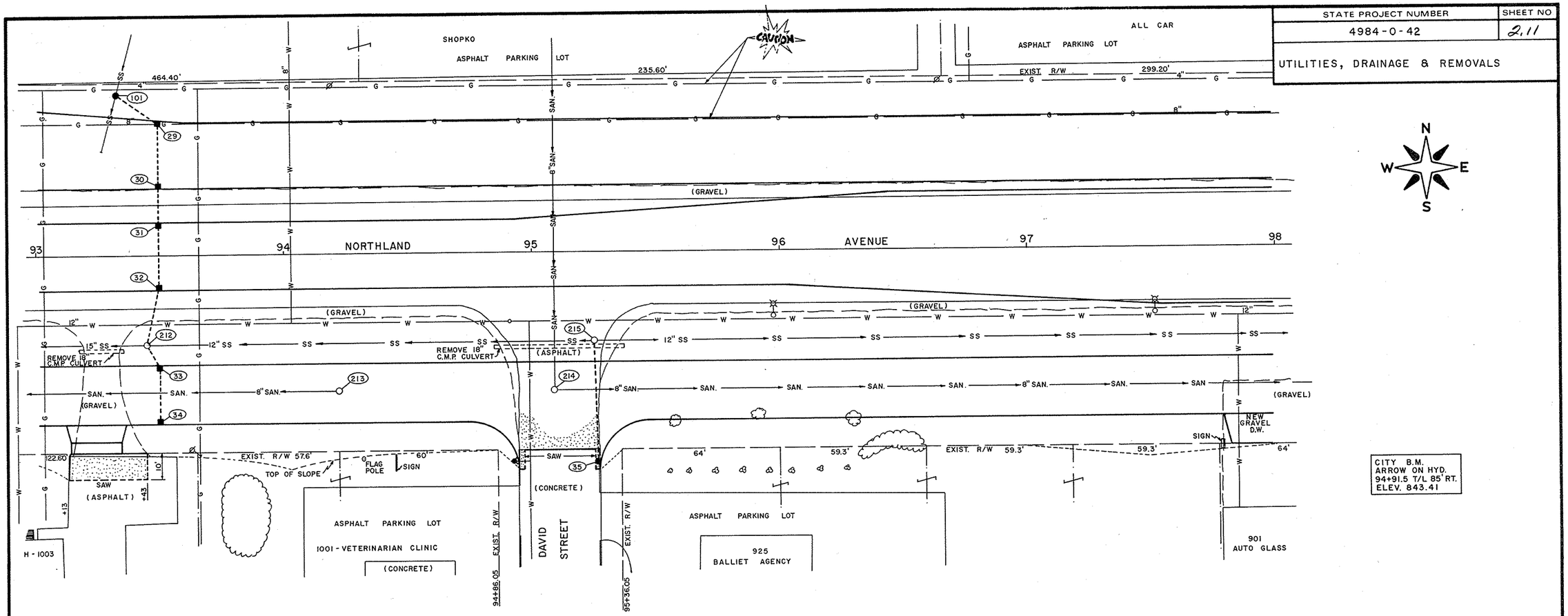
LOCATION FROM	LOCATION TO	SIZE IN.	LENGTH (FT.) CTR/CTR	LENGTH (FT.) MEAS	SLOPE %	INVERT ELEV M.H. INLET	INVERT ELEV DISCH.	REMARKS
100	25	12	10	5	1.00	828.93	828.83	
25	26	12	55	50	1.00	828.58	828.03	
26	27	12	47	43	1.00	828.03	827.56	
27	210	15	20	16	1.00	827.31	827.11	
28	210	12	37	33	2.00	828.38	827.64	

EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION EXIST.	ELEVATION PROP.	ABANDON	ADJUST	RECONST.	INSTALL NEW CASTING	REMARKS
209	88+12.7, 55' RT	SAN. M.H.	828.41	829.28				X	
210	90+05, 36' RT.	STORM M.H.	832.55	832.55		X			
211	91+62.1, 55' RT.	SAN. M.H.	834.59	834.65				X	SALVAGED FRAME & LID TO BE INSTALLED ON M.H. 100

STATE PROJECT NUMBER	SHEET NO
4984-0-42	2.11

UTILITIES, DRAINAGE & REMOVALS



CITY B.M.
ARROW ON HYD.
94+91.5 T/L 85' RT.
ELEV. 843.41

NOTES:
(1.) LOCATION LT. OR RT. TO INLETS IS TO FACE OF CURB.
(2.) LOCATION LT. OR RT. TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3.) DEPTH - TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4.) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5.) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

PROPOSED STRUCTURES

CODE	LOCATION	STR.	TYPE	GRATE	DEPTH	REMARKS
101	93+36, 65' LT.	STO. M.H.	1	838.29	3.04	(SEE M.H. 213)
29	93+50, 54.5' LT.	INLET	3	837.77	3.00	
30	93+50, 27' LT.	INLET	3	838.31	3.81	
31	93+50, 13' LT.	INLET	3	838.63	4.27	
32	93+50, 14' RT.	INLET	3	838.09	4.25	
33	93+50, R/L SERV. RD. 12' LT.	INLET	3	836.44	3.24	
34	93+50, R/L SERV. RD. 12' RT.	INLET	3	836.44	3.00	
35	95+27.5 85' RT.	INLET	3	841.25	3.00	

CLASS III STORM SEWER

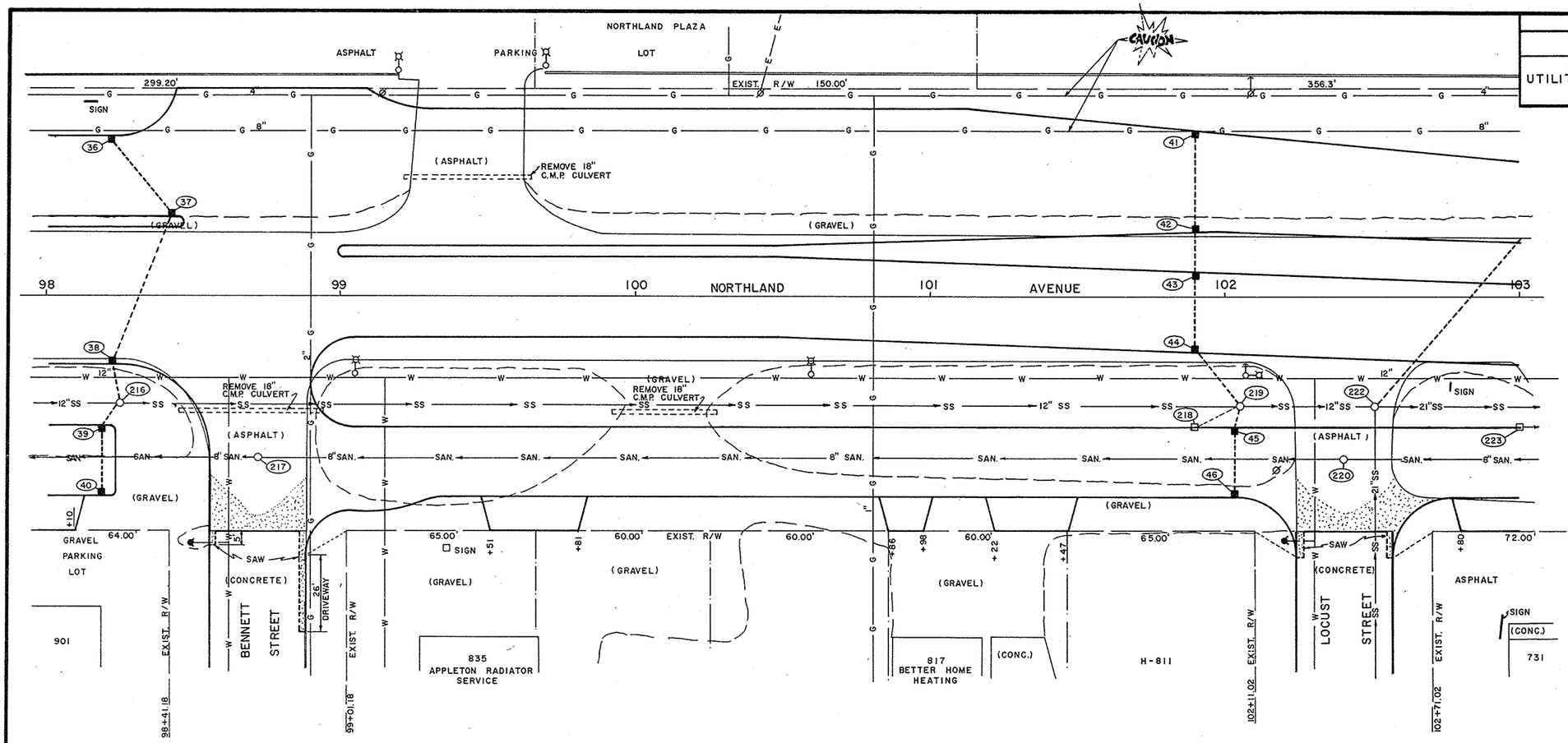
LOCATION FROM	LOCATION TO	SIZE IN.	LENGTH (FT.) CTR/CTR	LENGTH (FT.) MEAS	SLOPE %	INVERT ELEV. M.H. INLET	INVERT ELEV. DISCH.	REMARKS
101	29	12	18	14	1.00	834.50	834.32	
29	30	12	27	23	1.00	834.07	833.80	
30	31	12	14	14	1.00	833.80	833.66	
31	32	12	27	23	1.00	833.66	833.39	
32	212	15	23	18	2.00	833.14	832.68	
34	33	12	24	20	1.00	832.74	832.50	
33	212	12	9	5	2.00	832.50	832.32	
35	215	12	49	45	4.00	837.55	835.59	

EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION EXIST.	ELEVATION PROP.	ABANDON	ADJUST	RECONST.	INSTALL NEW CASTING	REMARKS
212	93+45, 36' RT.	STORM M.H.	837.76	837.76		X			
213	94+22.3, 55' RT.	SAN. M.H.	839.10	838.73				X	USE SALVAGED FRAME & LID ON M.H. 101
214	95+10, 55' RT.	SAN. M.H.	840.88	841.49				X	
215	95+25, 36' RT.	STORM M.H.	840.30	841.35		X			

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.12

UTILITIES, DRAINAGE & REMOVALS



CITY B.M.
ARROW ON HYD. 98+48.7 T/L 82.5' RT. ELEV. 840.80
ARROW ON HYD. 102+18.4 T/L 83' RT. ELEV. 837.54

NOTES:

(1.) LOCATION LT. OR RT. TO INLETS IS TO FACE OF CURB.
(2) LOCATION LT. OR RT. TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3) DEPTH-TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

PROPOSED STRUCTURES

CODE	LOCATION	STR.	TYPE	GRATE	DEPTH	REMARKS
36	98+22, 54' LT.	INLET	3	839.57	3.00	
37	98+42, 27' LT.	INLET	3	839.97	3.74	
38	98+23, 23' RT.	INLET	3	839.72	4.03	
39	98+19, R/L SERV. RD. 12' LT.	INLET	3	838.71	3.24	
40	98+19, R/L SERV. RD. 12' RT.	INLET	3	838.71	3.00	
41	101+90, 54.3' LT.	INLET	3	836.05	3.00	
42	101+90, 21.4' LT.	INLET	3	836.71	3.99	
43	101+90, 7.9' LT.	INLET	3	837.01	4.43	
44	101+90, 19.1' RT.	INLET	3	836.47	4.16	
45	102+03, R/L SERV. RD. 12' LT.	INLET	3	835.63	3.24	
46	102+03, R/L SERV. RD. 12' RT.	INLET	3	835.63	3.00	

CLASS III STORM SEWER

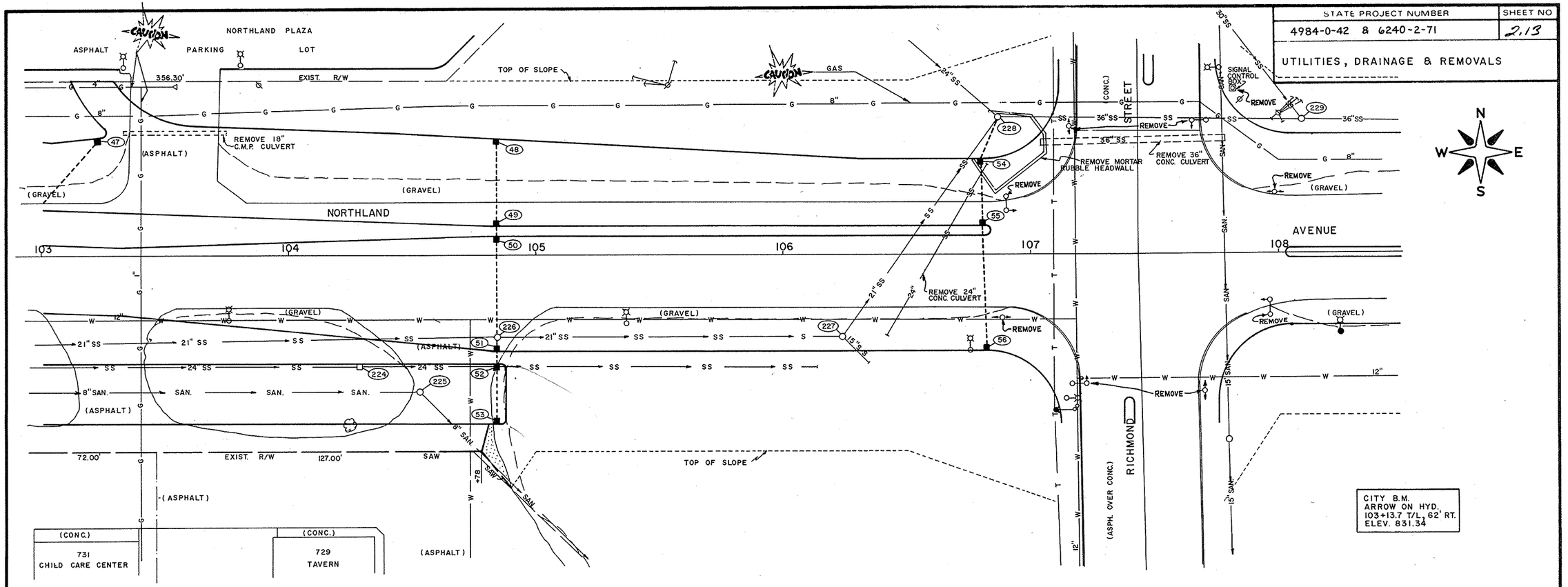
LOCATION FROM	LOCATION TO	SIZE IN.	LENGTH (FT) CTR/CTR	LENGTH (FT) MEAS.	SLOPE %	INVERT ELEV. M.H. INLET	INVERT ELEV. DISCH.	REMARKS
36	37	12	34	29	1.00	835.87	835.53	
37	38	12	54	52	1.00	835.53	834.99	
38	216	12	13	11	2.00	834.99	834.73	
40	39	12	24	20	1.00	835.01	834.77	
39	216	12	10	8	2.00	834.77	834.57	
41	42	12	33	29	1.00	832.35	832.02	
42	43	12	14	10	1.00	832.02	831.88	
43	44	12	27	23	1.00	831.88	831.61	
44	219	12	17	12	2.00	831.61	831.27	
46	45	12	24	20	1.00	831.93	831.69	
45	219	12	8	6	4.00	831.69	831.37	

EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION EXIST.	ELEVATION PROP.	ABANDON	ADJUST	RECONST.	INSTALL NEW CASTING	REMARKS
216	98+25, 36' RT.	STORM M.H.	839.70	839.70		X			
217	98+72, 55' RT.	SAN. M.H.	839.28	839.12				X	
218	101+91, 44' RT.	INLET	834.41		X				
219	102+05, 36' RT.	STORM M.H.	836.25	836.25		X			
220	102+41, 55' RT.	SAN. M.H.	835.69	835.82				X	
222	102+51, 36' RT.	STORM M.H.	835.60	836.00		X			
223	103+00, 44' RT.	INLET	834.15		X				

STATE PROJECT NUMBER	SHEET NO
4984-0-42 & 6240-2-71	2.13

UTILITIES, DRAINAGE & REMOVALS



CITY B.M.
ARROW ON HYD.
103+13.7 T/L, 62' RT.
ELEV. 831.34

NOTES:
(1.) LOCATION LT. OR RT. TO INLETS IS TO FACE OF CURB.
(2.) LOCATION LT. OR RT. TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3.) DEPTH - TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4.) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5.) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

PROPOSED STRUCTURES

CODE	LOCATION	STR	TYPE	GRATE	DEPTH	REMARKS
47	103+23, 46.2' LT.	INLET	3	833.87	3.00	
48	104+84, 46.6' LT.	INLET	3	831.14	3.00	
49	104+84, 11.5' LT.	INLET	3	831.81	4.02	
50	104+84, 7.5' LT.	INLET	3	831.93	4.18	
51	104+84, 38.5' RT.	INLET	3	831.41	3.42	
52	104+84, R/L SERV. RD. 12' LT.	INLET	3	832.19	3.96	
53	104+84, R/L SERV. RD. 12' RT.	INLET	3	832.19	3.00	
54	106+80, 38.5 LT.	INLET	3	829.69	4.07	
55	106+81, 11.5' LT.	INLET	3	830.00	3.84	
56	106+82, 38.5' RT.	INLET	3	829.66	3.00	

CLASS III STORM SEWER

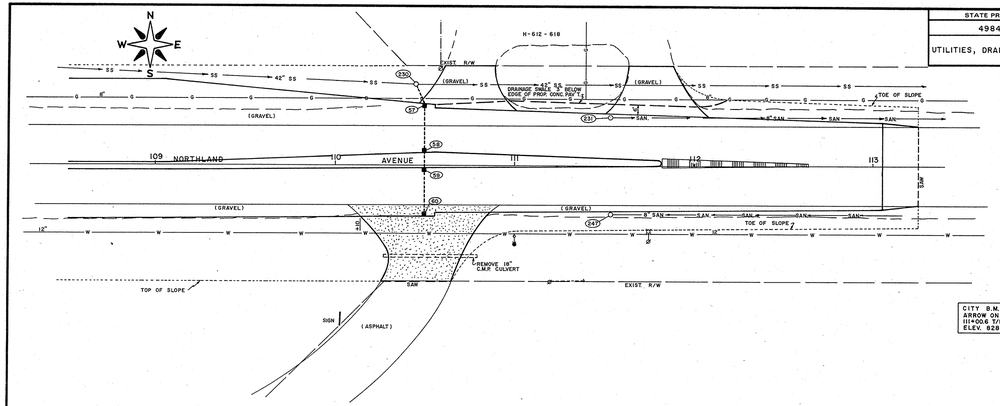
LOCATION FROM	LOCATION TO	SIZE IN.	LENGTH (FT) CTR/CTR	LENGTH (FT) MEAS	SLOPE %	INVERT ELEV. M.H. INLET	INVERT ELEV. DISCH.	REMARKS
47	222	12	109	105	0.50	830.17	829.62	
48	49	12	35	31	1.00	827.44	827.09	
49	50	12	4	4	1.00	827.09	827.05	
50	226	12	46	42	1.00	827.05	826.59	
51	226	12	6	2	4.00	827.29	827.05	
52	51	12	6	6	4.00	827.53	827.29	
53	52	12	24	20	4.00	828.49	827.53	
56	55	12	50	46	1.00	825.96	825.46	
55	54	12	27	23	2.00	825.46	824.92	
54	228	12	18	14	2.00	824.92	824.56	

EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION EXIST.	ELEVATION PROP.	ABANDON	ADJUST	RECONST.	INSTALL NEW CASTING	REMARKS
224	104+28.8, 45' RT.	INLET	831.81		X				
225	104+58.8, 55' RT.	SAN. M.H.	832.79	833.34				X	
226	104+84, 33' RT.	STORM M.H.	831.70	831.64		X			
227	106+24, 33' RT.	STORM M.H.	830.18	830.18		X			
228	106+87, 55' LT.	STORM M.H.	829.99	829.99		X			
229	108+09, 55' LT.	STORM M.H.	829.15	829.15		X			

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.14

UTILITIES, DRAINAGE & REMOVALS



CITY B.M.
ARROW ON HYD.
111+00.6 T/L 43' RT
ELEV. 828.76

NOTES:
(1) LOCATION LT OR RT TO INLETS IS TO FACE OF CURB.
(2) LOCATION LT OR RT TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3) DEPTH-TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

PROPOSED STRUCTURES

CODE	LOCATION	STR.	TYPE	GRATE	DEPTH	REMARKS
57	110+50, 34.4' LT	INLET	3	825.84	3.35	
58	110+50, 6.6' LT	INLET	3	826.39	3.63	
59	110+50, 12' RT.	INLET	3	826.65	3.81	
60	110+50, 28.2' RT.	INLET	3	826.11	3.00	

CLASS III STORM SEWER

LOCATION FROM	LOCATION TO	SIZE IN.	LENGTH (FT) CTR/CTR	LENGTH (FT) MEAS	SLOPE %	INVERT ELEV. W.W.Y. M.S.L.	INVERT ELEV. DISCH.	REMARKS
60	59	12	27	23	1.00	822.41	822.14	
59	58	12	8	8	1.00	822.14	822.06	
58	57	12	27	23	1.00	822.06	821.79	
57	230	12	15	10	3.00	821.79	821.34	

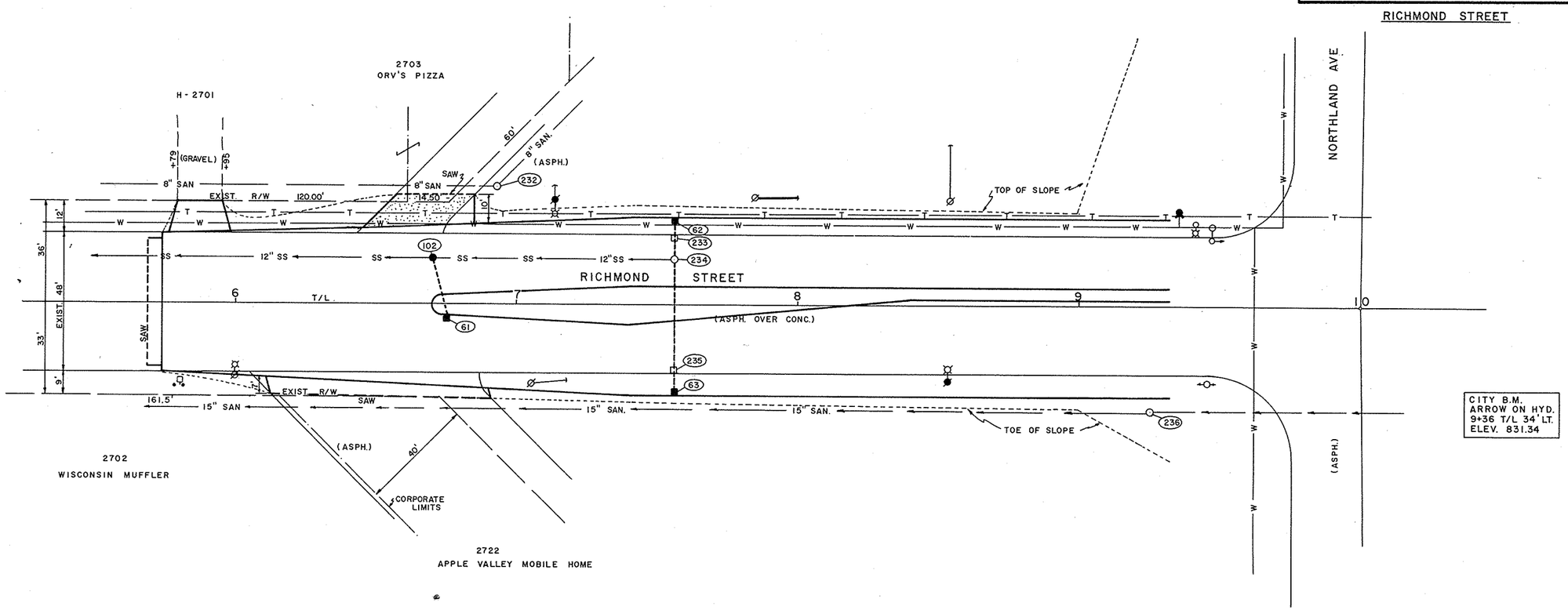
EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION EXIST.	ELEVATION PROP	ABANDON	ADJUST	RECONST	INSTALL NEW CASTING	REMARKS
230	110+45, 45' LT.	STORM M.H.	826.79	826.79		X			
231	111+53, 27' LT.	SAN. M.H.	827.60	825.57			X		REPLACE 3' BARREL SECTION WITH A 1' SECTION-RE-SET CONE
247	111+53, 26' RT.	SAN. M.H.	827.35	825.65			X		REPLACE 3' BARREL SECTION WITH A 1' SECTION-RE-SET CONE

Cat No 2130 (R42)

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2,15

UTILITIES, DRAINAGE & REMOVALS



NOTES:

(1.) LOCATION LT. OR RT. TO INLETS IS TO FACE OF CURB.
(2.) LOCATION LT. OR RT. TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3.) DEPTH-TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4.) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5.) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

PROPOSED STRUCTURES

CODE	LOCATION	STR.	TYPE	GRATE	DEPTH	REMARKS
102	6+70, 15.5' LT.	STO. M.H.	1	828.62	3.82	CONSTRUCT M.H. OVER EXISTING 12" STORM SEWER
61	6+75, 3.5' RT.	INLET	3	828.69	3.00	
62	7+56, 31.5' LT.	INLET	3	828.46	3.00	
63	7+56, 31.5' RT.	INLET	3	828.46	3.00	

CLASS III STORM SEWER

LOCATION		SIZE	LENGTH (FT.)		SLOPE	INVERT ELEV.		REMARKS
FROM	TO	IN.	CTR/CTR	MEAS	%	M.H. INLET	DISCH.	
61	102	12	20	15	0.50	824.99	824.89	
62	234	12	16	12	0.50	824.76	824.68	
63	234	12	47	43	0.50	824.76	824.53	

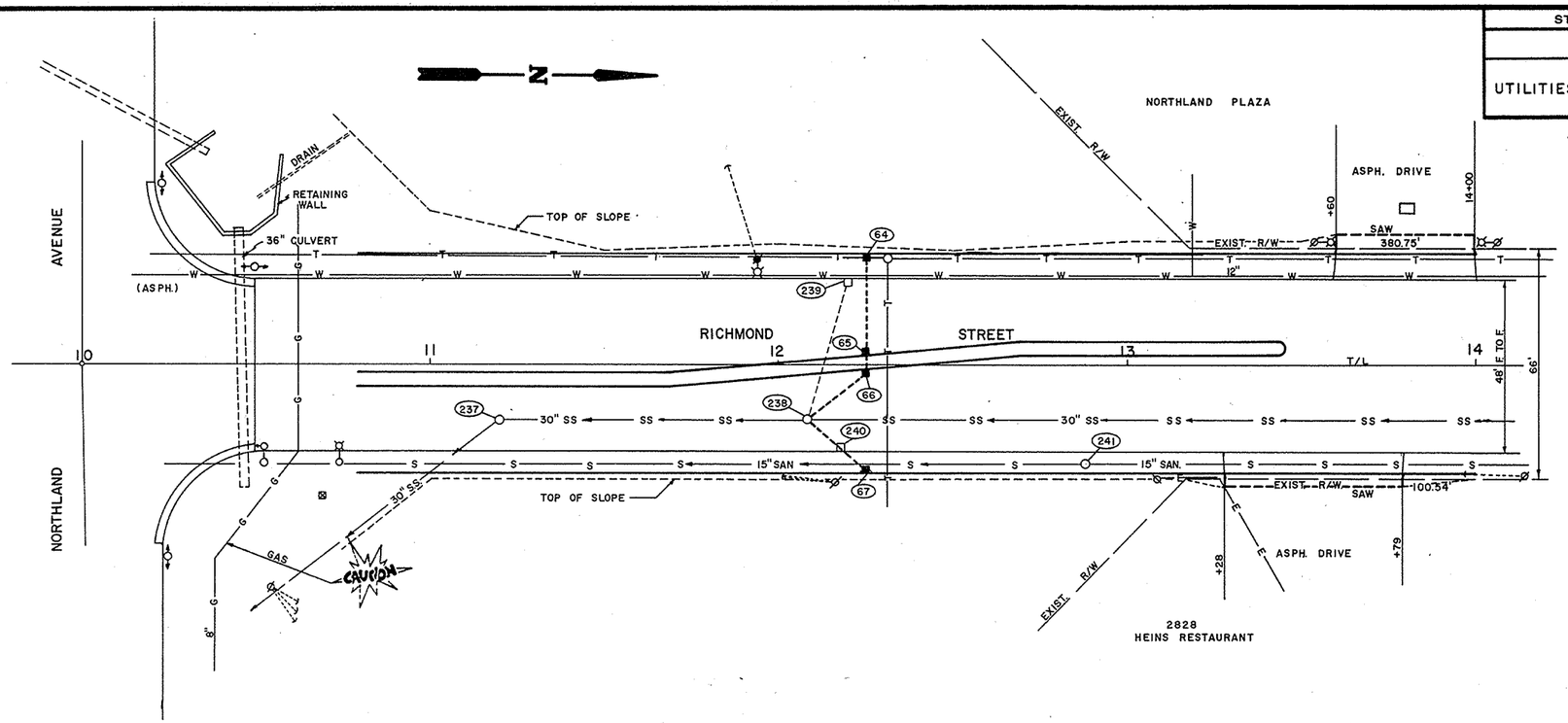
EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION		REMOVE	ADJUST	RECONST.	INSTALL NEW CASTING	REMARKS
			EXIST.	PROP.					
232	6+93, 41.5' LT.	SAN. M.H.	829.94	829.94				X	USE SALVAGED CASTING ON MANHOLE 102
233	7+56, 24' LT.	INLET	828.46		X				
234	7+56, 15.5' LT.	STORM M.H.	828.86	829.05			X		
235	7+56, 24' RT.	INLET	828.39		X				
236	9+25, 37' RT.	SAN. M.H.	828.84	829.51				X	

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.16

UTILITIES, DRAINAGE & REMOVALS

RICHMOND STREET



CITY B.M.
ARROW ON HYD.,
14+29 T/L 34' LT.
ELEV. 732.10

NOTES:

(1.) LOCATION LT. OR RT. TO INLETS IS TO FACE OF CURB.
(2.) LOCATION LT. OR RT. TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3) DEPTH - TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4.) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5.) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

PROPOSED STRUCTURES

CODE	LOCATION	STR.	TYPE	GRATE	DEPTH	REMARKS
64	12+25, 31.5' LT.	INLET	3	828.49	3.00	
65	12+25, 2.6' LT.	INLET	3	828.85	3.51	
66	12+25, 1.4' RT.	INLET	3	828.77	3.45	
67	12+25, 31.5' RT.	INLET	3	828.23	3.00	

CLASS III STORM SEWER

LOCATION FROM	LOCATION TO	SIZE IN.	LENGTH (FT.) CTR/CTR	LENGTH (FT.) MEAS.	SLOPE %	INVERT ELEV. M.H. INLET	INVERT ELEV. DISCH.	REMARKS
64	65	12	29	25	0.50	824.79	824.64	
65	66	12	4	4	0.50	824.64	824.62	
66	238	12	24	19	0.50	824.62	824.50	
67	238	12	23	18	0.50	824.53	824.41	

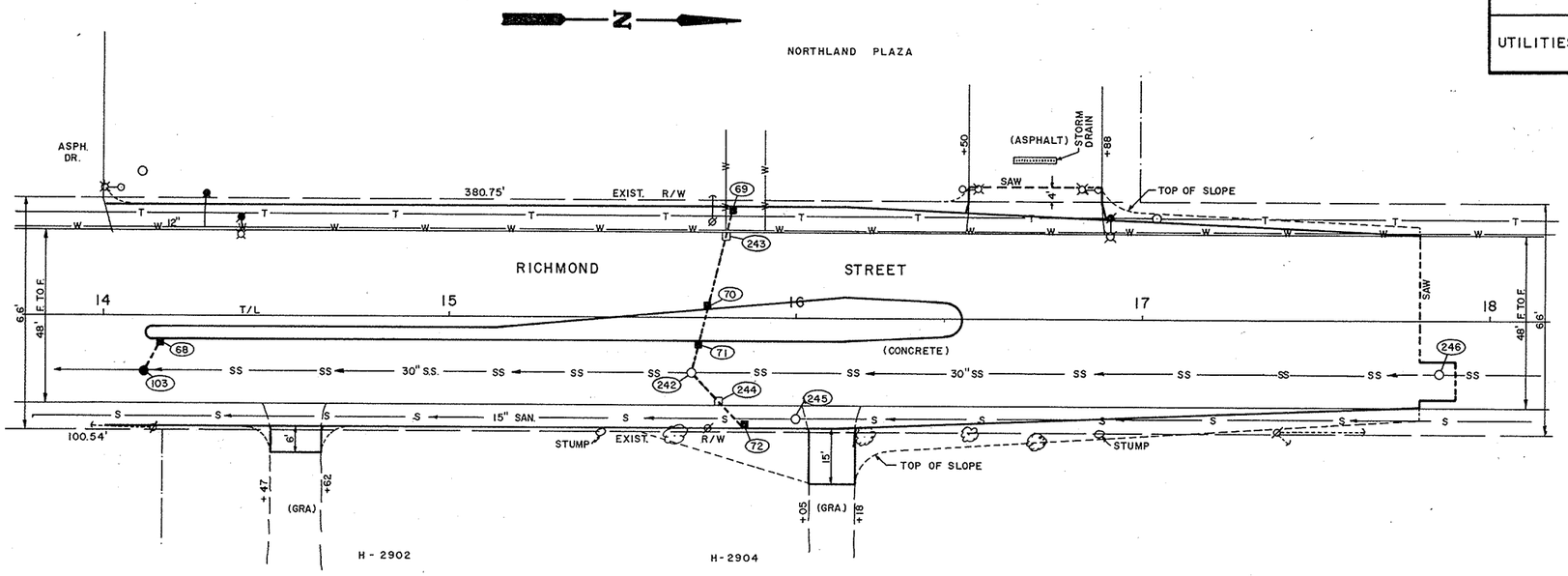
EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION EXIST.	ELEVATION PROP.	REMOVE	ABANDON	ADJUST.	RECONST.	INSTALL NEW CASTING	REMARKS
237	11+20, 16' RT.	STORM M.H.	829.12	829.30			X			
238	12+08, 16' RT.	STORM M.H.	828.90	828.76			X			
239	12+20, 24' LT.	INLET	828.48			X				
240	12+18, 24' RT	INLET	828.74		X					
241	12+88, 28.5' RT.	SAN. M.H.	828.73	828.66					X	

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.17

UTILITIES, DRAINAGE & REMOVALS

RICHMOND STREET



NOTES:

(1.) LOCATION LT. OR RT. TO INLETS IS TO FACE OF CURB.
(2.) LOCATION LT. OR RT. TO MANHOLES IS TO CENTER OF MANHOLE BARREL SECTION.
(3) DEPTH - TOP OF PRECAST STRUCTURE TO INVERT OF DOWNSTREAM PIPE.
(4.) ALL LOCATIONS ARE REFERENCED TO T/L UNLESS OTHERWISE INDICATED.
(5.) INLET GRATE ELEVATIONS ARE SET 1/2" BELOW FINISHED CONCRETE PAVEMENT.

PROPOSED STRUCTURES

CODE	LOCATION	STR.	TYPE	GRATE	DEPTH	REMARKS
103	14+11, 16' RT.	STO. M.H.	1	829.41	6.15	CONSTRUCT MANHOLE OVER EXIST. 30" STORM SEWER
68	14+15, 6.5' RT.	INLET	3	829.50	3.00	
69	15+82, 31.5' LT.	INLET	3	829.30	3.00	
70	15+76, 3.1' LT.	INLET	3	829.77	3.62	
71	15+72, 6.5' RT.	INLET	3	829.70	3.60	
72	15+85, 31.5' RT.	INLET	3	829.22	3.00	

CLASS III STORM SEWER

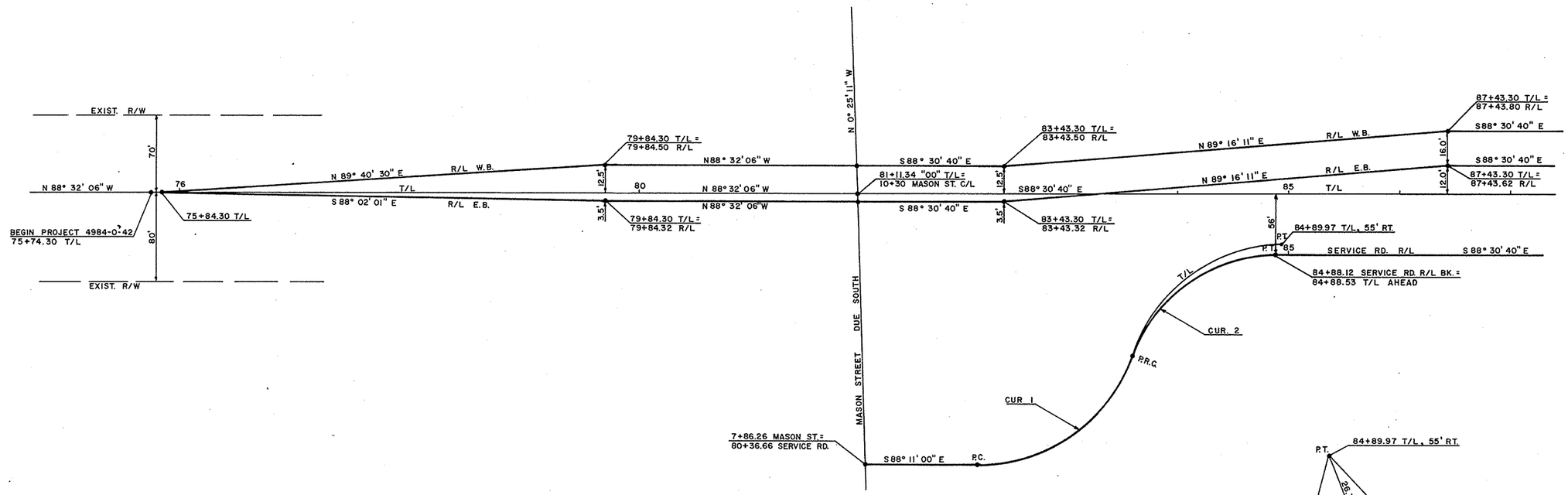
LOCATION FROM	LOCATION TO	SIZE IN.	LENGTH (FT.) CTR/CTR.	LENGTH (FT.) MEAS.	SLOPE %	INVERT ELEV. M.H. INLET	INVERT ELEV. DISCH.	REMARKS
68	103	12	10	6	4.00	825.80	825.40	
69	70	12	29	25	0.50	825.60	825.45	
70	71	12	10	6	0.50	825.45	825.40	
71	242	12	10	6	0.50	825.40	825.35	
72	242	12	22	17	0.50	825.52	825.41	

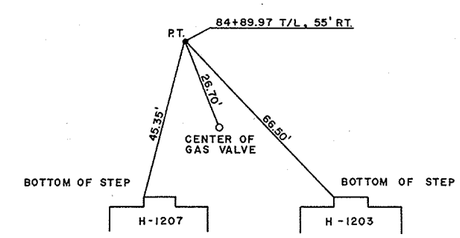
EXISTING STRUCTURES

CODE	LOCATION	TYPE	ELEVATION EXIST.	ELEVATION PROP.	REMOVE	ADJUST	RECONST.	INSTALL NEW CASTING	REMARKS
242	15+70, 16' RT.	STORM M.H.	829.74	829.68		X			
243	15+80, 24' LT.	INLET	829.52		X				
244	15+78, 24' RT.	INLET	829.40		X				
245	16+00, 28.5' RT.	SAN. M.H.	830.11	829.46				X	USE SALVAGED CASTING ON MANHOLE 103
246	17+85, 16' RT.	STORM M.H.	830.30	830.30		X			

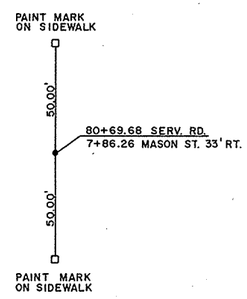
STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.18

ALIGNMENT PLAN
FOR
NORTHLAND AVENUE

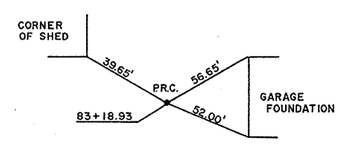




TIES TO SERVICE RD T/L P.T., CURVE 2



TIES TO SERVICE ROAD R/L



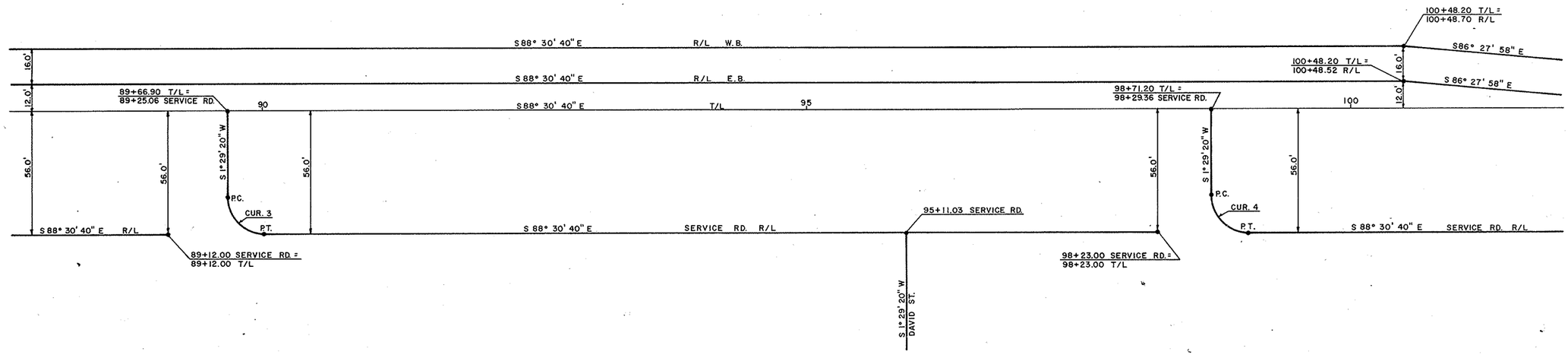
TIES TO SERVICE ROAD P.R.C.

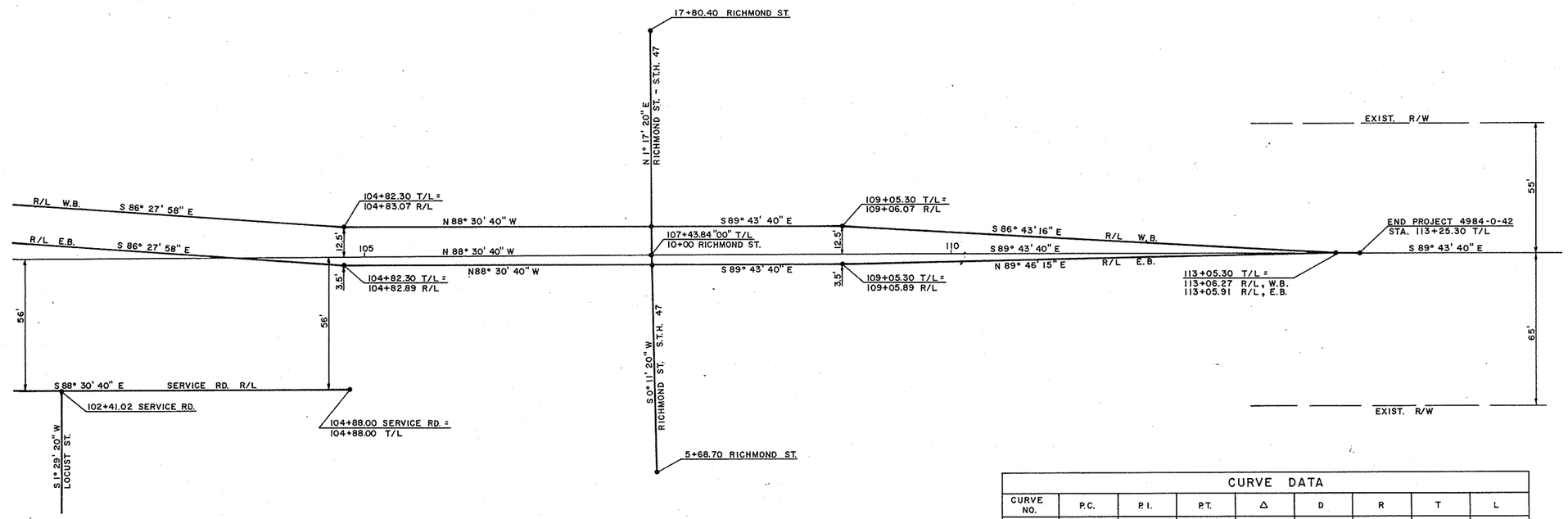
CURVE DATA

CURVE NO.	P.C.	P.I.	P.T.	Δ	D	R	T	L
1	81+38.09	82+41.88	83+18.93	70° 19' 40"	38°53' 32"	147.33'	103.79'	180.84'
2	83+18.93	84+15.89	84+88.12	70°00' 00"	41°22' 40"	138.48'	96.96'	169.19

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	2.19

ALIGNMENT PLAN
FOR
NORTHLAND AVENUE





CURVE DATA

CURVE NO.	P.C.	P.I.	P.T.	Δ	D	R	T	L
3	89+48.06	89+81.06	89+99.90	90°00'00"	173°38'11"	33.00'	33.00'	51.84'
4	98+52.36	98+85.36	99+04.20	90°00'00"	173°38'11"	33.00'	33.00'	51.84'

ESTIMATE OF QUANTITIES

DATE 02/17/82

PROJECT ID: 4984-00-42
OUTAGAMIE COUNTY
NORTHLAND AVENUE, CITY OF APPLETON
MASON STREET - STH 47
C.T.H. OO

PROJECT ID: 6240-02-71
OUTAGAMIE COUNTY
C.T.H. OO INTERSECTION
CITY OF APPLETON
S.T.H. 47

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4984-00-42 QUANTITY	6240-02-71 QUANTITY
20102	CLEARING	I.D.	92.00	92.00	
20105	GRUBBING	I.D.	46.00	46.00	
20401	REMOVING PAVEMENT	S.Y.	15,146.00	15,146.00	
20402	REMOVING BITUMINOUS SURFACE	S.Y.	24.00	24.00	
20406	REMOVING CONCRETE SIDEWALK	S.Y.	36.00	36.00	
20416	REMOVING INLETS	EACH	5.00	5.00	
20482	ABANDONING INLETS	EACH	4.00	4.00	
20503	UNCLASSIFIED EXCAVATION	C.Y.	13,986.00	13,986.00	
30404	CRUSHED AGGREGATE BASE COURSE	TON	9,369.00	9,369.00	
40907	CONCRETE PAVEMENT, 7-INCH	S.Y.	5,610.00	5,610.00	
40909	CONCRETE PAVEMENT, 9-INCH	S.Y.	32,056.00	32,056.00	
40931	CONCRETE DRIVEWAY	S.Y.	149.00	149.00	
60119	CONCRETE CURB AND GUTTER, 18-INCH, TYPE A	L.F.	8,063.00	8,063.00	
60123	CONCRETE CURB AND GUTTER, 30-INCH, TYPE A	L.F.	13,326.00	13,326.00	
60204	CONCRETE SIDEWALK, 4-INCH	S.F.	6,112.00	6,112.00	
60825	REINFORCED CONCRETE PIPE, CLASS III, STORM SEWER, 12-INCH	L.F.	1,644.00	1,644.00	
60826	REINFORCED CONCRETE PIPE, CLASS III, STORM SEWER, 15-INCH	L.F.	34.00	34.00	
61110	MANHOLES, TYPE 1	EACH	6.00	6.00	
61122	INLETS, TYPE 3	EACH	75.00	75.00	
61128	RECONSTRUCTING MANHOLES	EACH	4.00	4.00	
61182	ADJUSTING MANHOLE COVERS	EACH	28.00	28.00	
61183	ADJUSTING INLET COVERS	EACH	75.00	75.00	
61315	METALLIC CONDUIT, 3-INCH	L.F.	1,673.00	1,175.00	498.00
61911	MOBILIZATION, PROJECT 4984-00-42	L.S.	1.00	1.00	
61912	MOBILIZATION, PROJECT 6240-02-71	L.S.	1.00		1.00

SHEET 3

DATE 02/17/82

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	4984-00-42 QUANTITY	6240-02-71 QUANTITY
62001	CONCRETE CORRUGATED MEDIAN	S.F.	1,764.00	1,764.00	
62301	CALCIUM CHLORIDE SURFACE TREATMENT	TON	10.00	10.00	
62501	TOPSOIL	S.Y.	26,216.00	26,216.00	
62702	MULCHING	S.Y.	24,100.00	24,100.00	
62905	FERTILIZER, TYPE B	CWT.	17.00	17.00	
63002	SEEDING	LB.	435.00	435.00	
63101	SODDING	S.Y.	2,095.00	2,095.00	
64201	FIELD OFFICE, TYPE A	L.S.	1.00	1.00	
64302	TRAFFIC CONTROL, PROJECT 4984-00-42	L.S.	1.00	1.00	
64303	TRAFFIC CONTROL, PROJECT 6240-02-71	L.S.	1.00		1.00
90001	TRAFFIC SIGNAL BASE, TYPE 1 MODIFIED	EACH	46.00	33.00	13.00
90002	INSTALL NEW MANHOLE CASTINGS	EACH	14.00	14.00	
90003	TRAFFIC SIGNALS, PROJECT 4984-00-42	L.S.	1.00	1.00	
90004	PRETIMED SIGNAL CONTROLLER, PROJECT 4984-00-42	L.S.	1.00	1.00	
90005	SIGNAL CONTROLLER TRAINING	L.S.	1.00	1.00	
90006	TRAFFIC SIGNALS, PROJECT 6240-02-71	L.S.	1.00		1.00
90007	PRETIMED SIGNAL CONTROLLER, PROJECT 6240-02-71	L.S.	1.00		1.00
90008	REMOVING SIGNAL BASE	EACH	9.00		9.00
90009	INTERSECTION COORDINATING UNIT	EACH	4.00	3.00	1.00
90010	PORTABLE CONTROLLER PROGRAMMER	L.S.	1.00	1.00	
90052	PAVEMENT TIES	EACH	69.00	69.00	
90089	SINGLE AGGREGATE BITUMINOUS MIX	TON	307.00	307.00	
90098	MINORITY BUSINESS ENTERPRISE DEVELOPMENT	L.S.	1.00	1.00	
90099	ON THE JOB TRAINING	HRS.	250.00	250.00	

SHEET 3.1

DETAIL SUMMARY OF MISCELLANEOUS QUANTITIES

STATE PROJECT NUMBER	SHEET NO.
4982-0-42 & 6240-2-71	3A

CLEARING & GRUBBING

LOCATION	CLEARING IN. DIA.	GRUBBING IN. DIA.
NORTHLAND AVENUE		
83+95.5 77' RT.		18
84+36.4 71' RT		18
88+12 57' LT.	14	
89+06 67' RT.	15	
89+12 56' LT.	12	
89+81.7 64' RT.	16	
95+57 68' RT.	8	
95+91.7 64' RT.	6	
96+28.2 67' RT.	8	
104+25 68' RT.	13	
RICHMOND STREET		
15+43 32' RT.		10

REMOVING PAVEMENT

LOCATION	SQ. YDS.
NORTHLAND AVENUE	
75+74.3 - 78+00	502
78+00 - 83+00	1,111
83+00 - 88+00	1,160
88+00 - 93+00	1,111
93+00 - 98+00	1,116
98+00 - 103+00	1,126
103+00 - 108+50	2,144
108+50 - 113+25.3	1,056
RICHMOND STREET	
5+73.7 - 9+32.9	1,956
10+78.6 - 14+00	1,750
14+00 - 17+90	2,083
SERVICE RD. & MASON ST.	
80+48 - 80+57	31

REMOVING BITUMINOUS SURFACE

LOCATION	SQ. YDS.
RICHMOND STREET	
5+68.7 - 5+73.7	24

REMOVING CONCRETE SIDEWALK

LOCATION	SQ. YDS.
SERVICE ROAD	
80+67	36

CRUSHED AGGREGATE BASE COURSE

LOCATION	TONS
NORTHLAND AVENUE	
75+74.3 - 78+00	260
78+00 - 83+00	925
83+00 - 88+00	726
88+00 - 93+00	873
93+00 - 98+00	726
98+00 - 103+00	809
103+00 - 108+50	1,067
108+50 - 113+25.3	925
SERVICE ROAD	
84+00 - 88+00	273
88+00 - 93+00	298
93+00 - 98+00	305
98+00 - 103+00	340
103+00 - 108+50	178
80+54.7 - 84+00	202
RICHMOND STREET	
5+73.7 - 9+32.9	468
10+78.6 - 14+00	490
14+00 - 17+80.4	504

CONCRETE PAVEMENT, 7 INCH

LOCATION	SQ. YDS.
SERVICE ROAD	
80+53.7 - 84+00	806
84+00 - 88+00	889
88+00 - 93+00	1,103
93+00 - 98+00	1,178
98+00 - 103+00	1,221
103+00 - 104+86	413

CONCRETE PAVEMENT, 9 INCH.

LOCATION	SQ. YDS.
NORTHLAND AVENUE	
75+84.3 - 78+00	1,154
78+00 - 83+00	4,004
83+00 - 88+00	3,025
88+00 - 93+00	3,751
93+00 - 98+00	3,043
98+00 - 103+00	3,581
103+00 - 108+50	4,815
108+50 - 113+05.3	2,708
RICHMOND STREET	
5+73.7 - 9+32.9	1,901
10+78.6 - 14+00	1,928
14+00 - 17+80.4	2,146

CONCRETE DRIVEWAY

LOCATION	SQ. YDS.
SERVICE ROAD	
84+35 RT.	29
85+65 RT.	31
86+97 RT.	31
88+73 RT.	33
92+19 RT.	25

CURB & GUTTER, 18 INCH, TYPE "A"

LOCATION	LIN. FT.
NORTHLAND AVENUE	
77+06.5 - 78+00	182
78+00 - 83+00	884
83+00 - 88+00	1,000
88+00 - 93+00	928
93+00 - 98+00	1,000
98+00 - 103+00	928
103+00 - 108+50	914
108+50 - 111+83.1	667
RICHMOND STREET	
5+73.7 - 9+32.9	529
10+78.6 - 14+00	536
14+00 - 17+80.4	495

CURB & GUTTER, 30 INCH, TYPE "A"

LOCATION	LIN. FT.
NORTHLAND AVENUE	
75+84.3 - 78+00	431
78+00 - 83+00	1,059
83+00 - 88+00	1,000
88+00 - 93+00	888
93+00 - 98+00	1,000
98+00 - 103+00	869
103+00 - 108+50	1,092
108+50 - 110+55.3	411
SERVICE ROAD	
80+54.7 - 84+00	714
84+00 - 88+00	800
88+00 - 93+00	745
93+00 - 98+00	991
98+00 - 103+00	994
103+00 - 108+50	210
RICHMOND STREET	
5+73.7 - 9+32.9	718
10+78.6 - 14+00	643
14+00 - 17+80.4	761

CONCRETE SIDEWALK, 4 INCH

LOCATION	SQ. FT.
NORTHLAND AVENUE	
77+08 - 77+18	25
79+84.3 - 83+00	758
83+00 - 88+00	300
88+00 - 93+00	879
93+00 - 98+00	467
98+00 - 103+00	592
103+00 - 108+50	803
108+50 - 111+80.6	191
RICHMOND STREET	
8+40.4 - 9+32.9	278
10+78.6 - 14+00	800
14+13 - 15+13.7	305
MASON STREET	
9+37 - 9+83, LT	269
9+37 - 9+79, RT.	265
SERVICE ROAD 80+68 LT. & RT.	180

METAL CONDUIT, 3 INCH

LOCATION	LIN. FT.
INTERSECTION OF:	
NORTHLAND AVE. & BENNETT ST.	369
NORTHLAND AVE. & SHOPKO	374
NORTHLAND AVE. & MASON ST.	432

CONCRETE CORRUGATED MEDIAN

LOCATION	SQ. FT.
NORTHLAND AVENUE	
76+25 - 77+06	326
111+83 - 112+64	283
RICHMOND STREET	
5+95.9 - 6+69	440
16+49 - 17+58	715

TOPSOIL

LOCATION	SQ. YDS.
NORTHLAND AVENUE	
75+74.3 - 78+00, LT. & MEDIAN	1,057
75+74.3 - 78+00, RT.	1,329
78+00 - 83+00, LT. & MEDIAN	1,676
78+00 - 83+00, RT.	2,233
83+00 - 88+00, LT. & MEDIAN	1,595
83+00 - 88+00, RT.	2,213
88+00 - 93+00, LT. & MEDIAN	594
88+00 - 93+00, RT.	2,449
93+00 - 98+00, LT. & MEDIAN	1,231
93+00 - 98+00, RT.	1,957
98+00 - 103+00, LT. & MEDIAN	790
98+00 - 103+00, RT.	1,742
103+00 - 108+50, LT. & MEDIAN	1,504
103+00 - 108+50, RT.	1,673
108+50 - 113+25.3, LT. & MEDIAN	1,174
108+50 - 113+25.3, RT.	911
RICHMOND STREET	
5+73.7 - 9+00, LT. & MEDIAN	344
5+73.7 - 9+00, RT.	80
11+00 - 14+00, LT. & MEDIAN	83
11+00 - 14+00, RT.	41
14+00 - 17+80.4, LT. & MEDIAN	56
14+00 17+80.4, RT.	158
SERVICE ROAD	
80+59 - 84+00, LT. & RT.	1,326

SODDING

LOCATION	SQ. YDS
NORTHLAND AVENUE MEDIAN	
77+18 - 78+00	41
78+00 - 79+84.3	108
83+43.3 - 87+43.3	439
91+43.9 - 93+00	142
93+00 - 96+44.2	414
100+48.2 - 103+00	280
103+00 - 104+82.3	180
109+05.3 - 111+71	157
RICHMOND STREET MEDIAN	
6+70 - 8+40.4	214
15+13.7 - 16+48	120

SINGLE AGGREGATE BITUMINOUS MIX

LOCATION	TONS
NORTHLAND AVENUE	
75+74.3 - 75+84.3	18
84+50, RT. DW	11
88+72, RT. DW	2
89+70, LT. DW	11
93+28, RT. DW	6
98+71.2, LT. DW	11
102+80 - 104+78, RT. DW	46
110+50, RT. DW	70
110+75, LT. DW	18
111+75, LT. DW	19
113+05.3 - 113+25.3	36
RICHMOND STREET	
5+68.7 - 5+73.7	4
6+50, RT. DW	15
6+65, LT. DW	14
13+55, RT. DW	6
13+80, LT. DW	8
16+70, LT. DW	12

PAVEMENT TIES

LOCATION	EACH
MASON STREET	
9+37.5	14
RICHMOND STREET	
5+73.7	16
17+80.4	16
SERVICE ROAD	
80+49 - 80+55	23

TRAFFIC SIGNAL BASE, TYPE I MODIFIED

LOCATION	EACH
INTERSECTION OF:	
NORTHLAND AVE. & BENNETT ST.	11
NORTHLAND AVE. & SHOPKO	11
NORTHLAND AVE. & MASON ST.	11

PROJECT I.D. 6240-2-71

METAL CONDUIT, 3-INCH

LOCATION	LIN. FT.
INTERSECTION OF:	
NORTHLAND AVE. & RICHMOND ST.	498

TRAFFIC SIGNAL BASE, TYPE I MODIFIED

LOCATION	EACH
INTERSECTION OF:	
NORTHLAND AVE. & RICHMOND ST.	13

REMOVING SIGNAL BASE

LOCATION	EACH
INTERSECTION OF:	
NORTHLAND AVE. & RICHMOND ST.	9

PART OF THE CITY OF APPLETON

REVISION DATE	R/W PROJECT NUMBER 4984-0-41	SHEET NUMBER
	FEDERAL PROJECT NUMBER	4.1

PLAT OF RIGHT OF WAY REQUIRED FOR

NORTHLAND AVENUE SERVICE ROAD
(MASON STREET TO 420' EAST)

C.T.H. "00" OUTAGAMIE COUNTY

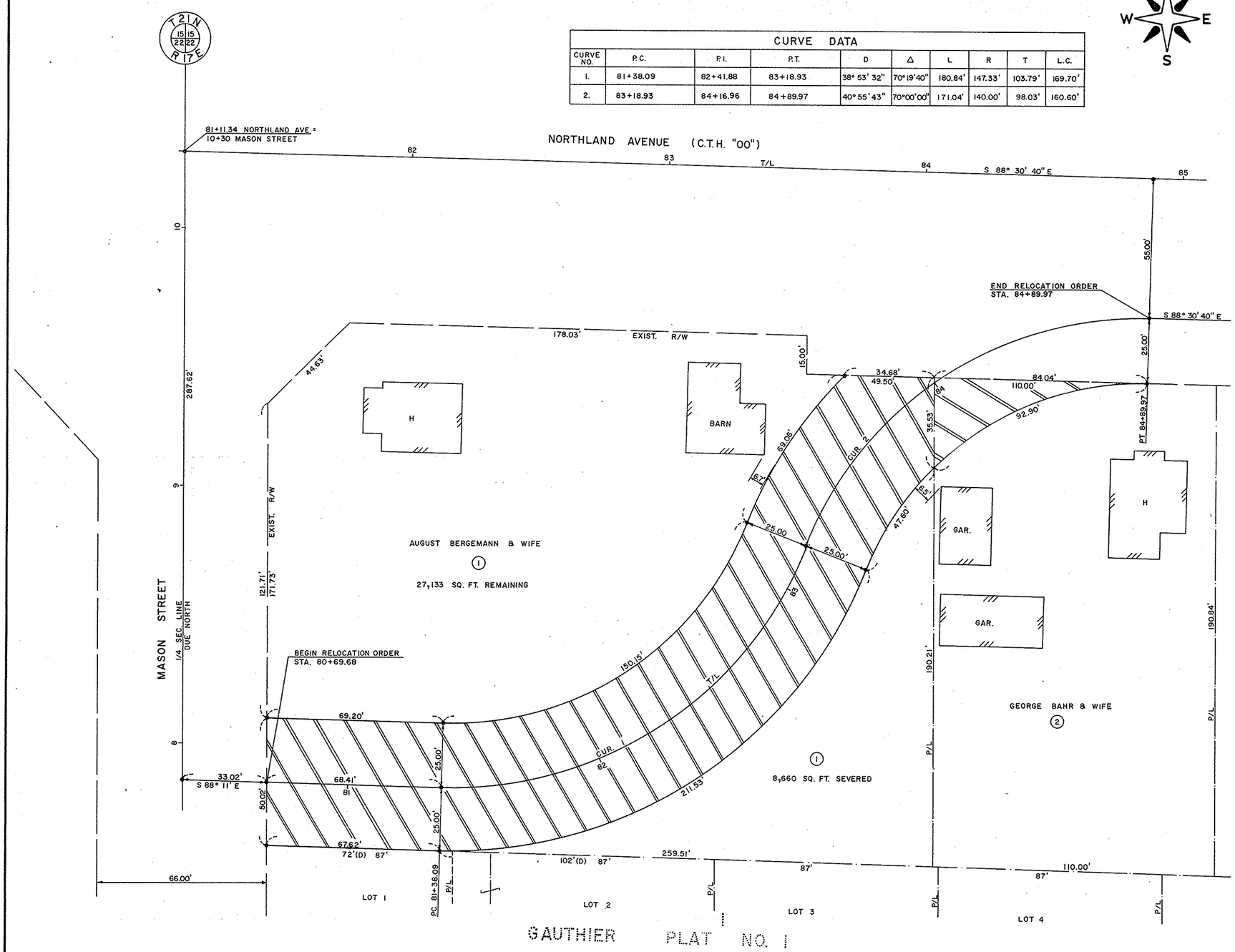
SCALE: 0 20 40 Ft.

CONSTRUCTION PROJECT NUMBER

4984-00-42 4

CURVE DATA

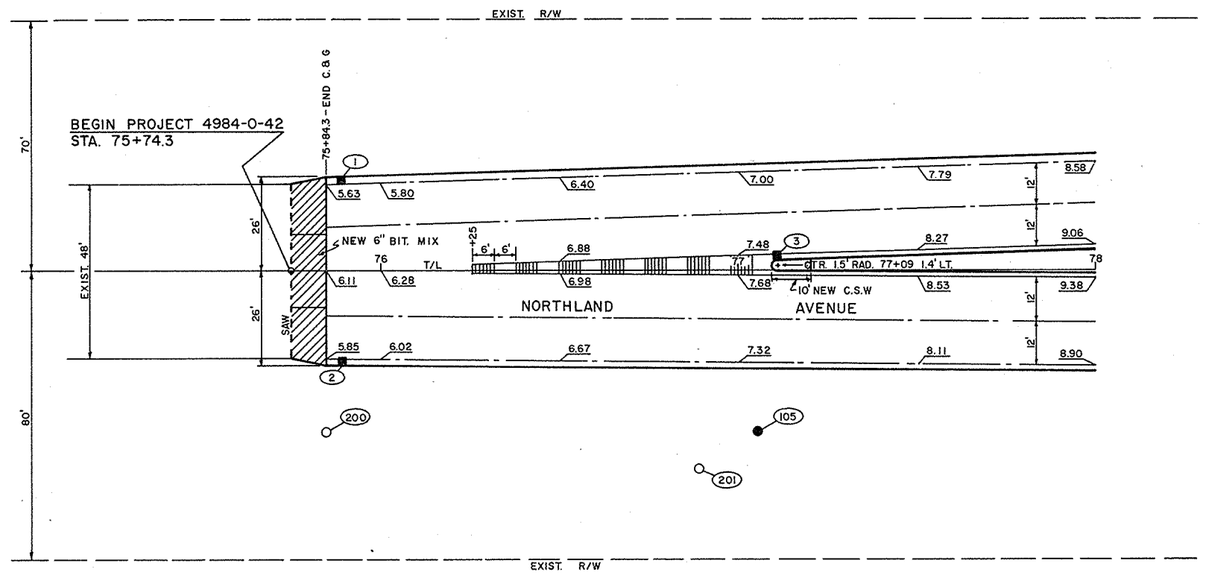
CURVE NO.	P.C.	P.I.	P.T.	D	Δ	L	R	T	L.C.
1.	81+38.09	82+41.88	83+18.93	38° 53' 32"	70°19'40"	180.84'	147.33'	103.79'	169.70'
2.	83+18.93	84+16.96	84+89.97	40° 55' 43"	70°00'00"	171.04'	140.00'	98.03'	160.60'



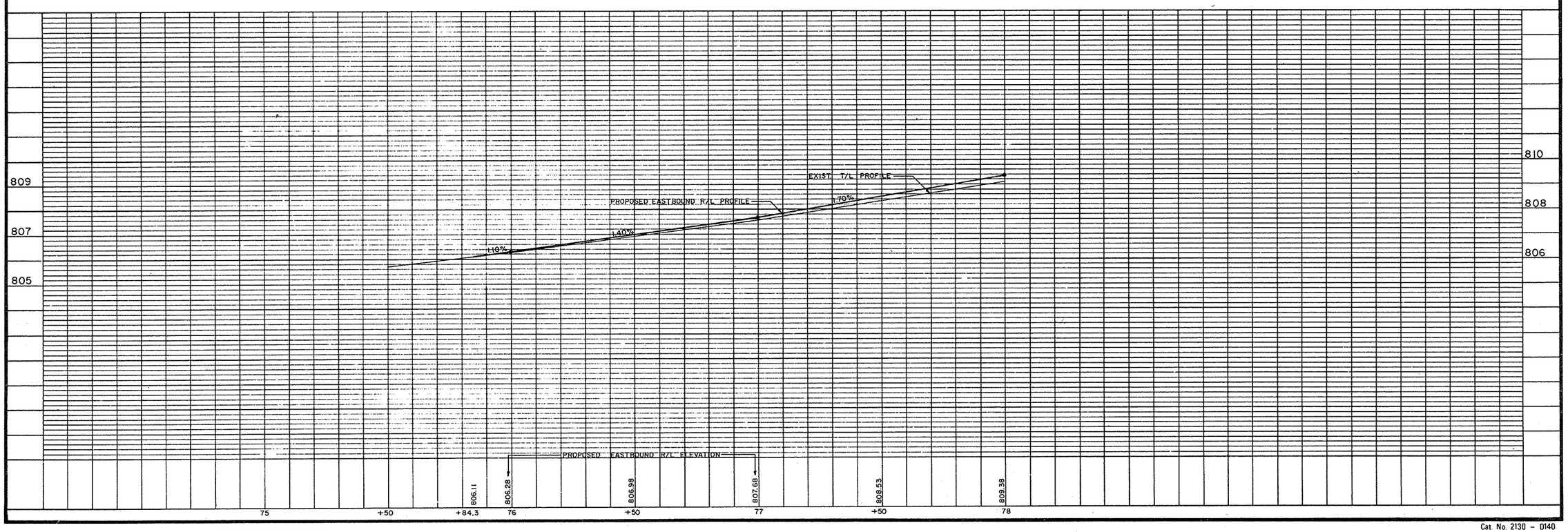
SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	SQ. FT. NEW R/W REQUIRED	TOTAL REMANING SQ. FT.
1	AUGUST BERGEMANN & WIFE	FEE	15,996	35,793
2	GEORGE BAHR & WIFE	FEE	946	20,012

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	5

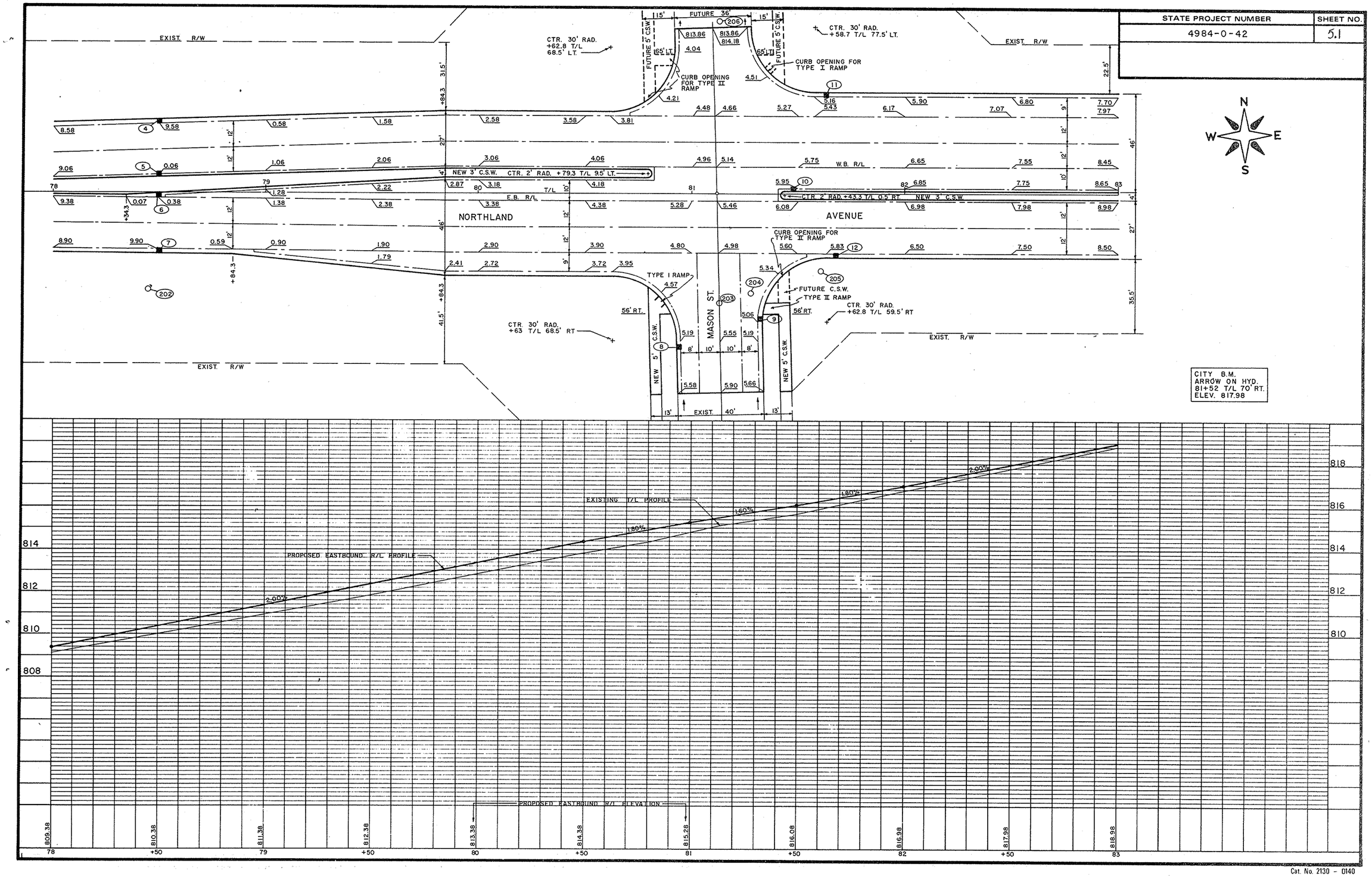


CITY B.M.
ARROW ON HYD.
81+52 T/L 70' RT.
ELEV. 817.98



Cat. No. 2130 - 0140

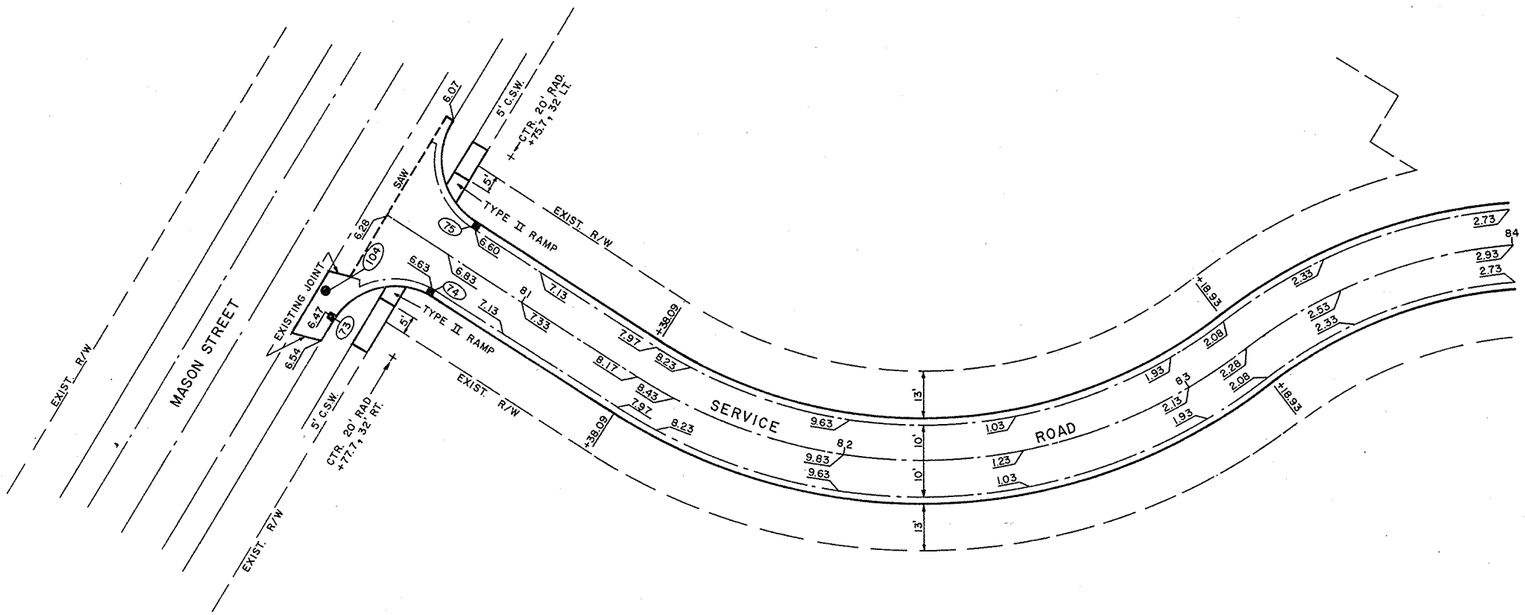
STATE PROJECT NUMBER	SHEET NO.
4984-0-42	5.1



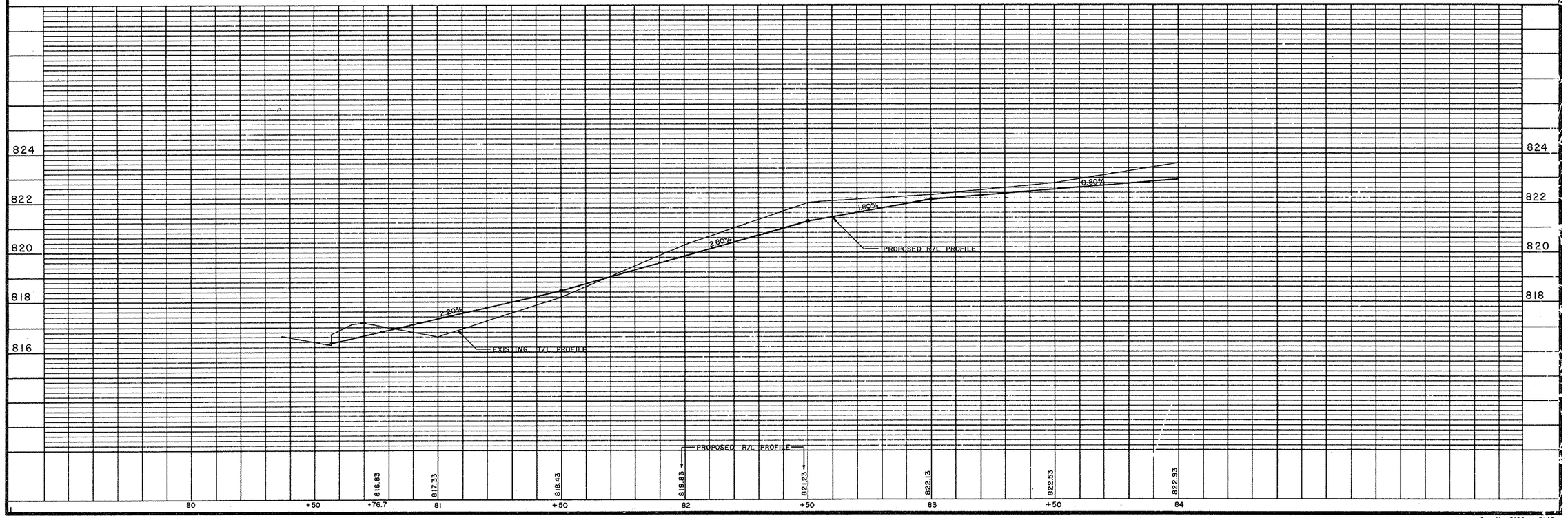
Cat. No. 2130 - 0140

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	5.2

SERVICE ROAD

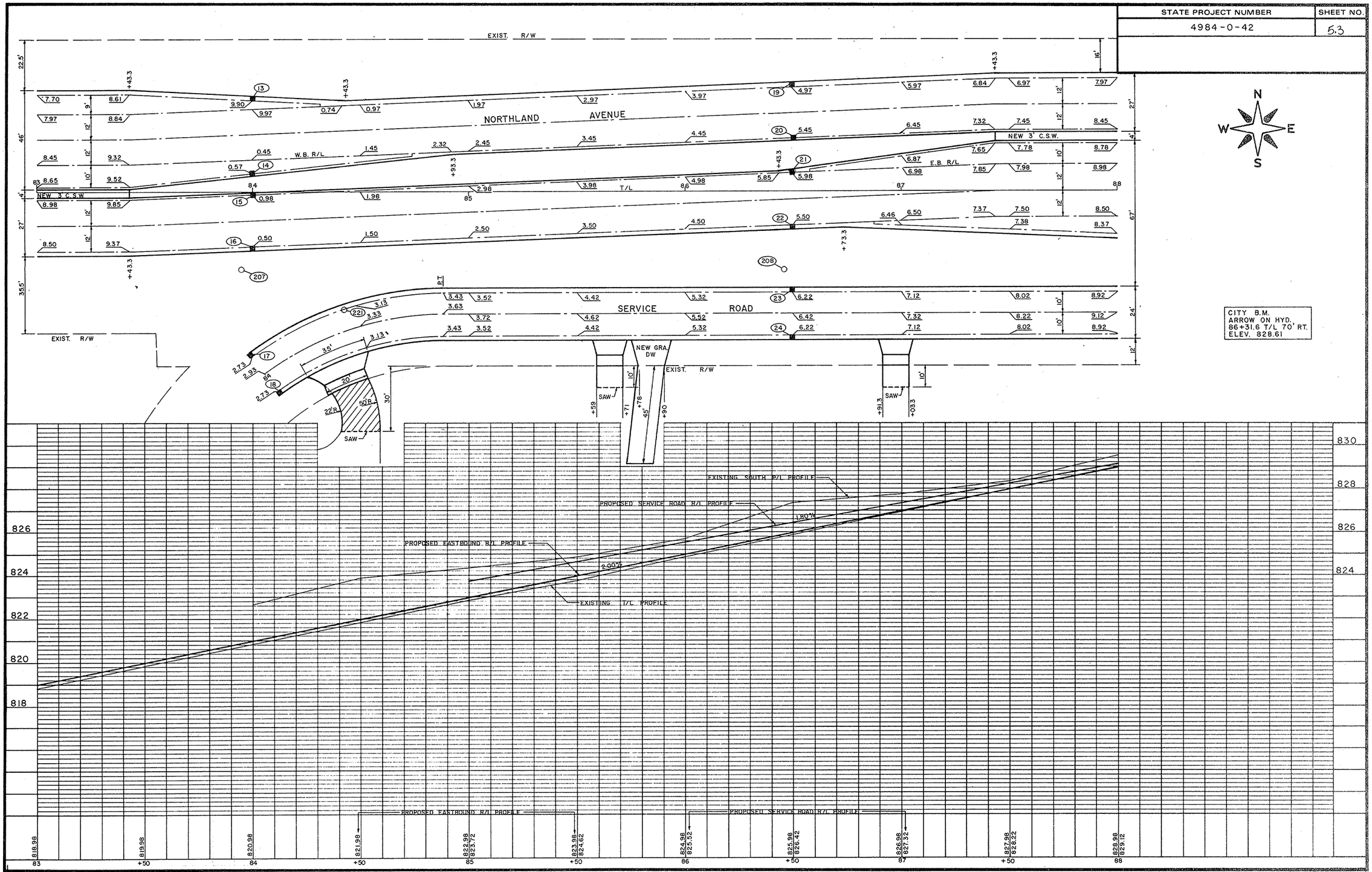


CITY B.M.
ARROW ON HYD.
81+52, 70' RT.
NORTHLAND AVE. T/L
ELEV. 817.98



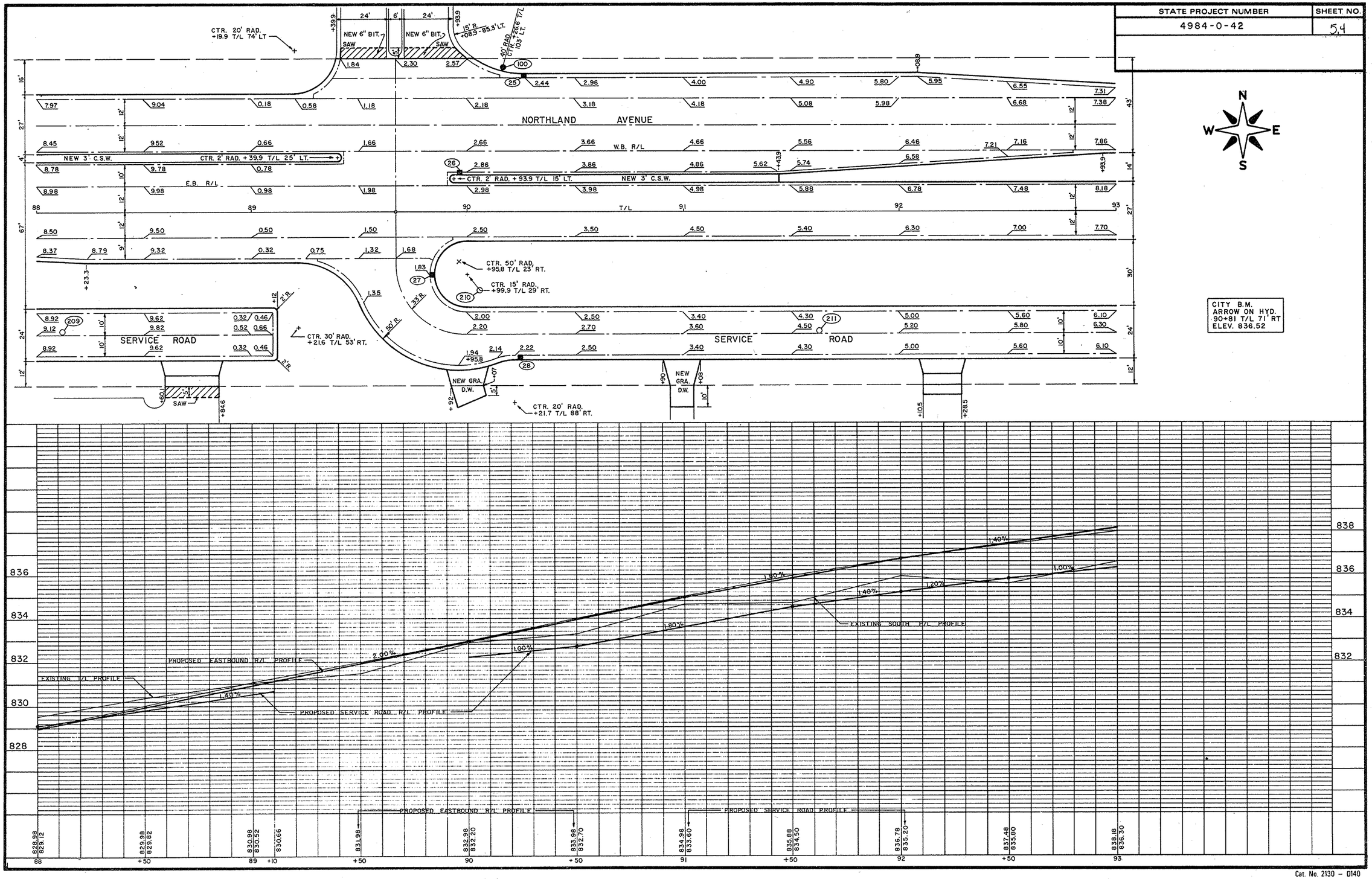
Cat. No 2130 - D140

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	5.3



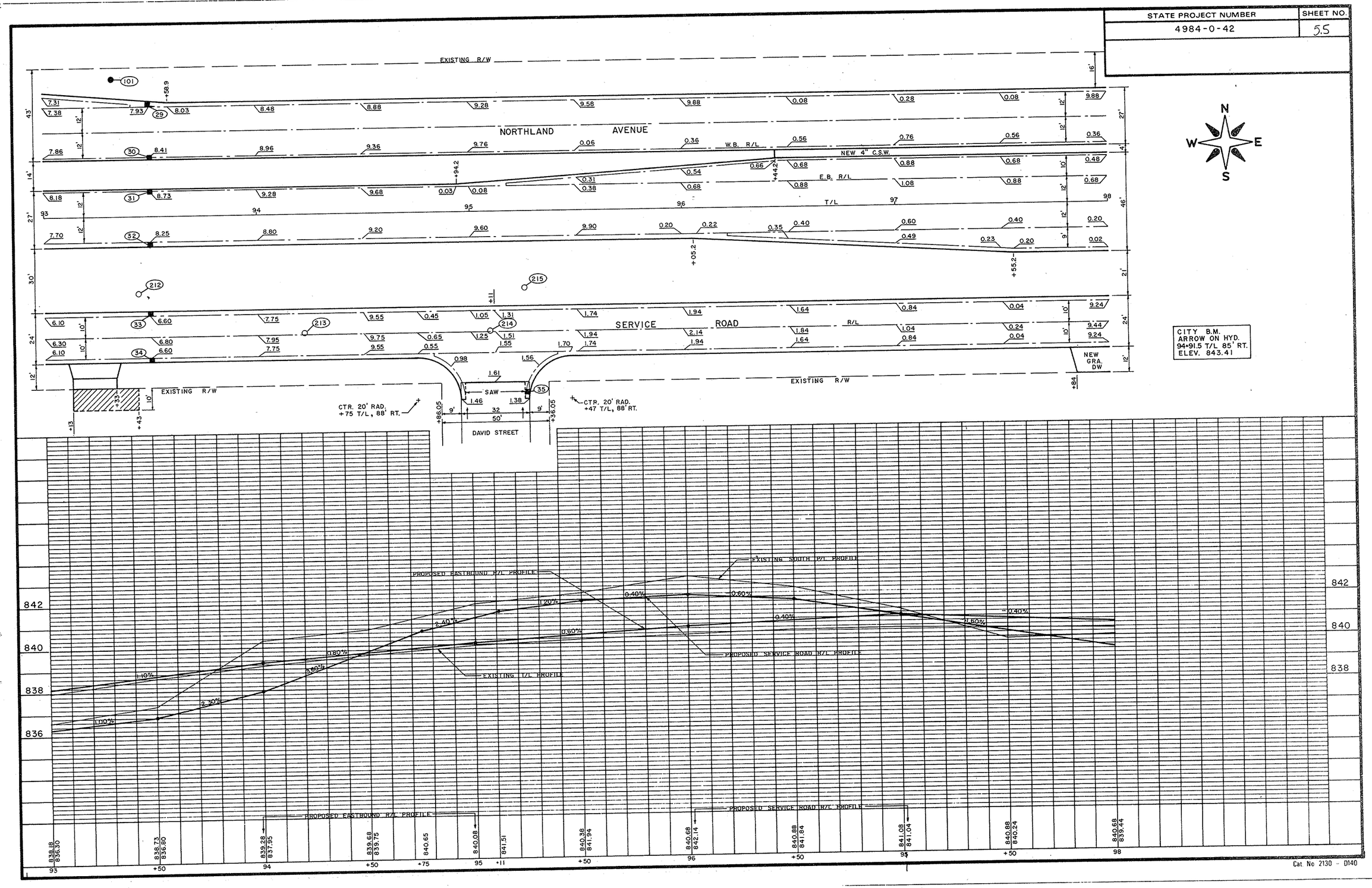
Cat. No. 2130 – 0140

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	54

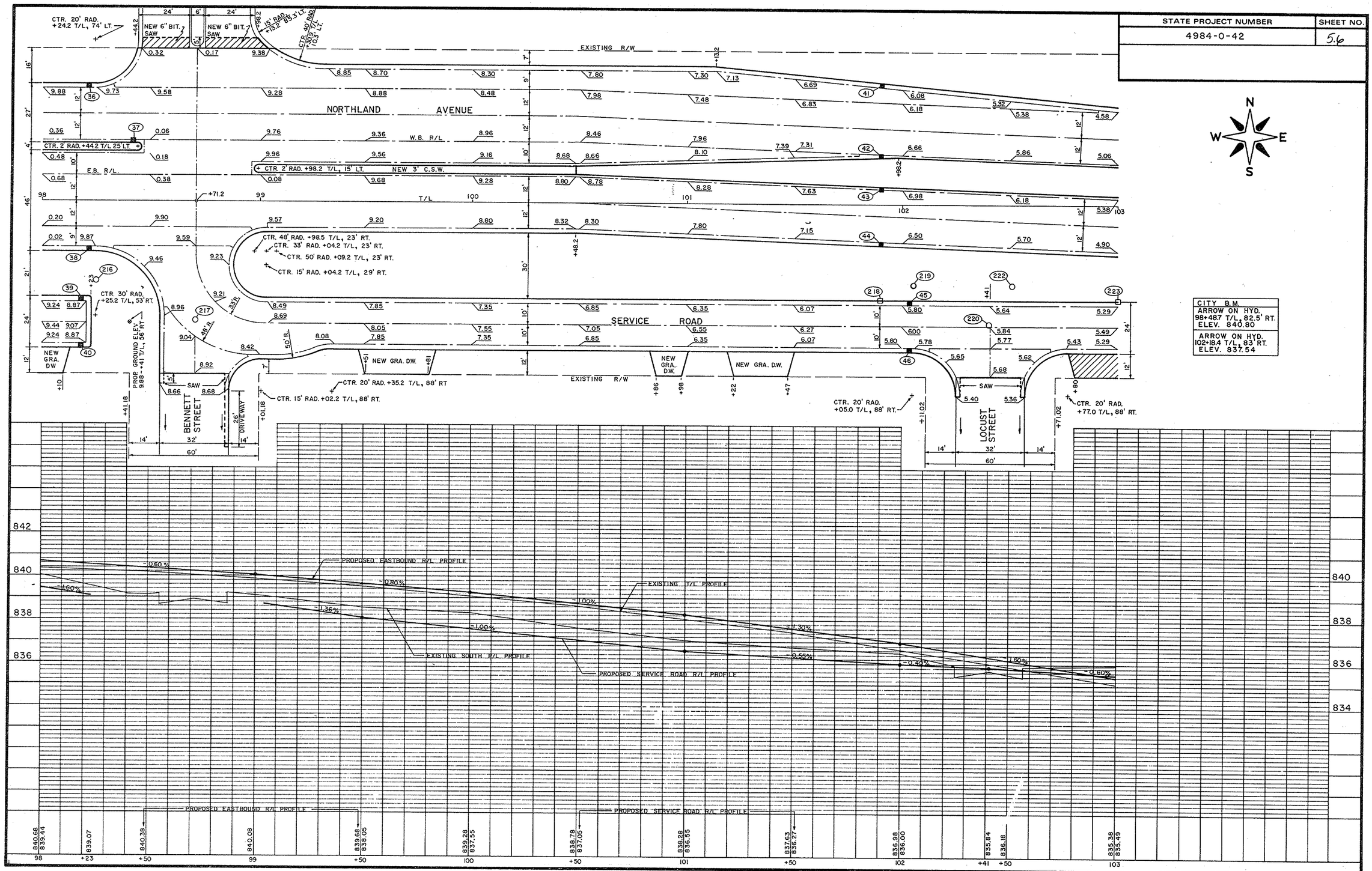


Cat. No. 2130 – 0140

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	5.5



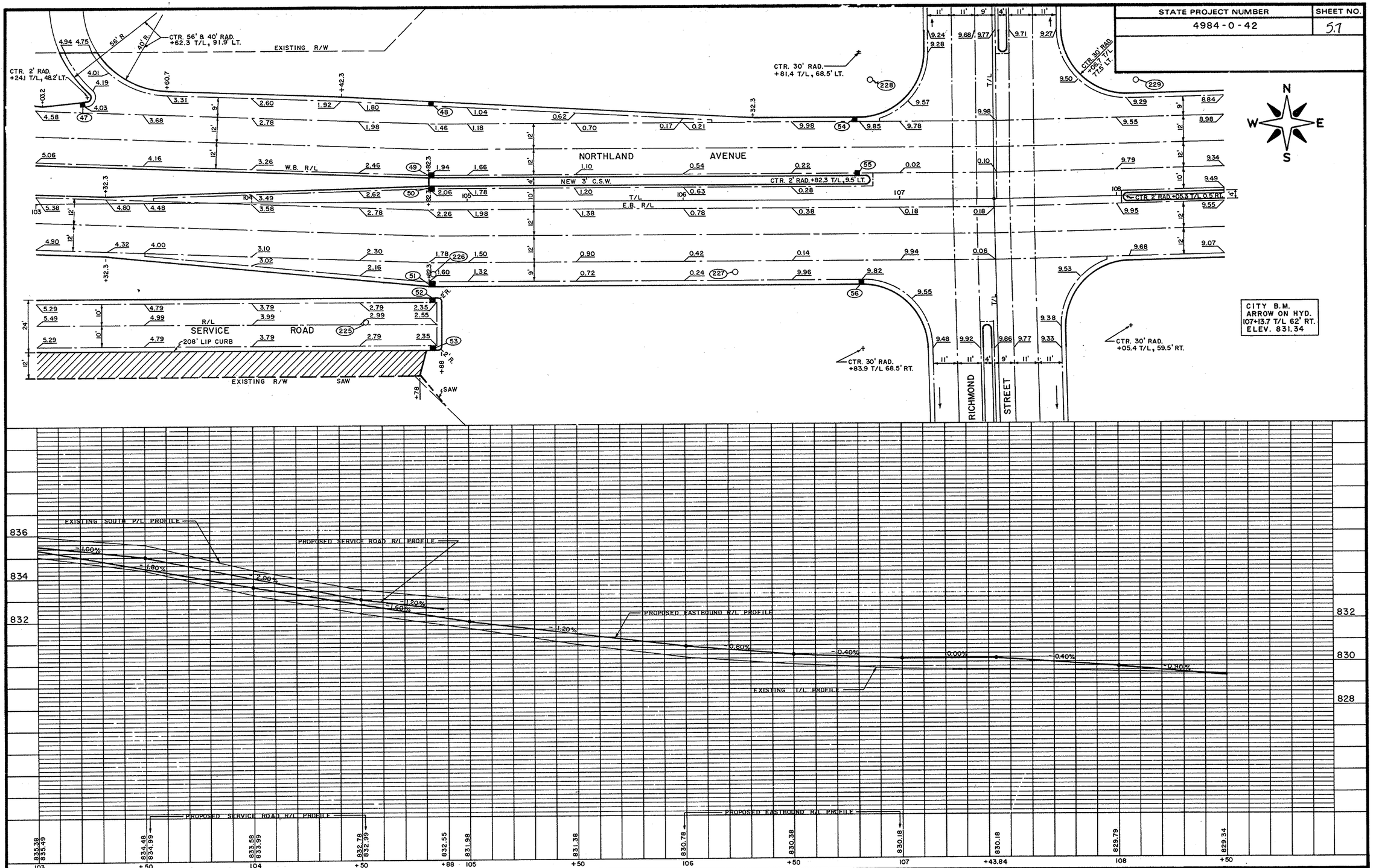
STATE PROJECT NUMBER	SHEET NO.
4984-0-42	5.6



CITY B.M.
ARROW ON HYD. 98+48.7 T/L, 82.5' RT. ELEV. 840.80
ARROW ON HYD. 102+18.4 T/L, 83' RT. ELEV. 837.54

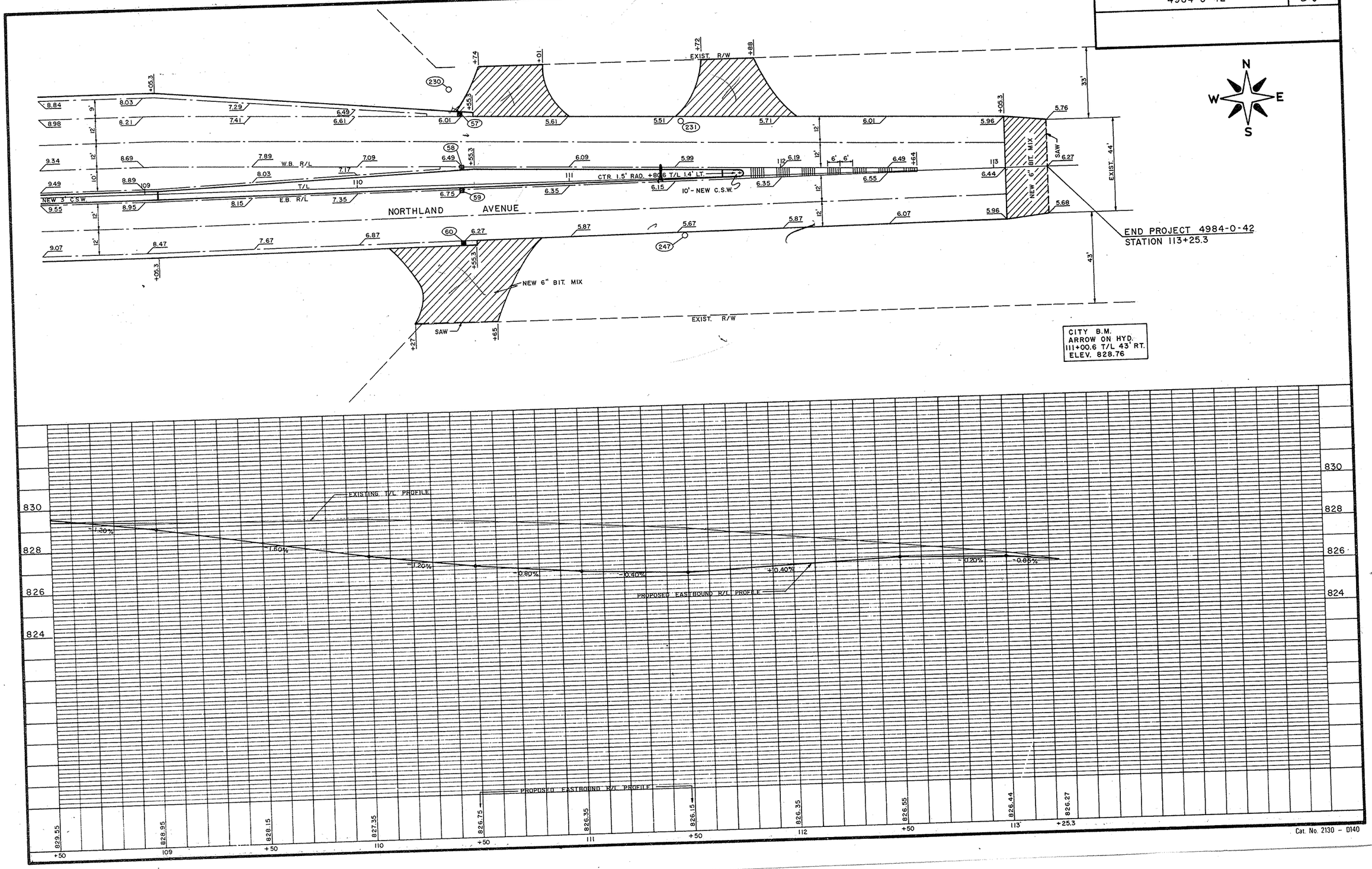
Cat. No. 2130 - 0140

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	5.1



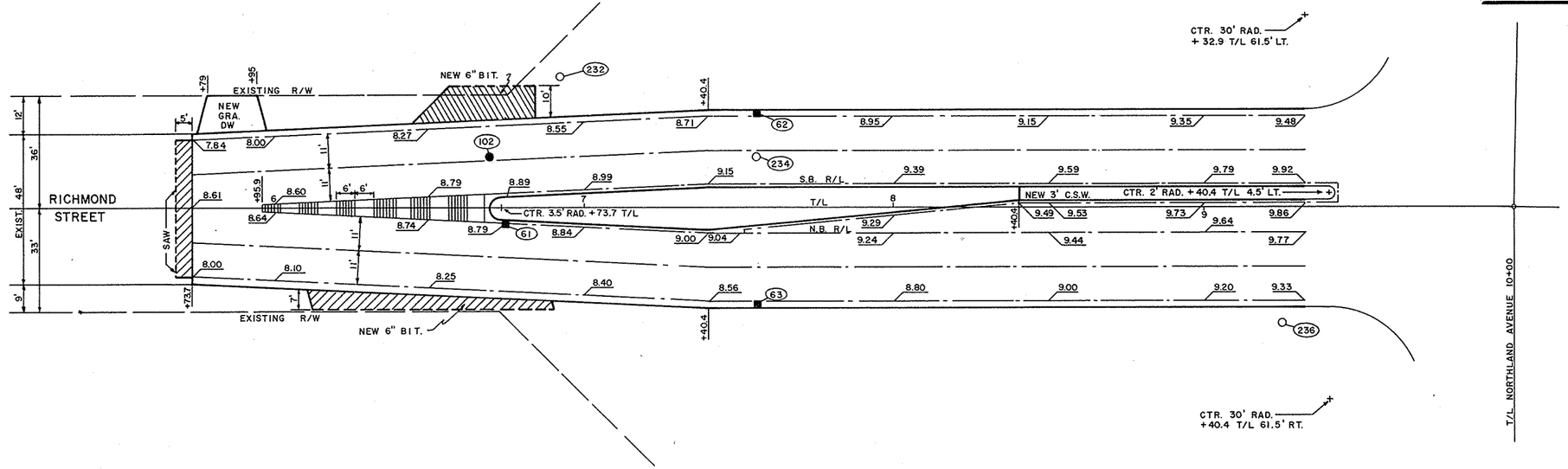
Cat. No. 2130 - D140

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	5.8

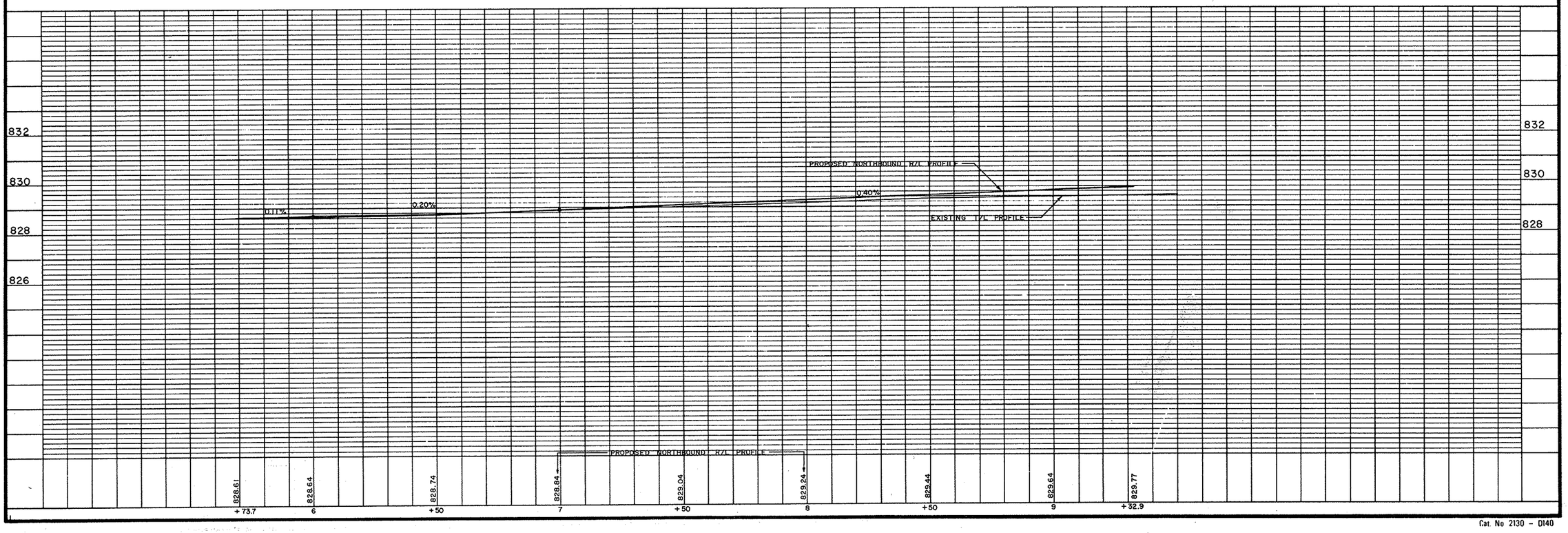


STATE PROJECT NUMBER	SHEET NO.
4984-0-42	59

RICHMOND STREET

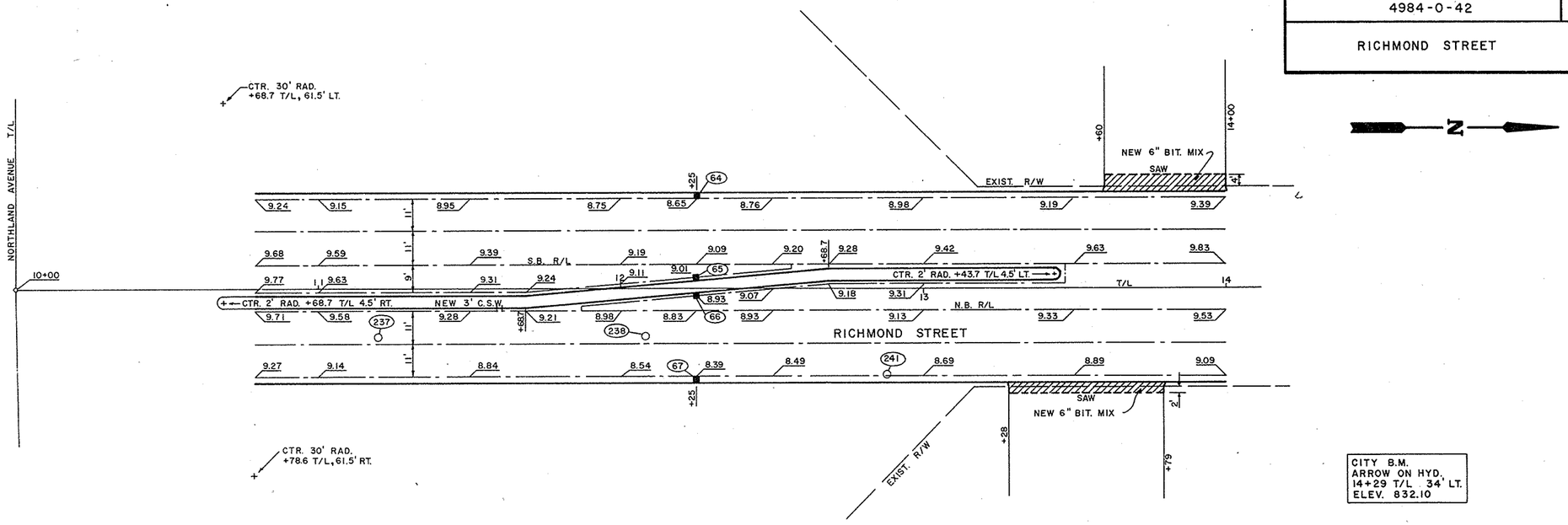


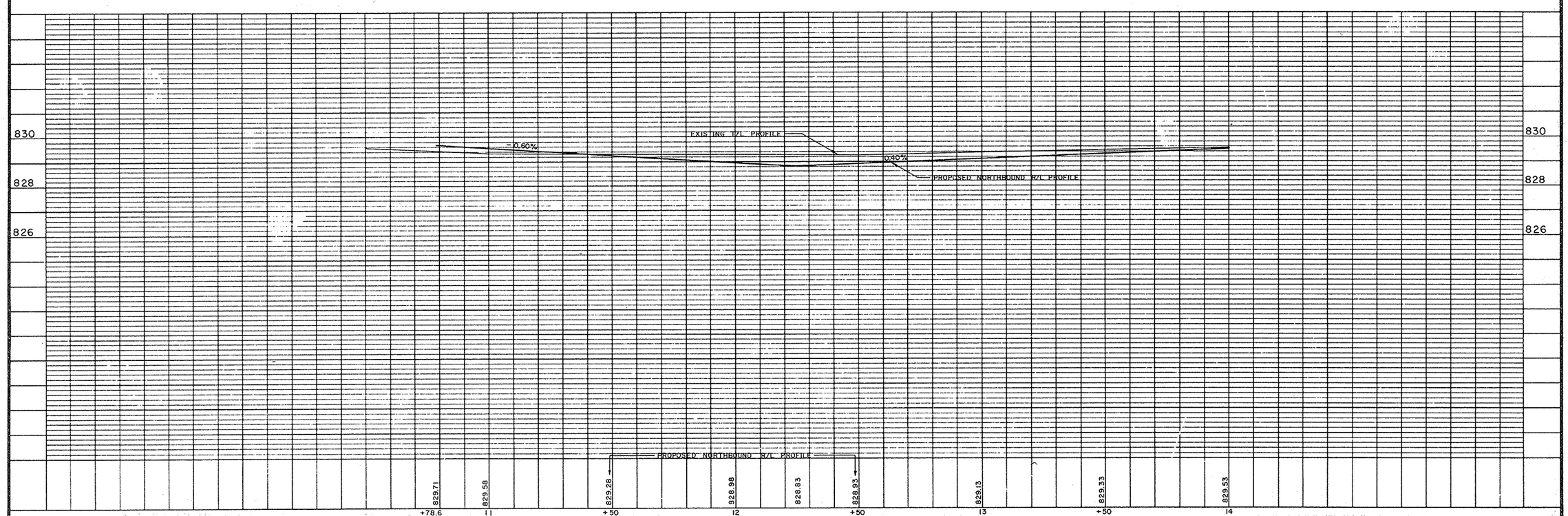
CITY B.M.
ARROW ON HYD.
9+36 T/L 34' LT.
ELEV. 831.34



Cat. No 2130 – D140

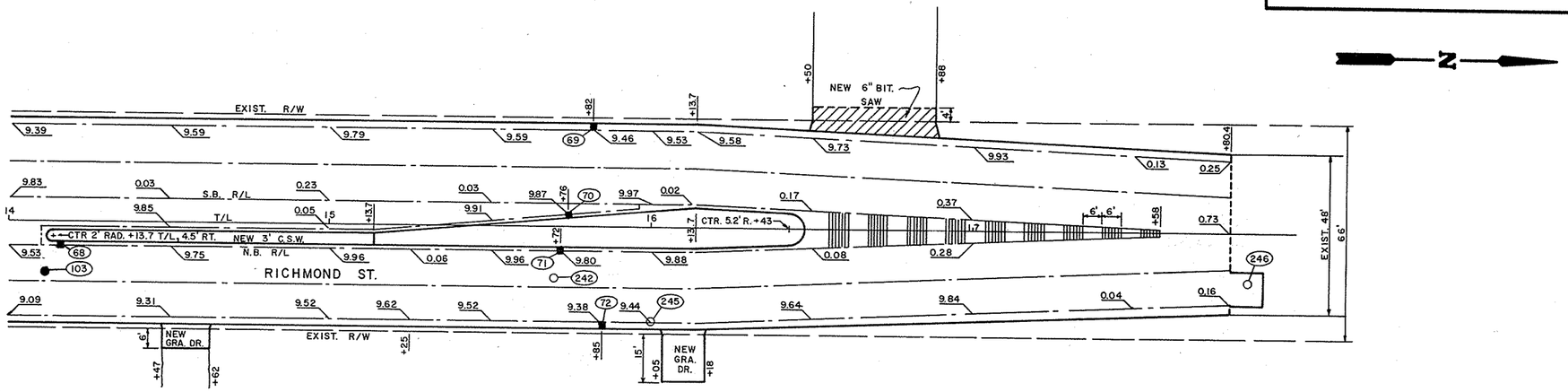
STATE PROJECT NUMBER	SHEET NO.
4984-0-42	5.10
RICHMOND STREET	

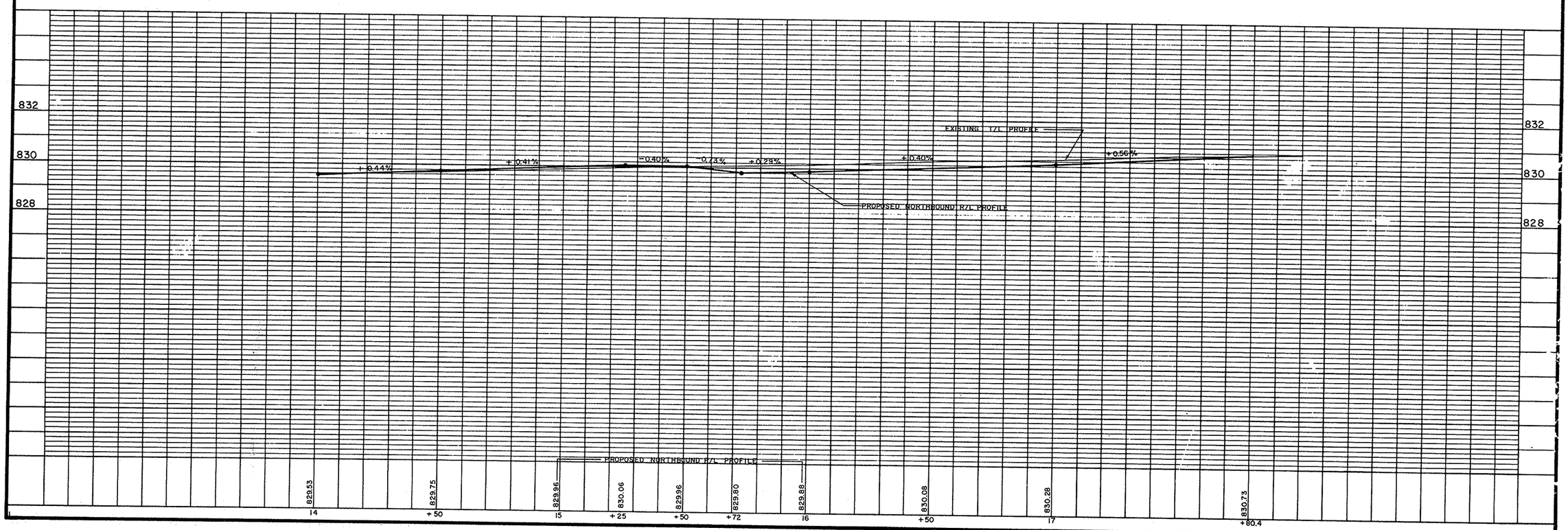




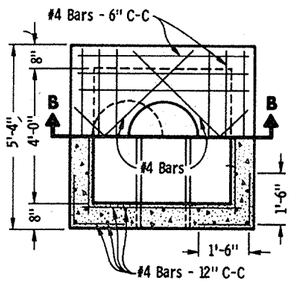
Cat. No. 2130 – 0140

STATE PROJECT NUMBER	SHEET NO.
4984-0-42	511
RICHMOND STREET	

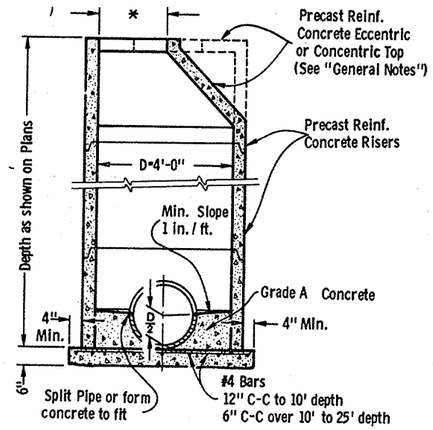




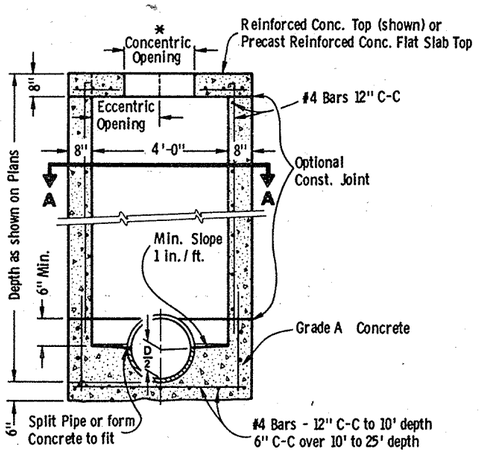
Cat. No. 2130 – 0140



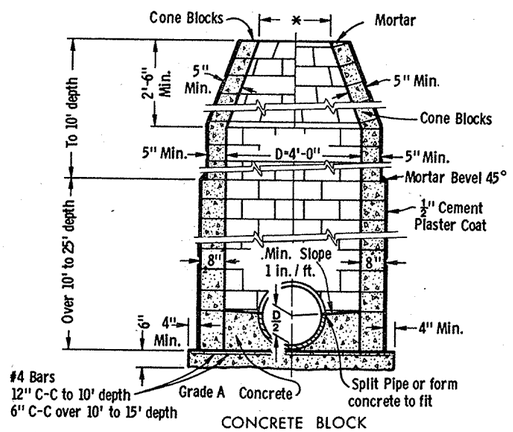
HALF SECTION A-A



PRECAST REINFORCED CONCRETE



SECTION B-B
REINFORCED CONCRETE



CONCRETE BLOCK

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detailed drawings for proposed alternate designs for underground drainage structures shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

All drainage structures are designated on the plans as "Manholes 1 - C", "Catch Basins 1 - B", "Inlets 1 - H", etc. The first digit designates the masonry portion of the structure, and the following letter designates the type of cover to be used to comprise the complete unit.

Precast Reinforced Bases shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding shall be compacted and provide uniform support for the entire area of the base.

Precast Reinforced Concrete Cone Tops (Eccentric or Concentric) may be used on concrete block structures. The Cone Tops shall be installed on a bed of mortar.

Eccentric Cone Tops may be used on all structures, and Concentric Cone Tops shall be used only on structures 5 feet or less in depth, unless otherwise directed by the Engineer.

Steps meeting the following requirements shall be installed in all structures over 5 feet in depth: 16 inch C-C maximum spacing; project a minimum clear distance of 4 inches from the wall at the point of embedment; minimum length of 10 inches; minimum wall embedment of 3 inches; and be capable of supporting a concentrated load of 300 lbs. Ferrous metal steps not painted or treated to resist corrosion shall have a minimum cross sectional dimension of 1 inch.

Solid Aluminum steps shall have a minimum cross sectional dimension of 0.75 inch. Aluminum surfaces to be embedded in concrete shall be given one coat of suitable quality paint, such as zinc chromate primer conforming to federal specification TT-P-645 or equivalent. Steps of approved Polypropylene plastic coated reinforcement bar will be acceptable.

All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

Precast Reinforced Concrete Risers may be placed with tongue up or down.

* Use 2'-0" diameter opening with type "C", "L" and "J" covers, or 3'-0" diameter with type "K" and "M" covers.

MANHOLES TYPE 1

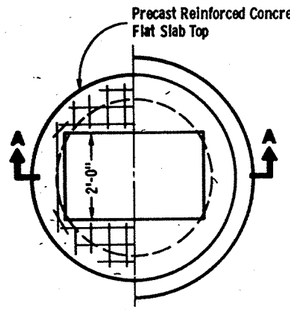
MANHOLES TYPE 1

State of Wisconsin
Department of Transportation
Division of Highways

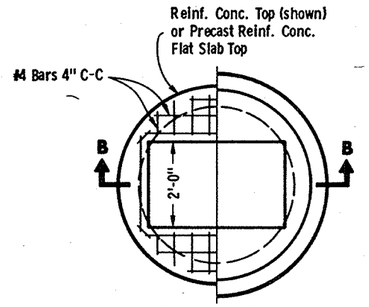
RECOMMENDED FOR APPROVAL:
12-3-75 DATE — CHIEF of FACILITIES DEVELOPMENT
APPROVED
12-9-75 DATE — STATE HIGHWAY ENGINEER

S.D.D. 8 B6-2

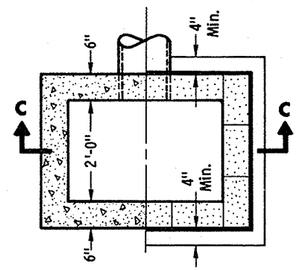
S.D.D. 8 B6-2



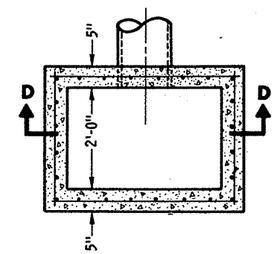
PLAN VIEW



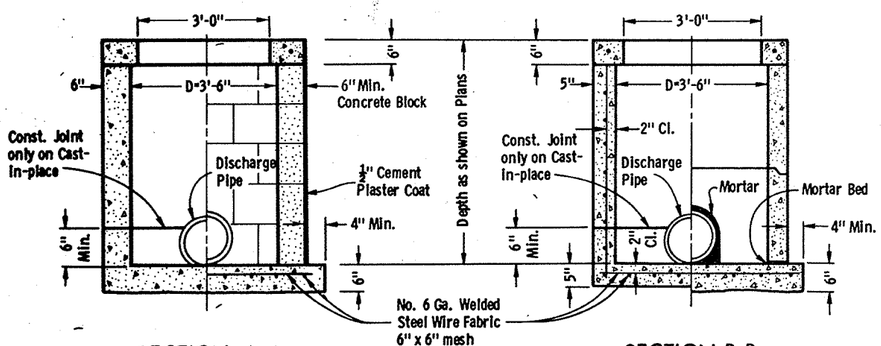
PLAN VIEW



PLAN VIEW



PLAN VIEW

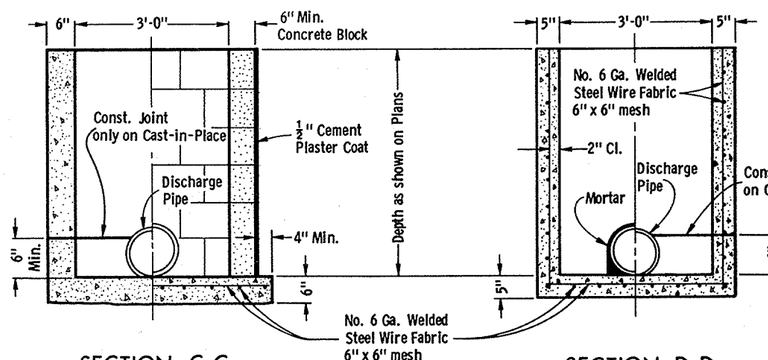


SECTION A-A

MONOLITHIC CONCRETE CONCRETE BLOCK

SECTION B-B

REINFORCED CONCRETE PRECAST REINFORCED CONCRETE



SECTION C-C

MONOLITHIC CONCRETE CONCRETE BLOCK

SECTION D-D

PRECAST REINFORCED CONCRETE REINFORCED CONCRETE

INLETS TYPE 3

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detailed drawings for proposed alternate designs for underground drainage structures shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

Square Precast Inlet units shall conform to the pertinent requirements of AASHTO Designation M 199.

All drainage structures are designated on the plans as "Manholes 1 - C", "Catch Basins 1 - B", "Inlets 1 - H", etc. The first digit designates the masonry portion of the structure, and the following letter designates the type of cover to be used to comprise the complete unit.

Precast Reinforced Bases shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding shall be compacted and provide uniform support for the entire area of the base.

Precast Reinforced Concrete Flat Slab Tops may be used on the structures. The Tops shall be installed on a bed of mortar.

All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

Precast Reinforced Concrete Risers may be placed with tongue up or down.

INLETS TYPE 3

State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL:

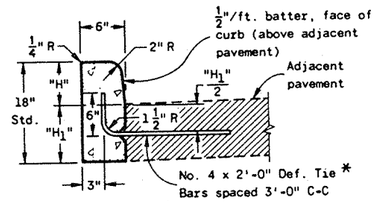
10-16-75 DATE — CHIEF of FACILITIES DEVELOPMENT

APPROVED

10-16-75 DATE — STATE HIGHWAY ENGINEER

S.D.D. 8C2-3

S.D.D. 8C2-3

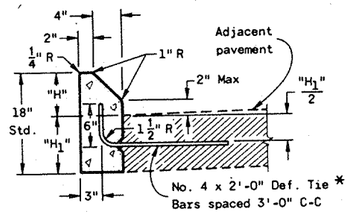


"H" = 9" Max. and $3\frac{1}{2}$" Min. and shall be 6" unless otherwise shown on the plans.

"H_1" = Same as adjacent pavement thickness for rigid pavement and 12" for non-rigid pavement (Tie Bars omitted).

TYPE "A" (INCLUDING TIE BARS) **TYPE "D"** (EXCLUDING TIE BARS)

CONCRETE CURB

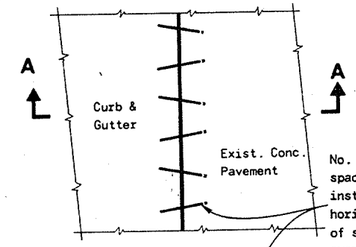


"H" = 6" Max. and 4" Min. and shall be 6" unless otherwise shown on the plans.

"H_1" = Same as adjacent pavement thickness for rigid pavement and 12" for non-rigid pavement (Tie Bars omitted).

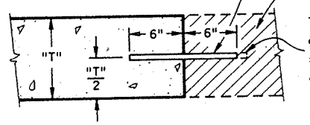
TYPE "G" (INCLUDING TIE BARS) **TYPE "J"** (EXCLUDING TIE BARS)

CONCRETE CURB



PLAN VIEW

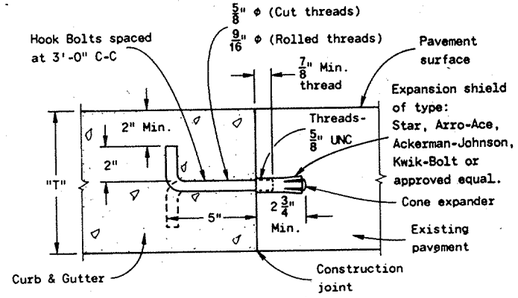
No. 6 x 12" Def. Bars spaced 3'-0" C-C, installed on 6:1 skew horizontally. Direction of skew alternating after every one or two bars.



The hole for the bar shall be drilled to a depth of 7" & to such a diameter as to provide a tight driven fit.

SECTION **A - A**

PAVEMENT TIES EXISTING PAVEMENT
(Driven Tie Bar Alternate)



PAVEMENT TIES EXISTING PAVEMENT
(Hook Bolt Alternate)

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Joints shall not be sealed in concrete curb, or concrete curb & gutter.

* In lieu of tie bars placed during construction, the Driven Tie Bar Alternate may be used. Contractor may drill either concrete curb, concrete curb & gutter, or concrete pavement.

Where the adjacent pavement will be bituminous concrete, $\frac{3}{4}$ inch expansion joints shall be installed in the Concrete Curb or Concrete Curb & Gutter. These expansion joints shall be located about 3 feet from each end of all catch basins or inlets, at all locations where tangent and radial curb and gutter meet, and on tangent sections at a maximum spacing of 300 feet.

The bottom of the curb and gutter may be constructed parallel to subgrade or base course provided a minimum of 6 inches depth of concrete is maintained at the flow line.

INTEGRAL CURB AND GUTTER ALTERNATE

Unless otherwise specified in the contract, Integral Curb & Gutter may be built as an alternate to Curb & Gutter.

Integral Curb & Gutter shall be measured and paid for as Curb & Gutter.

** Pay limits for Concrete Integral Curb & Gutter.

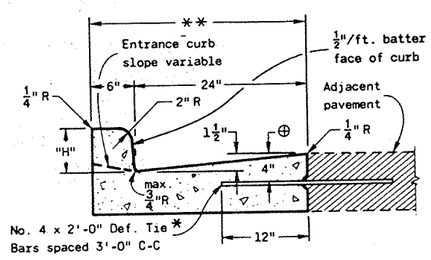
The limits of the base course, if used, are shown on the typical cross sections elsewhere in the plans. Any additional width of base course necessary to accomodate paving equipment will be at the contractor's expense.

Pavement reinforcing steel and load transfer dowels will not be required within the pay limits of Integral Curb & Gutter.

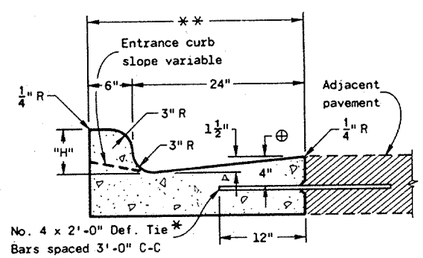
Contraction, construction or expansion joints shall be continuous through the Integral Curb & Gutter. The joints in Integral Curb & Gutter shall be spaced the same as the joints in the pavement.

The thickness of curb & gutter at the pavement edge shall be $7\frac{1}{2}$" min.

⊕ = Or center of pavement, whichever is less.



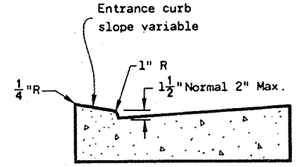
TYPE "A" (INCLUDING TIE BARS) **TYPE "D"** (EXCLUDING TIE BARS)



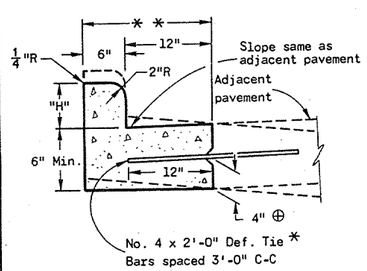
"H" = 9" Max. $3\frac{1}{2}$" Min. and shall be 6" unless otherwise shown on the plans.

TYPE "K" (INCLUDING TIE BARS) **TYPE "L"** (EXCLUDING TIE BARS)

CONCRETE CURB & GUTTER 30"

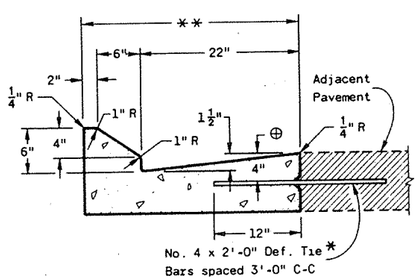


ALTERNATE ENTRANCE CURB
(When directed by the Engineer)



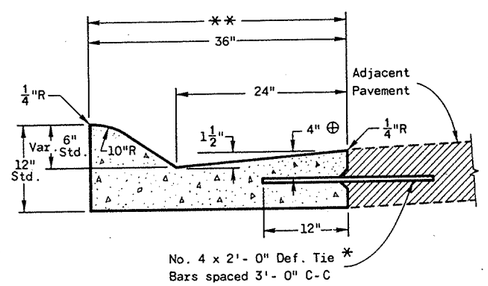
TYPE "A" (INCLUDING TIE BARS) **TYPE "D"** (EXCLUDING TIE BARS)

CONCRETE CURB & GUTTER 18"



TYPE "G" (INCLUDING TIE BARS) **TYPE "J"** (EXCLUDING TIE BARS)

CONCRETE CURB & GUTTER 30"



TYPE "A" (INCLUDING TIE BARS) **TYPE "D"** (EXCLUDING TIE BARS)

CONCRETE CURB & GUTTER 36"

CONCRETE CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER, or INTEGRAL CURB

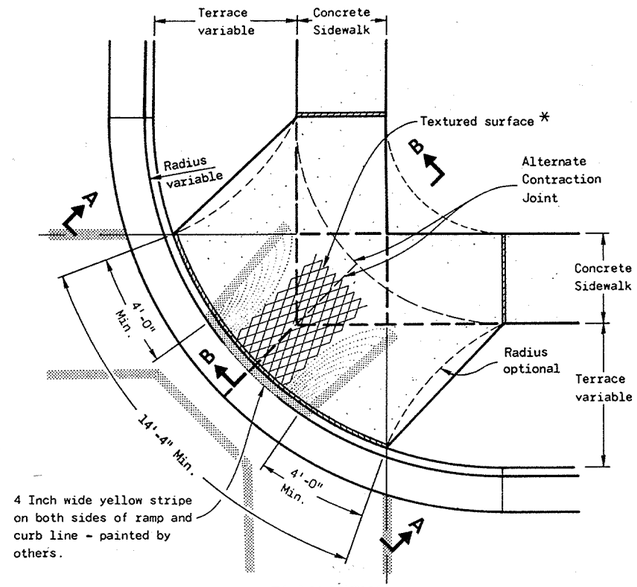
State of Wisconsin
Department of Transportation

APPROVED 4-23-80 DATE — CHIEF DESIGN ENGINEER

FHWA

S.D.D. 8 D 1-5

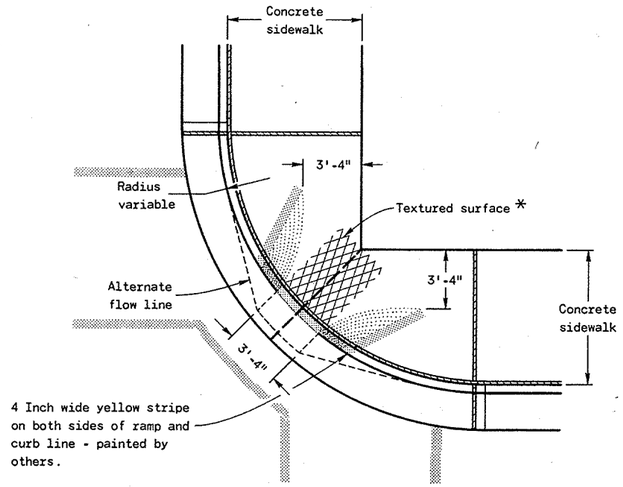
S.D.D. 8 D 1-5



PLAN VIEW

TYPE 1 RAMP

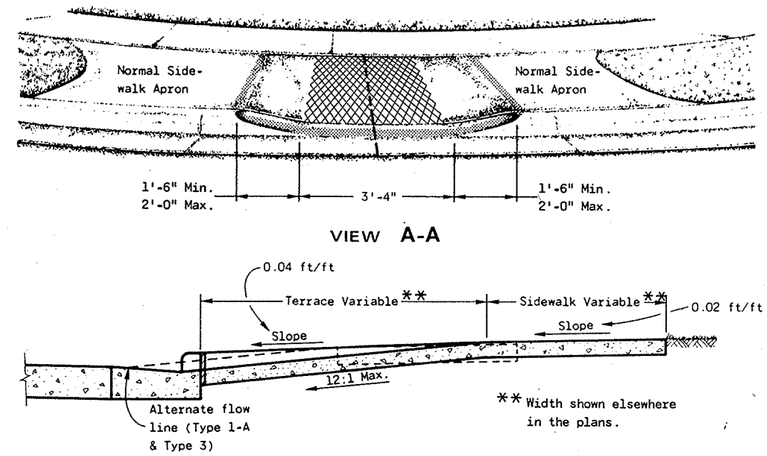
(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

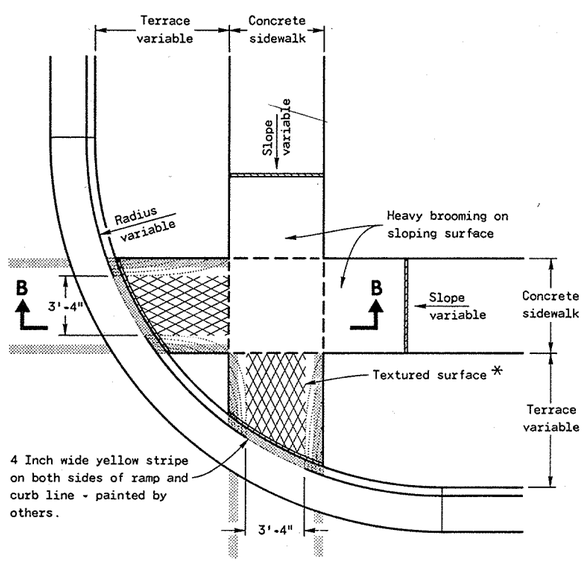


SECTION **B-B**

EXPANSION JOINTS

CONTRACTION JOINTS

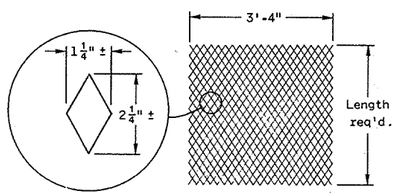
Location of joints may be varied from those shown to better fit site conditions and/or local government preference.



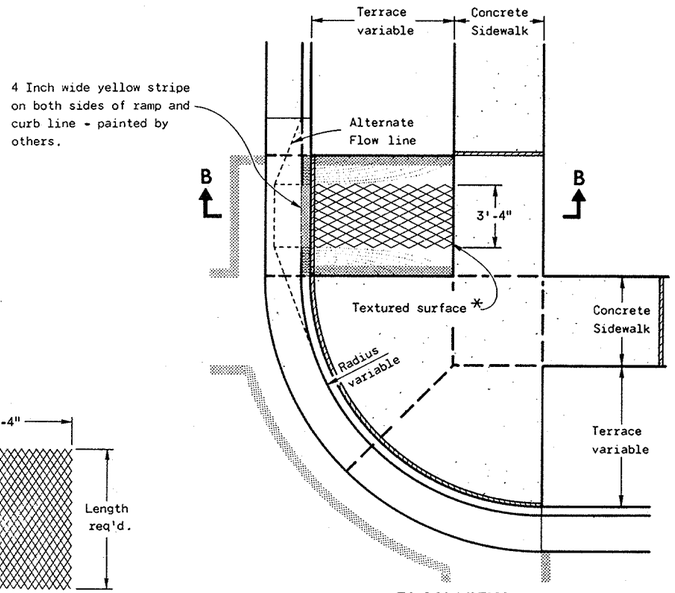
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



DETAIL OF DIAMOND PATTERN *



PLAN VIEW

TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Ramps shall be built at 12:1 or flatter. When necessary, the sidewalk elevation may be lowered to meet the high point on the ramp.

Type 1 or Type 1-A Ramps shall have a normal sidewalk apron and curb on both sides of ramp.

Curb ramps shall be measured and paid for as Concrete Sidewalk and Concrete Curb and Gutter.

* Surface texturing shall consist of linear impressions approximately $\frac{1}{4}$ inch to $\frac{3}{8}$ inch in depth and width, oriented to provide a uniform pattern of diamond shapes measuring approximately $1\frac{1}{4}$ inches in width by $2\frac{1}{4}$ inches in length, with the length being parallel to the direction of pedestrian movement. This surface texture may be achieved by impressing and removing a piece of expanded metal regular industrial mesh into the surface of the ramp while the concrete is in a plastic state.

Section 66.616, Wisconsin Statutes prescribes the standards for curb ramping. This drawing reflects requirements of this law.

The law requires that the ramp be bordered on both sides and on the curb line with a 4 inch wide yellow stripe or with brick of a contrasting color. Normally the paint stripe alternate will be used. The municipality or the department will apply this striping.

If a municipality requires the brick alternate, special details and provisions are shown elsewhere in the plans.

CURB RAMPS

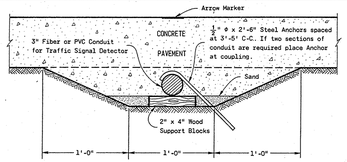
State of Wisconsin
Department of Transportation

APPROVED 6-26-80 DATE

D. J. Strand CHIEF DESIGN ENGINEER

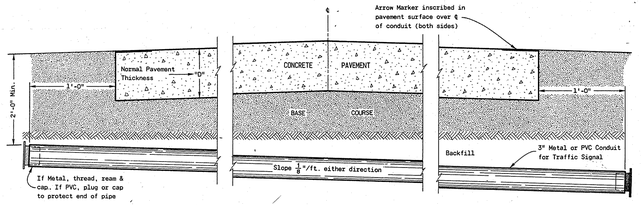
FHWA

S.D.D. 8 D 5 - 6



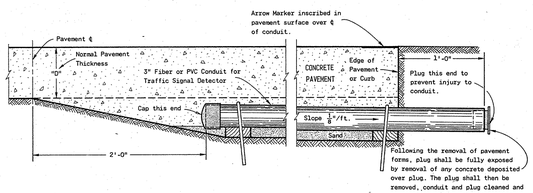
END ELEVATION

TRAFFIC SIGNAL DETECTOR CONDUIT



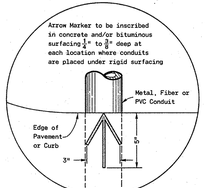
SIDE ELEVATION

DETAIL FOR TRAFFIC SIGNAL CONDUIT FOR DIVIDED OR UNDIVIDED HIGHWAYS



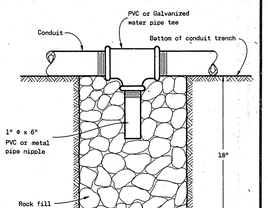
SIDE ELEVATION

DETAIL FOR TRAFFIC SIGNAL DETECTOR CONDUIT FOR UNDIVIDED HIGHWAYS



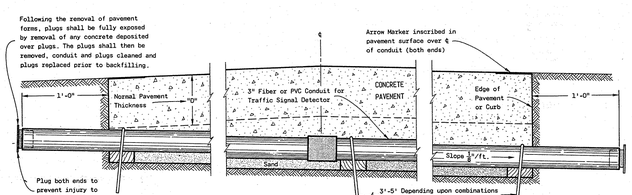
PLAN VIEW

ARROW MARKER



NOTE: Install at locations where conduits cannot be pitched to drain

DRAIN SUMP FOR CONDUIT



SIDE ELEVATION

DETAIL FOR TRAFFIC SIGNAL DETECTOR CONDUIT FOR DIVIDED HIGHWAYS

GENERAL NOTES

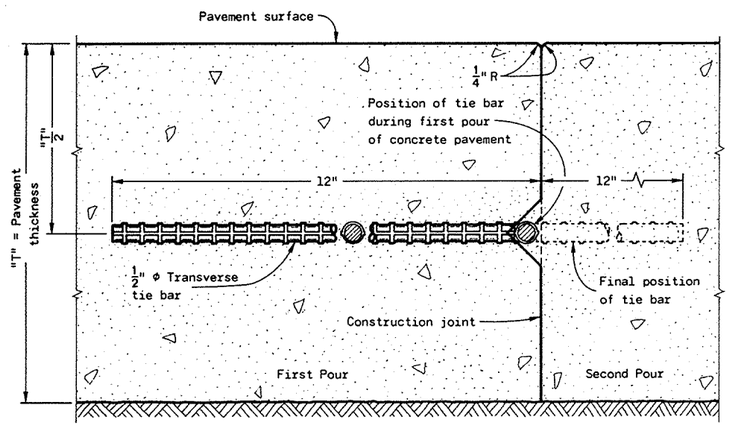
Details of Construction not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and Special Provisions.

Metal, Fiber or PVC Conduit shall be furnished and placed as shown hereon and in accord with the Standard Specifications.

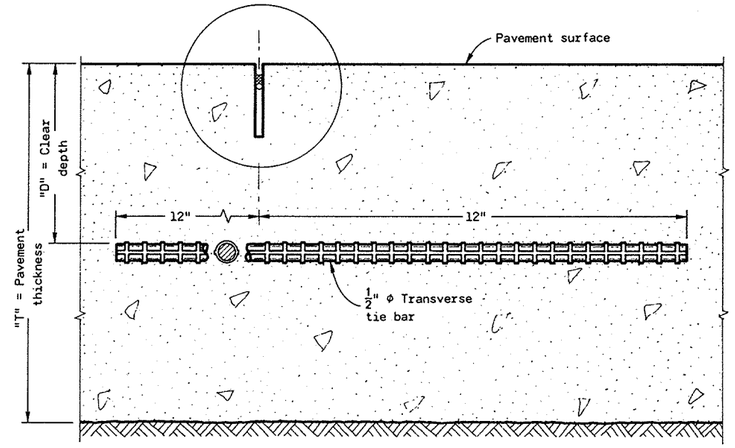
For station location of conduit see Construction Plans.

METAL, FIBER & PVC CONDUIT	
State of Wisconsin Department of Transportation Division of Transportation Facilities	
APPROVED 10-17-79 DATE	CHIEF DESIGN ENGINEER

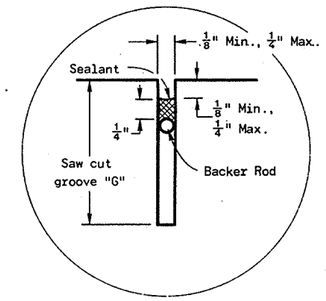
S.D.D. 9 B 2-2



CONSTRUCTION JOINT



SAWED JOINT



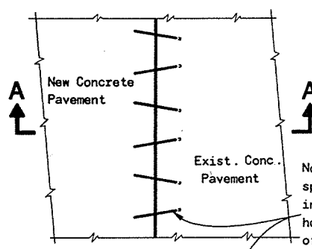
Pavement Thickness "T"	Clear Depth "D"	Saw Cut Groove "G"	Maximum Tie Bar Spacing "S"
6"	$2\frac{1}{2}$" - $3\frac{3}{4}$"	$1\frac{1}{2}$"	48"
7"	$2\frac{1}{2}$" - $4\frac{1}{4}$"	$1\frac{1}{2}$"	42"
8"	$2\frac{3}{4}$" - $4\frac{3}{4}$"	$1\frac{1}{2}$"	36"
9"	$3\frac{1}{4}$" - $5\frac{1}{4}$"	$1\frac{1}{2}$"	36"
10"	$3\frac{3}{4}$" - $5\frac{3}{4}$"	2"	30"
11"	$4\frac{1}{2}$" - $6\frac{1}{4}$"	$2\frac{1}{2}$"	24"
12"	$4\frac{3}{4}$" - $6\frac{3}{4}$"	3"	24"

GENERAL NOTES

Details of construction not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions

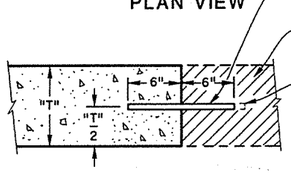
Sawed type longitudinal joints shall be sealed as specified in the plans or special provisions.

Construction type longitudinal joints shall not be sealed.



PLAN VIEW

No. 6 x 12" Def. Bars spaced 3'-0" C-C, installed on 6:1 skew horizontally. Direction of skew alternating after every one or two bars.

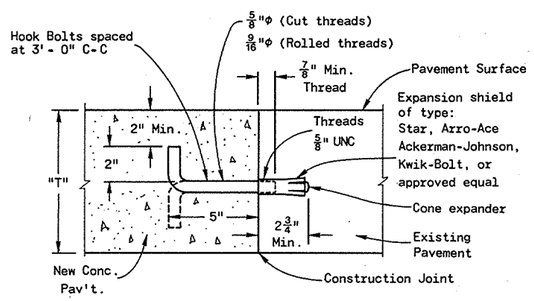


The hole for the bar shall be drilled to a depth of 7" and to such a diameter as to provide a tight driven fit.

SECTION A–A

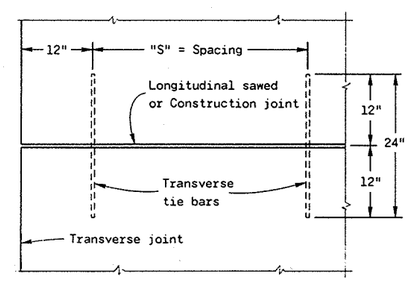
PAVEMENT TIES EXISTING PAVEMENT

(Driven Tie Bar Alternate)



PAVEMENT TIES EXISTING PAVEMENT

(Hook Bolt Alternate)



PLAN VIEW

Showing location of Tie Bars.

CONSTRUCTION JOINT

(PAVEMENT WIDENING)

CONCRETE PAVEMENT
LONGITUDINAL JOINTS

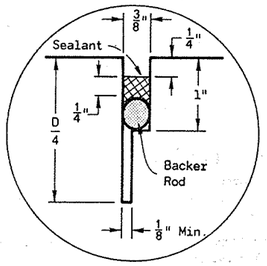
State of Wisconsin
Department of Transportation

APPROVED 9/2/80
DATE

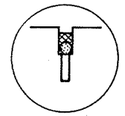
CHIEF, DESIGN ENGINEER

FHWA

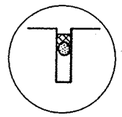
S.D.D. 13 C1 – 5



JOINT DETAIL

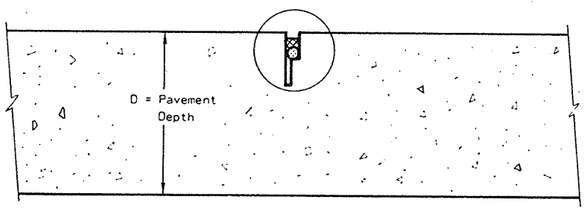


OPTIONAL JOINT SHAPE

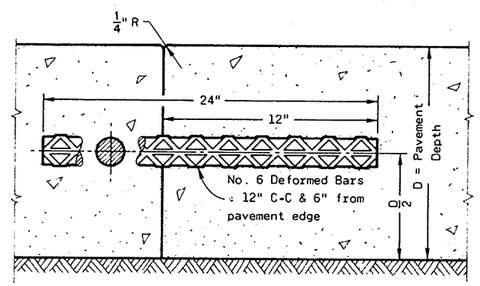


OPTIONAL JOINT * SHAPE

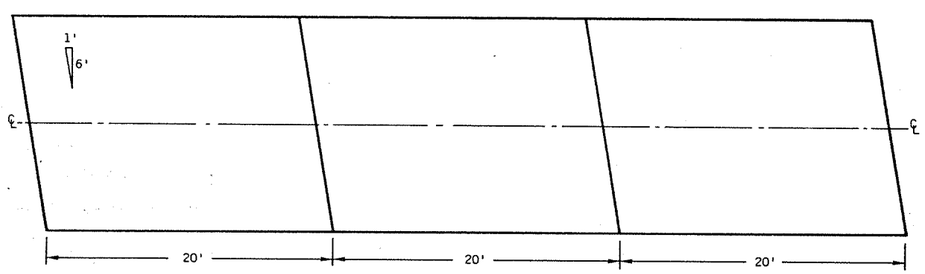
* The joint may be sawed full width 3/8" x D/4 provided the backer rod can be installed to adequately support the sealant at the position shown in the joint detail.



CONTRACTION JOINT



CONSTRUCTION JOINT



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

Details of construction not shown on this drawing shall conform to Standard Specifications and Special Provisions

CONTRACTION JOINTS

Contraction Joints shall be located at a uniform spacing of 20'(±1') and be skewed RHF. Exceptions such as contraction joints through intersections, shall be as directed by the engineer.

Contraction Joints shall be sealed with a one-component, cold poured, silicone rubber sealant conforming to Federal Specifications TT-S-1543, Class A and TT-S-230, Class A

CONSTRUCTION JOINTS

Construction joints shall be located a minimum of 4 feet from the nearest contraction joint and may be constructed either parallel to contraction joints or at 90° to the centerline.

NON-REINFORCED CONCRETE PAVEMENT
(20' Skewed Transverse Joints With Poured Type Sealer)

State of Wisconsin
Department of Transportation
Division of Transportation Facilities

APPROVED 12-17-80 DATE — CHIEF DESIGN ENGINEER

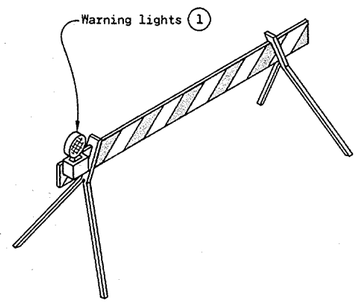
FHWA

S.D.D. 13 C 3-2

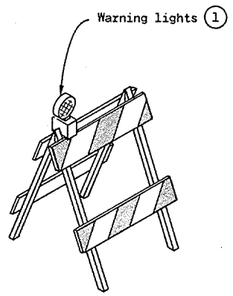
TABLE OF BARRICADE CHARACTERISTICS

BARRICADE TYPE	I	II	III
Height	3' Minimum		5' Minimum
*Rail Width	8" Minimum to 12" Maximum		
Rail Length	2' Minimum		4' Minimum
**Stripe Width	6" at 45° Angle		
Stripe Colors	Reflectorized Orange & White		

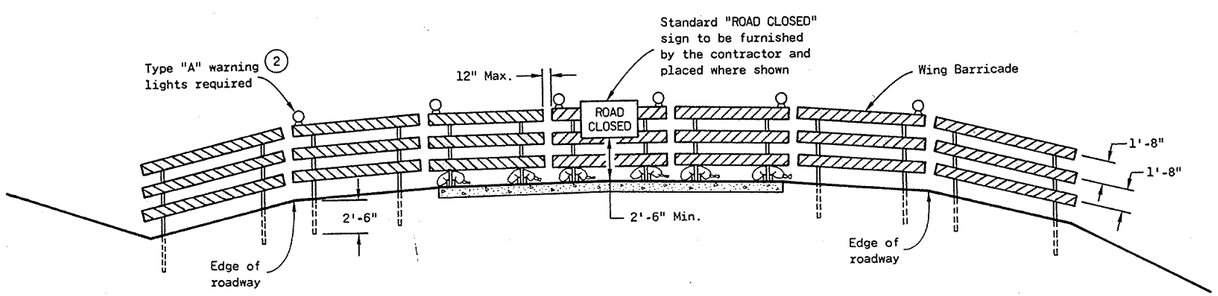
* Nominal dimensions when barricade is constructed of lumber.
** Shall be 4" for rail lengths less than 3'.



TYPICAL TYPE I BARRICADE



TYPICAL TYPE II BARRICADE



TYPICAL INSTALLATION SHOWING TYPE III BARRICADE

CONSTRUCTION BARRICADES

R11-2

48" x 30"

Black Lettering on Reflective White Background

Letter Series "D"
Letter height 8"

W20-3

48" x 48"

Black Lettering on Reflective Orange Background

Letter Series "D"
Letter height 7"

STANDARD SIGNS - TYPE II

GENERAL NOTES

The contractor shall furnish, erect and maintain barricades and signs. Details regarding location, spacing, dimensions, fabrication, material, sign lettering, lighting devices and color of barricades and signs shall conform to this drawing, the Manual On Uniform Traffic Control Devices, the Standard Specifications, Special Provisions and/or plans.

Type III Barricades and Signs shall be erected at the termini of projects and at other road or street locations where it is necessary to control or eliminate public access to the construction area.

Type I and II Barricades shall be used on projects when traffic is to be maintained through the construction area.

The actual field location of barricade installations and advance signs shall be as directed by the Engineer.

Each barricade shall have the name and telephone number of a person responsible for 24 hour emergency service printed in letters at least $\frac{3}{4}$ inch in height on the barricade rails. Prior to May 1, 1983, such information may be shown on either front or back faces of the barricade rails. After May 1, 1983, all printed information or identification markings shall be shown only on the back side of barricade rails.

Type I Barricades may include other unstriped horizontal panels necessary to provide stability.

On high speed expressways or in other situations where barricades may be susceptible to overturning in the wind, sandbags should be used for ballasting. Sandbags may be placed on lower parts of the frame or stays to provide the required ballast but shall not be placed on top of any striped rail.

(1) Unless otherwise provided elsewhere in the contract, warning lights are required on all barricades which will be located near traffic operations during periods of inclement weather or hours of darkness. Barricades used to shield isolated hazards shall be equipped with Type "A" (low intensity - flashing) lights unless Type "B" (high intensity)- flashing) lights are specified elsewhere in the contract documents. Barricades used for channelization or delineation of the travel path shall be equipped with Type "C" (steady burn) lights except for the initial barricade(s) in sequence, which shall be equipped with Type "A" or "B" lights as previously noted.

(2) Two warning lights shall be provided on the center barricade and at least one warning light shall be provided on each of the other barricades within the roadway limits. Spacing of the warning lights shall be uniform to the edge of roadway as shown.

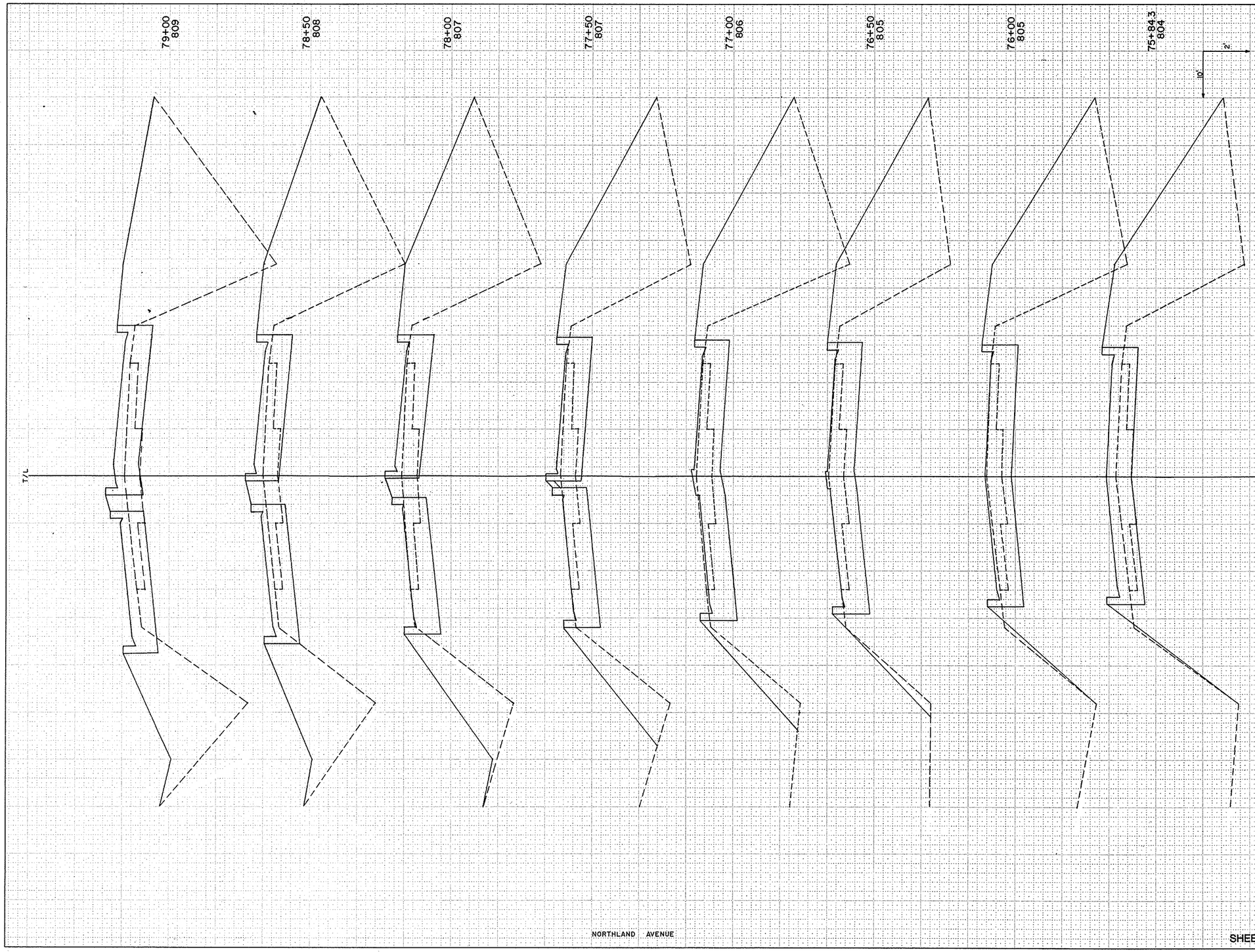
CONSTRUCTION BARRICADES
& STANDARD SIGNS

State of Wisconsin
Department of Transportation

APPROVED
9-14-81
DATE
FHWA

D. J. Ahrens
CHIEF DESIGN ENGINEER

S.D.D. 15 C 1-7



STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	9

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
75+74.3						
	57'	37				73
76+00						
	50'	110				216
76+50						
	50'	115				234
77+00						
	50'	114				263
77+50						
	50'	108				275
78+00						
	50'	98				327
78+50						
	50'	83				373
79+00						
SHEET TOTAL		665				1761

STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	9

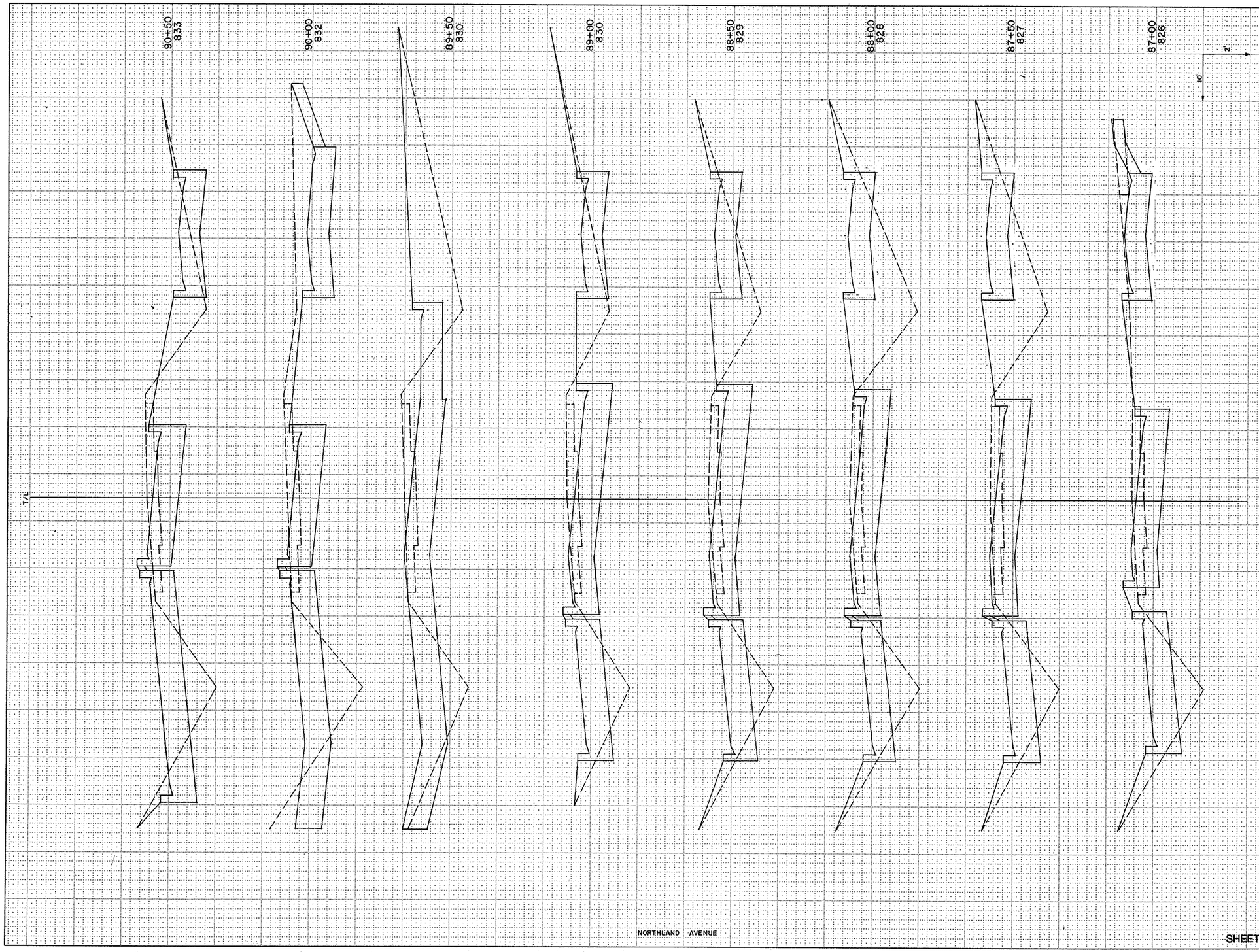
STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
79+00						
79+50	50'	76				409
80+00	50'	83				326
80+50	50'	88				237
80+78.34	28.34'	45				116
81+11.34	33'	136				52
81+44.34	33'	129				78
82+00	56.66'	76				194
82+50	50'	98				107
SHEET TOTAL		731				519

NORTHLAND AVENUE

Catalog No. 2130-C121

STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	92

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
82+50						
	50'	110				96
83+00						
	43.3'	104				78
83+433						
	56.7'	135				160
84+00						
	50'	130				121
84+50						
	50'	122				79
85+00						
	50'	91				104
85+50						
	50'	89				97
86+00						
	50'	88				89
86+50						
SHEET TOTAL		869				824



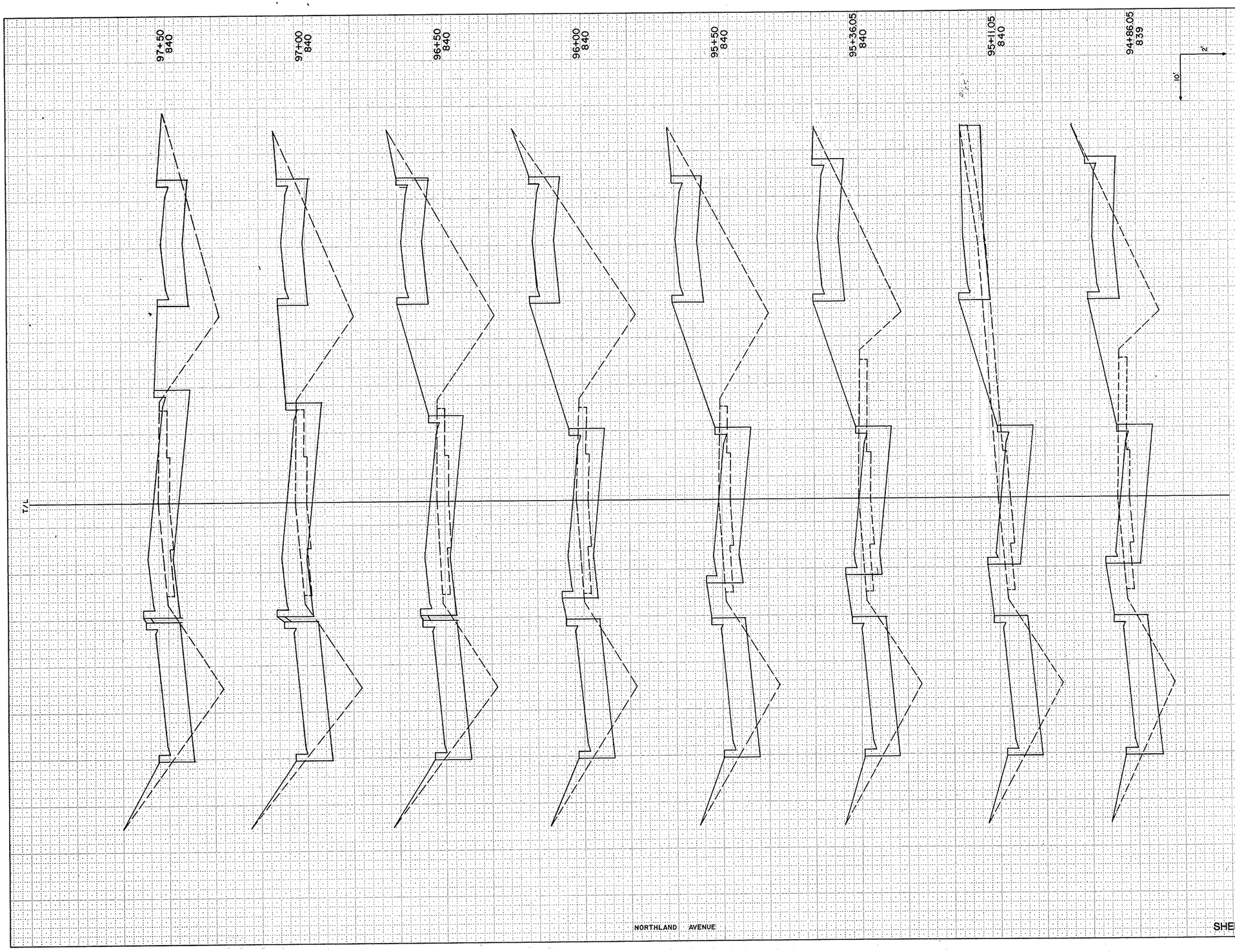
STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	9

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
86+50						
	50'	121				46
87+00						
	50'	137				28
87+50						
	50'	123				53
88+00						
	50'	136				42
88+50						
	50'	158				31
89+00						
	50'	166				59
89+50						
	50'	212				42
90+00						
	50'	202				8
90+50						
SHEET TOTAL		1255				309

STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	94

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
90+50						
	50'	226				8
91+00						
	50'	224				12
91+50						
	50'	166				26
92+00						
	50'	151				29
92+50						
	50'	115				28
93+00						
	50'	124				27
93+50						
	50'	140				39
94+00						
	50'	123				56
94+50						
SHEET TOTAL		1269				225

Catalog No. 0100-0101



STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	95

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
94+50						
94+86.05	36.05'	68				47
95+11.05	25'	48				27
95+36.05	25'	43				31
95+00	13.95'	21				27
96+00	50'	73				113
96+50	50'	71				79
97+00	50'	71				76
97+50	50'	76				61
SHEET TOTAL		471				461

Catalog No. 2130-C121

STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	96

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
97+50						
98+00	50'	97				47
98+41.18	41.18'	94				59
98+71.18	30'	96				32
99+01.18	30'	102				10
99+50	48.82'	150				29
100+00	50'	196				14
100+50	50'	172				9
101+00	50'	112				26
SHEET TOTAL		1019				226

NORTHLAND AVENUE

Catalog No. 2130-C121

STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	9.7

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
101+00						
101+50	50'	93				41
102+11.02	61.02'	94				68
102+41.02	30'	57				31
102+71.02	30'	61				32
103+00	28.98'	55				38
103+50	50'	125				42
104+00	50'	137				19
104+50	50'	132				19
SHEET TOTAL		754				290

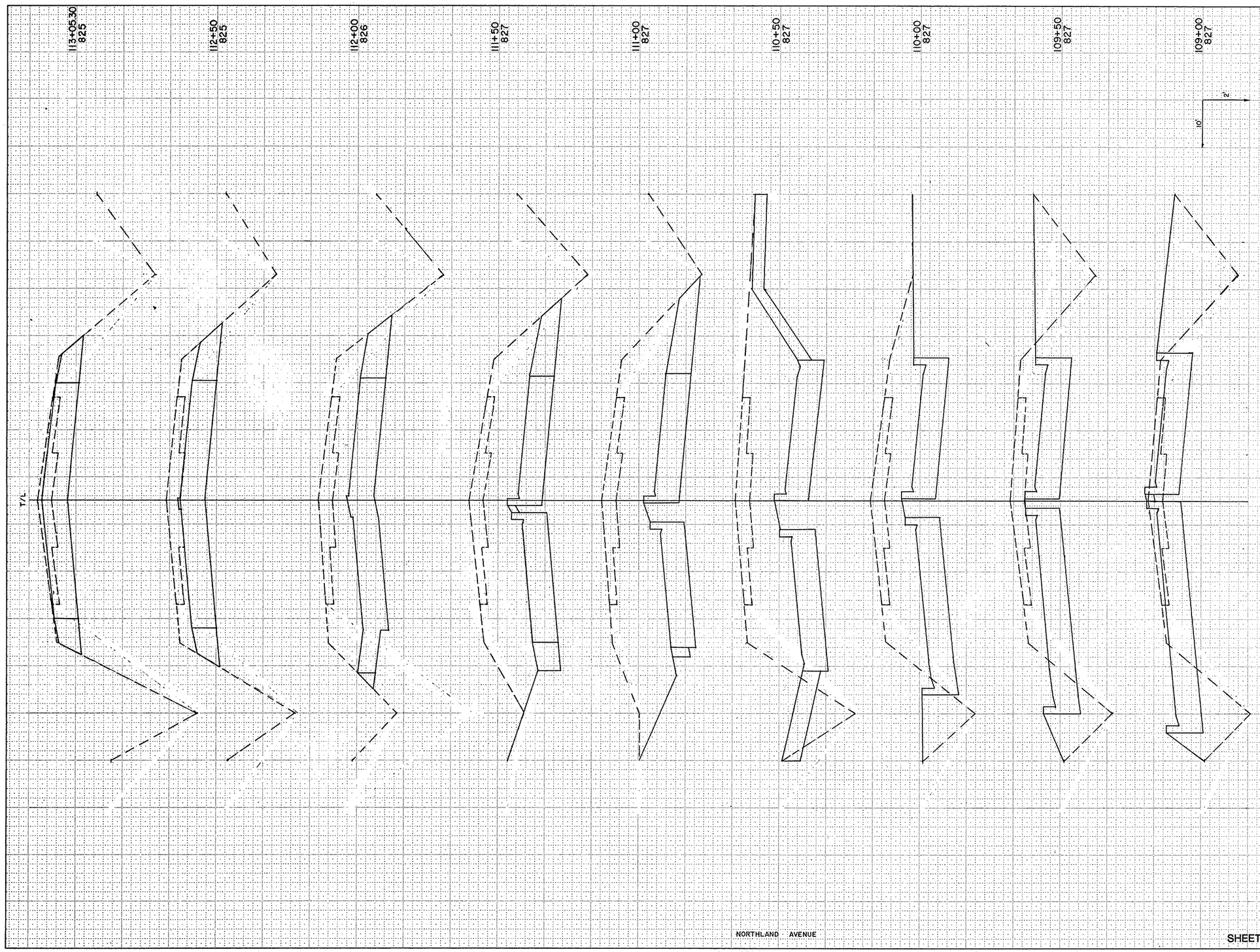
NORTHLAND AVENUE

Catalog No. 2130-C121

STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	9.8

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
104+50						
105+00	50'	114				20
105+50	50'	94				27
106+00	50'	84				48
106+50	50'	67				142
107+00	50'	63				148
107+43.84	43.84'	115				32
108+00	56.16'	135				24
108+50	50'	78				70
SHEET TOTAL	750					511

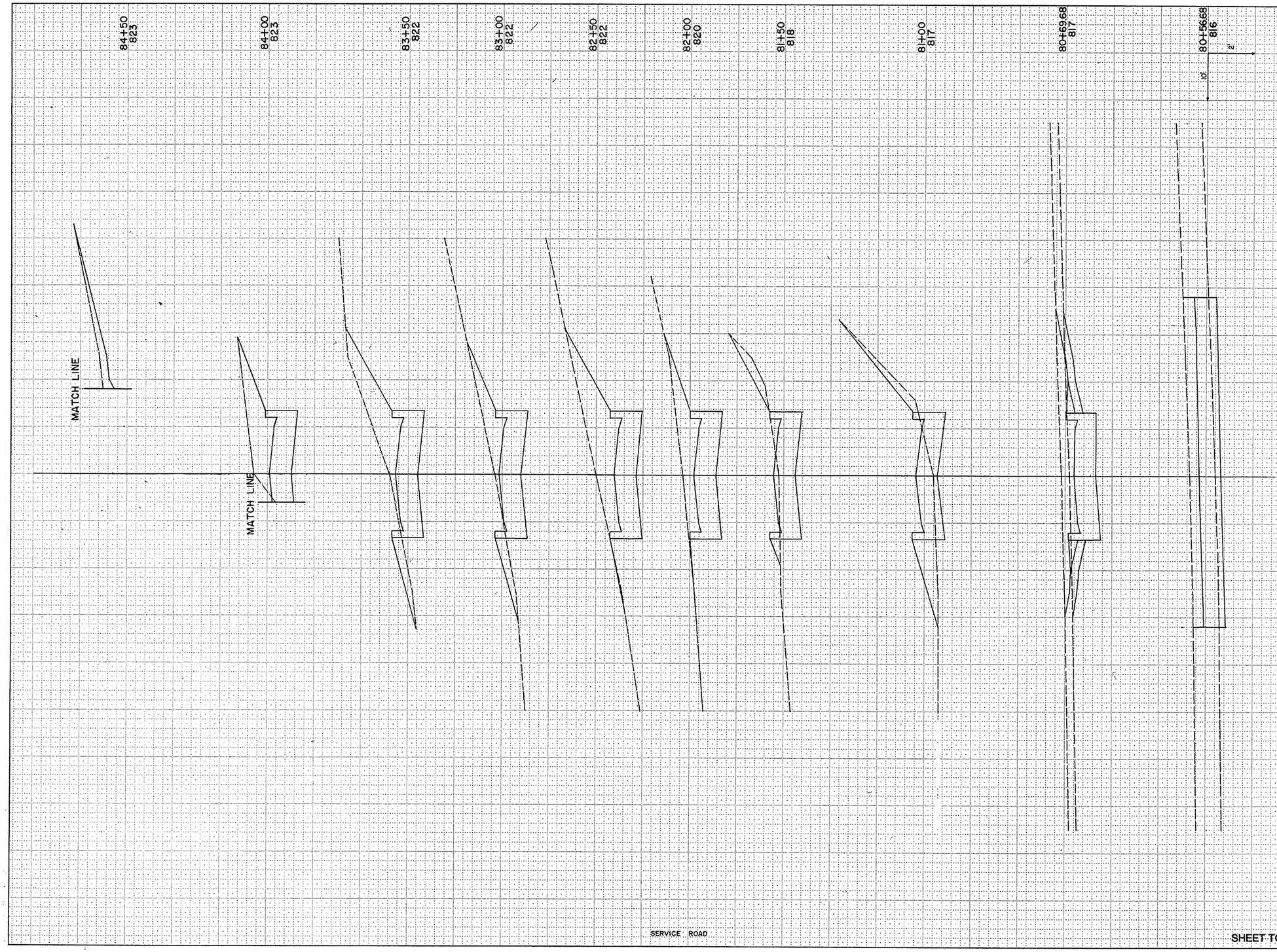
NORTHLAND AVENUE



STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	99

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
108+50						
109+00	50'	127				93
109+50	50'	195				81
110+00	50'	302				47
110+50	50'	405				11
111+00	50'	466				0
111+50	50'	466				0
112+00	50'	376				0
112+50	50'	247				0
113+05.3	55.30'	176				0
113+25.3	20'	31				
SHEET TOTAL		2791				232

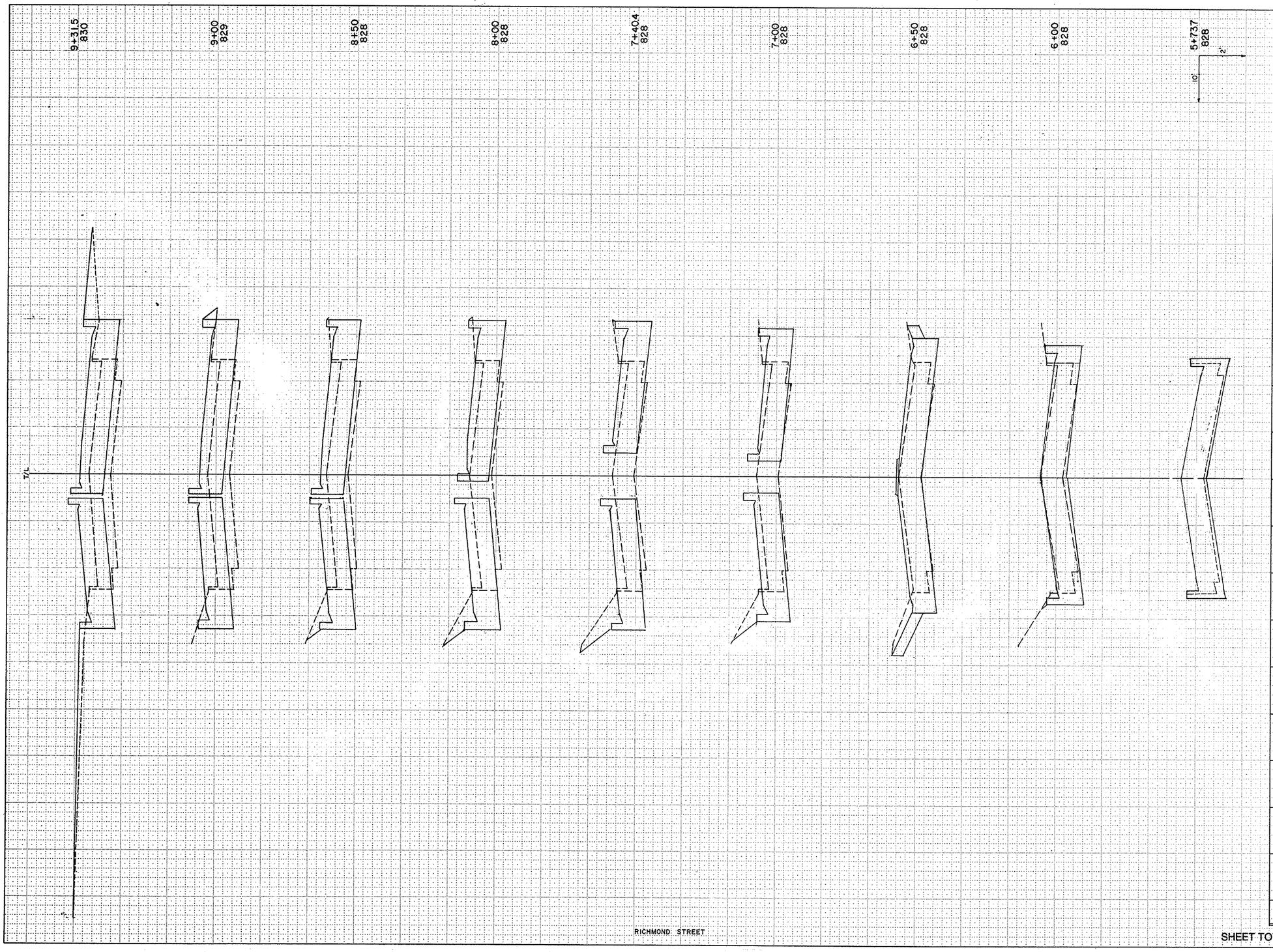
Catalog No. 2130-C121



STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	9.10

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
80+48.68						
80+69.68	2'	.47				0
81+00	30.32'	.44				1
81+50	50'	.37				1
82+00	50'	.69				0
82+50	50'	102				0
83+00	50'	.95				1
83+50	50'	84				1
84+00	50'	83				0
84+50	50'	43				0
SHEET TOTAL		604				4

Catalog No. 2130-C101



STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	9.11

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
5+737						
	263'	57				0
6+00						
	50'	116				0
6+50						
	50'	122				7
7+00						
	40.4'	105				14
7+40.4						
	59.6'	158				17
8+00						
	50'	128				4
8+50						
	50'	123				0
9+00						
	31.5'	73				1
9+31.5						
SHEET TOTAL		882				43

Catalog No. 2130-C121

STATE PROJECT NUMBER	SHEET NUMBER
4984-0-42	9.12

STATION	DISTANCE	YARDAGE EXCAVATION UNC.				FILL
10+775						
	225'	46				
11+00						
	50'	111				
11+50						
	50'	133				
12+00						
	50'	154				
12+50						
	50'	149				
13+00						
	50'	140				
13+50						
	50'	132				
14+00						
SHEET TOTAL		865				

Catalog No. 2130-C121