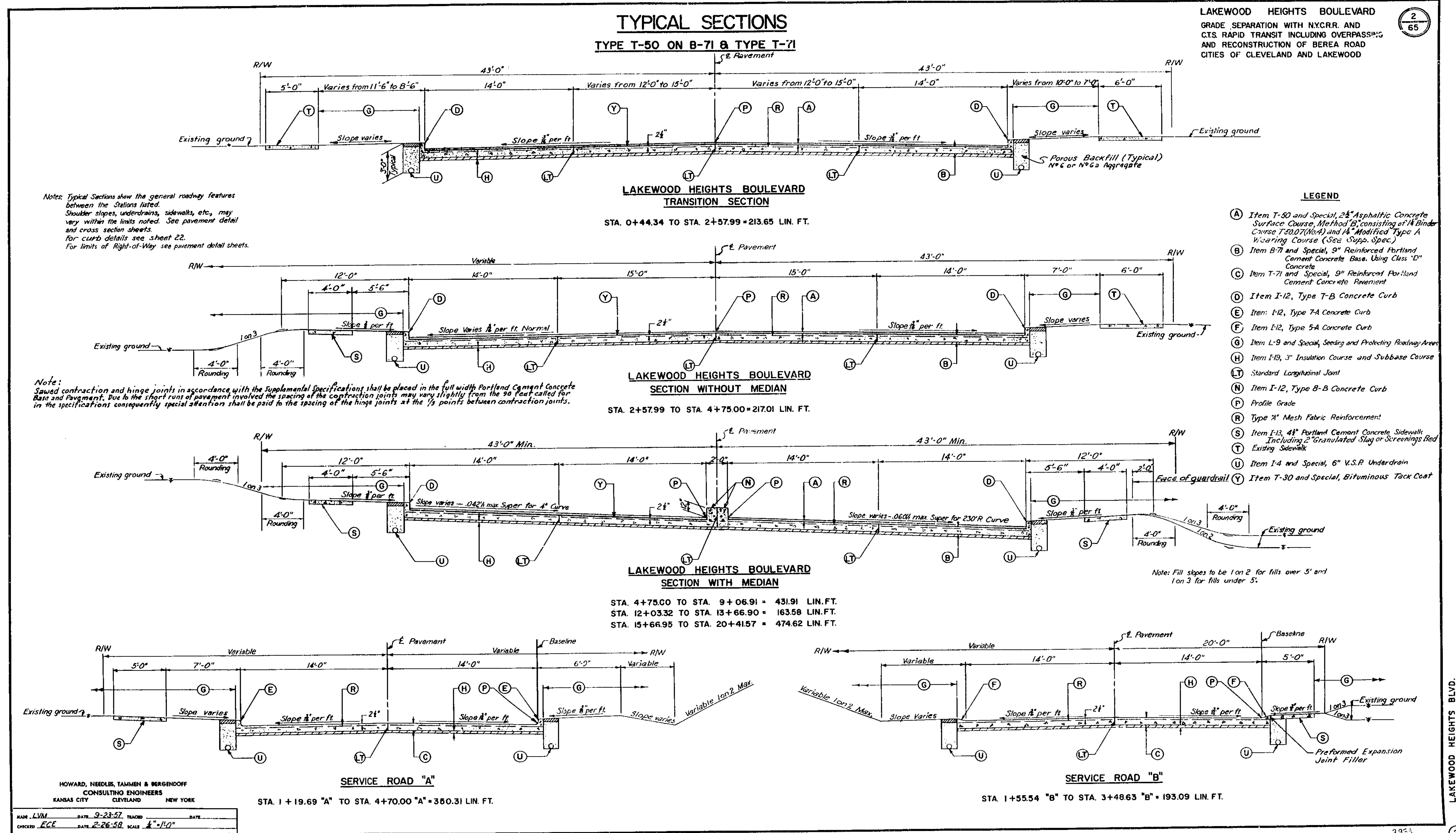
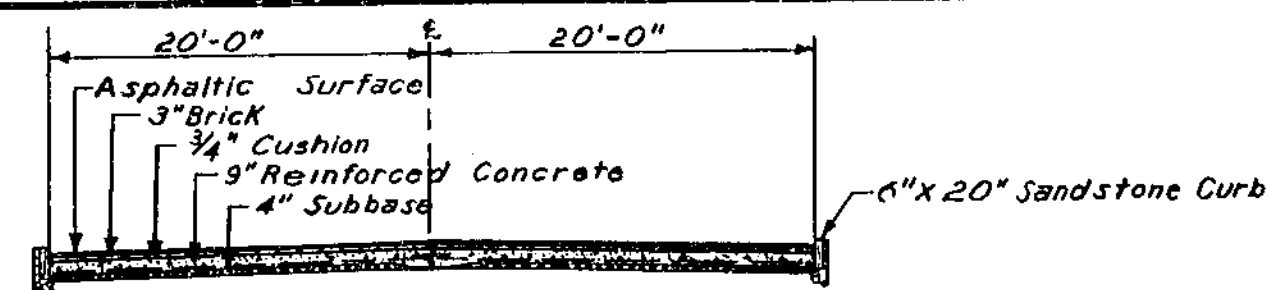




TYPICAL SECTIONS OF LAKEWOOD HGTS. BLVD. AND SERVICE ROADS "A" & "B"



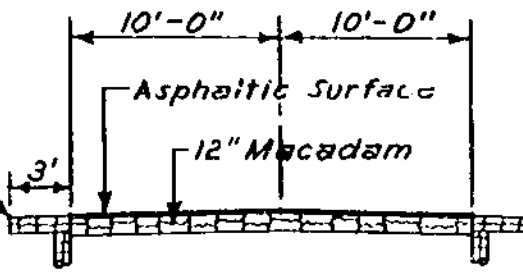
EXISTING LAKEWOOD HEIGHTS BOULEVARD

STA. 0+00 TO STA. 6+00±
Scale 1/4"=1'-0"

TYPICAL SECTIONS TYPE T-50 & TYPE T-50 CM B-71

LAKEWOOD HEIGHTS BOULEVARD
GRADE SEPARATION WITH NYCR AND
C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
AND RECONSTRUCTION OF BEREA ROAD
CITIES OF CLEVELAND AND LAKEWOOD

3
65



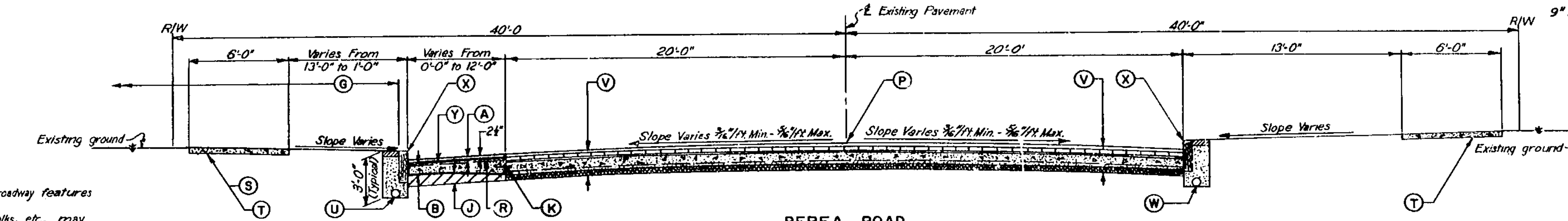
EXISTING LAKEWOOD HEIGHTS BOULEVARD

STA. 6+00± TO BEREA ROAD
Scale 1/4"=1'-0"

Notes: Typical Sections show the general roadway features between the Stations listed. Shoulder slopes, underdrains, sidewalks, etc., may vary within the limits noted. See pavement detail and cross section sheets. For limits of Right of Way, see pavement detail sheets. Stone curb shall be set to provide a 7" gutter. For detail of Concrete Median see sheet 22.

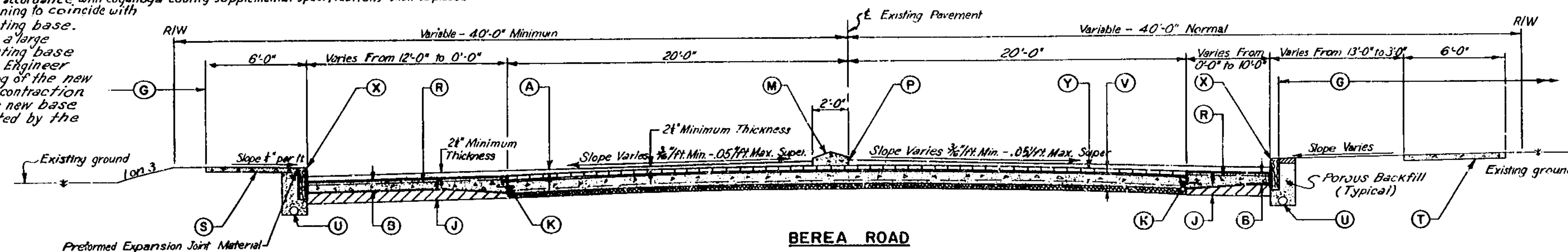
Existing Typical Sections have been taken from records and are believed to represent the existing pavement, but the County of Cuyahoga does not guarantee their accuracy.

Sawed contraction joints in accordance with Cuyahoga County Supplemental Specifications shall be placed in the new concrete base widening to coincide with transverse joints in the existing base. In addition, where there is a large transverse crack in the existing base which in the opinion of the Engineer may cause irregular cracking of the new base widening, a standard contraction joint shall be placed in the new base at this location if so directed by the Engineer.



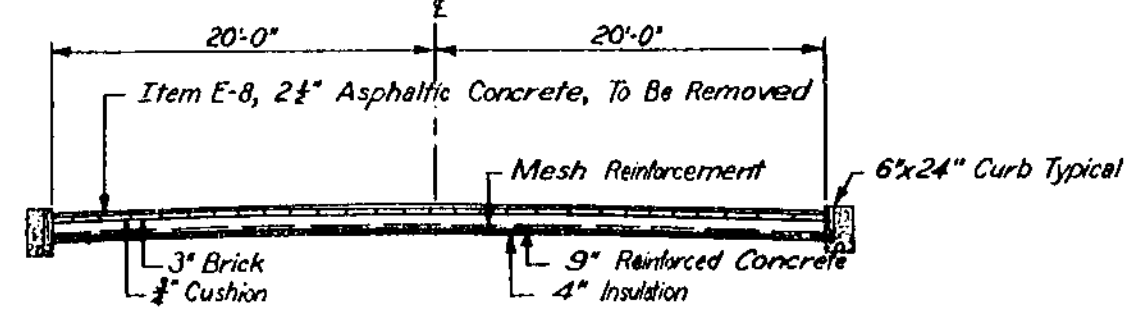
BEREA ROAD
WIDENED SECTION

STA. 90+20.00 TO STA. 92+60.00=240.00 LIN. FT.



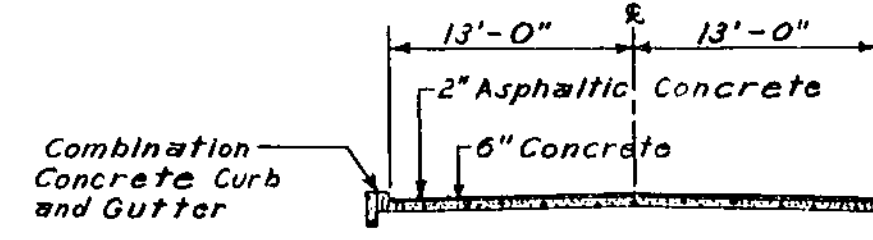
BEREA ROAD
WIDENED AND RESURFACED SECTION

STA. 92+60.00 TO STA. 100+60.00=800.00 LIN. FT.



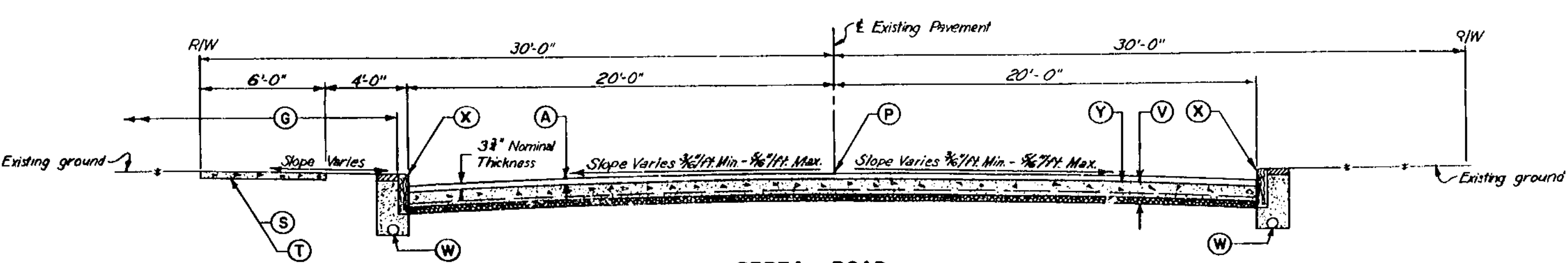
EXISTING BEREA ROAD

STA. 90+20.00 TO STA. 99+68±
Scale 1/4"=1'-0"



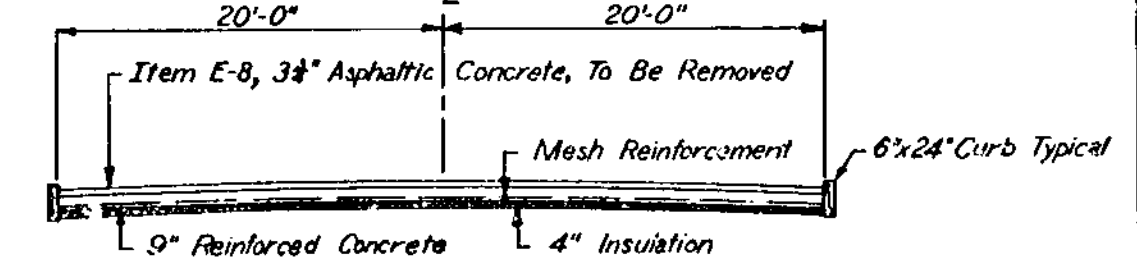
EXISTING CLARENCE AVENUE

Scale 1/4"=1'-0"



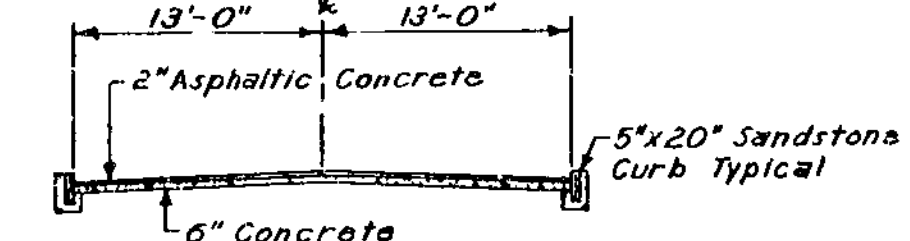
BEREA ROAD
RESURFACED SECTION

STA. 100+60.00 TO STA. 103+00.00=240.00 LIN. FT.



EXISTING BEREA ROAD

STA. 99+68± TO STA. 103+00.00
Scale 1/4"=1'-0"



EXISTING CHESTERLAND AVENUE
AND WATERBURY ROAD

Scale 1/4"=1'-0"

HOWARD, NEEDLES, TAMMIN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

MADE BY DATE 10-1-57
CHECKED BY DATE 2-26-58 SCALE 1/4"=1'-0" or as shown

TYPICAL SECTIONS—BEREA ROAD

LAKEWOOD HEIGHTS BLVD.

3/15/57

3

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GENERAL NOTES

LAKEWOOD HEIGHTS BOULEVARD
GRADE SEPARATION WITH N.Y.C.R.R. AND
C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
AND RECONSTRUCTION OF BEREA ROAD
CITIES OF CLEVELAND AND LAKEWOOD

4
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ROADWAY

REMOVAL OF TREES AND STUMPS

All trees and stumps within the limits of construction shall be disposed of as specified in Section E-1.03 of the Construction and Material Specifications. Trees shall not be removed, regardless of size, until specifically and conspicuously marked by the Engineer. Payment for the removal of trees and stumps is included in the unit price bid for "Item E-1 & Special, Roadway Excavation".

PAVEMENT REMOVAL

Areas outside of the limits of construction where pavement is removed shall be graded to conform with the adjacent ground and to facilitate proper drainage. These areas shall be seeded in accordance with Item L-9. Payment for all work other than seeding shall be included under "Item E-8 & Special".

DISPOSAL OF PAVEMENT

Pavement removed under "Item E-8 & Special" may be placed in embankment in accordance with Section E-1.08 and will be considered random material except where used in the part of the embankment more than three (3) feet below the new pavement, in which case it will be considered rock. Any steel protruding from the removed pavement shall be cut or burned so that it will not project more than one (1) inch from any side. The quantity of pavement removal may be adjusted by the Engineer in the field.

CROSS SECTIONS

The rounded corners, shown on the typical sections, apply to all cross sections even though otherwise shown in these plans.

TILE FOR SUB-GRADE DRAINAGE

Six inch (6") V.S.P. underdrain stubs shall be furnished and placed by the Contractor in manholes, catch basins and inlets for subgrade drainage where and as directed by the Engineer. The linear feet of 6" V.S.P. underdrain stubs required is included for payment in "Item I-4 & Special, 6" V.S.P. Underdrain".

EXISTING SEWERS

The Contractor shall so conduct his operations that the flow of all existing sewers will be maintained at all times. Any additional labor or cost involved in maintaining this flow by pumping or by any other approved method which is necessary for the completion of this project shall be included in the price bid per linear foot of storm sewers, "Item I-2 & Special".

Abandoned sewers and those which are no longer required to function shall be removed or abandoned under the provisions of "Item E-1 & Special, Roadway Excavation".

UTILITIES

Following is a list of the utilities within the limits of construction:

East Ohio Gas Company
Cleveland Electric Illuminating Company
City of Cleveland Water Department
Ohio Bell Telephone Company
Municipal Electric Light and Power
City of Lakewood Water Department

PAVEMENT

PLACING AND FINISHING CONCRETE PAVEMENT

Pavement in super-elevated curves shall be placed without crown. The crown shall be transitioned to a plane surface as indicated on the Profile and Pavement Detail Plans.

Approved flexible forms shall be used for construction of circular pavement edges having a radius of 200 ft. or less, circular concrete curbs and concrete curb transitions of short radii.

Particular care shall be exercised by the Contractor in obtaining in a uniform manner the curb transitions called for on the plans.

Hand-finishing will be permitted as per Section T-71.211 of the General Specifications for the reinforced Portland cement concrete pavement at the following locations:

Approach slabs.

Intersections.

Pavements where sharp curvatures prevent use of a finishing machine. Variable width lanes which in the opinion of the Engineer require hand finishing.

DRIVES

The number, location, type and grade of drives fronting on the improvement may be adjusted by the Engineer during construction.

PAVEMENT JOINTS

Pavement joints shall be saved in accordance with the Supplemental Specification for "Item T-71 and Special" and hinge joints shall be used.

The location of construction joints not indicated on the plans shall be determined by the Engineer.

EXISTING CURB

Salvageable sandstone curb removed under Item E-8 & Special, shall be reset where and as directed by the Engineer and shall be included for payment under "Item I-11 & Special, Sandstone Curb Reset". New sandstone curb, if required, shall not be interspersed with salvaged curb.

ASPHALTIC CONCRETE SURFACING

Due to the irregularity of the existing brick pavement on Berea Road, the elevations given on the profile sheets may not provide a minimum 2" asphaltic concrete surface course in all cases. The elevations given on the profile sheets shall be varied in order to insure a 2" minimum thickness of the asphaltic concrete.

EXISTING WEARING COURSE

For that section of Berea Road from Station 991681 to Station 103100, care shall be taken to remove all of the existing wearing course and any cushion down to the existing concrete base.

BASE REPLACEMENT

The existing brick pavement on Berea Road may be broken up in some areas. In these areas the existing brick and cushion shall be removed and disposed of and replaced with "Item E-30 and Special, Asphaltic Concrete Base and Leveling Course". All of the above to be as directed by the Engineer.

LOOSE BRICKS

In pavement areas of loose bricks the amount of bituminous material applied under "Item T-30 and Special, Bituminous Tack Coat" shall be increased so the material will fill the joints between the loose bricks sufficiently to tighten the bricks. The amount of sand applied under "Item Special, Sand for Covering Bituminous Tack Coat" shall also be sufficiently increased, to a maximum of 10# per sq. yd. Care shall be taken to confine this procedure to areas of loose bricks. All of the above to be performed as directed by the Engineer.

GENERAL

DESIGN STANDARDS

The geometric design for the roadway and structures which comprise this project is based on the following design speeds as outlined by the A.A.S.H.O. Policies on Geometric Highway Design:

Lakewood Hgts. Blvd. 40 mph
Service Roads 25 mph

FIELD OFFICE

The Contractor shall provide a suitable field office in accordance with Sec. S-0.01(b) having a minimum of 400 sq. ft. of floor space. The Contractor shall install and maintain study work tables and desks for the duration of this project and provide suitable latrine facilities near the field office.

PERMITS, LAWS AND REGULATIONS

The Contractor shall secure, at his own expense, all necessary permits from the municipal or other public authorities, shall give all notices required by law or municipal ordinances, and shall pay all fees and charges incident to the due and lawful prosecution of the work covered by this contract.

UNDERGROUND UTILITIES

The locations of underground utilities are plotted according to information furnished by the utility concerned and the County of Cuyahoga does not guarantee the accuracy thereof.

UTILITY NOTE

Any and all work required for removing, relocating and construction of new facilities for private or public utilities will be done by and at the expense of the respective owners unless otherwise noted on the plans.

The Contractor shall coordinate his operations with the work of the utility owners or others who may be making the relocations and shall notify the owners of the utilities of his schedule sufficiently in advance to permit them to make the necessary alterations.

TRAFFIC

Where any of the work called for under this contract involves the closing of existing streets and/or the rerouting of traffic, the Contractor for this project shall prosecute to the fullest extent the work involved so as to reduce to a minimum the length of time that the streets concerned will be closed to traffic.

The Contractor shall maintain local traffic and safe satisfactory access to abutting properties at all times during the construction of this improvement. The cost of all materials, labor, equipment and incidentals necessary to maintain this local traffic and access including the construction and removal, if necessary, of temporary by-passes shall be included in the Contract unit price bid per cubic yard for Item E-1 and Special, Roadway Excavation.

WATERWORK

Waterwork shall be done in accordance with the Standard Specifications of the City of Cleveland, Department of Public Utilities, Division of Water and Heat, on file in Room 624, Lincoln Building. The cost of all excavation and backfill for waterwork shall be included in the unit price bid for each waterwork item.

MAINTENANCE OF RAIL TRAFFIC

Except as hereinafter provided, the Contractor shall conduct his work so as to permit normal, free and unrestricted movement of railroad and rapid transit traffic. Short interruptions to rail traffic may be permitted if prior arrangements have been made with the Railroad or CTS. During the time the Contractor operates equipment on any track or has occasion to make any track unsafe for the passage of trains or other traffic upon it or to do other work which will interfere with railroad or rapid transit traffic, the Contractor's operations shall be in accordance with directions and stipulations of the Railroad and/or CTS.

The Railroad and CTS will furnish and the Contractor shall use, at his sole expense, such switch tenders, flagmen, telegraph operators, pilots, watchmen or other protective services and devices, as in the opinion of the Railroad and CTS are required to promote safety and insure continuity of railroad and rapid transit traffic during the construction period.

CONSTRUCTION ADJACENT TO TRACKS

Wherever excavations are made adjacent to tracks the bracing, shoring, sheeting and other supports for excavation shall be adequate to support these tracks and traffic during construction. Wherever, in the opinion of the Railroad or CTS, pedestrian traffic must be accommodated along adjacent tracks, open excavations shall be suitably plank over when construction operations are not in progress.

All construction adjacent to tracks shall be conducted in a manner acceptable to the Engineer and so as not to delay, interfere with, or obstruct the safe movement of trains upon the tracks or the functioning of the signal and communication systems, and with all suitable precautions for protection of Railroad and CTS property and for the protection of labor engaged upon the work.

CONSTRUCTION PROCEDURE

The Contractor's construction schedule and procedure, including details of the sheeting and bracing to be used for excavation adjacent to the NYCR and CTS tracks, shall be submitted to the County Engineer for approval as soon as possible after award of the contract and must be approved prior to the commencement of any work.

In order to minimize the interference with rail movements the Contractor shall complete the construction of Pier 2 for Bridge No. 209 as soon as possible after receiving the necessary approvals.

The installation of sheeting required for the construction of Pier 2 shall be made between the hours of 6:00 AM and 1:00 PM, EST on one consecutive Monday and Tuesday, during which time all NYCR train movements on the west bound main track will be stopped. CTS east bound track will be inoperative during the construction of Pier 2.

RAILROAD AND CTS CLEARANCE

Construction clearance of 18' - 0" vertically above the top of rails and 6' - 9" horizontally from the center of tracks shall be maintained at all times except during the driving and pulling of sheeting for Pier 2 referred to above.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

MADE BY D.J.K. DATE 5-18-58 TRACED DATE _____
CHECKED BY L.V.M. DATE 5-18-58 SCALE _____

GENERAL NOTES

LAKEWOOD HEIGHTS BLVD.

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GENERAL SUMMARY

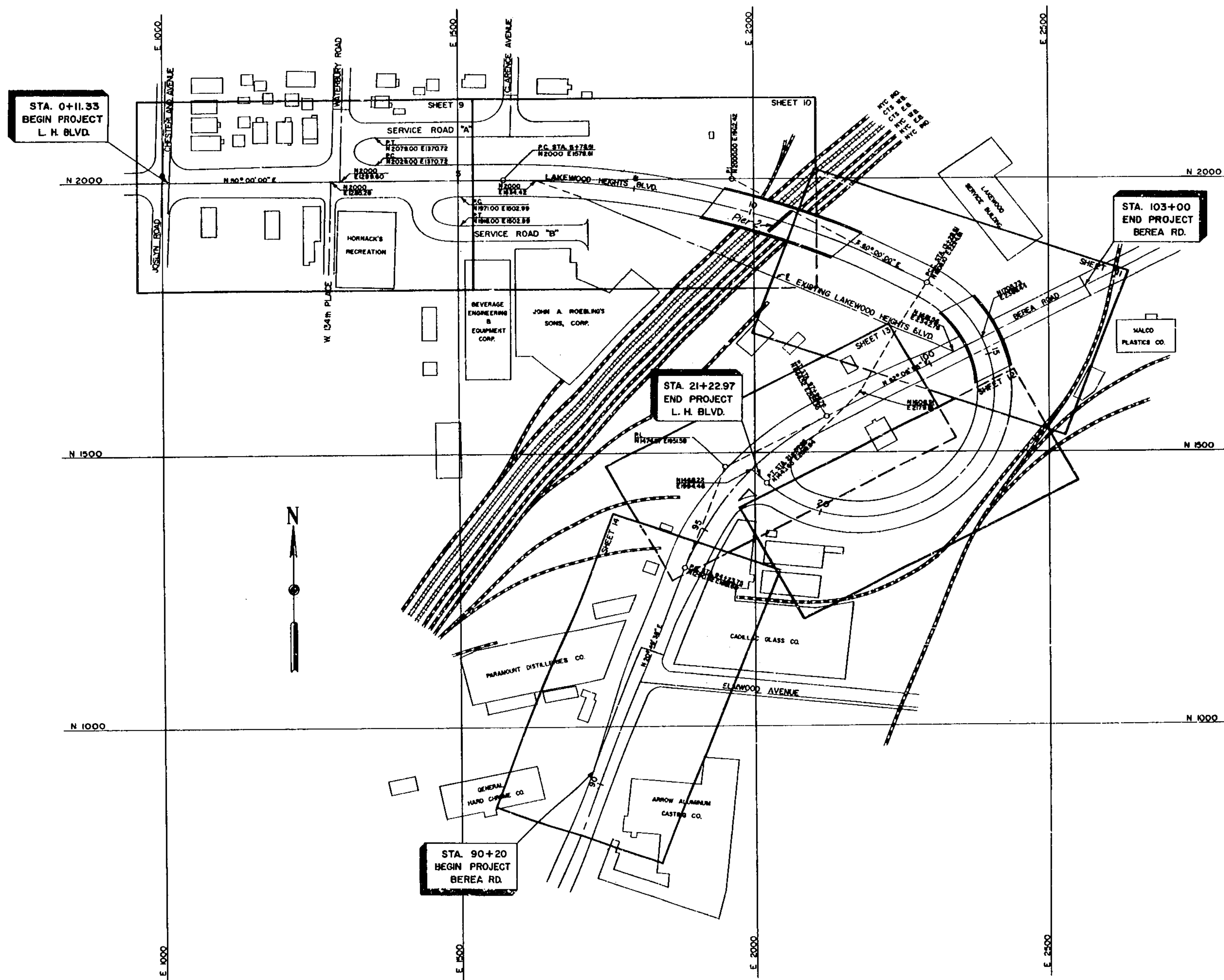
LAKESIDE HEIGHTS BOULEVARD
GRADE SEPARATION WITH N.Y.C.R.R. AND
C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
AND RECONSTRUCTION OF BEREA ROAD
CITIES OF CLEVELAND AND LAKESIDE

ITEM	QUANTITY	UNIT	DESCRIPTION
ROADWAY			
E-1 and Special	7,000	Cu. Yd.	Roadway Excavation
E-1 and Special	70,000	Cu. Yd.	Embankment
E-1 and Special	15,550	Sq. Yd.	Compacted Subgrade
E-8 and Special	3,800	Sq. Yd.	Removal and Disposal of Existing Rigid Pavement - Full Depth
E-8 and Special	11,000	Sq. Ft.	Removal and Disposal of Existing Concrete Sidewalk
E-8 and Special	950	Lin. Ft.	Removal and Disposal of Existing Stone Curb
E-8 and Special	2,550	Lin. Ft.	Removal for Reuse of Existing Stone Curb
E-8 and Special	100	Lin. Ft.	Removal and Disposal of Existing Concrete Curb
E-8 and Special	4,800	Sq. Yd.	Removal and Disposal of Existing Wearing Course
E-8 and Special	500	Sq. Yd.	Removal and Disposal of Existing Concrete Drives
E-8 and Special	300	Sq. Yd.	Removal and Disposal of Existing Brick and Cushion
E-12 and Special	100	Lin. Ft.	Removal of Pipe (12"), if needed
I-2 and Special	350	Lin. Ft.	12" Storm Sewer R.C.P. M-6.5(a) or V.S.P. M-6.8(a)
I-2 and Special	90	Lin. Ft.	15" Storm Sewer P.C.P. M-6.5(a) or V.S.P. M-6.8(a)
I-2 and Special	142	Lin. Ft.	24" Storm Sewer R.C.P. M-6.6(a) or V.S.P. M-6.8(b)
I-2 and Special	950	Lin. Ft.	12" Storm Sewer R.C.C.P. M-6.6(b) or V.S.P. M-6.8(a) encased
I-2 and Special	30	Lin. Ft.	15" Storm Sewer R.C.C.P. M-6.6(b) or V.S.P. M-6.8(a) encased
I-4 and Special	6,600	Lin. Ft.	6" V.S.P. Underdrains M-6.8(a)
I-8	8	Each	Monument Box, reset
I-8	10	Each	Monument Box S.M.B. #36-B, furnish and set
I-8 and Special	22	Each	Standard No. 3-C Catch Basin
I-8 and Special	7	Each	Standard No. 3-C Catch Basin (Modified)
I-8 and Special	3	Each	Standard No. 6 Catch Basin
I-8 and Special	4	Each	Standard No. 1 Manhole
I-8 and Special	20	Each	Manholes Adjusted to grade
I-8 and Special	3	Each	Manholes Rebuilt to grade
I-8 and Special	3	Each	Catch Basins Adjusted to grade and cleaned
I-8 and Special	3	Each	Standard No. 1-3 Catch Basin
I-15	1,500	Lin. Ft.	Guard Rail, Steel Beam Type (deep)
I-8	4	Set	Manhole Castings S.D.S. #99 & #28 Frame and Cover (if needed)
I-16 and Special	3	Each	Manholes Abandoned
I-16 and Special	14	Each	Catch Basins Abandoned
L-9 and Special	17,000	Sq. Yd.	Protecting Roadway Areas (Vegetative Mulch-Method 2 as Directed)
L-9 and Special	17,000	Sq. Yd.	Seeding Roadway Areas
L-9	7.7	Ton	Agricultural Liming Material
L-9	1.6	Ton	Commercial Fertilizer (10-6-4 Mix)
Special	7	Each	2 1/2" Pipe Sign Sleeves with 2 rectangular head set screws, set at 90° (furnish and set)
Special	Lump	Lump	Wrecking and/or Removing Buildings - at per plan

ITEM	QUANTITY	UNIT	DESCRIPTION
PAVEMENT			
I-11 and Special	2,050	Lin. Ft.	Type 7 Straight Stone Curb (Reset)
I-11	500	Lin. Ft.	Type 7 Straight Stone Curb (6"x20") if needed
I-12	600	Lin. Ft.	Type 5-A Concrete Curb
I-12	3,600	Lin. Ft.	Type 7-B Concrete Curb
I-12	1,000	Lin. Ft.	Type 7-A Concrete Curb
I-12	2,261	Lin. Ft.	Type 8-B Concrete Curb
I-13	20,500	Sq. Ft.	4 1/2" Portland Cement Concrete Sidewalk (including 2" granulated Slag or Screenings Bed)
I-19	14,300	Sq. Yd.	3" Insulation Course and Subbase Course
I-21	116	Sq. Yd.	Portland Cement Concrete Median
I-21	20	Sq. Yd.	Portland Cement Concrete Traffic Island Pavement
I-22	280	Cu. Yd.	8" Subbase, laid in two (2) Courses
I-23	15	Each	Precast White Portland Cement Concrete Traffic Dividers
T-30 and Special	1,750	Gal.	Bituminous Tack Coat (0.1 gal. per sq. yd.) Sec. M-2.2 R.C. 1 or 2 or Sec. M-2.3 M.S. 2 or R.C. 1 or 2 as directed
Special	44	Ton	Sand for Covering Bituminous Tack Coat Sec. M-2.2
T-50 and Special	1,180	Cu. Yd.	2 1/2" Asphaltic Concrete Surface Course, Method "B", consisting of 1 1/4" Binder Course T-50.07 (No. 4) and 1 1/4" Modified Type "A" Wearing Course (See Suppl. Specs.)
B-50 and Special	71	Cu. Yd.	Asphaltic Concrete Base and Leveling Course
T-50 and Special	35	Sq. Yd.	2" Asphaltic Concrete Surface Course for Drives consisting of Modified Type "B" Wearing Course (See Supplemental Specifications)
T-70 and Special	40	Sq. Yd.	6" Portland Cement Concrete Pavement for Drives
T-71 and Special	275	Sq. Yd.	8" Reinforced Portland Cement Concrete Pavement for Drives
Special	20	Sq. Yd.	6" Side Approaches and Mail Box Turnouts (for drives)
Special	220	Sq. Yd.	3" Side Approaches and Mail Box Turnouts (under structure)
T-71 and Special	2,750	Sq. Yd.	9" Reinforced Portland Cement Concrete Pavement
B-71 and Special	12,800	Sq. Yd.	9" Reinforced Portland Cement Concrete Base, Using Class "D" Concrete
B-71 and Special	40	Cu. Yd.	Reinforced Portland Cement Concrete Base Replacement (Class "D" Concrete)
WATER WORK			
Special	890	Lin. Ft.	12" Cast Iron Cement Lined Pipe - Class "24"
Special	3	Each	12" Line Valve and No. 3 Box complete with sleeve and C.I. Pipe, where required
Special	4	Each	12" - 1/2 Bend - Class "D"
Special	1	Each	12" - 1/2 Bend - Class "D"
Special	2	Each	12" - 1/2 Bend - Class "D"
Special	1	Each	12" x 12" Tee (3 bells) - Class "D" complete with 6" sleeve and C.I. Pipe
Special	1	Each	6" Line Valve and No. 3 Box complete with 6" sleeve and C.I. Pipe
Special	1	Each	12" x 12" Tee (3 bells) - Class "D" complete with plug and clamps
Special	1	Each	12" x 12" Tee (3 bells) - Class "D" complete with 8" - 1/2 Bend (Bell and Spigot) and 8" C.I. Plug with clamps (Temporary)
Special	1	Each	6" Hydrant complete with 12" x 12" Tee (3 bells) - Class "D", 6" Hub Valve and No. 2 Box, and 6" Class "B" Pipe
Special	1	Each	Construct Vault and Relocate Valve and Meter
Special	2	Each	Salvage Hydrant, Valve, and Box
GRADE SEPARATION STRUCTURES AND RETAINING WALL			
For Quantities, See Sheets No. 33, No. 48 and No. 65			

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
CLEVELAND NEW YORK
MADE H.M. DATE 3-5-58 TRACED DATE
CHECKED L.V.M. DATE 3-14-58 SCALE

Revised 1-28-59



Notes: Coordinate system based on N2000 E1000
at intersection of E's Chesterland Avenue and
Lakewood Heights Boulevard, with Lakewood
Heights Boulevard running East-West.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF			
CONSULTING ENGINEERS			
KANSAS CITY	CLEVELAND	NEW YORK	
MAN: LVM	DATE: 1-23-58	TRACED	DATE:
CHECKED: EGC	DATE: 3-8-58	SCALE: 1"=100'	

SUGGESTED CONSTRUCTION PROCEDURE

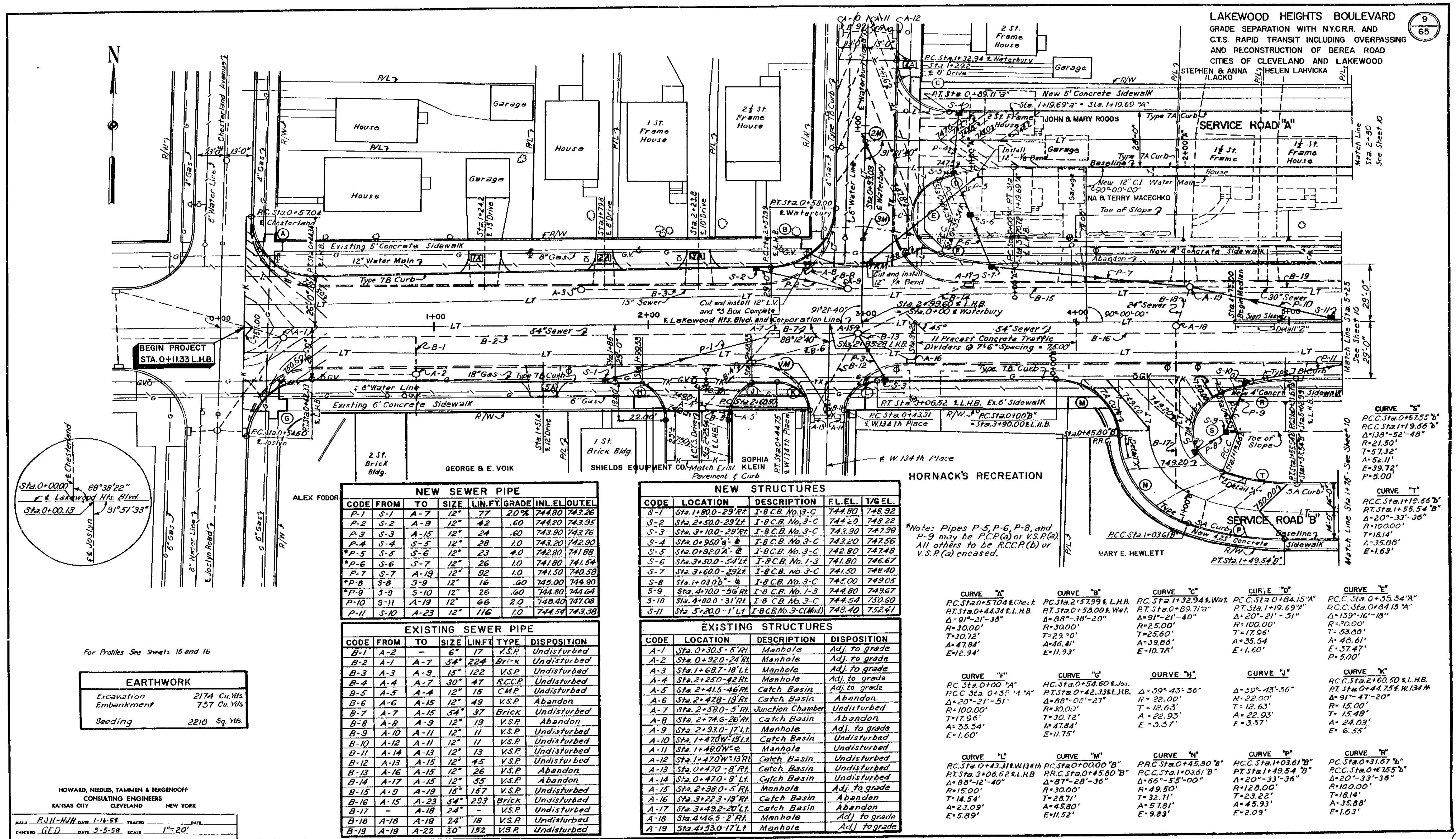
1. Construct Pier 2 of the railroad bridge (refer to General Notes on sheet 4). The retaining wall adjacent to the Cadillac Glass Co. spur track, do necessary wrecking and/or removal of structures, and install sewers and water lines where possible.
2. Place embankments and construct bridges. Construct Service Roads "A" and "B".
3. Complete Project.
4. Satisfactory access shall be maintained to adjacent property and to Waterbury Ave. from Lakewood Heights Boulevard at all times. Lakewood Heights Boulevard will be closed to all traffic crossing the N.Y.C.R.R. and the C.T.S. tracks until the project is completed and opened to traffic. Through traffic and access to abutting property shall be maintained on Bera Road throughout the construction period.

The Contractor shall schedule his work to provide safe and satisfactory access to all abutting properties at all times. A suggested construction procedure is indicated above.

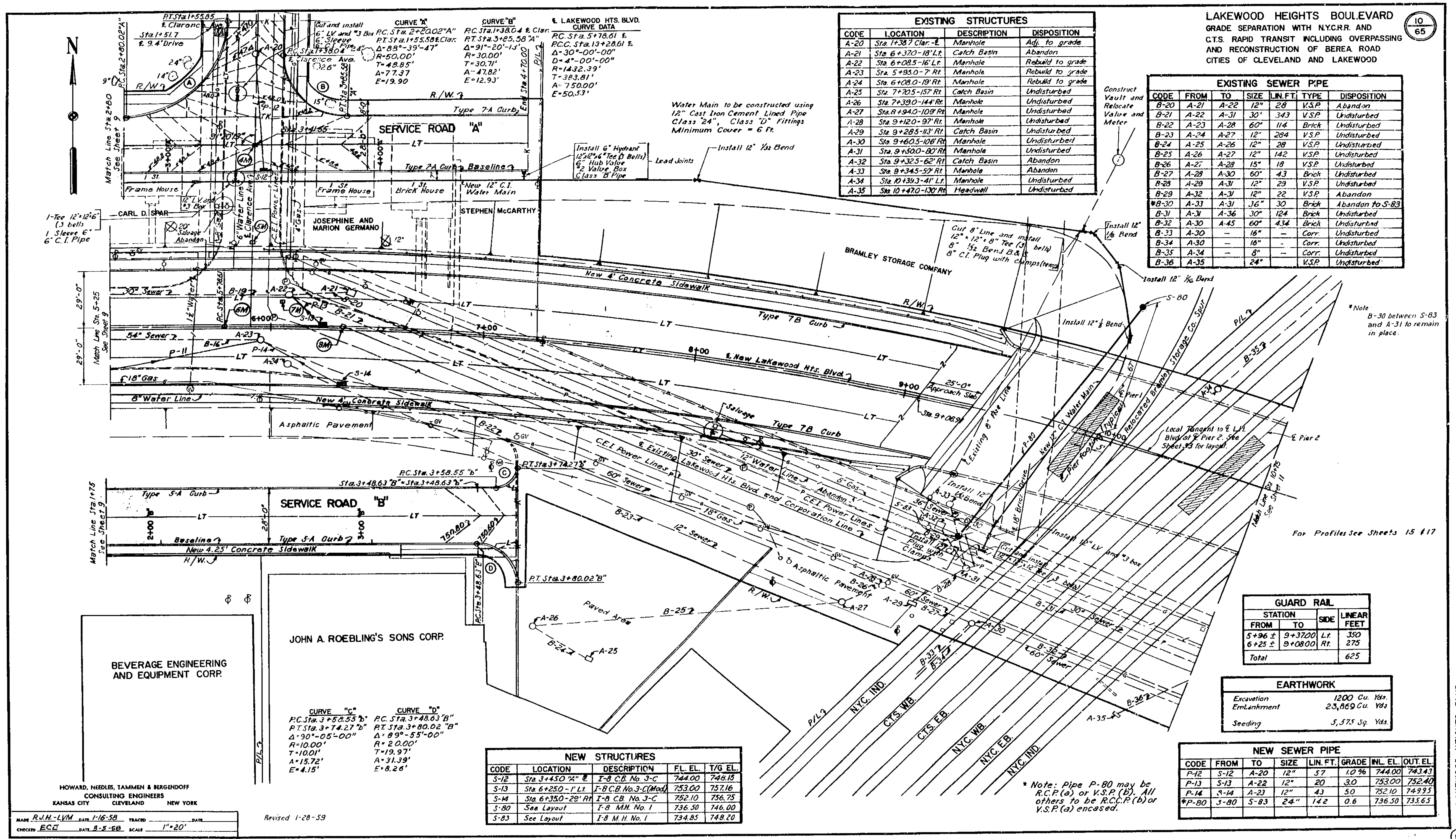
The Contractor's construction schedule and procedure shall be submitted to the County Engineer for approval as soon as possible after award of the Contract, and must be approved prior to commencement of any work on the site.

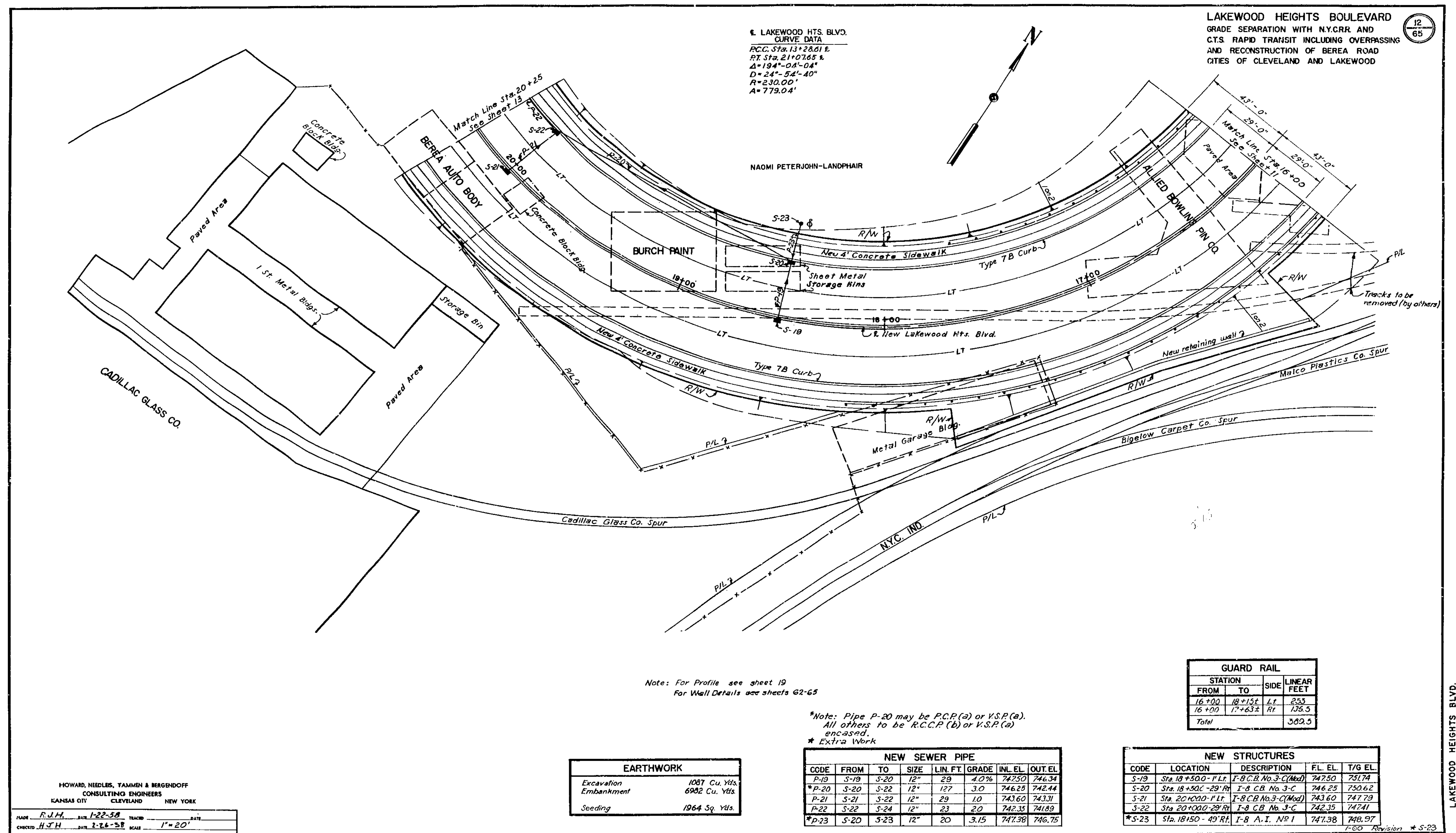
THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE COMPLETION DATE OF NOVEMBER 30, 1959 AND TO THE PROVISION THAT LIQUIDATED DAMAGES TO THE EXTENT OF \$1000.00 PER DAY WILL BE ASSESSED AGAINST HIM FOR EACH CALENDAR DAY AFTER NOVEMBER 30, 1959 THAT ALL WORK TO BE PERFORMED UNDER THIS CONTRACT (EXCLUSIVE OF FEEDING AND BRIDGE PAINTING) IS NOT COMPLETED AND FOR ACCEPTED.

LAKESWOOD HEIGHTS BLVD.

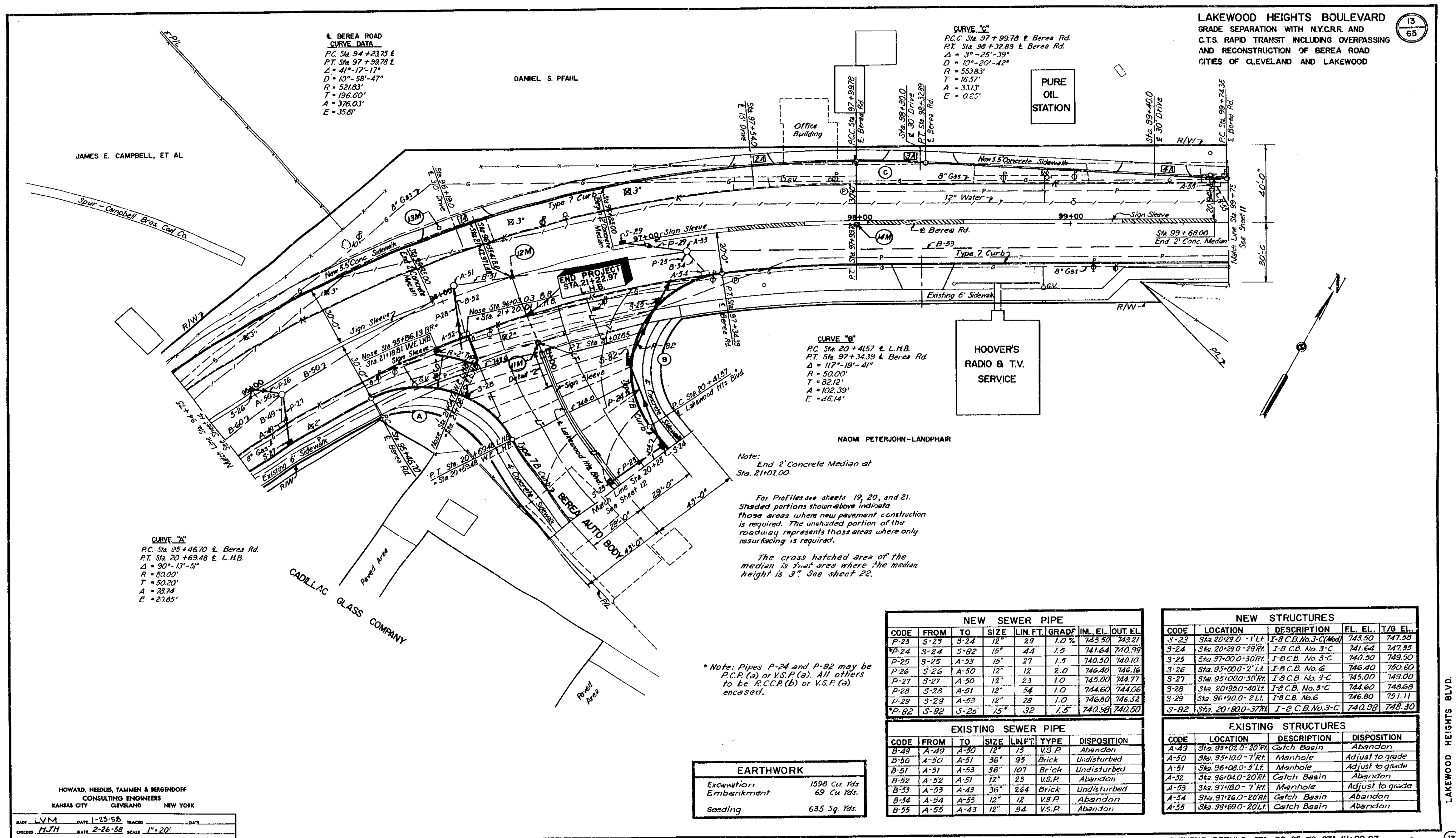


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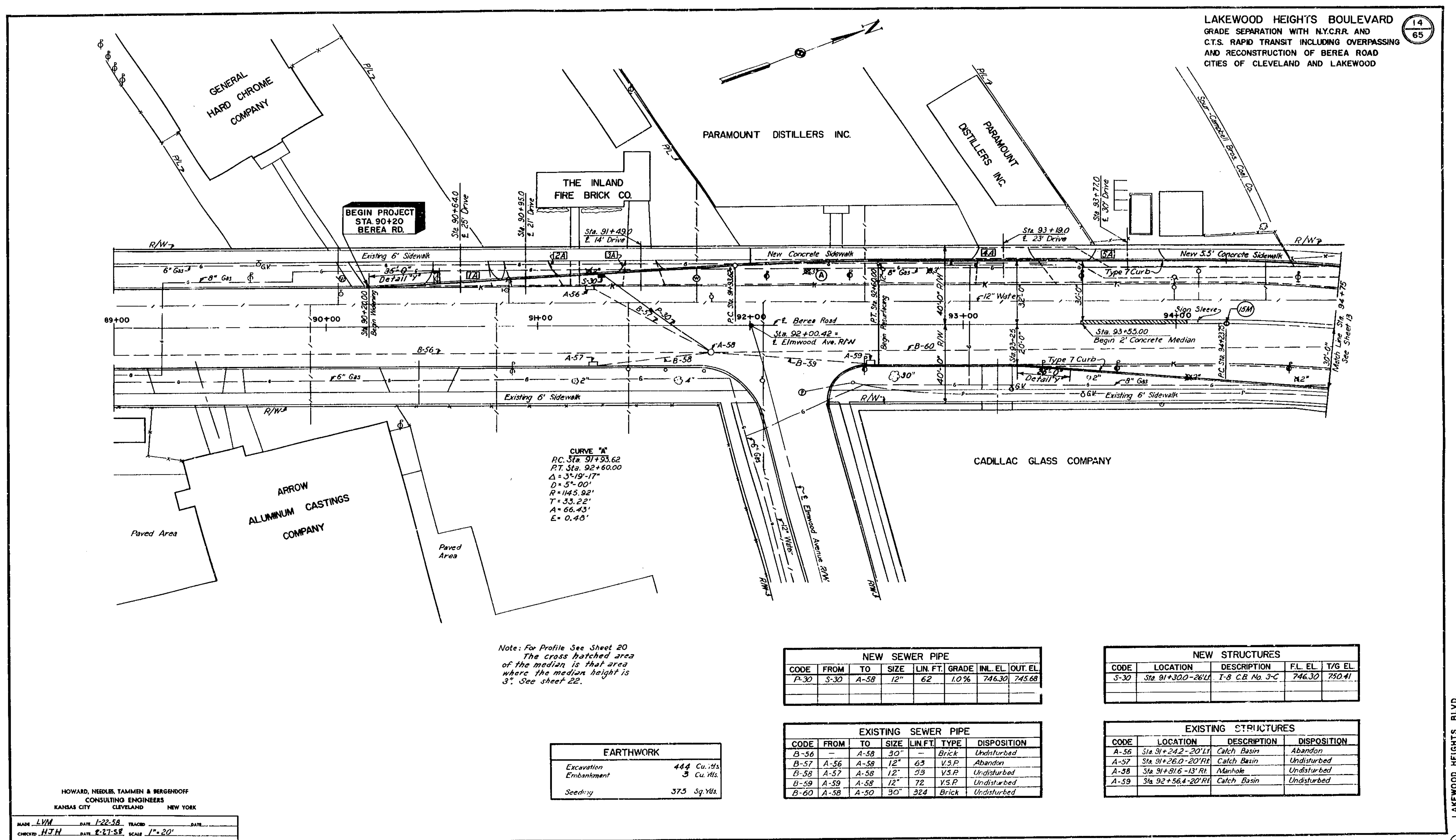




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LAKEWOOD HEIGHTS BOULEVARD
 GRADE SEPARATION WITH N.Y.C.R.R. AND
 C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
 AND RECONSTRUCTION OF BERA ROAD
 CITIES OF CLEVELAND AND LAKEWOOD

Note: For Profile See Sheet 20
 The cross hatched area
 of the median is that area
 where the median height is
 3". See sheet 22.

EARTHWORK	
Excavation	444 Cu. Yds.
Embankment	3 Cu. Yds.
Seeding	373 Sq. Yds.

NEW SEWER PIPE						
CODE	FROM	TO	SIZE	LN. FT.	GRADE	INL. EL. OUT. EL.
P-30	S-30	A-58	12"	62	1.0%	746.30 745.68

NEW STRUCTURES				
CODE	LOCATION	DESCRIPTION	F.L. EL.	T/G EL.
S-30	Sta 91+30.0-26'11"	T-8 C.B. No. 3-C	746.30	750.41

EXISTING SEWER PIPE						
CODE	FROM	TO	SIZE	LN. FT.	TYPE	DISPOSITION
B-56	-	A-58	30"	-	Brick	Undisturbed
B-57	A-56	A-58	12"	63	V.S.P.	Abandon
B-58	A-57	A-58	12"	53	V.S.P.	Undisturbed
B-59	A-59	A-58	12"	72	V.S.P.	Undisturbed
B-60	A-58	A-50	30"	324	Brick	Undisturbed

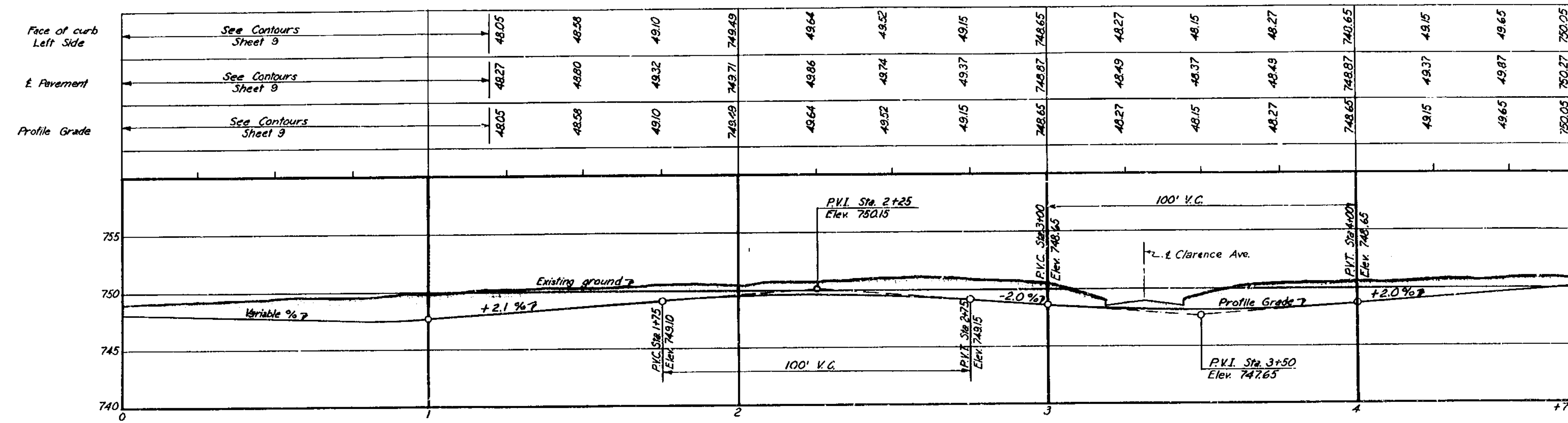
EXISTING STRUCTURES			
CODE	LOCATION	DESCRIPTION	DISPOSITION
A-56	Sta 91+24.2-20'11"	Catch Basin	Abandon
A-57	Sta 91+26.0-20'11"	Catch Basin	Undisturbed
A-58	Sta 91+31.6-13'11"	Manhole	Undisturbed
A-59	Sta 92+56.4-20'11"	Catch Basin	Undisturbed

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY CLEVELAND NEW YORK
 MADE L.V.M. DATE 1-22-58. TRACED
 CHECKED H.T.H. DATE 2-27-58. SCALE 1"=20'

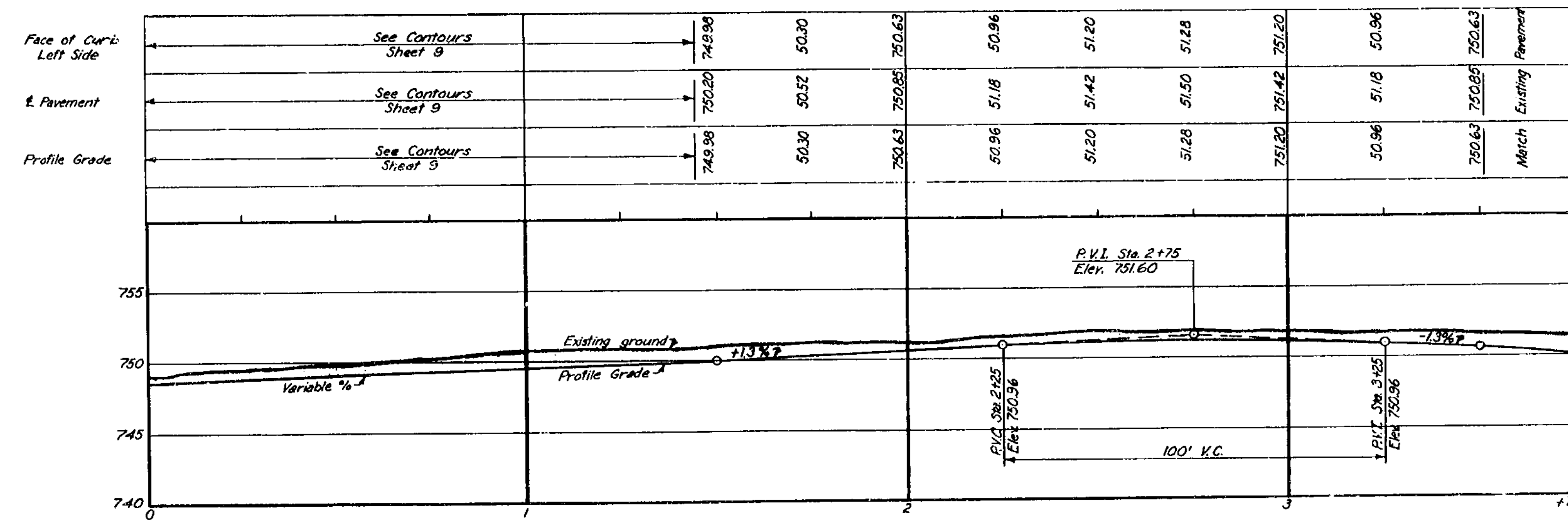
3967

LAKEWOOD HEIGHTS BOULEVARD
GRADE SEPARATION WITH N.Y.C.R.R. AND
C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
AND RECONSTRUCTION OF BEREA ROAD
CITIES OF CLEVELAND AND LAKEWOOD

15
65



PROFILE-SERVICE ROAD "A"



PROFILE-SERVICE ROAD "B"

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

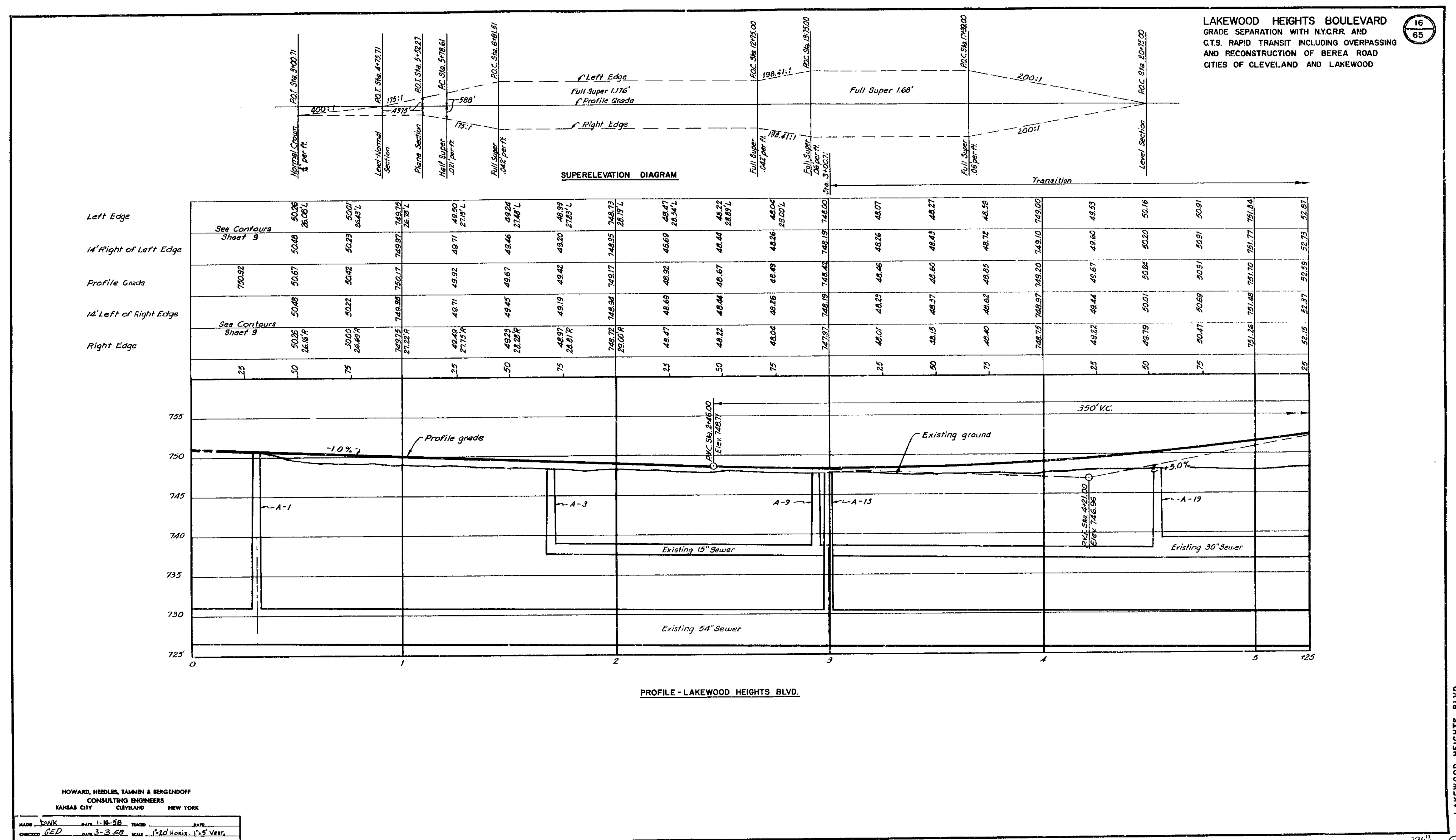
MADE LVM DATE 8-27-58 TRACED DATE
CHECKED GED DATE 3-5-59 SCALE 1"=20' HORIZ. 1"=5' VERT.

PROFILES-SERVICE ROADS "A" AND "B"

LAKEWOOD HEIGHTS BLVD.

15

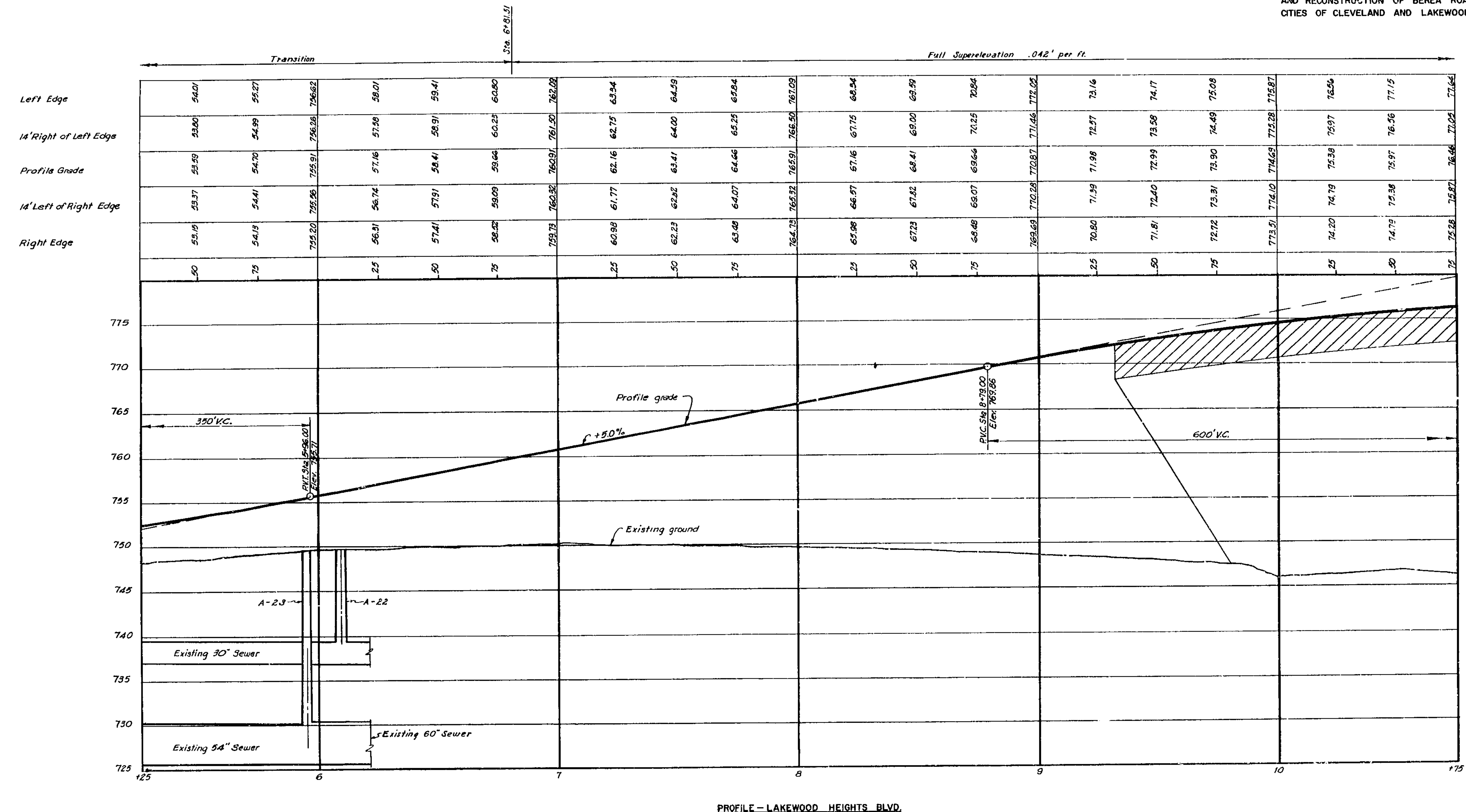
3968



3969

LAKWOOD HEIGHTS BOULEVARD
GRADE SEPARATION WITH N.Y.C.R.R. AND
C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
AND RECONSTRUCTION OF BEREA ROAD
CITIES OF CLEVELAND AND LAKEWOOD

17
65



HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

MADE BY W.H. DATE 1-16-58 TRACED BY W.H. DATE 1-16-58
CHECKED BY GED DATE 3-3-58 SCALE 1" = 20' HORIZ. 1" = 10' VERT.

LAKWOOD HEIGHTS BLVD - PROFILE STA. 5+25 TO STA. 10+75

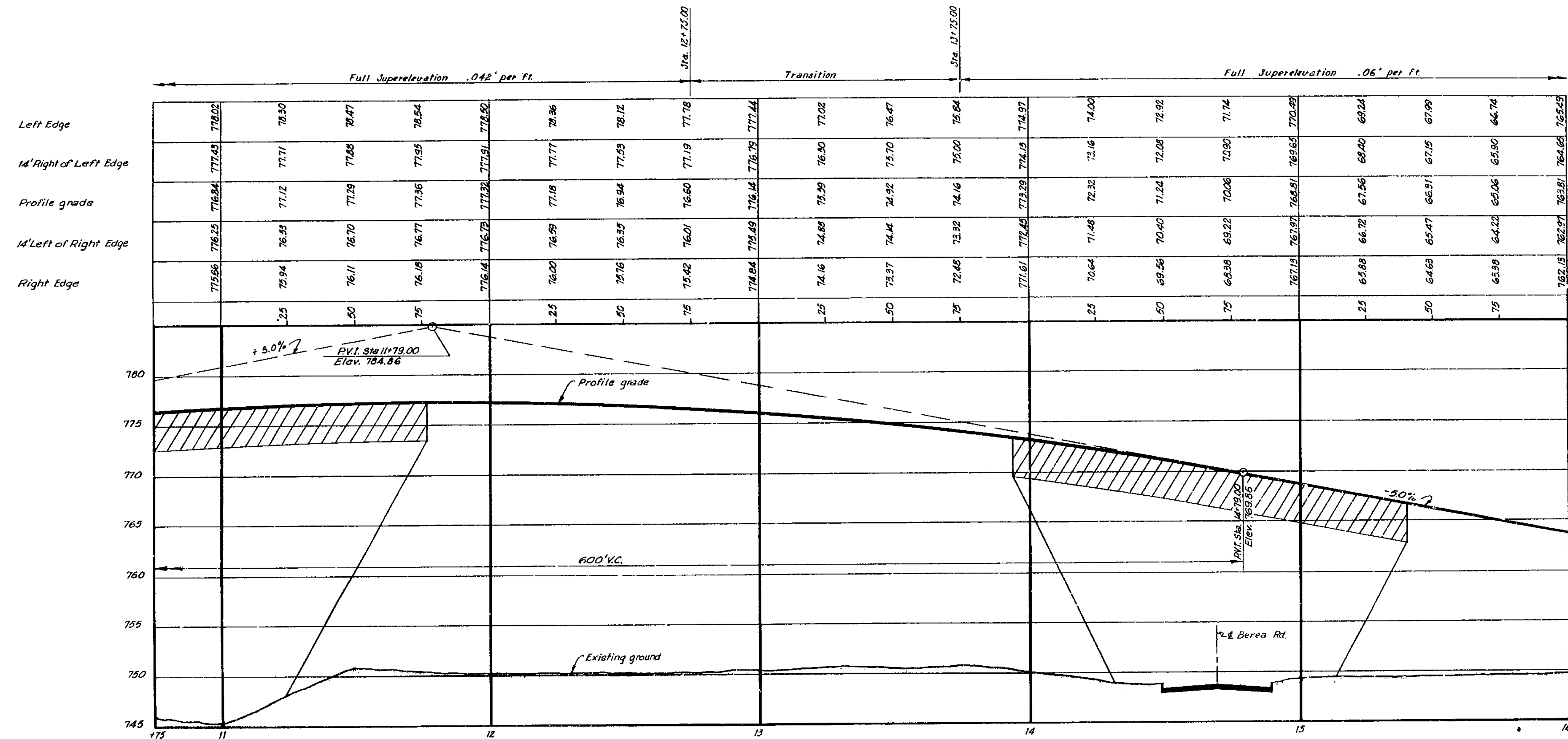
LAKWOOD HEIGHTS BLVD

17

3970

LAKESWOOD HEIGHTS BOULEVARD
GRADE SEPARATION WITH N.Y.C.R.R. AND
C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
AND RECONSTRUCTION OF BEREA ROAD
CITIES OF CLEVELAND AND LAKESWOOD

18
65



PROFILE - LAKESWOOD HEIGHTS BLVD.

HOWARD, NEEDLE, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

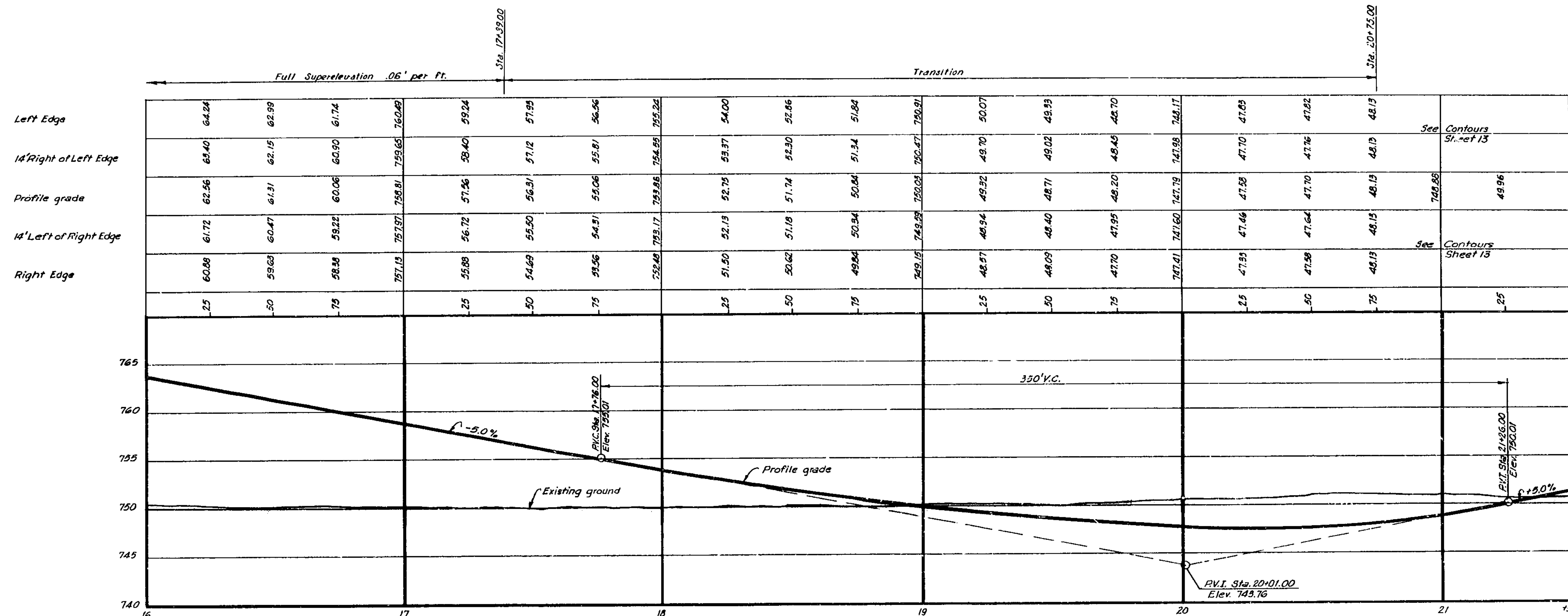
DATE 1-16-58 DRAWN BY SED DATE 3-2-58 CHECKED BY SED DATE 3-2-58 SCALE 1"=20' Hor. 1"=5' Vert.

LAKESWOOD HEIGHTS BLVD.-PROFILE STA. 10+75 TO STA. 16+00

LAKESWOOD HEIGHTS BLVD.

18

3971



PROFILE - LAKEWOOD HEIGHTS BLVD.

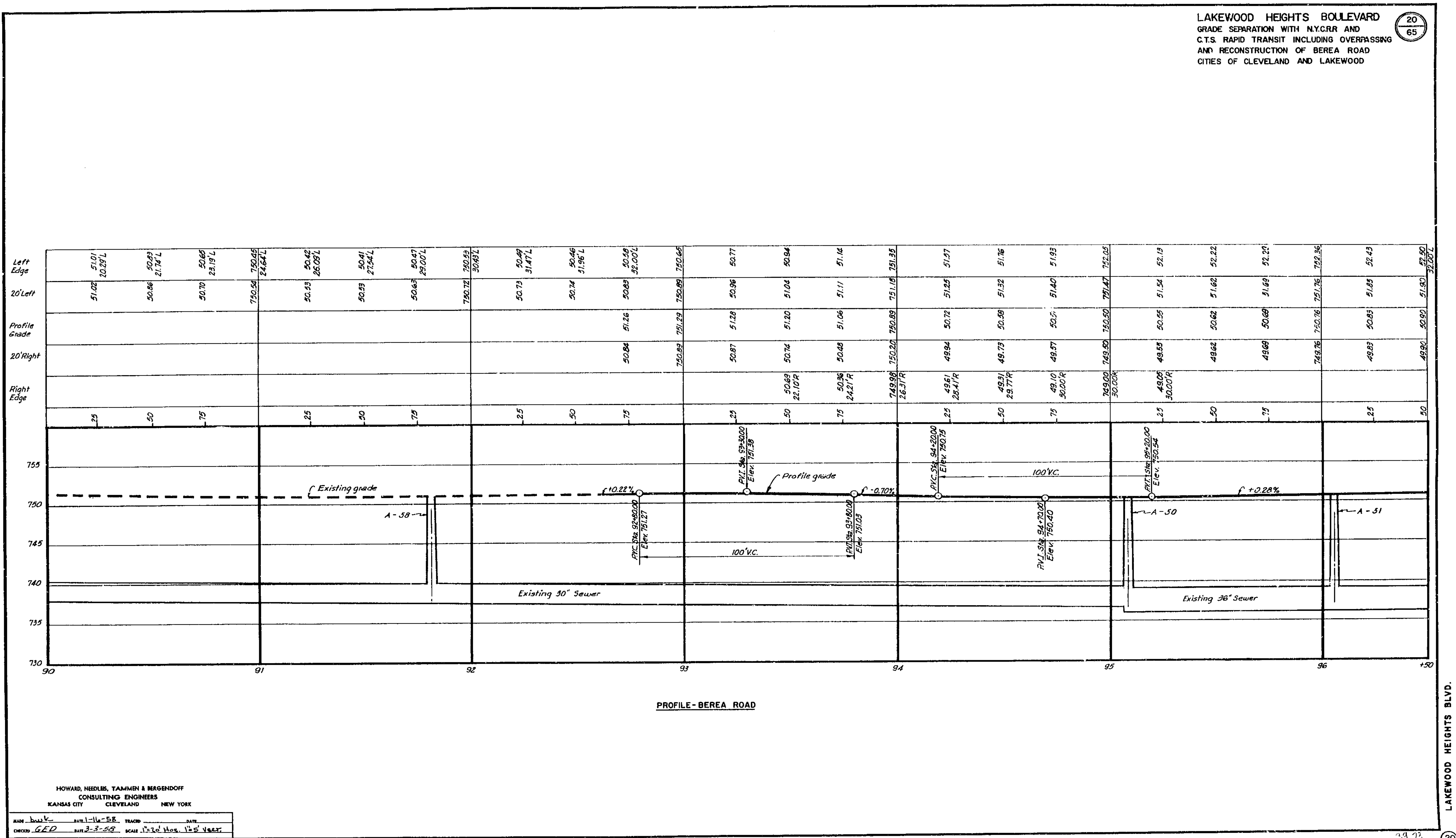
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

MADE bwk DATE 1-16-59 TRACED _____ DATE _____
CHECKED GEO DATE 3-3-58 SCALE 1"=20' HOR. 1"=5' VERT.

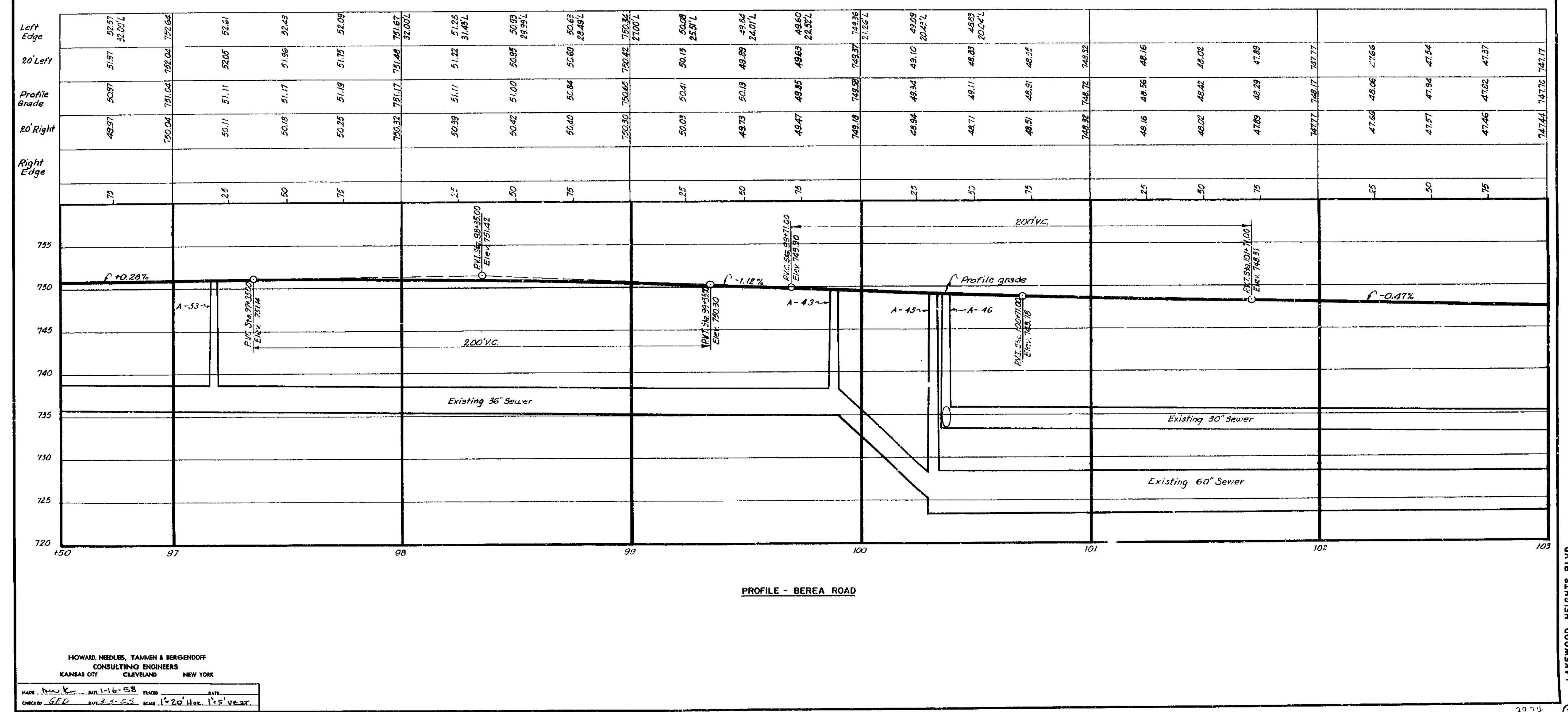
LAKEWOOD HEIGHTS BLVD. - PROFILE STA. 16+00 TO STA. 21+50

LAKESWOOD HEIGHTS BLVD.

3972

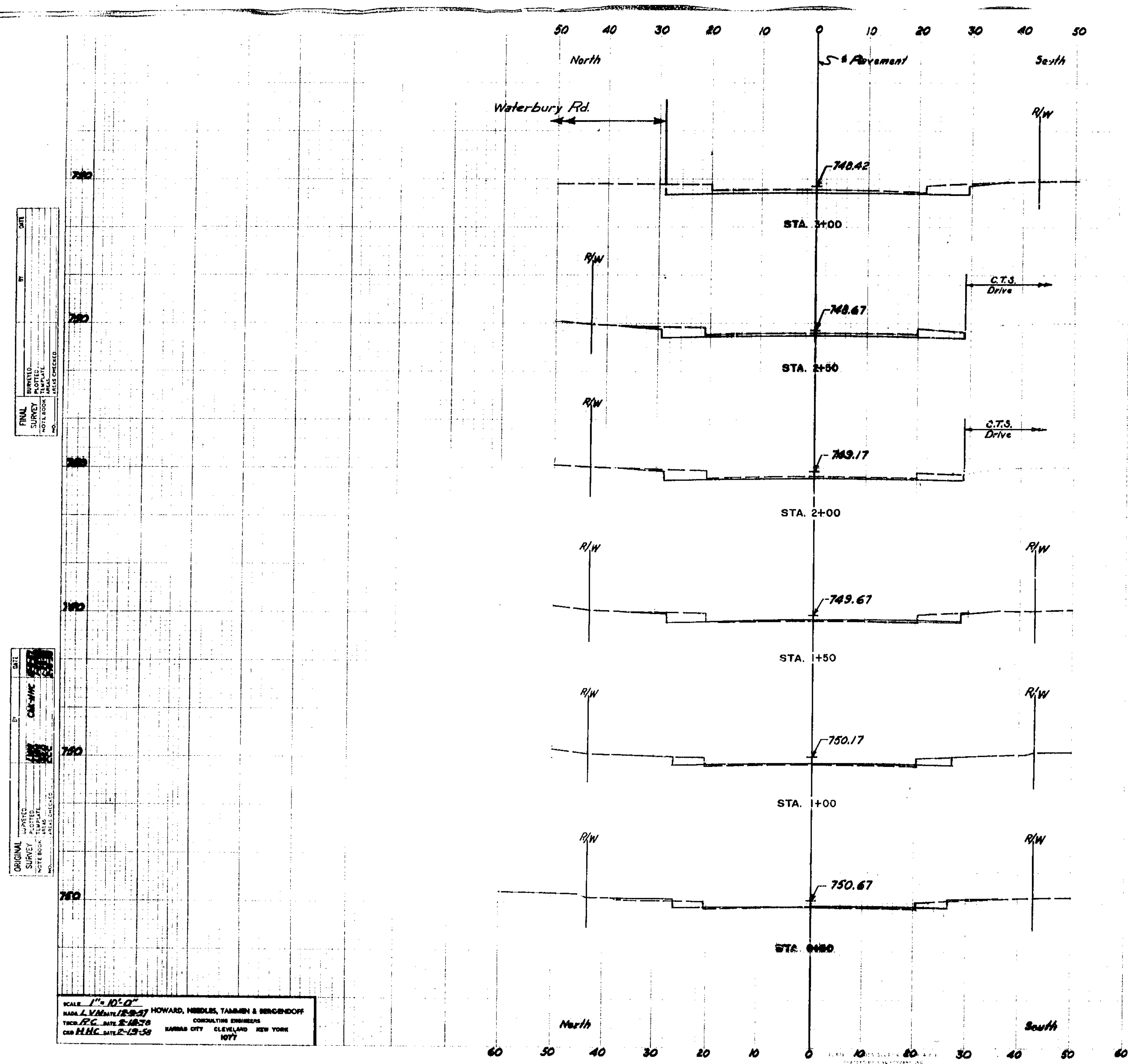


3973



HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

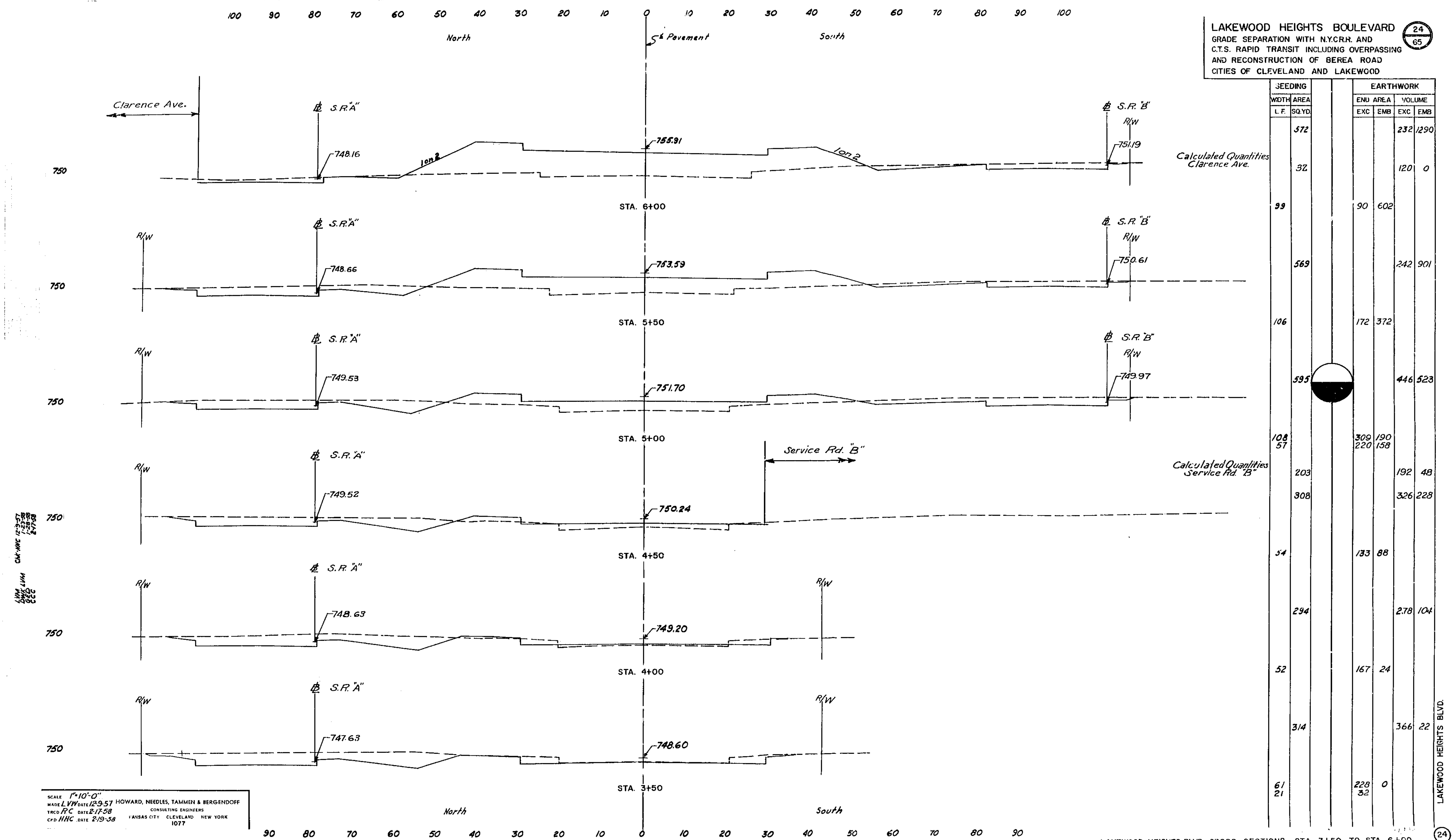
MADE BY: J.W. DATE: 1-16-58
CHECKED: GED DATE: 3-3-58 SCALE: 1"=20' HORIZ. 1"=5' VERT.

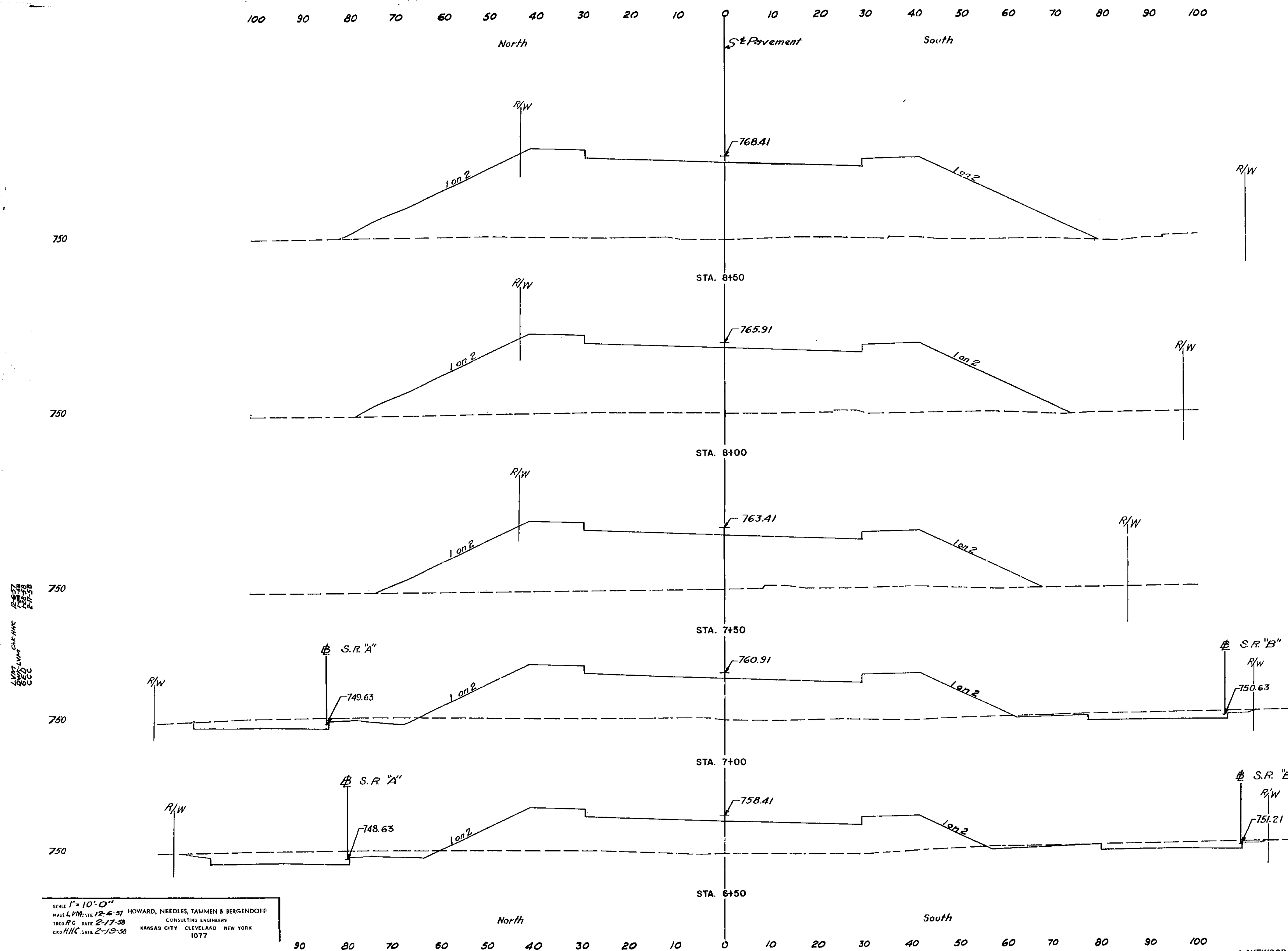


LAKEWOOD HEIGHTS BOULEVARD									
GRADE SEPARATION WITH N.Y.C.R.R. AND C.T.S. RAPID TRANSIT INCLUDING OVERPASSING AND RECONSTRUCTION OF BEREA ROAD CITIES OF CLEVELAND AND LAKEWOOD									
STATION	SEEDING		EARTHWORK		VOLUME				
	WIDTH	AREA	EXC.	EMB.	EXC.	EMB.	EXC.	EMB.	EXC.
0+00	36	90			87	0			
0+10	36	90			340	0			
0+20	10				62	0			
0+30	0				5	0			
0+40	81				110	0			
0+50	19				57	0			
0+60	108				81	0			
0+70	20				35	0			
0+80	114				68	4			
0+90	21				32	4			
1+00	111				48	13			
1+10	19				20	12			
1+20	122				35	26			
1+30	25				18	18			
1+40	89				17	50			

LAKEWOOD HEIGHTS BLVD.-CROSS SECTIONS STA. 0+50 TO STA. 3+00

3976





SCALE 1"=10'-0"
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY CLEVELAND NEW YORK
 1077

LAKEWOOD HEIGHTS BOULEVARD
 GRADE SEPARATION WITH N.Y.C.R.R. AND
 C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
 AND RECONSTRUCTION OF BEREA ROAD
 CITIES OF CLEVELAND AND LAKEWOOD

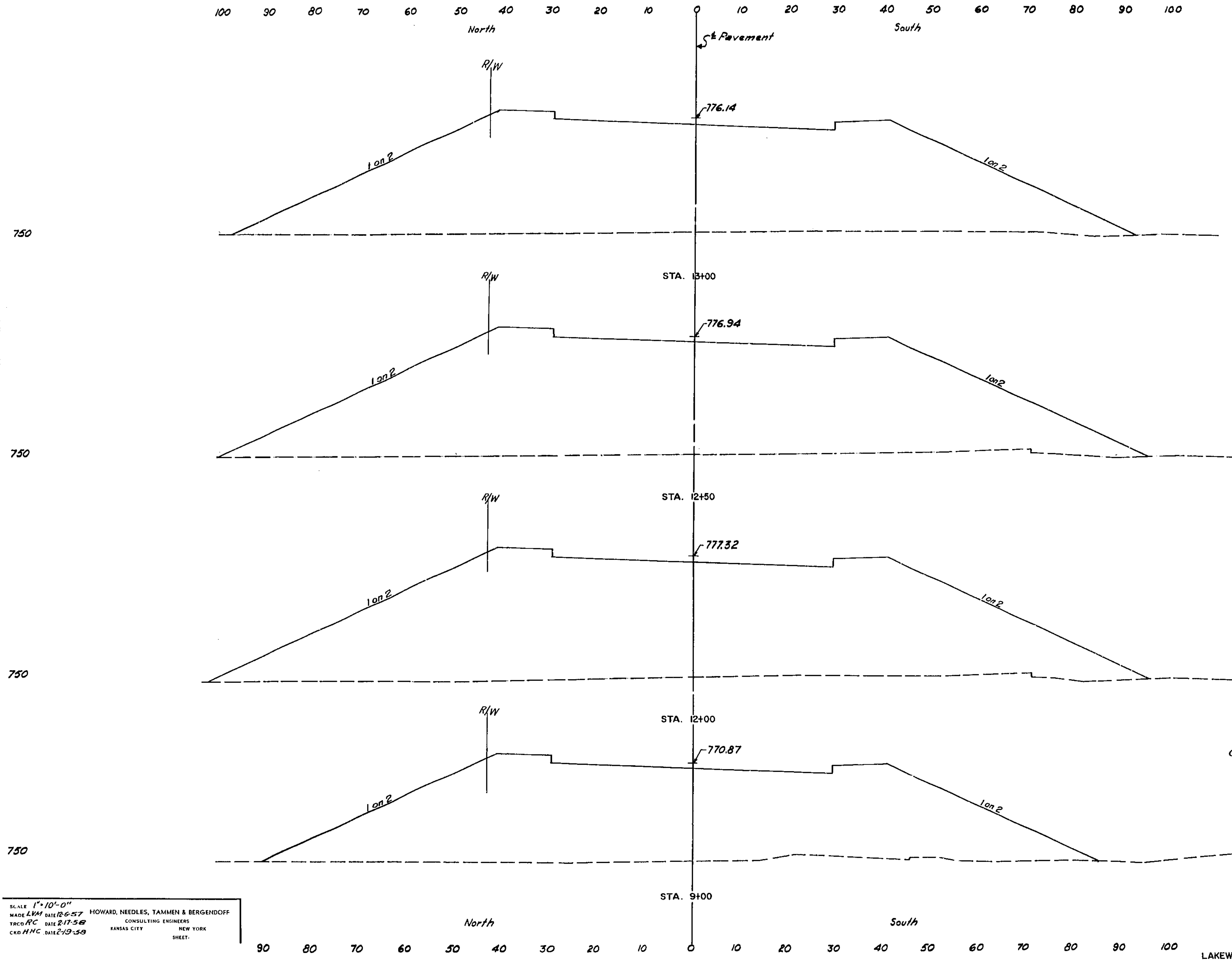
SEEDING	WIDTH	AREA	EARTHWORK			
			END AREA		VOLUME	
L.F.	SQ. YD.		EXC.	EMB.	EXC.	EMB.
641					0	4673
127				0	2235	
567					0	3785
97				0	1853	
503					0	3083
84				0	1483	
10					75	0
40					40	0
525					0	2355
105				0	1060	
589					268	1715
107				160	792	

Calculated Quantities
 End Service Rd. "B"

Calculated Quantities
 End Service Rd. "A"

LAKEWOOD HEIGHTS BLVD. - CROSS SECTIONS STA. 6+50 TO STA. 8+50

3978



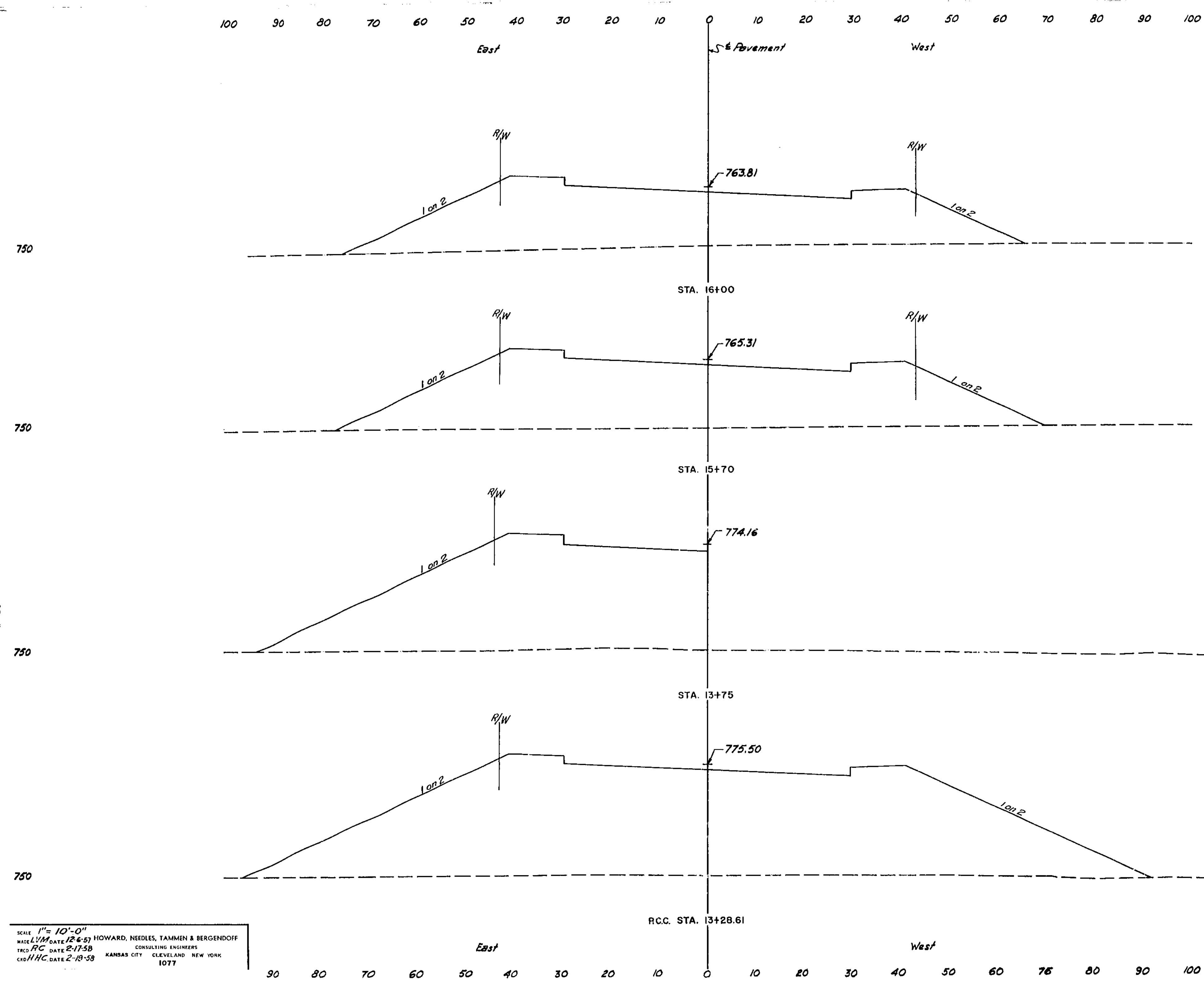
LAKEWOOD HEIGHTS BOULEVARD
 GRADE SEPARATION WITH N.Y.C.R.R. AND
 C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
 AND RECONSTRUCTION OF BEREA ROAD
 CITIES OF CLEVELAND AND LAKEWOOD

SEEDING	WIDTH L.F.	AREA SQ. YD.		EARTHWORK	
				END AREA	VOLUME
				EXC	EMB
441			0 Cu Yds. 3 706 Cu Yds. 5478 Sq. Yds.	0	3613
140			Excavation Embankment Seeding	0	3485
795				0	5626
146				0	3671
817				0	6836
148				0	3712
1530				0	6280
1230				0	5800
124				0	2812

SCALE 1"=10'-0"
 MADE BY DATE 10-2-57 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 TRCU/PC DATE 2-17-58 CONSULTING ENGINEERS
 CRO/HMC DATE 2-19-58 KANSAS CITY NEW YORK
 SHEET

LAKEWOOD HEIGHTS BLVD.-CROSS SECTIONS STA. 9+00 TO STA. 13+00

3979



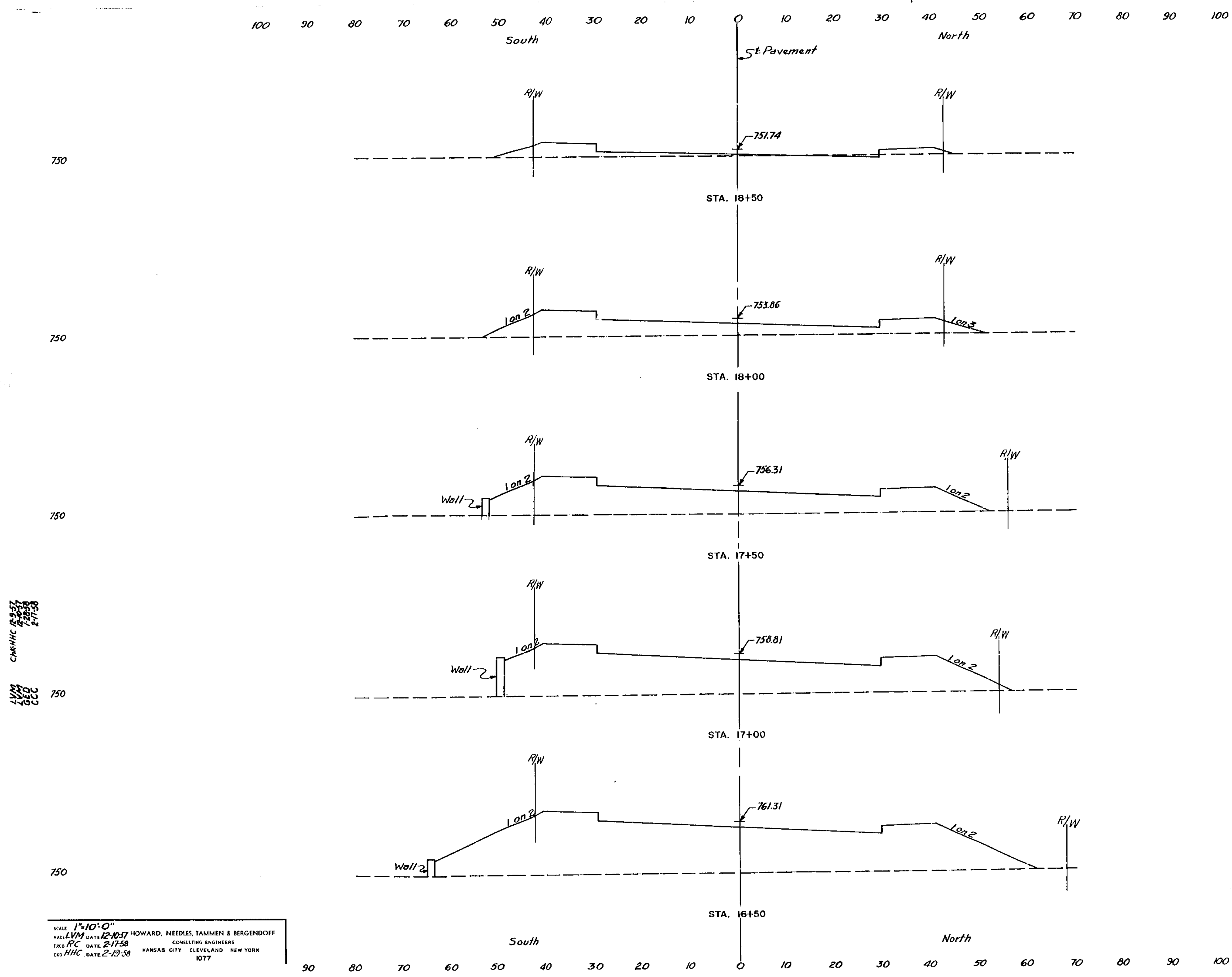
LAKEWOOD HEIGHTS BOULEVARD
 GRADE SEPARATION WITH N.Y.C.R.R. AND
 C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
 AND RECONSTRUCTION OF BEREA ROAD
 CITIES OF CLEVELAND AND LAKEWOOD

SEEDING	WIDTH	AREA	EARTHWORK			
			END AREA		VOLUME	
L.F.	SG. YD.		EXC.	EMB.	EXC.	EMB.
425					0	2474
86					0	1482
235					0	1773
91					0	1710
500					0	3000
750					0	5700
64					0	1615
350					0	2908
72	137				0	1770
					0	3335

Computed Spill Quantities
 South Abutment
 Computed Spill Quantities
 North Abutment

LAKEWOOD HEIGHTS BLVD.-CROSS SECTIONS STA. 13+28.61 TO STA. 16+00

3980

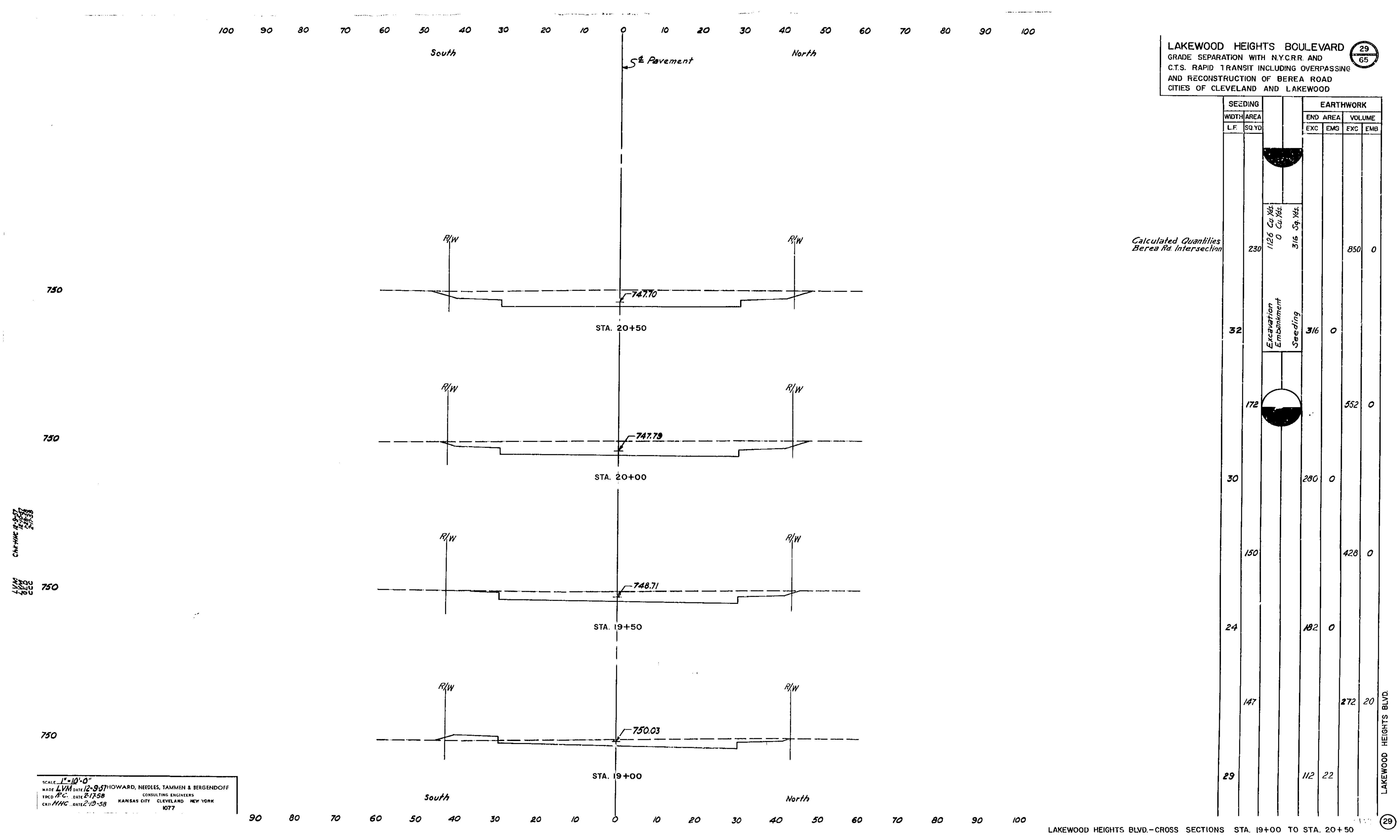


LAKEWOOD HEIGHTS BOULEVARD
 GRADE SEPARATION WITH N.Y.C.R.R. AND
 C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
 AND RECONSTRUCTION OF BEREA ROAD
 CITIES OF CLEVELAND AND LAKEWOOD

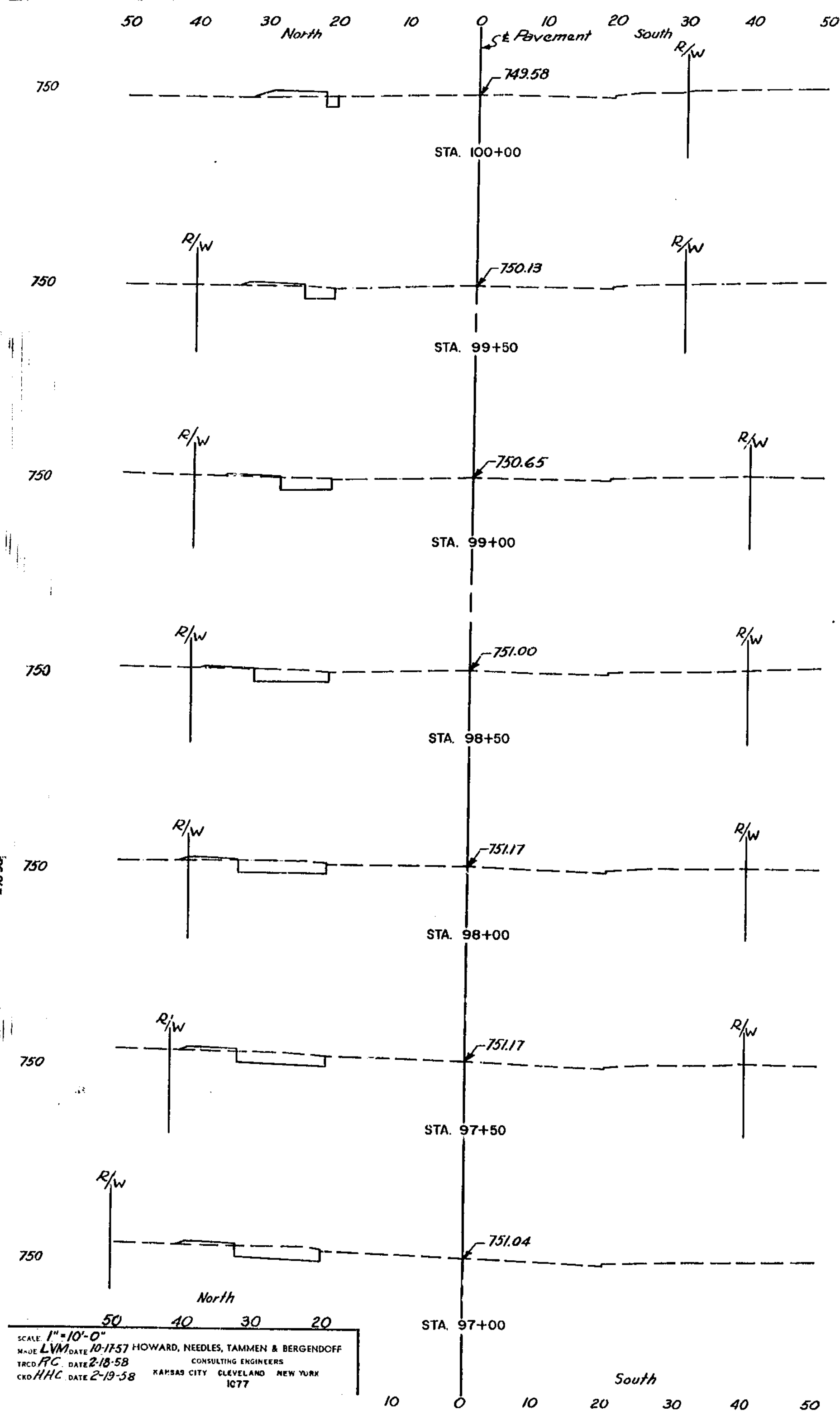
SECTION	SEEDING		EARTHWORK			
	WIDTH LF	AREA SQ. YD.	END AREA		VOLUME	
			EXC	EMB	EXC	EMB
167					107	107
31			4	94		
203				4	374	
42			0	310		
236				0	802	
43			0	556		
242				0	1309	
44			0	858		
308				0	1096	
67			0	1190		

LAKEWOOD HEIGHTS BLVD.-CROSS SECTIONS STA. 16+50 TO STA. 18+50

3981

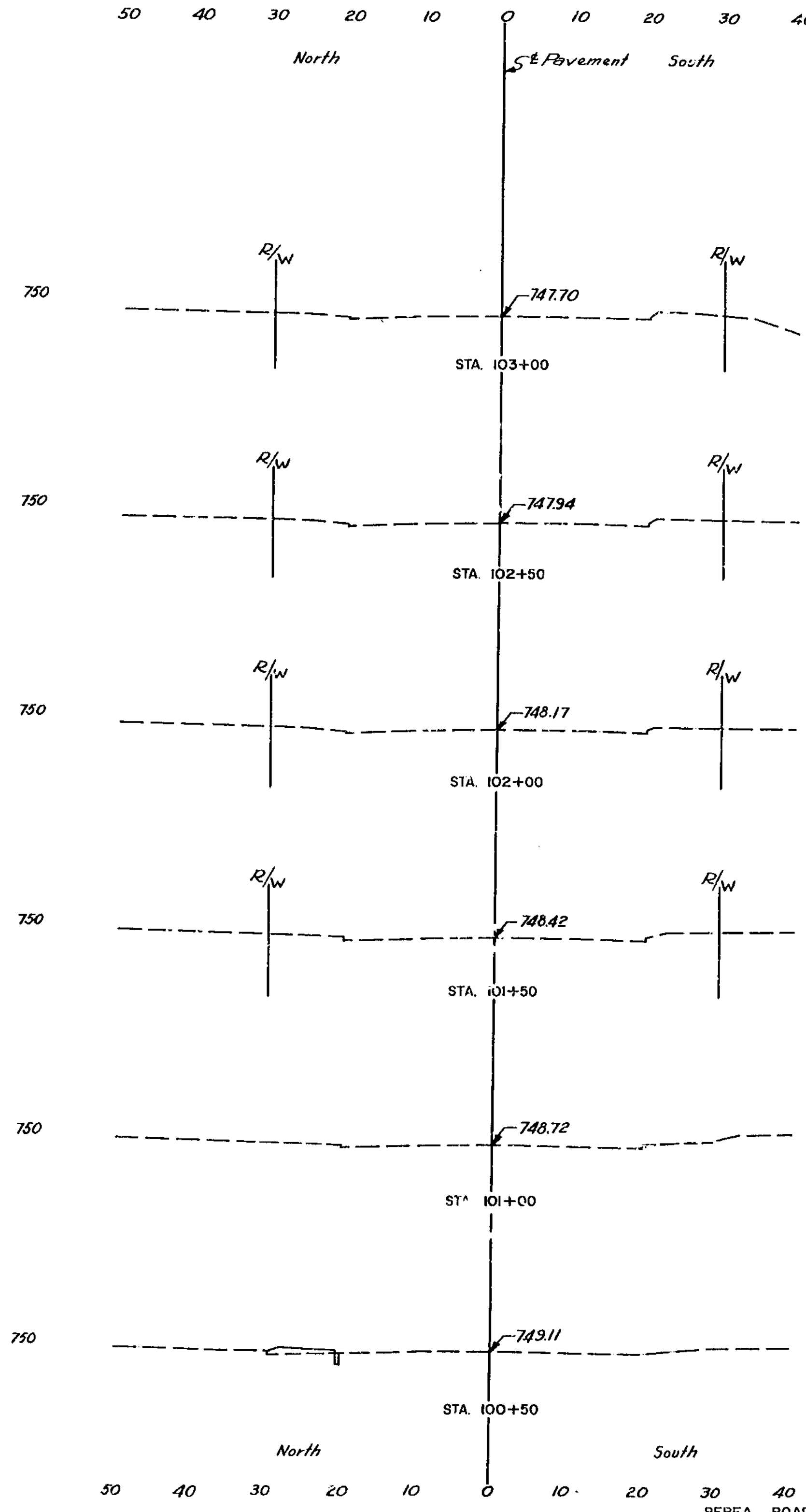


3982



SEEDING		EARTHWORK			
WIDTH	AREA	END AREA		VOLUME	
L.F.	SQ. YD.	EXC.	EMB.	EXC.	EMB.
7		3	7		
35				11	10
5		9	4		
28				22	7
5		15	4		
28				31	7
5		18	4		
31				37	7
6		22	4		
33				40	7
6		21	4		
31				40	7
5		22	4		

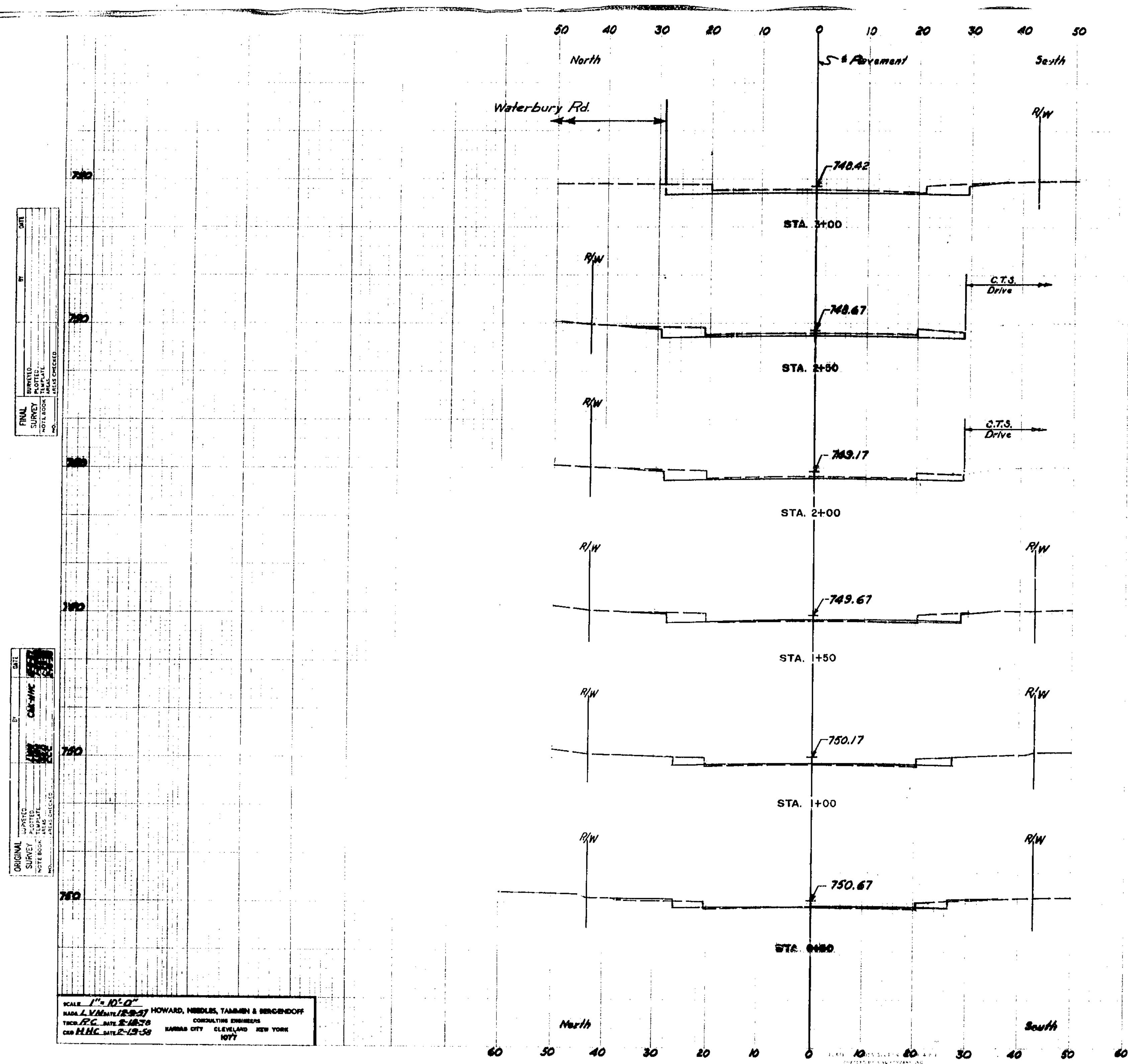
Excavation 472 cu. yds.
 Embankment 69 cu. yds.
 Seeding 38 sq. yds.



SEEDING		EARTHWORK			
WIDTH	AREA	END AREA		VOLUME	
L.F.	SQ. YD.	EXC.	EMB.	EXC.	EMB.
6					
36					
1		6			
4				12	

Excavation 11 cu. yds.
 Embankment 23 cu. yds.
 Seeding 53 sq. yds.

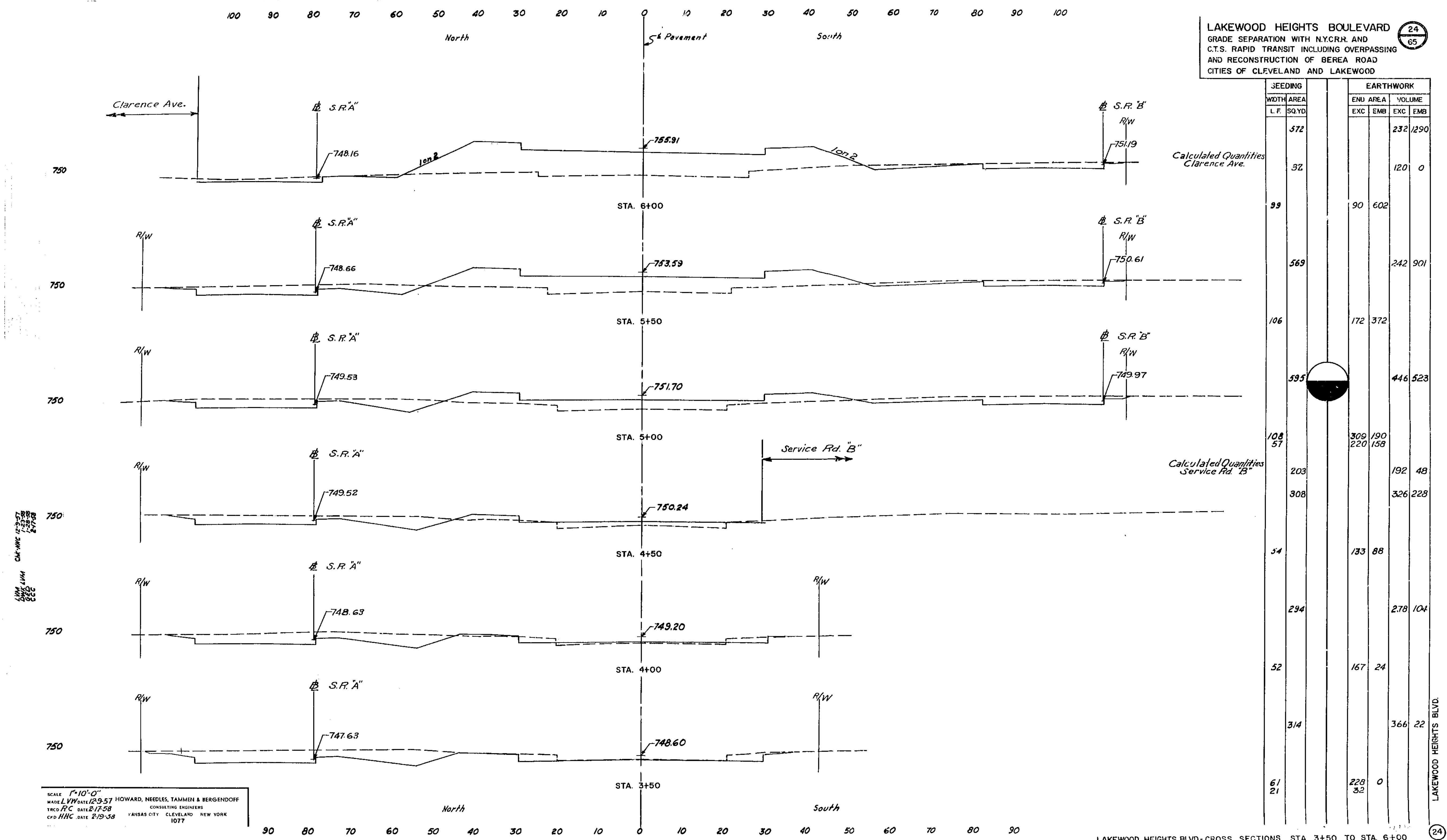
BEREA ROAD - CROSS SECTIONS STA. 97+00 TO STA. 103+00

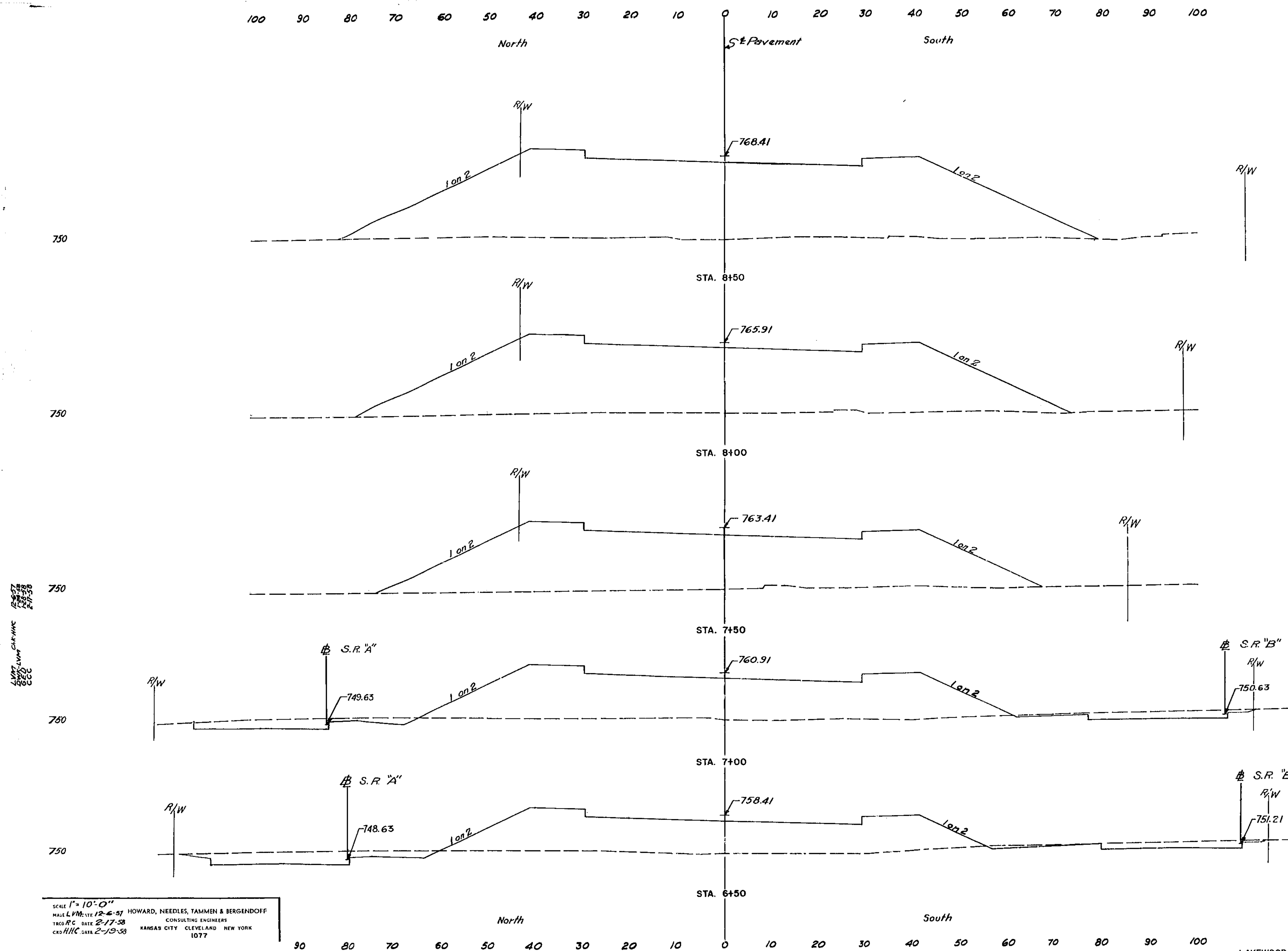


LAKEWOOD HEIGHTS BOULEVARD									
GRADE SEPARATION WITH N.Y.C.R.R. AND C.T.S. RAPID TRANSIT INCLUDING OVERPASSING AND RECONSTRUCTION OF BEREA ROAD CITIES OF CLEVELAND AND LAKEWOOD									
STATION	SEEDING		EARTHWORK		VOLUME				
	WIDTH	AREA	EXC.	EMB.	EXC.	EMB.	EXC.	EMB.	EXC.
0+00	36	90			87	0			
0+10	36	90			340	0			
0+20	10				62	0			
0+30	0				5	0			
0+40	81				110	0			
0+50	19				57	0			
0+60	108				81	0			
0+70	20				35	0			
0+80	114				68	4			
0+90	21				32	4			
1+00	111				48	13			
1+10	19				20	12			
1+20	122				35	26			
1+30	25				18	18			
1+40	89				17	50			

LAKEWOOD HEIGHTS BLVD.-CROSS SECTIONS STA. 0+50 TO STA. 3+00

3976





SCALE 1"=10'-0"
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY CLEVELAND NEW YORK
 1077

LAKEWOOD HEIGHTS BOULEVARD
 GRADE SEPARATION WITH N.Y.C.R.R. AND
 C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
 AND RECONSTRUCTION OF BERA ROAD
 CITIES OF CLEVELAND AND LAKEWOOD

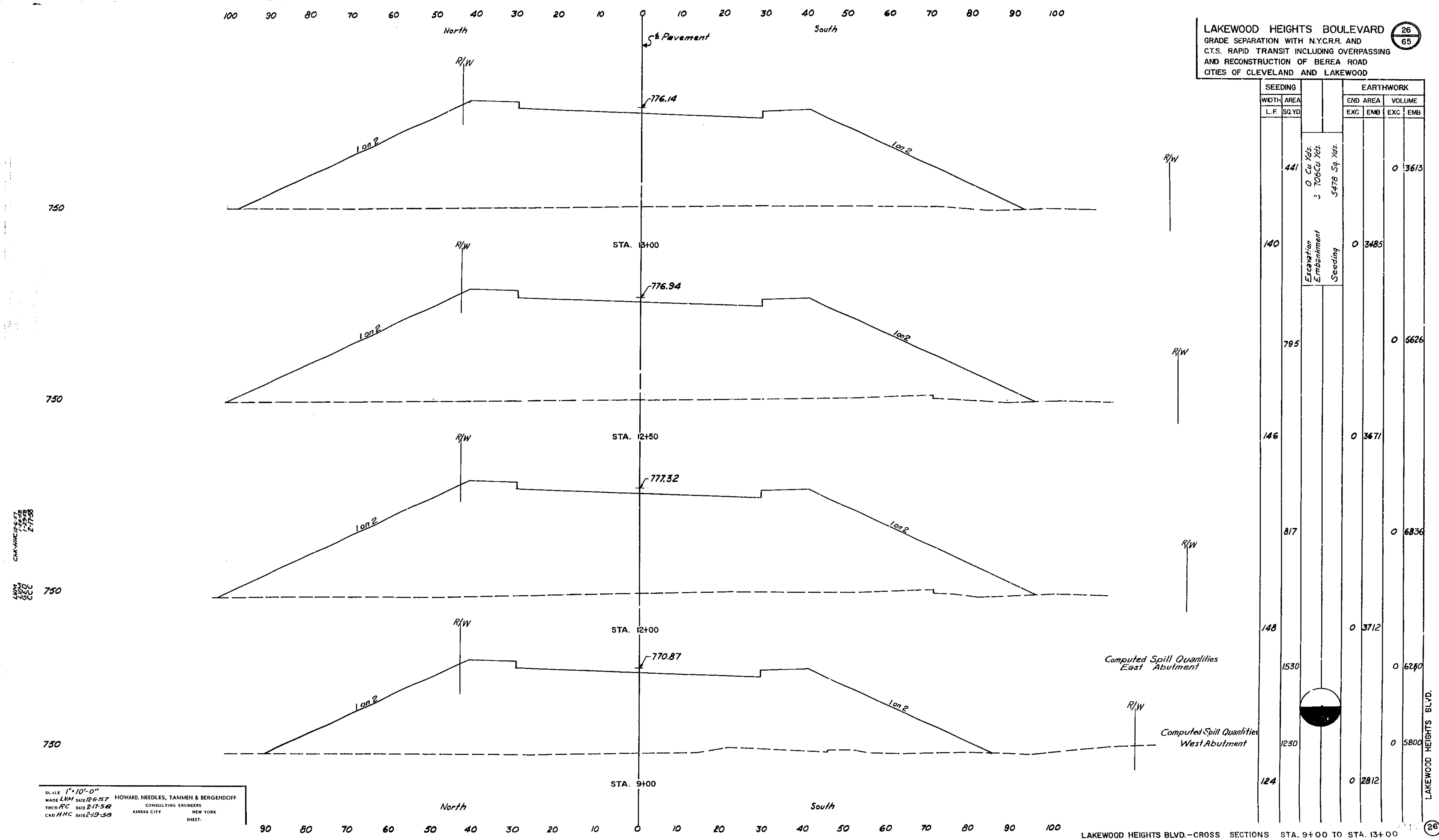
SEEDING	WIDTH	AREA	EARTHWORK			
			END AREA		VOLUME	
L.F.	SQ. YD.		EXC.	EMB.	EXC.	EMB.
641					0	4673
127				0	2235	
567					0	3785
97				0	1853	
503					0	3083
84				0	1483	
10					75	0
40					40	0
525					0	2355
105				0	1060	
589					268	1715
107				160	792	

Calculated Quantities
 End Service Rd. "B"

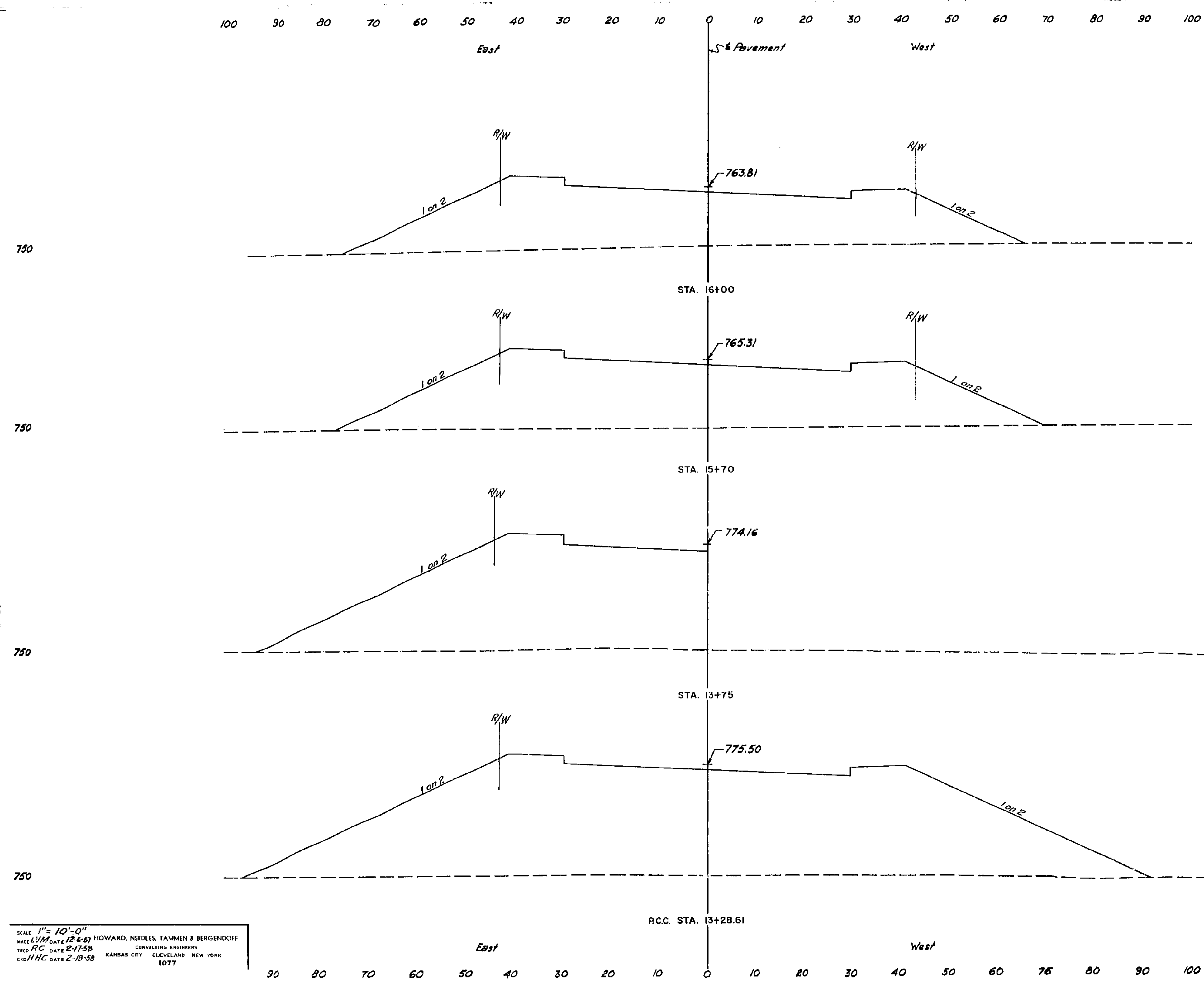
Calculated Quantities
 End Service Rd. "A"

LAKEWOOD HEIGHTS BLVD. - CROSS SECTIONS STA. 6+50 TO STA. 8+50

3978



3979



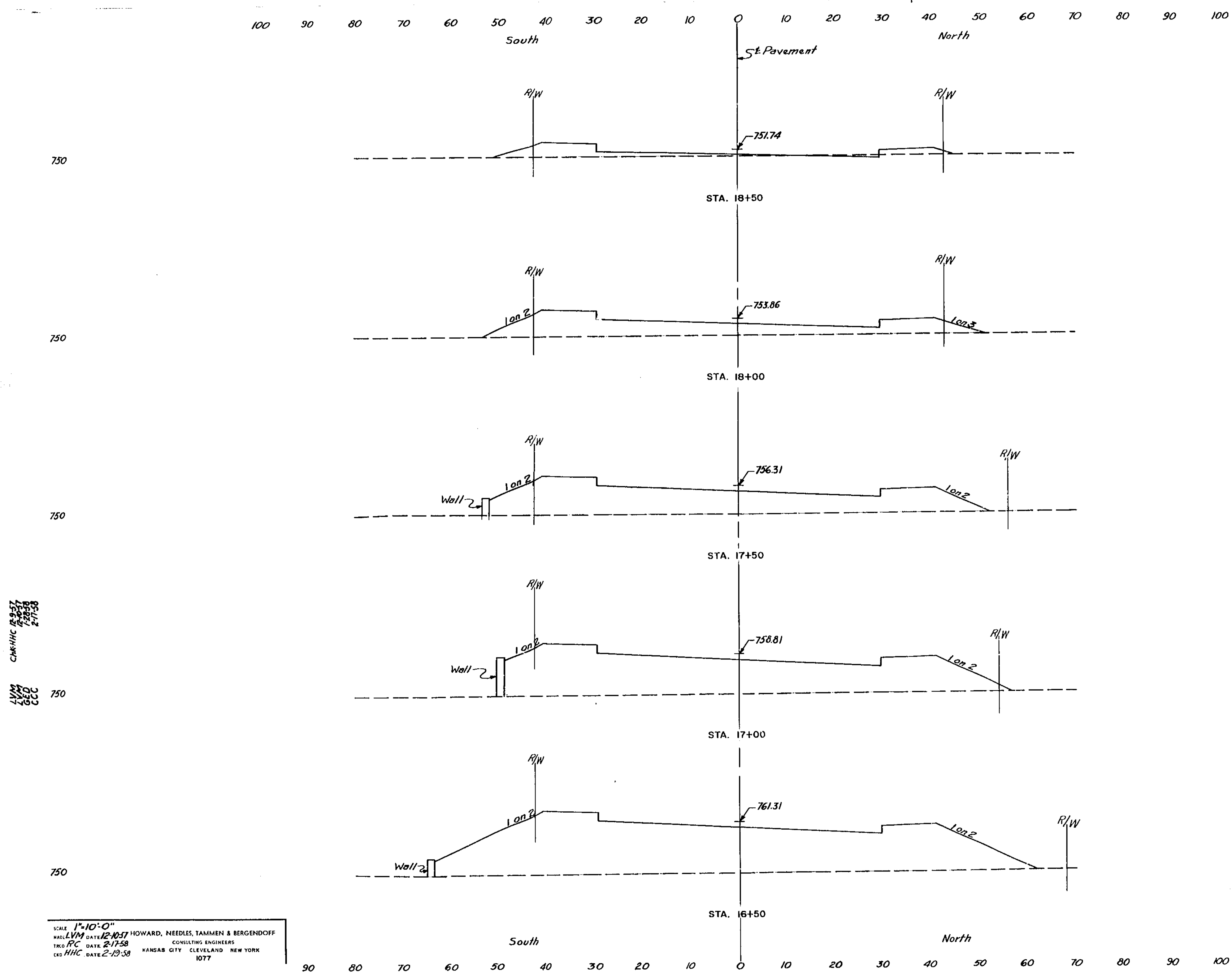
LAKEWOOD HEIGHTS BOULEVARD
 GRADE SEPARATION WITH N.Y.C.R.R. AND
 C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
 AND RECONSTRUCTION OF BEREA ROAD
 CITIES OF CLEVELAND AND LAKEWOOD

SEEDING	WIDTH	AREA	EARTHWORK			
			END AREA		VOLUME	
L.F.	SG. YD.		EXC.	EMB.	EXC.	EMB.
425					0	2474
86					0	1482
235					0	1773
91					0	1710
500					0	3000
750					0	5700
64					0	1615
350					0	2908
72	137				0	1770
					0	3335

Computed Spill Quantities
 South Abutment
 Computed Spill Quantities
 North Abutment

LAKEWOOD HEIGHTS BLVD.-CROSS SECTIONS STA. 13+28.61 TO STA. 16+00

3980



C.M.H.C. 12-10-57
 L.V.M. 12-10-57
 G.E.O. 12-10-57
 C.C.C. 12-10-57

SCALE 1"=10'-0"
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY CLEVELAND NEW YORK
 1077

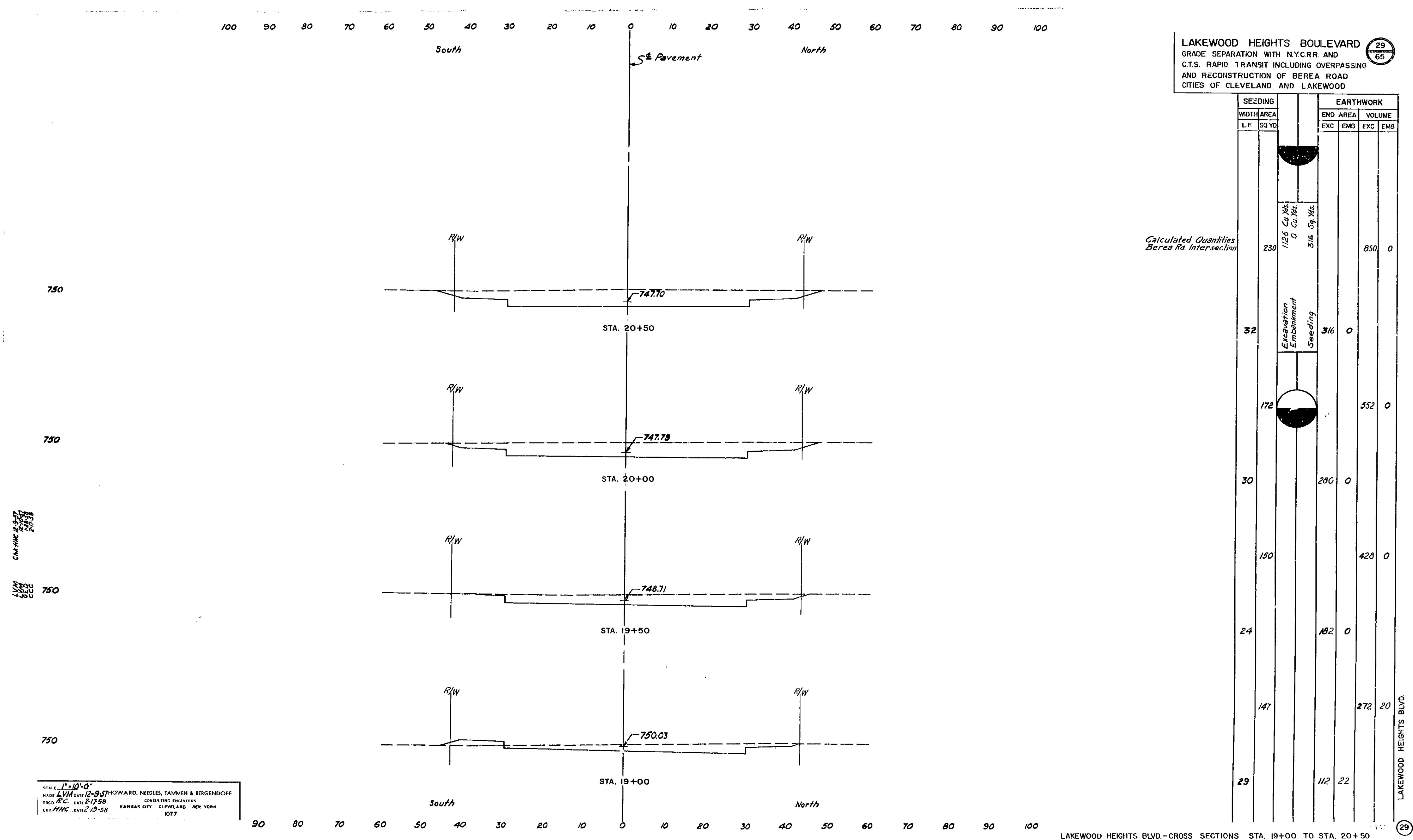
LAKEWOOD HEIGHTS BOULEVARD
 GRADE SEPARATION WITH N.Y.C.R.R. AND
 C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
 AND RECONSTRUCTION OF BEREA ROAD
 CITIES OF CLEVELAND AND LAKEWOOD

SEEDING		EARTHWORK			
WIDTH	AREA	END AREA		VOLUME	
LF	SQ. YD.	EXC	EMB	EXC	EMB
167				107	107
31		4	94		
203			4	374	
42		0	310		
236			0	802	
43		0	556		
242			0	1309	
44		0	858		
308			0	1096	
67		0	1190		

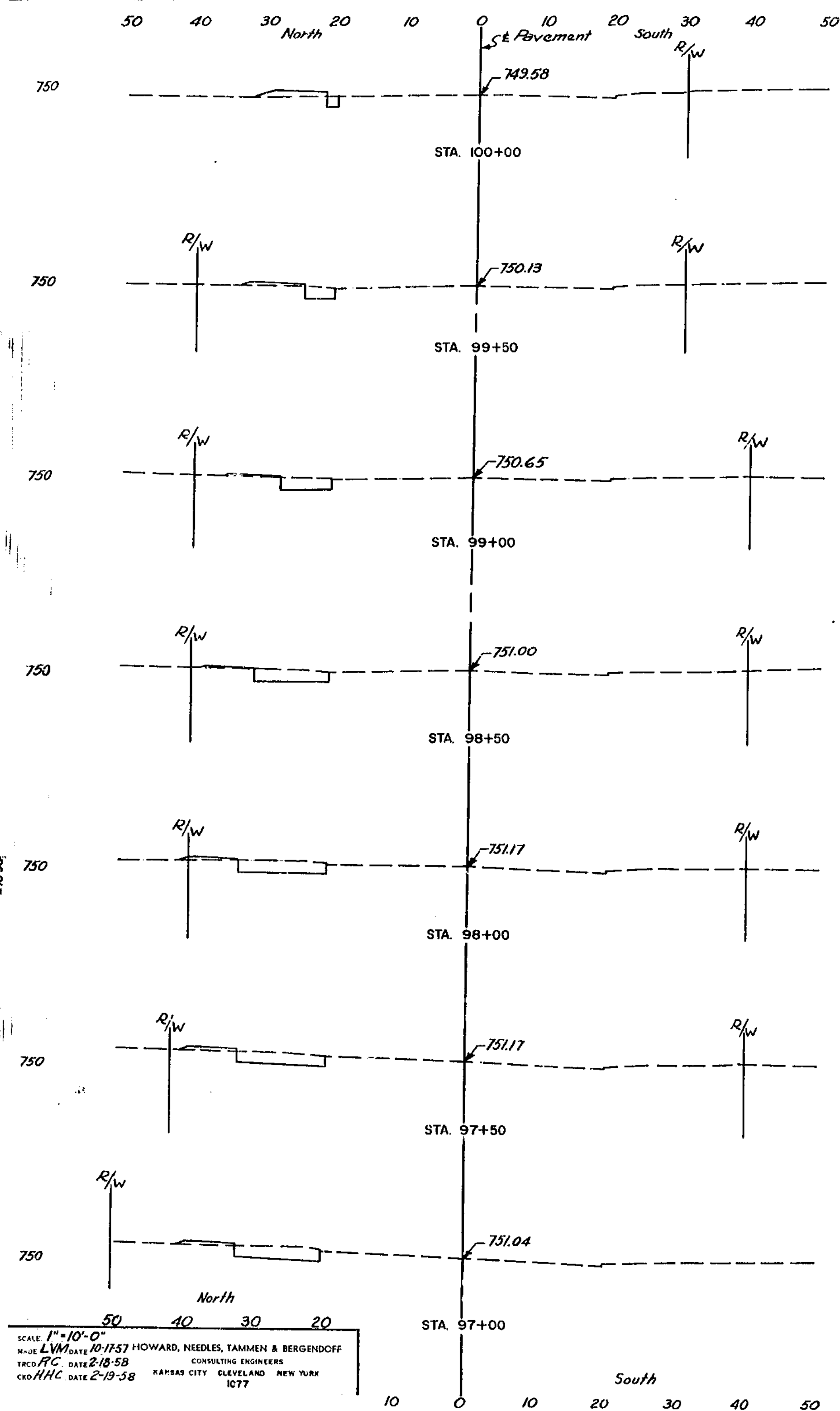
LAKEWOOD HEIGHTS BLVD.

LAKEWOOD HEIGHTS BLVD.-CROSS SECTIONS STA. 16+50 TO STA. 18+50

3981

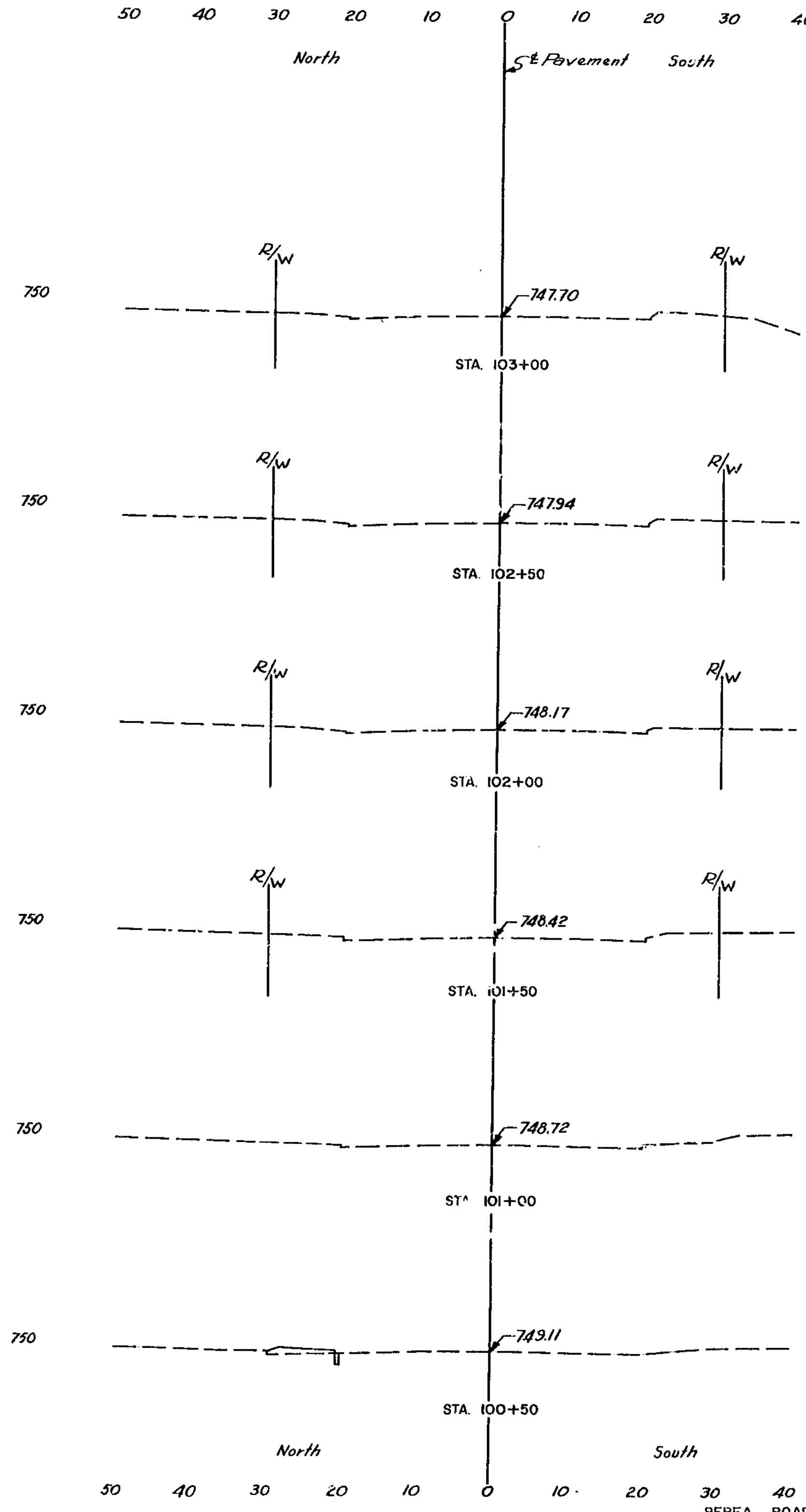


3982



SEEDING		EARTHWORK			
WIDTH	AREA	END AREA		VOLUME	
L.F.	SQ. YD.	EXC.	EMB.	EXC.	EMB.
7		3	7		
35				11	10
5		9	4		
28				22	7
5		15	4		
28				31	7
5		18	4		
31				37	7
6		22	4		
33				40	7
6		21	4		
31				40	7
5		22	4		

Excavation 472 cu. yds.
 Embankment 69 cu. yds.
 Seeding 38 sq. yds.



LAKEWOOD HEIGHTS BOULEVARD
 GRADE SEPARATION WITH N.Y.C.R.R. AND
 C.T.S. RAPID TRANSIT INCLUDING OVERPASSING
 AND RECONSTRUCTION OF BEREA ROAD
 CITIES OF CLEVELAND AND LAKEWOOD

SEEDING		EARTHWORK			
WIDTH	AREA	END AREA		VOLUME	
L.F.	SQ. YD.	EXC.	EMB.	EXC.	EMB.
6					
36					
1		6			
4				12	

Excavation 11 cu. yds.
 Embankment 23 cu. yds.
 Seeding 53 sq. yds.

BEREA ROAD - CROSS SECTIONS STA. 97+00 TO STA. 103+00