FORM 129 A REV. '64

Fed. Proj. No. _____

STATE OF MINNESOTA

DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR GRADING, BASE & BITUMINOUS SURFACING

County State Aid Highway No. 11

Between CR. 78 And 1,085' E. ON CSAH. 11

From A PT. 1,733.23' W. & 445.90' N. OF THE SE. COR. OF SEC. 10, T.31N., R.24W. To A PT. 782.61' W. & 660' N. OF THE SE. COR. OF SEC. 10, T.31N., R.24W.

Give proper reference to Sections, Township and Range

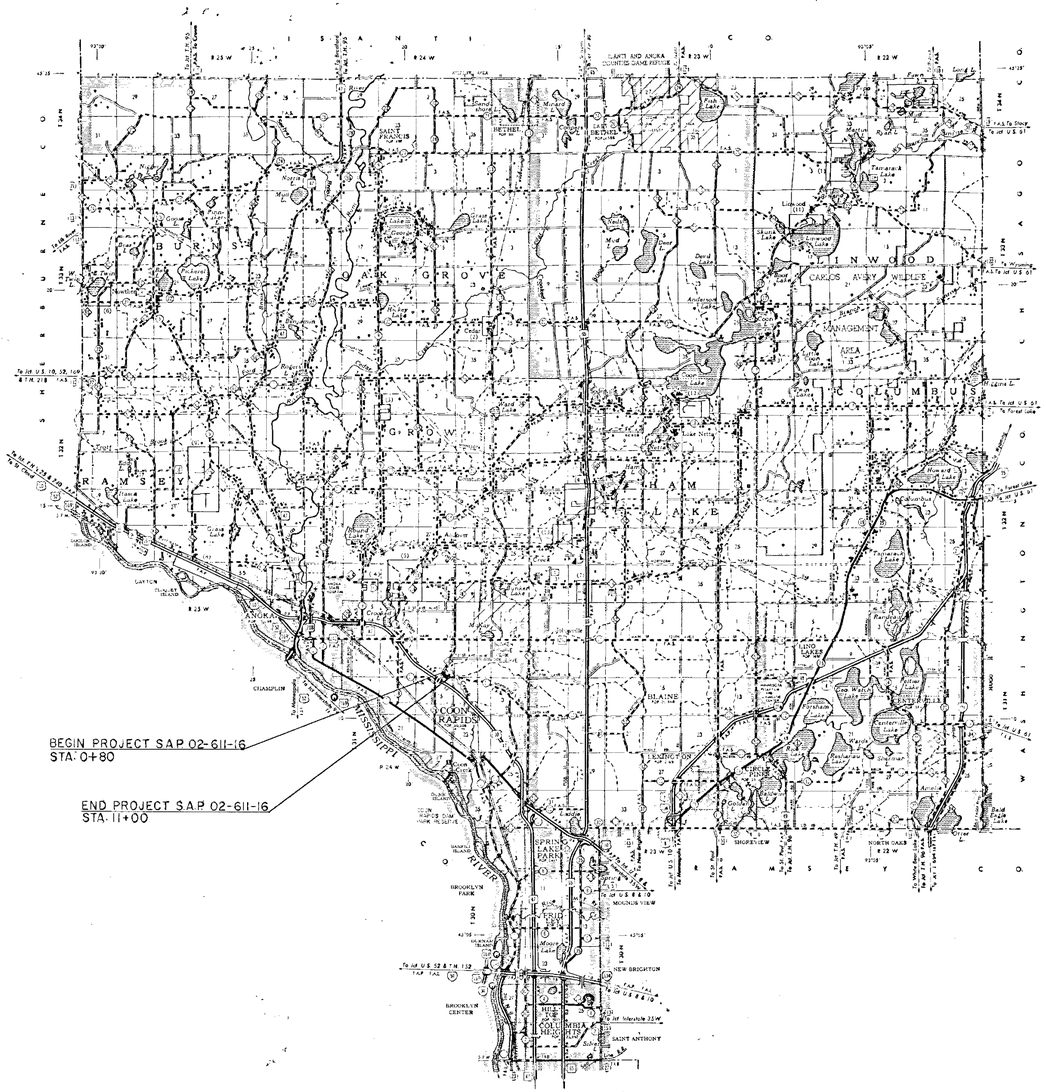
GROSS LENGTH	1,020	FEET	0.193 MILES
BRIDGES-LENGTH	0	FEET	0 MILES
EXCEPTIONS-LENGTH	0	FEET	0 MILES
NET LENGTH	1,020	FEET	0.193 MILES

INDEX OF SHEETS

SCALE: PLAN - 1"=50'
PROFILE - VERT. 1"=5', HORIZ. 1"=50'
X-SEC. 1"=10'

CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
PRESENT RIGHT OF WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY LINE
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
ELECTRIC POWER LINE
TELEPHONE OR TELEGRAPH LINE
JOINT TELEPHONE AND POWER
CONDUIT
TELEPHONE CABLE AERIAL
TELEPHONE CABLE UNDERGROUND
POWER CABLE UNDERGROUND
GAS MAIN
CULVERT
SHOP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
WATER PIPE
SEWER PIPE
DRAIN TILE
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
MANHOLE
FIRE HYDRANT
STREET LIGHT
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame)
F FRAME C CONCRETE
S STONE T TILE
B BRICK ST STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY
MEANDER CORNER



DESIGN DESIGNATION

ADT (CURRENT YEAR) 6,400
ADT (FUTURE YEAR) 11,000 20YR.
T (HEAVY COMMERCIAL) 300-600
9 Ton Design Soil Factor 50%
Design Speed 30 MPH
Design Speed not achieved at:
STA _____ TO STA _____ MPH _____
STA _____ TO STA _____ MPH _____

SPECIFICATIONS

THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", DATED JAN. 1, 1978 SHALL GOVERN

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Paul K. Lund DATE 3/10/78
COUNTY ENGINEER

ANOKA COUNTY REG. NO 6549

RECOMMENDED FOR APPROVAL A.E. Wenkel Jr. 9-24 1978
DISTRICT ENGINEER

RECOMMENDED FOR APPROVAL Delwert O. Offedahl 10-4 1978

APPROVED 10/5 1978 Gurdon M. Fay
STATE AID ENGINEER

Minn. Proj. No. _____ County Proj. No. _____
State Proj. No. _____ S.A.P. 02-611-16

ANOKA County, Minnesota. Plan No. _____ Sheet 1 of 8 Sheets

DAHMS PHOTO PRINT CO.
MINNEAPOLIS 1, MINN.

FORM MHD 21165 – 10 – 58

Fed. Proj. No.

STATEMENT OF ESTIMATED QUANTITIES

	ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES
	2101.501	CLEARING	ACRE	0.85	0.55
	2101.502	CLEARING	TREE	4	25
	2101.506	GRUBBING	ACRE	0.30	0.30
	2104.501	REMOVE PIPE CULVERTS	LIN. FT.	22	22
	2105.521	GRANULAR BORROW (L.V.)	CU. YD.	29,542	7,024
	2105.501	COMMON EXCAVATION	CU. YD.	1,562 (P)	1,562
	2105.521	GRANULAR BORROW-MODIFIED (L.V.)	CU. YD.	49,942	14,704
	2105.525	TOPSOIL BORROW (L.V.)	CU. YD.	1,300	1583
①	2105.533	SALVAGED AGGREGATE (IN STOCKPILE)(L.V.)	CU. YD.	21,736	4,793
	0105.602	SETTLEMENT PLATES	EACH	8	3
②	2130.501	WATER	M - GALLON	50	0
③	2211.501	AGGREGATE BASE, CLASS - 5	TON	3,250	3,937
	2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	92	93.5
④	2331.510	BINDER COURSE MIXTURE	TON	670	136
⑤	2331.514	BASE COURSE MIXTURE	TON	1,235	1116
	2361.504	ASPHALT CEMENT	TON	34	30.2
⑥	2361.508	WEARING COURSE MIXTURE	TON	422	350
	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	600	713
⑦	2358.501	BITUMINOUS MATERIAL FOR PRIME COAT	GALLON	1,550	0
	2501.511	15" C.M. PIPE CULVERT	LIN. FT.	50	130
	2501.511	24" C.M. PIPE CULVERT	LIN. FT.	94	91
	2501.515	15" C.M. PIPE APRONS	EACH	2	4
	2501.515	24" C.M. PIPE APRONS	EACH	2	2
	2506.522	ADJUST FRAME & RING CASTINGS	EACH	2	2
	504.602	ADJUST VALVE BOX-WATER	EACH	1	1
	2535.501	BITUMINOUS CURB	LIN. FT.	250	225
	2575.501	ROADSIDE SEEDING	ACRE	1.9 (P)	1.9
	2575.502	SEED, MIXTURE - 5	POUND	100	100
⑧	2575.505	SODDING	SQ. YD.	550	399
	2575.511	MULCH MATERIAL , TYPE - 5	TON	1.5	0
	2575.531	COMMERCIAL FERTILIZER, ANALYSIS 10 - 10 - 10	TON	0.5	0.5
	2575.511	MULCH MATERIAL, TYPE - 1	TON		4.15
	2575.519	DISC HARROWING	ACRE		1.9

① FOR REMOVAL OF SURCHARGE MATERIAL
② FOR DUST CONTROL
③ INCLUDES 200 TON FOR ROAD APPROACH & CUL DE SAC
④ INCLUDES 180 TON FOR ROAD APPROACH & CUL DE SAC
⑤ INCLUDES 50 TON FOR ROAD APPROACHES
⑥ INCLUDES 92 TON FOR ROAD APPROACH & CUL DE SAC
⑦ TO BE USED FOR SHORT TERM DUST CONTROL AT DIRECTION OF ENGINEER
⑧ TO BE USED ON CUL DE SAC & PIPE CULVERT ENDS

The following Standard Plates, approved by the Federal Highway Administration, shall apply on this project.

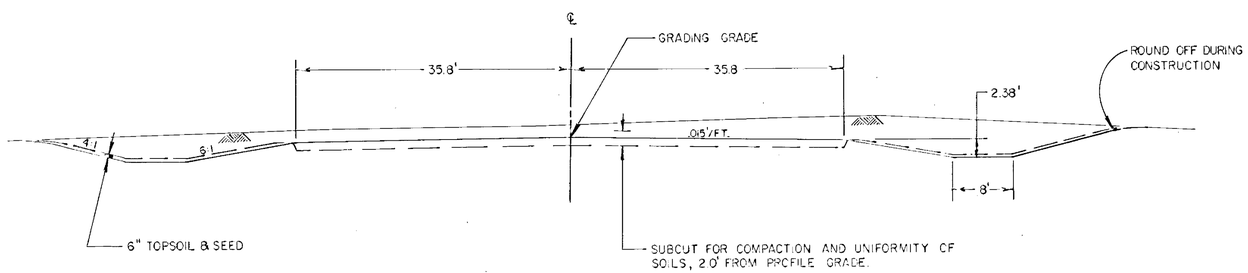
STANDARD PLATES	
PLATE NO.	**DESCRIPTION**
0003 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3040 D	CORRUGATED METAL PIPE
3123 G	METAL APRON FOR C.M. PIPE
8000 F	STANDARD BARRICADES
9000 B	APPROACHES & ENTRANCES
9102 C	SODDING AT PIPE CULVERT ENDS

ALL DIMENSIONS NOMINAL

TYPICAL SECTIONS

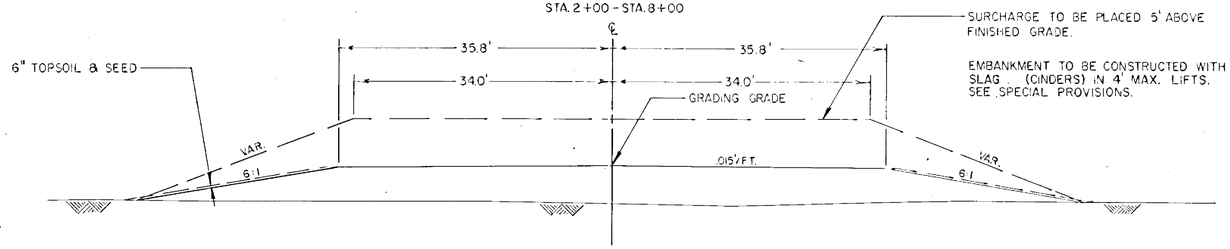
GRADING

STA. 0+15 – STA. 2+00



GRADING

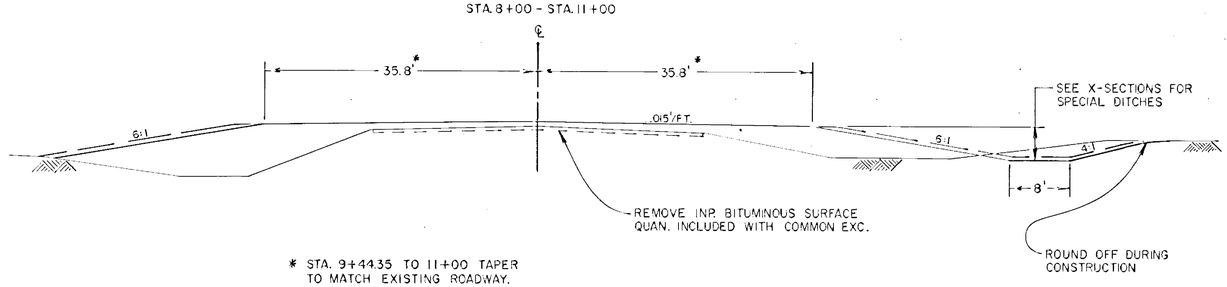
STA. 2+00 – STA. 8+00



FOR SPECIAL DITCHES SEE PLAN & PROFILE AND CROSS SECTION SHEETS.

GRADING

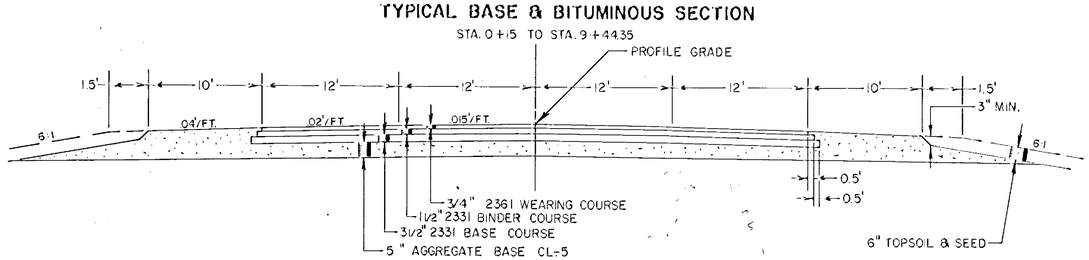
STA. 8+00 – STA. 11+00



* STA. 9+44.35 TO 11+00 TAPER TO MATCH EXISTING ROADWAY.

TYPICAL BASE & BITUMINOUS SECTION

STA. 0+15 TO STA. 9+44.35



NOTE: STA. 9+44.35 TO 11+00 TAPER TO MATCH EXISTING ROADWAY.

State Proj. No. S.A.P. 02-611-16 Sheet No. 2 of 8 Sheets

BASIS OF PLANNED QUANTITIES

2211 AGGREGATE BASE CLASS - 5, 145LBS. / CU. FT. COMPACTED.

2331 PLANT MIXED BASE COURSE.
BITUMINOUS MIXTURE 165 LBS. / S.Y. PER 1 1/2" THICKNESS.
BITUMINOUS MATERIAL FOR MIXTURE 4.5 % BY WT.

2331 PLANT MIXED BINDER COURSE.
BITUMINOUS MIXTURE 165 LBS. / S.Y. PER 1 1/2" THICKNESS.
BITUMINOUS MATERIAL FOR MIXTURE 5.5 % BY WT.

2361 PLANT MIXED WEARING COURSE.
BITUMINOUS MIXTURE 110 LBS. / S.Y. PER 3/4" THICKNESS.
BITUMINOUS MATERIAL FOR MIXTURE 8.0 % BY WT.

2357 BITUMINOUS MATERIAL FOR TACK COAT 0.05 GAL. PER S.Y.

2575 ROADSIDE SEEDING BASED ON HORIZONTAL MEASUREMENTS PLUS 10 %.

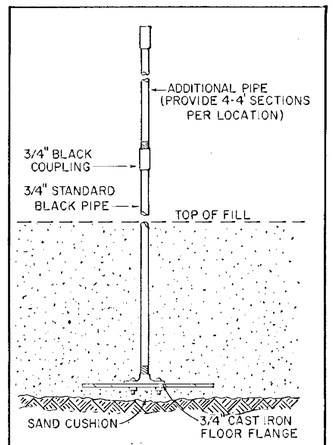
FORM 21167 – 2-63

CLEARING AND GRUBBING

STATION (TO STATION)	LOC.	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
0+45 - 1+29	LT. & RT.		.30		.30
5+65	6' LT.	4			
6+00 - 11+00	LT. & RT.		.55		
	TOTALS =	4	.85		.30

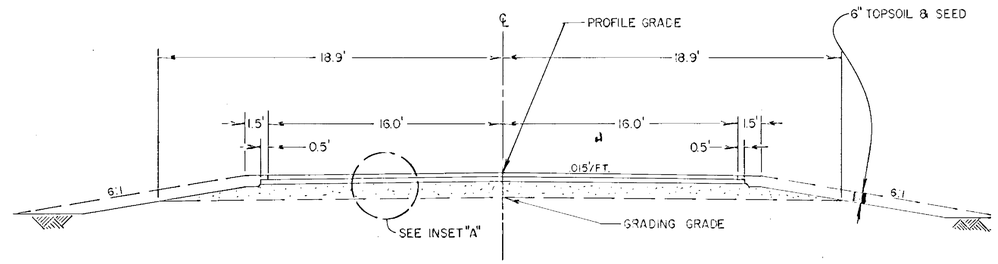
ADJUST FRAME & RING CASTINGS & WATER GATE VALVES

ITEM	STA.	LOCATION
M.H.	2+53	34' RT.
M.H.	6+10	20' RT.
GATE VALVE	5+97	23' LT.

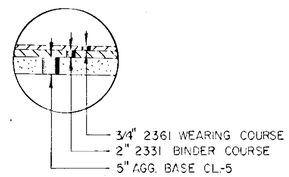


DETAILS FOR SETTLEMENT PLATE CONSTRUCTION & PLACEMENT

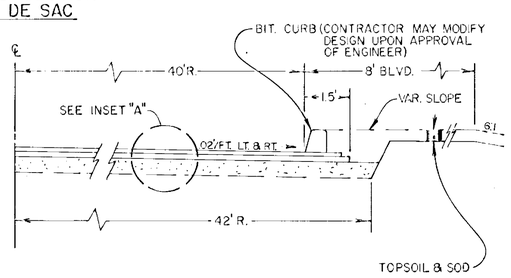
TYPICAL SECTION
JAY ST.



INSET "A"



TYPICAL SECTION
CUL DE SAC



M.H.D. STA. 19+55.27 = N. DALE STA. 0+00.00

BEGIN PROJECT STA. 0+80

B.M. "B", ELEV. 851.66 SPIKE IN 10" POPLAR 260' LT., STA. 3+21

L^2 P.I. 7+13.18
Δ = 49° 30' 02" LT.
D = 10° 00'
T = 264.14'
L = 495.01'
R = 572.96'

END CONSTRUCTION 11+00

L^2 P.O.T. 12+63.63 = L^1 P.T. 12+28.64

L^2 P.I. 1+65.00
Δ = 21° 00' RT.
D = 10° 00'
T = 106.19'
L = 210.00'
R = 572.96'

L^2 P.O.T. 2+68.81

L^2 N. DALE P.O.C. 5+83.48 = L^3 JAY ST. P.O.T. 5+34.37

L^2 P.O.T. 9+44.36

AERIAL CABLE ON POWER CO. POLES

BURIED TELEPHONE CONDUIT

3+00 ℄ X-CULV.
F&I. 24" X 94' C.M.P. CULV.
F&I. 2-24" C.M.P. APRONS

REMOVE 24" X 22' C.M.P. CULV.

ADJUST VALVE BOX-WATER

CONST. CUL DE SAC

F&I. 15" X 50' C.M.P. CULV.
F&I. 2-15" C.M.P. APRONS

FOR CONST. SEE SHEET NO. 8

BURIED TELEPHONE CABLE

CONST. BITUMINOUS CURB

HAUSON BLVD. CR. 78

C.S.A.H. #11 NORTHDALE BLVD.

8" SAN. SEWER

BEGIN JAY ST. CONST. STA. 3+65

HYDRANT

TEL. SPLICE BOX

L^3 P.I. 4+47.91
Δ = 36° 53' 45" RT
D = 40° 00'
T = 47.78'
L = 92.24'
R = 143.24'

B.M. "C", ELEV. 852.34 SPIKE IN 10" POPLAR, 220' LT., STA. 8+40

B.M. "A", ELEV. 861.35 SPIKE IN DBL. 8" OAK 100' SE. OF STARTING PT.

B.M. "D", ELEV. 854.58 SPIKE IN P.P. 75' RT. STA. 13+18

20' OPEN DITCH

TAPER TO MATCH EXISTING SHOULDER LT. & RT.

South line of the Southeast Quarter of Section 10, Township 31, Range 24

BURIED TELEPHONE CONDUIT

REMOVE BASE & BITUMINOUS SURFACE, REGRADE, PLACE TOPSOIL, SEED & MULCH.

WOODS & BRUSH

LOWLAND

BRUSH

L^2 ALIGNMENT PROFILE

SURCHARGE GRADE

PROFILE GRADE

-1.78 %

GRADING GRADE

2' SUBCUT FOR COMPACTION AND UNIFORMITY OF SOILS

F.L. RT. 852.2 LT. 852.0

SPECIAL DITCH RT. -0.15%

SPECIAL DITCH RT.

860.00
855.00
850.00
845.00

STRUCTURE INVENTORY SHEET

SUMMARY OF EXCAVATION & EMBANKMENT

NEW ALIGNMENT OF NORTHDALE BLVD. (L^2 ALIGNMENT)
EXC. 615 C.Y. } 856 C.Y. COMMON EXC.
SUBCUT 241 C.Y. }
EMB. 27,168 C.Y. } 47,691 C.Y. GRANULAR BORROW
① EMB. FOR SURCHARGE 20,523 C.Y. }

JAY STREET APPROACH
EXC. 0
EMB. 1,038 C.Y. } 2,251 C.Y. GRANULAR BORROW
① EMB. FOR SURCHARGE 1,213 C.Y. }

CUL DE SAC & REGRADING NORTHDALE BLVD.
EXC. 706 C.Y.
EMB. 144 C.Y.
EXCESS 562 C.Y.

TOTALS
COMMON EXC. 1,562 C.Y.
GRANULAR BORROW 49,942 C.Y.
① SALVAGED AGGREGATE 21,736 C.Y. (FOR REMOVAL OF SURCHARGE)

STATIONS	EXCAVATION C.Y.	EMBANKMENT C.Y.	SUBTOTALS
0+45 859.6			
BLVD. GRADE FOR HANSON PROJECT (EXC. COMPUTED TO THIS LINE)			
SUBCUT FOR COMPACTION & UNIFORMITY OF SOILS			
	28	0	
SUBCUT	25		
0+31 857.2			
0+21 857.8			
0+12 858.1			
0+00 858.3 ℄ HANSON BLVD.			

STATIONS	EXCAVATION C.Y.	EMBANKMENT C.Y.	SUBTOTALS
		0	1,409 ①
			1,065 ②
4+00 852.4			
		0	2,822 ①
			2,074 ②
3+00 852.7			
F.L. 852.0			EL. 852.2
F.& I. 24" X 94' C.M.P. CULV. & 2 APRONS			
		0	2,300 ①
			2,006 ②
2+00 852.9			
PLANNED SURCHARGE (TYP.)			
ANTICIPATED SETTLEMENT (FILL COMPUTED TO THIS GRADE)			
		91	893 ①
SUBCUT		50	969 ②
END SUBCUT 1+25			
1+00 856.9			
		222	4 ①
SUBCUT		166	

① FILL MATERIAL TO GRADING GRADE (INCLUDING ANTICIPATED SETTLEMENT)

② MATERIAL FOR SURCHARGE

℄ ℄

PLATE 3 FULL CROSS SECTION FULL SCALE

STATIONS	EXCAVATION CU. YDS.	EMBANKMENT CU. YDS.	SUBGRADE ft²
7+00	0	1,205 ① 984 ②	848.9
6+50	0	1,301 ① 968 ②	852.2
6+00	0	2,626 ① 1,959 ②	852.1
5+00	0	1,370 ① 1,046 ②	852.7
4+50	44	135 ①	853.0
10+00	96	454 ①	855.2
9+00	93	767 ① 187 ②	855.2
8+00	41	1552 ① 1,180 ②	854.7

STA. 6+00 TO 7+25 RT.
GRADE THIS AREA TO DRAIN

PLANNED SURCHARGE (TYP.)

ANTICIPATED SETTLEMENT
(FILL COMPUTED TO THIS GRADE)

S.D. 851.35

S.D. 851.5

S.D. 851.65

TOTALS FOR ℄ ALIGNMENT

EXCAVATION 615 C.Y.
SUBCUT 241 C.Y.
} 856 C.Y. COMMON EXCAVATION

EMBANKMENT 16,838 C.Y. X 165% * = 27,783 − 615 = 27,168 C.Y. (V.M.)
FILL FOR SURCHARGE 12,438 C.Y. X 165% * = 20,523 C.Y. (V.M.)
} 47,691 C.Y. GRANULAR BORROW

* SHRINKAGE FACTOR (COMPACTED VOLUME TO VEHICULAR MEASURE)

① FILL MATERIAL TO GRADING GRADE (INCLUDING ANTICIPATED SETTLEMENT)

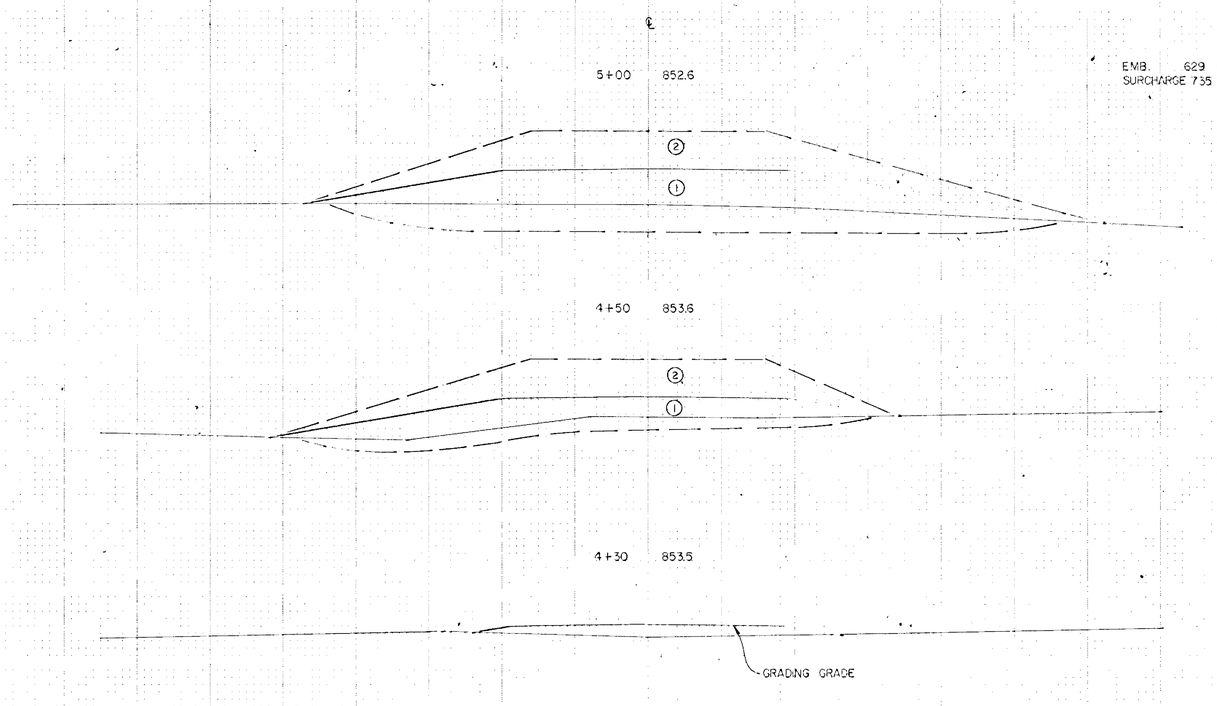
② MATERIAL FOR SURCHARGE

℄ ℄

PLATE 3 FULL CROSS SECTION FULL DOT

S.A.P. 02-611-16 Sheet No. 6 of 8 Sheets

JAY STREET APPROACH



EXCAVATION EMBANKMENT

Station	Cu. Yds. (1)	Cu. Yds. (2)	Surface
5+00	0	482	(1)
		615	(2)
4+50	0	101	(1)
		120	(2)
4+30	0	46	

TOTALS

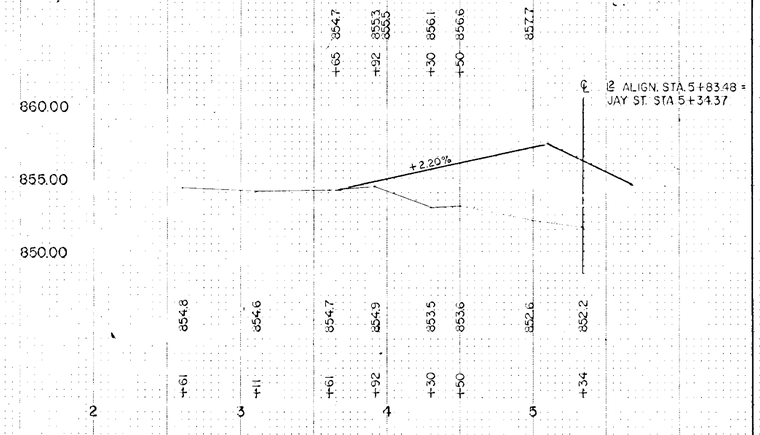
EMB. 629 X 165%* = 1,038 C.Y.
SURCHARGE 735 X 165%* = 1,213 C.Y.
} 2,251 C.Y. GRANULAR BORROW

* SHRINKAGE FACTOR (COMPACTED VOLUME TO VEHICULAR MEASURE)

(1) FILL MATERIAL INCLUDING ANTICIPATED SETTLEMENT TO GRADING GRADE

(2) MATERIAL FOR SURCHARGE

PROFILE
JAY ST. APPROACH



12 ALIGNMENT SUPERELEVATION
30 MPH. DESIGN
.048'/F.T. MAX. SLOPE

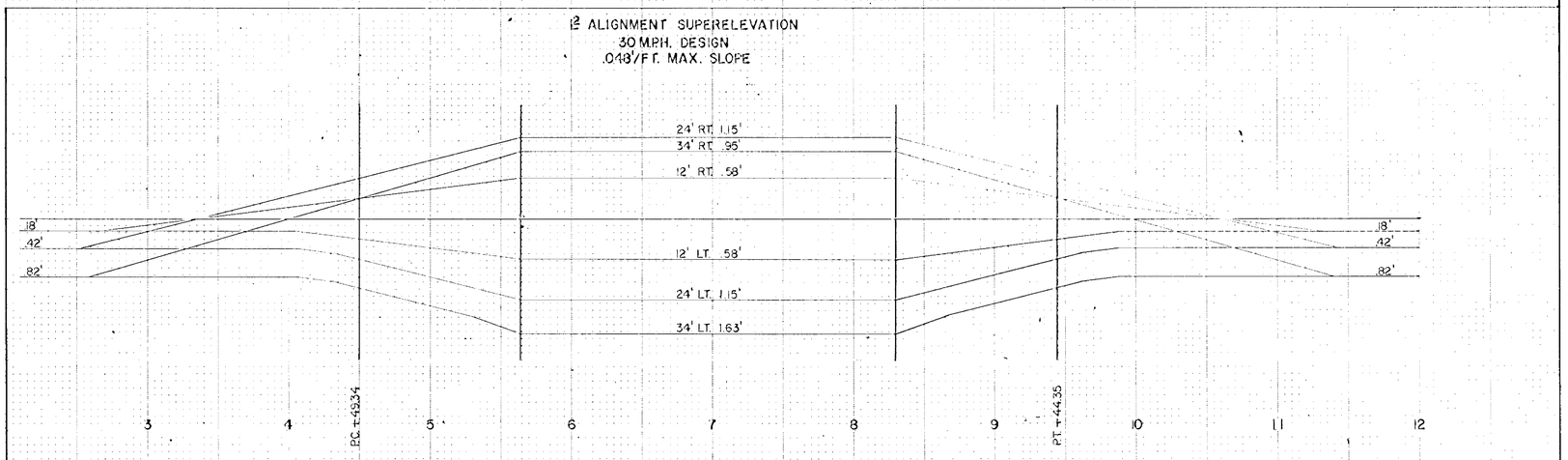


PLATE 3 FULL CROSS SECTION FULL DOT

S.A.P. 02-611-16 Sheet No. 7 of 8 Sheets

CUL DE SAC CONSTRUCTION & REGRADING NORTHDALE BLVD.

	EXCAVATION	EMBANKMENT
	CU. YDS.	CU. YDS.
2+85 860.3	27	12
2+55 861.5	73	29
2+35 862.3	66	13
2+15 863.4	68	11
2+00 864.1	37	6
1+00 868.4	187	26
0+50 869.6	46	5

FINISH GRADE

S.D. 862.3

FINISH GRADE

S.D. 862.6

GRADING GRADE

FINISH WITH 3" TOPSOIL & SEED

S.D. 864.4

℄ L² ALIGN.

FILL INCLUDED WITH L² ALIGN.

	EXCAVATION	EMBANKMENT
	CU. YDS.	CU. YDS.
8+00 855.2		
END ROAD REMOVAL 7+95		
7+00 855.2	102	2
GRADE TO DRAIN		
	81	1
BEGIN REGRADING 6+25		
END CUL DE SAC CONSTRUCTION 3+15		
3+15 859.2		
	19	2
3+00 859.8		

EXCAVATION 706 C.Y.
EMBANKMENT 107 C.Y. X 135% = 144 C.Y.
EXCESS 562 C.Y.

GRADING GRADE FOR ROAD REMOVAL

-3.20%

SPECIAL DITCH GRADE -1.90%

-2.50%

15:1

CUL DE SAC CONST.

2+55 RAD. PT. (40' R.)

END CONSTRUCTION 3+15

GRADING GRADE

℄ PROFILE NORTHDALE BLVD.

PROFILE FOR CUL DE SAC CONSTRUCTION & REGRADING NORTHDALE BLVD.

	1+00	2+00	+35	+55	+85	3+00	+15	4+00	5+00	+87	6+00	+10
Existing	869.6	864.1	862.3	861.5	860.3	859.8	859.2	857.3	855.9	855.0		854.9
Proposed	869.6	868.4										

870.00
865.00
860.00
855.00
850.00

PLATE 3 FULL CROSS SECTION FULL DOT

S.A.P. 02-611-16 Sheet No. 8 of 8 Sheets