S-135 (I)

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	S-135 (I)	1947	1/44

BROWN COUNTY
S.H. 951 SEC. E (PT.)
BRO. 774 - 3.47

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
FELICITY-HAMERSVILLE-OAKLAND ROAD
S.H. 951 SEC. E (PT.)
PIKE TOWNSHIP
BROWN COUNTY

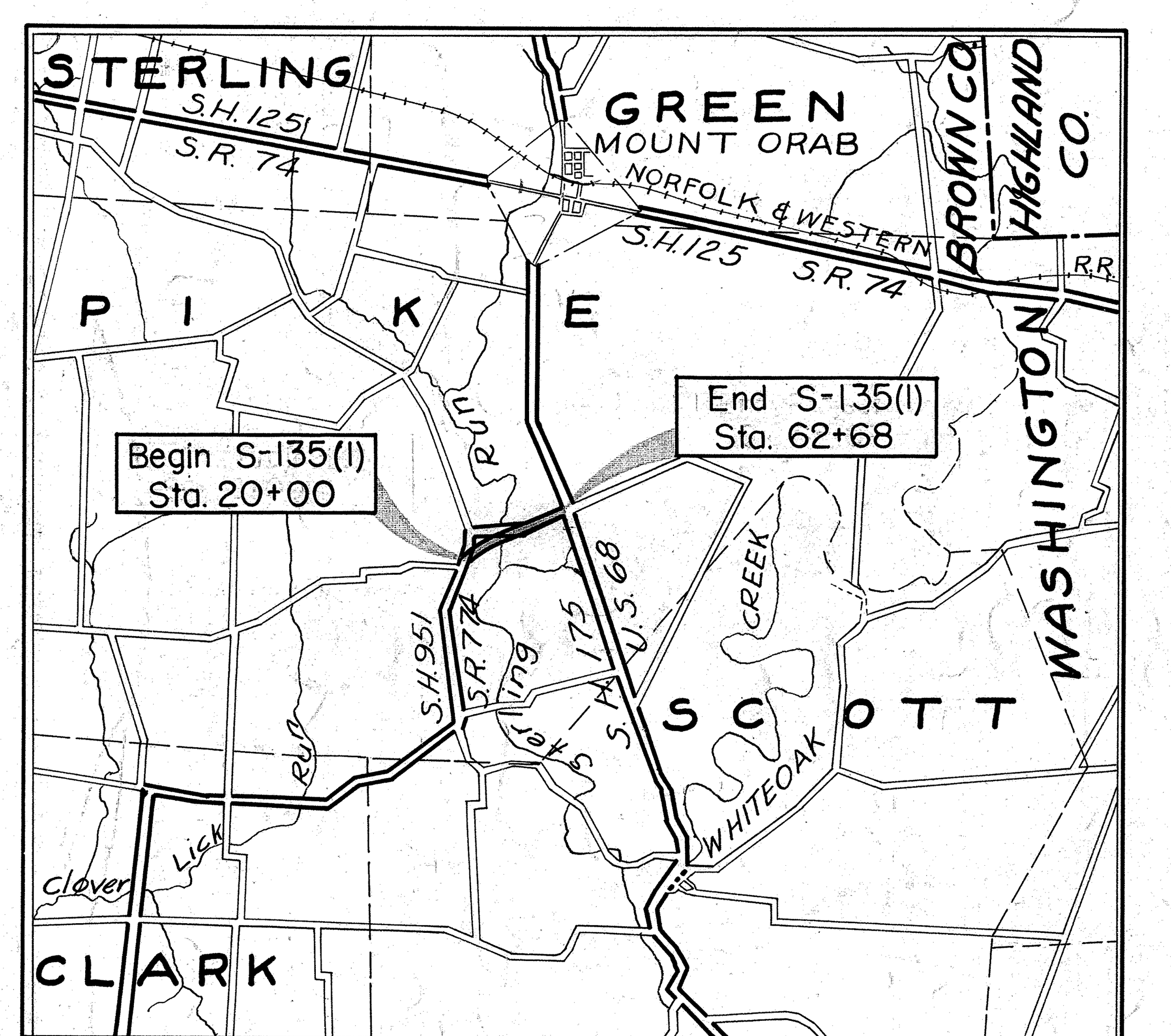
CONVENTIONAL SIGNS

- County Line
- Township Line
- City or Village Line
- Property Line (not fenced)
- Fence Line
- Center Line
- Pole Line — Telephone

INDEX OF SHEETS

LINE DATA

Begin Project S-135(I)	Sta. 20+00	
End Project S-135(I)	Sta. 62+68	
Length of Project		4268 Lin. Ft.
Net Length of Project S-135 (I)		4268 Lin. Ft. or 0.808 Miles
Begin Work Sta. 19+00		
End Work Sta. 63+02		
Length of Work		4402 Lin. Ft. or 0.833 Miles



Delivery Point Mount Orab N. & W. R.R.
Average haul from siding 2.5 Miles

LOCATION PLAN

SCALE OF MILES

0 1 2 3 4

- Portion to be improved
- State Roads
- Other Roads

SCALE

Plan	1" = 50'
Profile Horizontal	1" = 50'
Profile Vertical	1" = 10'
Cross Sections	1" = 5'

The standard specifications of the State of Ohio, Department of Highways, including changes and supplemental specifications listed in the proposal shall govern this improvement.

The right of way for this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved Elmer S. Barth
Date 2-19-47 Division Deputy Director

Approved
Date Chief Engineer, Bureau of Maintenance

Approved G. Sloane
Date 4-10-47 Chief Engineer, Bureau of Bridges & R.R. Crossings

Approved George J. Thornyer
Date 7/10/47 Chief Engineer, Bureau of Location & Design

Approved
Date First Ass't. Director & Chief Engineer

Approved Murray D. Shaffer
Date 7-14-47 Director of Highways

CONSTRUCTION BUREAU
AUG 14 1956
GROUND PHOTOLAB

Recommended for Approval	Date
District Engineer Public Roads Administration Federal Works Agency	

Approved	Date
Division Engineer Public Roads Administration Federal Works Agency	

Supplemental Prints of Standard Construction Drawings	
*I-15 No. 8 2-1-47	*G-8.07 2-1-47
*I-15 No. 1 3-1-47	AS-44-F 1-18-46
*I-15 No. 2 2-1-47	*S-27 PC-1 3-1-39
*I-15 No. 4 2-1-47	*S-27 PC-3 2-20-45
*I-15 No. 5 2-1-47	*B-T-71 R 2-1-47
*I-15 No. 6 2-1-47	*L-3 2-1-47
*I-15 No. 7 2-1-47	*I-15 No 9 2-1-47 *I-14 G 2-1-47

*Recommended for approval by P.R.A. 2-21-47

Supplemental Specifications			
SS 112	Rev. 11-6-46		
E-109	12-21-39		
E-305	5-1-41		
T-110	Rev. 8-3-36		
M-102.12	8-2-43		
T-170.15	8-2-43		
T-110	8-3-36		

File No.	Brown County: S.H. 951 Sec. E (Pt.) Date of Letting: 194 Contract No.


FED. RD. DIVISION 2
STATE OHIO
PROJECT S-135(1)
FISCAL YEAR 1947
2
44
BROWN COUNTY
S.H. 951 SEC. E(PT.)
Barricade to consist of 5 Standard Guard Rail Posts spaced 4'-0" c/c
PRESENT ROAD
100'
200'
Prop. Shore Line Elev. 906.0
Exist. Pavt. to be Removed as E-1 Excavation
Elev. Pavt. over Structure 918.2
EXISTING STRUCTURE
Old stone masonry abutments and temporary bridge. (To be removed)
PROP. LAKE SHORELINE
Exist. Pavement to be removed
APPROACH
Ex. Pavt. to be removed
STA. 19+00
STA. 20+00
BEGIN WORK
BEGIN PROJECT
PC 21+06.99
PT. 32+44.72
Δ 45°26' RT.
D = 4°00'
T = 599.67
R = 1432.40
L = 1135.83
E = 118.58
STERLING RUN
PROPOSED CHANNEL
PROPOSED CENTERLINE
PC 49+36.4
PT. 54+09.73
Δ = 9°28' RT.
D = 2°00'
T = 237.21
R = 2864.79
L = 473.33
Scale 1" = 150'
PROPOSED STRUCTURE
TYPE: Concrete rigid frame
SPAN: 60'-0" clear
ROADWAY: 24'-0" plus two 3'-0" sidewalks
LOADING: S-15-40
SKEW: None
SURFACE COURSE: Bituminous
APPROACH SLABS: 15' long (AS-44-F, type IV)
END PROJECT STA. 62+68
END WORK STA. 63+02
4°-00' Curve Rt.
Passing S.D. 575'
2° Curve Rt.
Passing S.D. 750'
937.7 940.31 941.43 941.81 942.19 942.47 942.05 940.83 938.81 935.99 932.37 927.95 922.99 919.08 916.47 915.16 915.00 915.00 915.00 915.00 915.00 915.00 915.16 916.48 919.11 923.05 928.07 932.71 936.73 940.13 942.91 946.07 946.61 947.53 947.83 947.49 947.27 946.95 946.63 946.31 945.99 945.67 945.35
950
940
930
920
910
900
890
880
Passing S.D. 275'
Non Passing S.D. 200'
Passing S.D. 675'
Non Passing S.D. 550
Passing S.D. 750'
Non Passing S.D. 600'
+3.35%
+0.38%
-5.22%
+5.26%
-0.32%
Grade line shown is crown of proposed pavement
APPROACH
200' V.C.
700' V.C.
400' V.C.
400' V.C.
900' V.C.
BRIDGE LIMITS
BEGIN WORK STA. 19+00
BEGIN PROJECT STA. 20+00
Scale
Horiz. 1" = 150'-0"
Vert. 1" = 10'-0"
Normal Water Level Elev. 885.3
PROFILE SHOWING EXISTING ROADWAY ℄ AND PROPOSED ℄
END PROJECT STA. 62+68
END WORK STA. 63+02
943.7 941.4 933.9 928.2 927.0 929.1 937.7 941.2 942.9 942.8 942.4 943.1 943.8 944.0 944.0 942.4 940.1 933.1 929.0 931.6 928.8 929.2 923.8 919.7 915.1 908.4 902.8 893.2 888.4 890.7 892.7 883.8 883.8 891.5 894.9 902.9 907.2 914.0 918.7 926.6 933.7 938.6 939.1 942.2 938.0 940.1 943.8 946.2 947.8 948.3 946.6 946.1 945.8 945.9 946.1 946.3 945.7 945.4 945.1
15 18 21 24 27 30 33 36 39 42 45 48 51 54 57 60
SCHEMATIC PLAN

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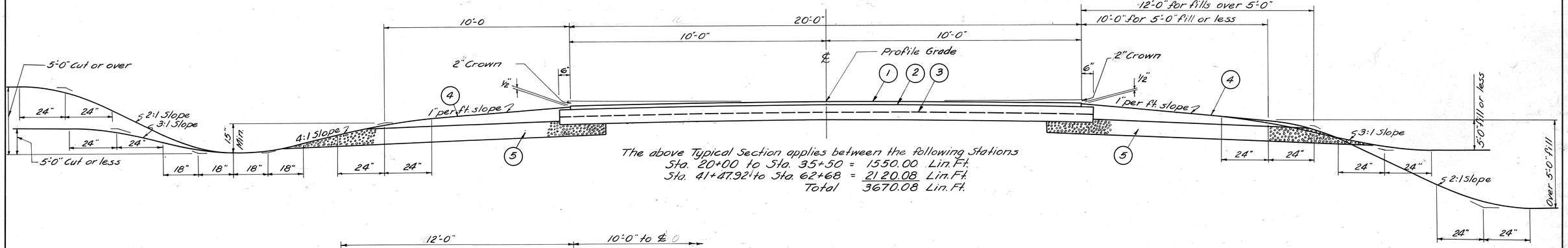
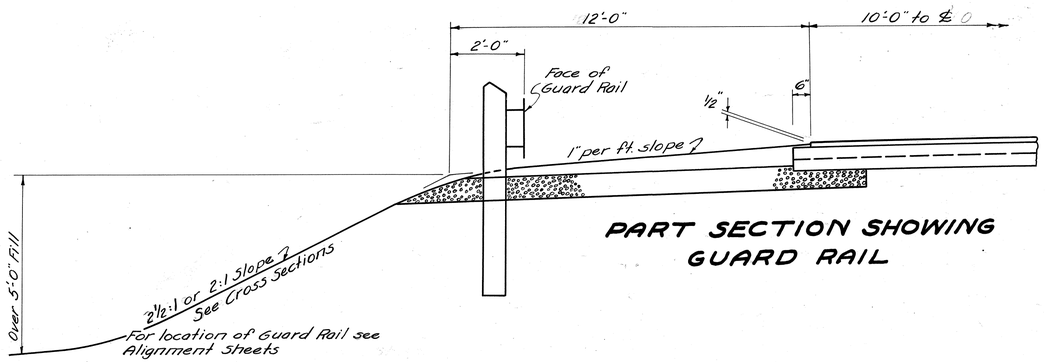
TYPICAL SECTION
TYPE T-32

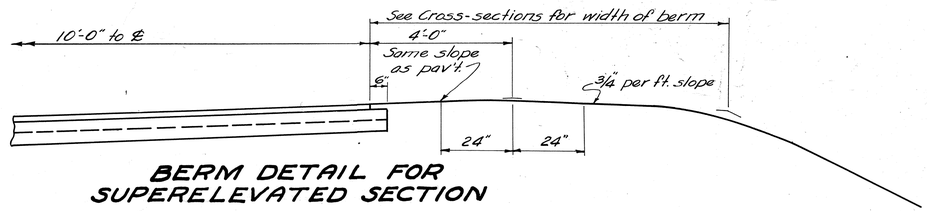
Scale: 1/2" = 1'-0"



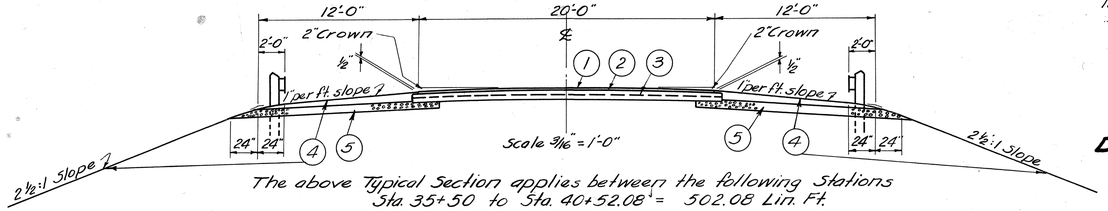
The above Typical Section applies between the following Stations
Sta. 20+00 to Sta. 35+50 = 1550.00 Lin. Ft.
Sta. 41+47.92 to Sta. 62+68 = 2120.08 Lin. Ft.
Total 3670.08 Lin. Ft.



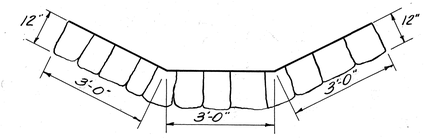
PART SECTION SHOWING GUARD RAIL



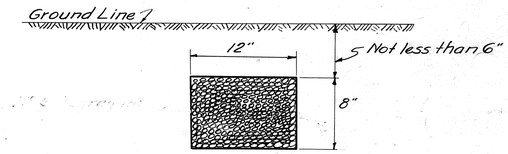
BERM DETAIL FOR SUPERELEVATED SECTION



The above Typical Section applies between the following Stations
Sta. 35+50 to Sta. 40+52.08 = 502.08 Lin. Ft.
For Construction of Embankment between above stations see Note on Sheet No. 6



DETAIL OF STONE PAVED GUTTER



DETAIL OF STONE UNDERDRAIN

(2) Item T-30 Bituminous Prime Coat Sec. M-5.7 RT-2 or 3 applied at the rate of 0.35 gal. per sq. yd.

(3) Item 55-112 8" Classified Embankment (Crusher run Limestone) 2-4" Courses

(4) Item L-9 Seeding and Protecting (Type "A")

(5) Item I-9 Stone Underdrain

(1) Item T-32 Bituminous Road Mix Surface Course, Method "A", "B" or "C"
No. 46 aggregate applied at the rate of 0.0292 C.Y. per sq. yd.
Bituminous material Sec. M-5.3 MC-5 applied at the rate of 0.65 to 0.75 gal. per sq. yd.
Choke
No. 9 aggregate applied at the rate of 0.00375 C.Y. per sq. yd.
Seal
Bituminous Material Sec. M-5.3 MC-5 applied at the rate of 0.25 gal. per sq. yd.
Cover
No. 6 aggregate applied at the rate of 0.0075 C.Y. per sq. yd.

TYPICAL SECTIONS

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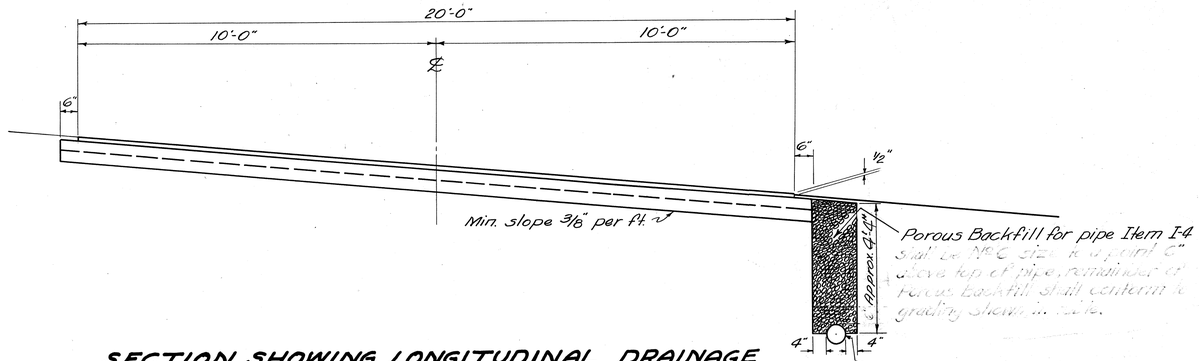
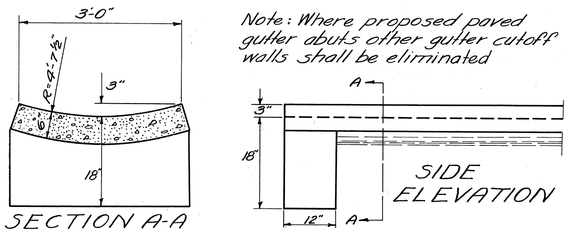
TYPE T-21

Scale: 1/2" = 1'-0"

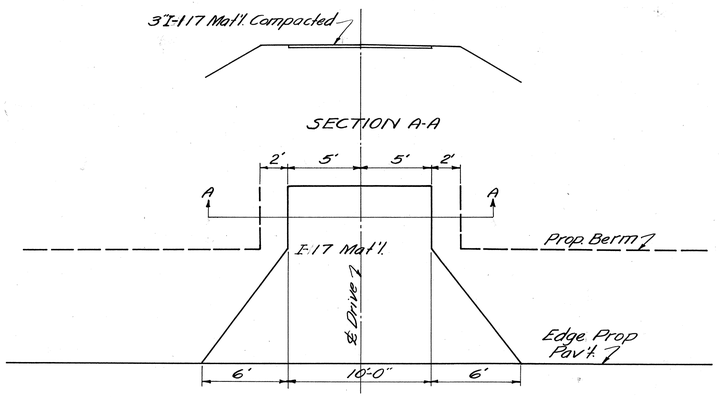


SECTION SHOWING LONGITUDINAL DRAINAGE

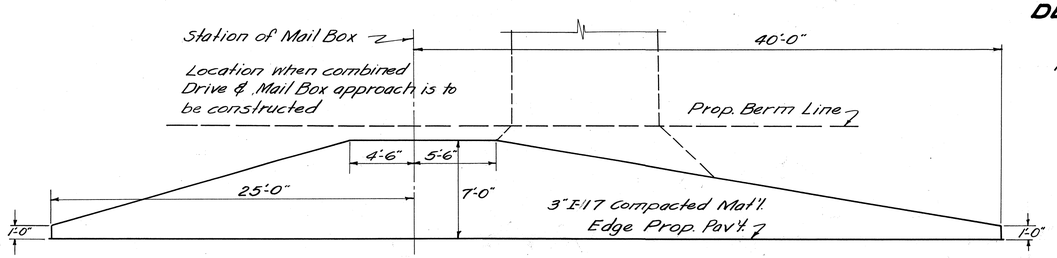
The above Section applies between the following Stations
Sta. 20+15 to Sta. 35+80



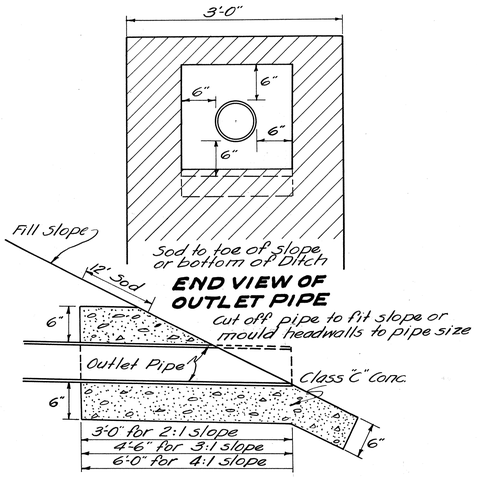
DETAIL OF CONCRETE PAVED GUTTER



TYPICAL PLAN OF DRIVE



TYPICAL PLAN MAIL BOX APPROACH

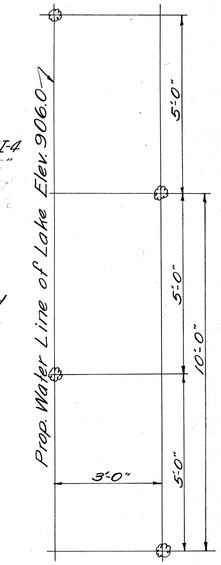


END VIEW OF OUTLET PIPE

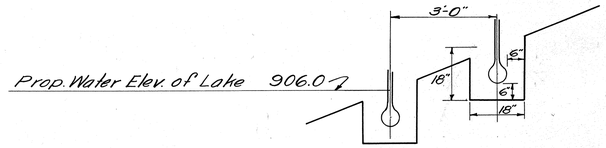
DETAIL OF PIPE UNDERDRAIN OUTLET HEADWALL

Note: No forms will be required for Pipe Underdrain Outlet Headwalls. Unit price bid per lineal feet for Pipe Outlets for Underdrains, shall include headwalls as shown above.

TOTAL PERCENT PASSING		
Square Openings		
3/4"	No 4	No 200
90-100	0-35	0-5



SPACING OF DWARF WILLOWS FOR SLOPE PROTECTION



DETAIL OF POCKET HOLES FOR DWARF WILLOWS

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NOTES

GENERAL

FIELD OFFICE

The contractor shall provide a suitable "Field Office" for the exclusive use of the engineer and inspectors assigned to this project. This office shall have a minimum of 140 sq. ft. of floor space and so arranged, equipped and lighted that the State employees will have a convenient place for making the necessary records, etc., and have a safe place for storage of equipment, plans and necessary supplies. The contractor shall have a telephone installed and maintained during construction of this project. When the work is in progress during cold weather, the office shall be heated to a temperature of at least seventy (70°) degrees fahrenheit (See section S-0.01 (b) of the Construction and Material Specifications.)

UTILITY ADJUSTMENT

Any and all work required for Public or Private Utilities will be done by and at the expense of their respective owners unless otherwise noted in these plans.

~~WINTER CONSTRUCTION~~ VOID

~~Construction operations shall not be suspended for inclement weather. Winter Concrete Curing shall be required and structure operations will be made in accordance with Section S-1.09 of the Construction and Material Specifications.~~

TRAFFIC

Two-way traffic shall be maintained at all times.

Temporary roadways deemed necessary by the engineer, shall be constructed, maintained and removed by the contractor.

During the paving operations one-way traffic will be permitted and the one-way traffic zones shall be consistent with the requirements of Sec. G-8.07.

~~In addition to the requirements of Sec. G-1.07, Barricades, Danger and Warning Signs, the contractor shall display one "PLEASE-MEN WORKING ON ROAD" sign furnished by the State at each end of each one-way zone and in such a position as to be visible to traffic approaching the one-way zone.~~

~~The contractor shall be responsible for the preservation of these signs, shall maintain the signs as work progresses and shall return the signs to the State at the completion of the work.~~

~~The item of "Maintaining Traffic" shall include furnishing lights, signs, (other than those mentioned above) barricades and watchmen, plus the displaying and advancing of the "PLEASE-MEN WORKING ON ROAD" signs to secure the flow of traffic twenty four (24) hours daily.~~

Traffic Compacted Surface Course, Item T-110, and Calcium Chloride, Item M-10, estimated and paid for under Item T-110 and M-10, shall be applied as directed and in the amounts requested by the engineer.

All of the above, except Traffic Compacted Surface Course, Item T-110 and Calcium Chloride, Item M-10, is included in the lump sum bid for maintaining traffic. In addition to the above, Sec. G-4.05 (maintenance of local traffic) of the Construction and Materials Specifications, will be enforced during the life of the contract.

PAVEMENT

SUPERELEVATION

Superelevated curves shall be built without crown. The crown shall be worked out of the pavement in that portion between the beginning of the transition and the point where the superelevation equals twice the crown.

ROADWAY

REMOVAL OF TREES AND STUMPS VOID

~~The removal of trees and stumps, the diameters of which are over eight (8) inches from ground one (1) foot above the ground,~~ shall be in accordance with Supplemental Specifications No. E-109.

All stumps within the limits of the ~~right of~~ way shall be disposed of as specified ~~in paragraph~~ E-1.02 of the Construction ~~and~~ Material ~~Specifications~~.

Trees shall not be removed, regardless of size, until specifically and conspicuously marked by the engineer.

Trees in areas where the proposed contour of the ground differs from the existing contour shall be removed or preserved as indicated on the plans by the following symbols:-

	Plan Sheets	Cross Section Sheets
Trees to be removed	⊗ ⊗ ⊗	✳ ✳ ✳
Trees to be preserved	⊙ ⊙ ⊙	✳ ✳ ✳

~~The number of trees to be removed as indicated by the above symbols is approximate and the State of Ohio reserves the right to order the removal of additional trees or~~ though these trees are indicated to be preserved.

Payment ~~for the~~ removal of ~~these additional trees~~ is included in ~~the~~ lump sum bid for removal of trees and stumps.

EMBANKMENT

In lieu of the requirements for full width construction under E-1.05 the embankment, where traffic is maintained, may be placed in part width construction.

~~DISPOSAL OF WASTE MATERIAL~~ VOID

~~Any excavation which is unfit for incorporation in the pavement and which would appear unsightly, shall be covered with earth to a minimum of eight (8) inches and made to conform to the contour of the adjacent land. If wasted within three hundred (300) feet of the right of way, without expense to the State, notwithstanding the written permission of the property owner to do otherwise.~~

SILT

Excavated material and borrow of which the grain size of 50% or more is between 0.074 mm and 0.005 mm (State Highway Testing Laboratory method of testing) shall be placed at least three (3) feet below the pavement when used in embankment, however such material shall not be used in any part of the embankment between Sta. 35+50 and Sta. 40+64.33.

REMOVAL AND STORING OF EXISTING PIPE

Pipe listed for removing and storing under Item E-12 shall be stored on the right of way at the disposal of the Highway Department.

LOCATION AND SIZE OF EXISTING PIPE

The location, type, depth and size of all existing pipes are shown as near exact as the available information will permit. The State of Ohio will not be responsible for any variations found during construction.

Payment for pipe removed will be made according to the listing shown on these plans.

STONE UNDERDRAINS

In the final finishing, care shall be exercised that the exposed ends of the underdrains shall be left free of earth cover that would impede free drainage.

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NOTES

ROADWAY

SEEDING AND PROTECTING ROADWAY AREAS

Quantities for Seeding Item L-9 are calculated for the soil areas between lines ten feet (10') outside the work limits as shown on the cross sections or to the R/W line if such line is less than ten feet from the work limits.

All areas outside these limits where the vegetative growth has been injuriously disturbed or destroyed by contractor shall be restored and seeded in accordance with the provisions of Item L-9 by the contractor at his own expense.

~~Nº1 SEEDING ITEM E-305~~

~~Seeding on berms to be done according to specifications E-305 Rev, except that four (4) pounds per one-thousand (1000) square feet shall be sown and the following mixture to be used.~~

~~30 % Meadow Fescue~~
~~20 % Kentucky Blue Grass~~
~~30 % Alsike Clover~~
~~15 % Perennial Rye Grass~~
~~5 % Hairy Vetch~~

~~Nº2 SEEDING ITEM E-305~~

~~Seeding of all others, except the berms, shall be done according to specifications Item E-305 Rev except that four (4) pounds per one thousand (1000) square feet shall be sown and the following mixture to be used.~~

~~15 % Meadow Fescue~~
~~10 % Kentucky Blue Grass~~
~~15 % Alsike Clover~~
~~15 % Perenniol Rye Grass~~
~~15 % Hairy Vetch~~
~~30 % Yellow Blossom Clover~~

~~An additional 20% of Perennial Rye Grass shall be sown in all seeded ditches at the time of seeding operations.~~

~~All legumes shall be inoculated.~~

VOID

~~SODDING~~

~~The time limitations set up under Item L-10 may be waived at the discretion of the Director. Straw mulch two (2) inches thick is estimated for all sod areas. Sod shall be mulched only if the time limitation is cancelled and only on sod areas placed because of cancellation of time limitation. Remainder of mulching (straw) Item L-18 shall be non-performed.~~

VOID

~~PLACING SOD~~

~~Special care shall be taken in placing all sod so that the top of the sod coincides with the finished surface as shown on the cross sections. All earthwork necessary to accomplish the above is included in the unit price bid per square yard of sod.~~

VOID

~~AGRICULTURAL GROUND LIMESTONE~~

~~Agricultural ground limestone shall be applied at the rate of 100 lbs. per 1000 sq. ft. for all seeding and sodding areas.~~

~~Agricultural ground limestone shall be of a fineness that 99% will pass a 10 mesh sieve, with 40% passing a 50 mesh sieve; and with a minimum total neutralizing power of 95%.~~

VOID

~~FERTILIZING AREAS TO BE SEEDED~~

~~All areas to be seeded and sodded in accordance with Item E-305 shall have commercial fertilizer ([illegible] Mix), or any formula approved by the Director, applied at the rate of twenty (20) pounds per one-thousand (1000) square feet.~~

VOID

ROADWAY

CLASSIFIED EMBANKMENT

Special care shall be taken to properly compact Classified Embankment Material placed adjacent to an existing pavement edge.

Compaction shall be carefully controlled and measured and the density shall not be less than 98 % of the maximum density as determined by laboratory tests on material passing a 1" screen.

~~MULCHING AREAS TO BE SEEDED~~

~~Within forty eight (48) hours after any areas have been seeded such areas shall be covered with a mulch as outlined under Item E-305 which shall be held in place throughout the life of the contract.~~

~~Seaman Pulver Mixer may be used to incorporate the mulch with the soil in place of the Peg and Twine method as outlined in Supplemental Specifications E-305.~~

VOID

REMOVING AND STORING OF EXISTING GUARD RAIL

Guard Rail listed for removing and storing under Item I-15 shall be stored on the right of way at the disposal of the Highway Department.

EMBANKMENT

The embankment in the area from Station 35+50 to Station 40+64.33 shall be constructed of soil as defined in Item E-1.05 which shall be of a nature so as to provide an impervious embankment to an elevation of 909.00 and shall meet the compaction requirement as outlined under "Condition II" of Item E-1.05. Special care shall be taken in the "Clearing and Grubbing" Item E-1.02 and "Scalping" Item E-1.03 and the "Bonding" of the embankment material to the existing earth in the area where the embankment is placed.

Where rock is encountered in the areas where embankment is to be placed, a trench shall be cut along the centerline of the road, ten (10) feet wide and three (3) feet deep. This trench shall be cleaned of all loose rock, backfilled and compacted with soil as described above.

Payment for this excavation shall be made at the unit price bid per Cu. Yd. of "Roadway Excavation (Unclassified) Item E-1."

Note: Channel Excavation 13,504 Cu. Yds. (See Sheet Nº 40) shall be used to reduce borrow
13,914 Borrow − 13,504 Channel Excavation = 410 Cu. Yds. Net Borrow.
⊗ Additional Excavation for Pavement Removal not indicated on Cross-sections Sta. 41+87 to Sta. 48+00 = 613 Lin. Ft.; 200 Lin. Ft. See Sh. #2
(200+613) Lin. Ft. x 14' Width x 0.5 Thick / 27 = 207 Cu. Yds

SUMMARY OF QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
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① EXCAVATION AND EMBANKMENT

Station to Station	Excavation Cu. Yds.	Embankment Cu. Yds.	Emb. + 20% Cu. Yds.	Borrow Cu. Yds.	
19+00 ~ 20+00	346	4	5		
20+00 ~ 40+64.33	12496	33960	40752		
41+34.92 ~ 62+68	16074	1875	2250		
62+68 ~ 63+02	42	60	72		
	⊗207				
Total	29165	35899	43079	13914	

② DRIVES AND APPROACHES

Sheet Nº	Bituminous Prime Coat Item T-30 Sq. Yds.	Bituminous Road Mix Surface Course Item T-32 Sq. Yds.	Side Approaches Mailbox Turnouts and Berm Mat'l. Item I-17 Cu. Yds.	12" Pipe for Driveways Item I-1 Lin. Ft.	18" Pipe for Driveways Item I-1 Lin. Ft.	Sodding Item L-10 Sq. Yds.	8" Classified Embankment Item SS-112 Sq. Yds	12" Boiler Pipe Removed and Disposed of Item E-12 Lin. Ft.	Removal of Exist. Structure 1'x1'x14' Stone Box Item S-24 Lump
10	54	53	30	48		20	54	16	Lump
12			7	22	22				
13			25	66		25			
14	133	127	3				133		
9	19	15					19		
Total	* 206	* 195	65	136	22	45	⊕ 206	16	Lump

* Carried to Pavement Box Nº 7
⊕ Carried to Classified Embankment Box Nº 11

③ DRAINAGE

Sheet Nº	6" Pipe Underdrain Item I-4 Lin. Ft.	6" Pipe Outlet Item I-4 Lin. Ft.	Concrete Approach Gutter Item I-14 Lin. Ft.	Special Concrete Paved Gutter Item I-14 Lin. Ft.	Stone Paved Gutter Item I-14 Lin. Ft.	Sodding Item L-10 Sq. Yds.	Pipe Special (6"x6" Wye's) Item I-5 Each	
10	977.5	21			25	228		
11	575.5	32			363	501		
12	583.0	32	72	136	106	1568	5	
13						127		
Total	2136.0	85	72	136	494	2424	5	

④ EROSION CONTROL

Sheet Nº	Seeding and Protecting Type "A" Item L-9 Sq. Yds.	Sodding Item L-10 Sq. Yds.	Salix mutabilis (Dwarf Willows) Item L-13 Each	Commercial Fertilizer (10-6-4 Mix) Item L-9 Tons	Agricultural Ground Limestone Item L-9 Tons			
9	594							
10	9248							
11	10650		100					
12	11974		29					
13	7702							
14	2033							
Total	42201	+2501	129	4.02	20.12			

\+ Carried from Box Nº 13

⑤ REMOVAL OF TREES & STUMPS ITEM E-9

See Note on Sheet Nº 5
Lump

⑥ APPROACH SLABS

Sheet Nº	Standard 9" Reinf. Conc. Appr. Slabs Item I-7 Sq. Yds.	2½" Asphaltic Concrete Surface Course Item T-35 Sq. Yds.	Cu. Yds.	Tack Coat 0.1 gal. per Sq. yd. Item T-30 Sq. Yds.
12	97	97		97
Total	97	97	=6.7	⊗97

⊗ Carried to Box No. 8

⑦ PAVEMENT

Location	Bituminous Prime Coat Item T-30 Width	Calculations	Sq. Yds.	Bituminous Surface Treatment Item T-32 Width	Calculations	Sq. Yds.
Typical Sections 4172.16 Lin. Ft.	21	4172.16 x 21 x 1/9	9735	20	4172.16 x 20 x 1/9	9271
Approaches			* 206			* 195
Total			9941			9466

* Carried from Box Nº 2

⑧ BITUMINOUS SURFACE

Item Nº	Material	Rate	Sq. Yds.	Calculations	Quantity
T-30 Prime Coat	M-5.7 RT-2 or 3	0.35 gal. per Sq. Yd.	9941	9941 x 0.35	3479 Gal.
T-32 Road Mix	M-5.3 MC-5	0.70 gal. per Sq. Yd.	9466	9466 x 0.70	6626 Gal.
T-32 Road Mix	Nº 46 Aggregate	0.0292 C.Y. per Sq. Yd.	9466	9466 x 0.0292	277 Cu. Yd.
T-32 Choke	Nº 9 Aggregate	0.00375 C.Y. per Sq. Yd.	9466	9466 x 0.00375	36 Cu. Yd.
T-32 Seal Coat	M-5.3 MC-5	0.25 gal. per Sq. Yd.	9466	9466 x 0.25	2367 Gal.
T-32 Cover	Nº 6 Aggregate	0.0075 C.Y. per Sq. Yd.	9466	9466 x 0.0075	71 Cu. Yd.
⊗T-30 Tack Coat	M-5.7 RT-2 or 3	0.10 gal. per Sq. Yd.	97	97 x 0.10	10 Gal.

⑨ STRUCTURES 20 FT. SPAN AND UNDER

Structure Nº	Station	Excavation for Structure Item E-2 Cu. Yds.	18" Pipe for Roadway Culverts Item S-27 Lin. Ft.	24" C.I.P. Removed and Stored Item E-12 Lin. Ft.	Sodding Item L-10 Sq. Yds.		
1	62+75	27	120	30	32		
Total		27	120	30	32		

⑩ STONE UNDERDRAIN

Location	Stone Underdrain Item I-9 Lin. Ft.
Project (Estimated)	1500
Total	1500

⑪ CLASSIFIED EMBANKMENT

Location	2~4" Courses Classified Embankment (Crushed Limestone) Item SS-112 Width	Calculations	Cu. Yds.
Typical Sections 4172.16 Lin. Ft.	21	4172.16 x 21 x 2/3 x 1/27	2163
Approaches ⊕ 206 Sq. Yds.		20.6 x 2/3 x 1/27	5
Total			2168

⊕ Carried from Box Nº 2

⑫ GUARD RAIL

Sheet Nº	Guard Rail Steel Beam Type (Deep) Item I-15 Lin. Ft.	Guard Rail Removed and Stored (Plank) Item I-15 Lin. Ft.	Guard Rail (Posts only) Item I-15 Each
11	897		5
12	178	260	
Total	1075	260	5

⑬ RECAP TABLE

Box Nº	Sodding Item L-10 Sq. Yds.	Prime Coat M-5.7 RT-2 or RT-3 Item T-30 Gals.	Tack Coat M-5.7 RT-2 or RT-3 Item T-30 Gals.
2	45		
3	2424		
8		3479	10
9	32		
Total	+2501	3479	10

\+ Carried to Box Nº 4

SEPARATION OF QUANTITIES FOR CONSTRUCTION TYPE CODE NO. 6708

ITEM	QUANTITY	UNIT	DESCRIPTION
E-1	3	Cu. Yds.	Excavation
Special	89	Sq. Yds.	5" Concrete Channel Pavement
L-9	512	Sq. Yds.	Seeding & Protecting (Type "A")
L-9	0.05	Tons	Commercial Fertilizer (10-6-4 Mix)
L-9	0.23	Tons	Agricultural Ground Limestone
L-13	24	Each	Salix Mutabilis (Dwarf Willow)
I-7	97	Sq. Yds.	Reinf. Concrete Appr. Slabs 9" Thick
T-30	1.0	Gals.	Tack Coat
T-35	6.7	Cu. Yds.	Asphaltic Concrete Surface Course
I-15	47.68	Lin. Ft.	Guard Rail Steel Beam Type (Deep)

~~The above items are included in Roadway items of the General Summary. They are shown here for inclusion with the reinforced concrete pavement type estimate to be submitted to Public Roads Administration.~~

GENERAL SUMMARY

ITEM No.	TOTAL QUANTITY CONSTR. CODE NOS. 4231 & 6708	UNIT		CONSTRUCTION TYPE CODE Numbers 4231	6708
			ROADWAY		
E-1	29165	Cu. Yds.	Roadway Excavation	29162	3
E-4	410	Cu. Yds.	Borrow	410	
E-11	197	M. Gal.	Water	197	
E-12	16	Lin. Ft.	Pipe Removed and Disposed of (12" Boiler Pipe)	16	
E-12	30	Lin. Ft.	Pipe Removed and Stored (24" C.I.P.)	30	
E-9	Lump	Lump	Removal of Trees and Stumps	Lump	
I-1	136	Lin. Ft.	12" Pipe for Driveways	136	
I-1	22	Lin. Ft.	18" Pipe for Driveways	22	
I-4	2136	Lin. Ft.	6" Pipe Underdrain	2136	
I-4	85	Lin. Ft.	6" Pipe Outlets for Underdrains As Per Plan	85	
I-5	5	Each	6" Pipe Specials (6"x6" Wye's)	5	
I-9	1500	Lin. Ft.	Stone Underdrain (as per plan)	1500	
I-14	72	Lin. Ft.	Concrete Approach Gutter as per plan (Sheet No. 31)	72	
I-14	494	Lin. Ft.	Stone Paved Gutter as per plan (Sheet No. 3)	494	
I-14	136	Lin. Ft.	Special Concrete Paved Gutter as per plan (Sheet No. 4)	136	
I-15	1075	Lin. Ft.	Guard Rail, Steel Beam Type (Deep)	1027.32	47.68
I-15	260	Lin. Ft.	Guard Rail Removed and Stored (Plank)	260	
I-15	5	Each	Guard Rail Posts (only)	5	
I-117	65	Cu. Yds.	Side Approaches, Mailbox Turnouts and Berm Material	65	
L-9	42,201	Sq. Yd.	Seeding and Protecting Type "A"	41,689	512
L-9	4.02	Tons	Commercial Fertilizer (10-6-4 Mix)	3.97	0.05
L-9	20.12	Tons	Agricultural Ground Limestone	19.89	0.23
L-10	2501	Sq. Yds.	Sodding	2501	
L-13	129	Each	Salix mutabilis - Dwarf Willows, 2' to 3'	105	24
S-24	Lump	Lump	Removal of Existing Structure	Lump	
Special	89	Sq. Yds.	5" Concrete Channel Pavement		89
M-10	11	Tons	Calcium Chloride for Temporary Roadway	11	
T-110	556	Cu. Yds.	Traffic Compacted Surface Course for Temporary Roadway	556	
			PAVEMENT		
I-7	97	Sq. Yds.	9" Reinforced Concrete Approach Slabs		97
T-30	10	Gal.	Bituminous Tack Coat Sec. M-5.7 RT-2 or RT-3		10
T-30	3479	Gal.	Bituminous Prime Coat Sec. M-5.7 RT-2 or RT-3	3479	
T-32	6626	Gal.	Road Mix Bituminous Material Sec. M-5.3 MC-5	6626	
T-32	277	Cu. Yds.	No. 46 Aggregate for Road Mix	277	
T-32	36	Cu. Yds.	No. 9 Aggregate for Choke	36	
T-32	2367	Gal.	Seal Coat Bituminous Material Sec. M-5.3 MC-5	2367	
T-32	71	Cu. Yds.	No. 6 Aggregate for Seal Coat	71	
T-35	6.7	Cu. Yds.	Asphaltic Concrete Surface Course Type "C"		6.7
SS-112	2168	Cu. Yds.	Classified Embankment Material As Per Plan	2168	
			STRUCTURES 20 FT. SPAN AND UNDER		
E-2	27	Cu. Yds.	Excavation for Structure	27	
S-27	120	Lin. Ft.	18" Pipe for Roadway Culvert	120	
			STRUCTURES OVER 20 FT. SPAN		
			For Summary of Quantities see Sheet No. 33 & 34		
Special	Lump	Lump	Maintaining Traffic See Note on Sheet No. 5	Lump	

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-135 (1)	1947

BROWN COUNTY
S.H. 951 SEC. E (PT.)

DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-135 (1)	1947

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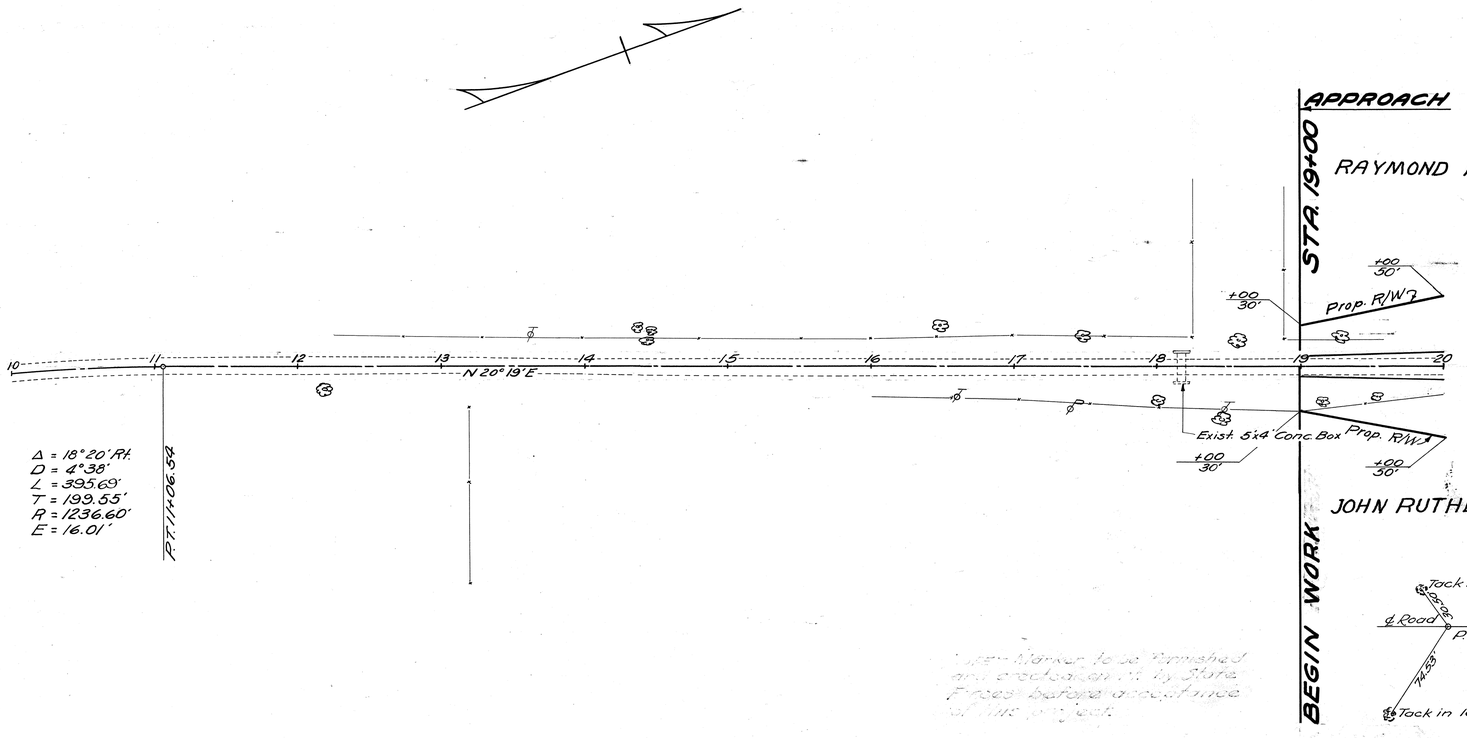
44

BROWN COUNTY
S.H. 951 SEC. E (PT.)

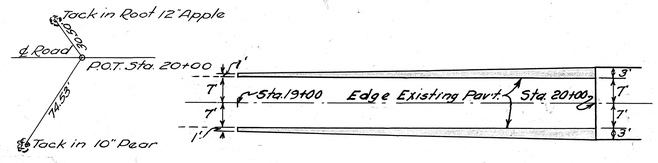


EROSION CONTROL

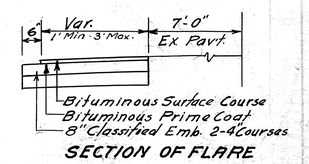
Station To Station	Seeding Item L-9 Sq. Yds.	See Sheet No
19+00 ~ 20+00	594	16
Total	594	

DRIVES AND APPROACHES

Station To Station	Bituminous Road Mix Surface Course Item T-32 Sq. Yds.	Bituminous Prime Coat Item T-30 Sq. Yds.	8" Classified Embankment Item 55-112 Sq. Yds.	
19+00 ~ 20+00	15	19	19	
Total	15	19	19	



APPROACH FLARE STA. 19+00 TO STA. 20+00



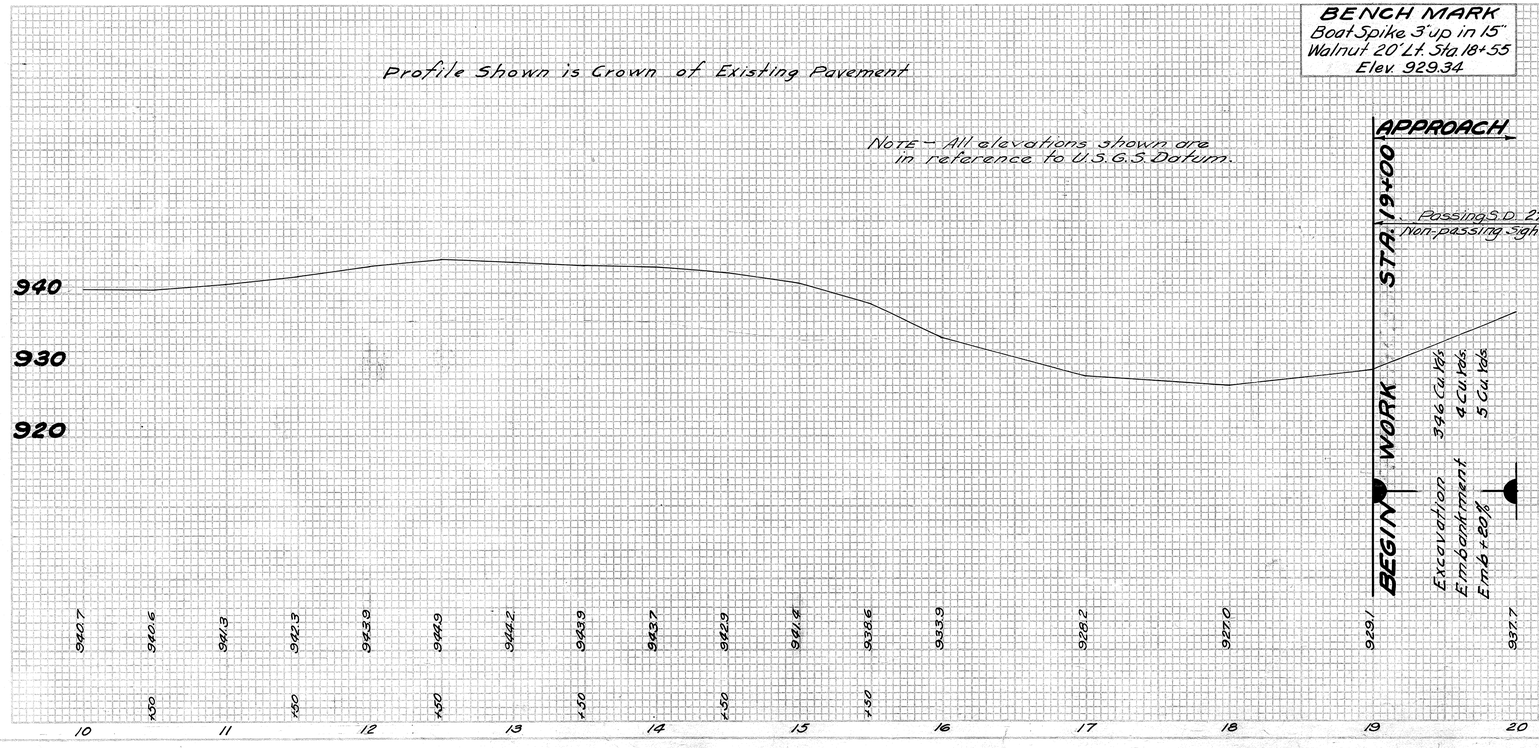
SECTION OF FLARE

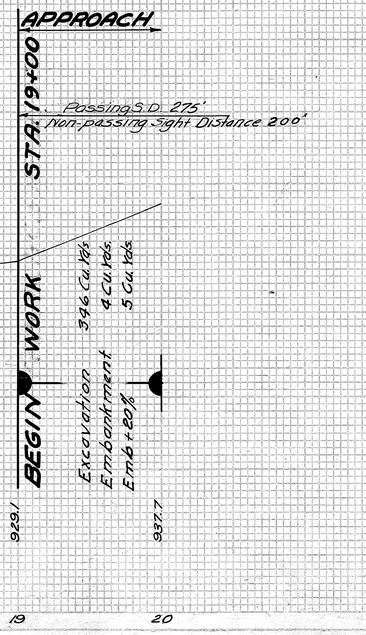
BENCH MARK

Boat Spike 3" up in 15" Walnut 20' Lt. Sta 18+55
Elev. 929.34

Profile Shown is Crown of Existing Pavement

NOTE – All elevations shown are in reference to U.S.G.S. Datum.

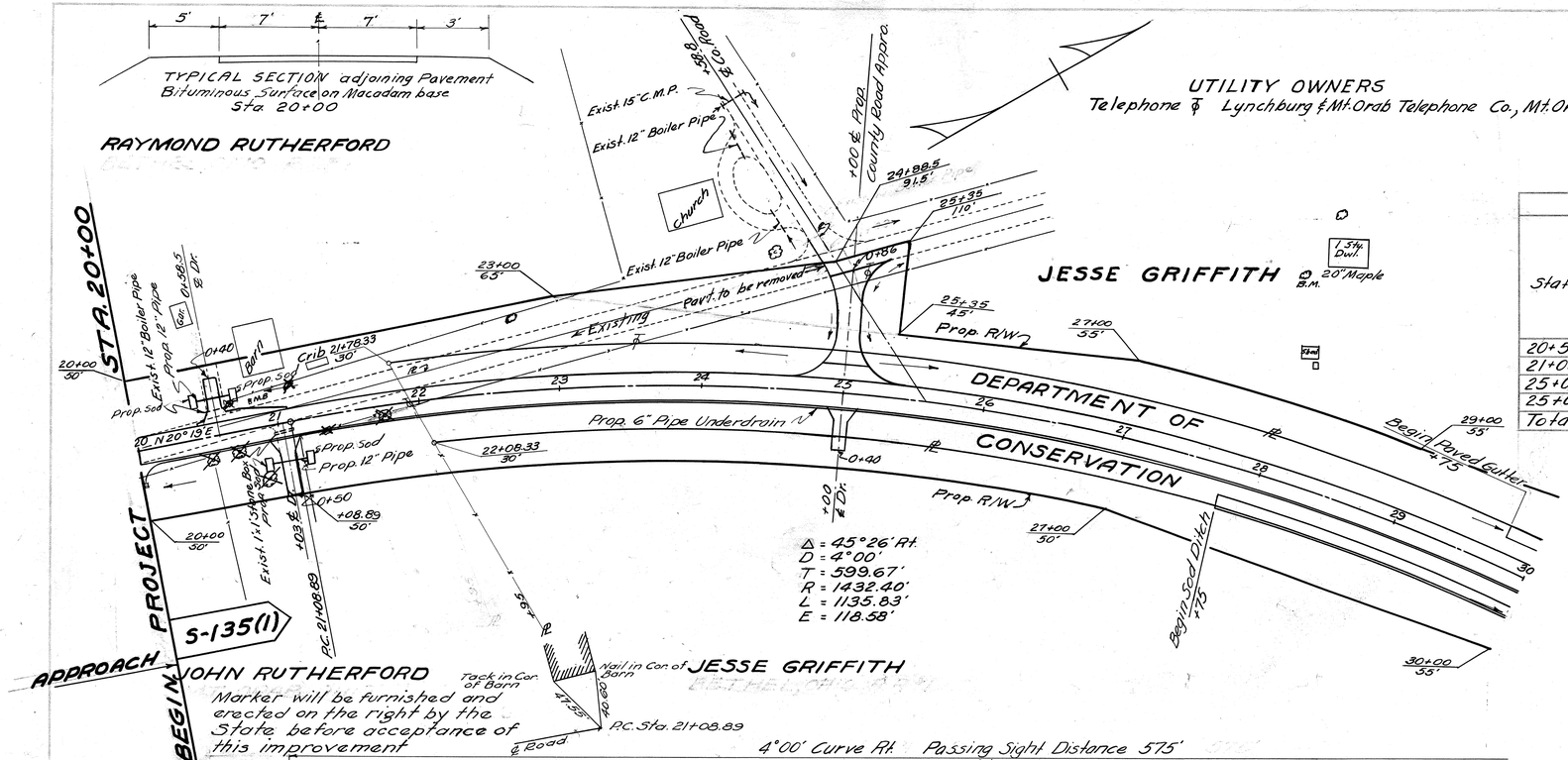




STA. 10+00 TO STA. 20+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	S-135(1)	1947	10 / 44

BROWN COUNTY
S.H. 951 SEC. E (PT.)



DRIVES AND APPROACHES

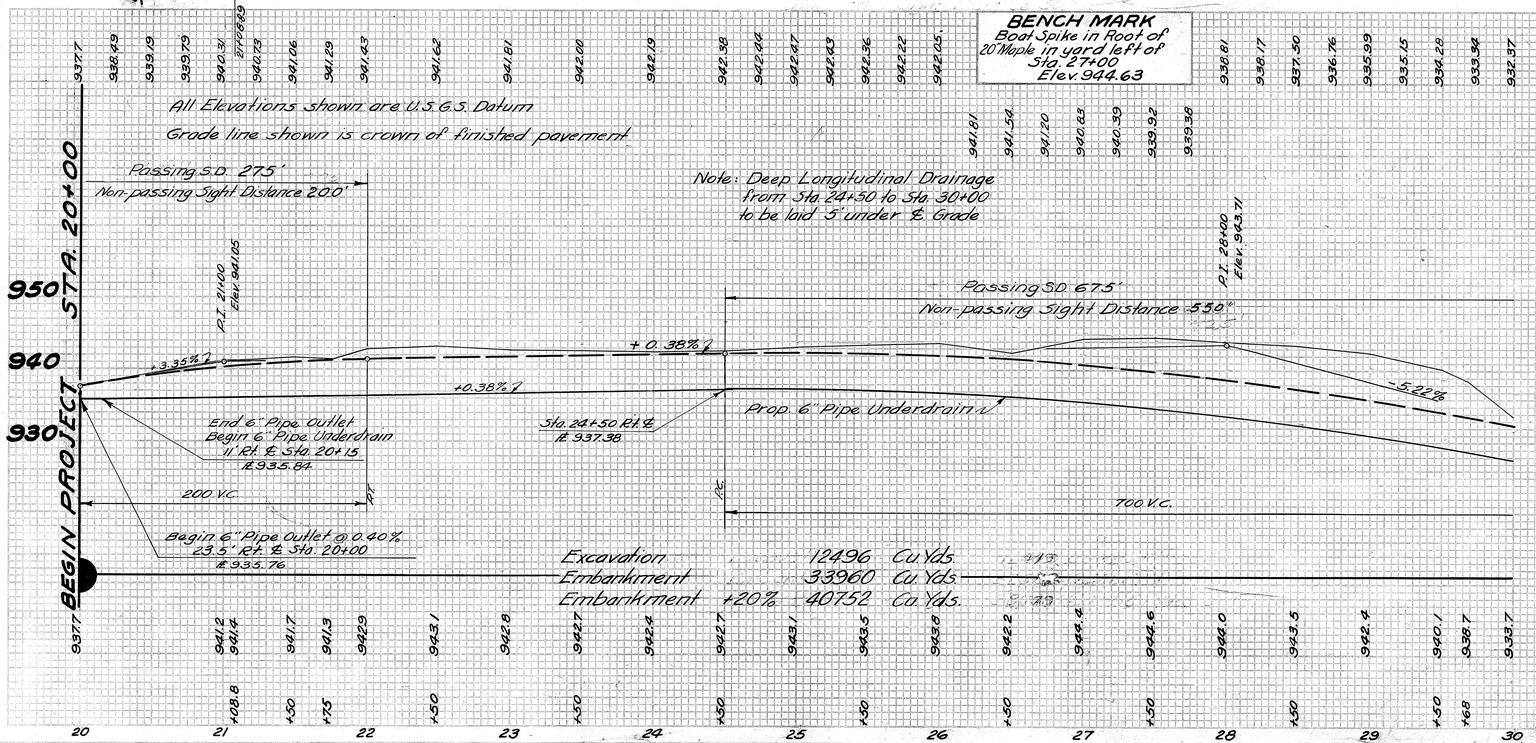
Station	Side	Side Approach Mailbox Turnout and Berm Material Item T-17	Bituminous Road Mix Surface Course Item T-32	Bituminous Prime Coat Item T-30	BC Classified Embankment Item SS-112	12" Pipe for Driveways Item T-1	Sodding Item L-10	Removed and Disposed of 12" Boiler Pipe Item E-12	Removal of Existing Structure 1'x1'x14" Stone Box Item S-24	See Sheet No.
		Cu. Yd.	Sq. Yds.	Sq. Yds.	Sq. Yds.	Lin. Ft.	Sq. Yds.	Lin. Ft.	Lump	
20+58.5	Lt.	7				24	10	16		
21+03	Rt.	5				24	10		Lump	
25+00	Lt.	14	53	54	54					30
25+00	Rt.	4								
Total		30	53	54	54	48	20	16	Lump	

DRAINAGE

Station To Station	Side	6" Pipe Underdrain Item T-4	6" Pipe outlet Item T-4	Sodding Item L-10	Stone Paved Gutter Item T-14	
		Lin. Ft.	Lin. Ft.	Sq. Yds.	Lin. Ft.	
20+00 ~ 20+15	Rt.		21	3		
20+15 ~ 30+00	Rt.	977.5				
29+75 ~ 30+00	Lt.				25	
27+75 ~ 30+00	Rt.			225		
Total		977.5	21	228	25	

EROSION CONTROL

Station To Station	Seeding Item L-9 Sq. Yds.	See Sheet No.
20+00 ~ 30+00	9248	16
Total	9248	



STA. 20+00 TO STA. 30+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-135 (1)	1947

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BROWN COUNTY
S.H. 951 SEC. E (PT.)

GUARD RAIL

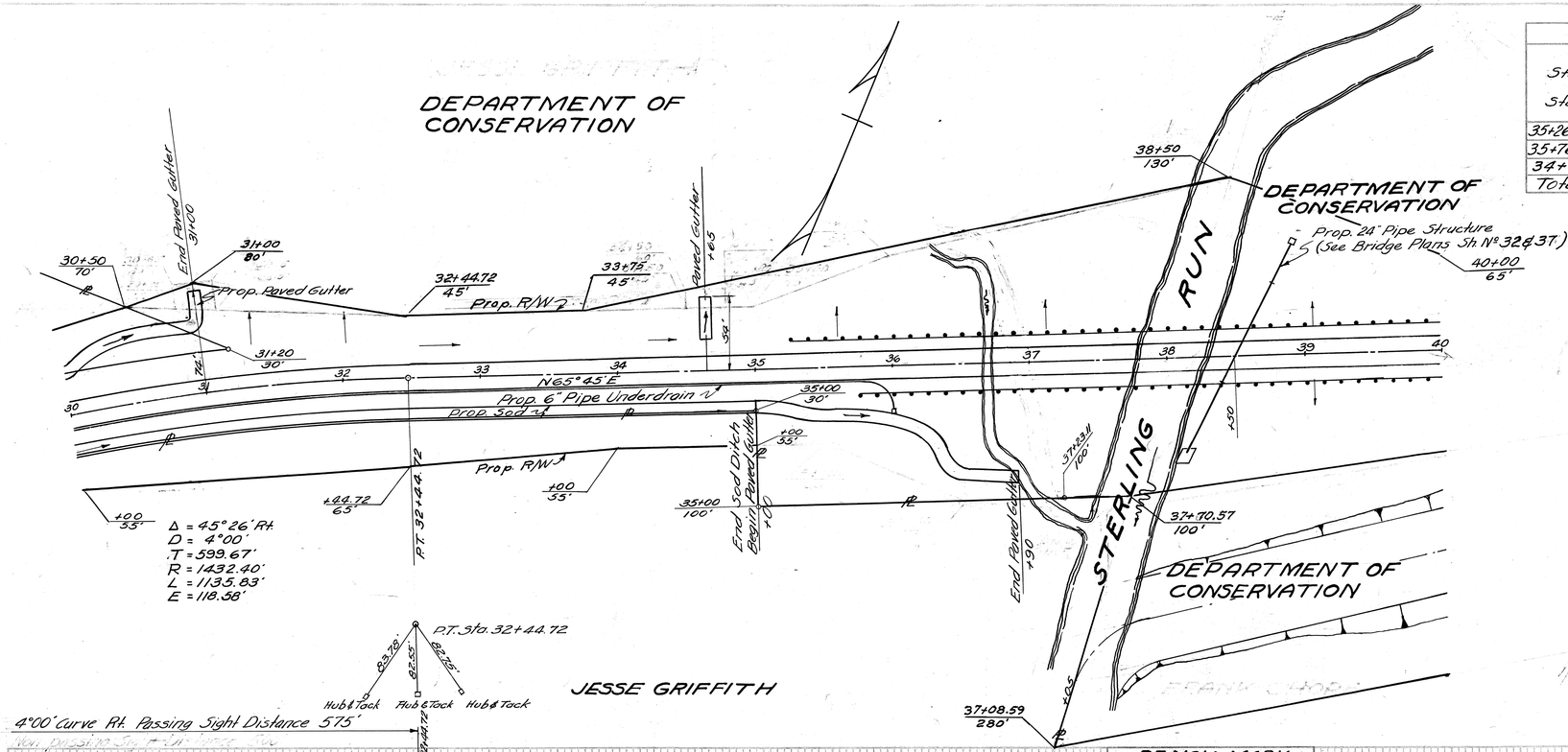
Station To Station	Side	Guard Rail Steel Beam Type (Deep) Item I-15	Guard Rail Posts only Spaced 4'cc Item I-15	See Sheet No.
		Lin. Ft.	Each	
35+26.5 ~ 40+00	Lt.	473.5		
35+76.5 ~ 40+00	Rt.	423.5		
34+80 Ex. Rd	Lt.		5	2
Total		897.0	5	

DRAINAGE

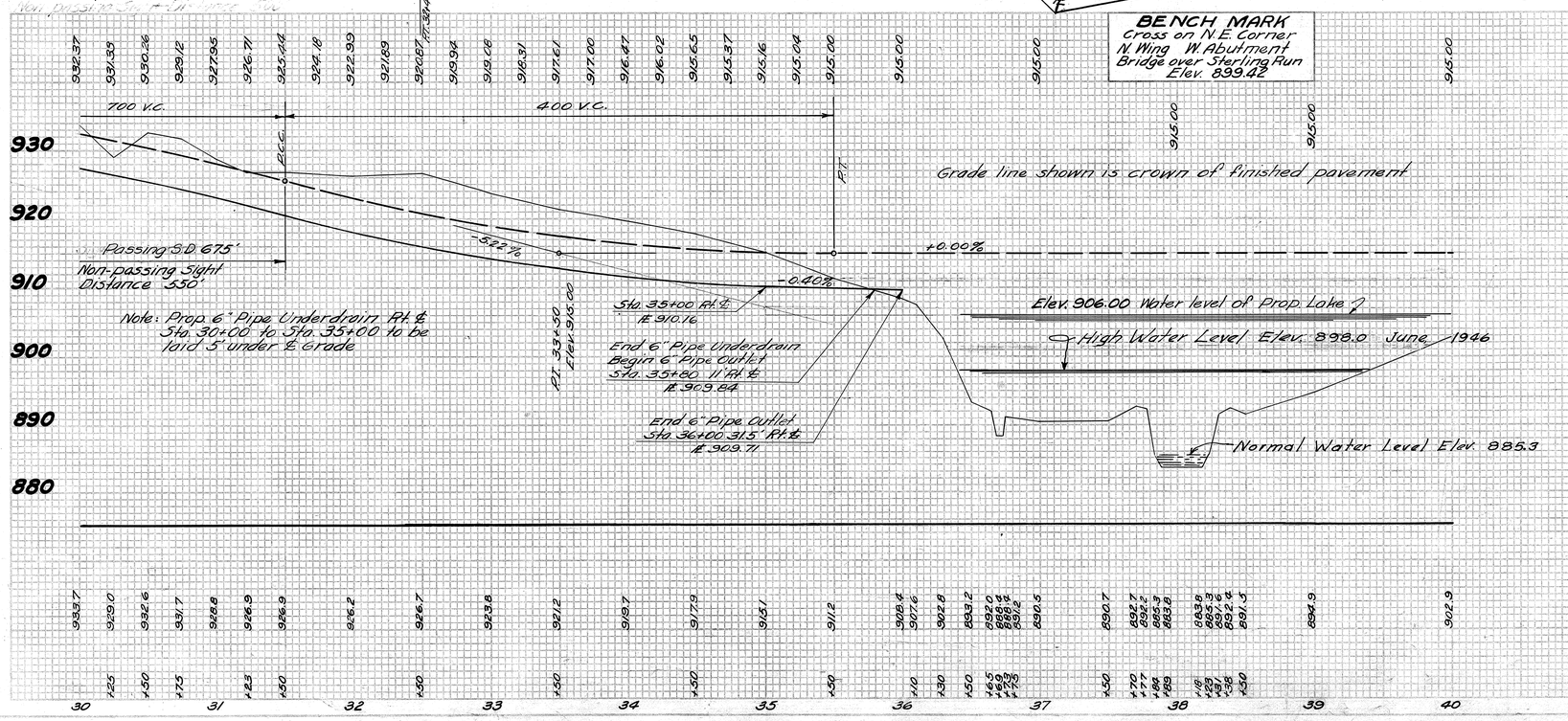
Station To Station	Side	6" Pipe Underdrain Item I-4	6" Pipe Outlet Item I-4	Sodding Item L-10	Stone Paved Gutter Item I-14	
		Lin. Ft.	Lin. Ft.	Sq. Yds.	Lin. Ft.	
30+00 ~ 35+80	Rt.	575.5				
35+80 ~ 36+00	Rt.		32	1		
30+00 ~ 31+00	Lt.				125	
34+65	Lt.				30	
35+00 ~ 36+90	Rt.				208	
30+00 ~ 35+00	Rt.			500		
Total		575.5	32	501	363	

EROSION CONTROL

Station To Station	Side	Salix mutabilis (Dwarf Willows) Item L-13	Seeding Item L-9		See Sheet No.
		Each	Sq. Yds.		
30+00 ~ 40+00	Rt. Lt.		10650		18
35+00 ~ 40+00	Lt.	100			
Total		100	10650		



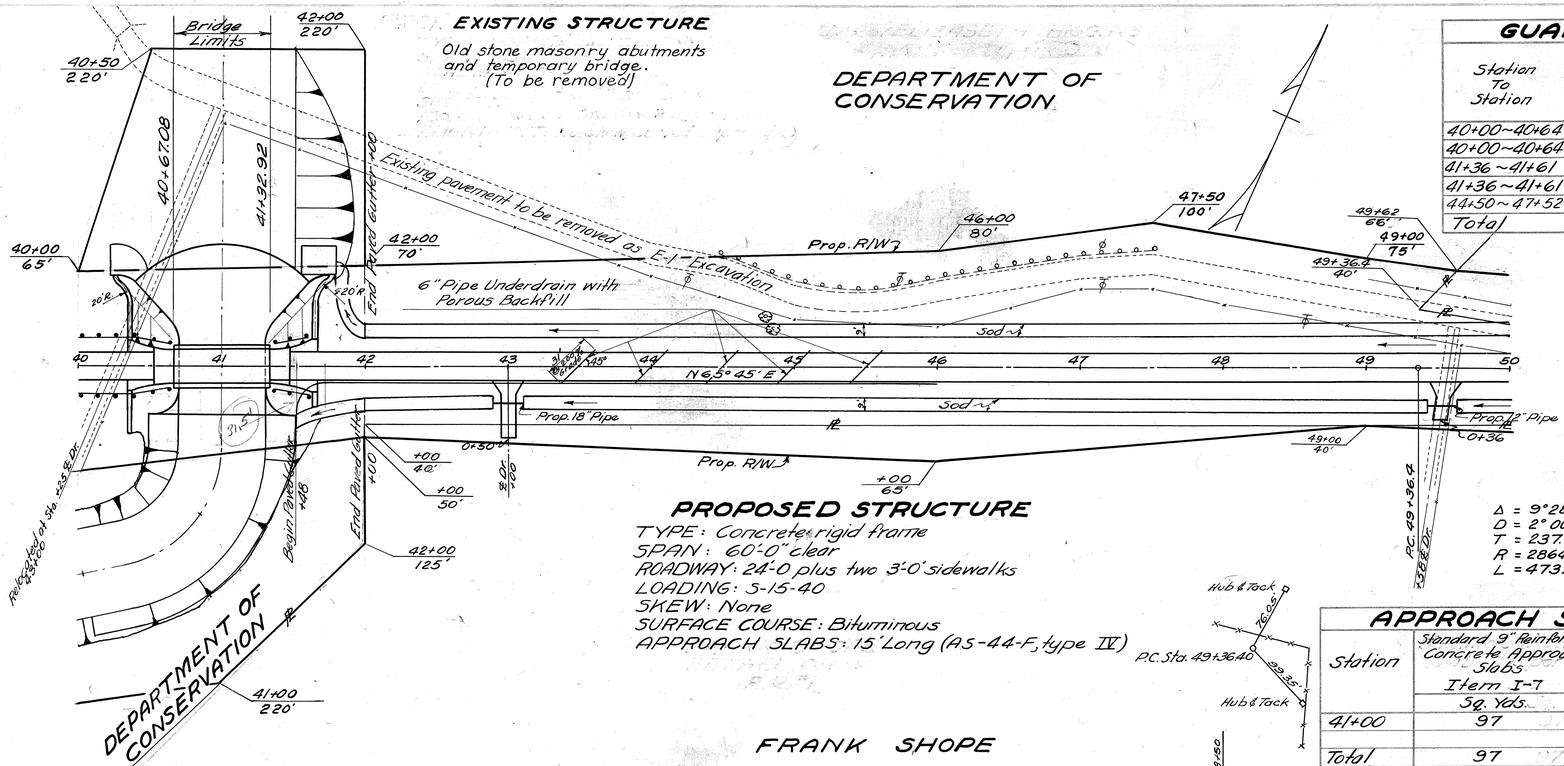
BENCH MARK
Cross on N.E. Corner N. Wing W. Abutment Bridge over Sterling Run
Elev. 899.42



STA. 30+00 TO STA. 40+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	S-135(1)	1947	12 44

BROWN COUNTY
S.H. 951 SEC. E (PT.)



GUARD RAIL

Station To Station	Side	Guard Rail Steel Beam Type (Deep) Item I-15	Guard Rail Remove & Store (Plank) Item I-15
		Lin. Ft.	Lin. Ft.
40+00~40+64	Lt.	64	
40+00~40+64	Rt.	64	
41+36~41+61	Rt.	25	
41+36~41+61	Lt.	25	
44+50~47+52	Lt.		260
Total		178	260

DRIVES AND APPROACHES

Station	Side	Side Approaches Mailbox Turnouts & Berm Mat'l Item I-17 Cu. Yds.	Pipe for Driveway Item I-1 Lin. Ft. 12"	18"			
43+00	Rt.	4		22			
49+58	Rt.	3	22				
Total		7	22	22			

DRAINAGE

Station To Station	Side	Concrete Approach Gutter Item I-14 Lin. Ft.	Special Concrete Paved Gutter Item I-14 Lin. Ft.	Stone Paved Gutter Item I-14 Lin. Ft.	Sodding Item L-10 Sq. Yds.	6" Pipe Outlet Item I-4 Lin. Ft.	6" Pipe Underdrain Item I-4 Lin. Ft.		Pipe Special (6"x6" Wye's) Item I-5 Each	See Sheet Nº
40+34.08~40+52.08	Rt.	18								31
40+34.08~40+52.08	Lt.	18								31
41+47.92~41+65.92	Rt.	18								31
41+47.92~41+65.92	Lt.	18								31
40+35.58	Rt.			30						4
40+35.58	Lt.			48						4
41+64.42	Rt.			10						4
41+64.42	Lt.			48						4
41+48~42+00	Rt.			52						3
41+77.5~42+00	Lt.			54						3
42+00~42+92	Rt.				92					
43+08~49+46	Rt.				638					
49+62~50+00	Rt.				38					
42+00~50+00	Lt.				800					
41+52~41+72	Rt.					32				
41+72~46+00	Rt.						428			
43+50~45+50	Lt. Rt.						155			
43+50~45+50	Rt.								5	
Total		72	136	106	1568	32	583		5	

APPROACH SLABS

Station	Standard 9" Reinforced Concrete Approach Slabs Item I-7 Sq. Yds.	2½" Asphaltic Concrete Surface Course Item T-35 Sq. Yds.	Tack Coat 0.1 gal. per Sq. Yd. Item T-30 Sq. Yds.
41+00	97	97	97
Total	97	97	97

EROSION CONTROL.

Station To Station	Side	Salix mutabilis (Dwarf Willows) Item L-13 Each	Seeding Item L-9 Sq. Yds.				See Sheet Nº
40+00~40+24	Lt.	5					
40+00~40+68.5	Rt. & Lt.		396				26
41+31.5~50+00	Rt. & Lt.		9527				27
41+68.5 Channel	Lt.	24					
41+00 Channel	Rt. & Lt.		2051				40
Total		29	11974				

STA. 40+00 TO STA. 50+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OH10	S-135 (1)	1947

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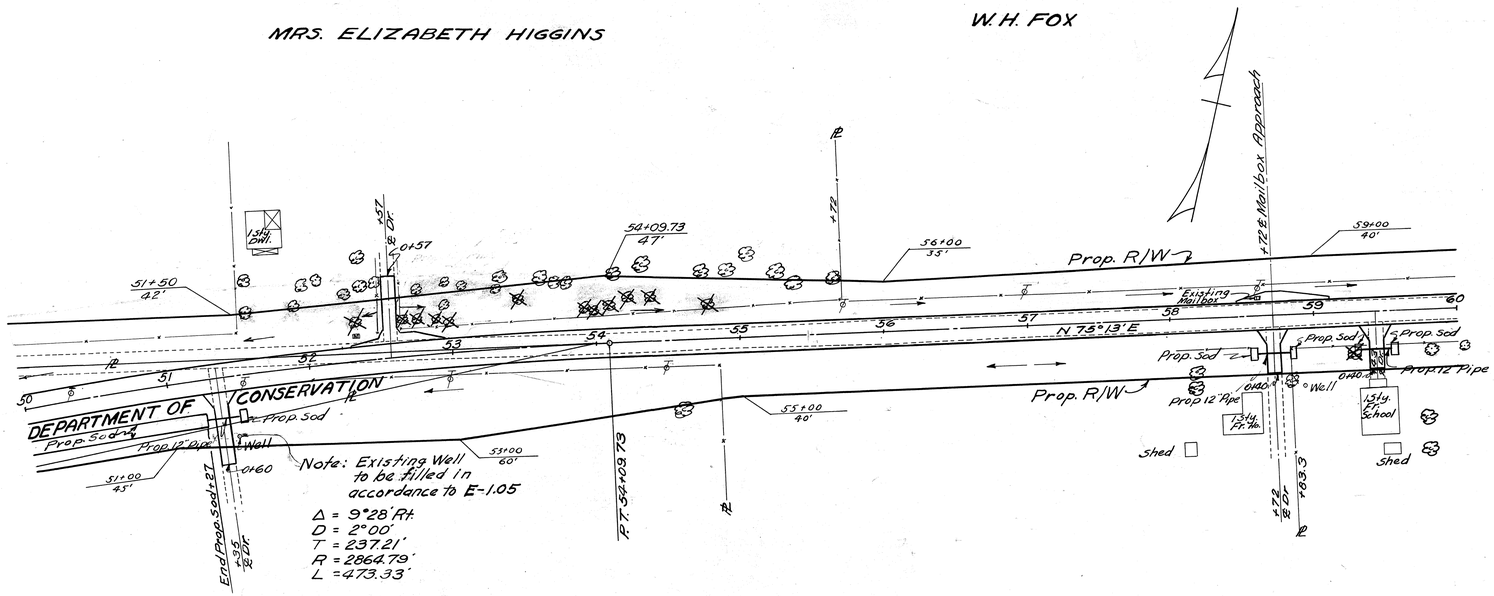
44

BROWN COUNTY
S.H. 951 SEC. E (PT.)

MRS. ELIZABETH HIGGINS

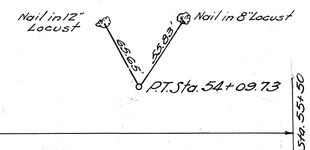
W.H. FOX



LAWRENCE WATERS

FRANK SHOPE

FRANK SHOPE



2°00' Curve Rt. Passing Sight Distance 750'

DRIVES AND APPROACHES

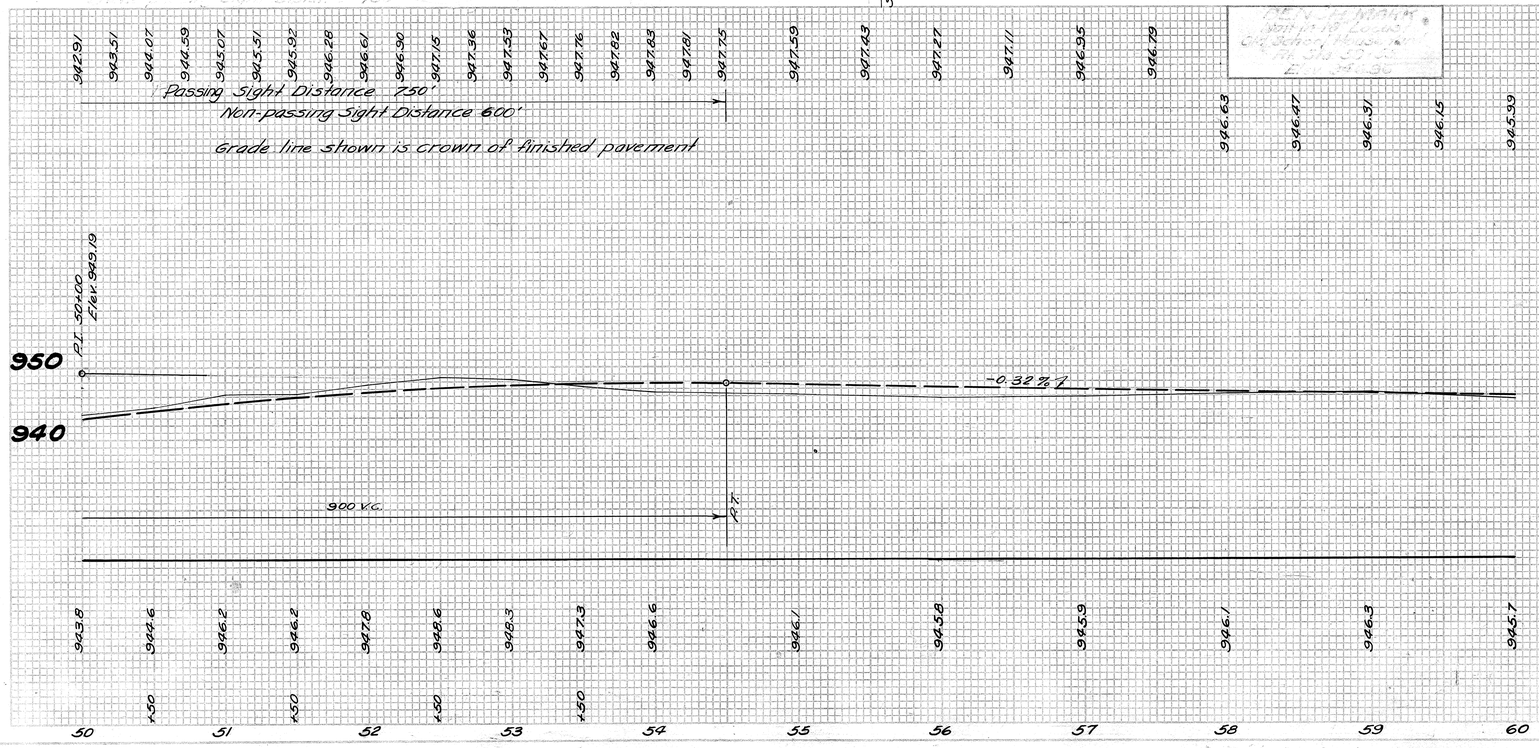
Station	Side	Side Approaches Mailbox Turnouts & Berm Ditch Item F-17 Cu. Yds.	12" Pipe for Driveways Item F-1 Lin. Ft.	Sodding Item L-10 Sq. Yds.	
51+35	Rt.	6	22	5	
52+57 Dr. M.B.	Lt.	8			
58+72	Rt.	4	22	10	
59+43	Rt.	4	22	10	
58+72 M.B.	Lt	3			
Total		25	66	25	

EROSION CONTROL

Station To Station	Seeding Item L-3. Sq. Yds.	See Sheet Nº
50+00 - 60+00	7702	28
Total	7702	

DRAINAGE

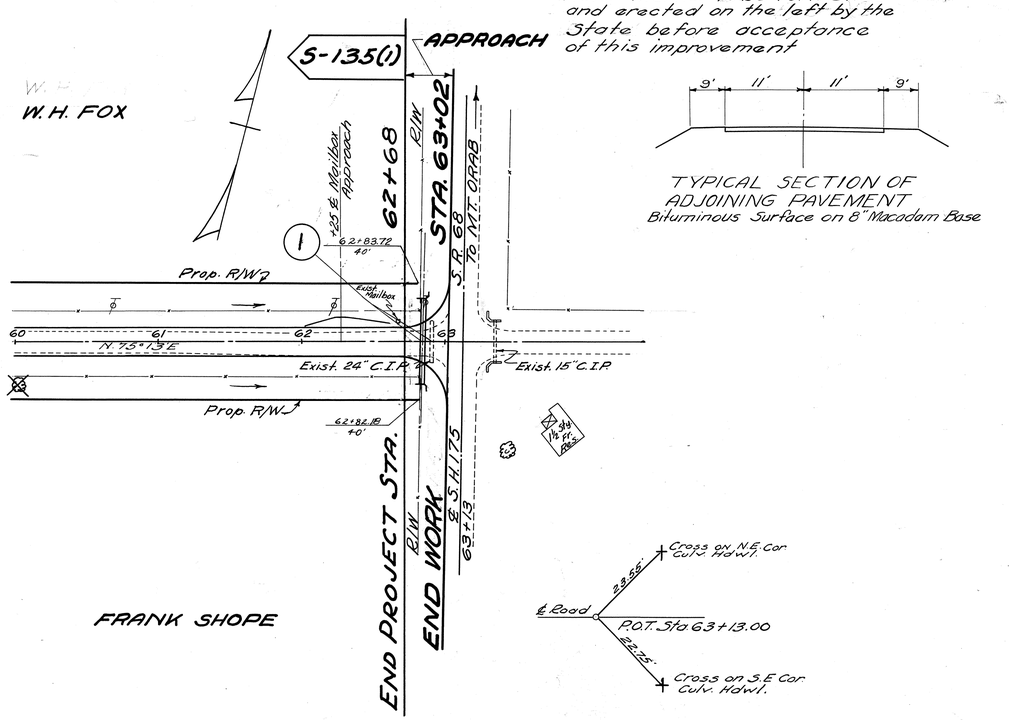
Station To Station		Sodding Item L-10 Sq. Yds.			
50+00-51+27	Rt.	127			
Total		127			



STA. 50+00 TO STA. 60+00

DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	S-135 (1)	1947	14 44

BROWN COUNTY
S.H. 951 SEC. E (PT.)



NOTE - Marker to be furnished and erected on the left by the State before acceptance of this improvement

TYPICAL SECTION OF ADJOINING PAVEMENT
Bituminous Surface on 8" Macadam Base

DRIVES AND APPROACHES

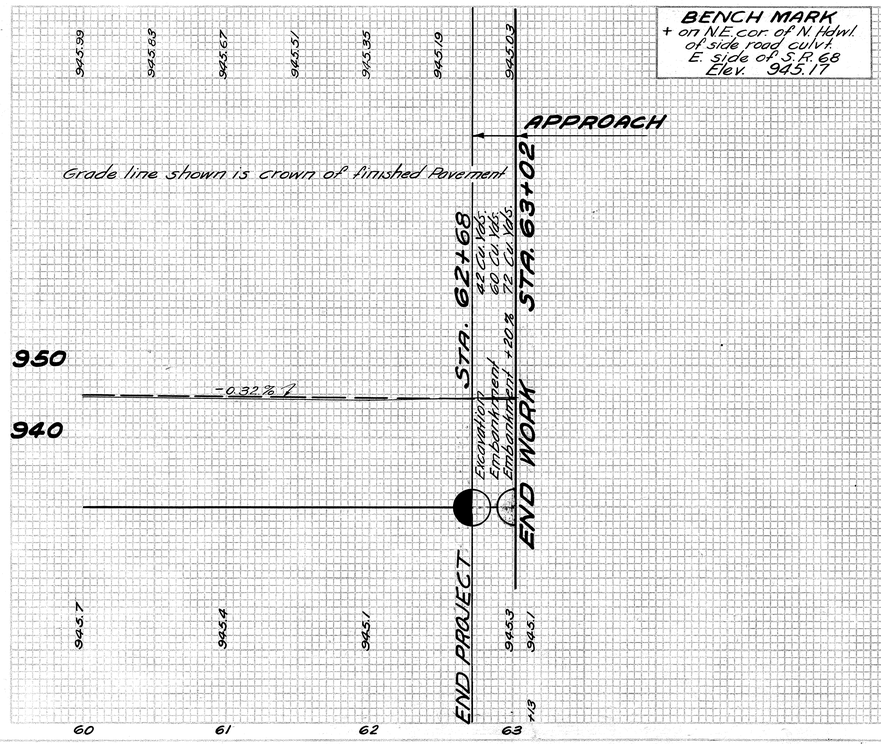
Station To Station	Bituminous Road Mix Surface Course Item T-32	Bituminous Prime Coat Item T-30	8" Classified Embankment Item 55-112	Side Approaches Mailbox Turnouts & Berm Material Item T-17	See Sheet Nº
	Sq. Yds.	Sq. Yds.	Sq. Yds.	Cu. Yds.	
62+68~63+02	127	133	133		30
62+25 M.B. Lt.				3	
Total	127	133	133	3	

STRUCTURES 20 FT. SPAN AND UNDER

Nº	STATION	EXISTING STRUCTURE			PROPOSED STRUCTURE			See Sheet Nº
		Type	Size	Length	Type	Size	Length	
1	62+84.5	Pipe	24"	30'-0"	Twin Pipe	18"	60'-0"	31

EROSION CONTROL

Station To Station	Seeding Item L-9	See Sheet Nº
	Sq. Yds.	
60+00~62+68	1783	29
62+68~63+02	250	29
Total	2033	



STA. 60+00 TO STA 63+02

CURVE TABLE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-135 (1)	1947

15/44

BROWN COUNTY
S.H. 951 SEC. E (PT.)

CURVE DATA

P.C. 21+08.89 — P.T. 32+44.72 — Dc = 4°00' Rt.

Left						Right
Profile Grade	Elev. Lt. Edge	Width	℄ Elev.	Station	Width	Elev. Rt. Edge
937.67	937.51	10'	937.67	20+00	10'	937.50
938.49	938.66		938.61	+25		938.44
939.19	939.49		939.30	+50		939.10
939.79	940.20		939.39	+75		939.64
940.31	940.82		939.48	21+00		940.14
940.73	941.39		940.97	+25		940.56
941.06	941.93		941.40	+50		940.40
941.29	942.37		941.74	+75		941.12
941.43	942.71		941.98	22+00		941.26
941.52	942.96		942.15	+25		941.35
941.62	943.11		942.28	+50		941.45
941.71	943.20		942.37	+75		941.54
941.81	943.30		942.47	23+00		941.64
941.90	943.39		942.56	+25		941.73
942.00	943.49		942.66	+50		941.83
942.09	943.58		942.75	+75		941.92
942.19	943.68		942.85	24+00		942.02
942.28	943.77		942.94	+25		942.11
942.38	943.87		943.04	+50		942.21
942.44	943.93		943.10	+75		942.27
942.47	943.96		943.13	25+00		942.30
942.43	943.92		943.09	+25		942.26
942.36	943.85		943.02	+50		942.19
942.22	943.71		942.88	+75		942.05
942.05	943.54		942.71	26+00		941.88
941.81	943.30		942.47	+25		941.64
941.54	943.03		942.20	+50		941.37
941.20	942.69		941.86	+75		941.03
940.83	942.32		941.49	27+00		940.66
940.39	941.88		941.05	+25		940.22
939.92	941.41		940.58	+50		939.75
939.38	940.87		940.04	+75		939.21
938.81	940.30		939.47	28+00		938.64
938.17	939.66		938.83	+25		938.00
937.50	938.99		938.16	+50		937.33
936.76	938.25		937.42	+75		936.59
935.99	937.48		936.65	29+00		935.82
935.15	936.64		935.81	+25		934.98
934.28	935.77		934.94	+50		934.11
933.34	934.83		934.00	+75		933.17
932.37	933.86		933.03	30+00		932.20
931.33	932.82		931.99	+25		931.16
930.26	931.75		930.92	+50		930.09
929.12	930.61		929.78	+75		928.95
927.95	929.44		928.61	31+00		927.78
926.71	928.20		927.37	+25		926.54
925.44	926.93		926.10	+50		925.27
924.16	925.65		924.83	+75		924.01
922.99	924.41		923.61	32+00		922.82
921.89	923.22		922.47	+25		921.72
920.88	922.06		921.38	+50		920.71
919.94	920.98		920.37	+75		919.77
919.08	919.97		919.44	33+00		918.91
918.31	919.08		918.61	+25		918.14
917.62	918.22		917.83	+50		917.45
917.01	917.44		917.14	+75		916.84
916.47	916.78		916.54	34+00		916.30
916.02	916.28		916.07	+25		915.85
915.66	915.87		915.68	+50		915.49
915.37	915.52		915.37	+75		915.20
915.16	915.24		915.16	35+00		914.99
915.04	915.04		915.04	+25		914.87
915.00	914.91		915.00	+50		914.83
915.00	914.83	10'	915.00	+75	10'	914.83

CURVE DATA

P.C. 49+36.4 — P.T. 54+09.73

Left						Right
Profile Grade	Elev. Lt. Edge	Width	℄ Elev.	Station	Width	Elev. Rt. Edge
935.71	935.54	10'	935.71	47+71.40	10'	935.54
935.78	935.61		935.78	+75		935.61
936.73	936.58		936.73	48+00		936.56
937.63	937.52		937.63	+25		937.46
938.51	938.47		938.51	+50		938.34
939.33	939.39		939.33	+75		939.16
940.13	940.32		940.13	49+00		939.96
940.88	941.19		940.95	+25		940.71
941.60	942.00		941.71	+50		941.43
942.27	942.73		942.41	+75		942.10
942.91	943.41		943.12	50+00		942.74
943.51	944.02		943.68	+25		943.34
944.07	944.58		944.24	+50		943.90
944.59	945.10		944.76	+75		944.42
945.07	945.58		945.24	51+00		944.90
945.50	946.02		945.68	+25		945.34
945.92	946.43		946.09	+50		945.75
946.28	946.79		946.45	+75		946.11
946.61	947.12		946.78	52+00		946.44
946.90	947.41		947.07	+25		946.73
947.15	947.66		947.32	+50		946.98
947.36	947.87		947.53	+75		947.19
947.53	948.04		947.70	53+00		947.36
947.67	948.18		947.84	+25		947.50
947.76	948.26		947.92	+50		947.59
947.82	948.27		947.96	+75		947.65
947.83	948.22		947.94	54+00		947.66
947.81	948.17		947.91	+25		947.64
947.75	948.02		947.80	+50		947.58
947.67	947.85		947.68	+75		947.50
947.59	947.68		947.59	55+00		947.42
947.51	947.52		947.51	+25		947.34
947.43	947.36		947.43	+50		947.26
947.35	947.24		947.35	+75		947.19
947.27	947.10	10'	947.27	56+00	10'	947.10

STA. 19+00 TO STA. 23+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET NO.
2	OHIO	S-135 (1)	1947	17 / 44

S.H. 951 SEC. E (PT)
BROWN COUNTY

STA. 23+50 TO STA. 27+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	S-135(1)	1947	18 / 44

S.H. 951 SEC. E (PT)
BROWN COUNTY

STA. 27+50 to STA. 30+25

2 OHIO S-135 (1) 1947
19
44
S.H. 951 SEC. E (PT)
BROWN COUNTY
End Area Cut Fill
Cu. Yds. Cut Fill
Seeding End Width Sq. Yds.
32+50 926.70
32+00 926.20
31+50 926.90
31+23 926.90
31+00 928.80
30+75 931.70
30+50 932.60
Sta. 30+25
Paved Gutter Lt. ℄ Sta. 31+00 Fl. 916.5
At Sta. 31+00 Turn Pave Gutter out 90° from ℄ and extend down slope.
Fl. 922.0
Fl. 922.5
STA. 30+50 TO STA. 32+50

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	S-135 (1)	1947	20 / 44

S.H. 951 SEC. E (PT)
BROWN COUNTY

STA. 33+00 TO STA. 35+50.

DIVISION 2 | STATE OHIO | PROJECT S-135(1) | FISCAL YEAR 1947 | 21 44

S.H. 951 SEC. E (PT)
BROWN COUNTY

Plot: E.C.B.
Ck.: B.K.
Temp
Ck.:
Areas
Ck.:
Vol.
Ck.:

B.K.
E.E.T.
B.K.
E.E.T.

Seeding

End Width	Sq. Yds.
97	
201	
84	
93	
84	
420	
67	

Sta. 35+50

RIW 90.5'

RIW 87'

RIW 85'

Prop. Water Level

Fl. 902.0

915.00
36+30
902.80

Fl. 906.6

915.00
36+10
907.60

Fl. 907.50

915.00
36+00
908.40

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	10	929		
				7 629
	9	768		
	4	213		
	15	382		
				22 569
Sta. 35+50	9	232		

LIW 100'

LIW 100'

STA. 36+00 TO STA 36+30.

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET NO.
2	OHIO	S-135(1)	1947	22 / 44

S.H. 951 SEC. E (PT)
BROWN COUNTY

Plot. R.C.B.
Chk. B.K.
Temp. B.K.
Chk. B.K.
Areas B.R.T.
Chk. B.K.
Yds. B.R.T.
Chk. E.R.T.

Seeding End Width	Seeding Sq. Yds.
126	
	220
138	
	261
97	

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
8	2352		
		6	1226
13	2062		
		9	1105
10	929		

STA. 36+50 TO 36+65.

DIVISION	STATE				23
12	OHIO	S-135 (1)		1947	44

S.H. 951 SEC. E (PT)
BROWN COUNTY

Plot. E.R.T.
Chk. B.K.
Temp. Chk. B.K.
Areas B.K.
Chk. E.R.T.
Yds. B.K.
Chk. E.R.T.

Seeding

End Width	Sq. Yds.
121	
344	
127	
28	
127	
101	
126	Sta. 36+65

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60

Prop. Water Level ?

Prop. Water Level ?

Prop. Water Level ?

E/W 98.2'

E/W 98.2'

E/W 100.0'

E/W 100.0'

915.00
37+00
890.50

915.00
36+75
891.20

915.00
36+73
888.40

End Paved Ditch. Sta. 36+90 Rt. ℄.

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		0	2439
		4	2352
		1	187
		2	2708
		2	750
		8	2352

Rt. 890.15

Rt. 890.20

Sta. 36+65

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70

STA. 36+73 TO STA. 37+00

Division	State	Project	Fiscal Year	
2	OHIO	S-135(1)	1947	24 / 44

S.H. 951 SEC. E (PT)
BROWN COUNTY

End Area Cut	End Area Fill	Cu Yds. Cut	Cu Yds. Fill
34	3076		
		8	1334
0	2927		
		0	2741
0	2555		
		0	4624
0	2439		

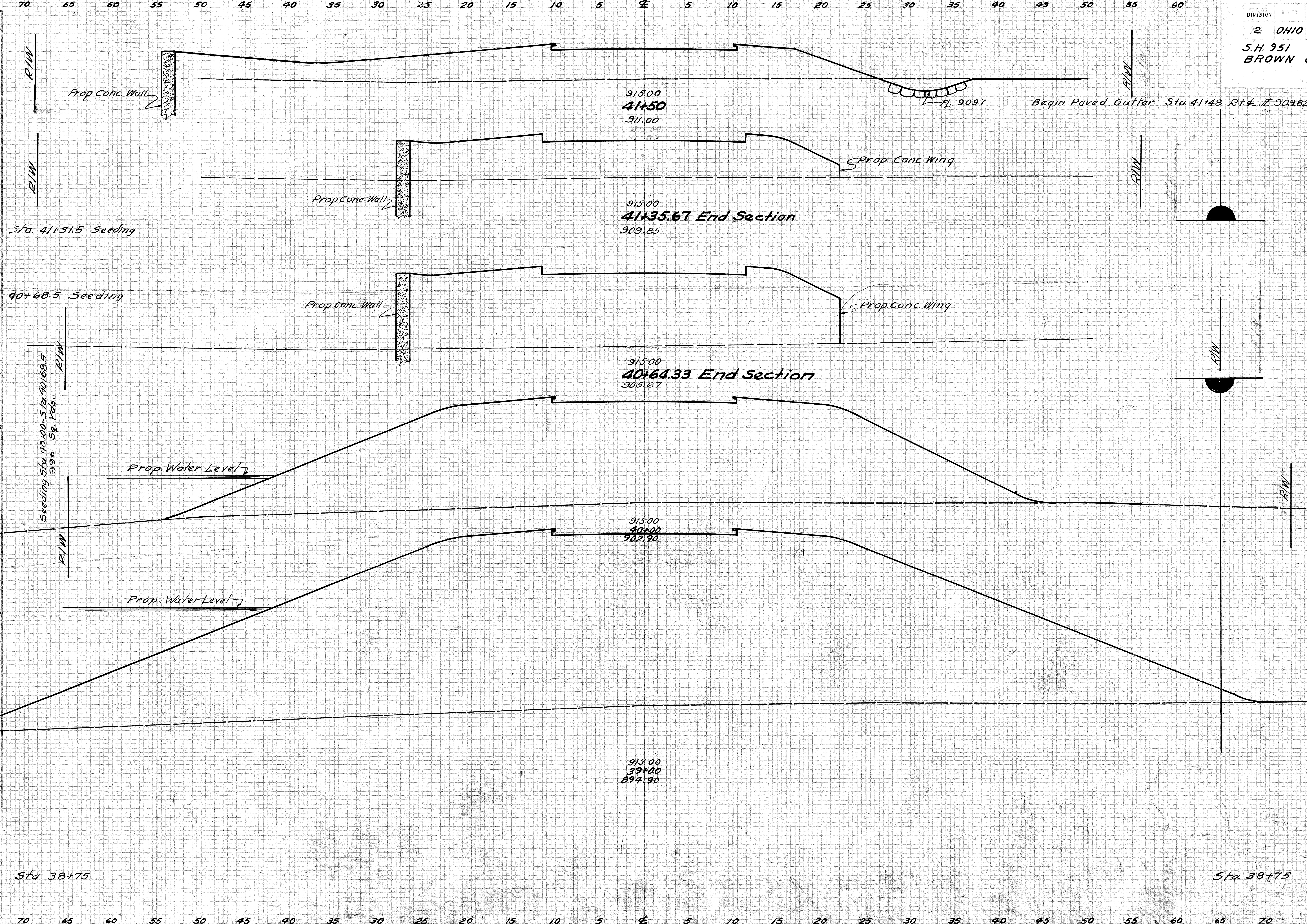
STA. 37+50 TO STA. 37+89.

DIVISION 2 | STATE OHIO | PROJECT S-135 (1) | FISCAL YEAR 1947
25
44
S.H. 951 SEC. E (PT)
BROWN COUNTY
Plot. E.R.T.
Chk. B.K.
Temp.
Chk.
Chk.
Ydg.
Chk.
Seeding
End Width
Sq. Yds.
End Area
Cu. Yds.
Cut
Fill
Cut
Fill
0 2233
0 2215
0 2551
0 1877
0 2784
8 1469
34 3320
18 3935
34 3076
Prop. Water Level
R/W 119.3'
R/W 87.5'
R/W 90'
R/W 130'
R/W 127'
R/W 93'
R/W 94'
R/W 124'
116
225
118
248
117
170
118
398
129
915.00
38+75
892.50
915.00
38+50
891.50
915.00
38+31
891.6
915.00
38+18
883.80
Key Section
Sta. 37+89
Sta. 37+89
STA. 38+18 TO STA. 38+75

DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-135 (1)	1947

S.H. 951 SEC. E (PT.)
BROWN COUNTY

Plot. E.R.T.
chk. B.K.
Temp. chk.
X-secs chk.
Ydg. chk.



Seeding End Width	Seeding Sq. Yds.
75	
	81
27	
	6
0	
0	
	6
27	
	390
82	
	1056
108	
	3112
116	

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
9	236		
		3	118
0	209		
0	372		
		0	1428
0	827		
		0	5019
0	1883		
		0	1906
0	2233		

STA. 39+00 TO STA. 41+50.

DIVISION
2 OHIO S-135(1) 1947
27
44
S.H. 951 SEC. E (PT)
BROWN COUNTY
Excavation 16074 Cu. Yds.
Embankment 1875 Cu. Yds.
Embankment +20% 2250 Cu. Yds.
Drive Rt. ℄ Sta. 43+00
Drive
Prop. 18" Pipe
End Paved Gutter Sta. 42+00 Rt. ℄
Sta. 41+50
STA. 42+00 TO STA. 47+50

Plot. E.R.T.
chk.
Temp. chk.
X-secs E.R.T.
chk.
ydg. chk.

DIVISION 12 OHIO S-135(1) 1947

28
44

S.H. 951 SEC. E (PT)
BROWN COUNTY

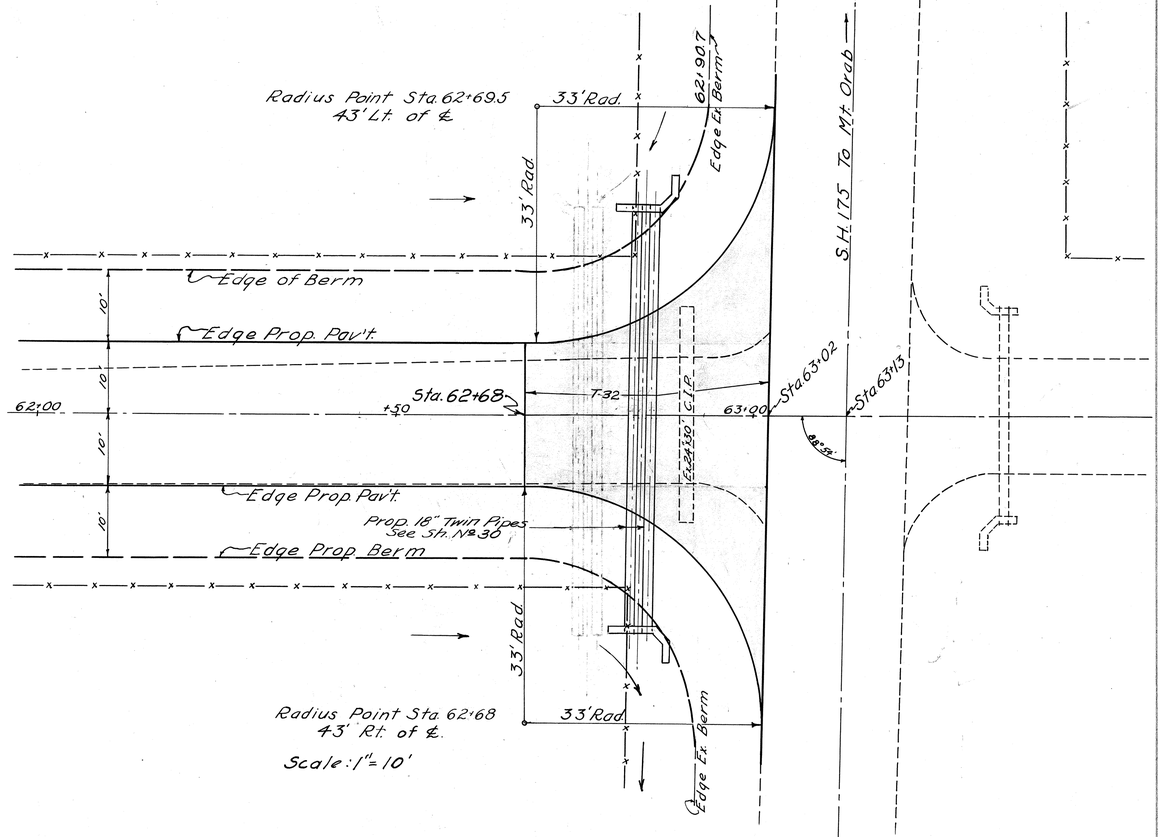
STA. 48+00 TO STA. 55+00.


FED. RD. DIVISION 2 | STATE OHIO | PROJECT S-135 (1) | FISCAL YEAR 1947
29
44
S.H. 951 SEC. E (PT)
BROWN COUNTY
END AREA CUT FILL
CU. YDS. CUT FILL
Excavation 42 Cu. Yds.
Embankment 60 Cu. Yds.
Embankment +20% 72 Cu. Yds.
APPROACH
END WORK STA. 63+02
945.03 63+02 945.07
Exist. 24" C.I.P.
945.06 62+90.7 945.17
Ahead
Back
END PROJECT STA. 62+68
R/W
945.35 62+00 945.1
945.67 61+00 945.4
+03 16" Maple
945.99 60+00 945.6
+79 14" Maple
Drive Rt. ℄ Sta. 59+43
946.31 59+00 946.3
Drive Rt. ℄ Sta. 58+72
+15 1" Plum
946.63 58+00 946.1
Sta. 55+00
944.65
946.95 57+00 945.9
End Special Ditch Rt. ℄ Sta. 57+00
End Special Ditch Lt. ℄ Sta. 57+00
944.66
944.34
947.27 56+00 945.8
944.83
Seeding Sta. 62+68 to Sta. 63+02 250 Sq. Yds.
Seeding Sta. 60+00 to Sta. 62+68 1783 Sq. Yds.
Seeding End Width Sq. Yds.
198 Ahead
427 Back
Sta. 55+00
40 30 20 10 ℄ 10 20 30 40
STA 56+00 TO STA. 63+02.

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-135 (11)	1947

30
44

BROWN COUNTY
S.H.951.- SEC.E (PT)



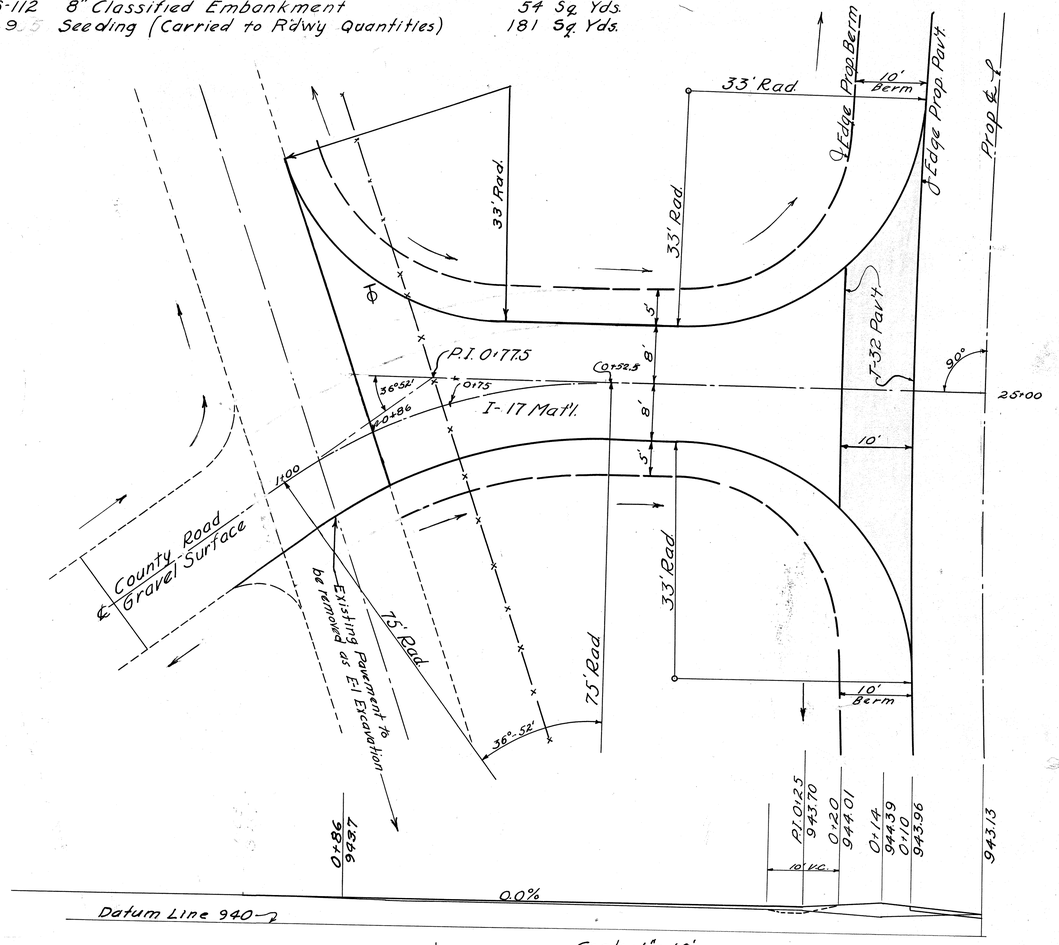
ESTIMATED QUANTITIES

Item	T-32	Bituminous Road Mix Surface Course	127 Sq. Yds.
Item	T-30	Bituminous Prime Coat	133 Sq. Yds.
Item	SS-112	8" Classified Embankment	133 Sq. Yds.

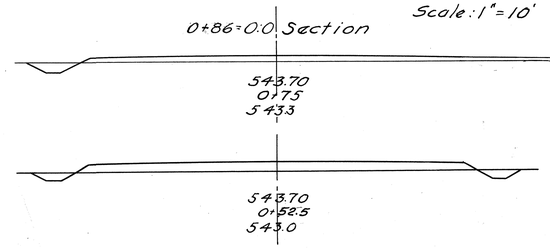
DETAIL ROAD APPROACH STA. 63+02.

ESTIMATED QUANTITES

Item-E-1	Excavation (Carried to R'dwy Quantities)	3 Cu. Yds.
	Embankment (Carried to R'dwy Quantities)	25 Cu. Yds.
Item T-32	Bituminous Road Mix Surface Course	53 Sq. Yds.
Item T30	Bituminous Prime Coat	54 Sq. Yds.
Item I-17	Side Approaches, Mailbox Turnouts & Berm Mat'l.	14 Cu. Yds.
Item SS-112	8" Classified Embankment	54 Sq. Yds.
Item L-9.5	Seeding (Carried to R'dwy Quantities)	181 Sq. Yds.



Seeding	
End'M.	Sq. Yds.
20	Sta. 0+86
	31
30	
	75
30	
	75
30	
	0+30
Total	181 Sq. Yds.



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
0	0		
		0	2
1	11		
		2	12
2	18		
		1	7
0	0		
Total		3	21

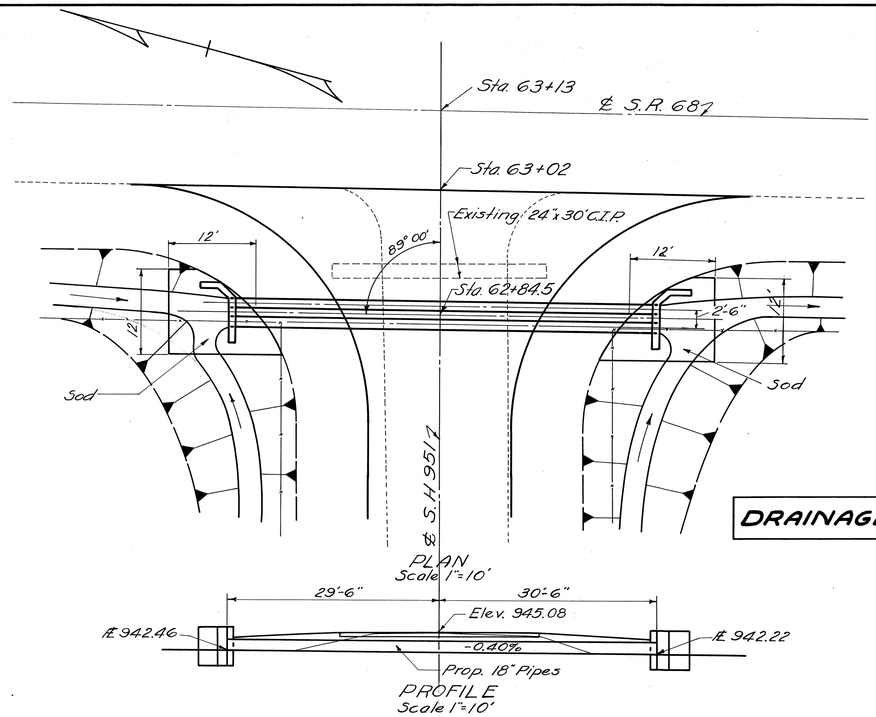
COUNTY ROAD APPROACH STA. 25+00 Lt. ℄.

FED. RD. DIV'T. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	S-135(I)	1947

30
44

BROWN COUNTY
S.H. 951 SEC. E (PT.)

BR. No. BR-774-106
STERLING RUN



DRAINAGE AREA 30 ACRES

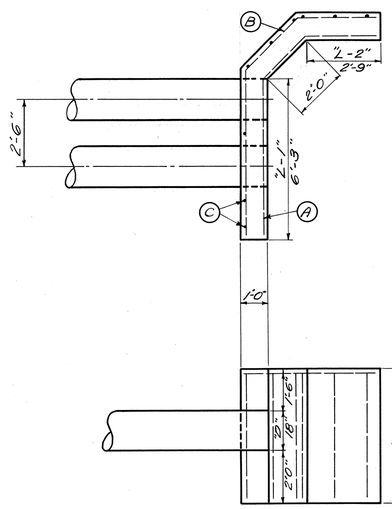
ESTIMATED QUANTITIES

Item	E-2	Excavation for Structures	27	Cu. Yds.
Item	E-12	24" C.I.P. Removed and Stored	30	Lin. Ft.
Item	L-10	Sodding	32	Sq. Yds.
Item	S-1	Concrete for Structure (Class "C")	3.8	Cu. Yds.
Item	S-4	Reinforcing Steel	93	Lbs.
Item	S-27	18" Pipe for Roadway Culverts	120	Lin. Ft.

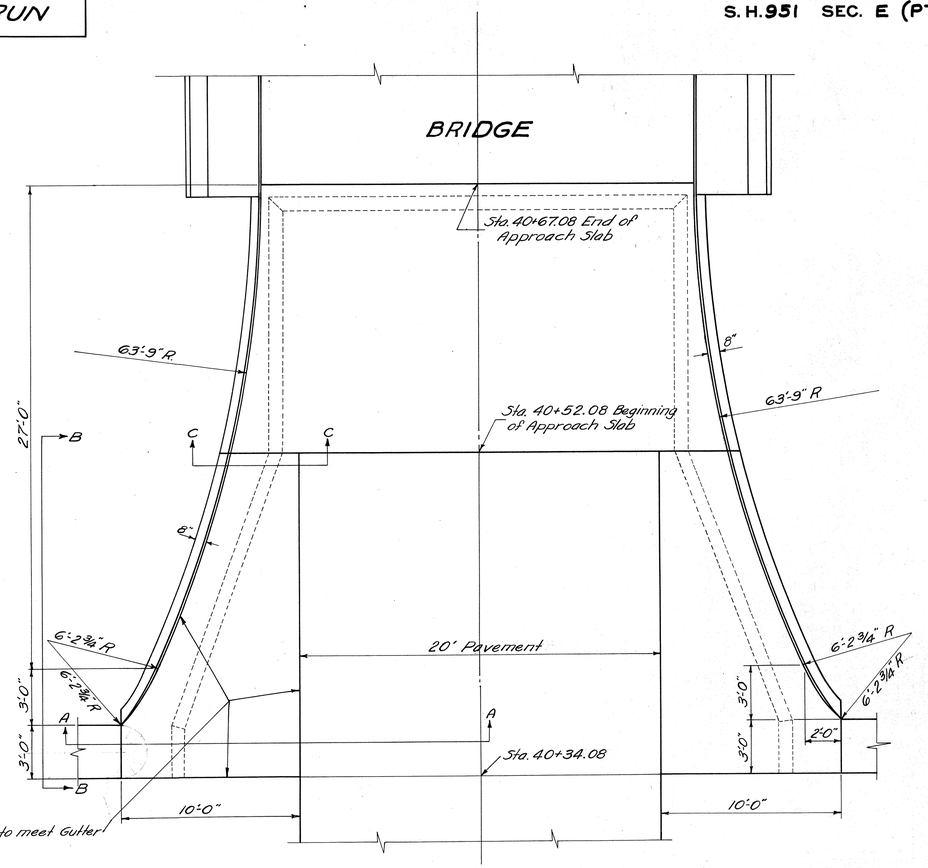
CULVERT DATA

TYPE: Twin Pipe
SIZE: 18" x 60'
WORK REQUIRED: Build two standard 18"x60' Pipe Culverts in Battery with standard Side Road Culvert Headwalls (Modified). See standard Drawings S-27-PC-3 and S-27-PC-1.
Remove and Store existing 24"x30' Cast Iron Pipe

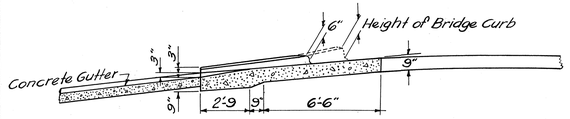
"D" Diameter of Pipe	"L-1"	"L-2"	"H"	QUANTITIES IN TWO HEADWALLS							
				A Bars		B Bars		C Bars		Steel	Conc.
				No.	Length	No.	Length	No.	Length	Lbs.	Cu.Yds.
18"	6'-3"	2'-9"	5'-0"	2	11'-0"	2	12'-0"	18	4'-6"	93	3.8



DETAIL OF SIDE ROAD CULVERT (MODIFIED)

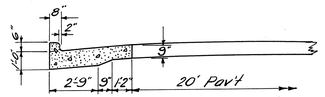


DETAIL OF APPROACH GUTTERS
Scale 1/4"=1'-0"

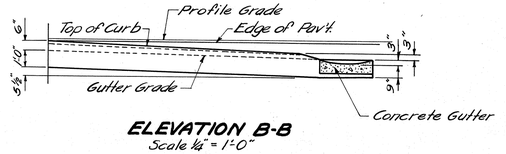


SECTION A-A
Scale 1/4"=1'-0"

Notes:
Height of Curb varies from height of Bridge Curb at Bridge to 3" at end of Gutter.
See Std. Dwg. AS-44-F (Rev. 1-18-46)
All Gutter Slabs similar.
Make smooth transition from flat slope to fit crown at beginning of Approach Slab



SECTION C-C
Scale 1/4"=1'-0"



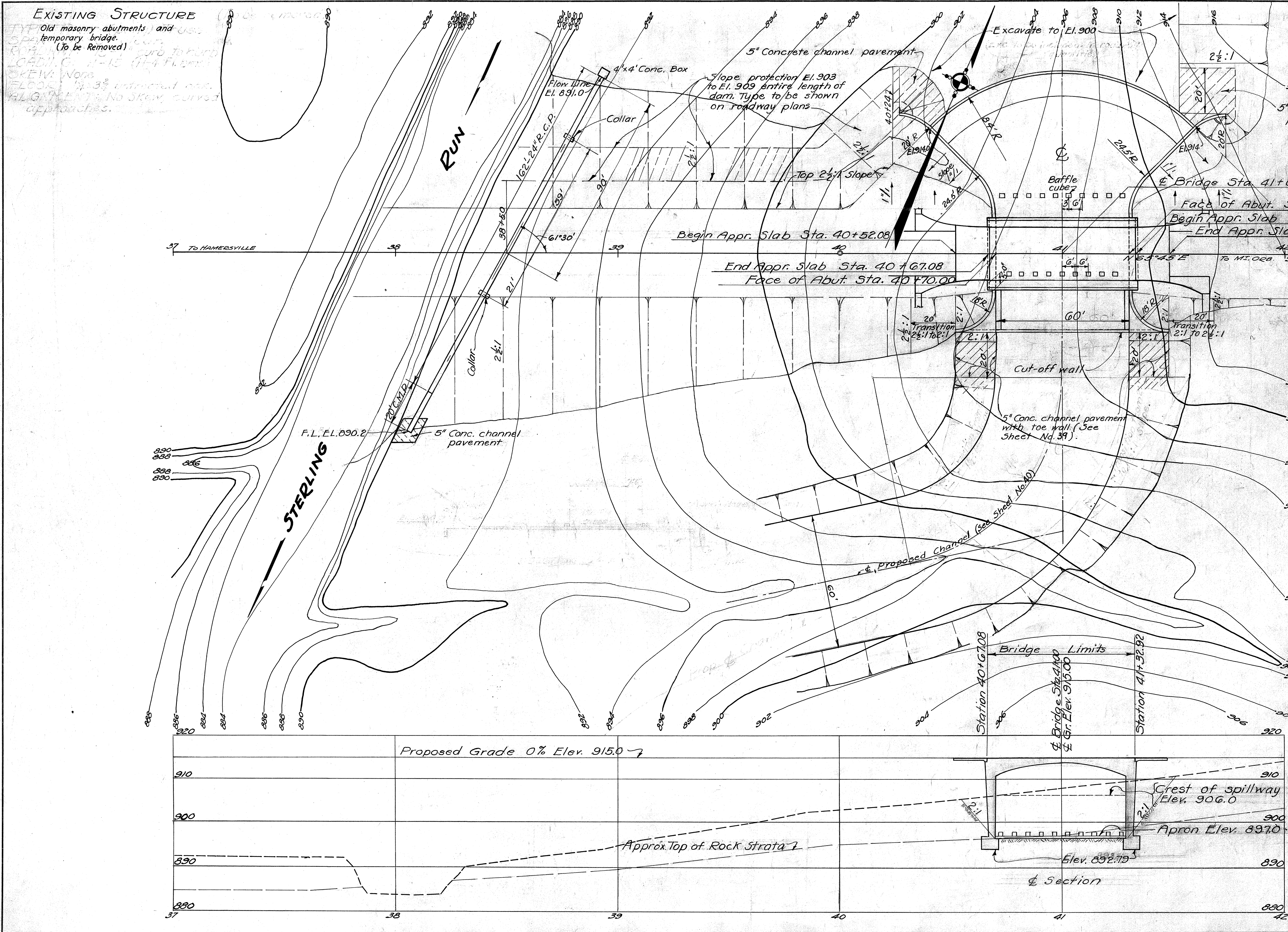
ELEVATION B-B
Scale 1/4"=1'-0"

PIPE CULVERT STA. 62+84.5

DETAIL OF CONCRETE APPROACH GUTTERS

FED. RD. DIV. NO.	STATE	PROJECT	FISCAL YEAR	
2	OHIO	S-135(1)	1947	32/44

S.H. 951 SEC. E(PT.)
BROWN COUNTY
7.4 mi.± N. of Hamersville
2.5± mi. S. of Mt. Orab



PROPOSED STRUCTURE

TYPE: Concrete rigid frame.
SPAN: 60' clear.
ROADWAY: 24' plus two 3'-0" sidewalks.
LOADING: S-15-40.
SKEW: None.
Surf. Course: Bituminous.
APPR. SLABS: 15' long (A5-44-F, type IV.)

DRAINAGE AREA 27 SQ. MI.

REVISED 4-1-47

SITE PLAN
BR. No BR-774-106
STERLING RUN

S.H. No 951 SECTION E
BROWN COUNTY
STATE OF OHIO
SCALE 1"=20' STATION 41+00

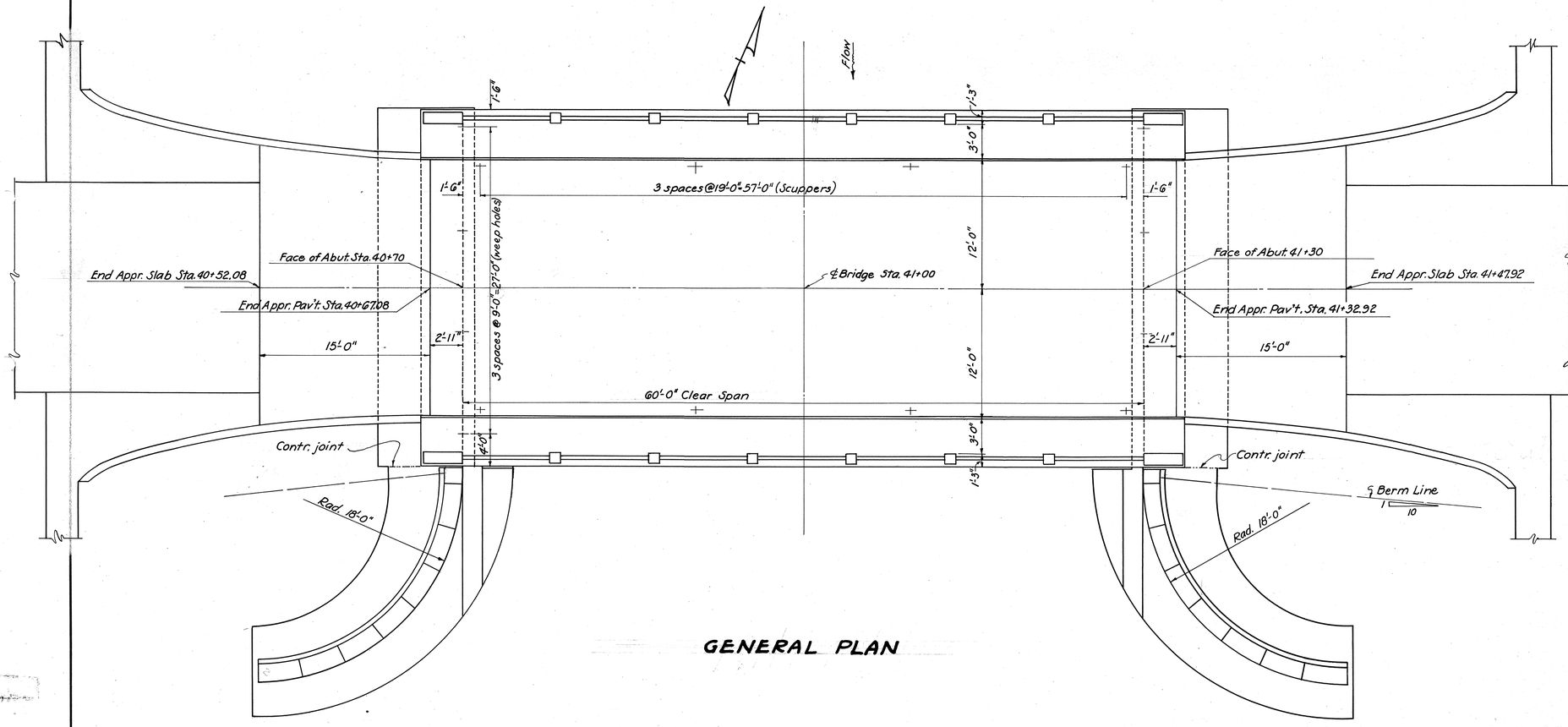
PRESENT TOPO		PROPOSED WORK			
SURVEY	DRAWN	DESIGN	DRAWN	CHECKED	REVIEW
		C.H.A. McB	McB	C.F.B.	BFG 11-8-46

Rev. 11-29-46

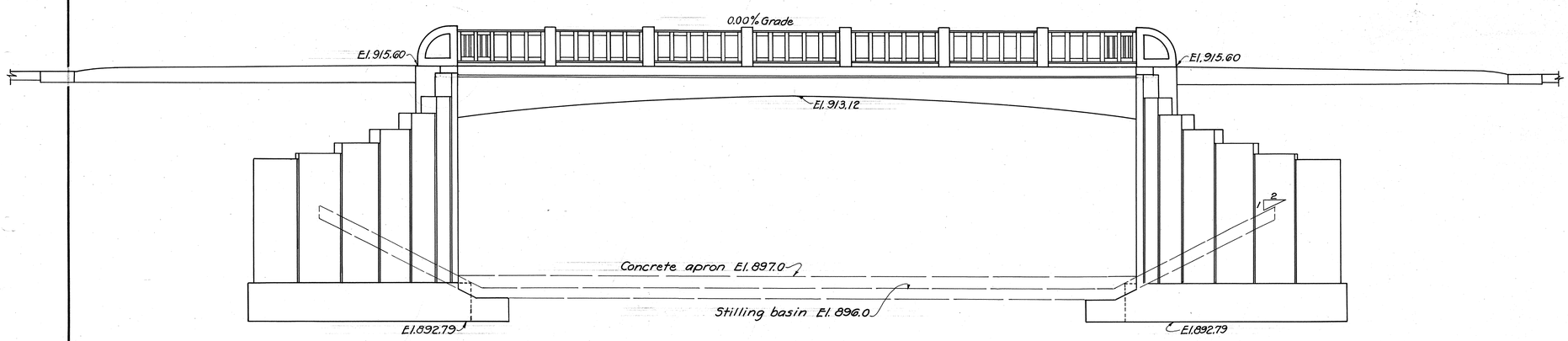
FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	S-135(1)	1947

33
44

BROWN COUNTY
S.H. 951 SEC. E.



GENERAL PLAN



SOUTH ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawing BS-44-F (rev. 1-18-46) and B-T-71R (rev. 2-1-47)

EXISTING STRUCTURE shall be removed when no longer needed for traffic. Existing abutment masonry to be disposed of as bank protection as directed by the Engineer. Other material to be dismantled and piled at the disposal of the State's forces.

FOOTINGS shall project a minimum of 2'-6" into solid rock.

CONCRETE CLASSIFICATION:- All concrete in frame shall be Class "C". All concrete in footings and wing walls shall be Class "E".

WELDING shall be Class "A".

FALSEWORK PLANS:- Not less than fifteen days prior to placing superstructure concrete, the contractor shall submit three blue prints of falsework plans to the Director for approval by the Bureau of Bridges.

CAMBER: A camber of ½" shall be provided at center line of span to compensate for dead load deflection.

REINFORCING STEEL shall meet the requirements of Sec. M-7.1 Intermediate or Hard Grade, or M-7.2 Rail Steel.

SHOP PAINT for steel railing shall meet the requirements of Sections M-9.9, M-9.20 or M-9.21.

ESTIMATED QUANTITIES
(BRIDGE NO. BR-774-106 only)

ITEM	TOTAL	UNIT	DESCRIPTION	As Built
E-2	165	Cu.Yd.	Excavation for structures, unclassified	165
E-2	130	Cu.Yd.	Excavation for structures, rock or shale	130
S-1	333	Cu.Yd.	Class "C" concrete, frame	333
S-1	50	Cu.Yd.	Class "E" concrete, wing walls	50
S-1	125	Cu.Yd.	Class "E" concrete, footings for frame and wingwalls	125
S-3	204	Sq.Yd.	Type "A" waterproofing	204
S-3	34	Sq.Yd.	Type "B" waterproofing	34
S-4	57,632	Lb.	Reinforcing steel	57,632
S-9	79	Lin.Ft.	Folded copper strip, 12" @ 24 oz.	79
S-9	150	Sq.Ft.	1" Prem. expansion joint filler	150
S-14	134	Lin.Ft.	Bridge railing, steel with concrete posts	134
S-24	lump	sum	Removal of existing structure	Lump
S-29	110	Cu.Yd.	Porous backfill	110
S-3	178	Sq.Yd.	Waterproofing for bridge deck, Type C	178
T-35	12	Cu.Yd.	Asph. conc. surf course, Type "C"	11.14

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

GENERAL PLAN & ELEVATION NOTES & ESTIMATED QUANTITIES

BRIDGE NO. BR-774-106
OVER STERLING RUN

BROWN COUNTY S.H. 951
SEC. E STA. 41+00

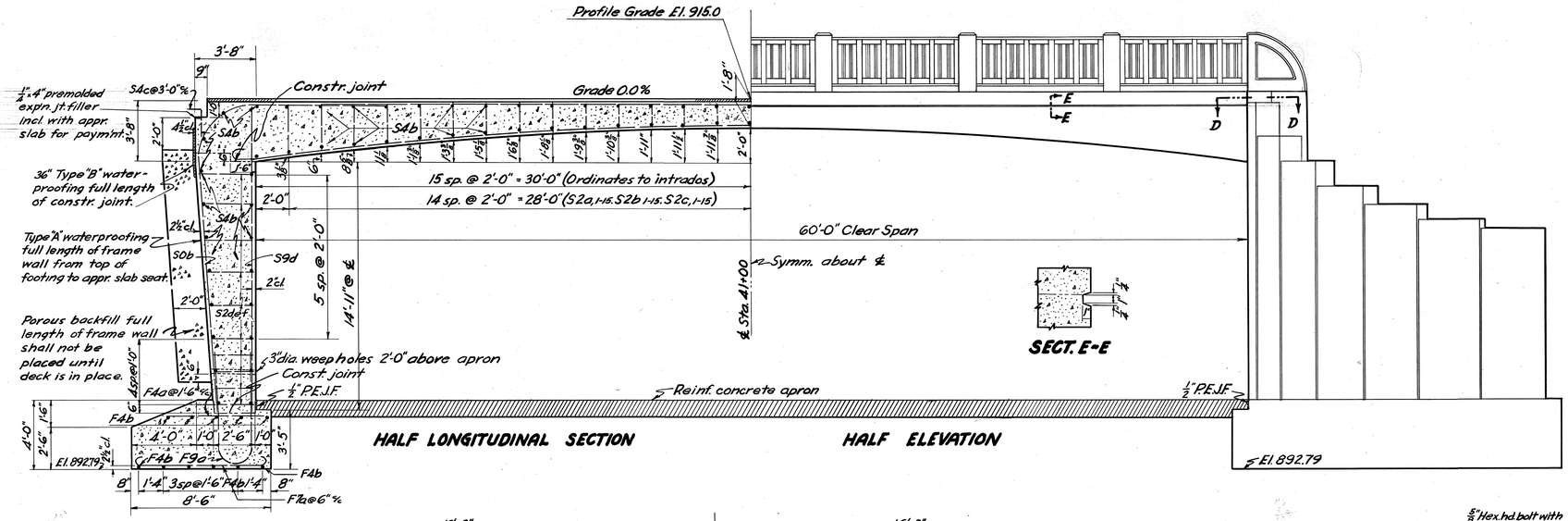
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
mfw	mfw	H.E.T.	W.C.K.	DFG BHS	11-8-46	11-25-46 12-2-46 1-29-47 4-1-47

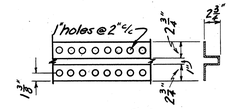
RWH 4/1/47
Revised As Built

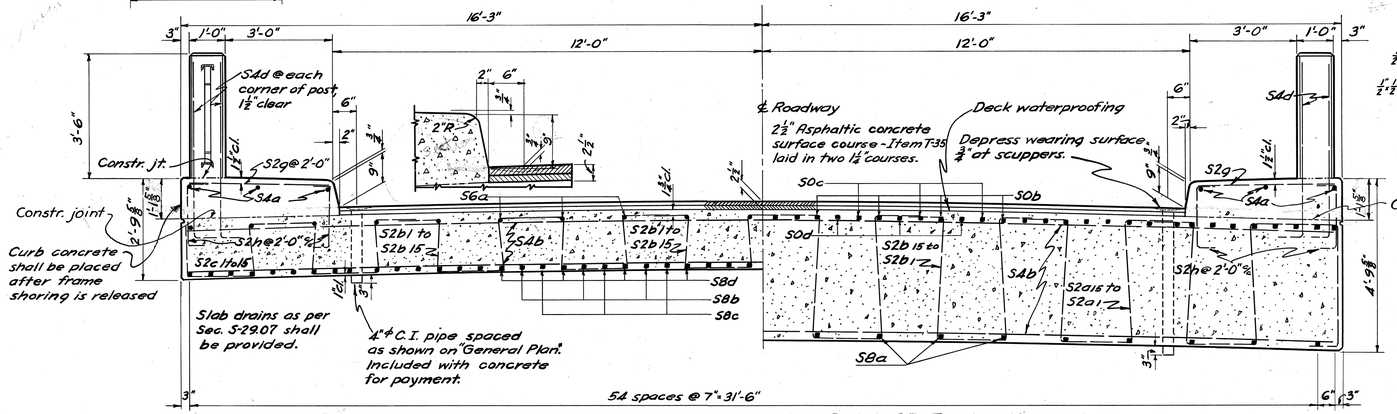
FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
12	OHIO	S-135(1)	1947

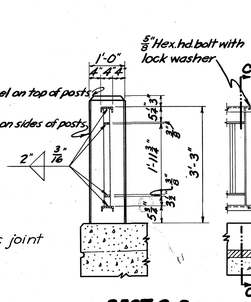
34
44

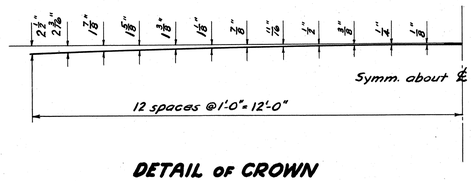
BROWN COUNTY
S. H. 951 SEC. E (Pt.)

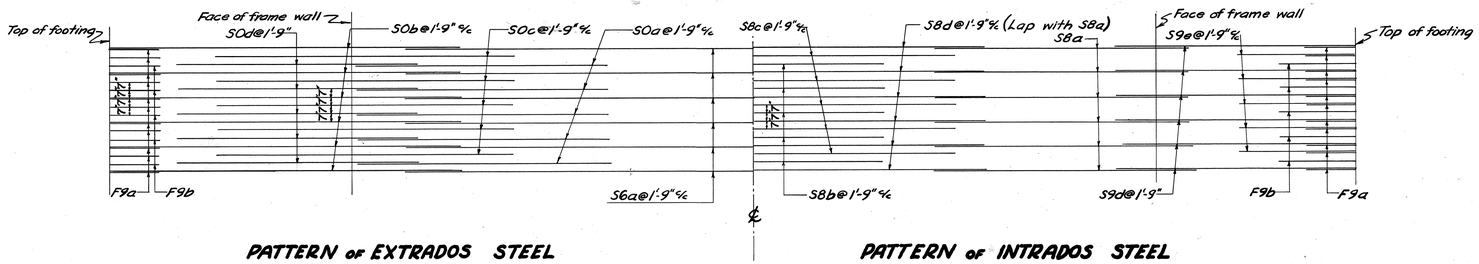












STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

FRAME & RAILING DETAILS

BRIDGE No. Br.-774-106
OVER STERLING RUN

BROWN COUNTY
SEC. E

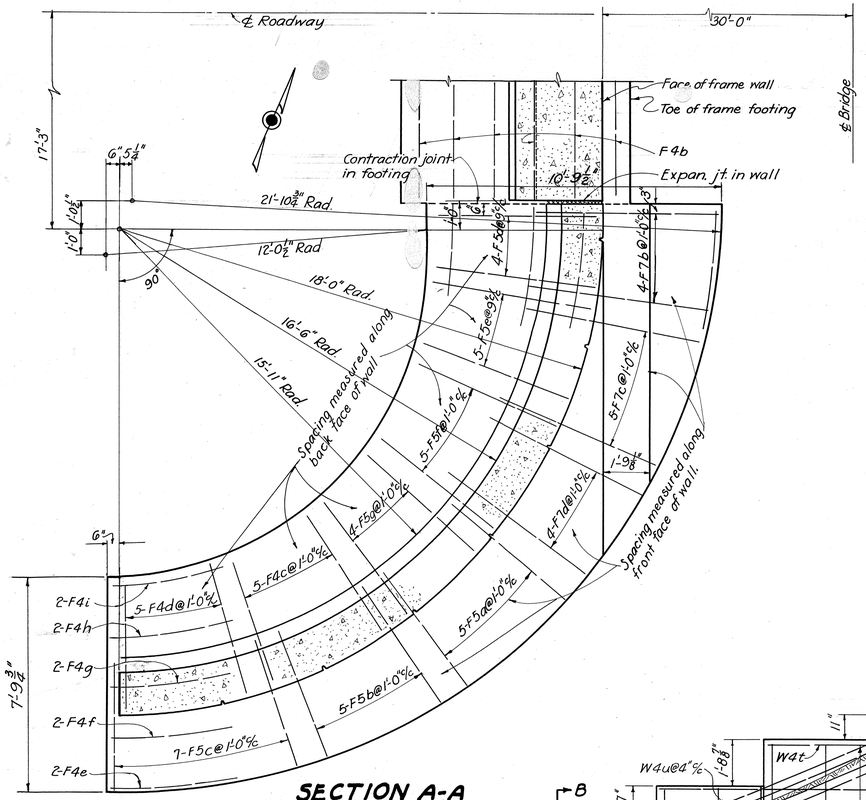
S.H. 951
STA. 41+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
[illegible]	[illegible]	KBL	W.C.K.	DFG	11-8-46	

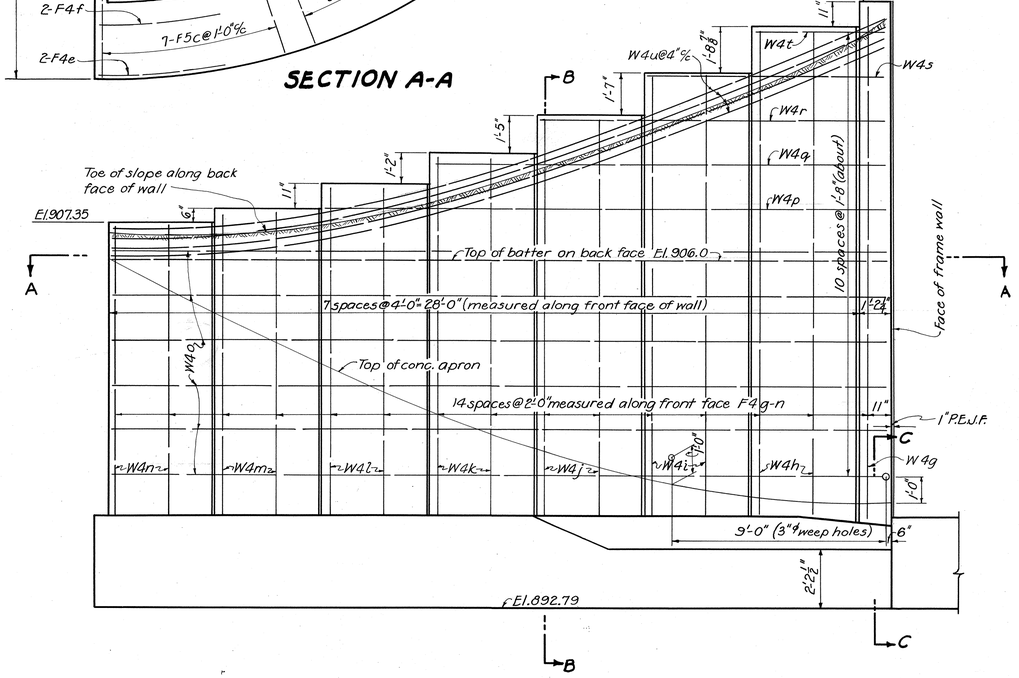
FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
12	OHIO	S-135(1)	1947

35/44

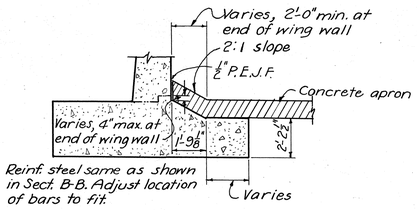
BROWN COUNTY
S.H. 951 SEC. E (PT)



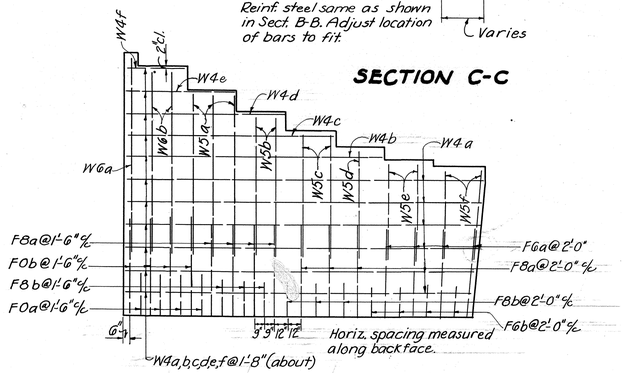
SECTION A-A



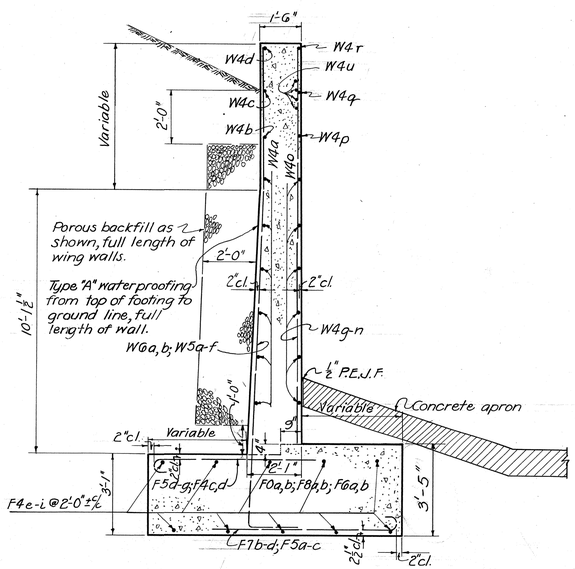
ELEVATION OF S.W. WING
DEVELOPED ALONG FRONT FACE
S.E. WING OPP. HAND



SECTION C-C



STEEL PATTERN-BACK FACE
DEVELOPED VIEW



TYPICAL SECTION B-B

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

WING WALL DETAILS

BRIDGE NO. BR.774-106
OVER STERLING RUN

BROWN COUNTY — S.H. 351
SEC. E — STA. 41+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
[illegible]	[illegible]	K.E.T.	W.C.K.	BFG BKH	11-8-46	

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
12	OHIO	S-135(1)	1947

36/44

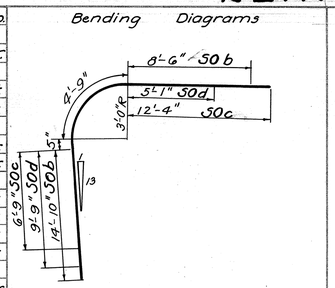
BROWN COUNTY
S.H. 951 SEC. E

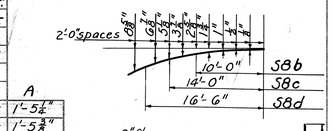
REINFORCING STEEL LIST

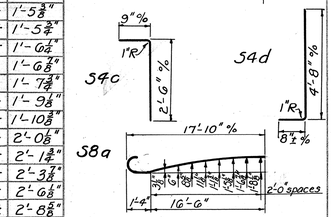
FRAME

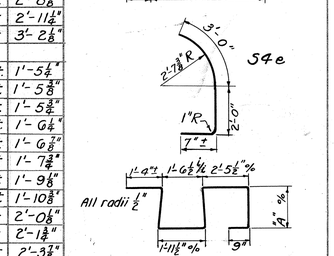
Mark	Size	No	Length	Weight	Shp
S0a	1¼"□	38	18'-6"	3735	Str.
S0b	1¼"□	38	28'-6"	5754	Bt.
S0c	1¼"□	36	24'-3"	4638	Bt.
S0d	1¼"□	38	20'-0"	4038	Bt.
S9d	1⅛"□	38	18'-0"	2943	Str.
S9e	1⅛"□	36	9'-0"	1394	Str.
S8a	1"□	38	18'-9"	2422	Bt.
S8b	1"□	19	20'-0"	1292	Bt.
S8c	1"□	18	28'-0"	1714	Bt.
S8d	1"□	19	33'-0"	2132	Bt.
S6a	⅞"ϕ	38	27'-6"	2136	Str.
S4a	⅝"ϕ	12	33'-6"	419	Str.
S4b	⅝"ϕ	98	32'-0"	3271	Str.
S4c	⅝"ϕ	16	3'-3"	54	Bt.
S4d	⅝"ϕ	56	5'-3"	307	Bt.
S4e	⅝"ϕ	8	5'-6"	46	Bt.
S2a1	½"ϕ	1	10'-9"	7	Bt.
S2a2	½"ϕ	2	10'-9"	14	Bt.
S2a3	½"ϕ	2	11'-0"	15	Bt.
S2a4	½"ϕ	2	11'-0"	15	Bt.
S2a5	½"ϕ	2	11'-3"	15	Bt.
S2a6	½"ϕ	2	11'-6"	15	Bt.
S2a7	½"ϕ	2	11'-9"	16	Bt.
S2a8	½"ϕ	2	12'-0"	16	Bt.
S2a9	½"ϕ	2	12'-6"	17	Bt.
S2a10	½"ϕ	2	13'-0"	17	Bt.
S2a11	½"ϕ	2	13'-6"	18	Bt.
S2a12	½"ϕ	2	14'-0"	19	Bt.
S2a13	½"ϕ	2	14'-9"	20	Bt.
S2a14	½"ϕ	2	15'-3"	20	Bt.
S2a15	½"ϕ	2	16'-0"	21	Bt.
S2b1	½"ϕ	3	14'-3"	29	Bt.
S2b2	½"ϕ	G	14'-3"	57	Bt.
S2b3	½"ϕ	G	14'-6"	58	Bt.
S2b4	½"ϕ	G	14'-6"	58	Bt.
S2b5	½"ϕ	G	14'-9"	59	Bt.
S2b6	½"ϕ	G	15'-0"	60	Bt.
S2b7	½"ϕ	G	15'-6"	62	Bt.
S2b8	½"ϕ	G	16'-0"	64	Bt.
S2b9	½"ϕ	G	16'-6"	66	Bt.
S2b10	½"ϕ	G	17'-0"	68	Bt.
S2b11	½"ϕ	G	17'-9"	71	Bt.
S2b12	½"ϕ	G	18'-6"	74	Bt.
S2b13	½"ϕ	G	19'-3"	77	Bt.
S2b14	½"ϕ	G	20'-3"	81	Bt.
S2b15	½"ϕ	G	21'-3"	85	Bt.
S2c1	½"ϕ	1	13'-3"	9	Bt.
S2c2	½"ϕ	2	13'-3"	18	Bt.
S2c3	½"ϕ	2	13'-3"	18	Bt.
S2c4	½"ϕ	2	13'-6"	18	Bt.
S2c5	½"ϕ	2	13'-9"	18	Bt.
S2c6	½"ϕ	2	14'-0"	19	Bt.
S2c7	½"ϕ	2	14'-6"	19	Bt.
S2c8	½"ϕ	2	15'-0"	20	Bt.
S2c9	½"ϕ	2	15'-6"	21	Bt.
S2c10	½"ϕ	2	16'-0"	21	Bt.
S2c11	½"ϕ	2	16'-9"	22	Bt.
S2c12	½"ϕ	2	17'-6"	23	Bt.
S2c13	½"ϕ	2	18'-3"	24	Bt.
S2c14	½"ϕ	2	19'-3"	26	Bt.
S2c15	½"ϕ	2	20'-3"	27	Bt.

Bending Diagrams

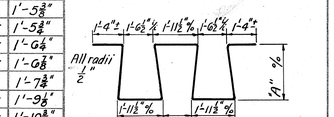








S2a1 to S2a15
S2d1 to S2d10

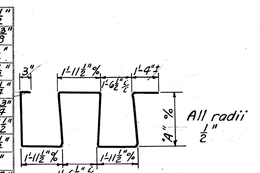


S2b1 to S2b15
S2e1 to S2e10

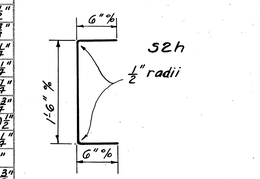
FRAME (CONTINUED)

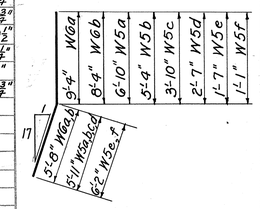
Mark	Size	No.	Length	Weight	Shp.	A
S2d1	½"ϕ	2	13'-3"	18	Bt.	2'-3½"
S2d2	½"ϕ	2	13'-6"	18	Bt.	2'-4⅜"
S2d3	½"ϕ	2	13'-9"	18	Bt.	2'-5¼"
S2d4	½"ϕ	2	14'-0"	19	Bt.	2'-6⅛"
S2d5	½"ϕ	2	14'-3"	19	Bt.	2'-7"
S2d6	½"ϕ	2	14'-6"	19	Bt.	2'-8"
S2d7	½"ϕ	2	15'-0"	20	Bt.	2'-10½"
S2d8	½"ϕ	2	15'-6"	21	Bt.	3'-0⅜"
S2d9	½"ϕ	2	16'-0"	21	Bt.	3'-2"
S2d10	½"ϕ	2	16'-6"	22	Bt.	3'-3¾"
S2e1	½"ϕ	G	17'-9"	71	Bt.	2'-3½"
S2e2	½"ϕ	G	18'-0"	72	Bt.	2'-4⅜"
S2e3	½"ϕ	G	18'-3"	73	Bt.	2'-5¼"
S2e4	½"ϕ	G	18'-6"	74	Bt.	2'-6⅛"
S2e5	½"ϕ	G	19'-0"	76	Bt.	2'-7¾"
S2e6	½"ϕ	G	19'-6"	78	Bt.	2'-8¾"
S2e7	½"ϕ	G	20'-0"	80	Bt.	2'-10½"
S2e8	½"ϕ	G	20'-6"	82	Bt.	3'-0⅜"
S2e9	½"ϕ	G	21'-3"	85	Bt.	3'-2"
S2e10	½"ϕ	G	21'-9"	87	Bt.	3'-3¾"
S2f1	½"ϕ	2	16'-6"	22	Bt.	2'-3½"
S2f2	½"ϕ	2	17'-0"	23	Bt.	2'-4⅜"
S2f3	½"ϕ	2	17'-3"	23	Bt.	2'-5¼"
S2f4	½"ϕ	2	17'-6"	23	Bt.	2'-6⅛"
S2f5	½"ϕ	2	17'-9"	24	Bt.	2'-7¾"
S2f6	½"ϕ	2	18'-3"	24	Bt.	2'-8¾"
S2f7	½"ϕ	2	19'-0"	25	Bt.	2'-10½"
S2f8	½"ϕ	2	19'-6"	26	Bt.	3'-0⅜"
S2f9	½"ϕ	2	20'-0"	27	Bt.	3'-2"
S2f10	½"ϕ	2	20'-9"	28	Bt.	3'-3¾"
S2g	½"ϕ	GG	3'-9"	166	Str.	
S2h	½"ϕ	132	2'-6"	220	Bt.	

Bending Diagrams



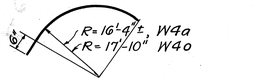
S2c1 to S2c15 S2f1 to S2f10

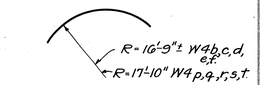




WING WALLS

Mark	Size	No.	Length	Weight	Shp.
W6a	⅞"ϕ	2	15'-0"	61	Bt.
W6b	⅞"ϕ	4	19'-0"	115	Bt.
W5a	¾"ϕ	6	12'-9"	115	Bt.
W5b	¾"ϕ	4	11'-3"	68	Bt.
W5c	¾"ϕ	4	9'-9"	59	Bt.
W5d	¾"ϕ	2	8'-6"	25	Bt.
W5e	¾"ϕ	4	7'-9"	47	Bt.
W5f	¾"ϕ	4	7'-3"	44	Bt.
W4a	⅝"ϕ	12	26'-0"	325	Bt.
W4b	⅝"ϕ	2	19'-0"	40	Bt.
W4c	⅝"ϕ	2	15'-3"	32	Bt.
W4d	⅝"ϕ	2	11'-6"	24	Bt.
W4e	⅝"ϕ	2	7'-9"	16	Bt.
W4f	⅝"ϕ	2	4'-3"	9	Bt.
W4g	⅝"ϕ	2	19'-0"	40	Str.
W4h	⅝"ϕ	4	18'-0"	75	Str.
W4i	⅝"ϕ	4	16'-3"	68	Str.
W4j	⅝"ϕ	4	14'-9"	62	Str.
W4k	⅝"ϕ	4	13'-3"	55	Str.
W4l	⅝"ϕ	4	12'-0"	50	Str.
W4m	⅝"ϕ	4	11'-0"	46	Str.
W4n	⅝"ϕ	4	10'-6"	44	Str.
W4o	⅝"ϕ	12	28'-6"	357	Bt.

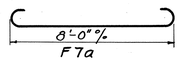




WING WALLS (CONT.)

Mark	Size	No.	Length	Weight	Shp.
W4p	⅝"ϕ	2	20'-6"	43	Bt.
W4q	⅝"ϕ	2	16'-6"	34	Bt.
W4r	⅝"ϕ	2	12'-6"	26	Bt.
W4s	⅝"ϕ	2	8'-6"	18	Bt.
W4t	⅝"ϕ	2	4'-6"	9	Bt.
W4u	⅝"ϕ	8	30'-0"	250	Bend in Field

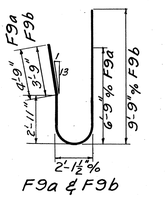
Bending Diagrams



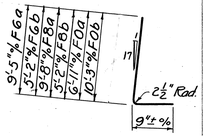
FOOTING

Mark	Size	No.	Length	Weight	Shp.
F0a	1¼"□	8	7'-6"	319	Bt.
F0b	1¼"□	8	10'-9"	457	Bt.
F9a	1⅛"□	74	15'-6"	4936	Bt.
F9b	1⅛"□	38	17'-6"	2861	Bt.
F8a	1"□	14	10'-3"	488	Bt.
F8b	1"□	12	5'-9"	235	Bt.
F7a	1"ϕ	130	9'-9"	3384	Bt.
F7b	1"ϕ	8	8'-6"	182	Bt.
F7c	1"ϕ	10	8'-3"	220	Bt.
F7d	1"ϕ	8	8'-0"	171	Bt.
F6a	⅞"ϕ	8	10'-0"	164	Bt.
F6b	⅞"ϕ	8	5'-9"	94	Bt.
F5a	¾"ϕ	10	6'-6"	98	Bt.
F5b	¾"ϕ	10	6'-3"	94	Bt.
F5c	¾"ϕ	14	6'-0"	126	Bt.
F5d	¾"ϕ	8	7'-6"	90	Bt.
F5e	¾"ϕ	10	7'-3"	109	Bt.
F5f	¾"ϕ	10	7'-0"	105	Bt.
F5g	¾"ϕ	8	6'-9"	81	Bt.
F4a	⅝"ϕ	40	6'-3"	261	Str.
F4b	⅝"ϕ	22	32'-0"	734	Str.
F4c	⅝"ϕ	10	5'-9"	60	Bt.
F4d	⅝"ϕ	10	5'-6"	57	Bt.
F4e	⅝"ϕ	4	33'-3"	139	Bt.
F4f	⅝"ϕ	4	30'-0"	125	Bt.
F4g	⅝"ϕ	4	26'-9"	112	Bt.
F4h	⅝"ϕ	4	24'-0"	100	Bt.
F4i	⅝"ϕ	4	20'-9"	87	Bt.

Bending Diagrams



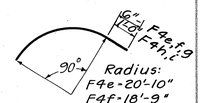
F9a & F9b



7'-6"%	F7b
7'-3"%	F7c
7'-0"%	F7d
5'-10"%	F5a
5'-7"%	F5b
5'-4"%	F5c
6'-10"%	F5d
6'-7"%	F5e
6'-4"%	F5f
6'-1"%	F5g
5'-2"%	F4c
4'-11"%	F4d

REPLACEMENT BARS

RE0	1¼"□	1	9'-0"	48	Str.
RE9	1⅛"□	1	8'-6"	37	Str.
RE8	1"□	1	8'-0"	27	Str.
RE7	1"ϕ	1	8'-0"	21	Str.
RE6	⅞"ϕ	1	7'-6"	15	Str.
RE5	¾"ϕ	1	7'-0"	11	Str.
RE4	⅝"ϕ	1	6'-6"	7	Str.
RE2	½"ϕ	1	6'-0"	4	Str.



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

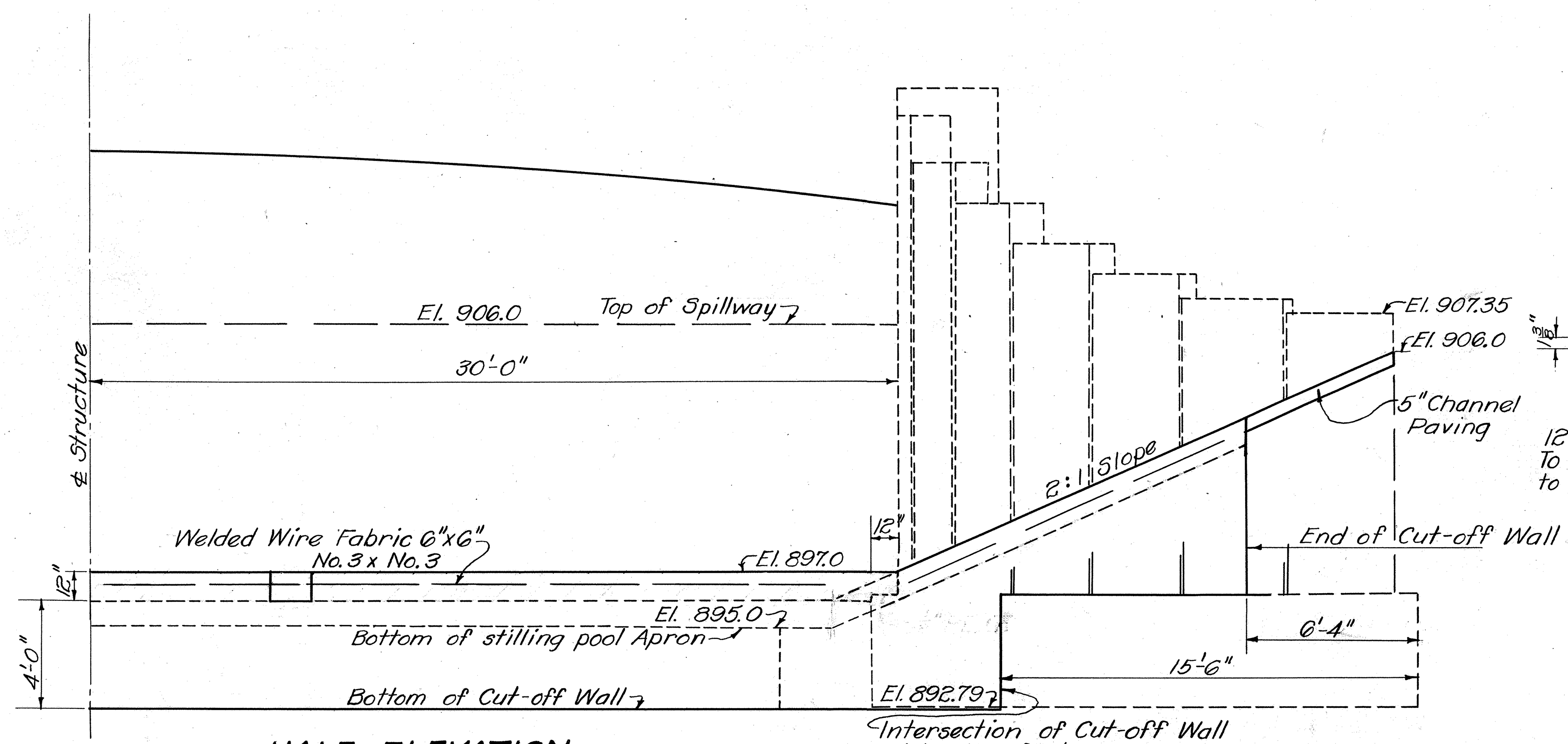
REINFORCING STEEL LIST

BRIDGE NO.-774-10G
OVER STERLING RUN

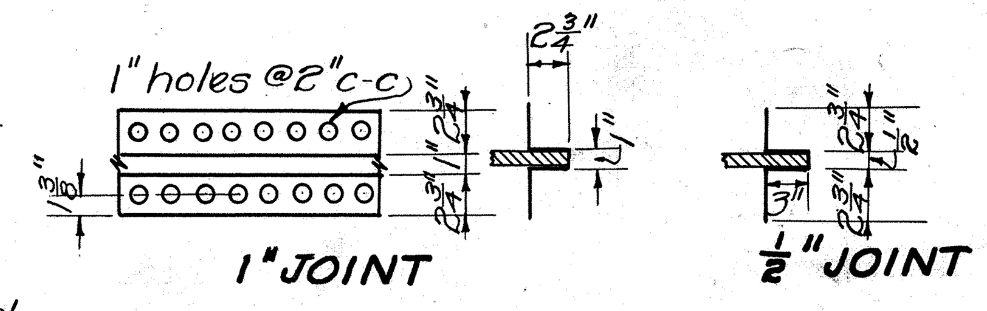
BROWN CO. S.H. 951
SEC. E STA. 41+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
mfw	mfw	K.E.T.	W.C.K.	BFG	11-8-46	

BROWN COUNTY
S.H. 951 SEC. E



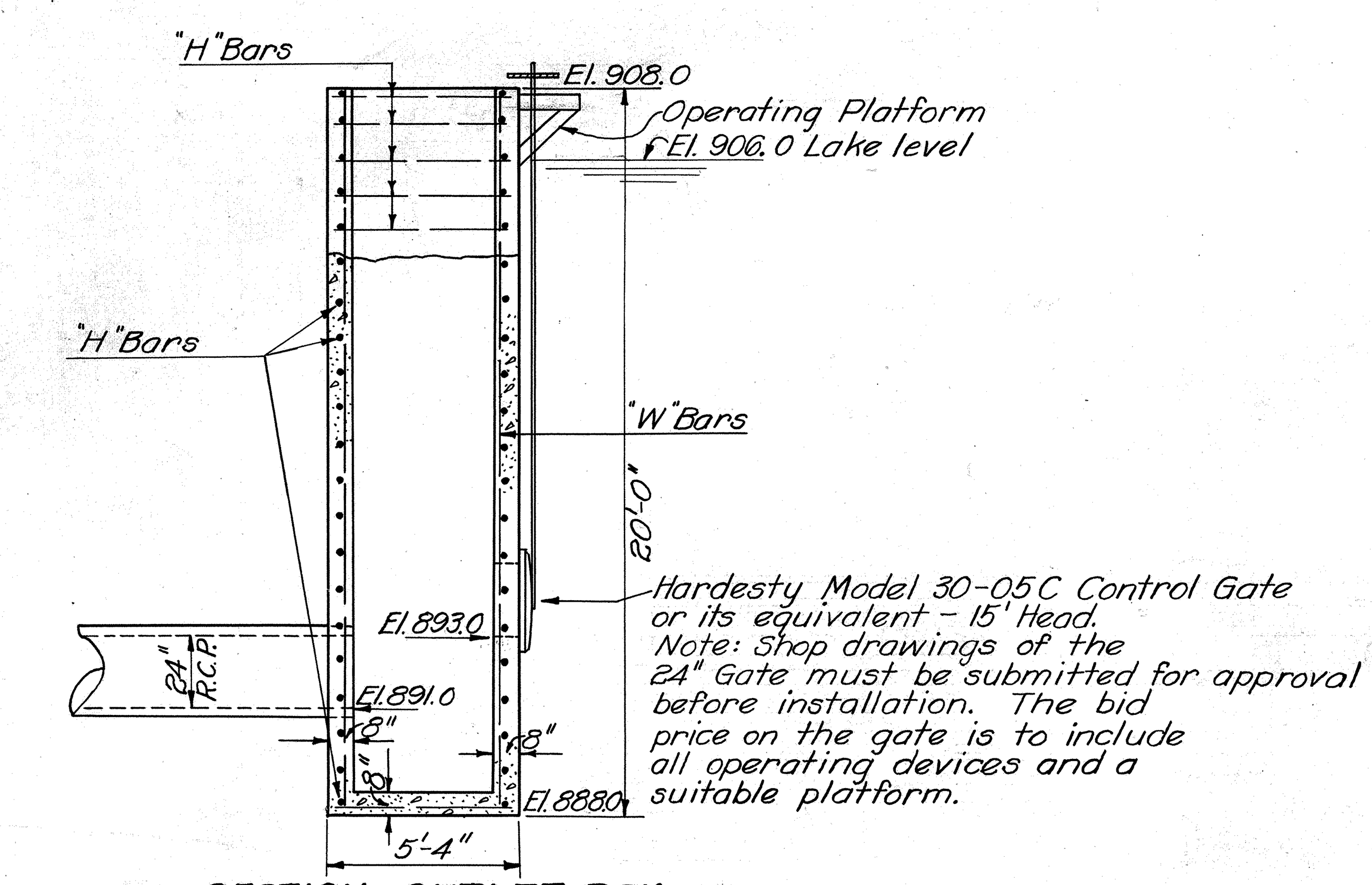
HALF ELEVATION



12" 24 oz Folded Copper Strip To extend from top of footing to 6" below top of wall.

ESTIMATED QUANTITIES* SPILLWAY, APRON, OUTLET, NO.WINGWALLS, & CHANNEL			**AS BUILT**	
ITEM	DESCRIPTION	QUANTITY	Change Order	Final Quantity
E-2	Excavation for structure (unclassified)	363 cu. yd.		363
E-2	Excavation for structure (rock or shale)	316 cu. yd.		316
E-3	Channel Excavation	13504 cu. yd.		13,504
S-1	Class E Conc., Barrel, Apron, Cubes & Outlet Box	580 cu. yd.	#2, +17	598
S-1	Class E Conc., Wing Walls & Collars	210 cu. yd.		210
S-1	Class E Conc., Wing Wall footings, Cut-off & Toe Walls	162 cu. yd.	#2, +26	188
S-3	Type A waterproofing	270 sq. yd.		270
S-3	Type B waterproofing, 36" wide	26 sq. yd.		26
S-4	Reinforcing Steel	28,259 lbs.		28,259
S-9	Folded Copper Strip 12"- 24 Oz.	108 lin. ft.	#2, -34.5	73.5
S-9	1" Premolded Expansion Joint Filler	250 sq. ft.	#2, -55	195
S-9	½" Premolded Expansion Joint Filler	480 sq. ft.	#2, -40	440
S-29	Porous backfill	35 cu. yd.		35
Special	Water control gate, complete	Lump Sum		Lump Sum
I-3	24" Roadway Drain Reinf. Conc. Pipe (Sec. M-6.6(c))	148 lin. ft.		148
I-3	24" Roadway Drain Corr. Metal Pipe (Sec. M-6.4(a))	20 lin. ft.		20
Special	5" Concrete Channel Pavement	436 sq. yd.	#3, +62	498

* These quantities are non-particpating by P.R.A.

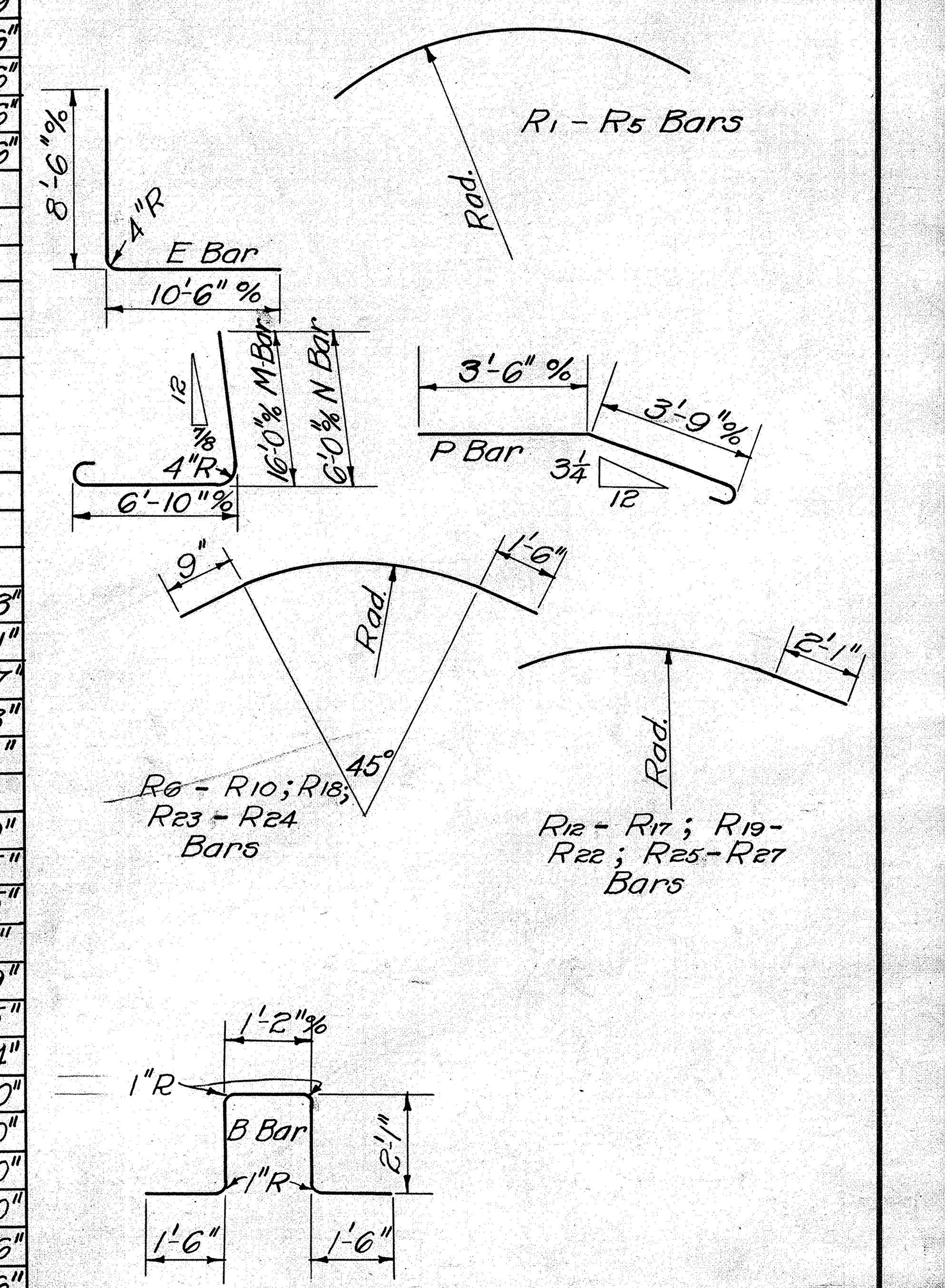


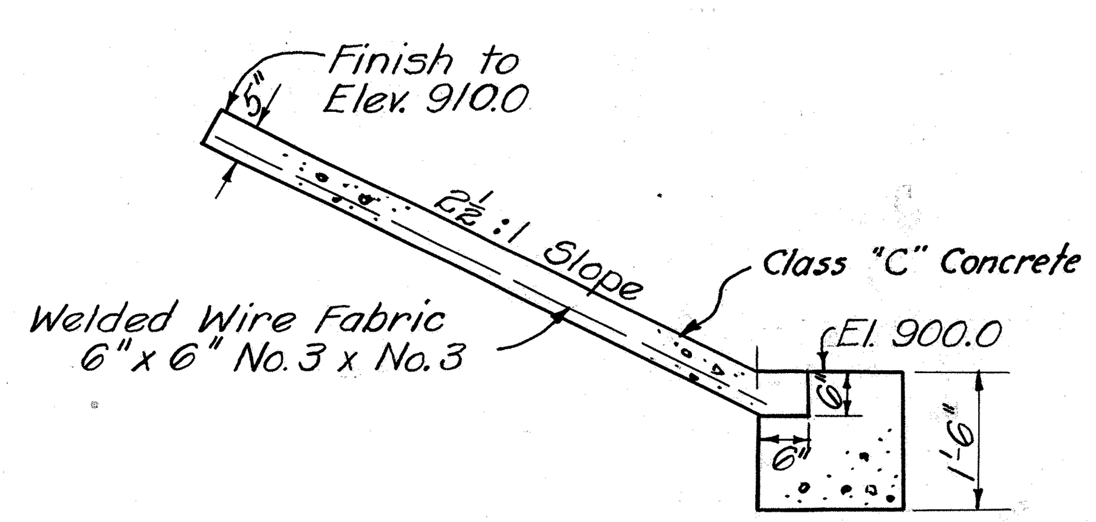
Hardesty Model 30-05C Control Gate or its equivalent - 15' Head.
Note: Shop drawings of the 24" Gate must be submitted for approval before installation. The bid price on the gate is to include all operating devices and a suitable platform.

SECTION - OUTLET BOX
Scale ¼" = 1'

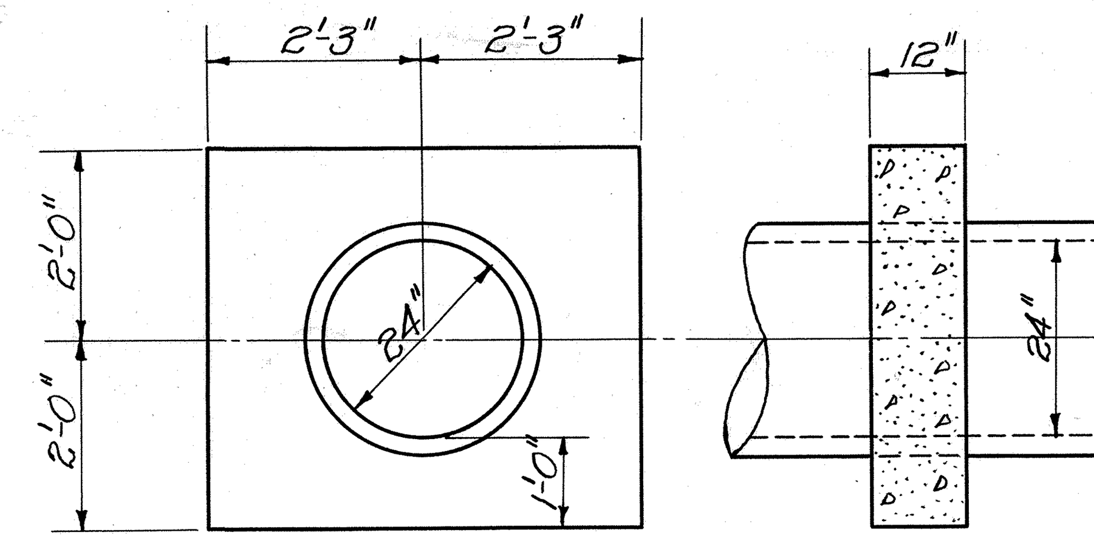
REINFORCING STEEL						
Mark	Size	No.	Length	Weight	Shape	Rad.
		BARREL				
F	¾" φ	66	5'-0"	496	Str.	
E	⅝" φ	133	18'-6"	2566	Bt.	
R_1	⅝" φ	16	33'-9"	563	Bt.	83'-9"
R_2	⅝" φ	4	33'-3"	139	Bt.	82'-6"
R_3	⅝" φ	4	32'-0"	134	Bt.	79'-6"
R_4	⅝" φ	4	30'-9"	128	Bt.	76'-6"
R_5	⅝" φ	4	29'-9"	124	Bt.	73'-6"
Dowels	⅝" φ	54	4'-0"	225	Str.	
		BREAST WALLS				
M	1" φ	120	23'-6"	7529	Bt.	
N	1" φ	126	13'-6"	4542	Bt.	
P	⅞" φ	126	8'-0"	2060	Bt.	
O_1	¾" φ	134	19'-0"	3827	Str.	
O_2	¾" φ	8	18'-6"	222	Str.	
O_3	¾" φ	10	17'-0"	255	Str.	
O_4	¾" φ	8	15'-6"	186	Str.	
O_5	¾" φ	10	14'-0"	210	Str.	
R_6	⅝" φ	4	20'-6"	86	Bt.	23'-3"
R_7	⅝" φ	4	20'-3"	85	Bt.	22'-11"
R_8	⅝" φ	12	20'-0"	250	Bt.	22'-7"
R_9	⅝" φ	4	19'-9"	82	Bt.	22'-3"
R_{10}	⅝" φ	4	19'-6"	81	Bt.	21'-11"
R_{11}	⅝" φ	40	30'-0"	1252	Str.	
R_{12}	⅝" φ	2	6'-0"	13	Bt.	18'-9"
R_{13}	⅝" φ	2	10'-0"	21	Bt.	18'-5"
R_{14}	⅝" φ	2	13'-0"	27	Bt.	18'-5"
R_{15}	⅝" φ	4	16'-3"	68	Bt.	18'-1"
R_{16}	⅝" φ	4	16'-0"	67	Bt.	17'-9"
R_{17}	⅝" φ	4	15'-9"	66	Bt.	17'-5"
R_{18}	⅝" φ	20	21'-3"	443	Bt.	24'-4"
R_{19}	⅝" φ	12	17'-6"	219	Bt.	19'-10"
R_{20}	⅝" φ	2	13'-0"	27	Bt.	19'-10"
R_{21}	⅝" φ	2	10'-0"	21	Bt.	19'-10"
R_{22}	⅝" φ	2	6'-0"	13	Bt.	19'-10"
R_{23}	⅝" φ	4	23'-0"	96	Bt.	26'-6"
R_{24}	⅝" φ	4	16'-9"	70	Bt.	18'-6"
R_{25}	⅝" φ	4	19'-9"	82	Bt.	22'-6"
R_{26}	⅝" φ	8	16'-6"	138	Bt.	18'-6"
R_{27}	⅝" φ	4	13'-6"	56	Bt.	14'-6"
R_{28}	⅝" φ	16	32'-3"	538	Str.	
		BAFFLE CUBES				
B	⅝" φ	57	8'-0"	475	Bt.	
BH	½" φ	114	1'-2"	90	Str.	
		OUTLET BOX				
W	½" φ	12	19'-6"	156	Str.	
H	⅝" φ	84	5'-0"	437	Str.	
		APRON				
Dowels	⅝" φ	45	2'-0"	94	Str.	
Welded Wire Fabric 6"x6" No.3 x No.3						
			Total	28,259		

Welded wire fabric included with 5" concrete channel pavement for payment.

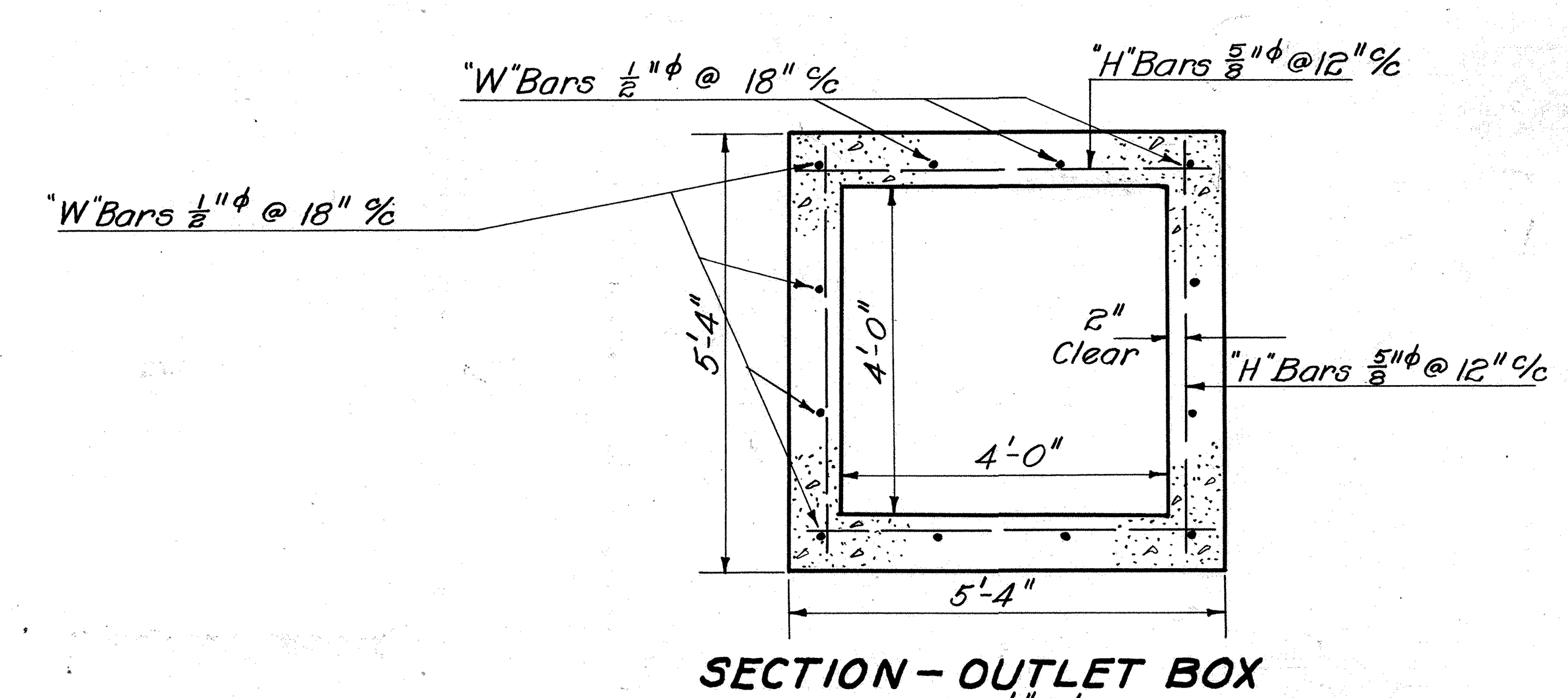




SECTION OF 5" CHANNEL PAVEMENT AND TOE WALL AT ENDS OF DAM
See Site Plan for Location



COLLAR DETAIL OUTLET PIPE
SCALE ½" = 1'
See Site Plan for Location



SECTION - OUTLET BOX
SCALE ½" = 1'
See Site Plan for Location

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

APRON VIEW SUMMARY TABLES
BRIDGE NO. BR-774-106
OVER STERLING RUN

BROWN COUNTY S.H. 951
SEC. E STA. 41+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.A.H.	W.O.H.	N.E.	P.L.R. W.C.K.	BFG	11-8-46	11-29-46 12-2-46 1-15-47 4-7-47


15'-8½" outside
Length = 131'-11⅜" outside
1'-6"
20'-0"
45°
Use folded copper strip
1" Exp. Jt. between wall and barrel
5/8" φ x 4' Dowel bars @ 2' c/c
31'-2⅝"
½" P.E.J.F.
R = 84'-0"
R = 73'-0"
Extend 1" P.E.J.F. thru Barrel of Spillway. Use copper strip on outside face of Barrel.
½" P.E.J.F. to Barrel
Use 1" thru Barrel
5/8" x 2' Dowel rods @ 4' c/c
Use ¾" x 13" Sleeves
Use on Apron Exp. Joints
Include sleeves with concrete for payment.
4'-0"
2'-0"
½" P.E.J.F.
Outside of footer
Face of breast wall
1" Expansion Jt. between wall and barrel.
T
Outside of footer
9'-3"
7'-2"
½" Expansion Jt. with copper strip
Note: Cut R bars 3" from joint
½" Exp. Jt. with copper strip
5'-0"
19'-2¾" outside
24'-6"
3" Weep Holes @ 5' c/c
Porous backfill
45°
24'-6"
Type B waterproofing
52'-9⅜"
Construction Joint in Apron
6'-0"
3'-0"
1'-6"
Baffle cubes
20'-0"
Porous backfill
3" Weep Holes at 5' c/c
Type B waterproofing
Begin Breast wall construction
Contraction Jt. in footing
Expan. Jt. in wall
For detail of this joint see Frame Detail sheet of bridge plans
Edge of bridge frame
18'-0"
16'-3"
33'-0"
Face of abutment
Back of abutment
90°
℄ Roadway
2'-0"
7'-6"
60'-0"
3'-8"
17'-3"
Use ½" P.E.J.F.
1'-6"
Baffle cubes
El. Apron 897.0
90°
18' R
18' R
Drop Apron to 896.0 in this area (see Section)
STILLING POOL
El. 896.0
35'-3"
Optional Construction Joint in Apron
℄ Bridge
15'-0"
12"
Apron slopes up in this area
Outlet slot
Outlet slot
2'-0"
6"
Baffle Wall El. 897.0
6'-4"
Edge of apron
2'-0"
9'-0"
9'-0"
2'-0"
6'-4"
Bottom of barrel
Face of wing wall
Top of wall footing
Cross hatched area shall be filled with concrete
SECTION T-T

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	S-135(1)	1947

38
44

BROWN COUNTY
S.H. 951 SEC. E

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

PLAN VIEW
SPILLWAY AND APRON

BRIDGE NO. BR-774-106
OVER STERLING RUN

BROWN CO. S.H. 951
SEC. E STA. 41+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FBH	FBH	K.E.T.	PLR W.C.K.	BFG	11-8-46	


FED. RD. DIV. NO. 2 | STATE OHIO | FED. AID PROJECT S-135(1) | FISCAL YEAR 1947
39
44
BROWN COUNTY
S.H. 951 SEC. E
Optional constr. joint.
Folded copper strip
12"
10"
Section R-R
1"ϕ holes @ 2" c/c
12"-24 oz. Copper Strip
Construction joints may at the option of the contractor be located at quarter points of the barrel. If joints are used, folded copper strip shall be placed as shown in "Section on ℄ of Structure." Payment for such copper strip shall be included in concrete for payment.
El. 910.0
El. 906.0
Top of Breast Wall El. 915.0
½" Prem. Exp. Jt. Filler with Copper Strip.
Rustication details as shown on Bridge Plans to be used on Breast Walls and Wing. 4'-0" c/c.
Expansion Joint
Edge of Bridge Frame
℄ Roadway
16'-3"
33'-0"
9'-3"
1'-6"
Folded copper strip with 1" Prem. Exp. Jt. Filler on ℄ Joint.
Folded copper strip in optional constr. joints.
⅝"ϕ x 4'-0" Dowel Rods.
⅝"ϕ x 2'-0" Dowel Rods with Sleeves
El. 897.0
El. 896.0
El. 907.35
El. 906.0
El. 897.0
construction joint
Top Breast Wall Footer Inside
Welded Wire Fabric, 6"x6" No.3 x No.3
El. 892.79
12"
Bottom Breast Wall Footer
Contraction Jt. in footing
Bridge Footer
2'-0"
15'-0"
2'-0"
4'-0"
Section on ℄ of Structure
Scale 3/16" = 1'
2" Clear
R-22
R-21
R-20
R-19
"O" bars @ 3'-0" c/c
15'-6"
19'-0½"
End of Radius
Edge of Frame
Top of Footer
7-"O" bars ¾"ϕ @ 3'-0" c/c
Steel Pattern (Front) on 20' Rad. Sec. Breast Wall
Steel Pattern (Front) on 24'-6" Rad. Sec. Breast Wall
1'-0"
1'-2⅝"
El. 906.0
2'-0" R.
5'-10½"
Excavation above Elev. 900.0 classed as "Channel Excavation."
Top of rock, Rt. side El. 900.0
4'-10¾" R.
3'-0"
1'-0"
Bottom of barrel shall be not higher than Elev. 896.0
El. 898.0 Top Rock ℄ Dam
"R" bars ⅝"ϕ @ 3'-0" c/c
63°
El. 897.0
R2 R3 R4 R5
12"
3" Clear
"E" bars ⅝"ϕ @ 1'-0" c/c
⅝"ϕ x 4'-0" Dowel Rods @ 2'-0" c/c.
"F" bars ¾"ϕ @ 2'-0" c/c
El. 893.5 Top of rock, Lt side
Extend bottom of barrel to solid rock.
Cut-off wall shall extend a minimum of 1'-0" into solid rock at all points.
2'-0"
9'-0"
Barrel Section
Scale ½" = 1'
Note: When bottom of barrel is 1'-0" or more into solid rock, cut-off wall will not be required.
1'-6"
El. 914.00
"O"-Bars-⅝"ϕ @ 1'-0" c/c Lap with "N" bars
El. 910.0
Top of "M" bars 1"ϕ @ 1'-0" c/c
Type "A" Waterproofing from top of footing to finished ground elevation for full length of wings.
"O"-bars ¾"ϕ @ 3'-0" c/c
2" Clear
Top of Barrel El. 906.0
19'-3⅞"
Porous Backfill
"R" bars ⅝"ϕ @ 2'-0" c/c
For vertical reinf. in straight section of breastwall use the 24'-6" Rad. Sections (Front and Back). For horizontal reinf. use R-11 bars spaced at 2'-0" centers.
4'-3"
2'-11"
4'-3"
2:1 Slope
Limit of Channel Exc.
Top of "N" bars 1"ϕ @ 1'-0" c/c
2'-0"
½" P.E.J.F.
El. 897.0
3" Weep Hole
Limits of Channel Exc.
Apron
"P" bars ⅞"ϕ @ 1'-0" c/c Place with "N" bars
2" Clear
El. 892.79
3" Clear
3" Clear
R-23-25-28
R-8-26-28
R-bars ⅝"ϕ @ 2'-0" c/c
R-24-27-28
Section of Breast Wall
Scale ⅜" = 1'
"R" bars @ 2'-0" c/c
19-"O" bars
R-6
R-7
19-"M" bars
R-8
R-9
R-10
19-"N" bars
Edge of Bridge Frame
End of Radius
17'-3⅝"
1'-9"
Steel Pattern (Back) on 24'-6" Rad. Sec. Breast Wall
Scale ¼" = 1'
El. 915.0
R-12
3-"O" bars @ 18'-6"
4-"O" bars @ 17'-0"
El. 910.0
R-13
3-"O" bars @ 15'-6"
11-"M" bars
R-14
4-"O" bars @ 14'-0"
R-15
R-16
14-"N" bars
R-17
13'-8⅞"
Steel Pattern (Back) on 20' Rad. Sec. Breast Wall
Scale ¼" = 1'
1'-6"
"B" bars ⅝"ϕ @ 6" c/c
"BH" bars ½"ϕ @ 12" c/c
2" Clear
Welded Wire Fabric
Apron
3" Clear
Baffle Detail
Scale ½" = 1'
Note: Baffles must be poured with apron.
2" Clear
"B" bars ⅝"ϕ @ 6" c/c
12"
"BH" bars ½"ϕ @ 12" c/c
Steel Pattern Front & Back of Baffle
El. 906.0
20'-1½"
Welded Wire Fabric 6"x6"-No.3 x No.3
Class "C" Concrete
El. 897.0
Channel Rock Bottom
1'-0"
1'-6"
Half Section of 5" Channel Pavement with Toe Wall South of Bridge
℄ Pipe
9'-0"
Class "C" Concrete
24" ϕ
2:1
Sec. A-A
Welded Wire Fabric 6"x6" No.3 x No.3
El. 890.2
Slope 2:1
24" Pipe
El. 889.2
10'-0"
A
A
Section of 5" Channel Pavement at Outlet Pipe
Note: Welded Wire Fabric included with Channel Pavement for payment.
State of Ohio
Department of Highways
Bureau of Bridges
Section Views
Barrel, Walls and Apron
Bridge No. BR. 774-106
over Sterling Run
Brown Co. Sec. E
S.H. 951 Sta. 41+00
Designed F.B.H. | Drawn F.B.H. | Traced James | Checked P.L.R. W.C.K. | Reviewed BFG | Date D.H.O. 11-8-46 | Revised 4-1-47

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-135 (1)	1947

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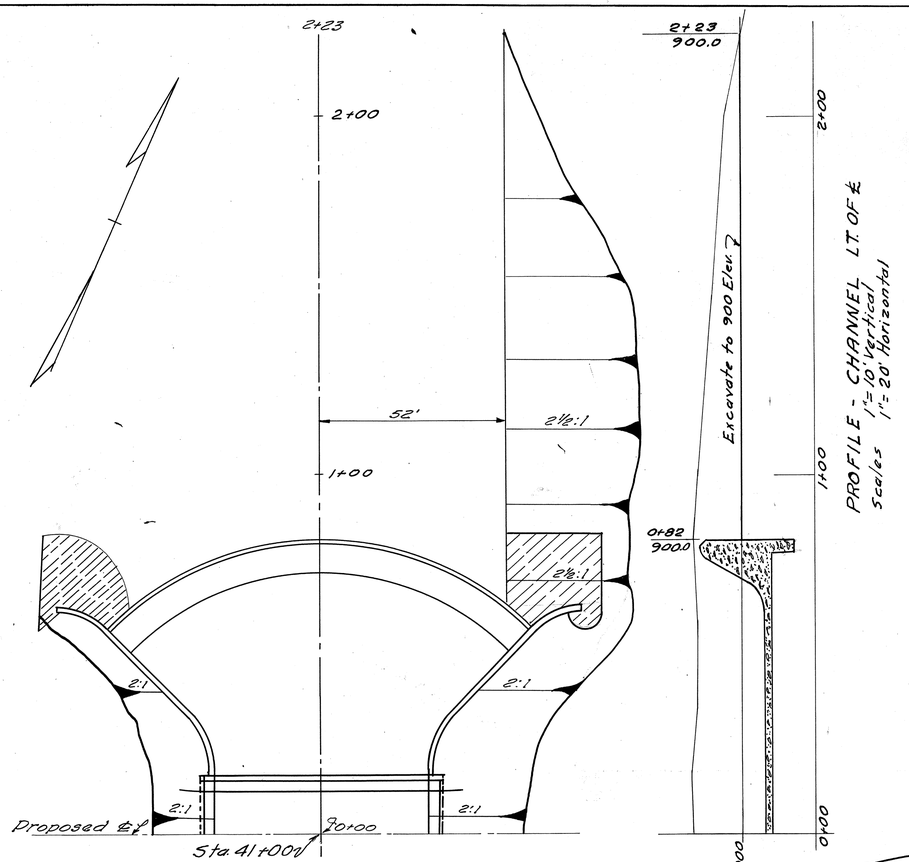
ESTIMATED QUANTITIES

Item E-3 Channel Excavation (Carried to Bridge Quantities Sheet No. 37)	13,504 Cu. Yds.
Item Special 5" Concrete Channel Pavement (Carried to Bridge Quantities Sheet No. 37)	297 Sq. Yds.
Item L-9 Seeding and Protecting (Type 'A') (Carried to Line Sht. No. 12)	2,051 Cu. Yds.

BROWN COUNTY
S.H. 951 SEC. E (PT.)



PLAN - CHANNEL LT. OF ℄
Scale 1"=20'

PROFILE - CHANNEL LT. OF ℄
Scales 1"= 10' Vertical
1"= 20' Horizontal

PLAN - CHANNEL RT. OF ℄
Scale 1"=20'

PROFILE CHANNEL RT. OF ℄
Scales 1"= 10' Vertical
1"= 20' Horizontal

PROPOSED CHANNEL STA. 41+00 RT. ℄ LT. ℄

DIVISION 2 OHIO S-135 (1) 1947

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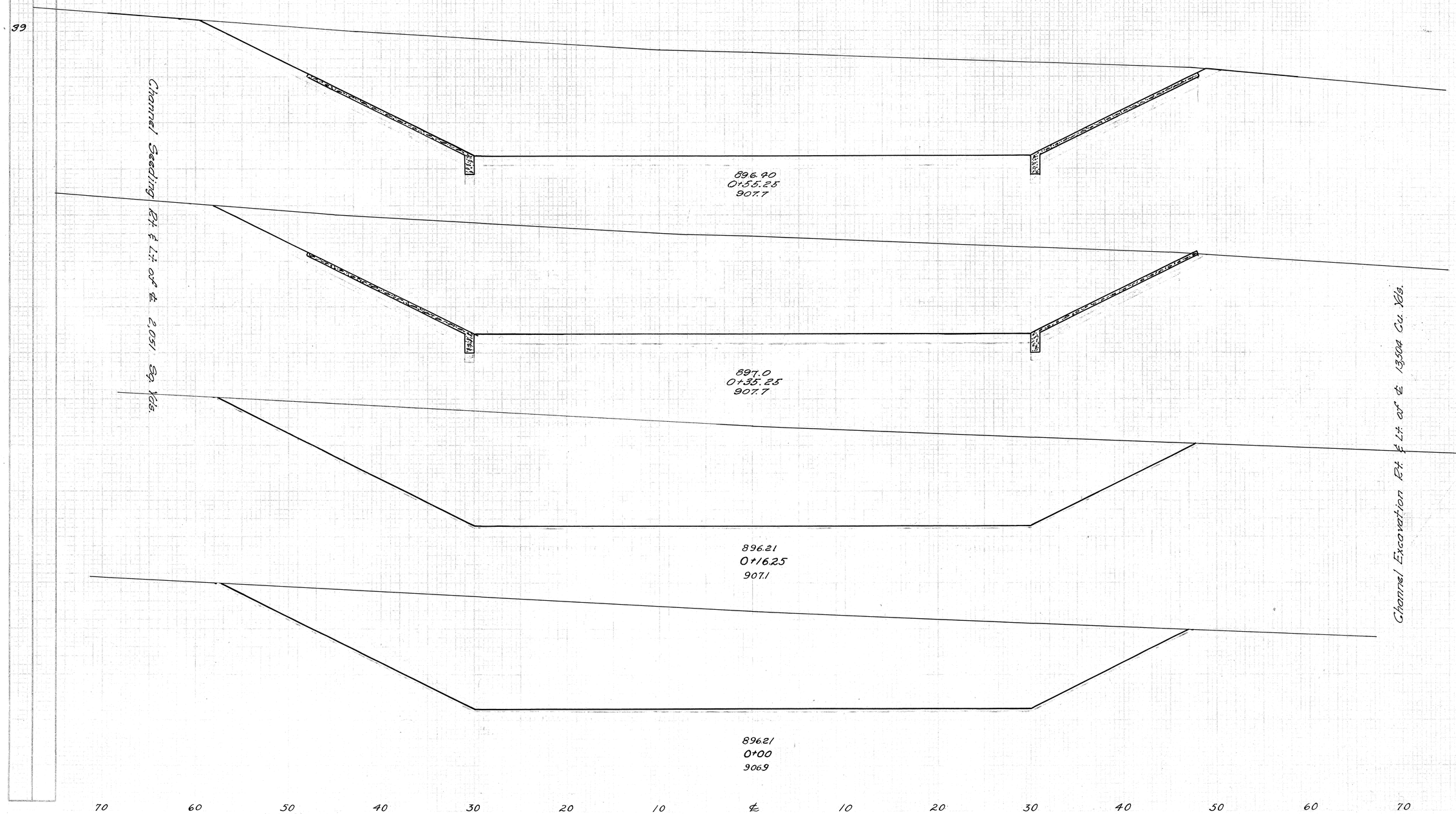
BROWN COUNTY
S.H.951. SEC. E (PT)

Seeding End Area	Seeding Sq. Yds.
39	

Channel Seeding Rt. & Lt. of ℄ 2,051 Sq. Yds.



Channel Excavation Rt. & Lt. of ℄ 13,604 Cu. Yds.

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
956	0		
		689	
905	0		
		691	0
918	0		
		545	0
894	0		

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

CHANNEL SECTIONS RT. & STA. 41+00

DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	S-135 (1)	1947	42 44

BROWN COUNTY S.H. 951 SEC. E (PT.)

Seeding End Width	Seeding Sq. Yds.
0	
	90
118	
	139
32	
	192
37	
	206
37	
	297
52	
	297
37	
	200
35	
	186
32	
	176
39	

Sta. 5+40

888.56
4+50
890.0

887.06
4+00
890.0

888.56
3+50
890.9

890.06
3+00
892.2

890.56
2+50
893.0

892.06
2+00
895.5

893.56
1+50
897.0

895.06
1+00
904.5

Sta. 0+55.25

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

Sta. 5+40 = 0.0 Section

End Area Cut	End Area Fill	Volume Cut	Volume Fill
0	0		
		350	0
210	0		
		358	0
172	0		
		434	0
292	0		
		357	0
193	0		
		523	0
372	0		
		703	0
388			
		747	0
419			
		961	0
619	0		
		1305	0
956	0		

Sta. 0+55.25

CHANNEL SECTIONS RT. ℄ STA. 9+00

DIVISION 2 OHIO S-135 (1) 1947

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BROWN COUNTY
S.H.951. SEC-E (PT)

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
1305	0		
		963	0
1015	0		
		674	0
325	0		
		551	0
905	0		

89621
0+57.4
906.2

89621
0+35
906.2

89621
0+16.25
907.1

89621
0+00
906.9

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80

CHANNEL SECTIONS LT ℄ STA. 41+00

BROWN COUNTY
S.H.951. SEC.E (PT)

Bin B-5

Seeding	
End Width	Sq. Yds.
0	
	12
10	
	114
31	
	178
33	
	64
31	

0:0 Section

2+23 = 0:0 Section

0:0 Section

End Area Cut	End Area Fill	Cu. Yds Cut	Cu. Yds Fill
0			
		72	0
168	0		
		695	0
582	0		
		1373	0
901	0		
		625	0
974	0		
		1038	0
1305	0		

CHANNEL SECTIONS LT ℄ STA 41+00


FED. RD. DIVISION 2
STATE OHIO
PROJECT S-135(1)
FISCAL YEAR 1946
1/2
R/W PLANS
S.H. 951 SEC. E(PT.)
BROWN COUNTY
PIKE TWP.
BRIDGE No. BR-774-106
774
N
RAYMOND & MABEL RUTHERFORD
1
JESSE E. GRIFFITH
3
Church
Barn
Crib
Exist. 15" C.M.P.
Exist. 12" Boiler Pipe
BEGIN SEC. E(PT.)
BEGIN WORK 19+00 STATION
PROJECT 20+00
BEGIN STATION
N 20°19'E
Construction Limits
DEPARTMENT OF CONSERVATION
11
Δ = 45°26'21"
D = 4°00'
R = 1432.40'
T = 599.67'
L = 1135.83'
N 65°45'E
P.C. 21+08.89
P.T. 32+44.72
2
JOHN Q. RUTHERFORD
4
JESSE E. GRIFFITH
DEPARTMENT OF CONSERVATION
N
DEPARTMENT OF CONSERVATION
DEPARTMENT OF CONSERVATION
11-X
11
STERLING RUN
Construction Limits
N.65° 45' E.
NOTE: UTILITIES
Telephone Pole. Owned by The Mt. Orab-Lynchburg Telephone Co.
11-X
4
5
JESSE E. GRIFFITH
DEPARTMENT OF CONSERVATION
FRANK SHOPE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	S-135-1	1946

2/2

R/W PLANS S.H. 951 SEC. E(PT.) BROWN COUNTY PIKE TWP. BRIDGE No. BR-774-106