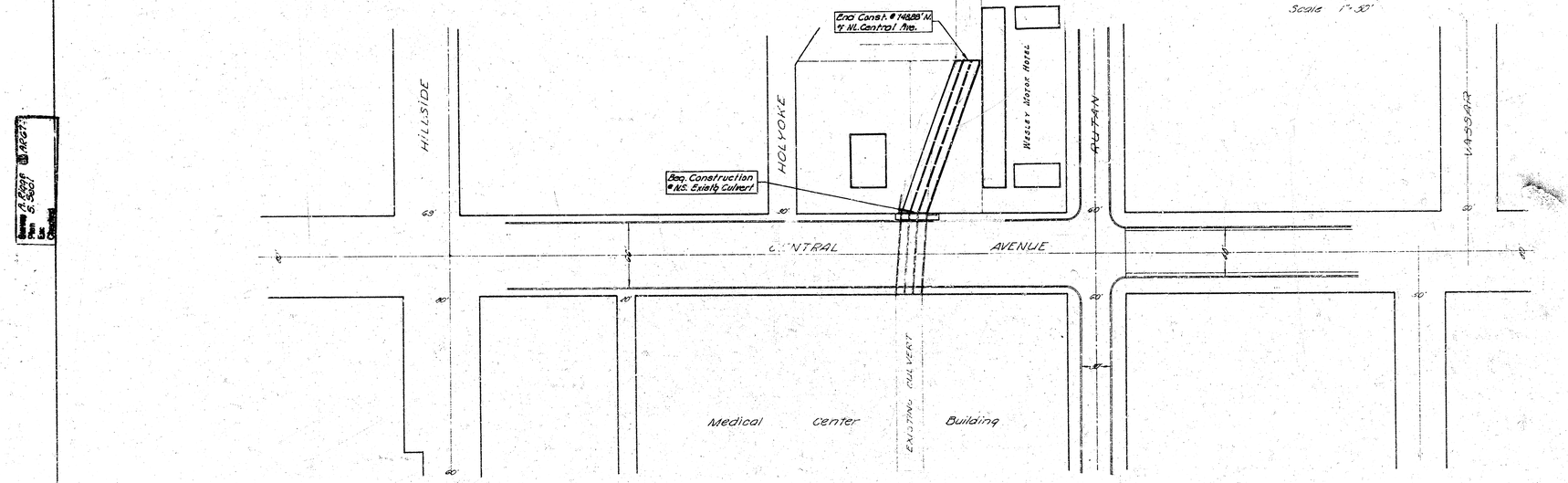
# 3-8'X5' R.C.B.

EXTENSION OF CULVERT BETWEEN HILLSIDE AND RUTAN ON NORTH SIDE OF CENTRAL AVENUE
RICHARD LINN - CITY ENGINEER
PROJ. NO.- AAKB 502022




LOCATION MAP

Scale 1"=30'

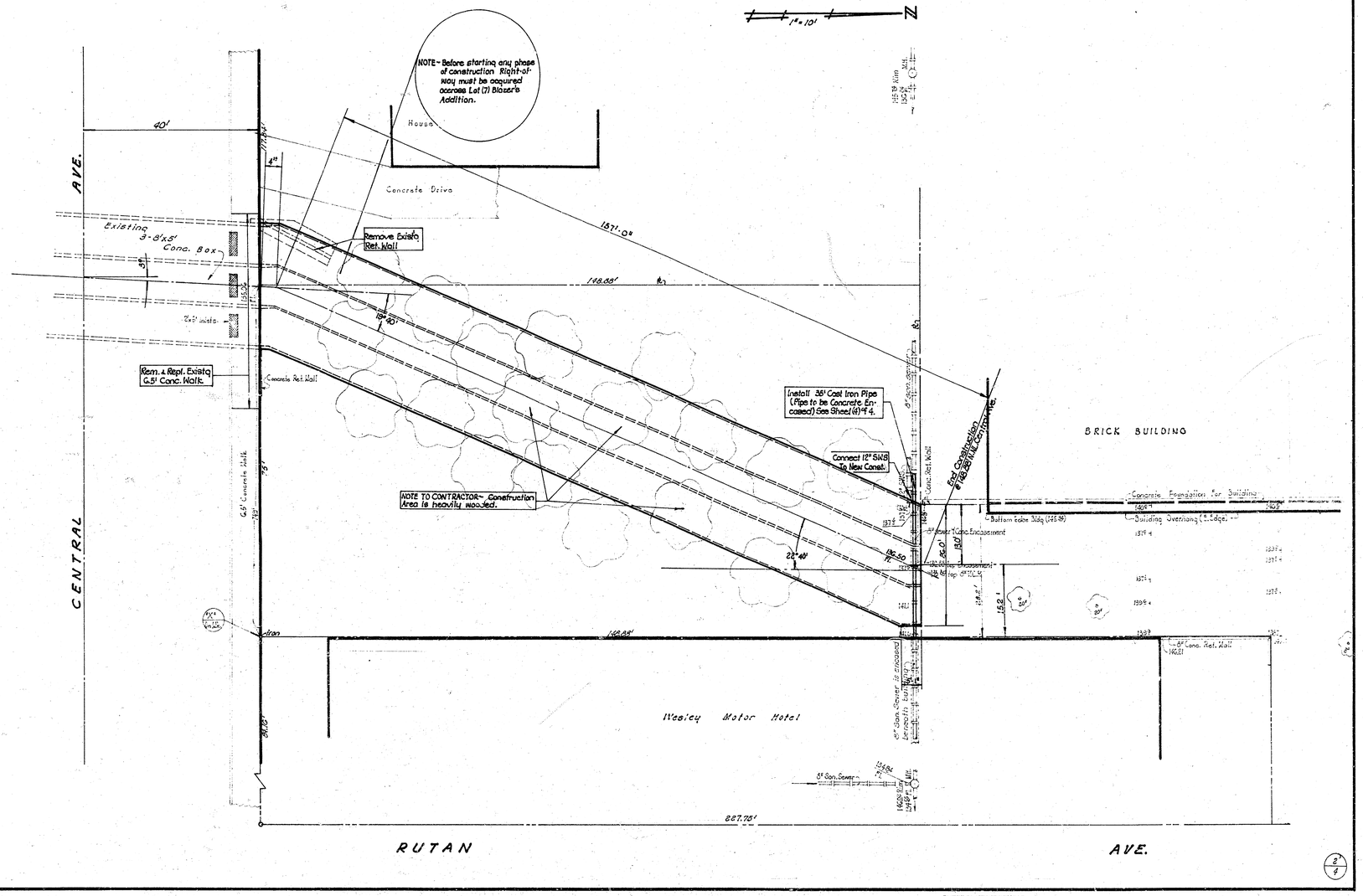
NOTE TO CONTRACTOR

This project will be constructed under the supervision of the CITY ENGINEER and conforming to the SPECIFICATIONS of the CITY OF WICHITA. The CONTRACTOR will reimburse the City of Wichita for all cost of Engineering, Plans, and Inspection.

DONALD E. SCHNEIDER LICENSED 6311 KANSAS PROFESSIONAL ENGINEER

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF WICHITA

1/1


1"=10'
N
NOTE - Before starting any phase of construction Right-of-Way must be acquired accross Lot (7) Blazer's Addition.
House
Concrete Drive
Remove Existg Ret. Wall
Existing 3-8'x6' Conc. Box
40'
AVE.
CENTRAL
Rem. & Repl. Existg 6.5' Conc. Walk.
Concrete Ret. Wall
6.5' Concrete Walk
4"
11.7%
1571.04
149.88'
184.80'
Install 36" Cast Iron Pipe (Pipe to be Concrete Encased) See Sheet (6) of 4.
Connect 12" SWS to New Const.
End Construction 48" SWS Central Ave.
BRICK BUILDING
NOTE TO CONTRACTOR- Construction Area is heavily wooded.
22°40'
Concrete Foundation for Building
Building Overhang (2.5' Edge)
Bottom Edge Slab (1395.98)
48" Power Conc. Encasement
Top of 48" Pwr. Encasement
Conc. Ret. Wall
6" Conc. Ret. Wall
6" San. Sewer is encased beneath building
Wesley Motor Hotel
6" San. Sewer
827.75'
RUTAN
AVE.
2/4

SOUTH ℄

℄ CENTRAL

NORTH ℄

N

Scale: 1"=5'-0"

#5 $a_1$ bars @ 12" sp.

#6 $a_2$ bars @ 12" sp.

FLO. 134.10

3'-0"

SECTION A-A

#6 $a_1$ lap bar @ 12" sp.

#4 $b_1$ bars each side of construction joint

EXISTING 3-8'x5' CONC. BOX CULVERT

CONST JOINT DETAIL

TO BE USED IN ALL WALLS AND SLABS AT THE CENTER LINE CONSTRUCTION JOINT.

#3 $a_2$ bars @ 12" sp. top & bottom

BOTTOM SLAB #3 $a_2$ bars @ 12" sp.
TOP SLAB #5 $a_2$ bars @ 12" sp.

9" Wall Thickness

TOP SLAB #5 $b_2$ bars @ 12" sp.

POSITIVE MOMENT STEEL

TYPICAL STEEL PATTERN TO BE USED IN BOTTOM FACE OF UPPER SLAB AND IN TOP FACE OF LOWER SLAB. SEE SECTION A-A ON PAGE SIX.

#4 $b_1$ bars to be lapped with #4 $b_2$ bars bar spacing at 12" cc

34'-0"

60'-1⅞"

0"

PLAN

#4 $b_2$ bars spaced 24" from face of wall

Retaining Wall To Be Removed

Handrail & Top 2" Of Hubguard To Be Removed

Curb Transition 9" to 6" thickness

FLO. 135.06

4'-0"

NEW CONSTRUCTION

SECTION

Steel In New Construction To Be Doweled To Existg Structure.

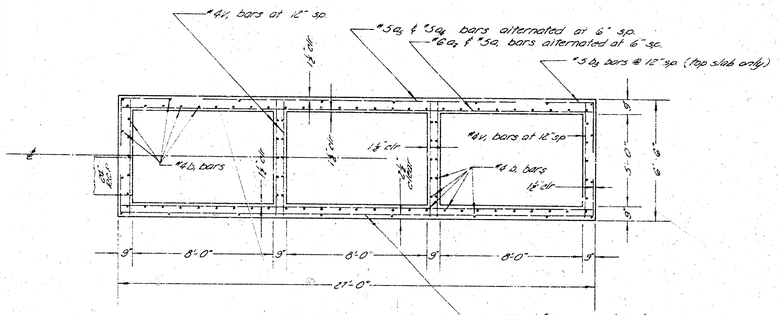
Top (2') Of Retaining Wall To Be Removed.

NEGATIVE MOMENT STEEL

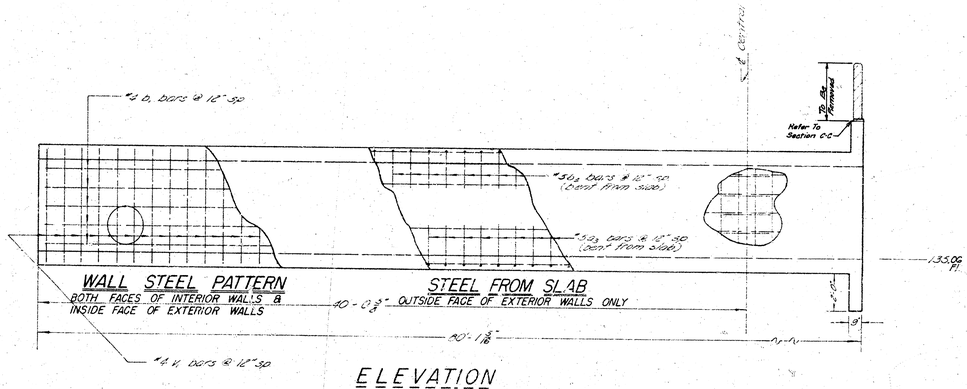
TYPICAL STEEL PATTERN TO BE USED IN TOP FACE OF UPPER SLAB AND IN BOTTOM FACE OF LOWER SLAB. SEE SECTION A-A ON PAGE SIX.

3/4

B.M. "a" Cut top Ret. Wall NW Cor. Ruton & Central [redacted]
" Top bolt NE Cor. Conoco Sign SW. Cor. Hillside & Central 1441.5

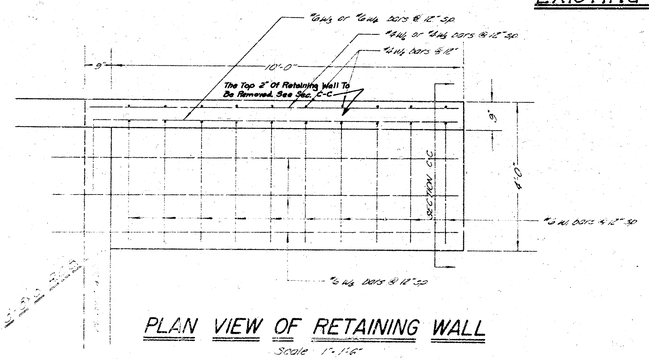



SECTION A-A
Scale: 1"=3'-0"

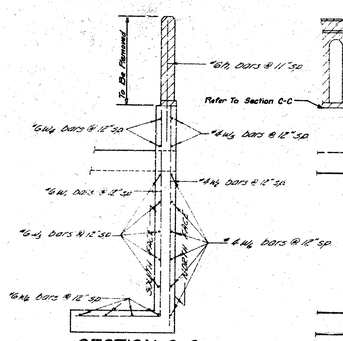



ELEVATION
Scale: 1"=3'-0"

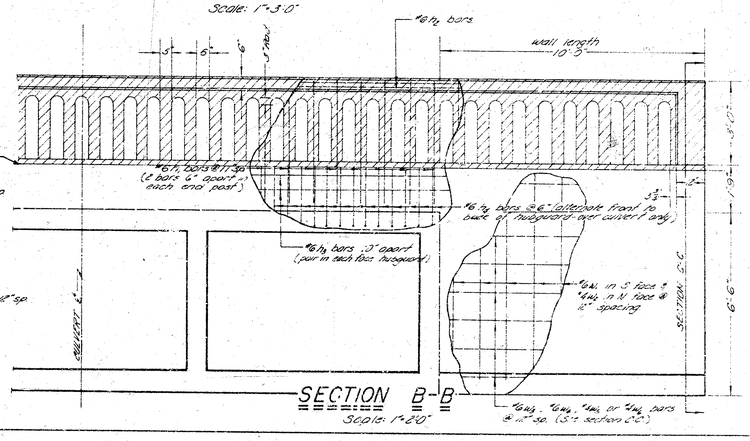
EXISTING 3-8'x5' R.C.B.




PLAN VIEW OF RETAINING WALL
Scale: 1"=1'-6"




SECTION C-C




SECTION B-B
Scale: 1"=2'-0"

3A/4

Nubguard On Up-Stream End Only.

g bars
h or h1 bars (bend in field)
h4 or h5 bars
h2 or h3 @18" ctrs.
v2 @24" ctrs.
v1 @24" ctrs.
v3 @24" ctrs.
F.L. Elev. Rt. *
d bars

# v bars stagg. in int. walls

d Tile drain
F.L. Elev. Lt. *

Reconst. 8" San. Sewer V.C.I. Pipe (Concrete Encasement)

# See bar list for size # spacing.

c bar

Bend Floor Slab Steel Down Around Sewer Pipe

e bars

ELEVATION # SECTION

b bars

3" Seal Course to be used only where specified.

Note: The Grading Contractor shall excavate the channel at the Bridge Site ___ ft. wide to F.L. Elev. prior to construction of the bridge.

Nubguard To be const. to Clear 8" Sewer (X) dim. to be variable.

Connect to Inlet or S.A.S. to Box

c2 bars
d bars @12" ctrs.
e2 bars
Existing Conc. Rail
e bars

a1 bars, All w/a bars

Detail A (upstream end only.)

b bars slab # floor

4 add bars at slope

Mesh to be in Apron 21 lbs. per 100 sq. ft.

Floating Apron to be used where specified

Existing R.C.B.C. Control Ave.

a2 bars spaced w/a

a1 bars all w/a

a3

Reinf. in Bottom of Slab # Top of Floor

Reinf. in Top of Slab # Bottom of Floor

PLAN

| No. | v1 d bars: feet | | | v2 | v3 | wing |
|---|---|---|---|---|---|---|
| H | W | a1 | v1 | | | d |
| 3 | Skew | 4 | 1 | 6 | 5 | e |
| | Long | | 1 | 6 | 7 | |
| 6 | Short | 3 | 1 | 5 | 10 | |
| | Skew | 3 | 1 | 5 | 20 | |
| 7 | Long | 3 | 1 | 5 | 11 | |
| | Short | 4 | 1 | 6 | 13 | |

Reinf. in Bottom of Slab # Top of Floor

b bars @18" ctrs. (slab) 12 bars (wall at end of slab)

Construct Toe Wall On Up-Stream End Only

R3 bars @ 6" ctrs.

2'-1"

Bend mesh 6" into toe.

5'-1"

SECTION THRU APRON

c1 bars

10"

2'-6"

2'

1½" Bevel on all exposed edges.

Rail

1'-4"

p bars

Notched to fit 6" Abbox Finish Grade Of Parking Lot

Install 3'-0" Ch-link Fence on top

RAIL DETAIL

2 p bars

NOTE - STEEL LIST & DIMENSIONS SHOWN ON THIS PLAN ARE FOR A 60° SKEW R.C.B.C.

h3 & h5 bars
e1 bar

HYDRAULIC DATA

| | |
|---|---|
| Drainage Area | sq. mi. |
| Waterway Required | |
| Talbot (C. ) | sq. ft. |
| Dun | sq. ft. |
| Waterway Provided | |
| Below High Water | sq. ft. |
| Total | sq. ft. |
| Discharge (Q50) | c.f.s. |

h or h1 bars
h4 or h5 bars
h2 or h3 bars
v1, 2 or 3 bars
d bars
c1 or c2 bars
e1 or e2 bars
W
X
Y
Tw

* Metal handrail shall be deep-beam type Steel plate guard fence or other approved material not less than 12 U.S. standard gauge.

SECTION THRU WING

5'-11⅛" ± Tw
6' 2'-0" ± Tw
6' 2'-1"
11'-10⅛" ± 2 Tw

b2 bars
Sym. Abut. ℄
a1 bars
v1, 2, f3 bars
e bars

BENDING DIAGRAMS (All dimensions are out to out. of bar.)

a3 Decr. by 11⅛ decrements. frm. 24'-5 to 11'-2½ Cut 6 ea length
a4 Decr. by 11⅛ decrements. frm. 22'-3 to 2'-6½ Cut 2 ea length

c bar

GENERAL NOTE

LOADING: H20-44 AASHO Specifications, 1961 Edition
UNIT STRESSES: fs = 20000 p.s.i., f'c = 3000 p.s.i., fy = 30000 p.s.i.

1. CONCRETE: Class AAE Concrete shall be used throughout. Bevel all exposed edges with a ¾" triangular moulding, unless otherwise noted.
2. REINFORCING STEEL: All dimensions relative to reinforcing steel are to centerline of bar unless otherwise noted.

SEAL COURSE: Seal course consisting of 3" of Class A concrete shall be constructed only where specified on the plans or by the Engineer. No reinforcing steel shall be placed until the seal course has attained sufficient strength to permit working upon it without injury.

FLOATING APRON: Floating apron shall be constructed only between downstream wings in locations subject to scour, where specified on the plans or by the Engineer. Wire reinforcing mesh shall be electrically welded and shall be composed of no. 10 gauge wire at 6 centers each way. Weight of reinforcing mesh shall be classified as pounds of reinforcing steel. Payment for additional quantities resulting from including seal course and or floating aprons as a change in the original plans, shall be made at the unit price bid for the various items involved.

WEEPHOLES: Coarse aggregate shall be deposited behind each weephole to occupy a space extending 15" in all directions about the weephole flow line. This work shall not be paid for directly but shall be considered as part of the excavation work.

HANDRAIL: ~~Metal handrail and hardware shall be furnished and installed by the Bridge Contractor.~~

3. Concrete and Steel to conform to the City of Wichita, Kans. Specifications for Reinf. Conc. Box Culverts.

a3, a4 bars-See Bending Diagram

LIST OF BARS AND DIMENSIONS

SECTION THRU BOX

3-8'-0"

| Apron Steel | Lbs. | Seal Course | C.Y. | Design Fill 5 ft. Wing Concrete | C.Y. |
|---|---|---|---|---|---|
| Apron Concrete | C.Y. | Apron Seal Course | C.Y. | | |

| Letter | A1 | A3 | B | C | E | H | b | b1 | b2 | Ps | R | Tw | W | X | Y | V1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dimension | 4'-6½" | 3'-2" | 7'-6" | 2'-6" | 1'-6" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" |

| Bar | a | a1 | a2 | a3 | a4 | b | b1 | b2 | c | c1 | c2 | e | e1 | e2 | g | h | h1 | h2 | h3 | h4 | h5 | v | V1 | V2 | V3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Size | #5 | #5 | #5 | #5 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #5 | #5 | #5 | #5 | #5 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 |
| Length | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" |
| Weight | 102 | 102 | 102 | 102 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 102 | 102 | 102 | 102 | 102 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |

3-6'-0"

| Apron Steel | Lbs. | Seal Course | C.Y. | Design Fill 5 ft. Wing Concrete | C.Y. |
|---|---|---|---|---|---|
| Apron Concrete | C.Y. | Apron Seal Course | C.Y. | | |

| Letter | A1 | A3 | B | C | E | H | b | b1 | b2 | Ps | R | Tw | W | X | Y | V1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dimension | 4'-6½" | 3'-2" | 7'-6" | 2'-6" | 1'-6" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" |

| Bar | a | a1 | a2 | a3 | a4 | b | b1 | b2 | c | c1 | c2 | e | e1 | e2 | g | h | h1 | h2 | h3 | h4 | h5 | v | V1 | V2 | V3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Size | #5 | #5 | #5 | #5 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #5 | #5 | #5 | #5 | #5 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 |
| Length | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" |
| Weight | 102 | 102 | 102 | 102 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 102 | 102 | 102 | 102 | 102 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |

3-8'-0"

| Apron Steel | Lbs. | Seal Course | C.Y. | Design Fill 5 ft. Wing Concrete | C.Y. |
|---|---|---|---|---|---|
| Apron Concrete | C.Y. | Apron Seal Course | C.Y. | | |

| Letter | A1 | A3 | B | C | E | H | b | b1 | b2 | Ps | R | Tw | W | X | Y | V1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dimension | 4'-6½" | 3'-2" | 7'-6" | 2'-6" | 1'-6" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" |

| Bar | a | a1 | a2 | a3 | a4 | b | b1 | b2 | c | c1 | c2 | e | e1 | e2 | g | h | h1 | h2 | h3 | h4 | h5 | v | V1 | V2 | V3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Size | #5 | #5 | #5 | #5 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #5 | #5 | #5 | #5 | #5 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 |
| Length | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" |
| Weight | 102 | 102 | 102 | 102 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 102 | 102 | 102 | 102 | 102 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |

3-8'-0"

| Apron Steel | Lbs. | Seal Course | C.Y. | Design Fill 5 ft. Wing Concrete | C.Y. |
|---|---|---|---|---|---|
| Apron Concrete | C.Y. | Apron Seal Course | C.Y. | | |

| Letter | A1 | A3 | B | C | E | H | b | b1 | b2 | Ps | R | Tw | W | X | Y | V1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dimension | 4'-6½" | 3'-2" | 7'-6" | 2'-6" | 1'-6" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" |

| Bar | a | a1 | a2 | a3 | a4 | b | b1 | b2 | c | c1 | c2 | e | e1 | e2 | g | h | h1 | h2 | h3 | h4 | h5 | v | V1 | V2 | V3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Size | #5 | #5 | #5 | #5 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #5 | #5 | #5 | #5 | #5 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 |
| Length | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" |
| Weight | 102 | 102 | 102 | 102 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 102 | 102 | 102 | 102 | 102 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |

3-8'-0"

| Apron Steel | Lbs. | Seal Course | C.Y. | Design Fill 5 ft. Wing Concrete | C.Y. |
|---|---|---|---|---|---|
| Apron Concrete | C.Y. | Apron Seal Course | C.Y. | | |

| Letter | A1 | A3 | B | C | E | H | b | b1 | b2 | Ps | R | Tw | W | X | Y | V1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dimension | 4'-6½" | 3'-2" | 7'-6" | 2'-6" | 1'-6" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" |

| Bar | a | a1 | a2 | a3 | a4 | b | b1 | b2 | c | c1 | c2 | e | e1 | e2 | g | h | h1 | h2 | h3 | h4 | h5 | v | V1 | V2 | V3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Size | #5 | #5 | #5 | #5 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #5 | #5 | #5 | #5 | #5 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 |
| Length | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" | 24'-6" |
| Weight | 102 | 102 | 102 | 102 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 102 | 102 | 102 | 102 | 102 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |

Note: Wing quantities shown include all quantities outside the neat lines of the barrel except seal courses, floating aprons and handrail posts, and include deductions for rounding of the upstream slab end.

SUMMARY OF QUANTITIES

| | |
|---|---|
| Class AE Excav. | cu. yds. |
| Reinf. Steel | lbs. |
| Metal Handrail | lin. ft. |
| Class A Conc. | cu. yds. |

FLOWLINE

Form front face of toe

Flowline 0.5 + 135.00 C 11.3 + 136.50

Re-construct 8" San. Sewer V 8" C.I.P. (Concrete Encasement)

END ELEVATION

8'-0" Tw 8'-0" Tw 8'-0" Tw 8'-0" Tw

a1 bar | a bar | a2 bar

b bar b2 bars @18" ctrs. c.l.

3 eq. spa. c.l. v bars staggered b1 bars 3 eq. spa.

b bar b2 bars @18" ctrs. c.l. v bars b1 bars @18" ctrs.

12 bars @5.6" Stagg. int. walls

h2 & h4 bars

h3 & h5 bars

b bars | b bars | a2 bars | b bar

SECTION THRU BOX

| NO. | DATE | REVISIONS | BY | APP'D |
|---|---|---|---|---|
| 0 | | | | |
| 1 | 7-28-72 | North End "F" R.C.B.C. | Staff | |

STATE HIGHWAY COMMISSION OF KANSAS

STD TRIPLE 8' SPAN CONCRETE BOX 22°40' SKEW

PROJ. NO.

STD. NO. 152.1A

| STATE | PROJECT | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 0 KANSAS | | 1973 | 6 | 6 |

| SHEET NO. | OF | SCALE | APP'D |
|---|---|---|---|
| LAYOUT | | DETAILED | QUANTITIES |
| DESIGN DET. | | DESIGN DET. | SHOP DET. |

TRACED
TRACE CK.

CO

11 1 5 (1)