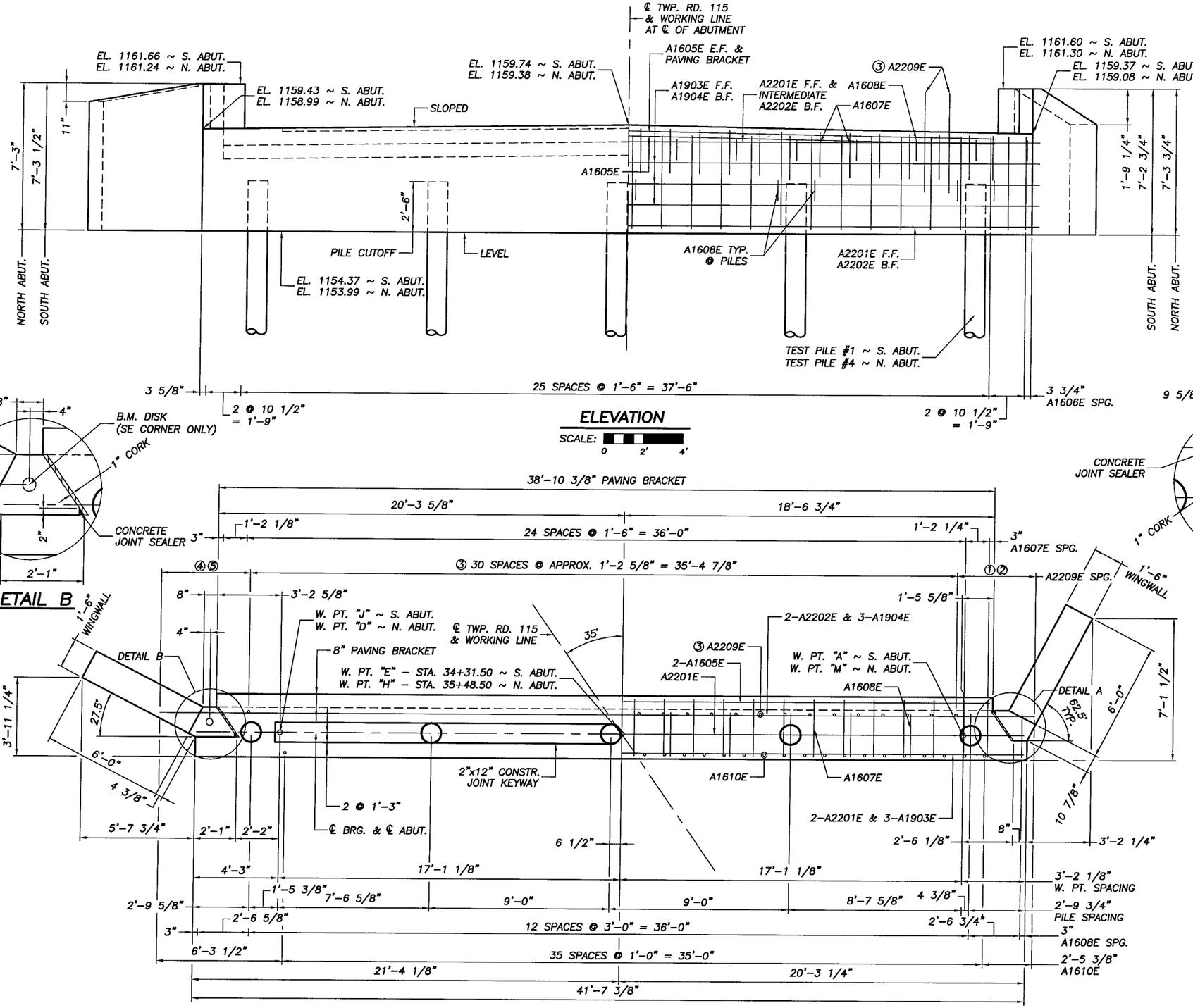
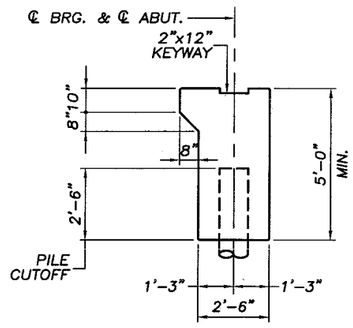


ELEVATION

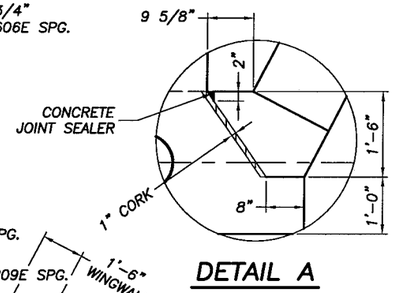
SCALE: 0 2' 4'



SECTION THRU ABUTMENT

SCALE: 0 2' 4'

DETAIL B



DETAIL A

COMPUTED PILE LOADS TONS PER PILE @ ABUTMENTS	
DEAD LOAD	32.8
LIVE LOAD	15.7
TOTAL	48.5

NOTE:
F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

PILE NOTES:

2 – C.I.P. CONC. TEST PILES, 100' LONG
8 – C.I.P. CONC. PILES, EST. LENGTH 90'
10 – C.I.P. CONC. PILES REQ'D FOR BOTH ABUTMENTS

ALL ABUTMENT PILES SHALL HAVE PILE POINTS.
SEE SPECIAL PROVISIONS.

ABUTMENT PILES TO HAVE A NOMINAL DIAMETER OF 12".

SEE DETAIL B201 FOR SPLICES.

SEE SURVEY SHEET FOR TEST PILE LOCATIONS.

① 2'-8 1/8" SOUTHWEST CORNER
② 3'-3 3/8" NORTHEAST CORNER
③ PLACE PARALLEL TO ℄ ROAD
④ 4'-5 1/4" SOUTHEAST CORNER
⑤ 3'-10" NORTHWEST CORNER

PLAN

SCALE: 0 2' 4'

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PROFESSIONAL ENGINEER/RONALD BENSON
LIC. NO. 22737 11/17/2003

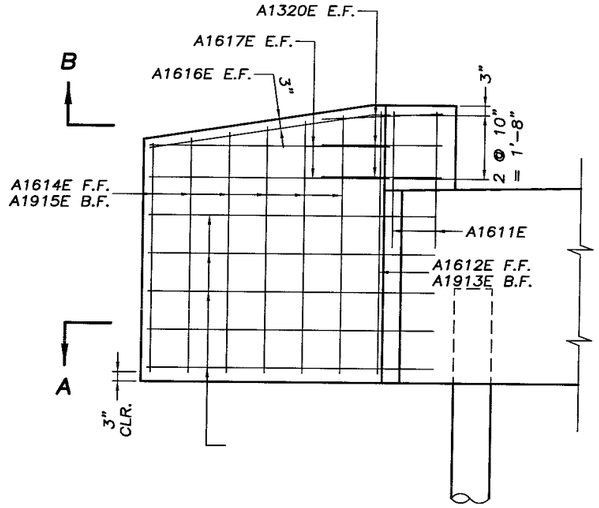
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55574
ABUTMENT DETAILS

APPROVED:

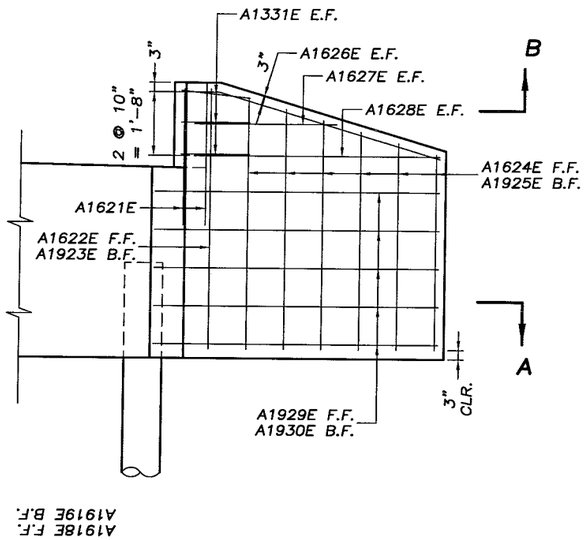
S.A.P. 55-599-62
SHEET 4 OF 20 SHEETS

DES.	CSK	DRN.	JAS	55574
CHK.	CGD	CHK.	CGD	



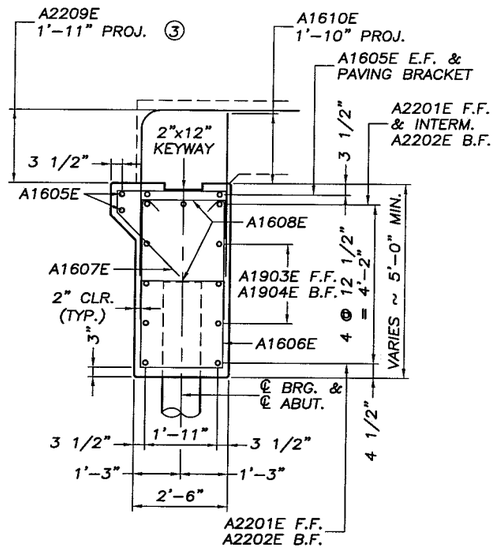
SE & NW WINGWALL ELEVATION

SCALE: 0' 2' 4'



SW & NE WINGWALL ELEVATION

SCALE: 0' 2' 4'



SECTION THRU ABUTMENT

SCALE: 0' 2' 4'

BILL OF REINFORCEMENT ~ 2 ABUTMENTS				
BAR	NO.	LENGTH	SHAPE	LOCATION
A2201E	6	41'-3"	STRT.	CAP ~ HORIZONTAL
A2202E	4	43'-8"	STRT.	CAP ~ HORIZONTAL
A1903E	6	41'-3"	STRT.	CAP ~ HORIZONTAL
A1904E	6	43'-8"	STRT.	CAP ~ HORIZONTAL
A1605E	8	38'-6"	STRT.	PAVING BRKT. ~ HORIZ.
A1606E	60	11'-11"	BENT	CAP ~ STIRRUP
A1607E	54	6'-7"	BENT	CAP ~ TIE
A1608E	50	4'-2"	BENT	CAP ~ TIE
③ A2209E	62	8'-8"	BENT	CAP ~ DOWEL
A1610E	72	4'-2"	STRT.	CAP ~ DOWEL
A1611E	4	3'-7"	STRT.	WINGWALL ~ VERTICAL
A1612E	2	6'-10"	STRT.	WINGWALL ~ VERTICAL
A1913E	2	6'-10"	STRT.	WINGWALL ~ VERTICAL
A1614E	2 SER. OF 6	FROM 5'-11" TO 6'-8"	STRT.	WINGWALL ~ VERTICAL
A1915E	2 SER. OF 6	FROM 5'-11" TO 6'-8"	STRT.	WINGWALL ~ VERTICAL
A1616E	4	6'-4"	BENT	WINGWALL~ HORIZ.
A1617E	8	6'-3"	STRT.	WINGWALL~ HORIZ.
A1918E	10	7'-11"	STRT.	WINGWALL~ HORIZ.
A1919E	10	7'-8"	STRT.	WINGWALL~ HORIZ.
A1320E	6	6'-8"	BENT	WINGWALL ~ TIE
A1621E	4	3'-7"	STRT.	WINGWALL ~ VERTICAL
A1622E	2	6'-9"	STRT.	WINGWALL ~ VERTICAL
A1923E	2	6'-9"	STRT.	WINGWALL ~ VERTICAL
A1624E	2 SER. OF 6	FROM 5'-1" TO 6'-7"	STRT.	WINGWALL ~ VERTICAL
A1925E	2 SER. OF 6	FROM 5'-1" TO 6'-7"	STRT.	WINGWALL ~ VERTICAL
A1626E	4	6'-8"	BENT	WINGWALL~ HORIZ.
A1627E	4	3'-9"	STRT.	WINGWALL~ HORIZ.
A1628E	4	6'-6"	STRT.	WINGWALL~ HORIZ.
A1929E	10	8'-8"	BENT	WINGWALL~ HORIZ.
A1930E	10	7'-9"	STRT.	WINGWALL~ HORIZ.
A1331E	6	5'-5"	BENT	WINGWALL ~ TIE

SUMMARY OF QUANTITIES ~ 2 ABUTMENTS		
STRUCTURAL CONCRETE (3Y43)	52	CU. YDS.
REINF. BARS (EPOXY COATED)	5,850	POUNDS
④② STRUCTURE EXCAVATION	1.0	L. SUM
① C.I.P. CONCRETE PILING DELIVERED, 12"	720	LIN. FT.
① C.I.P. CONCRETE PILING DRIVEN, 12"	720	LIN. FT.
C.I.P. CONCRETE TEST PILES, 100' LONG, 12"	2	EACH
⑤ B.M. DISK	1	EACH
② PILE POINTS, 12"	10	EACH

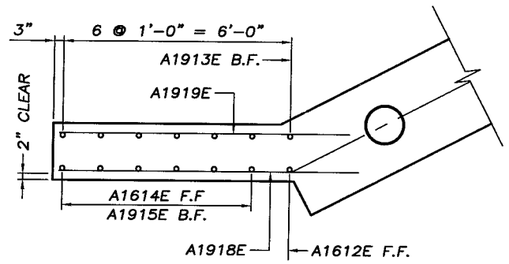
① DOES NOT INCLUDE TEST PILES.

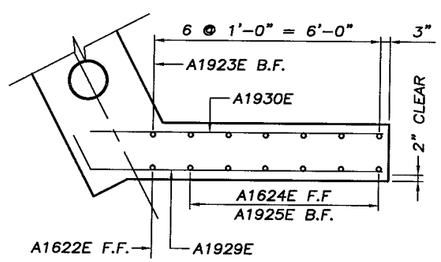
② SEE SPECIAL PROVISIONS.

③ PLACE PARALLEL TO ℄ ROAD.

④ BACKFILL BEHIND ABUTMENTS SHALL BE SELECT GRANULAR BORROW PER SPEC 3149. INCLUDED IN PRICE BID FOR STRUCTURE EXCAVATION. SEE SURVEY SHEET FOR LIMITS. APPROXIMATE QUANTITY (C.V.) IS 270 CU. YD. COMPACTION SHALL BE OBTAINED BY THE QUALITY COMPACTION METHOD IN ACCORDANCE WITH THE REQUIREMENTS OF 2105.3F2.

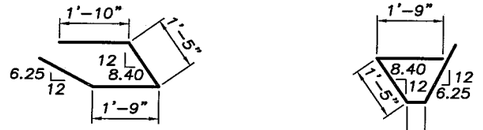
⑤ COUNTY WILL PROVIDE DISK. BEND PRONGS OUTWARD TO ANCHOR DISK IN CONCRETE. BOTTOM OF THE DISK TOP TO BE PLACED FLUSH WITH CONCRETE. PAYMENT FOR PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.



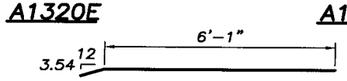


SECTION A-A

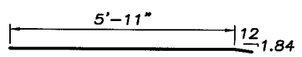
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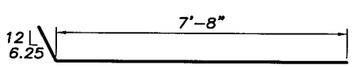
A1320E A1331E



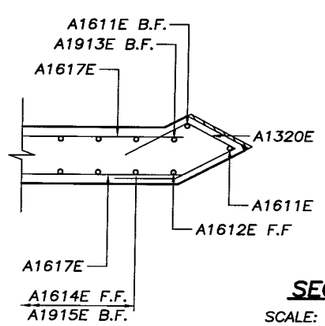
A1626E



A1616E

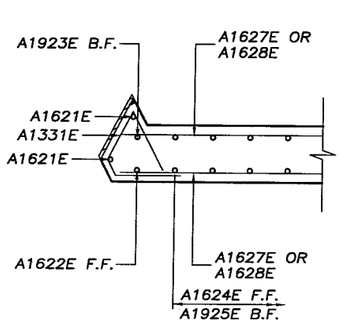


A1929E

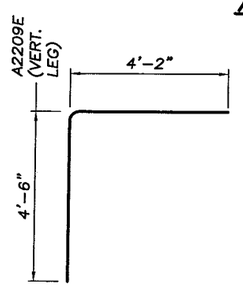


SECTION B-B

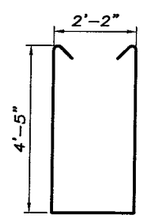
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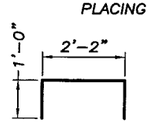
AS-BUILT
OCT 07 2003
ENGINEERING



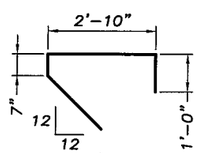
A2209E



A1606E



A1608E



A1607E

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LIC. NO. 22737 1/17/2003

MINNESOTA DEPARTMENT OF TRANSPORTATION

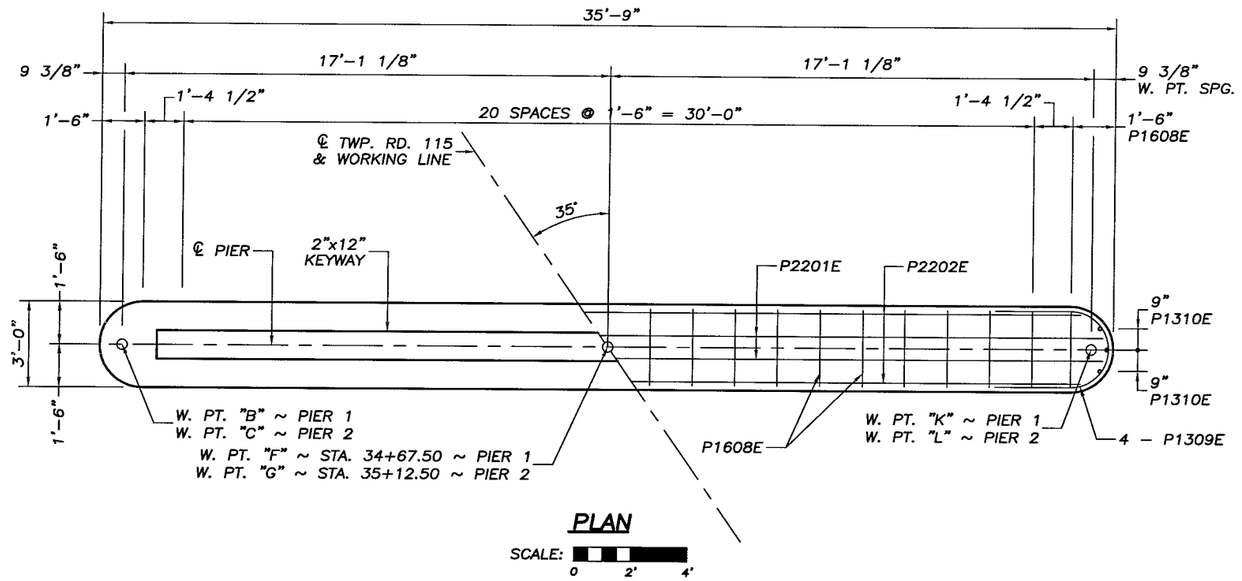
BRIDGE NO. 55574
ABUTMENT DETAILS

APPROVED:

S.A.P. 55-599-62

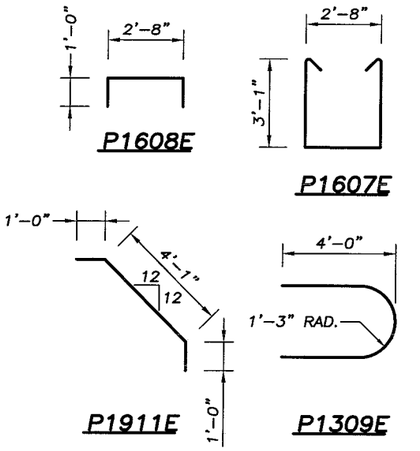
SHEET 5 OF 20 SHEETS

DES.	CSK	DRN.	JAS	55574
CHK.	CGD	CHK.	CGD	



PLAN

SCALE: 0 2' 4'



BILL OF REINFORCEMENT ~ 2 PIERS

	BAR	NO.	LENGTH	SHAPE	LOCATION
	P2201E	4	37'-4"	BENT	CAP ~ LONGITUDINAL
	P2202E	4	35'-9"	BENT	CAP ~ LONGITUDINAL
	P2203E	12	33'-3"	STRT.	CAP ~ LONGITUDINAL
	P1904E	8	33'-3"	STRT.	CAP ~ LONGITUDINAL
	P2205E	4	34'-6"	STRT.	CAP ~ LONGITUDINAL
	P1606E	4	33'-3"	STRT.	CAP ~ LONGITUDINAL
	P1607E	48	9'-9"	BENT	CAP ~ STIRRUP
	P1608E	66	4'-8"	BENT	CAP ~ TIE
	P1309E	16	9'-6"	BENT	CAP ~ TIE @ ENDS
	P1310E	12	3'-2"	STRT.	CAP ~ VERT. @ ENDS
③	P1911E	132	6'-1"	BENT	CAP ~ DOWEL

SUMMARY OF QUANTITIES ~ 2 PIERS

	STRUCTURAL CONCRETE (3Y43)	30	CU. YDS.
	REINF. BARS (EPOXY COATED)	4,380	POUNDS
①	C.I.P. CONCRETE PILING DELIVERED, 16"	720	LIN. FT.
①	C.I.P CONCRETE PILING DRIVEN, 16"	720	LIN. FT.
	C.I.P. CONCRETE TEST PILES, 100' LONG, 16"	2	EACH
②	PILE POINTS, 16"	10	EACH

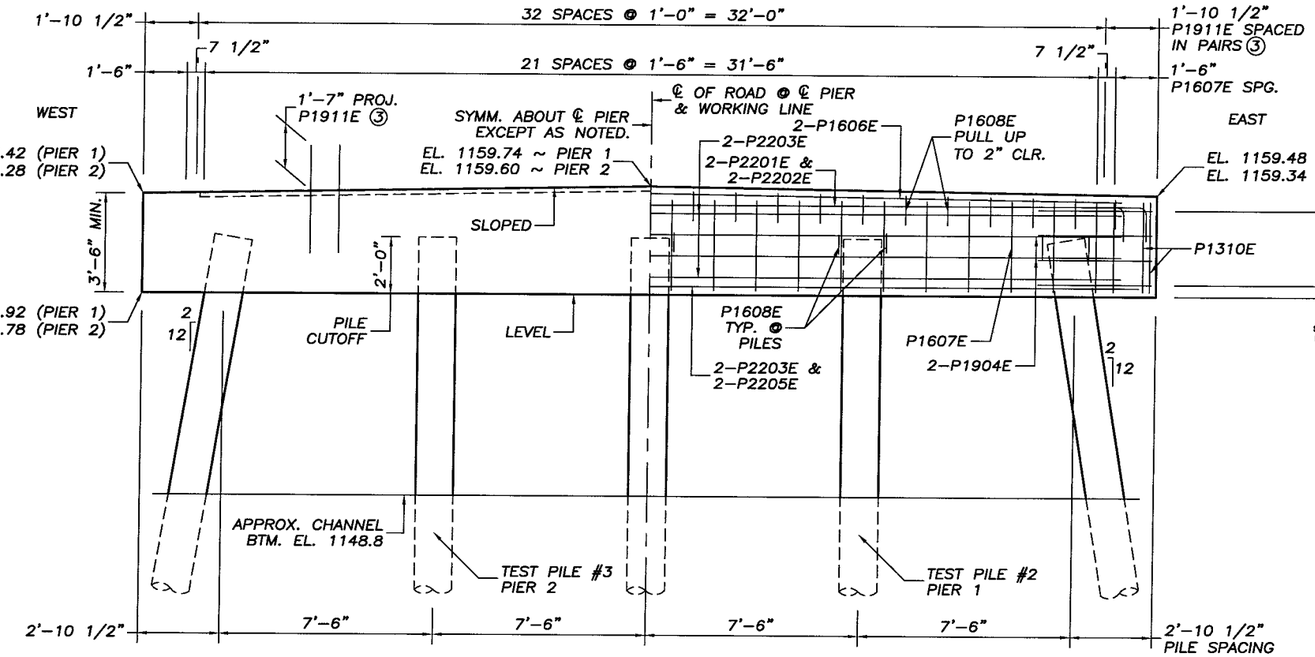
① DOES NOT INCLUDE TEST PILES.

② SEE SPECIAL PROVISIONS.

③ PLACE P1911E PARALLEL TO ℄ OF ROAD.

COMPUTED PILE LOADS
TONS PER PILE @ PIERS

DEAD LOAD	53.0
LIVE LOAD	16.5
TOTAL	69.5



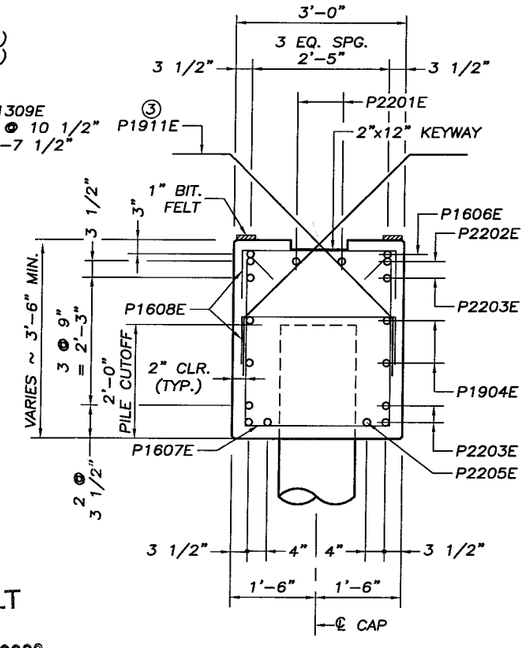
ELEVATION

SCALE: 0 2' 4'

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SECTION THRU CAP

SCALE: 0 1' 2'

PILE NOTES

2 – C.I.P. CONC. TEST PILES, 100' LONG
8 – C.I.P. CONC. PILES, 90' EST. LGTH.
10 – C.I.P. CONC. PILES REQ'D FOR PIERS.

ALL PIER PILES TO HAVE A NOMINAL DIAMETER OF 16".

ALL PILES ARE TO HAVE PILE POINTS. SEE SPECIAL PROVISIONS.

PILE SPACING SHOWN IS AT BOTTOM OF CAP.

END PILES ARE TO BE BATTERED 2" PER FOOT IN THE DIRECTION SHOWN.

SEE DETAIL B201 FOR SPLICES.

SEE SURVEY SHEET FOR TEST PILE LOCATION.

ALL PIER PILES PILES SHALL BE DRIVEN TO ELEVATION 1127.2 OR BELOW.

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LIC. NO. 22737 1/17/2003

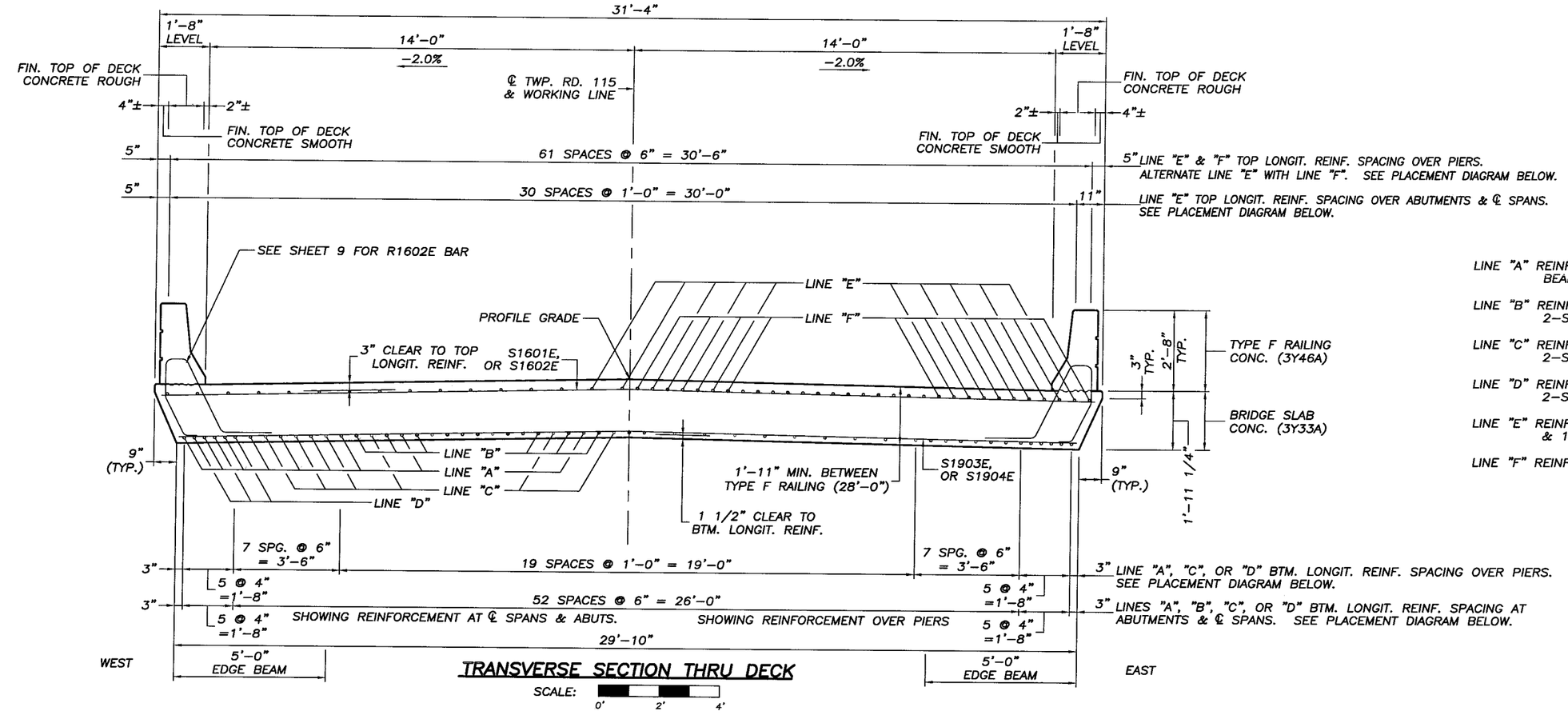
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55574

PIER DETAILS

APPROVED:

S.A.P. 55-599-62				
SHEET 6 OF 20 SHEETS				
DES.	CSK	DRN.	JAS	55574
CHK.	CGD	CHK.	CGD	



TRANSVERSE SECTION THRU DECK

SCALE: 0' 2' 4'

LINE "A" REINF. AT INTERIOR PORTION & EDGE BEAM CONSISTS OF: 2-S2506E, & 1-S2507E.

LINE "B" REINF. AT INTERIOR PORTION CONSISTS OF: 2-S2508E & 1-S2509E.

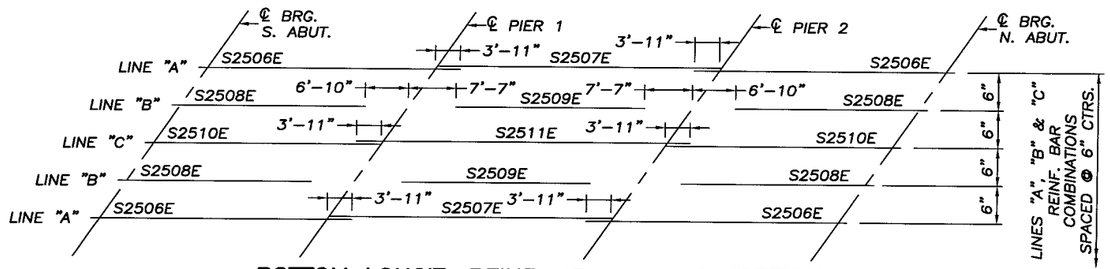
LINE "C" REINF. AT INTERIOR & EDGE OF BEAM CONSISTS OF: 2-S2510E & 1-S2511E.

LINE "D" REINF. AT EDGE OF BEAM CONSISTS OF: 2-S2912E & 1-S2913E.

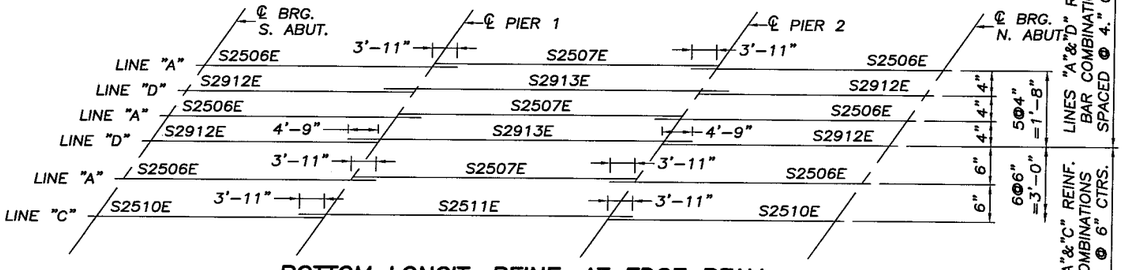
LINE "E" REINF. CONSISTS OF 2-S2214E, 2-S2915E, & 1-S1616E.

LINE "F" REINF. CONSISTS OF: 1-S2917E OVER EACH PIER

NOTE: RAILING CONCRETE SHALL NOT BE PLACED WHILE SLAB IS SUPPORTED ON FALSEWORK.

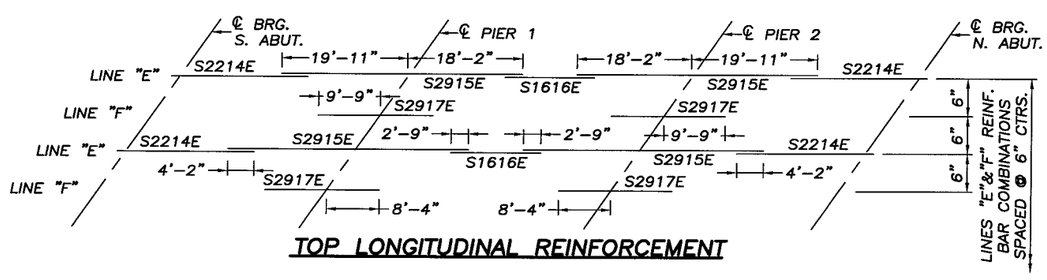


BOTTOM LONGIT. REINF. AT INTERIOR PORTION

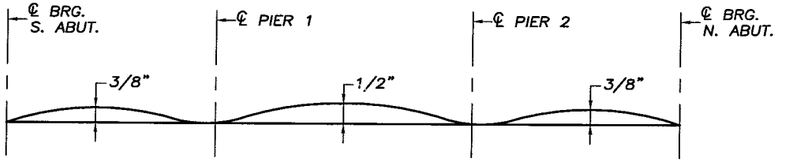


BOTTOM LONGIT. REINF. AT EDGE BEAM

PLACEMENT DIAGRAM FOR BOTTOM LONGITUDINAL REINFORCEMENT



TOP LONGITUDINAL REINFORCEMENT



NOTE: THE ABOVE DIAGRAM SHOWS THE CAMBER REQUIRED FOR THE ANTICIPATED ULTIMATE DEAD LOAD DEFLECTION AND DOES NOT ACCOUNT FOR SETTLEMENT OF THE FORMS.

AS-BUILT

OCT 07 2003

CAMBER DIAGRAM

CERTIFIED BY Ronald Benson
PROFESSIONAL ENGINEER/RONALD BENSON
LIC. NO. 22737 10/7/2003

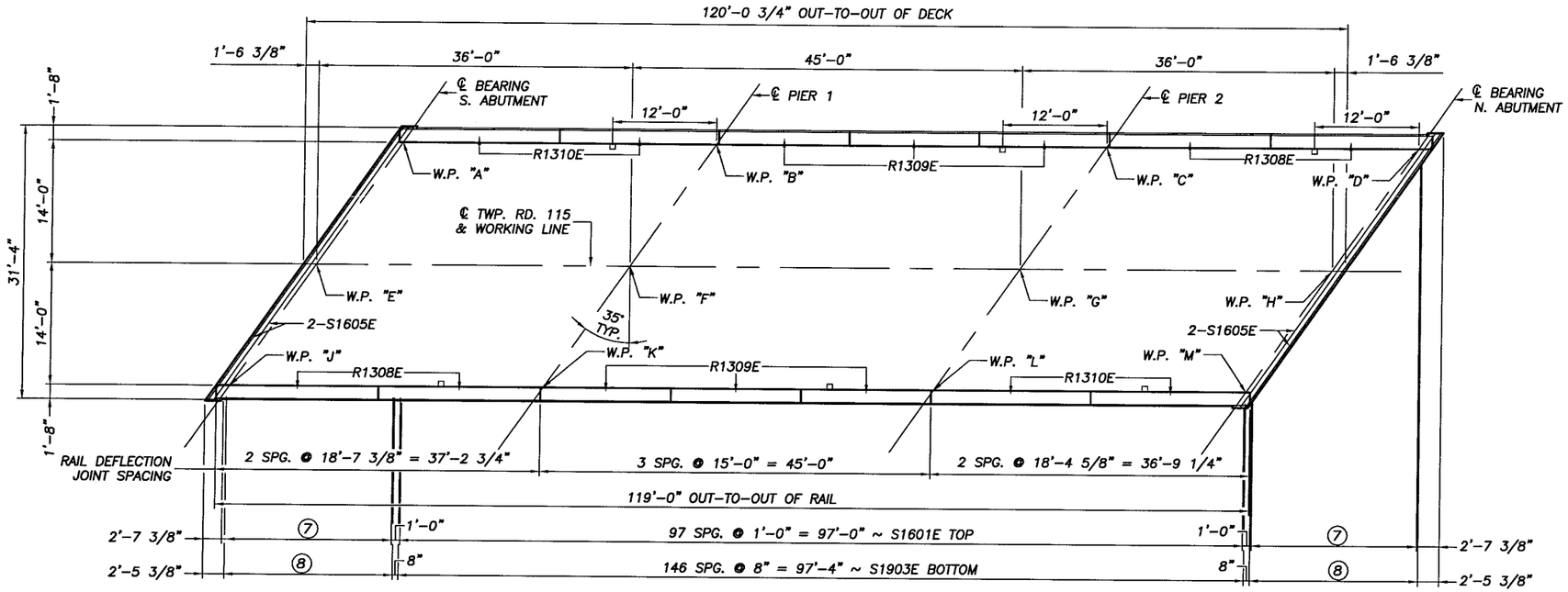
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55574

SUPERSTRUCTURE DETAILS

APPROVED:

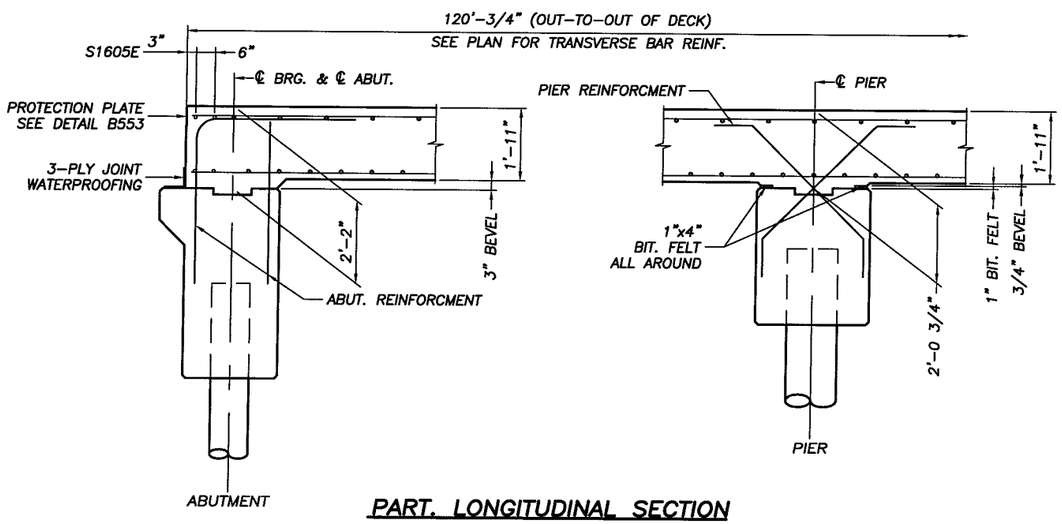
S.A.P. 55-599-62				
SHEET 7 OF 20 SHEETS				
DES.	CSK	DRN.	JAS	55574
CHK.	CGD	CHK.	CGD	



DECK PLAN

SCALE: 0 4' 8'

⑦ 19 @ 1'-0" = 19'-0" ~ S1602E TOP
⑧ 29 @ 8" = 19'-4" ~ S1904E BOTTOM



PART. LONGITUDINAL SECTION

SCALE: 0 1' 2'

BILL OF REINFORCEMENT ~ SUPERSTRUCTURE

BAR	NO.	LENGTH	SHAPE	LOCATION
S1601E	98	30'-10"	STRT.	SLAB ~ TRANSV., TOP
S1602E	2 SER. OF 20	FROM 2'-10" TO 30'-0"	STRT.	SLAB ~ TRANSV., TOP
S1903E	147	29'-8"	STRT.	SLAB ~ TRANSV., BTM.
S1904E	2 SER. OF 30	FROM 2'-0" TO 29'-8"	STRT.	SLAB ~ TRANSV., BTM.
S1605E	8	38'-3"	STRT.	SLAB ~ TRANSV., @ ENDS
S2506E	44	41'-3"	STRT.	SLAB ~ LONGIT., BTM.
S2507E	22	45'-0"	STRT.	SLAB ~ LONGIT., BTM.
S2508E	38	30'-6"	STRT.	SLAB ~ LONGIT., BTM.
S2509E	19	29'-10"	STRT.	SLAB ~ LONGIT., BTM.
S2510E	32	37'-4"	STRT.	SLAB ~ LONGIT., BTM.
S2511E	16	52'-10"	STRT.	SLAB ~ LONGIT., BTM.
S2912E	12	37'-4"	STRT.	SLAB ~ LONGIT., BTM.
S2913E	6	54'-6"	STRT.	SLAB ~ LONGIT., BTM.
S2214E	62	21'-7"	STRT.	SLAB ~ LONGIT., TOP
S2915E	62	38'-1"	STRT.	SLAB ~ LONGIT., TOP
S1616E	31	14'-2"	STRT.	SLAB ~ LONGIT., TOP
S2917E	62	18'-1"	STRT.	SLAB ~ LONGIT., TOP

LIST OF PREFORMED JOINT FILLERS

TYPE	LIN. FT.	SIZE	LOCATION
CORK	22'-0"	1"x13"	RAIL DEFLECTION JOINT
CORK	9'-0"	1"x22"	ABUTMENT RECESS
BIT. FELT	150'-0"	1"x4"	PIER

SUMMARY OF QUANTITIES ~ SUPERSTRUCTURE

①	BRIDGE SLAB CONCRETE (3Y33A)	3,762	SQ. FT.
②	TYPE F RAILING CONCRETE (3Y46A)	238	LIN. FT.
③	REINFORCEMENT BARS (EPOXY COATED)	53,020	POUND
	STRUCTURAL STEEL (3306)	573	POUND
④	PROTECTION PLATES (SEE DETAIL B553)		
⑤	BRIDGE NAMEPLATE (DETAIL B101)	1	EACH
⑤	3-PLY JOINT WATER PROOFING	87	LIN. FT.
⑤⑥	PREFORMED JOINT FILLER (SEE LIST)		
	FLOOR DRAINS, TYPE B702	6	EACH

① INCLUDES RAIL QUANTITIES.
② APPROXIMATE VOLUME = 271 CU. YD.
③ APPROXIMATE VOLUME = 26 CU. YD.
④ INCLUDED IN STRUCTURAL STEEL (3306).
⑤ INCLUDED IN PRICE BID FOR OTHER ITEMS.
⑥ SEE SPECIAL PROVISIONS.

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LIC. NO. 22737 1/17/2003

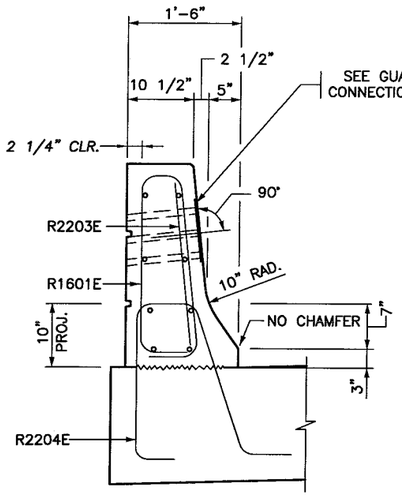
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55574
SUPERSTRUCTURE DETAILS

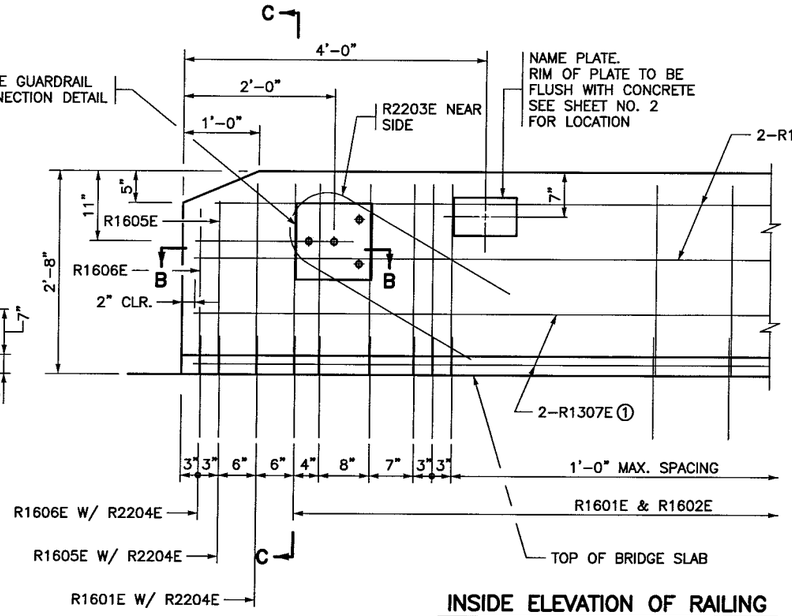
APPROVED:

S.A.P. 55-599-62
SHEET 8 OF 20 SHEETS

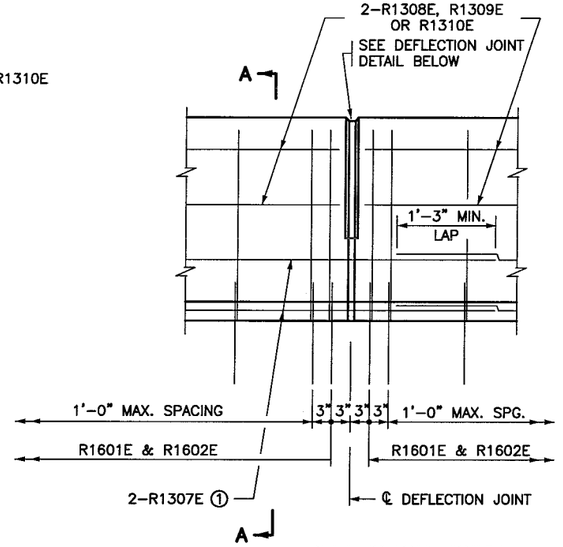
DES.	CSK	DRN.	JAS	55574
CHK.	CGD	CHK.	CGD	



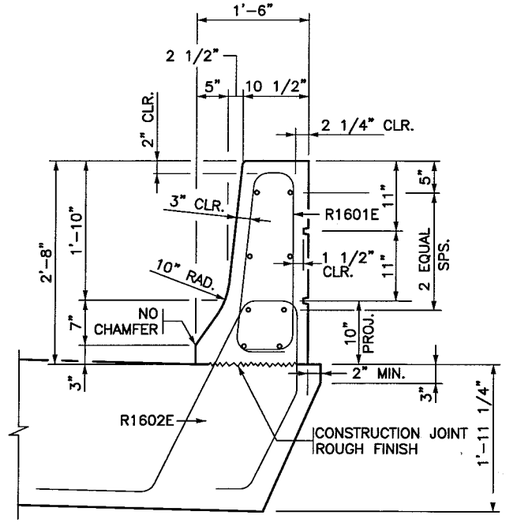
SECTION C–C



INSIDE ELEVATION OF RAILING



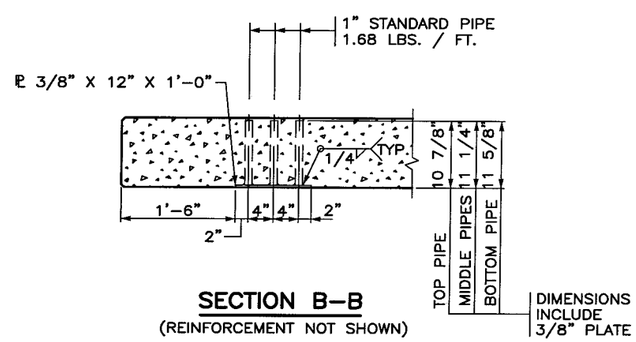
DEFLECTION JOINT



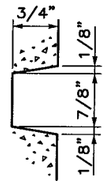
SECTION A–A

BILL OF REINFORCEMENT FOR RAILING				
BAR	NO.	LENGTH	SHAPE	LOCATION
R1601E	278	6'–3"		RAIL VERTICAL
R1602E	274	8'–0"		RAIL VERTICAL
R2203E	4	6'–7"		RAIL VERTICAL
R2204E	12	7'–11"		RAIL VERTICAL
R1605E	4	5'–10"		RAIL VERTICAL
R1606E	4	5'–8"		RAIL VERTICAL
① R1307E	32	30'–8"	——	RAIL LONGITUDINAL
R1308E	16	18'–2"	——	RAIL LONGITUDINAL
R1309E	24	14'–7"	——	RAIL LONGITUDINAL
R1310E	16	17'–11"	——	RAIL LONGITUDINAL

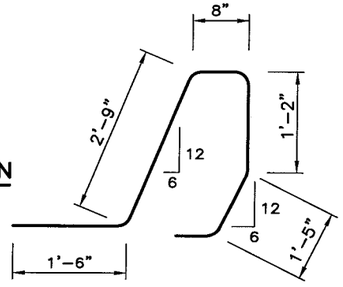
① 4 BARS PER LINE WITH 1'–3" LAP



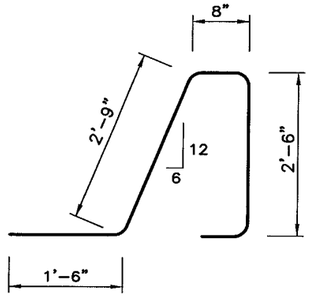
SECTION B–B
(REINFORCEMENT NOT SHOWN)



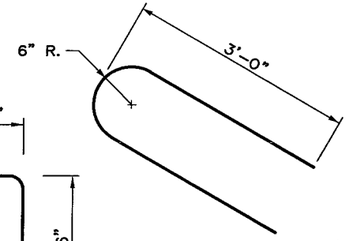
RAIL RUSTICATION



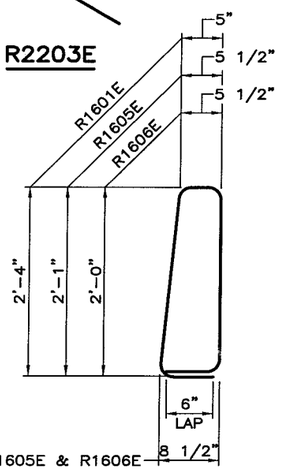
R1602E



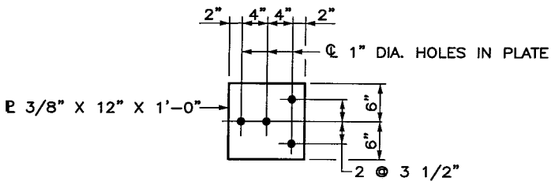
R2204E



R2203E

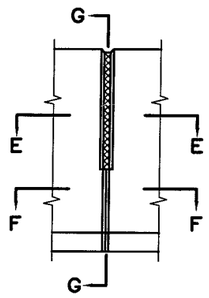


R1601E, R1605E & R1606E

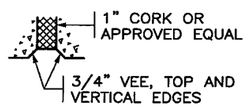


GUARDRAIL CONNECTION DETAIL

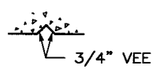
GALVANIZE AFTER FABRICATION PER SPEC. 3394
ESTIMATED WEIGHT = 22 LBS.



ELEVATION

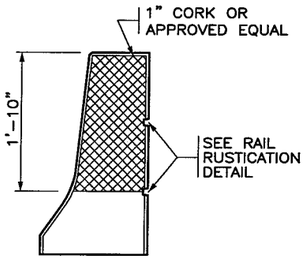


SECTION E–E



SECTION F–F

DEFLECTION JOINT



SECTION G–G

GENERAL NOTES

CONCRETE RAILING = 439 LBS./FT. (.108 CU. YDS./FT.)

GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, SPEC. 3306.

FINISH ALL EDGES OF RAIL WITH 1/2" VEE, EXCEPT WHERE OTHERWISE NOTED.

SEE SUPERSTRUCTURE SHEET 8 FOR JOINT SPACING.

GUARDRAIL CONNECTION TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

RAIL QUANTITIES ARE INCLUDED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.

MAXIMUM SPACING OF CONCRETE DEFLECTION JOINTS SHALL BE 20'–0".

RAIL TO BE CONCRETE MIX NO. 3Y46A.

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FIG. 5–397.115

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CONCRETE RAILING (TYPE F)

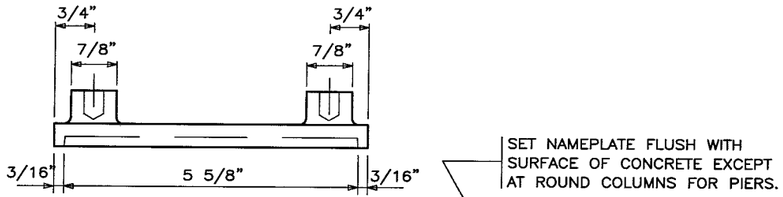
WITH INTEGRAL END POST
(WITHOUT WEARING COURSE)

DES.: CSK	DRN.: JAS	APPROVED:
CHK.: CGD	CHK.: CGD	

S.A.P. 55–599–62

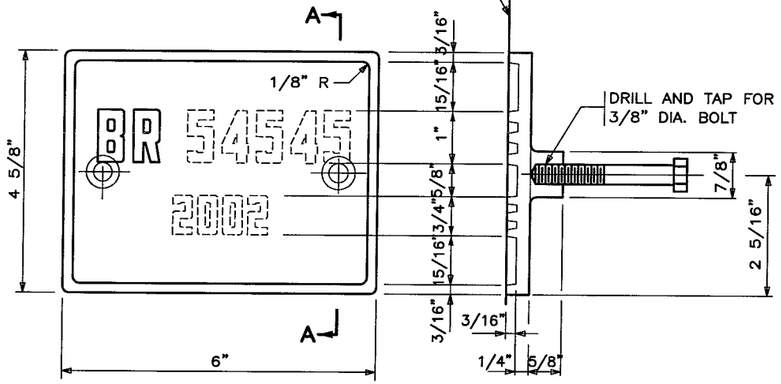
SHEET NO. 9 OF 20 SHEETS

BRIDGE NO. 55574



PLAN VIEW

SET NAMEPLATE FLUSH WITH SURFACE OF CONCRETE EXCEPT AT ROUND COLUMNS FOR PIERS.



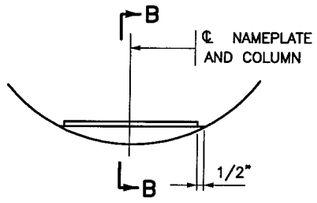
ELEVATION

SECTION A–A

THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION.
DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

BRIDGE 55574

YEAR 2003

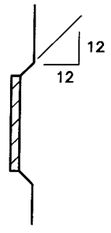


NAMEPLATE PLACEMENT

(ROUND CONCRETE PIER COLUMNS)

1234567890 — 3/16"

NUMBERS FOR NAMEPLATE



SECTION B–B

NOTES:

NO SHOP DRAWING REQUIRED.

MATERIAL SHALL COMPLY WITH MnDOT SPEC. 3327.

LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.

DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".

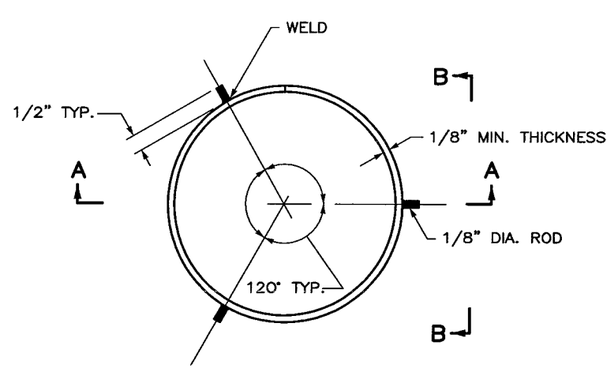
HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.

TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.

FURNISH 2 STEEL BOLTS 3/8" DIA. x 3" LONG WITH EACH PLATE.

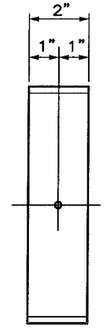
ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.

APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	BRIDGE NAMEPLATE (FOR NEW BRIDGES)		B101



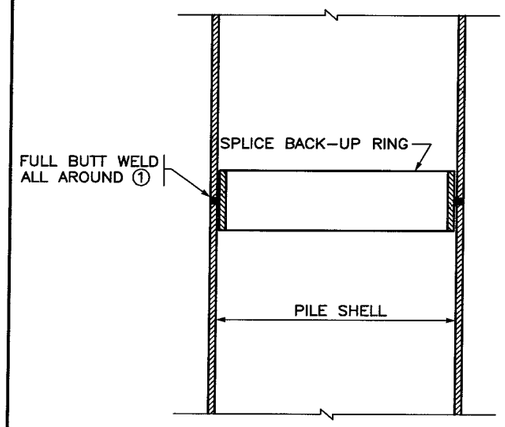
PLAN VIEW SPLICE

(PILE NOT SHOWN)



SECTION B–B

(PILE NOT SHOWN)



SECTION A–A

NOTES:

APPROVED COMMERCIAL PILE SPLICE BACK–UP RING MAY BE USED IN LIEU OF THE TYPE DETAILED. BACK–UP RING SHALL HAVE A TIGHT FIT.

WELDING ELECTRODE SHALL BE A.W.S. TYPE E7016 OR E7018 (LOW–HYDROGEN).

LOW–HYDROGEN ELECTRODES SHALL BE SUPPLIED IN HERMETICALLY (AIR–TIGHT) SEALED CONTAINERS.

LOW–HYDROGEN ELECTRODES SHALL BE STORED IN HOLDING OVENS AT A TEMPERATURE OF NOT LESS THAN 250 DEG. F.

LOW–HYDROGEN ELECTRODES SHALL BE PLACED IN A HOLDING OVEN FOR AT LEAST 8 HOURS IF THEY HAVE BEEN EXPOSED TO THE ATMOSPHERE FOR MORE THAN 2 HOURS.

ELECTRODES WHICH HAVE BECOME WET, SOILED OR DAMAGED SHALL NOT BE USED.

WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS LOWER THAN 0 DEG. F. OR WHEN THE PILE IS WET OR EXPOSED TO FALLING RAIN OR SNOW. WHEN THE PILE METAL TEMPERATURE IS BELOW 32 DEG. F., THE PILE METAL IN THE AREA OF THE WELD SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 70 DEG. F. AND MAINTAINED AT THIS TEMPERATURE DURING WELDING.

① FOR PILE SHELL THICKNESS GREATER THAN 1/2" USE A B–U4a WELD CONFIGURATION.

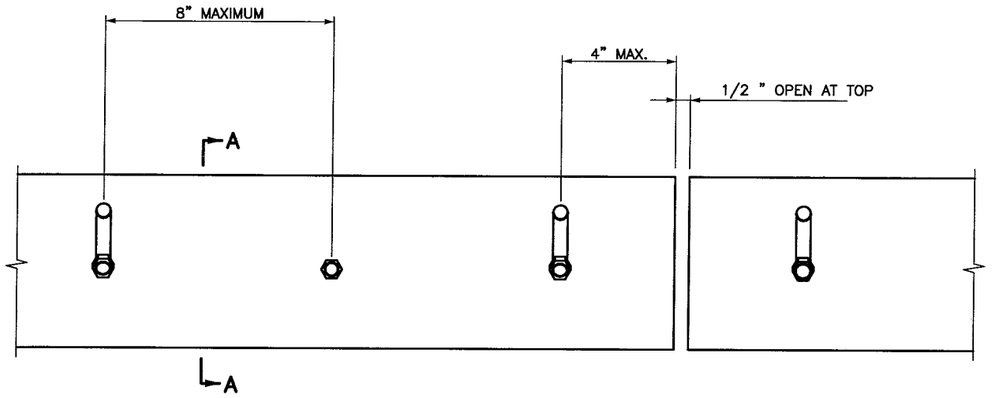
AS-BUILT

OCT 07 2003

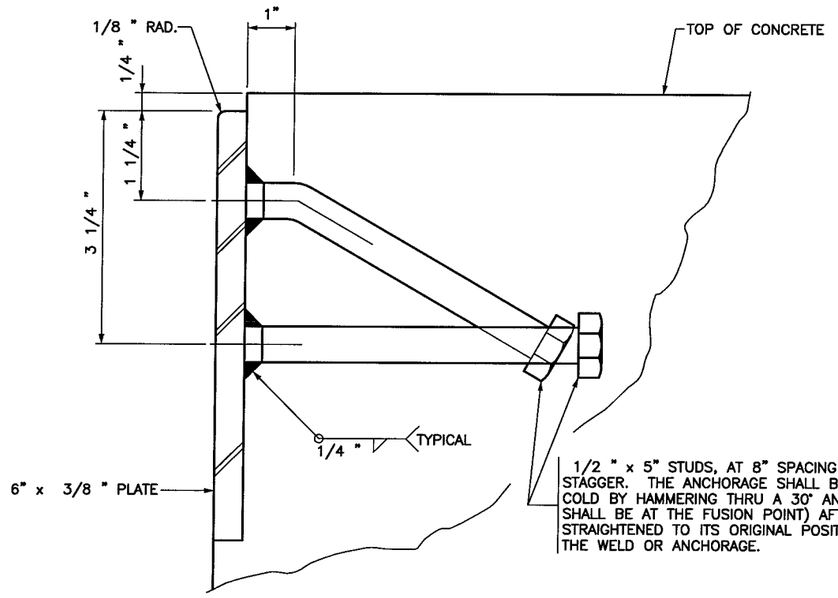
ENGINEERING

APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	PILE SPLICE CAST–IN–PLACE CONCRETE PILES		B201

CERTIFIED BY Ronald Benson PROFESSIONAL ENGINEER/RONALD BENSON LIC. NO. 22737 1/17/2003	MISC. BRIDGE DETAILS	DES.: CSK DRN.: JAS APPROVED: CHK.: CGD CHK.: CGD S.A.P. 55–599–62 SHEET 10 OF 20 SHEETS	BRIDGE NO. 55574



ELEVATION
(CONCRETE NOT SHOWN)



1/2 " x 5" STUDS, AT 8" SPACING WITH ALTERNATE STAGGER. THE ANCHORAGE SHALL BE CAPABLE OF BEING BENT COLD BY HAMMERING THRU A 30° ANGLE (THE APEX OF WHICH SHALL BE AT THE FUSION POINT) AFTER WELDING AND SUBSEQUENTLY STRAIGHTENED TO ITS ORIGINAL POSITION WITHOUT FRACTURE OF THE WELD OR ANCHORAGE.

SECTION A–A

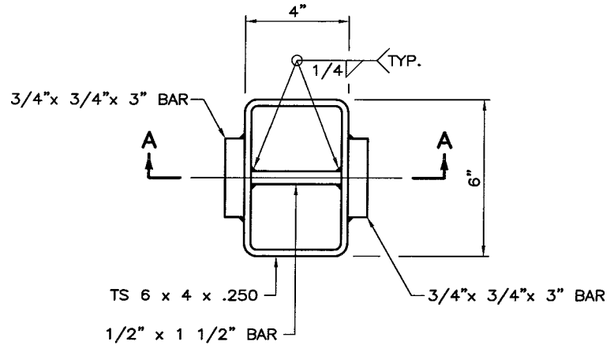
NOTES:

PLATES SHALL EXTEND FULL WIDTH OF ROADWAY BETWEEN GUTTER LINES WITH A 1/2 " OPEN JOINT AT EACH BREAK IN CROWN PROFILE. MAXIMUM LENGTH 22 FEET.

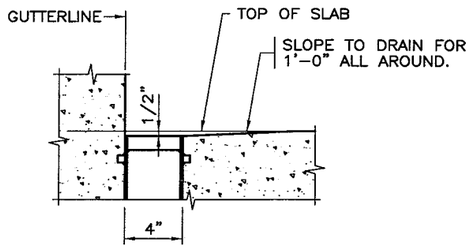
MATERIALS: STRUCTURAL STEEL PER Mn/DOT SPEC. 3306. GALVANIZE AFTER FABRICATION PER Mn/DOT SPEC. 3394

SET PLATE TO PROPER GRADE AND CROWN.

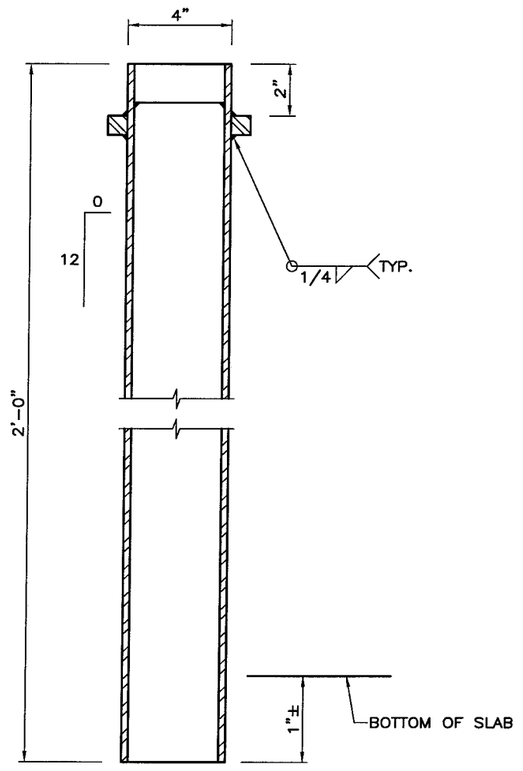
APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	PROTECTION PLATE (FOR END OF SLAB)		B553



PLAN VIEW



PLACEMENT DIAGRAM



SECTION A–A

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ENGINEERING

NOTES:

MATERIAL TO BE STRUCTURAL STEEL PER Mn/DOT SPEC. 3306.

GALVANIZE MATERIALS PER Mn/DOT SPEC. 3394 AFTER FABRICATION.

PAYMENT FOR FLOOR DRAIN TYPE B702 MOD. SHALL INCLUDE ALL MATERIAL SHOWN ON THIS DETAIL.

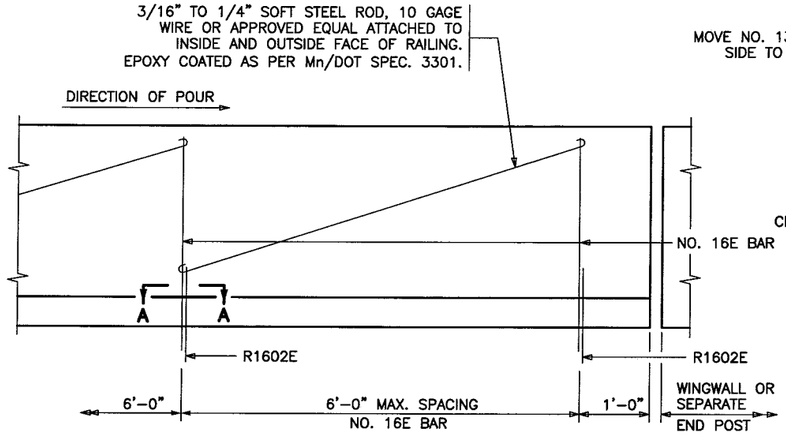
APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	BRIDGE FLOOR DRAIN (STRUCTURAL TUBING)		B702 MODIFIED

CERTIFIED BY Ronald Benson
PROFESSIONAL ENGINEER/RONALD BENSON
LIC. NO. 22737 1/17/2003

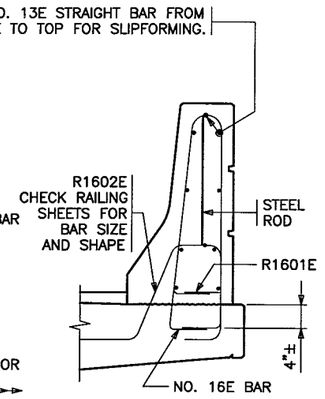
MISC. BRIDGE DETAILS

DES.: CSK	DRN.: JAS	APPROVED:
CHK.: CGD	CHK.: CGD	
S.A.P. 55–599–62		
SHEET 11 OF 20 SHEETS		

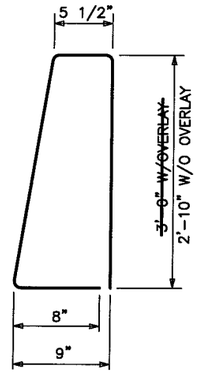
BRIDGE NO. 55574



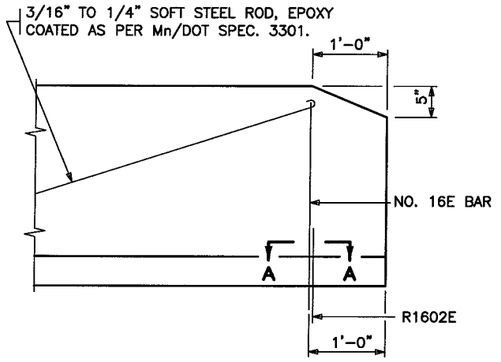
INSIDE ELEVATION OF RAILING



RAILING SECTION



NO. 16E BAR



INSIDE ELEVATION OF RAILING
AT END OF WINGWALL

NOTES:

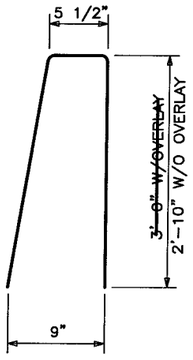
CONTRACTOR WILL TOOL V-GROOVE AT DEFLECTION JOINTS AT TIME RAIL IS CAST AND SHALL EXTEND V-GROOVE AROUND ENTIRE PERIMETER OF RAIL.

FOR ADDITIONAL DIMENSIONS, DETAILS, REINFORCEMENT AND NOTES SEE RAILING SHEET.

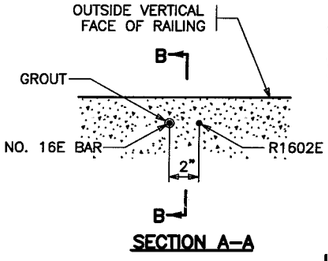
FORM RAIL FOR A MINIMUM OF 4' ON EACH SIDE OF EXPANSION DEVICES, LIGHT STANDARDS AND DECK DRAIN BOX OUTS.

PAY QUANTITIES WILL NOT BE ADJUSTED AS A RESULT OF SELECTING THIS ALTERNATE.

USE A SIMILAR METHOD FOR TALLER RAILINGS OR MODIFIED VERSIONS OF THIS RAILING.

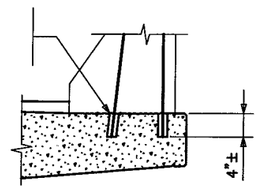


NO. 16E BAR
DRILLED IN ALTERNATE



SECTION A-A

VERIFY BAR DIA. PRIOR TO DRILLING HOLES. FILL HOLES WITH AN APPROVED RAPID SETTING NON-SHRINK GROUT.



SECTION B-B

INSTALLATION DETAILS
FOR NO. 16E (DRILLED IN ALTERNATE)

APPROVED: JULY 30, 1999

Donald J. Flemming

STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

CONCRETE RAILING (TYPE F)
(SLIPFORM ALTERNATE)

REVISION

DETAIL NO. B830

CERTIFIED BY Ronald Benson
PROFESSIONAL ENGINEER/RONALD BENSON
LIC. NO. 22737 1/17/2003

MISC. BRIDGE DETAILS

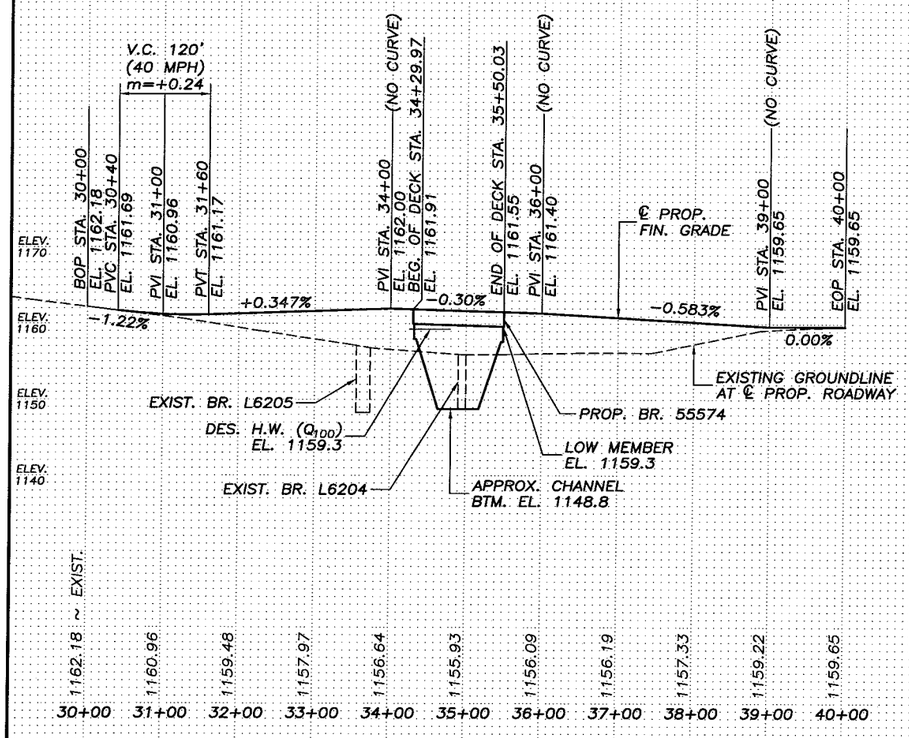
DES.: CSK	DRN.: JAS	APPROVED:
CHK.: CGD	CHK.: CGD	
S.AP. 55-599-62		
SHEET 12 OF 20 SHEETS		

BRIDGE NO. 55574

AS-BUILT
OCT 07 2003
ENGINEERING

CONTRACTED PROFILE

SCALE: HOR. 0' 50' 100' VER. 0' 5' 10'



PLAT

SCALE: 0' 50' 100'

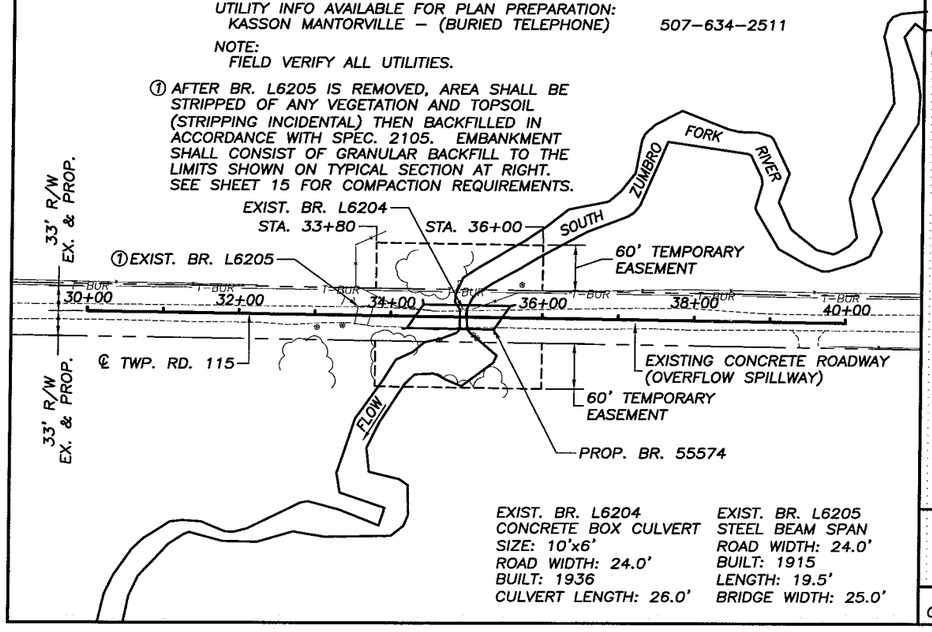
UTILITY INFORMATION

WARNING:
DIAL GOPHER STATE ONE CALL AT 1-800-252-1166
48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS
TO OBTAIN COMPLETE UTILITY PROPERTY OWNERSHIP
AND LOCATION INFORMATION.

UTILITY INFO AVAILABLE FOR PLAN PREPARATION:
KASSON MANTORVILLE - (BURIED TELEPHONE) 507-634-2511

NOTE:
FIELD VERIFY ALL UTILITIES.

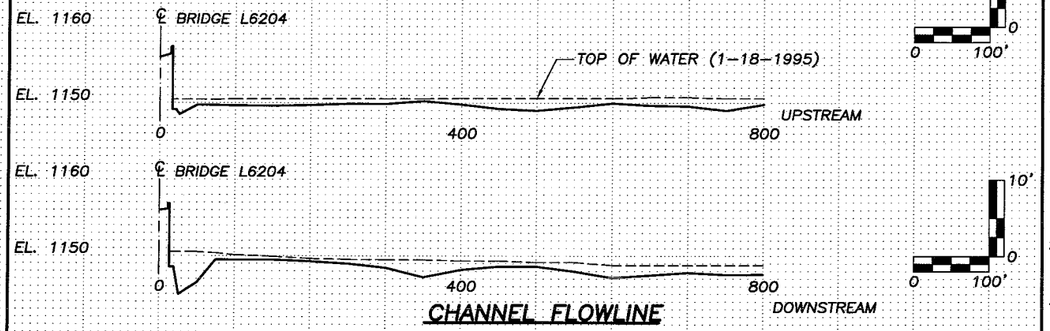
① AFTER BR. L6205 IS REMOVED, AREA SHALL BE STRIPPED OF ANY VEGETATION AND TOPSOIL (STRIPPING INCIDENTAL) THEN BACKFILLED IN ACCORDANCE WITH SPEC. 2105. EMBANKMENT SHALL CONSIST OF GRANULAR BACKFILL TO THE LIMITS SHOWN ON TYPICAL SECTION AT RIGHT. SEE SHEET 15 FOR COMPACTION REQUIREMENTS.

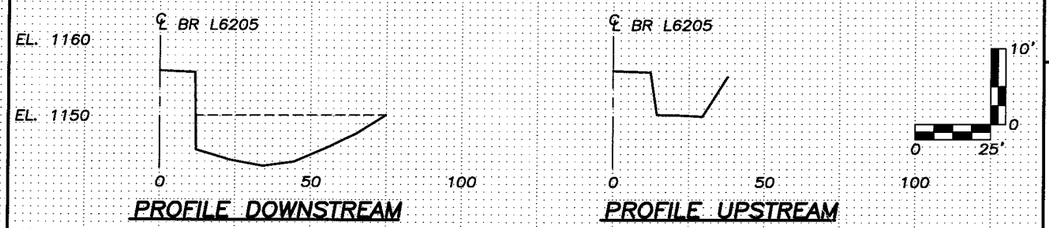


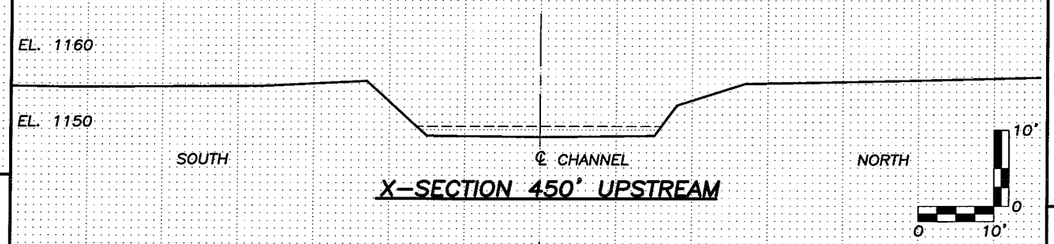
EXIST. BR. L6204	EXIST. BR. L6205
CONCRETE BOX CULVERT	STEEL BEAM SPAN
SIZE: 10'x6'	ROAD WIDTH: 24.0'
ROAD WIDTH: 24.0'	BUILT: 1915
BUILT: 1936	LENGTH: 19.5'
CULVERT LENGTH: 26.0'	BRIDGE WIDTH: 25.0'

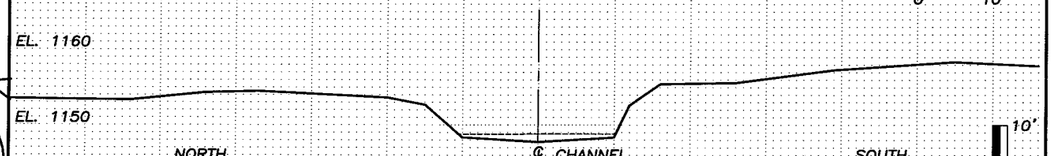
TYPICAL SECTIONS & PERTINENT DATA

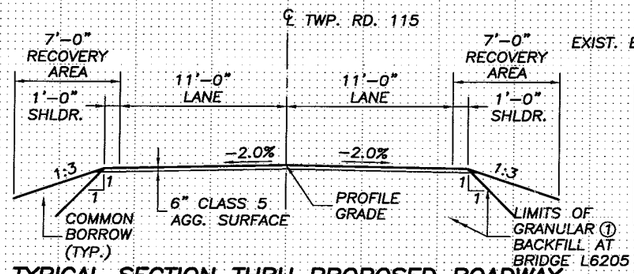
SCALES AS SHOWN

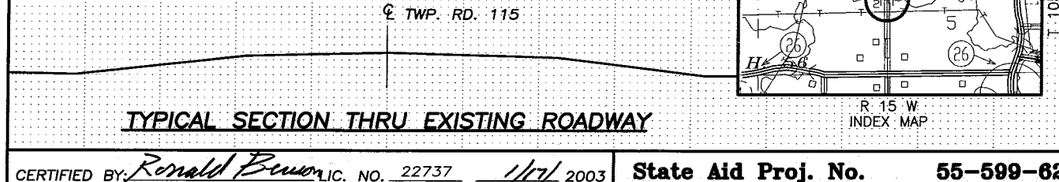


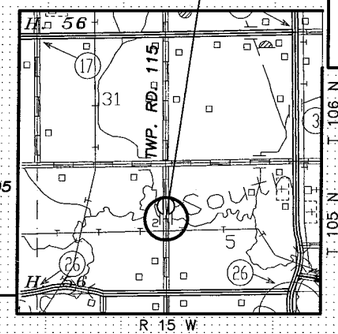












Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATION AT BRIDGE SITE

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, rec. boats.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway) :Given location, type, length, height above high water, cross-sectional area, etc.

3. Apparent highwater elevation..... Obtained from.....

4. Other data: Approx. velocity of water at time of survey .....

HYDRAULIC ENGINEER'S RECOMMENDATION

DATE 1-10-2002

Stream or ditch designation ... SOUTH FORK ZUMBRO RIVER
Drainage area 41.8 SQ. MI.
Max. flood on record UNKN. Design flood (50 yr. freq.) 3930 C.F.S.
Max. observed highwater elev. UNKN. Design highwater elev. 1159.3
Design mean velocity through structure 5.2 F.P.S.
Low superstructure at or above elevation 1159.3
Flowline elevation 1148.8 Skew angle 35°
Waterway area req'd. below elev. 1159.3 - 759 Sq. Ft. @ Rt. angles to channel
In the interest of flood plain zoning the regional flood (100 yr. freq.) is 4690 C.F.S. at stage 1159.8 and mean velocity of 4.8 F.P.S. with 0.5 Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

EST. PIER SCOUR EL. 1137.2 SCOUR CODE: L

ENGINEER'S RECOMMENDATION

DATE 1-10-2002

36'-45'-36' CONTINUOUS CONCRETE SLAB SPANS
35° SKEW, 28' ROADWAY WIDTH

AS-BUILT

OCT 07 2003

ENGINEERING

Bridge survey sheets made from: SURVEY NOTES FROM OLMSTED COUNTY (DATED 1-18-1995)

Benchmark elevation 1156.76 (M.S.L. 1929 Adj.)
Location: CHISLED "X" TOP SOUTHEAST CORNER HEADWALL BR. L6204

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT ..... ON TWP. RD. 115

PROPOSED BRIDGE LOCATED 0.8 MILES NORTH OF JCT. C.S.A.H. 26 OVER SOUTH FORK ZUMBRO RIVER.

SEC. 5 TWP. 105 N R. 15 W

TOWNSHIP ROCK DELL COUNTY OLMSTED

EXIST. BRIDGE NO. L6204 & L6205

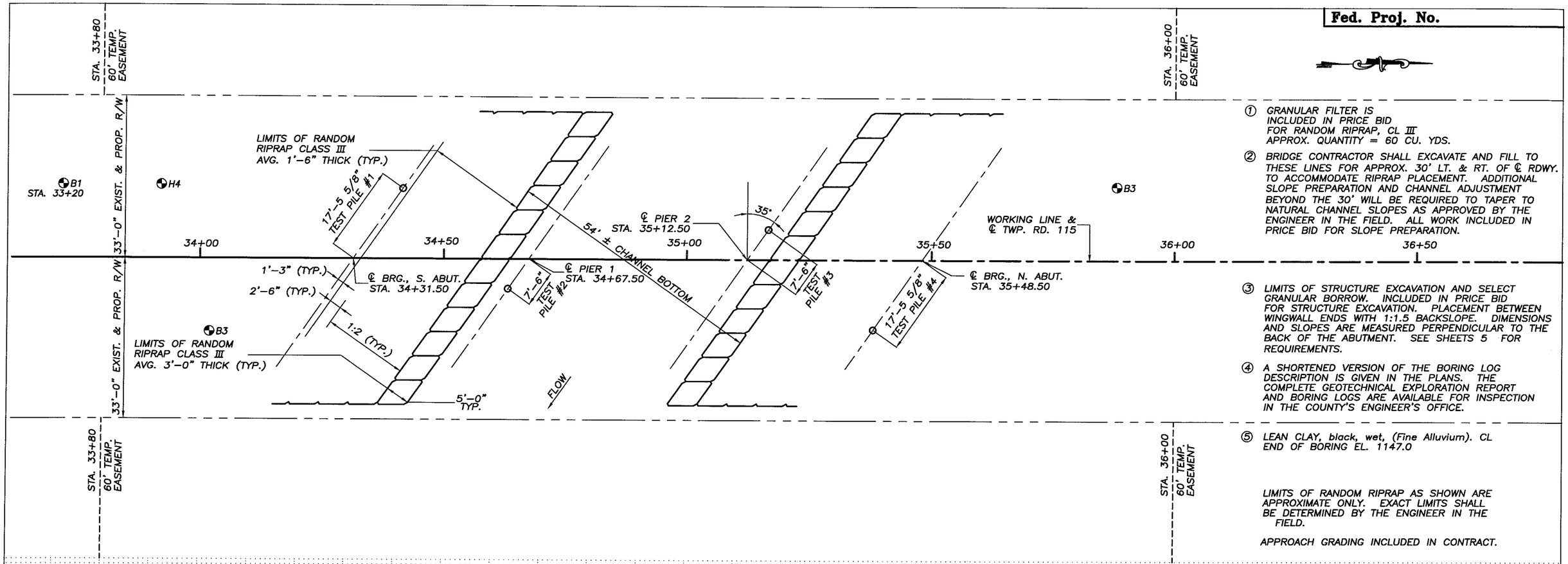
PROP. BRIDGE NO. 55574

CERTIFIED BY: Ronald Benson LIC. NO. 22737 1/7/ 2003

State Aid Proj. No. 55-599-62

Sheet No. 13 of 20 Sheets

Fed. Proj. No.



① GRANULAR FILTER IS INCLUDED IN PRICE BID FOR RANDOM RIPRAP, CL III. APPROX. QUANTITY = 60 CU. YDS.

② BRIDGE CONTRACTOR SHALL EXCAVATE AND FILL TO THESE LINES FOR APPROX. 30' LT. & RT. OF ℄ RDWY. TO ACCOMMODATE RIPRAP PLACEMENT. ADDITIONAL SLOPE PREPARATION AND CHANNEL ADJUSTMENT BEYOND THE 30' WILL BE REQUIRED TO TAPER TO NATURAL CHANNEL SLOPES AS APPROVED BY THE ENGINEER IN THE FIELD. ALL WORK INCLUDED IN PRICE BID FOR SLOPE PREPARATION.

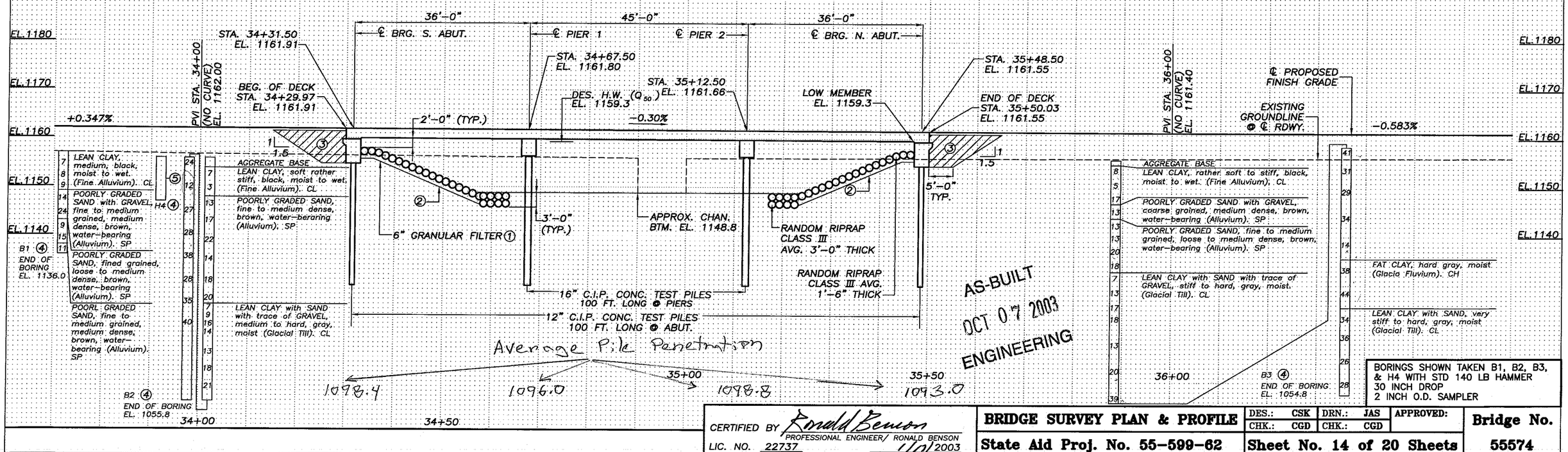
③ LIMITS OF STRUCTURE EXCAVATION AND SELECT GRANULAR BORROW. INCLUDED IN PRICE BID FOR STRUCTURE EXCAVATION. PLACEMENT BETWEEN WINGWALL ENDS WITH 1:1.5 BACKSLOPE. DIMENSIONS AND SLOPES ARE MEASURED PERPENDICULAR TO THE BACK OF THE ABUTMENT. SEE SHEETS 5 FOR REQUIREMENTS.

④ A SHORTENED VERSION OF THE BORING LOG DESCRIPTION IS GIVEN IN THE PLANS. THE COMPLETE GEOTECHNICAL EXPLORATION REPORT AND BORING LOGS ARE AVAILABLE FOR INSPECTION IN THE COUNTY'S ENGINEER'S OFFICE.

⑤ LEAN CLAY, black, wet, (Fine Alluvium). CL
END OF BORING EL. 1147.0

LIMITS OF RANDOM RIPRAP AS SHOWN ARE APPROXIMATE ONLY. EXACT LIMITS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

APPROACH GRADING INCLUDED IN CONTRACT.



AS-BUILT
OCT 07 2003
ENGINEERING

BORINGS SHOWN TAKEN B1, B2, B3, & H4 WITH STD 140 LB HAMMER 30 INCH DROP 2 INCH O.D. SAMPLER

CERTIFIED BY Ronald Benson
PROFESSIONAL ENGINEER/ RONALD BENSON
LIC. NO. 22737 1/9/2003

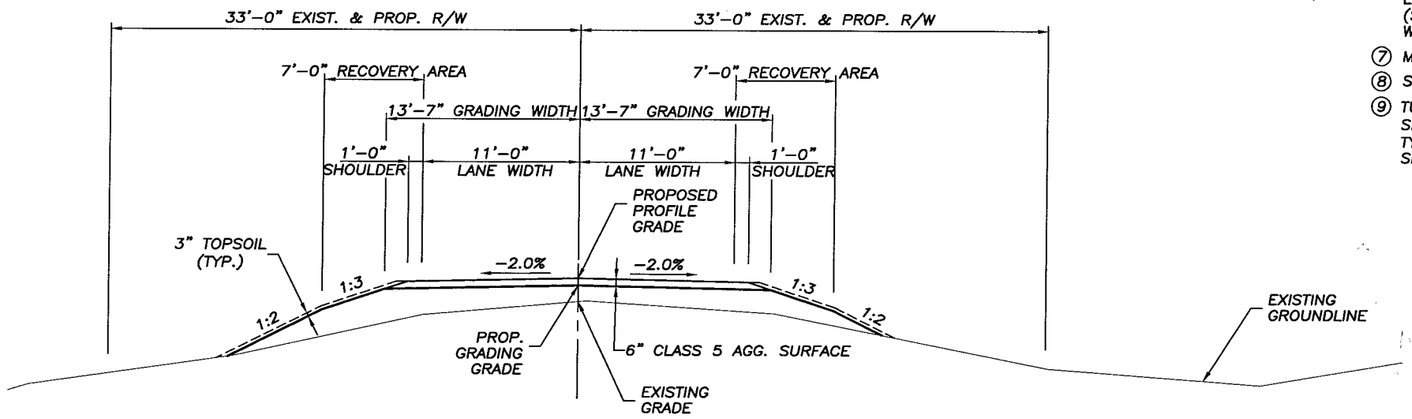
BRIDGE SURVEY PLAN & PROFILE	DES.: CSK	DRN.: JAS	APPROVED:	**Bridge No.**
	CHK.: CGD	CHK.: CGD		**55574**
State Aid Proj. No. 55-599-62	**Sheet No. 14 of 20 Sheets**			

PROJECT BALANCE (CU. YD.)

SOUTH END OF BRIDGE 55574				NORTH END OF BRIDGE 55574			
EXCAVATION (EV)	182	COMMON	75	EXCAVATION (EV)	62	COMMON	5
		TOPSOIL	107			TOPSOIL	57
EMBANKMENT (CV)	1,682	COMMON	1,575	EMBANKMENT (CV)	1,939	COMMON	1,882
		TOPSOIL	107			TOPSOIL	57

EMBANKMENT SHORTFALL (CV) 3,399

A SHRINKAGE FACTOR OF 140% WAS USED IN CALCULATING EMBANKMENT SHORTFALL.



TYPICAL SECTION

STA. 30+00 – 40+00
(EXCLUDING BRIDGE 55574)

SCHEDULE OF ESTIMATED QUANTITIES

	ITEM NO.	ITEM	QUANTITY	UNIT
(1)	2101.511	CLEARING & GRUBBING	1	LUMP SUM
	2104.501	REMOVE METAL CULVERT	18	LIN. FT.
(6)	2104.505	REMOVE CONCRETE PAVEMENT	768	SQ. YD.
	2105.501	COMMON EXCAVATION	281	CU. YD.
(2)(3)	2105.523	COMMON BORROW (CV)	3,745	CU. YD.
(4)(5)	2211.503	AGGREGATE BASE (CV) CLASS 5	460	CU. YD.
	2501.511	12" C.S. PIPE CULVERT	46	LIN. FT.
	2501.511	24" C.S. PIPE CULVERT	66	LIN. FT.
	2501.515	12" G.S. PIPE APRON	2	EACH
	2501.515	24" G.S. PIPE APRON	2	EACH
(7)(8)	2573.603	SILT FENCE, TYPE MACHINE SLICED	2,050	LIN. FT.
(1)(9)	2575.555	TURF ESTABLISHMENT	1	LUMP SUM

(1) CONSISTS OF APPROX. 0.5 ACRES.

(2) INCLUDES 280 CU. YD. (CV) FOR RECONSTRUCTION OF FIELD ENTRANCE AT STA. 33+45 LT.

(3) INCLUDES 66 CU. YD. (CV) FOR RECONSTRUCTION OF FIELD ENTRANCE AT STA. 39+50 RT.

(4) INCLUDES 23 CU. YD. (CV) FOR SURFACING OF RECONSTRUCTED FIELD ENTRANCE AT STA. 33+45 LT.

(5) INCLUDES 18 CU. YD. (CV) FOR SURFACING OF RECONSTRUCTED FIELD ENTRANCE AT STA. 39+50 RT.

(6) 22'–0" WIDE PAVED CONCRETE ROADWAY BETWEEN EXIST. BR. L6205 & L6204 AND NORTH OF EXIST. BR. L6204. REMOVE AS NECESSARY FOR CONSTRUCTION OF BRIDGE NO. 55574 (STA. 34+15 TO STA. 35+65) & STA. 38+50 TO STA. 40+00. DISPOSAL SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF 2104, 2105, AND AS APPROVED BY THE ENGINEER.

(7) MAINTAINED

(8) SEE SHEET 16 FOR LOCATION & SHEET 19 FOR DETAILS.

(9) TURF ESTABLISHMENT SHALL INCLUDE ALL AREAS DISTURBED BY CONSTRUCTION AND CONSISTS OF SEED MIXTURE NO. 50B, 50 LB/ACRE, SEED MIXTURE NO. 110B, 100 LB/ACRE, MULCH MATERIAL, TYPE 1 AT 2 TONS/ACRE AND COMMERCIAL FERTILIZER ANALYSIS 12–12–12, 200 LB/ACRE ON ALL SEEDED AREAS.

AS-BUILT
OCT 07 2003
ENGINEERING

STANDARD PLATES

PLATE NO.	DESCRIPTION
3040 F	CORRUGATED METAL PIPE CULVERT
3123 J	METAL APRON FOR C.S. PIPE
3124 B	METAL APRON CONNECTION
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
8000 I	STANDARD BARRICADES
9000 C	APPROACHES & ENTRANCES

THE ABOVE STANDARD PLATES, APPROVED BY THE F.H.W.A., SHALL APPLY ON THIS PROJECT.

WARNING: DIAL GOPHER STATE ONE CALL AT 1–800–252–1166 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS TO OBTAIN COMPLETE UTILITY PROPERTY OWNERSHIP AND LOCATION INFORMATION.

BASIS FOR PLAN QUANTITIES

2105 COMMON EXCAVATION QUANTITY INCLUDES 164 CU. YDS. OF TOPSOIL (BASED ON A 3" THICKNESS).

2105 140% SHRINKAGE FACTOR USED FOR EMBANKMENT CONSTRUCTION.

CONSTRUCTION NOTES

SELECTED GRADING MATERIALS SHALL BE USED FOR ALL EMBANKMENT CONSTRUCTION AND SHALL CONSIST OF ALL SOILS ENCOUNTERED EXCEPT TOPSOILS, HIGHLY ORGANIC SOILS, DEBRIS, AND OTHER UNSUITABLE MATERIALS.

IF SELECTED GRADING MATERIAL IS NOT AVAILABLE OR CANNOT BE OBTAINED FROM THE ONSITE EXCAVATIONS, BORROW MATERIAL SHALL BE FURNISHED FROM SOURCES SELECTED BY THE CONTRACTOR AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO BEING DELIVERED TO THE PROJECT.

THE DENSITY OF THE SUBGRADE AND THE AGGREGATE SURFACE SHALL BE THAT ATTAINED BY THE METHOD OF QUALITY COMPACTION IN ACCORDANCE WITH THE REQUIREMENTS OF 2105.3F2.

ALL DIMENSIONS AND SLOPES SHOWN IN THE TYPICAL SECTION ARE APPROXIMATE.

NATURAL TOPSOIL SHALL BE SALVAGED FROM ALL AREAS DISTURBED BY CONSTRUCTION AND PLACED ON ALL CONSTRUCTED SLOPES AND DITCH BOTTOMS WITH A DEPTH OF NOT LESS THAN 3". THE CONTRACTOR WILL BE REQUIRED TO TRANSPORT TOPSOIL TO SIDE ROADS AND ENTRANCE AREAS FOR STORAGE DURING GRADING. THE SALVAGING, TRANSPORTING AND PLACING OF TOPSOIL WILL BE INCIDENTAL TO THE COMMON EXCAVATION PAY ITEM.

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

Ronald Benson RONALD BENSON

DATE: 1/17/03 LIC. NO. 22737

PLANS PREPARED BY:

ERICKSON ENGINEERING
9330 JAMES AVE. SOUTH
BLOOMINGTON, MN 55431

TWP. RD. 115 OLMSTED COUNTY
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55574
APPROACH GRADING

ESTIMATED QUANTITIES & CONSTRUCTION NOTES

S.A.P. 55–599–62	NBB
SHEET 15 OF 20 SHEETS	CGD

MAGNETIC

move to STA 33+10

No. Culvert

STA. 33+45 RECONSTRUCT FIELD ENTRANCE
18.0' WIDE, 1:6 INSLOPES
~~REMOVE EXISTING 18' LONG CULVERT~~
INSTALL 24" CS PIPE, 66' LONG, WITH GS APRONS.
INLET EL. 1155.3, OUTLET EL. 1154.1

BEGIN 60' TEMP. EASEMENT
STA. 33+80

EXIST. BR. L6205①

SOUTH FORK ZUMBRO RIVER

END 60' TEMP. EASEMENT
STA. 36+00

EXIST. TWP. RD. 115

PROP. ℄ TWP. RD. 115

EXIST. & PROP. R/W = 33'

BOP = 30+00.00

51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00

EOP = 40+00.00

EXIST. & PROP. R/W = 33'

STA. 39+50 RECONSTRUCT FIELD ENTRANCE
25.0' WIDE, 1:6 INSLOPES
INSTALL 12" CS PIPE, 46' LONG, WITH GS APRONS.
INLET EL. 1156.4, OUTLET EL. 1156.3

PLACE SILT FENCE AT TOE OF INSLOPE

END 60' TEMP. EASEMENT
STA. 36+00

BEGIN 60' TEMP. EASEMENT
STA. 33+80

FLOW

PROP. BR. 55574

EXIST. BR. L6204

B.M. EL. 1156.76 (M.S.L. 1929 Adj.)
LOCATION: CHISELED 'X' TOP SOUTHEAST CORNER HEADWALL BR. L6204

PLAN SCALE
0 50' 100'

UTILITY INFORMATION

WARNING:
DIAL GOPHER STATE ONE CALL AT 1-800-252-1166
48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS
TO OBTAIN COMPLETE UTILITY PROPERTY OWNERSHIP
AND LOCATION INFORMATION.

UTILITY INFO AVAILABLE FOR PLAN PREPARATION:
KASSON MANTORVILLE TELEPHONE (BURIED) 507-634-2511

NOTE:
FIELD VERIFY ALL UTILITIES.

NOTE: FINISHED GRADE = GRADING GRADE + 0.50'

① BACKFILL AT EXIST. BR. L6205 INCLUDED IN BRIDGE PORTION OF CONTRACT (PARTICIPATING ITEMS). SEE NOTES ON SHEET 13.

1180 1175 1170 1165 1160 1155 1150 1145 1140

BOP STA = 30+00.00
BOP EL = 1161.88

PVC STA = 30+40.00
PVC EL = 1161.19

PVI STA = 31+00.00
PVI EL = 1160.46

PVT STA = 31+60.00
PVT EL = 1160.67

PVI STA = 34+00.00 (NO CURVE)
PVI EL = 1161.50

BEG. OF DECK
STA = 34+29.97
EL = 1161.91

END OF DECK
STA = 35+50.03
EL = 1161.55

PVI STA = 36+00.00 (NO CURVE)
PVI EL = 1160.90

PVI STA = 39+00.00 (NO CURVE)
PVI EL = 1159.15

PROPOSED GRADING GRADE

-1.22% +0.347% -0.30% -0.583% 0.00%

CURVE LENGTH = 120
M = +0.24

① PROPOSED GRADING ~ EXISTING

PROPOSED BR. 55574

EXISTING GRADE

CHANNEL BTM. EL. 1148.8

EOP STA = 40+00.00
EOP EL = 1159.15

30+00	31+00	32+00	33+00	34+00	35+00	36+00	37+00	38+00	39+00	40+00
1161.68 / 1162.18	1160.69 / 1160.96	1160.81 / 1159.48	1161.15 / 1157.97	1161.50 / 1156.64	1161.20 / 1155.93	1160.90 / 1156.09	1160.32 / 1156.19	1159.73 / 1157.33	1159.15 / 1159.22	1159.15 / 1159.65

PROFILE SCALE
10' 0
0 100'

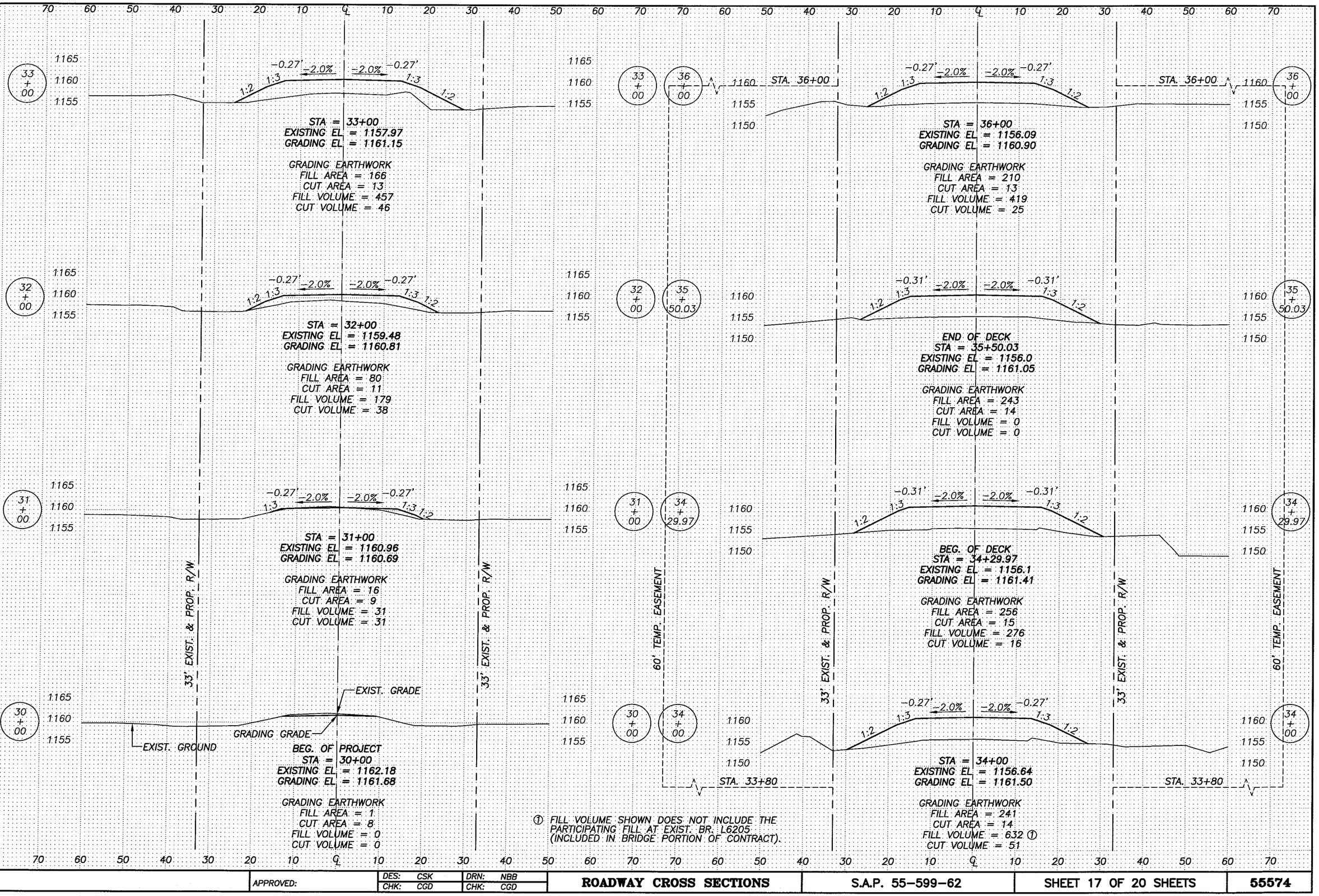
AS-BUILT
OCT 07 2003
ENGINEERING

CERTIFIED BY: Ronald Benson LIC. NO. 22737 1/17/2003
PROFESSIONAL ENGINEER/RONALD BENSON

APPROVED:

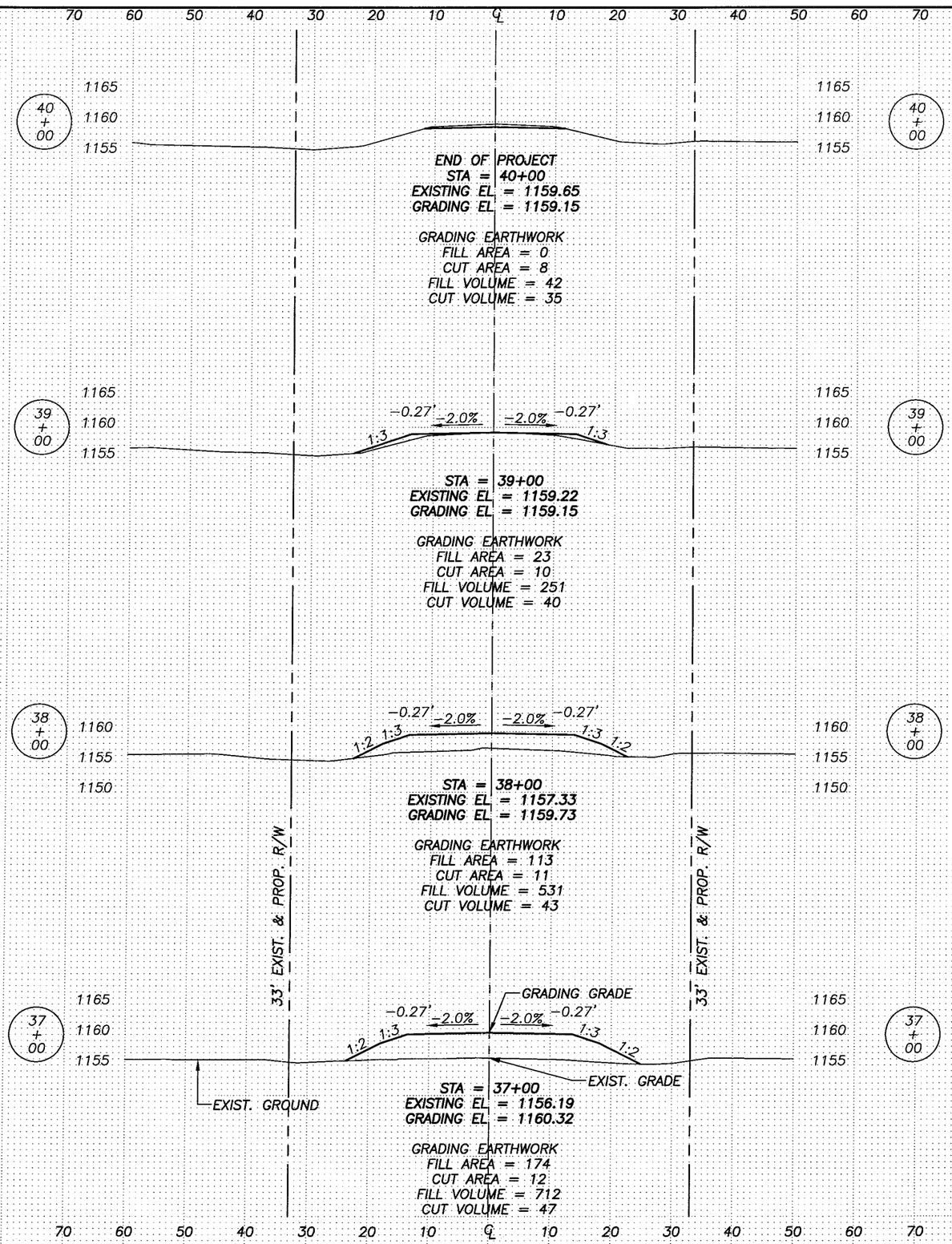
DES: CSK	DRN: NBB
CHK: CGD	CHK: CGD

S.A.P. 55-599-62 | SHEET 16 OF 20 SHEETS | PLAN & PROFILE | 55574

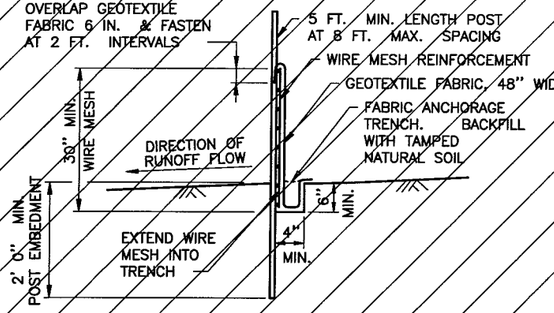


① FILL VOLUME SHOWN DOES NOT INCLUDE THE PARTICIPATING FILL AT EXIST. BR. L6205 (INCLUDED IN BRIDGE PORTION OF CONTRACT).

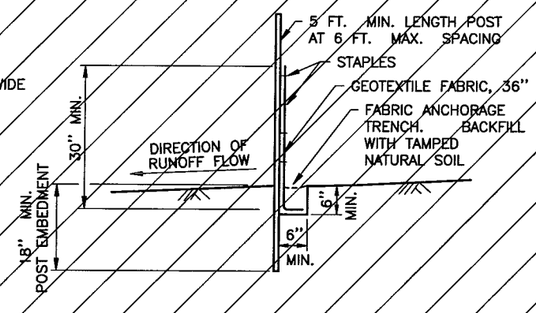
	APPROVED:	DES: CSK CHK: CGD	DRN: NBB CHK: CGD	**ROADWAY CROSS SECTIONS**	S.A.P. 55-599-62	SHEET 17 OF 20 SHEETS	**55574**



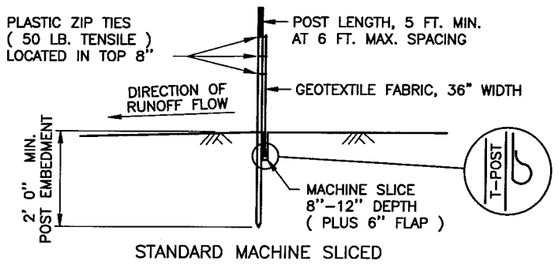
APPROVED:	DES: CSK CHK: CGD	DRN: NBB CHK: CGD	**ROADWAY CROSS SECTIONS**	S.A.P. 55-599-62	SHEET 18 OF 20 SHEETS	55574



HEAVY DUTY



PREASSEMBLED

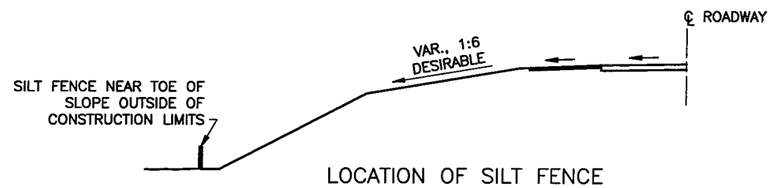


STANDARD MACHINE SLICED

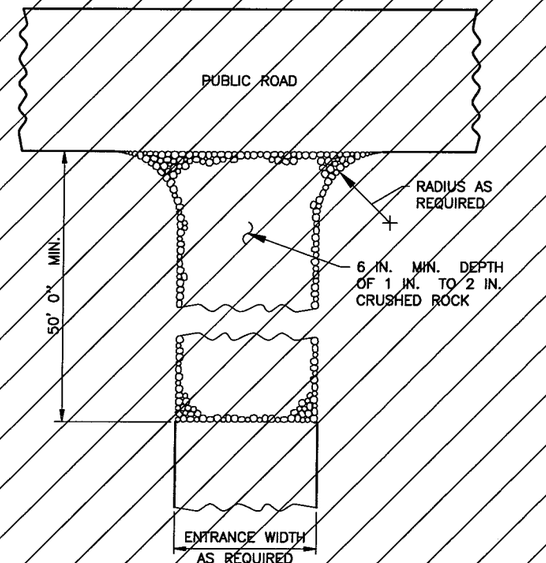
SILT FENCE DETAILS

TO PROTECT AREAS FROM SHEET FLOW
(SEE SPEC. 3886)

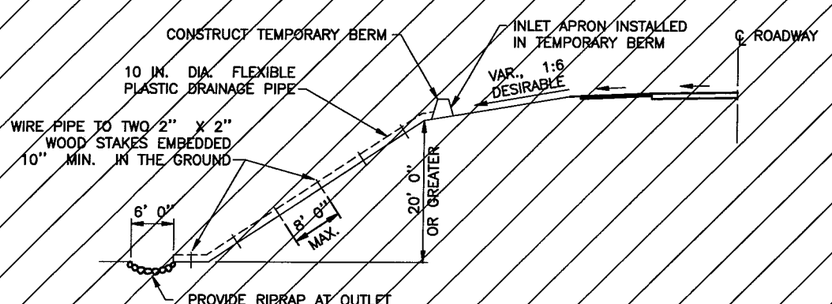
DESIGN GUIDELINES:
MAXIMUM CONTRIBUTING AREA: 3 ACRES



LOCATION OF SILT FENCE
AT TOE OF ROADWAY EMBANKMENT

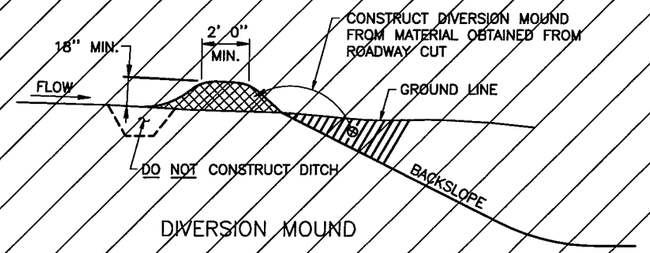


ROCK CONSTRUCTION ENTRANCE ①



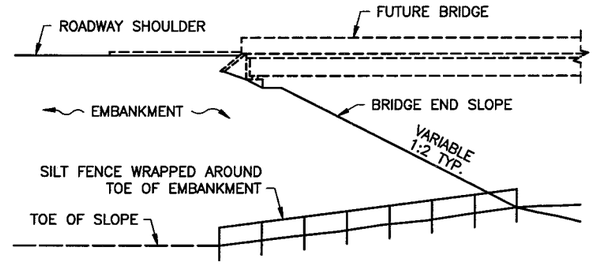
TEMPORARY DRAIN ON FILL SLOPE

DESIGN GUIDELINES:
STORM FREQUENCY: 2 YEAR – 24 HOUR
MAXIMUM DRAINAGE AREA: 3 ACRES



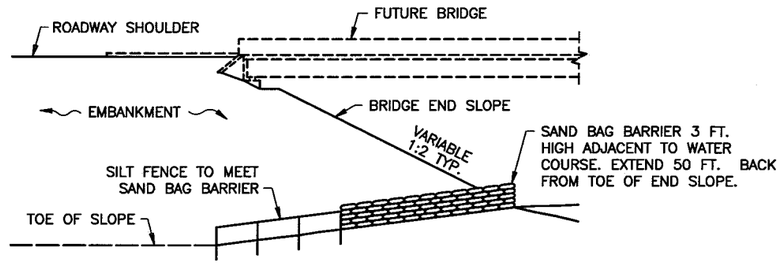
DIVERSION MOUND

DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR – 24 HOUR
MAXIMUM DRAINAGE AREA: 5 ACRES
MAXIMUM DIVERSION: GRADE 5%



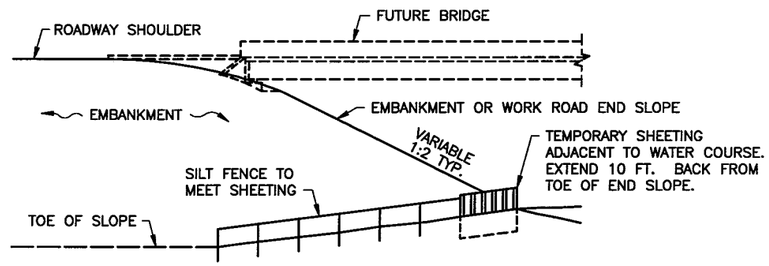
BRIDGE FILL

DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: STAGNANT
CONTRIBUTING SLOPE AREA: 1/2 ACRE



BRIDGE FILL

DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1 ACRE



EMBANKMENT OR WORK ROAD FILL

DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES

SILT FENCE AT BRIDGE EMBANKMENT

NOTES:
SEE SPECS. 2573 & 3886.
① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE DRIVING ON MAIN ROAD. THIS WILL PREVENT AUTO DAMAGE. WE NEED TO KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS.

CERTIFIED BY: Ronald Benson
PROFESSIONAL ENGINEER/RONALD BENSON
LIC. NO. 22737 1/17/ 2003

STANDARD SHEET NO. 5-297.405 (2 OF 4)
STANDARD APPROVED: JULY 30, 2001

TITLE: TEMPORARY EROSION CONTROL

STATE AID PROJECT NO. 55-599-62 | SHEET NO. 19 OF 20 SHEETS | 55574

NOTES:

ALL COSTS INCURRED FOR MATERIALS, INSTALLATION, AND MAINTENANCE OF TRAFFIC CONTROL AS SHOWN ON THIS SHEET, AND RELATED WORK DURING CONSTRUCTION, SHALL BE INCLUDED IN PRICE BID FOR ITEM "TRAFFIC CONTROL".

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, REVISION 10, DATED JANUARY 2001, AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS (FIELD MANUAL) DATED JANUARY 2001.

BARRICADE PLACEMENT TO BE DETERMINED IN THE FIELD SO AS NOT TO OBSTRUCT VISION TO OR FROM ROADWAY ENTRANCES.

ALL INSTALLATIONS REQUIRING POSTS SHALL BE A "U" CHANNEL TYPE MINIMUM WEIGHT PER FOOT – 2.75 lbs.

ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

TRAFFIC CONTROL DEVICES

ITEM	DESIGN NUMBER	F&I BY CONTRACTOR	SIZE	REMARKS
BARRICADES, TYPE III		10		
FLASHERS (TYPE A)		18		
ROAD CLOSED TO THRU...	R11-4	4	60" x 30"	LETTERING ~ BLACK ON WHITE
BRIDGE CLOSED	R11-2A	2	48" x 30"	LETTERING ~ BLACK ON WHITE
BRIDGE CLOSED AHEAD	W20-X4	2	48" x 48"	LETTERING ~ BLACK ON ORANGE



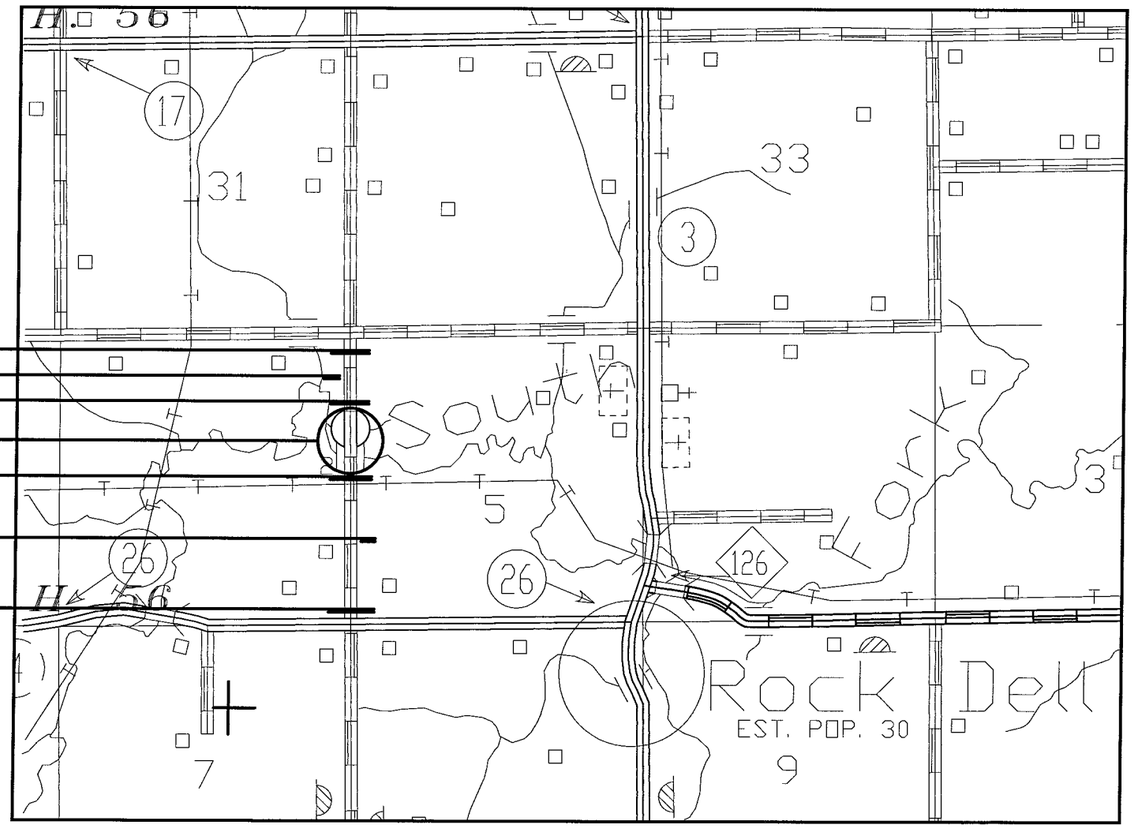
DETAIL "A"

NOTE: SETUP OF DETAIL "A" SHALL PREVENT THE PASSAGE OF ANY VEHICLE TO THE BRIDGE LOCATION BEGINNING WHEN BRIDGE L6204 OR L6205 IS REMOVED.



DETAIL "B"

NOTE: FOR SETUP OF DETAIL "B" PLACE ONE BARRICADE ON EACH SIDE OF ROAD, ALLOWING THE PASSAGE OF A SINGLE VEHICLE ONLY.





DETAIL "C"

CERTIFIED BY Ronald Benson
PROFESSIONAL ENGINEER/RONALD BENSON

LIC. NO. 22737 1/17/2003

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55574
TRAFFIC CONTROL

APPROVED:

S.A.P. 55-599-62	DRN.: NBB
SHEET 20 OF 20 SHEETS	CHK.: CGD