Bench Mark: Sta. 5+698.96, 0.000 offset. Elev. 142.512.

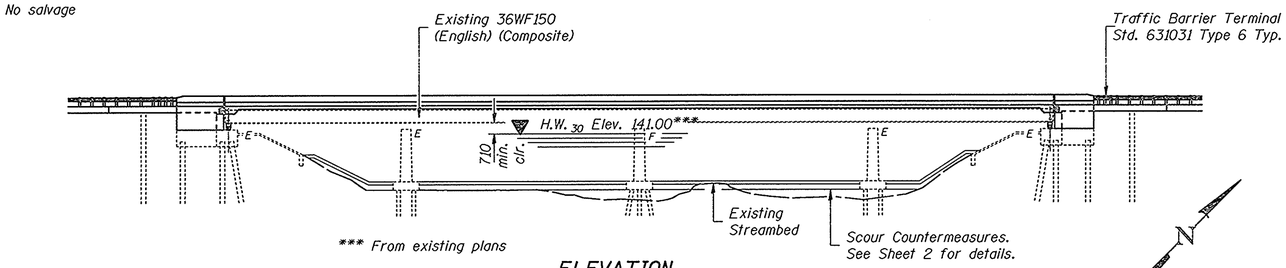
Existing Structure: S.N. 006-0083 Built in 1965 as S.B.I. Rte. 29, Section 22B-1, at Sta. 5+955.600.
Existing structure consists of a 4-span reinforced concrete deck on steel WF stringers supported on concrete pile bent spill thru abutments and timber pile supported solid piers. 93.954 m Bk.-Bk. abuts. varies 11.411 m to 10.973 m O.-O. deck. Concrete deck to be removed and replaced.
One lane of traffic to be maintained utilizing stage construction.

No salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

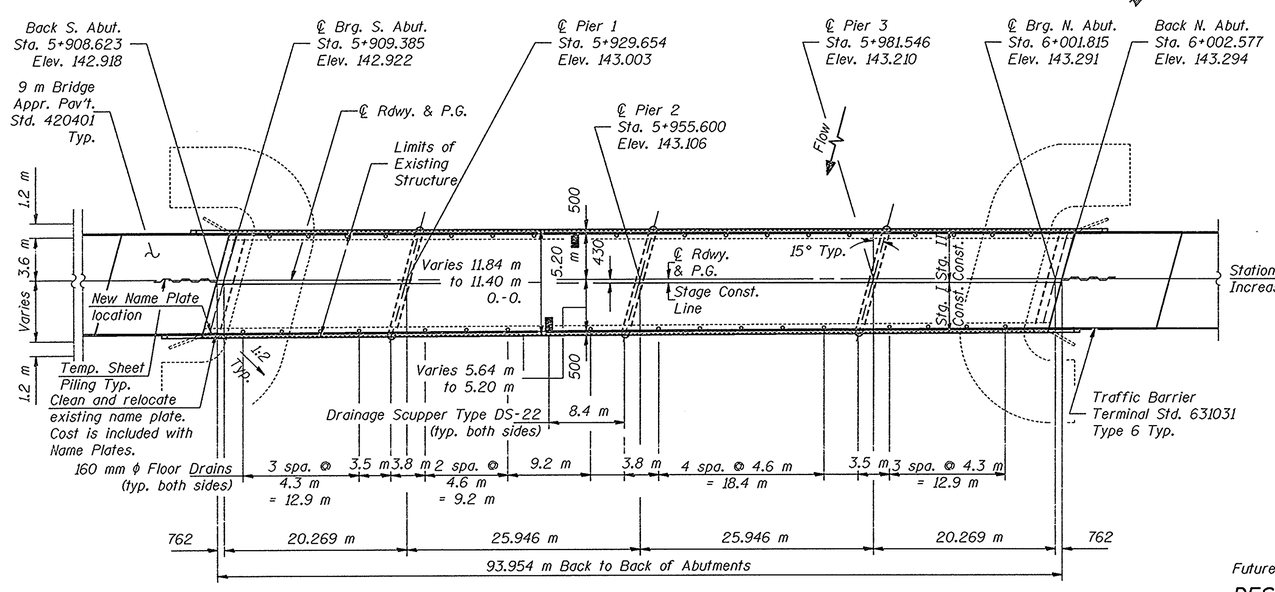
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	11
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
26 SHEETS

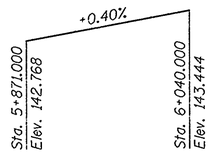


*** From existing plans

ELEVATION



PLAN



PROFILE GRADE
(along P.G.)

DESIGNED	Eric J. Carlson
CHECKED	Curtis M. Ervog
DRAWN	W.D.C. / M.B.M.
CHECKED	E.J.C. / C.M.E.

November 18, 1999
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
RALPH E. ANDERSON
081-004625
SPRINGFIELD
LICENSED STRUCTURAL ENGINEER

EXPIRES 11-30-2000

STATION 5+955.600
REBUILT 200 BY
STATE OF ILLINOIS
F.A.S. RT. 2245 - SECT. 22B-1D
F.A. PROJECT:
LOADING MS18
STR. NO. 006-0083

NAME PLATES
See Std. 515001.

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts M20, open holes 22 mm ϕ, unless otherwise noted.
Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
Anchor bolts shall be set before bolting diaphragms over supports.
Reinforcement bars shall conform to the requirements of AASHTO M 31M, M 42M or M 53M Grade 400.
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
Prior to pouring the new concrete for the deck, all loose rust, loose mill scale and all other loose, detrimental foreign material shall be removed from the existing shear studs and from the portions of flanges of beams in contact with concrete. The removal shall be accomplished with appropriate hand tools. Cost shall be included with Removal of Existing Concrete Deck.
All dimensions are in millimeters (mm) except as noted.
The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.
Field painting of structural steel shall be done under a separate painting contract.
All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M 300, Type 1.
Existing structural steel shall only be cleaned as required by the Special Provision Cleaning and Painting Adjacent Areas of Existing Steel Structures.
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 3 mm. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 3 mm adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
	Removal of Existing Concrete Deck	Each	1		1
	Floor Drains	Each	34		34
	Elastomeric Bearing Assembly, Type II	Each	12		12
	Stud Shear Connectors	Each	2382		2382
	Jack and Remove Existing Bearings	Each	12		12
	Name Plates	Each	1		1
*	Wire Enclosed Riprap, Class A4	m^2		1297	1297
	Stone Riprap, Class A5	m^2		1014	1014
	Filter Fabric for use with Riprap	m^2		1014	1014
**	Protective Coat	m^2	1212		1212
	Concrete Removal	m^3		23.8	23.8
	Structure Excavation	m^3		56	56
	Neoprene Expansion Joint, 50 mm	m	22.0		22.0
	Concrete Structures	m^3		28.7	28.7
	Concrete Superstructure	m^3	286.0		286.0
	Bridge Deck Grooving	m^2	930		930
	Furnishing and Erecting Structural Steel	kg	2360		2360
	Structural Steel Removal	kg	1410		1410
	Reinforcement Bars, Epoxy Coated	kg	42090	2660	44750
	Temporary Sheet Piling	m^2		45.5	45.5
	Bar Splicers	Each	898		898
	Drainage Scuppers	Each	2		2
	Quarry Run Granular Embankment	m^3		103	103

* See Special Provisions.
** Quantity includes deck surface, top and inside surface of parapets and top and inside face of wingwalls.

LOADING MS18
Future Wearing Surface not allowed.

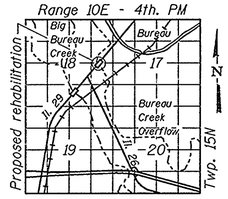
DESIGN SPECIFICATIONS
1996 AASHTO with 1997 and 1998 Interims
1995 Seismic Retrofitting Guidelines for Highway Bridges FHWA/RD-94/052

DESIGN STRESSES

Existing Structure
f_c = 10 MPa
f_s = 140 MPa (reinforcement)
f_y = 250 MPa (structural steel)
v = 520 kPa (footings)

New Construction
f_y = 400 MPa (reinforcement)
f'_c = 24 MPa
f_y = 250 MPa (structural steel AASHTO M 270M, grade 250)

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.038g
Site Coefficient (S) = 1.2



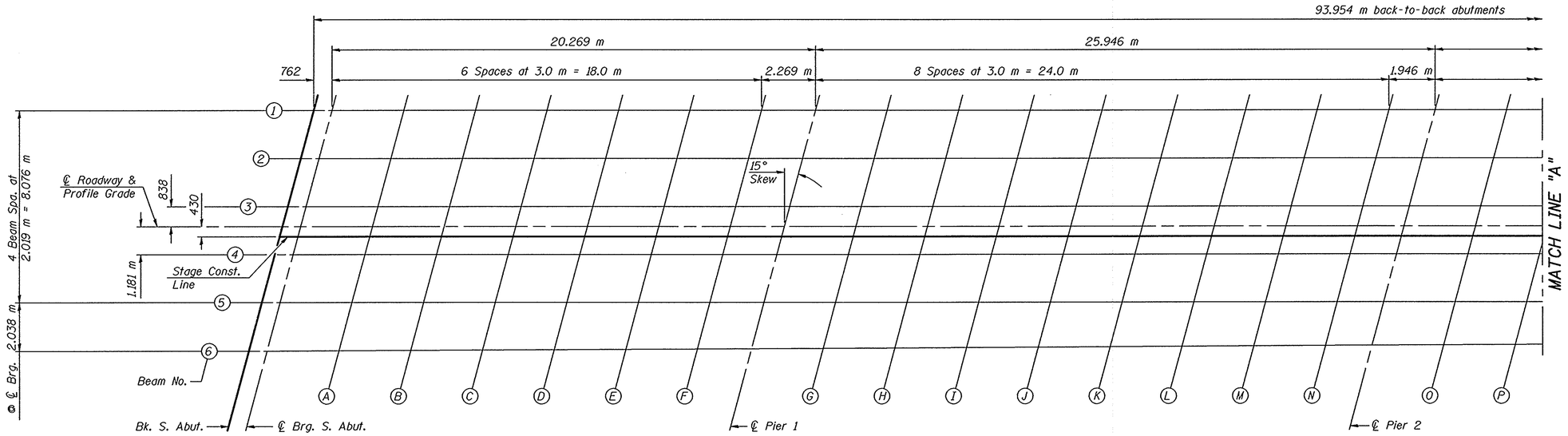
LOCATION SKETCH

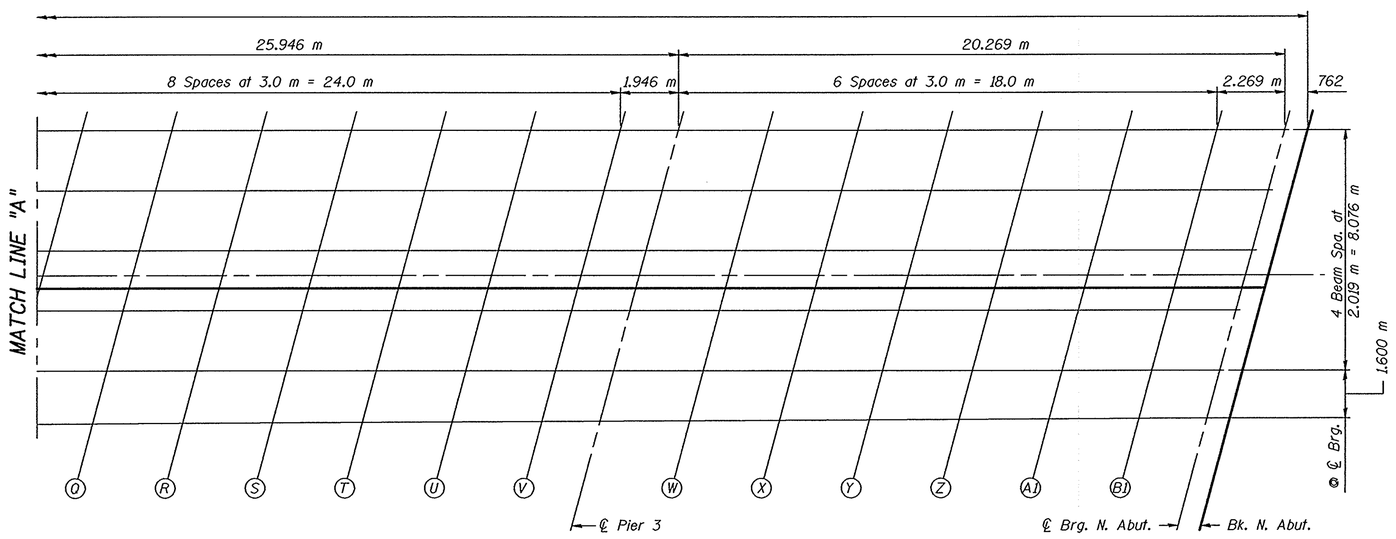
GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 26 AND 29 OVER
BIG BUREAU CREEK OVERFLOW
F.A.S. ROUTE 2245 - SECTION 22B-1D
BUREAU COUNTY
STATION 5+955.600
STRUCTURE NO. 006-0083

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	15
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 5
26 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





PLAN

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

November 18, 1999

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 6
26 SHEETS

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	5+909.930	-4.877	142.846	142.846
CL. BRG. S. ABUT.	5+910.692	-4.877	142.849	142.849
A	5+913.692	-4.877	142.861	142.867
B	5+916.692	-4.877	142.873	142.883
C	5+919.692	-4.877	142.885	142.896
D	5+922.692	-4.877	142.897	142.906
E	5+925.692	-4.877	142.909	142.915
F	5+928.692	-4.877	142.921	142.924
CL. PIER 1	5+930.961	-4.877	142.931	142.931
G	5+933.961	-4.877	142.943	142.947
H	5+936.961	-4.877	142.955	142.963
I	5+939.961	-4.877	142.967	142.978
J	5+942.961	-4.877	142.979	142.993
K	5+945.961	-4.877	142.991	143.003
L	5+948.961	-4.877	143.003	143.012
M	5+951.961	-4.877	143.015	143.021
N	5+954.961	-4.877	143.027	143.029
CL. PIER 2	5+956.907	-4.877	143.034	143.034
O	5+959.907	-4.877	143.046	143.050
P	5+962.907	-4.877	143.058	143.066
Q	5+965.907	-4.877	143.070	143.081
R	5+968.907	-4.877	143.082	143.096
S	5+971.907	-4.877	143.094	143.107
T	5+974.907	-4.877	143.106	143.117
U	5+977.907	-4.877	143.118	143.125
V	5+980.907	-4.877	143.130	143.133
CL. PIER 3	5+982.853	-4.877	143.138	143.138
W	5+985.853	-4.877	143.150	143.153
X	5+988.853	-4.877	143.162	143.168
Y	5+991.853	-4.877	143.174	143.184
Z	5+994.853	-4.877	143.186	143.196
A1	5+997.853	-4.877	143.198	143.207
B1	6+000.853	-4.877	143.210	143.214
CL. BRG. N. ABUT.	6+003.122	-4.877	143.219	143.219
BK. OF N. ABUT.	6+003.884	-4.877	143.222	143.222

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	5+909.389	-2.858	142.879	142.879
CL. BRG. S. ABUT.	5+910.151	-2.858	142.882	142.882
A	5+913.151	-2.858	142.894	142.899
B	5+916.151	-2.858	142.906	142.915
C	5+919.151	-2.858	142.918	142.928
D	5+922.151	-2.858	142.930	142.939
E	5+925.151	-2.858	142.942	142.947
F	5+928.151	-2.858	142.954	142.956
CL. PIER 1	5+930.420	-2.858	142.963	142.963
G	5+933.420	-2.858	142.975	142.979
H	5+936.420	-2.858	142.987	142.995
I	5+939.420	-2.858	142.999	143.010
J	5+942.420	-2.858	143.011	143.025
K	5+945.420	-2.858	143.023	143.036
L	5+948.420	-2.858	143.035	143.044
M	5+951.420	-2.858	143.047	143.053
N	5+954.420	-2.858	143.059	143.061
CL. PIER 2	5+956.366	-2.858	143.067	143.067
O	5+959.366	-2.858	143.079	143.082
P	5+962.366	-2.858	143.091	143.098
Q	5+965.366	-2.858	143.103	143.113
R	5+968.366	-2.858	143.115	143.129
S	5+971.366	-2.858	143.127	143.140
T	5+974.366	-2.858	143.139	143.149
U	5+977.366	-2.858	143.151	143.157
V	5+980.366	-2.858	143.163	143.165
CL. PIER 3	5+982.312	-2.858	143.170	143.170
W	5+985.312	-2.858	143.182	143.185
X	5+988.312	-2.858	143.194	143.200
Y	5+991.312	-2.858	143.206	143.216
Z	5+994.312	-2.858	143.218	143.229
A1	5+997.312	-2.858	143.230	143.239
B1	6+000.312	-2.858	143.242	143.246
CL. BRG. N. ABUT.	6+002.581	-2.858	143.251	143.251
BK. OF N. ABUT.	6+003.343	-2.858	143.255	143.255

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	5+908.848	-0.839	142.907	142.907
CL. BRG. S. ABUT.	5+909.610	-0.839	142.910	142.910
A	5+912.610	-0.839	142.922	142.927
B	5+915.610	-0.839	142.934	142.943
C	5+918.610	-0.839	142.946	142.956
D	5+921.610	-0.839	142.958	142.967
E	5+924.610	-0.839	142.970	142.975
F	5+927.610	-0.839	142.982	142.984
CL. PIER 1	5+929.879	-0.839	142.991	142.991
G	5+932.879	-0.839	143.003	143.007
H	5+935.879	-0.839	143.015	143.023
I	5+938.879	-0.839	143.027	143.038
J	5+941.879	-0.839	143.039	143.053
K	5+944.879	-0.839	143.051	143.064
L	5+947.879	-0.839	143.063	143.073
M	5+950.879	-0.839	143.075	143.081
N	5+953.879	-0.839	143.087	143.089
CL. PIER 2	5+955.825	-0.839	143.095	143.095
O	5+958.825	-0.839	143.107	143.110
P	5+961.825	-0.839	143.119	143.126
Q	5+964.825	-0.839	143.131	143.141
R	5+967.825	-0.839	143.143	143.157
S	5+970.825	-0.839	143.155	143.168
T	5+973.825	-0.839	143.167	143.177
U	5+976.825	-0.839	143.179	143.186
V	5+979.825	-0.839	143.191	143.193
CL. PIER 3	5+981.771	-0.839	143.198	143.198
W	5+984.771	-0.839	143.210	143.213
X	5+987.771	-0.839	143.222	143.229
Y	5+990.771	-0.839	143.234	143.244
Z	5+993.771	-0.839	143.246	143.257
A1	5+996.771	-0.839	143.258	143.268
B1	5+999.771	-0.839	143.270	143.275
CL. BRG. N. ABUT.	6+002.040	-0.839	143.280	143.280
BK. OF N. ABUT.	6+002.802	-0.839	143.283	143.283

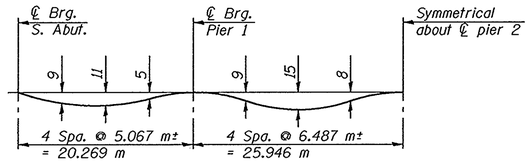
PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	5+908.623	0.000	142.918	142.918
CL. BRG. S. ABUT.	5+909.385	0.000	142.922	142.922
A	5+912.385	0.000	142.934	142.939
B	5+915.385	0.000	142.946	142.955
C	5+918.385	0.000	142.958	142.968
D	5+921.385	0.000	142.970	142.978
E	5+924.385	0.000	142.982	142.987
F	5+927.385	0.000	142.994	142.996
CL. PIER 1	5+929.654	0.000	143.003	143.003
G	5+932.654	0.000	143.015	143.019
H	5+935.654	0.000	143.027	143.035
I	5+938.654	0.000	143.039	143.050
J	5+941.654	0.000	143.051	143.065
K	5+944.654	0.000	143.063	143.075
L	5+947.654	0.000	143.075	143.084
M	5+950.654	0.000	143.087	143.093
N	5+953.654	0.000	143.099	143.101
CL. PIER 2	5+955.600	0.000	143.106	143.106
O	5+958.600	0.000	143.118	143.122
P	5+961.600	0.000	143.130	143.138
Q	5+964.600	0.000	143.142	143.153
R	5+967.600	0.000	143.154	143.168
S	5+970.600	0.000	143.166	143.180
T	5+973.600	0.000	143.178	143.189
U	5+976.600	0.000	143.190	143.197
V	5+979.600	0.000	143.202	143.205
CL. PIER 3	5+981.546	0.000	143.210	143.210
W	5+984.546	0.000	143.222	143.225
X	5+987.546	0.000	143.234	143.240
Y	5+990.546	0.000	143.246	143.256
Z	5+993.546	0.000	143.258	143.268
A1	5+996.546	0.000	143.270	143.279
B1	5+999.546	0.000	143.282	143.286
CL. BRG. N. ABUT.	6+001.815	0.000	143.291	143.291
BK. OF N. ABUT.	6+002.577	0.000	143.294	143.294

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

November 18, 1999
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600

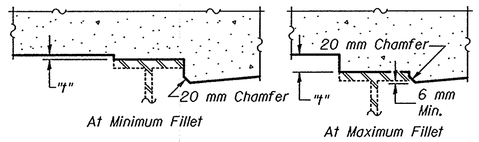


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown below and on sheet 6 of 26.
All offsets are in meters.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below and on sheet 6 of 26. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection", minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
26 SHEETS

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	5+908.508	0.430	142.912	142.912
CL. BRG. S. ABUT.	5+909.270	0.430	142.915	142.915
A	5+912.270	0.430	142.927	142.932
B	5+915.270	0.430	142.939	142.948
C	5+918.270	0.430	142.951	142.961
D	5+921.270	0.430	142.963	142.971
E	5+924.270	0.430	142.975	142.980
F	5+927.270	0.430	142.987	142.989
CL. PIER 1	5+929.539	0.430	142.996	142.996
G	5+932.539	0.430	143.008	143.012
H	5+935.539	0.430	143.020	143.028
I	5+938.539	0.430	143.032	143.043
J	5+941.539	0.430	143.044	143.058
K	5+944.539	0.430	143.056	143.069
L	5+947.539	0.430	143.068	143.077
M	5+950.539	0.430	143.080	143.086
N	5+953.539	0.430	143.092	143.094
CL. PIER 2	5+955.485	0.430	143.099	143.099
O	5+958.485	0.430	143.111	143.115
P	5+961.485	0.430	143.123	143.131
Q	5+964.485	0.430	143.135	143.146
R	5+967.485	0.430	143.147	143.161
S	5+970.485	0.430	143.159	143.173
T	5+973.485	0.430	143.171	143.182
U	5+976.485	0.430	143.183	143.190
V	5+979.485	0.430	143.195	143.198
CL. PIER 3	5+981.431	0.430	143.203	143.203
W	5+984.431	0.430	143.215	143.218
X	5+987.431	0.430	143.227	143.233
Y	5+990.431	0.430	143.239	143.249
Z	5+993.431	0.430	143.251	143.262
A1	5+996.431	0.430	143.263	143.272
B1	5+999.431	0.430	143.275	143.279
CL. BRG. N. ABUT.	6+001.700	0.430	143.284	143.284
BK. OF N. ABUT.	6+002.462	0.430	143.287	143.287

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	5+908.307	1.180	142.900	142.900
CL. BRG. S. ABUT.	5+909.069	1.180	142.903	142.903
A	5+912.069	1.180	142.915	142.920
B	5+915.069	1.180	142.927	142.936
C	5+918.069	1.180	142.939	142.949
D	5+921.069	1.180	142.951	142.959
E	5+924.069	1.180	142.963	142.968
F	5+927.069	1.180	142.975	142.977
CL. PIER 1	5+929.338	1.180	142.984	142.984
G	5+932.338	1.180	142.996	143.000
H	5+935.338	1.180	143.008	143.016
I	5+938.338	1.180	143.020	143.031
J	5+941.338	1.180	143.032	143.046
K	5+944.338	1.180	143.044	143.056
L	5+947.338	1.180	143.056	143.065
M	5+950.338	1.180	143.068	143.074
N	5+953.338	1.180	143.080	143.082
CL. PIER 2	5+955.284	1.180	143.087	143.087
O	5+958.284	1.180	143.099	143.103
P	5+961.284	1.180	143.111	143.119
Q	5+964.284	1.180	143.123	143.134
R	5+967.284	1.180	143.135	143.149
S	5+970.284	1.180	143.147	143.161
T	5+973.284	1.180	143.159	143.170
U	5+976.284	1.180	143.171	143.178
V	5+979.284	1.180	143.183	143.186
CL. PIER 3	5+981.230	1.180	143.191	143.191
W	5+984.230	1.180	143.203	143.206
X	5+987.230	1.180	143.215	143.221
Y	5+990.230	1.180	143.227	143.237
Z	5+993.230	1.180	143.239	143.249
A1	5+996.230	1.180	143.251	143.260
B1	5+999.230	1.180	143.263	143.267
CL. BRG. N. ABUT.	6+001.499	1.180	143.272	143.272
BK. OF N. ABUT.	6+002.261	1.180	143.275	143.275

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	5+907.766	3.199	142.867	142.867
CL. BRG. S. ABUT.	5+908.528	3.199	142.870	142.870
A	5+911.528	3.199	142.882	142.887
B	5+914.528	3.199	142.894	142.903
C	5+917.528	3.199	142.906	142.917
D	5+920.528	3.199	142.918	142.927
E	5+923.528	3.199	142.930	142.935
F	5+926.528	3.199	142.942	142.944
CL. PIER 1	5+928.797	3.199	142.951	142.951
G	5+931.797	3.199	142.963	142.967
H	5+934.797	3.199	142.975	142.984
I	5+937.797	3.199	142.987	142.999
J	5+940.797	3.199	142.999	143.013
K	5+943.797	3.199	143.011	143.024
L	5+946.797	3.199	143.023	143.033
M	5+949.797	3.199	143.035	143.041
N	5+952.797	3.199	143.047	143.050
CL. PIER 2	5+954.743	3.199	143.055	143.055
O	5+957.743	3.199	143.067	143.071
P	5+960.743	3.199	143.079	143.086
Q	5+963.743	3.199	143.091	143.102
R	5+966.743	3.199	143.103	143.117
S	5+969.743	3.199	143.115	143.128
T	5+972.743	3.199	143.127	143.137
U	5+975.743	3.199	143.139	143.146
V	5+978.743	3.199	143.151	143.154
CL. PIER 3	5+980.689	3.199	143.159	143.159
W	5+983.689	3.199	143.171	143.174
X	5+986.689	3.199	143.183	143.189
Y	5+989.689	3.199	143.195	143.204
Z	5+992.689	3.199	143.207	143.217
A1	5+995.689	3.199	143.219	143.228
B1	5+998.689	3.199	143.231	143.235
CL. BRG. N. ABUT.	6+000.958	3.199	143.240	143.240
BK. OF N. ABUT.	6+001.720	3.199	143.243	143.243

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	5+907.220	5.237	142.828	142.828
CL. BRG. S. ABUT.	5+907.983	5.233	142.831	142.831
A	5+910.986	5.219	142.843	142.849
B	5+913.990	5.205	142.855	142.865
C	5+916.994	5.191	142.868	142.879
D	5+919.998	5.178	142.880	142.889
E	5+923.001	5.164	142.892	142.897
F	5+926.005	5.150	142.904	142.905
CL. PIER 1	5+928.277	5.139	142.914	142.914
G	5+931.281	5.125	142.926	142.929
H	5+934.284	5.111	142.938	142.946
I	5+937.288	5.097	142.950	142.963
J	5+940.292	5.083	142.962	142.977
K	5+943.296	5.069	142.975	142.989
L	5+946.299	5.055	142.987	142.997
M	5+949.303	5.041	142.999	143.004
N	5+952.307	5.027	143.011	143.012
CL. PIER 2	5+954.255	5.018	143.019	143.019
O	5+957.259	5.004	143.031	143.034
P	5+960.263	4.990	143.044	143.051
Q	5+963.267	4.976	143.056	143.068
R	5+966.270	4.962	143.068	143.083
S	5+969.274	4.948	143.080	143.095
T	5+972.278	4.934	143.093	143.104
U	5+975.281	4.920	143.105	143.111
V	5+978.285	4.906	143.117	143.119
CL. PIER 3	5+980.234	4.897	143.125	143.125
W	5+983.238	4.883	143.137	143.139
X	5+986.241	4.869	143.149	143.156
Y	5+989.245	4.855	143.162	143.172
Z	5+992.249	4.841	143.174	143.185
A1	5+995.252	4.827	143.186	143.195
B1	5+998.256	4.813	143.198	143.203
CL. BRG. N. ABUT.	6+000.528	4.803	143.208	143.208
BK. OF N. ABUT.	6+001.291	4.799	143.211	143.211

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

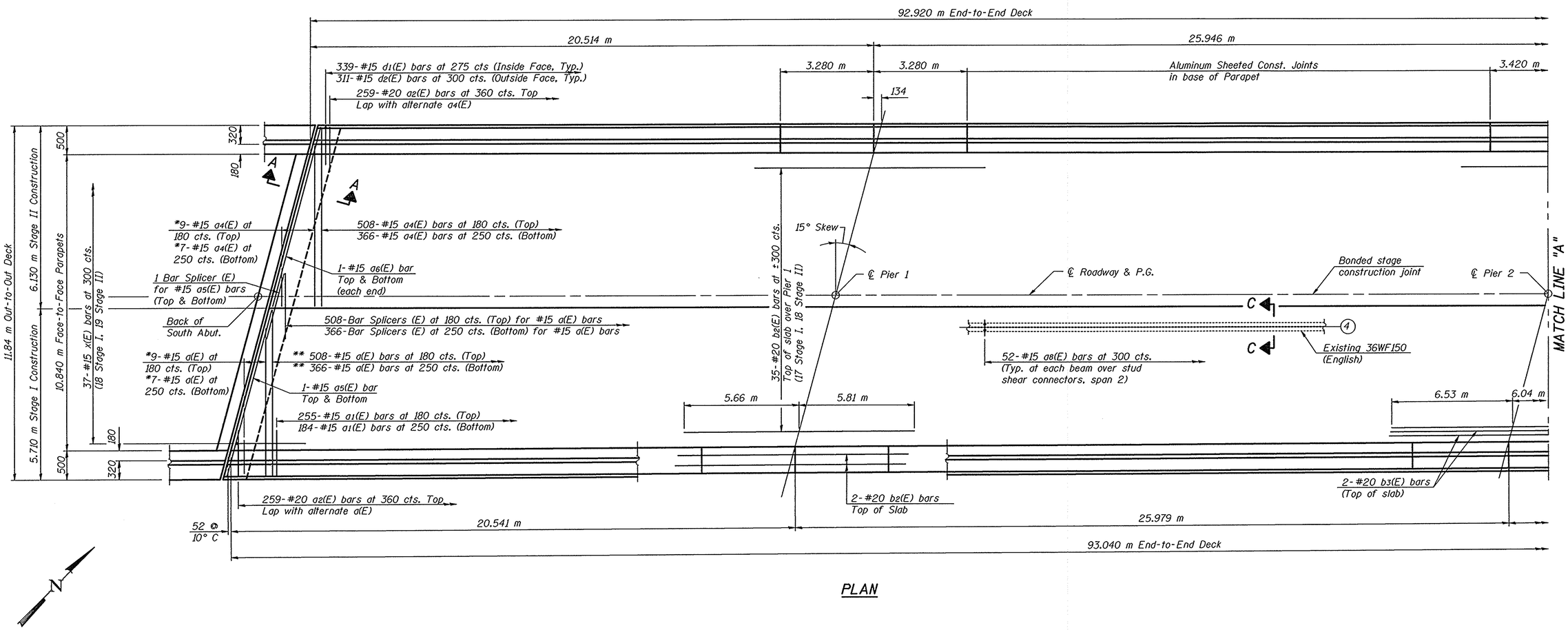
November 18, 1999
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	18
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 8
26 SHEETS



PLAN

* Order a(E) and a4(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

Notes: See Sheets 9 thru 12 of 26 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 34 x 11-#15 etc. indicates 34 lines of bars with 11 lengths per line.
See Sheets 10 and 11 of 26 for parapet reinforcement.
See Sheet 12 of 26 for Section C-C.

MINIMUM BAR LAP

#15 Bar = 510

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

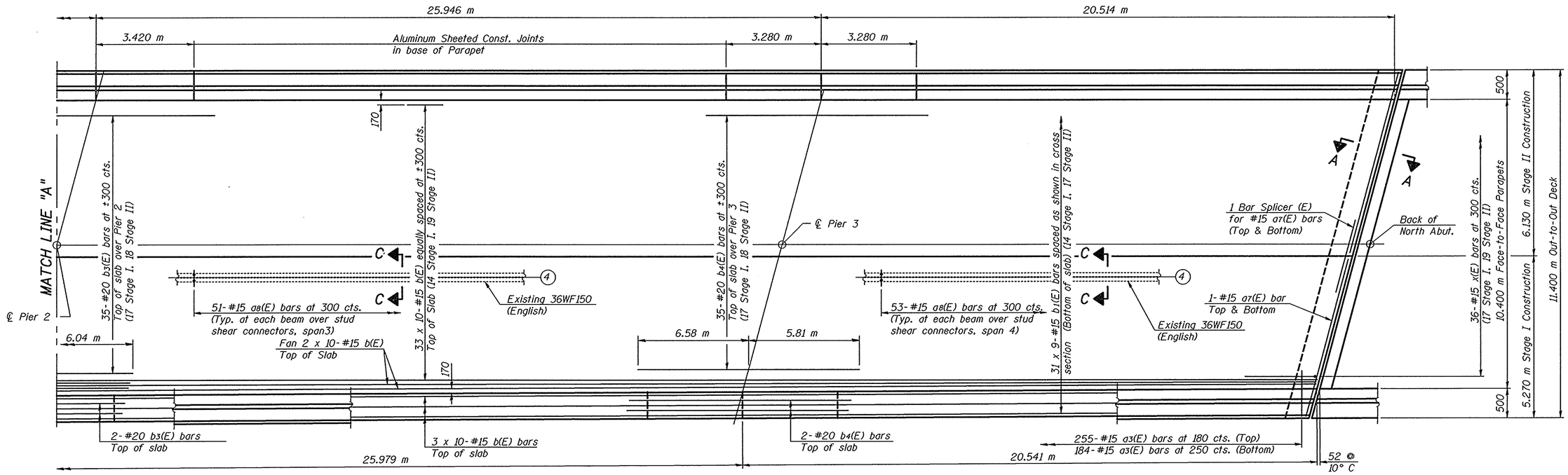
November 18, 1999
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE
F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	19
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

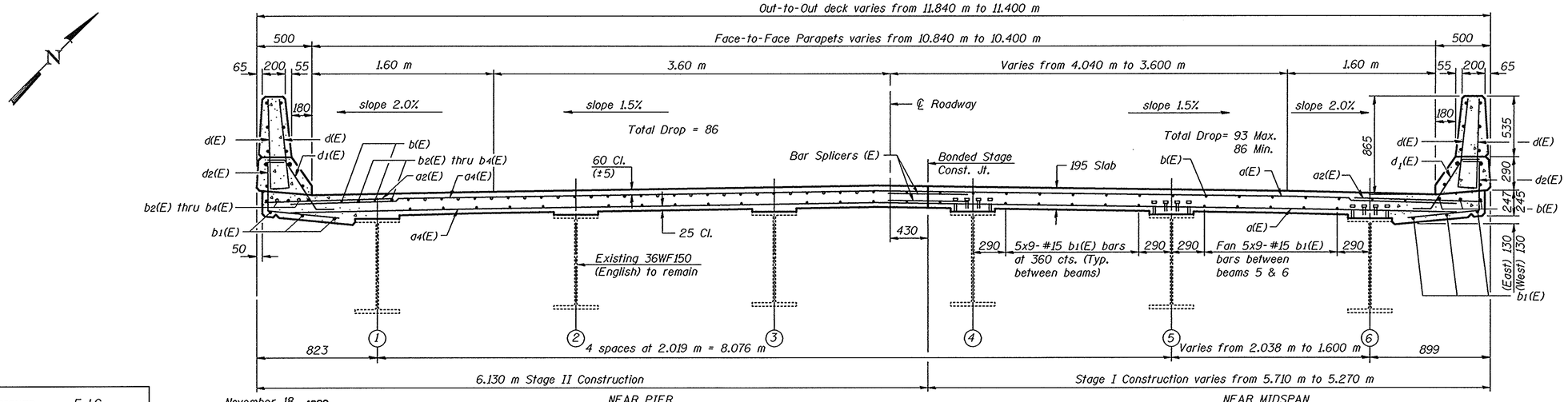
SHEET NO. 9
26 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

Note: Work this sheet with sheet 8 of 26.



NEAR PIER — NEAR MIDSPAN

CROSS SECTION
(Looking North)

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

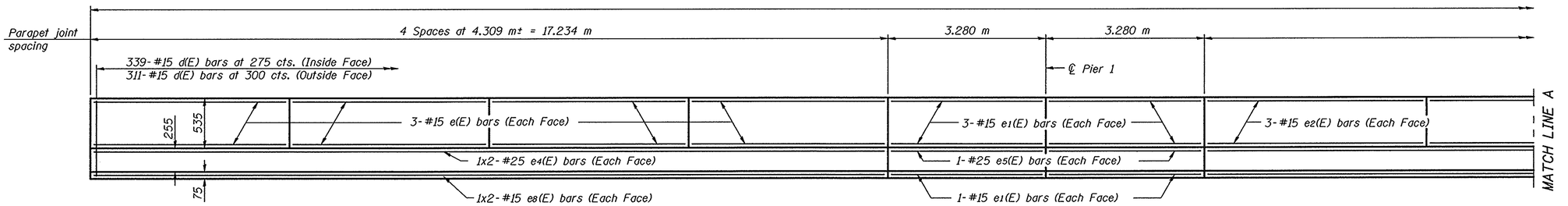
November 18, 1999
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE
F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600

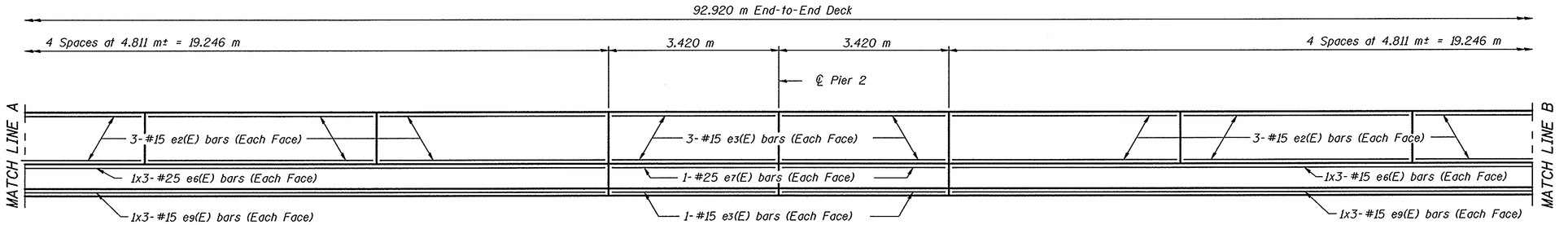
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	20
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 10
26 SHEETS

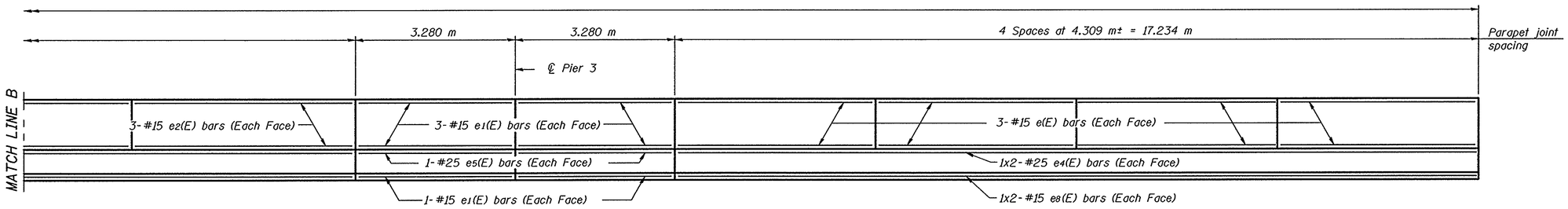
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



WEST PARAPET ELEVATION
(Inside face of West parapet, looking West)



WEST PARAPET ELEVATION
(Inside face of West parapet, looking West)



WEST PARAPET ELEVATION
(Inside face of West parapet, looking West)

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

November 18, 1999
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

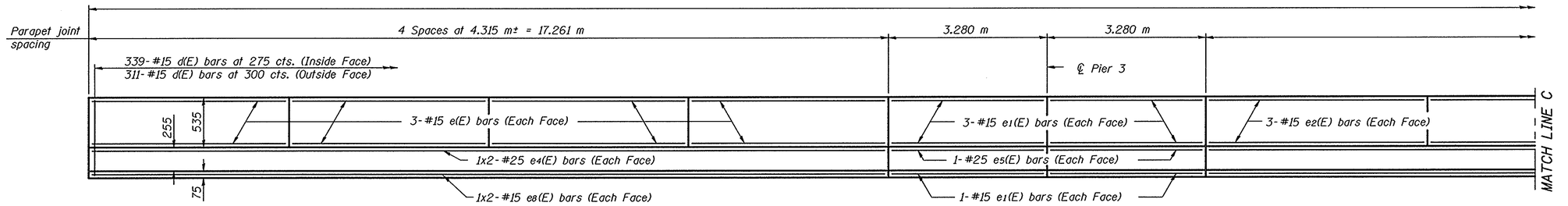
MINIMUM BAR LAP
#15 Bar = 490
#25 Bar = 1.01 m

SUPERSTRUCTURE DETAILS
F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600

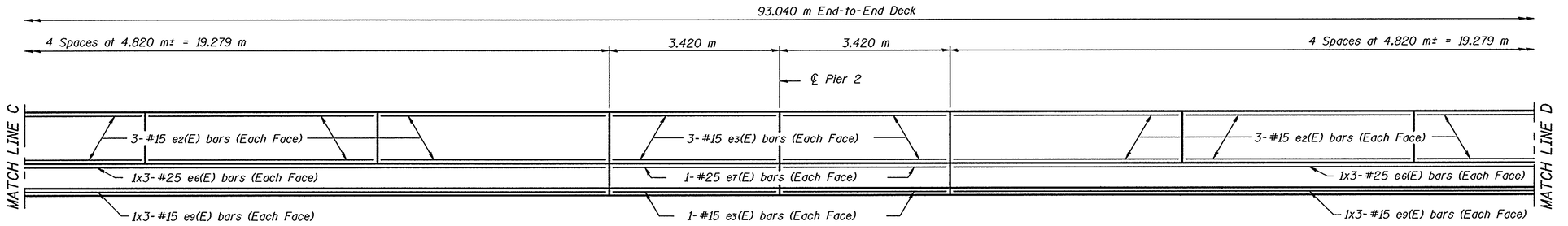
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	21
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 11
26 SHEETS

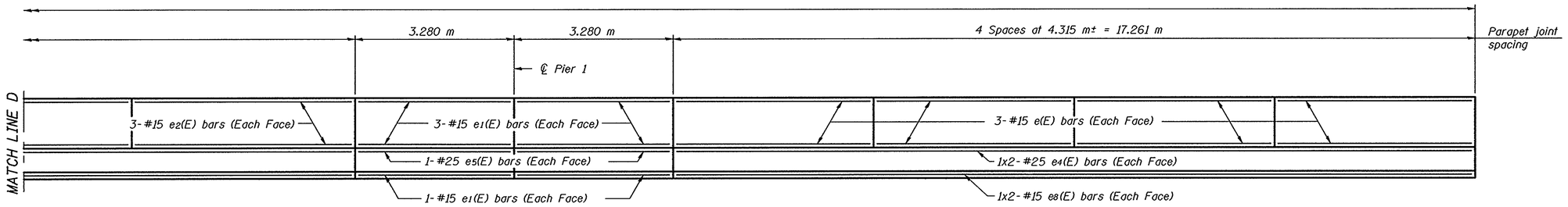
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



EAST PARAPET ELEVATION
(Inside face of East parapet, looking East)



EAST PARAPET ELEVATION
(Inside face of East parapet, looking East)



EAST PARAPET ELEVATION
(Inside face of East parapet, looking East)

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

November 18, 1999
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

MINIMUM BAR LAP
#15 Bar = 490
#25 Bar = 1.01 m

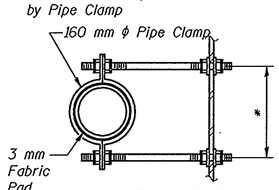
SUPERSTRUCTURE DETAILS
F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

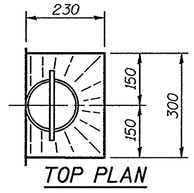
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
26 SHEETS

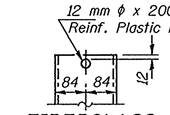
* Dimension as required by Pipe Clamp



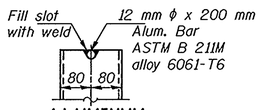
SECTION B-B



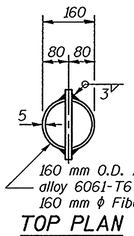
TOP PLAN



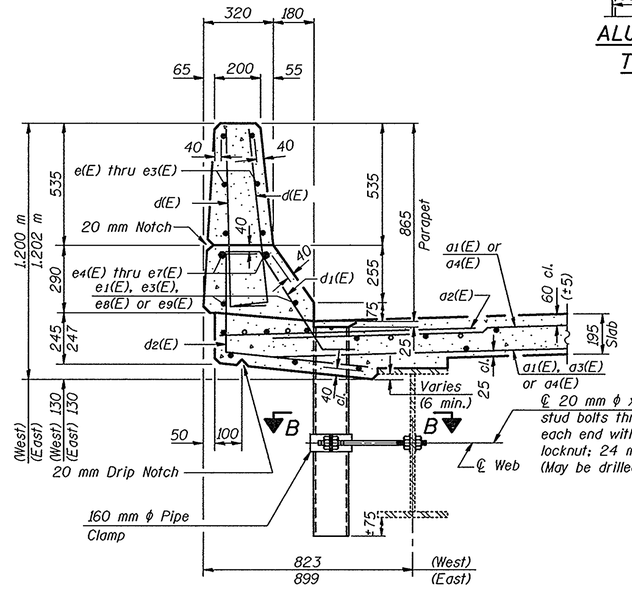
FIBERGLASS PIPE



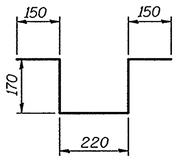
ALUMINUM TUBE



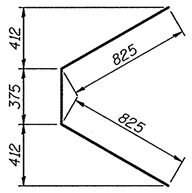
TOP PLAN
(Showing Aluminum Tube)



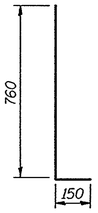
SECTION THRU PARAPET



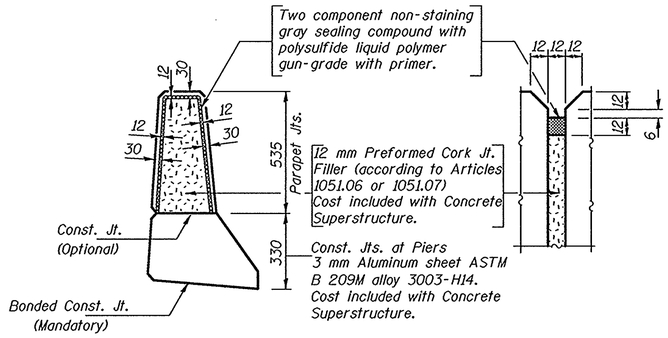
BAR a8(E)



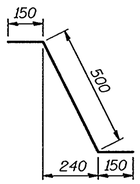
BAR a10(E)



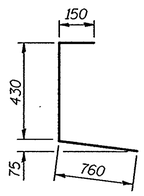
BAR d(E)



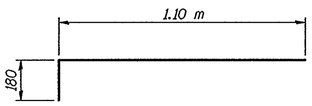
PARAPET JOINT DETAILS



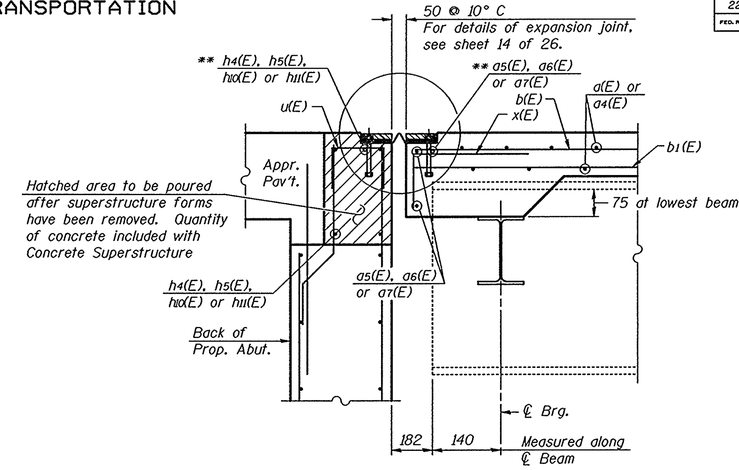
BAR d1(E)



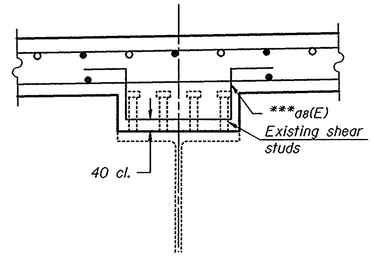
BAR d2(E)



BAR x(E)



SECTION A-A



SECTION C-C

** Place bars in back of anchor bolts as shown if required to maintain 25 mm cl. (±0-3 mm). Anchor bolts should be tied to these bars.

*** a8(E) bars shall be required at any other locations where fillet heights exceed 150 mm. Additional a8(E) bars may be required.

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
d(E)	890	#15	5.19	
a1(E)	439	#15	0.95	
a2(E)	518	#20	1.20	
a3(E)	439	#15	0.73	
a4(E)	890	#15	6.05	
a5(E)	2	#15	5.83	
a6(E)	4	#15	6.27	
a7(E)	2	#15	5.38	
a8(E)	936	#15	0.87	
a9(E)	16	#15	0.60	
a10(E)	4	#15	2.03	
b(E)	410	#15	9.75	
b1(E)	279	#15	10.77	
b2(E)	39	#20	11.47	
b3(E)	39	#20	12.57	
b4(E)	39	#20	12.39	
d(E)	1300	#15	0.91	
d1(E)	678	#15	0.80	
d2(E)	622	#15	1.34	
e(E)	96	#15	4.24	
e1(E)	64	#15	3.20	
e2(E)	96	#15	4.74	
e3(E)	32	#15	3.34	
e4(E)	16	#25	9.10	
e5(E)	16	#25	3.20	
e6(E)	24	#25	7.10	
e7(E)	8	#25	3.34	
e8(E)	16	#15	9.02	
e9(E)	24	#15	6.98	
x(E)	73	#15	1.28	
Reinforcement Bars, Epoxy Coated		kg	42.090	
Concrete Superstructure		m³	286.0	

Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 34 x 11-#15 etc. indicates 34 lines of bars with 11 lengths per line.

Notes:
Floor Drains need not be painted.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 200 MPa minimum. The surface of the fiberglass pipe shall be free of bond inhibiting agents.

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

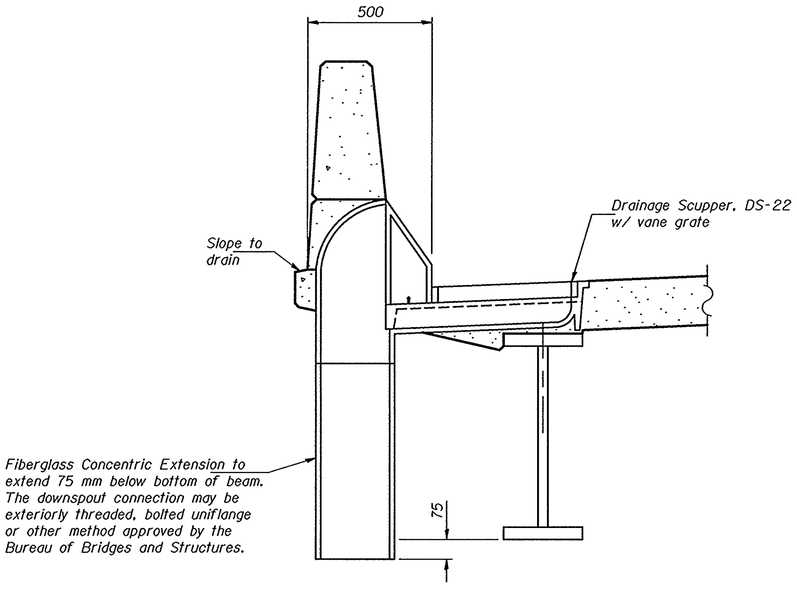
November 18, 1999
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE DETAILS
F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600

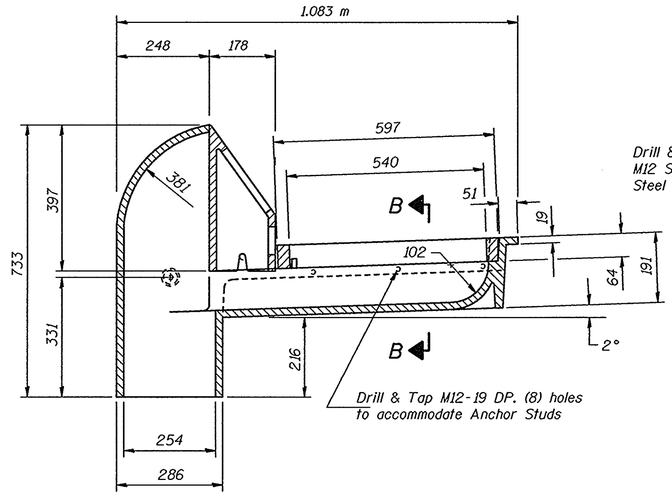
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

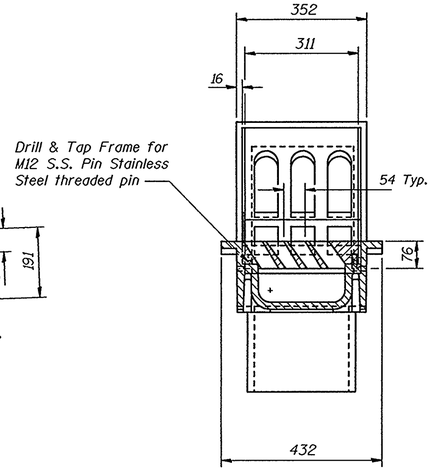
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	23
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 13
26 SHEETS



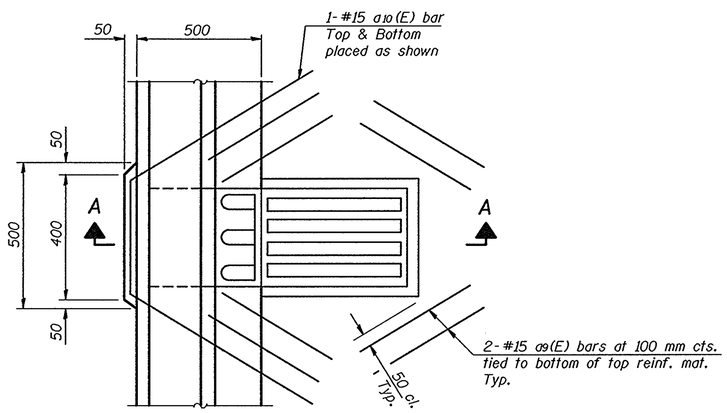
SECTION A-A





SECTION B-B

DRAINAGE SCUPPER DETAIL



PLAN

Note: Reinforcement bars designated (E) shall be epoxy coated.
Cut longitudinal reinforcement to clear drainage scuppers.

Notes:
All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
Bolts and nuts shall conform to the requirements of ASTM A 307.
All bolts and washers shall be galvanized according to AASHTO M 232.
As an alternate bolts and washers may be stainless steel conforming to the requirements of ASTM A 193 M, Type 304.
Cost of the grate, frame, downspout, bolts and washers including complete installation of scupper will be paid for at the unit bid price each for Drainage Scuppers.

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

November 18, 1999
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGES DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

DS-22 SCUPPER DETAILS
F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
26 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

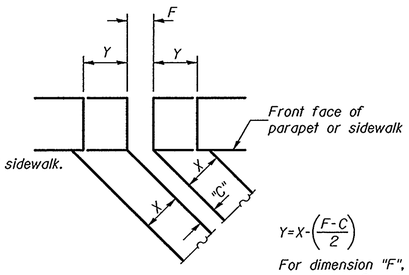
Joint Size	"C" at 10 °C	"D" at 10 °C
50	50	40 Min.
65	65	45 Min.
100	75	65 Min.

INSTALLATION NOTES

(1) Install continuous seal in roadway, parapet, curb, and sidewalk.

(2) Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 300 centers.



$Y = X - \left(\frac{F-C}{2}\right)$

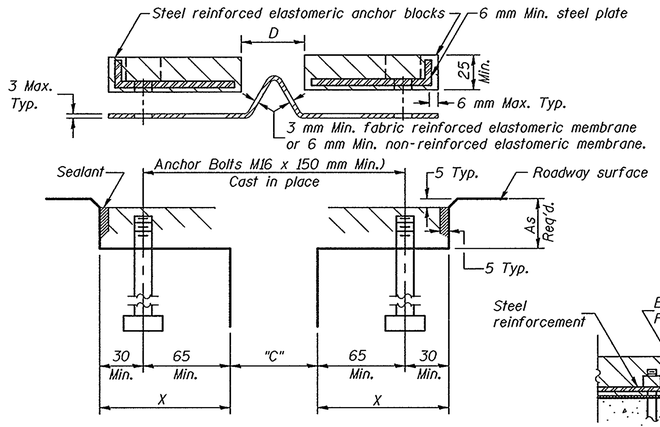
For dimension "F", see sheets 8 and 9 of 26.

FORMING BLOCKOUT SKETCH

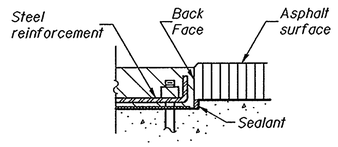
SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed according to dimension "D", might require modifications to insure a minimum clearance of 40 mm from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±300 cts.



CROSS SECTION



ANCHOR BLOCK WITH ASPHALT SURFACE

GENERAL NOTES

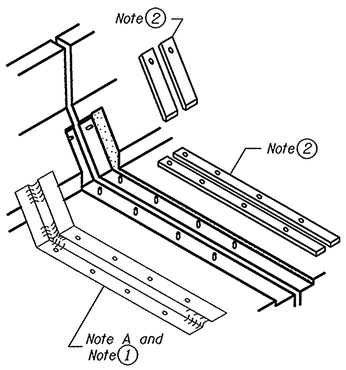
Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane.

The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

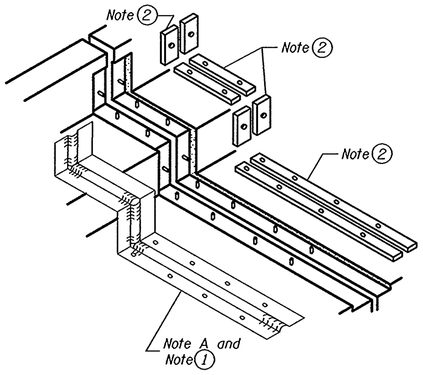
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 10 °C.

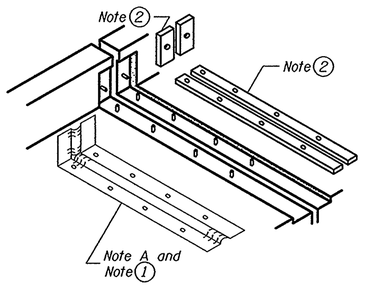
The parapet and roadway membrane shall be made continuous by an approved vulcanizing process. Lapping will not be permitted.



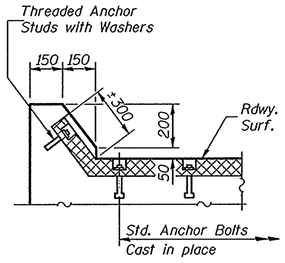
AT PARAPET



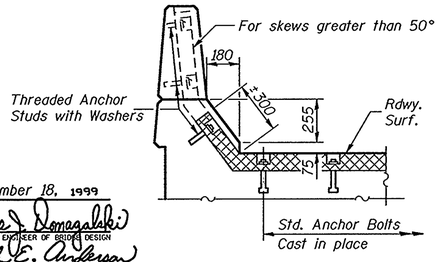
AT SIDEWALK OR MEDIAN



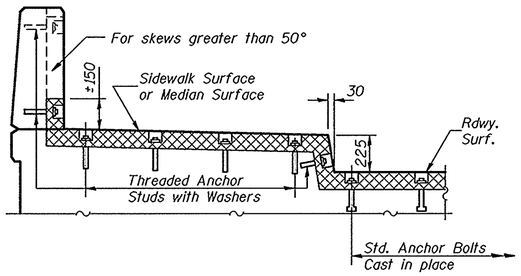
AT WALL



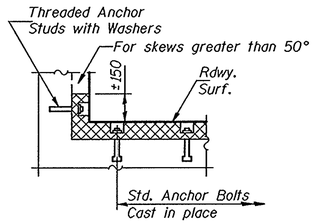
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN



AT WALL

TYPICAL END TREATMENTS

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

November 18, 1999

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

EJ-CS (M) 4-30-97

CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINTS

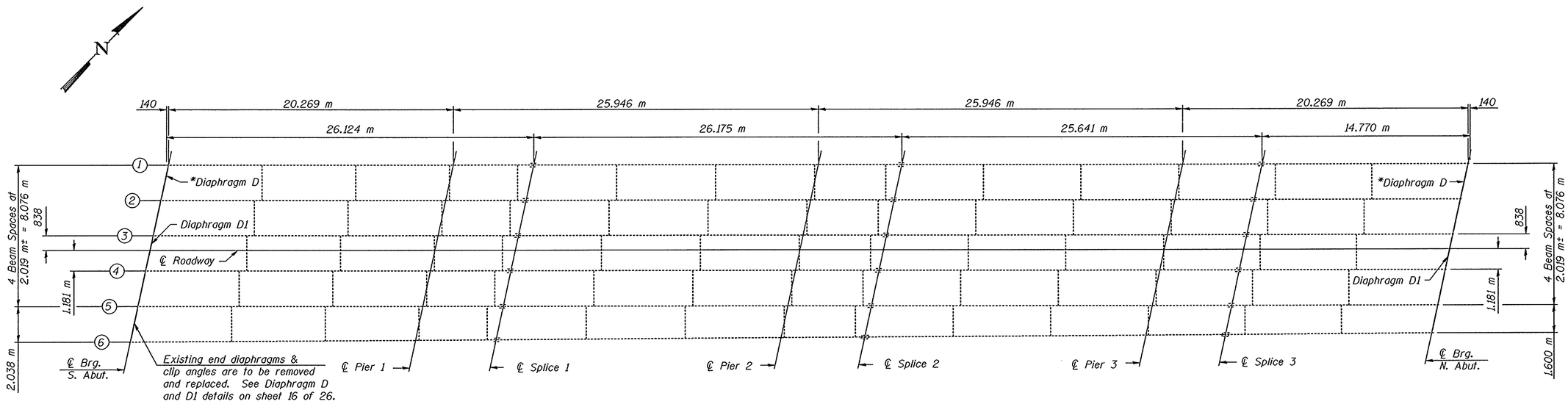
For 50, 65 and 100 Movement

F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600

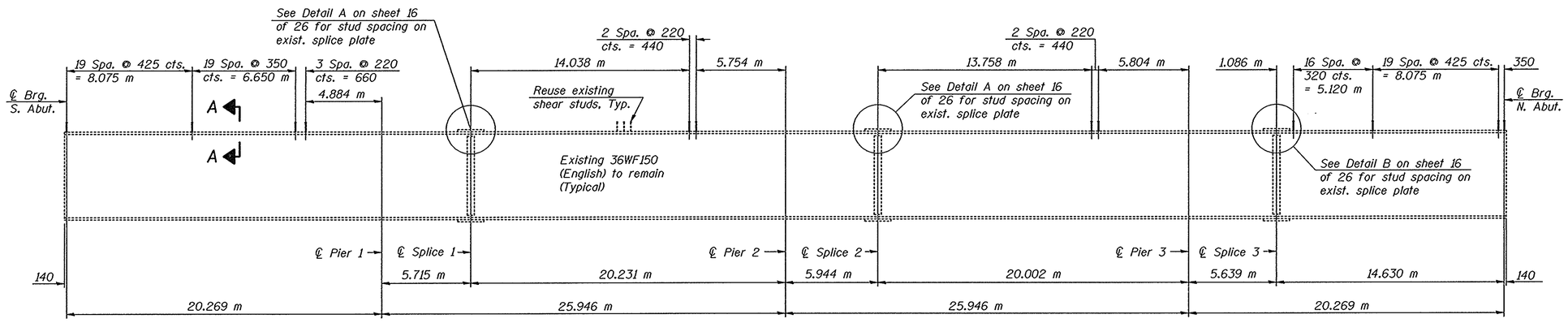
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2245	22B-1D	BUREAU	66	25
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 15
26 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



EXISTING FRAMING PLAN



EXISTING BEAM ELEVATION

DESIGNED	E.J.C.
CHECKED	C.M.E.
DRAWN	M.B.M.
CHECKED	E.J.C. / C.M.E.

November 18, 1999
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

Notes:
For Section A-A, see sheet 16 of 26.
Existing shear studs that are damaged or removed during deck removal shall be replaced in kind. Cost is included with Removal of Existing Concrete Deck.

* Adjust length of diaphragm in exterior East bay (North and South).

FRAMING PLAN & ELEVATION
F.A.S. ROUTE 2245 SEC. 22B-1D
BUREAU COUNTY
STATION 5+955.600