TEXAS TURNPIKE AUTHORITY

CONTRACT NO. DNT 114

STRUCTURES

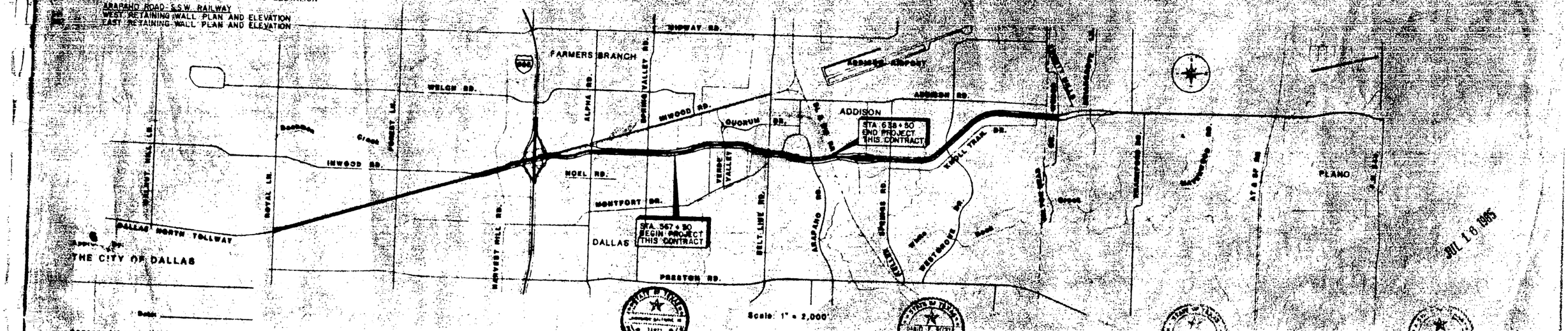
SECTION VI

VOLUME 2

DALLAS NORTH TOLLWAY

INDEX OF SHEETS

STANDARD DRAWINGS



Approved by:
THE CITY OF DALLAS
Date: _____

Approved by:
THE TOWN OF ADDISON
Date: _____

Approved by:
THE CITY OF FARMERS BRANCH
Date: _____

Prepared by:
TURNER, COLLIE AND BRADEN, INC.
Date: 1-10-84

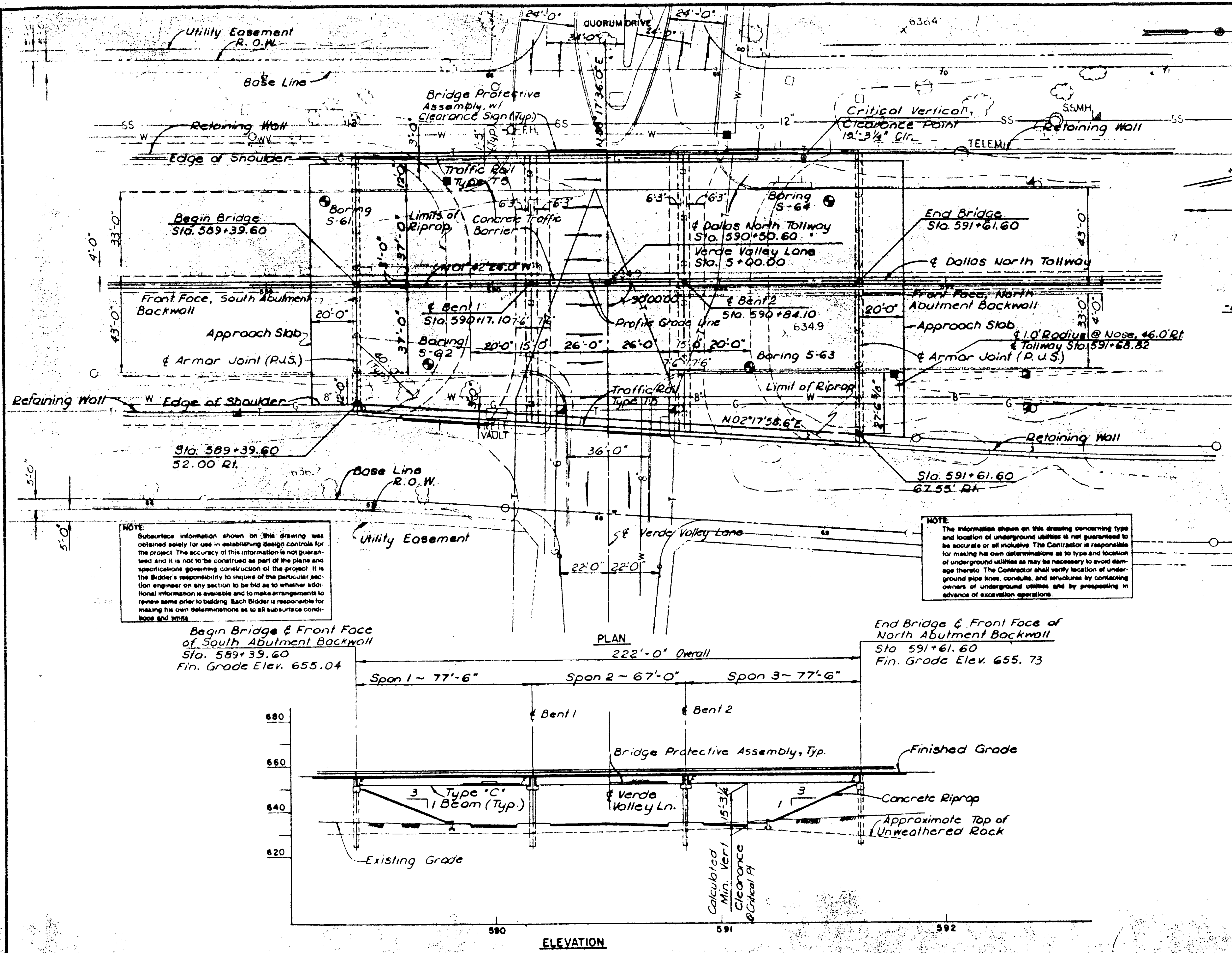
Recommended by:
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
Registered Engineer
Date: January 10, 1984

Recommended by:
TEXAS TURNPIKE AUTHORITY
James W. Griffin
Director, Engineering & Maintenance
Date: February 7, 1984

Approved by:
TEXAS TURNPIKE AUTHORITY
Registered Engineer
Date: Feb. 9, 1984

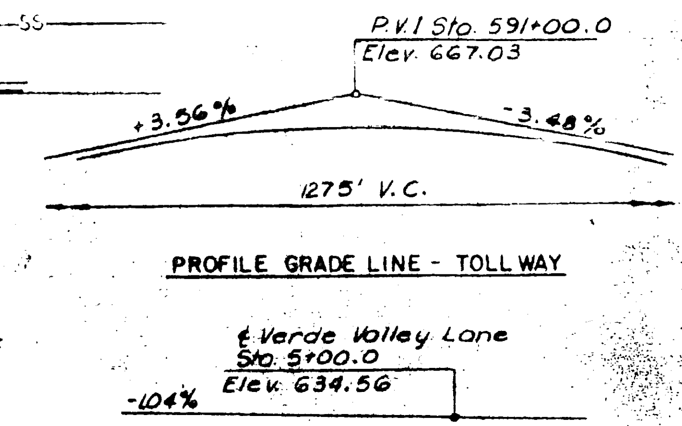
JUL 18 1985

004066 FF-3



NOTE:
Subsurface information shown on this drawing was obtained solely for use in establishing design controls for the project. The accuracy of this information is not guaranteed and it is not to be construed as part of the plans and specifications governing construction of the project. It is the Bidder's responsibility to inquire of the particular section engineer on any section to be bid as to whether additional information is available and to make arrangements to review same prior to bidding. Each Bidder is responsible for making his own determinations as to all subsurface conditions and limits.

NOTE:
The information shown on this drawing concerning type and location of underground utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor shall verify location of underground pipe lines, conduits, and structures by contacting owners of underground utilities and by prospecting in advance of excavation operations.



PROFILE GRADE LINE - TOLLWAY

PROFILE GRADE LINE - VERDE VALLEY LANE

GENERAL NOTES.

DESIGNED ACCORDING TO AASHTO 1977 STANDARD AND INTERIM SPECIFICATIONS THRU 1982 FOR HS20-44 LOADING

BRIDGE PROTECTIVE ASSEMBLIES SHALL BE ATTACHED TO THE OUTSIDE FACE OF EXTERIOR BEAMS TO POINTS 6-INCHES BEYOND THE LIMITS OF THE ROADWAY AT THE LOCATIONS SHOWN. FOR DETAILS, SEE STANDARD DRAWING NO. 29.

FOR DETAILS OF CONCRETE RIPRAP, SEE STANDARD DRAWINGS NO. 20 & 21.

FOR APPROACH SLAB DETAILS, SEE STANDARD DRAWING NO. 22.

FOR TRAFFIC RAIL AND TRAFFIC BARRIER DETAILS, SEE STANDARD DRAWINGS NO. 30, 31, & 32.

ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND MUST BE CORRECTED FOR GRADE, CROWN, AND/OR SUPERELEVATION.

BENCHMARK DATA

Chiseled Square Cut on the N.W. Corner of 1.5' × 2.5' Concrete Pad at the N.E. Corner of 3.5' × 7.9' Brick Column at the N.W. Corner of Banc Texas Building; El. 657.54

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

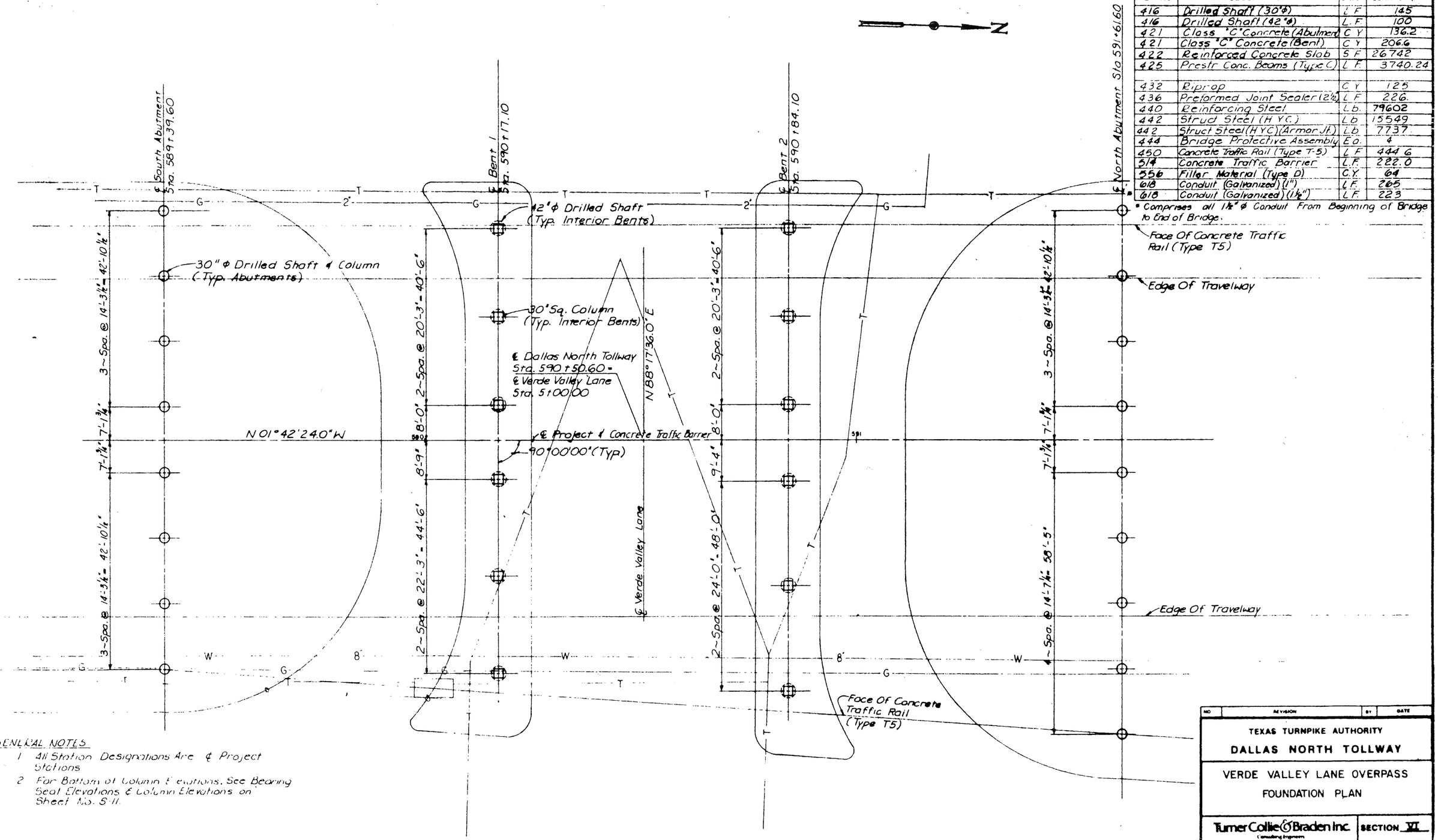
GENERAL PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers — SECTION V

DESIGNED BST 2-83 — APPROVED JRA — DATE 1-8
CHECKED JRA 4-83 — SCALE 1" = 20'

CONTRACT NO. DNT-114 SHEET S-2 OF S-

004070



ESTIMATED QUANTITY SUMMARY

ITEM NO	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30"ϕ)	L F	145
416	Drilled Shaft (42"ϕ)	L F	100
421	Class "C" Concrete (Abutment)	C Y	136.2
421	Class "C" Concrete (Bent)	C Y	206.6
422	Reinforced Concrete Slab	S F	26742
425	Prestr Conc. Beams (Type C)	L F	3740.24
432	Riprap	C Y	125
436	Preformed Joint Sealer (2½)	L F	226.
440	Reinforcing Steel	Lb.	79602
442	Struct Steel (H Y.C.)	Lb	15549
442	Struct Steel (HYC) (Armor Jt.)	Lb	7737
444	Bridge Protective Assembly	E a.	4
450	Concrete Traffic Rail (Type T-5)	L F	444 6
514	Concrete Traffic Barrier	L F	222.0
556	Filler Material (Type D)	C Y	64
618	Conduit (Galvanized) (1")	L F	265
618	Conduit (Galvanized) (1½")	L F	223

* Comprises all 1½"ϕ Conduit From Beginning of Bridge to End of Bridge.

GENERAL NOTES

1. All Station Designations Are ℄ Project Stations
2. For Bottom of Column Elevations, See Bearing Seat Elevations & Column Elevations on Sheet No. S-11.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

FOUNDATION PLAN

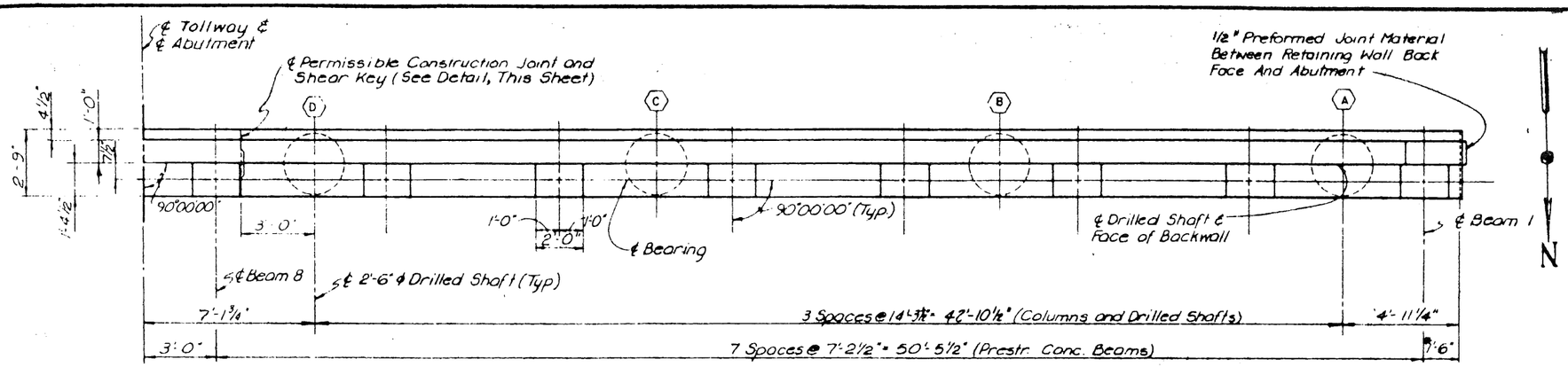
Turner Collie & Braden Inc. (Consulting Engineers) | SECTION VI

DRAWN RGD DATE 2-83 | DESIGNED JRA DATE 3-83

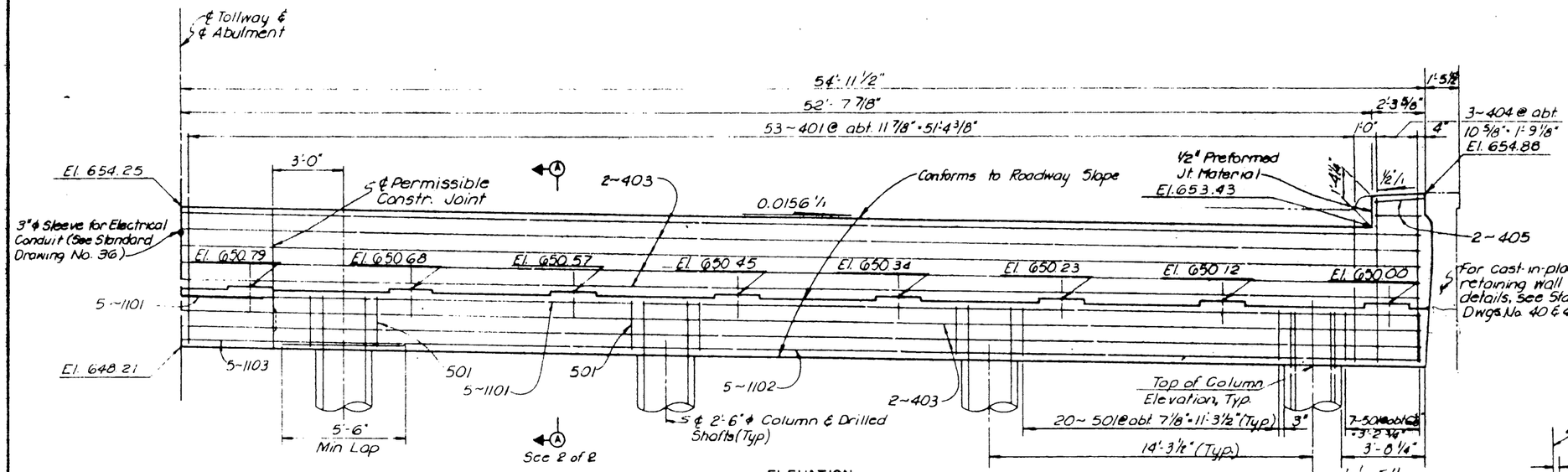
CHECKED JRA DATE 4-83 | SCALE 1" = 10'

CONTRACT NO. DNT-114 SHEET S-3 OF S-82

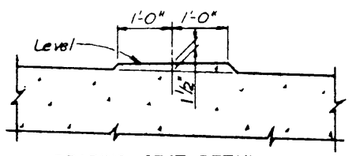
004071



PLAN
Scale: 3/8" = 1'-0"

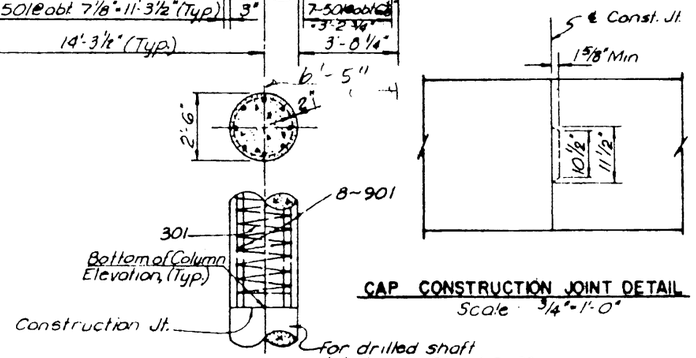


ELEVATION
Scale: 3/8" = 1'-0"



BEARING SEAT DETAIL
Scale: 3/4" = 1'-0"

Note:
Built-up portions of bearing seat shall be cast integrally with cap or constructed as follows: The area under the built-up portion is to be prepared in accordance with specification requirements for construction joints. The pedestal shall then be placed using an approved pre-packaged, non-shrink, impact resistant grout containing non-metallic fibers, similar to Set "Impact Resistant Grout". The grout shall be mixed and applied in accordance with the manufacturer's recommendations.



COLUMN ELEVATION (TYP.)

CAP CONSTRUCTION JOINT DETAIL
Scale 3/4" = 1'-0"

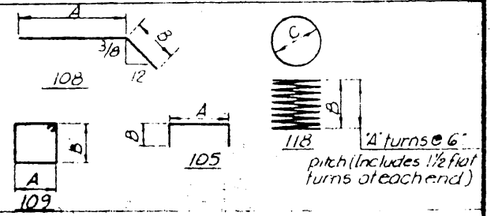
NOTES:

1. All concrete shall be Class "C", design fc = 1200 p.s.i. Chamfer all exposed corners ¾" unless otherwise noted
2. All reinforcing steel shall be ASTM A615, Grade 60, fy = 60,000 p.s.i.
3. Dimensions relating to reinforcing steel are to outside dimension of bar, with radii shown to be inside of bar.
4. See General Plan and Elevation drawing for expansion or fixed end conditions of spans.
5. Average calculated drilled shaft load = 93 tons/shaft
6. Elevations shown, other than the bearing seat elevations, are given at front face of abutment backwall.
7. See South Abutment Details, Sheet 2 of 2, for Foundation Note.

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	106	13'-4"	105	0'-8"	6'-4"			944
402	14	50'-10"	Str.					475
403	14	60'-0"	Str.					561
404	6	14'-4"	105	0'-8"	6'-10"			57
405	8	2'-0"	Str.					11
							Total	2048
501	154	9'-4"	109	2'-3"	2'-0"		Total	1499
1101	10	58'-8"	108	54'-10"	3'-10"			311.7
1102	10	50'-6"	Str.					2683
1103	5	19'-10"	108	9'-11"	9'-11"			52.7
							Total	6327
301	8	206'-3"	118	31"	13'-10"	2'-1¼"	Total	620
901	64	16'-11"	Str.				Total	3681
							Total	14,175

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30"ϕ)	L.F.	65
421	Class "C" Concrete (Abutment)	C.Y.	64.0
440	Reinforcing Steel	LB.	14,175
556	Filter Material (Type D)	C.Y.	3.0

Note: Armor Jt. at Abutment is included in Slab Details - Span 1 Drawing, Item No. 442 Quantity

12.0059

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS
SOUTH ABUTMENT DETAILS

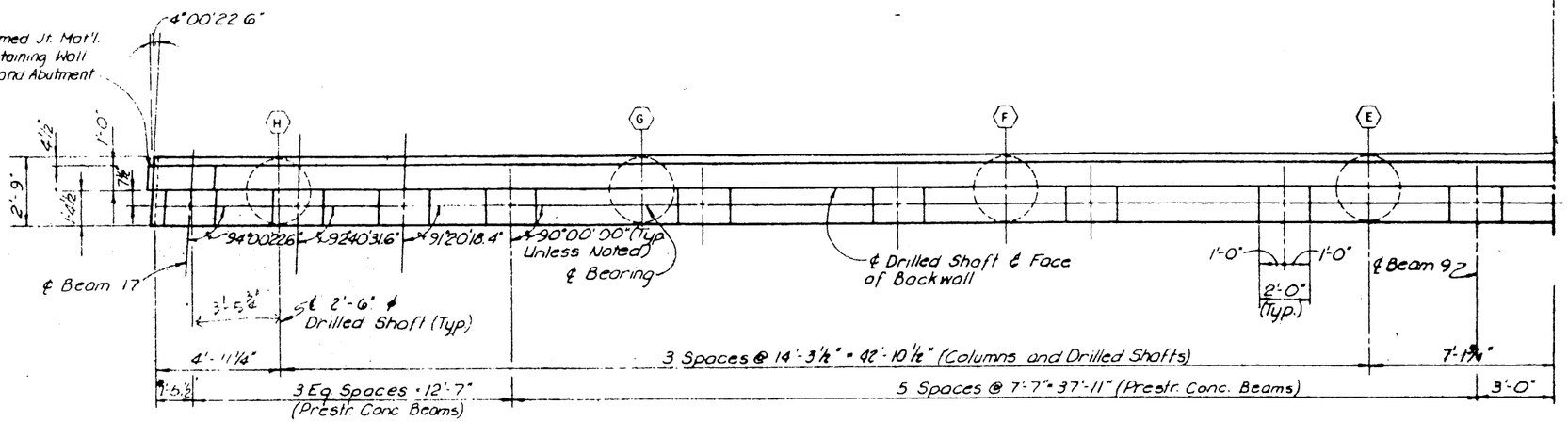
Turner Collie & Braden Inc. Consulting Engineers | SECTION VII

DESIGNED BST DATE 3-83 | DRAWN FRW DATE 3-83
CHECKED FRW DATE 3-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-4 OF S-82

1 OF 2

004072



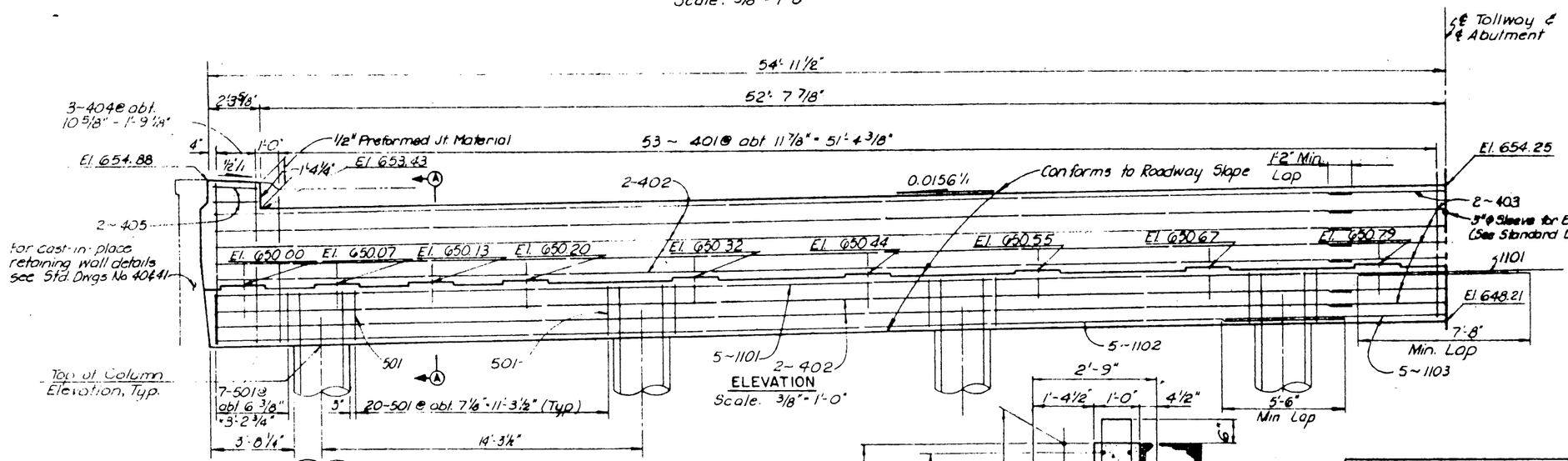
*End Dimensions are at Top of Backwall.

PLAN
Scale: 3/8" = 1'-0"

FOUNDATION NOTE:
The Contractor may construct retaining walls and place roadway embankment prior to construction of abutment columns and drilled shaft foundations. If the Contractor elects this option, the drilled shafts will be extended to the bottom of the abutment cap, and the column section shown on the plans will be deleted. The construction procedure for installation of the drilled shafts after embankment and retaining walls are in place shall be submitted to the Engineer for approval, prior to beginning construction operations. Payment for the additional drilled shafts lengths to replace columns will remain as the price bid for the column concrete and reinforcing steel shown in the Plan Quantities.

NOTES

1. See South Abutment Details 1 of 2 for Notes, Estimated Quantities and Details not shown.



COLUMN ELEVATIONS

COLUMN DESIGNATION	LOCATION TOP	LOCATION BOTTOM
A	647.43	632.76
B	647.65	632.98
C	647.86	633.19
D	648.10	633.43
E	648.10	633.43
F	647.86	633.19
G	647.65	632.98
H	647.43	632.76

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
VERDE VALLEY LANE OVERPASS
SOUTH ABUTMENT DETAILS

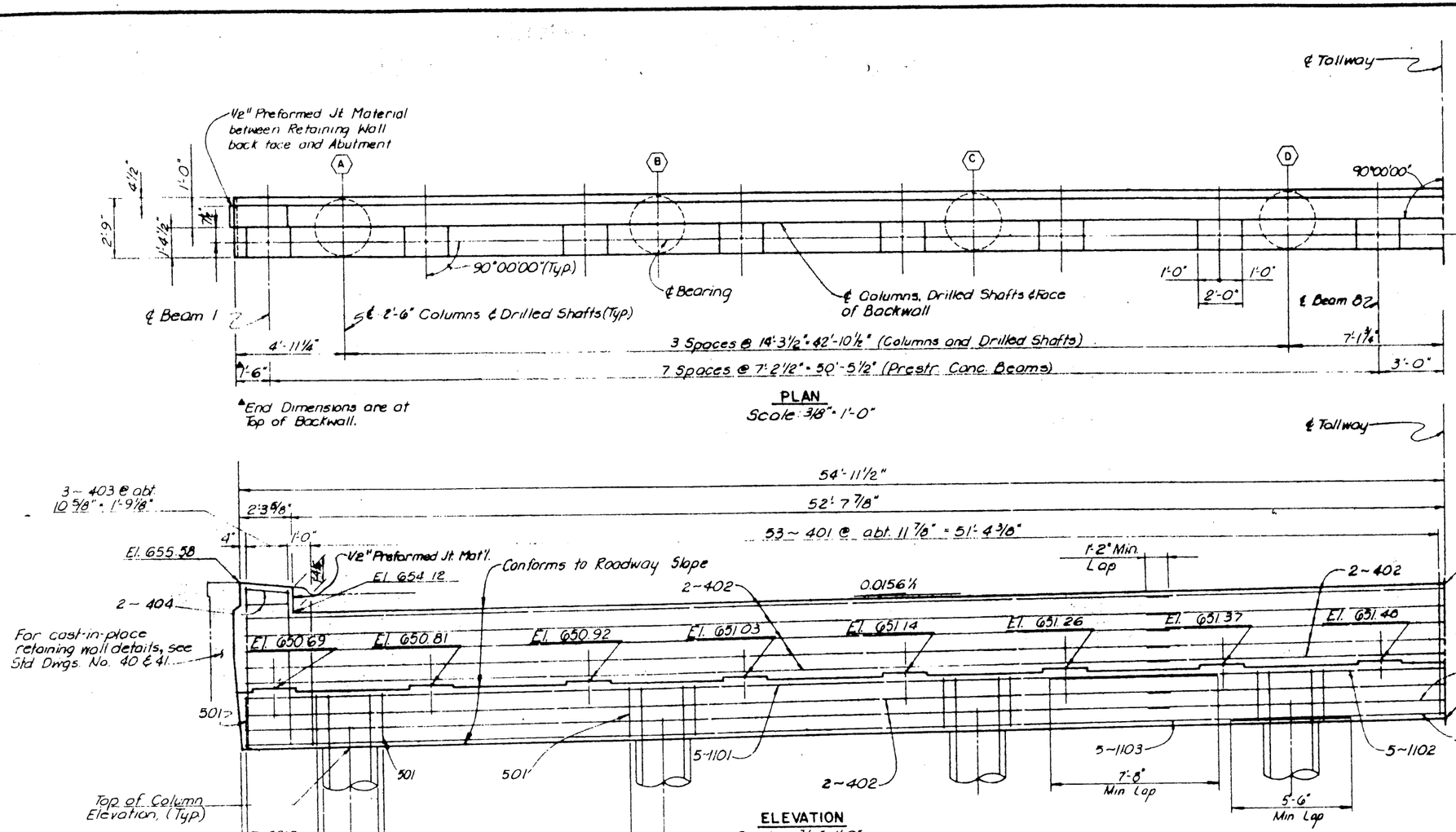
Turner Collie & Braden Inc. (Consulting Engineers) — SECTION VI

DESIGNED BST DATE 3-83 — DRAWN FRW DATE 3-83
CHECKED FRW DATE 3-83 — SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-5 OF S-82

2 OF 2

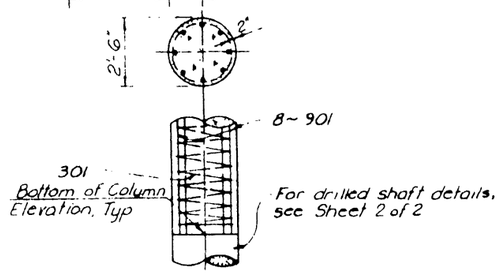
004073



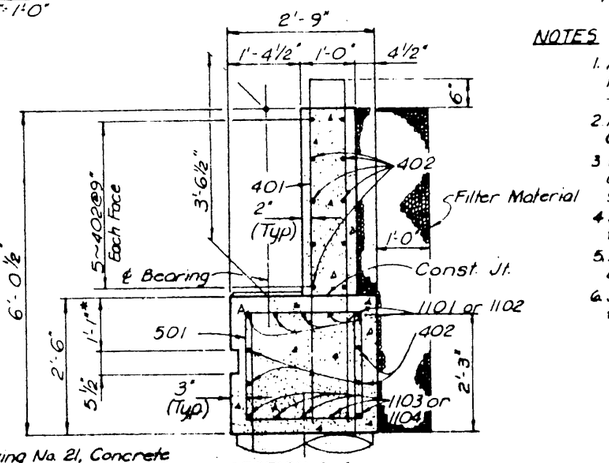
▲End Dimensions are at Top of Backwall.

PLAN
Scale: 3/8" = 1'-0"

ELEVATION
Scale: 3/8" = 1'-0"



COLUMN ELEVATION (TYP.)



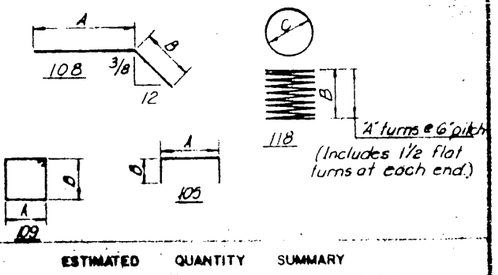
SECTION A-A
Scale: ¾" = 1'-0"

* See Standard Drawing No. 21, Concrete Riprap, for additional details.

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	121	19'-4"	105	0'-8"	6'-4"			1078
402	42	42'-7"	Str.					1195
403	6	14'-4"	105	0'-8"	6'-10"			57
404	8	2'-0"	Str.					11
							Total	2341
501	174	9'-4"	109	2'-3"	2'-0"		Total	1694
1101	10	44'-5"	Str.					2360
1102	5	51'-8"	108	18"-1½"	35'-6½"			1373
1103	10	50'-6"	Str.					2683
1104	5	35'-2"	108	9'-11"	25'-2"			934
							Total	7350
301	9	202'-11"	118	31	13'-7"	2'-1¼"	Total	687
901	72	16'-8"	Str.				Total	4080
							Total	16152

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30" ø)	L.F.	81
421	Class "C" Concrete (Abutment)	C.Y.	72.2
440	Reinforcing Steel	Lb.	16152
556	Filter Material (Type D)	C.Y.	34

Note: Armor Jt. at Abutment is included in Slab Details - Span 3 Drawing, Item No 442 Quantity

NOTES

1. All concrete shall be Class "C" design fc = 1200 p.s.i. Chamfer all exposed corners 3/4" unless otherwise noted.
2. All reinforcing steel shall be ASTM A615, Grade 60, fy = 60,000 p.s.i.
3. Dimensions relating to reinforcing steel are to outside dimension of bar, with radii shown to be inside of bar.
4. See General Plan and Elevation drawing for expansion or fixed end condition of spans.
5. Average calculated drilled shaft load = 85 Tons/Shaft.
6. See South Abutment Details, Sheet 2 of 2, for Foundation Note.

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

NORTH ABUTMENT DETAILS

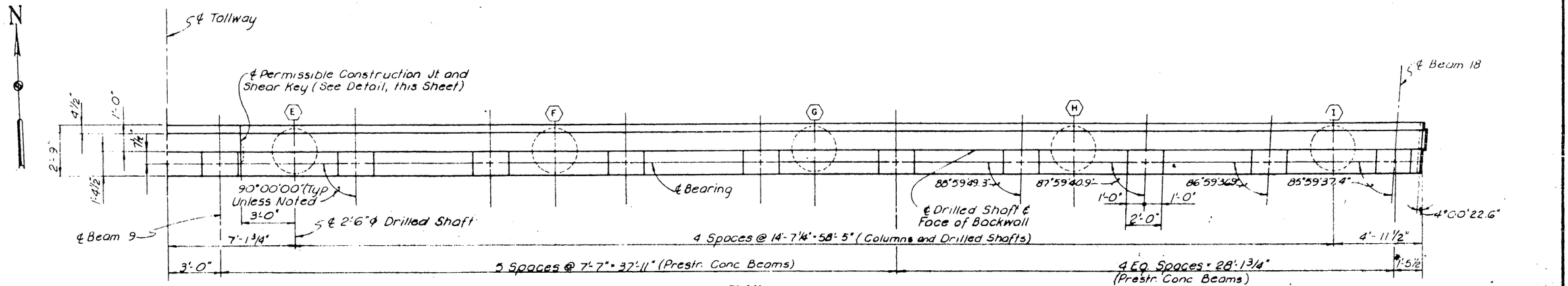
Turner Collie & Braden Inc. (Consulting Engineers) — SECTION VI

DESIGNED BBT DATE 3-83 — DRAWN FRW DATE 3-83

CHECKED FRW DATE 3-83 — SCALE AS NOTED

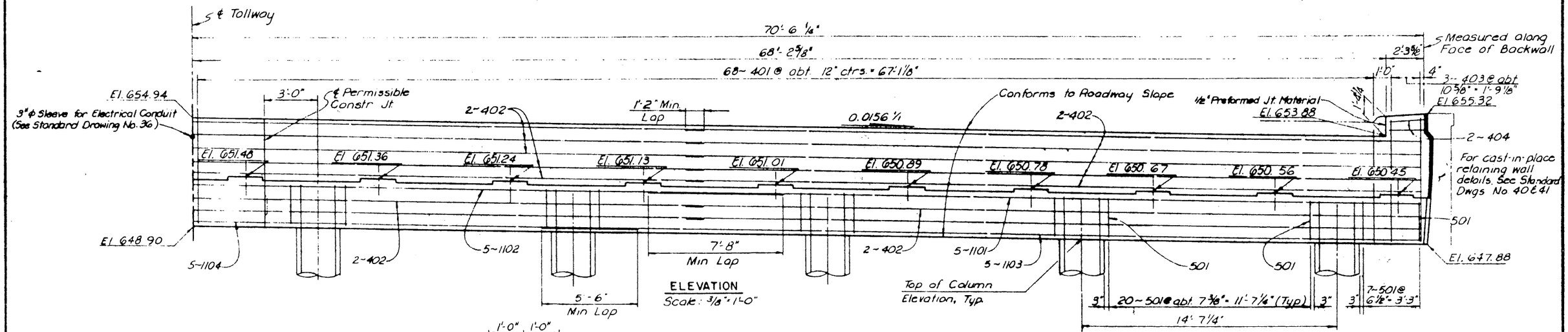
CONTRACT NO. DNT-114 SHEET S-6 OF S-82

1 OF 2

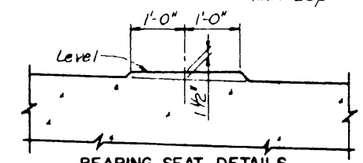


PLAN
Scale 3/8" = 1'-0"

*End Dimensions are at Top Of Backwall.

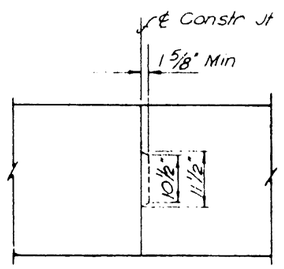


ELEVATION
Scale: 3/8" = 1'-0"



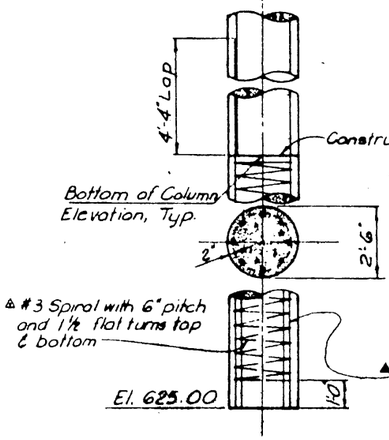
BEARING SEAT DETAILS

Note:
Built-up portions of bearing seat shall be cast integrally with cap or constructed as follows: The area under the built-up portion is to be prepared in accordance with specification requirements for constuction joints. The pedestal shall then be placed using an approved pre-packaged, non-shrink, impact resistant grout containing non-metallic fibers, similar to Set "Impact Resistant Grout". The grout shall be mixed and applied in accordance with the manufacturer's recommendations.



CONSTRUCTION JOINT DETAIL
Scale: 3/4" = 1'-0"

COLUMN ELEVATIONS		
COLUMN DESIGNATION	LOCATION	
	TOP	BOTTOM
A	648.12	633.70
B	648.34	633.92
C	648.57	634.15
D	648.79	634.37
E	648.79	634.37
F	648.56	634.14
G	648.33	633.91
H	648.11	633.69
I	647.88	633.46



DRILLED SHAFTS (TYP.)

▲ Note: The cost of reinforcing steel to be included in the price bid for drilled shafts.
Tip elevation is approximate and should be varied as required to provide a 5'-0" minimum penetration into unweathered rock
▲ 8~#9 (Lap into column included in the price bid for drilled shafts)

NOTES

1. See North Abutment Details, Sheet 1 of 2 for Notes, Estimated Quantities and Detail not shown

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
VERDE VALLEY LANE OVERPASS
NORTH ABUTMENT DETAILS

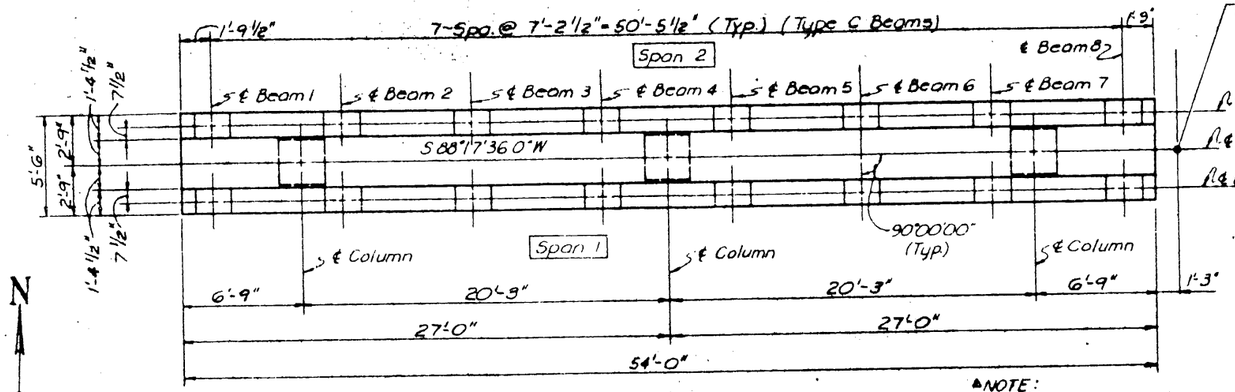
Turner Collie & Braden Inc. Consulting Engineers | SECTION VI

DRAWN BST DATE 3-83 | DESIGNED FRW DATE 3-83
CHECKED FRW DATE 3-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-7 OF S-82

2 OF 2

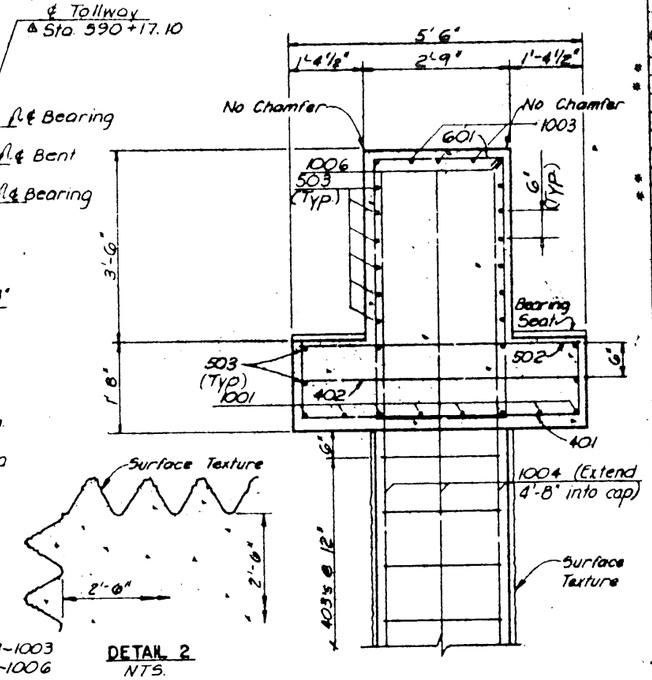
004075



N

NOTE:
Bent 1 Southbound ℄ Sta. 590+17.10 Shown.
Bent 2 Southbound ℄ Sta 590+84.10 Similar.

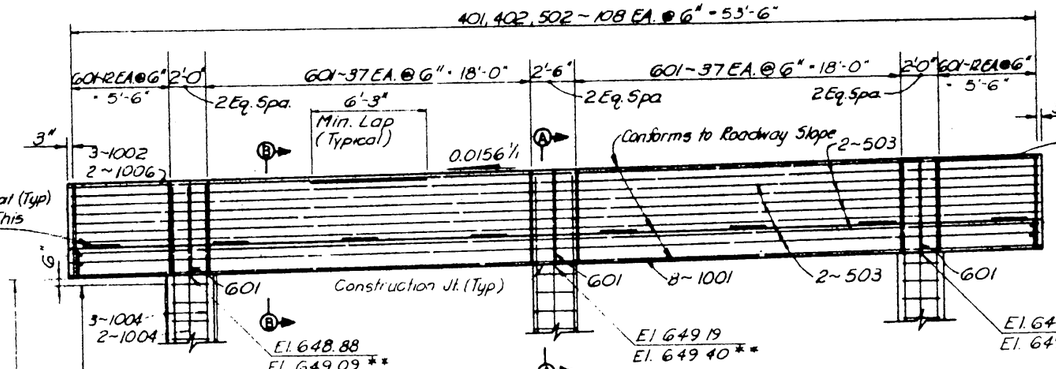
PLAN



DETAIL 2
NTS.

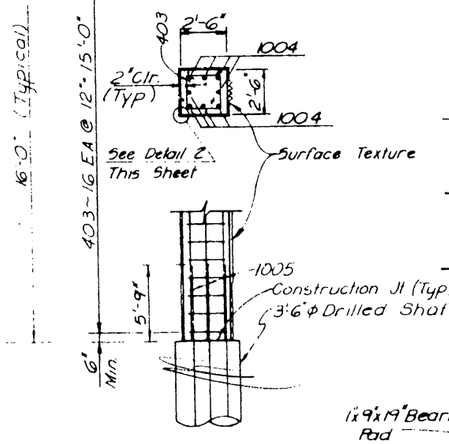
Note: Surface Texture Shall Conform To the Requirements of Item 427 Surface Finishes for Concrete.

SECTION A-A
Scale: 3/4"=1'-0"

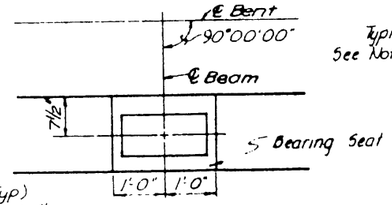


ELEVATION
Scale: 1/4"=1'-0"

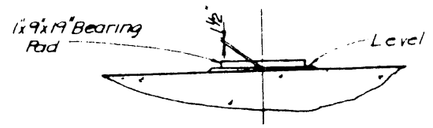
** Indicates Bent 2 Southbound



For 3'-6" ϕ Drilled Shaft Lengths, Top Elevations and Details, See Bent Drilled Shaft Details on Sheet No. S-11

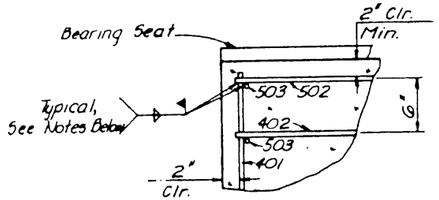


PLAN



ELEVATION

BEARING SEAT DETAILS
Scale: 3/4"=1'-0"

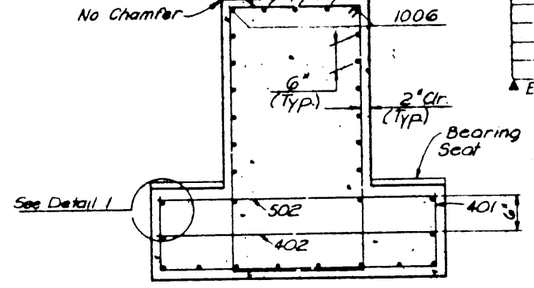


DETAIL 1
Scale: 1 1/2"=1'-0"

Notes: The Contractor's Attention Is Directed To The Requirements Of The Latest Edition Of The Structural Welding Code For Reinforcing Steel Published By The American Welding Society. The Preheat Requirements Of Section 5.2 And The Proper Welding Rods, As Defined In Table 5.1, Must Be Strictly Adhered To.

Bars Marked With An Asterisk (*) In The Reinforcement Bar Schedule Shall Conform To The Requirements Of ASTM A-706, Grade 60.

Note: Built-up Portions Of Bearing Seat shall Be Cast Integrally With Cap Or Constructed As Follows: The Area Under The Built-up Portion Is To Be Prepared In Accordance With Specification Requirements For Construction Joints. The Pedestal Shall Then Be Placed Using An Approved Pre-Packaged, Non-Shrink, Impact Resistant Grout Containing Non-Metallic Fibers, Similar to Set "Impact Resistant Grout". The Grout Shall Be Mixed And Applied in Accordance With The Manufacturer's Recommendations.

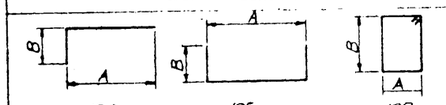


SECTION B-B
Scale: 3/4"=1'-0"

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	108	7'-10"	105	5'-2"	1'-4"			565
402	108	5'-2"	Str.					373
403	48	9'-4"	109	2'-2"	2'-2"			299
							Total	1237
501		Omitted						
502	108	5'-2"	Str.					582
503	18	53'-8"	Str.					1008
							Total	1590
601	101	15'-6"	109	2'-5"	4'-10"		Total	2351
1001	8	53'-8"	Str.					1847
1002	3	44'-10	104	40'-0"	4'-10"			578
1003	3	24'-7"	104	19'-9"	4'-10"			317
1004	24	20'-8"	Str.					2134
1005	24	11'-6"	Str.					1188
1006	2	53'-6"	Str.					460
							Total	6524
							Total	11702

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY ▲

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
421	Class "C" Concrete (Bent)	C.Y.	48.9
440	Reinforcing Steel	Lb.	11702
416	Drilled Shaft (42" ϕ)	L.F.	25

▲ Estimated Quantities given are for one Bent only.

NOTES:
1. All Concrete Shall Be Class "C", f'c = 3,600 p.s.i. Chamfer All Exposed Corners 3/4" Unless Otherwise Noted
2. All Reinforcing Steel Shall Be ASTM A615 Grade 60, fy = 60,000 psi
3. Dimensions Relating To Reinforcing Steel Are To Outside Dimension Of Bar, With Radii Shown To Be Inside Of Bar.
4. See General Plan & Elevation For Expansion Or Fixed Conditions Of Span.
5. Average Calculated Drilled Shaft Load = 218 Tons/Shaft.
6. For Underbridge Lighting Conduit Plan, See Sheet No. S-11.

NO	REVISION	BY	DATE

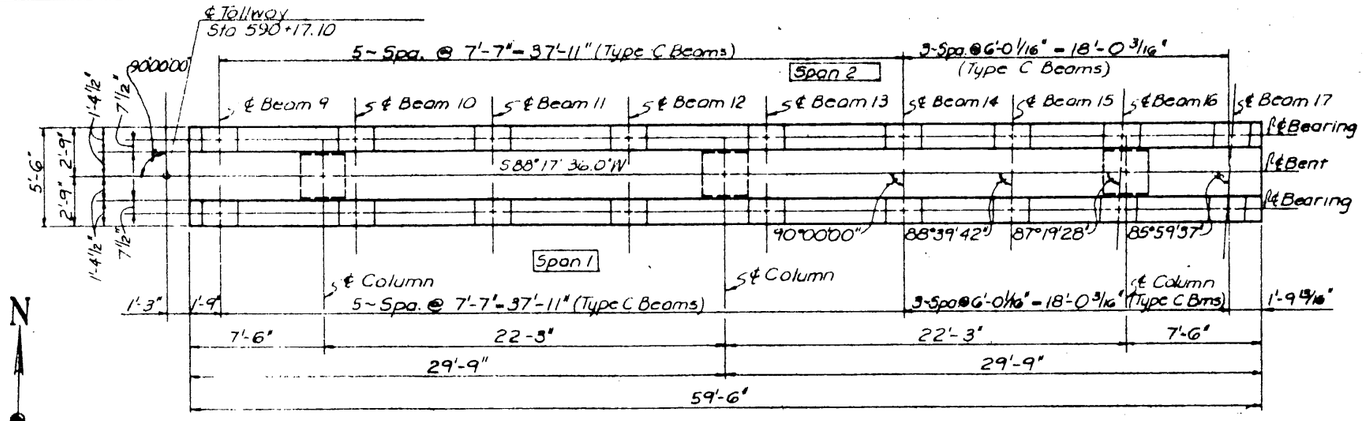
TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
VERDE VALLEY LANE OVERPASS
BENT 1 & 2 SOUTHBOUND DETAILS

Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

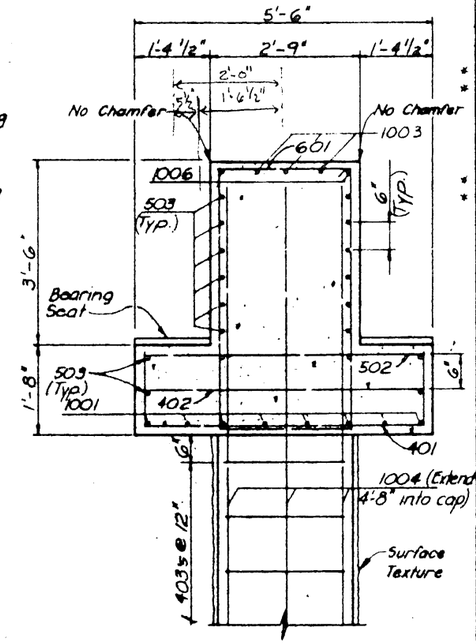
DESIGNED TJR DATE 3-83
DRAWN RGD DATE 3-83
CHECKED TJR DATE 3-83
SCALE AS NOTED

CONTRACT NO DNT-114 SHEET S-8 OF S-82

C04076



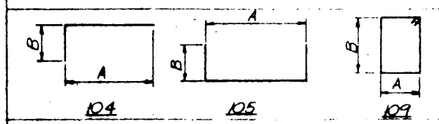
PLAN
Scale: 1/16"=1'-0"



SECTION A-A
Scale: 3/4"=1'-0"

REINFORCEMENT BAR SCHEDULE								
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
* 401	119	7'-10"	105	5'-2"	1'-4"			623
* 402	119	5'-2"	Str.					411
* 403	48	9'-4"	109	2'-2"	2'-2"			298
							Total	1333
501		Omitted						
* 502	119	5'-2"	Str.					641
* 503	18	59'-2"	Str.					1111
							Total	1752
601	109	15'-6"	109	2'-5"	4'-10"		Total	2530
1001	8	59'-2"	Str.					2037
1002	3	48'-7"	104	43'-9"	4'-10"			627
1003	3	26'-4"	104	21'-6"	4'-10"			340
1004	24	20'-8"	Str.					2134
1005	24	11'-6"	Str.					1188
1006	2	59'-0"	Str.					508
							Total	6834
							Total	12457

BAR BENDING DIAGRAMS



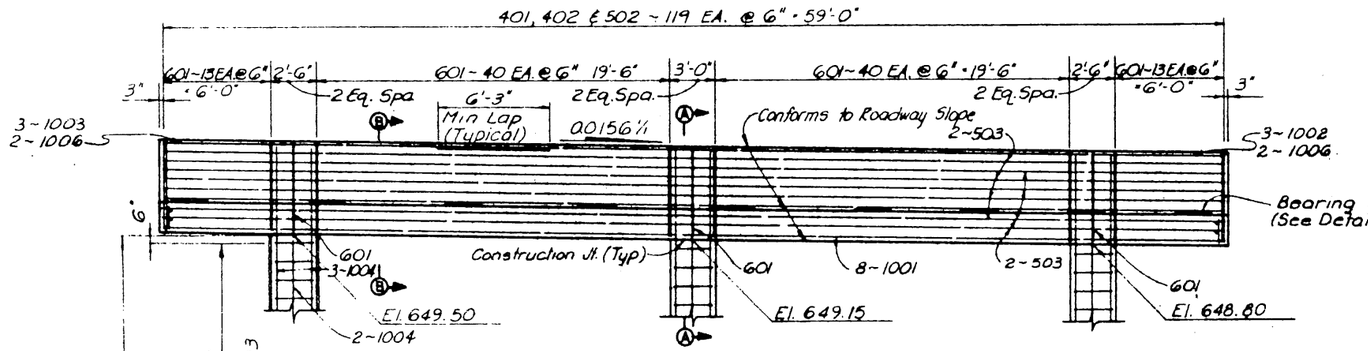
ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
421	Class "C" Concrete (Bent)	C Y	52.8
440	Reinforcing Steel	Lb	12,457
416	Drilled Shaft (42"ϕ)	L F	25

Bars Marked With An Asterisk (*) In The Reinforcement Bar Schedule Shall Conform To The Requirements Of ASTM A-706 Grade 60.

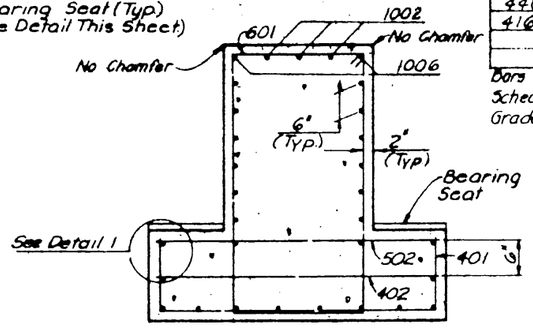
NOTES:

1. All Concrete Shall Be Class "C", fc = 3,600 psi Chamfer All Exposed Corners 3/4" Unless Otherwise Noted
2. All Reinforcing Steel Shall Be ASTM A615, Grade 60, fy = 60,000 psi
3. Dimensions Relating To Reinforcing Steel Are To Out Side Dimension Of Bar, With Radii Shown To Be Inside Of Bar.
4. See General Plan & Elevation For Expansion or Fixed Conditions Of Span.
5. Average Calculated Drilled Shaft Load = 232 Tons/Shaft
6. For Understructure Lighting Conduit Plan See Sheet No. S-11.



† For 3'-6"ϕ Drilled Shaft Lengths, Top Elevations and Details See Bent Drilled Shaft Details on Sheet No S-11.

BENT 1 NB.		
BEAM NO.	BK. X	FD. X
9-14	0	0
15	9/16"	9/16"
16	1 1/8"	1 1/8"
17	1 11/16"	1 11/16"



SECTION B-B
Scale: 3/4"=1'-0"

Note: Built-up portions of bearing seat shall be cast integrally with cap or constructed as follows: The area under the built-up portion is to be prepared in accordance with specification requirements for construction joints. The pedestal shall then be placed using an approved Pre-Packaged, Non-Shrink, Impact Resistant Grout Containing Non-Metallic Fibers, Similar to Set "Impact Resistant Grout". The Grout Shall be Mixed and Applied in Accordance With the Manufacturer's Recommendations.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

BENT 1 NORTHBOUND DETAILS

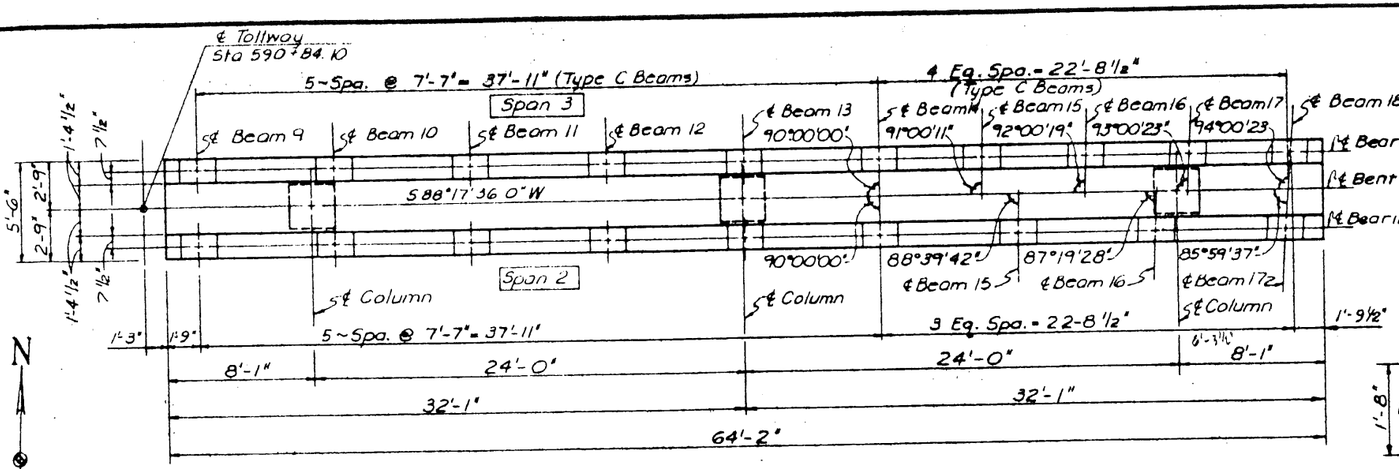
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN RGD DATE 3-83 — DESIGNED TJR DATE 3-83

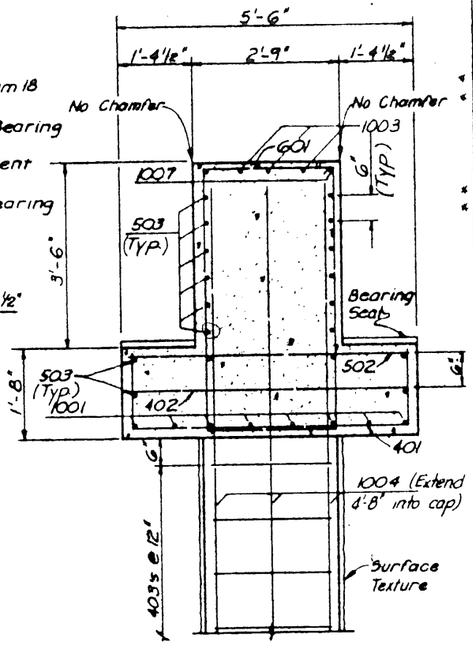
CHECKED TJR DATE 3-83 — SCALE AS NOTED

CONTRACT NO DNT-114 SHEET S-9 OF S-82

004077

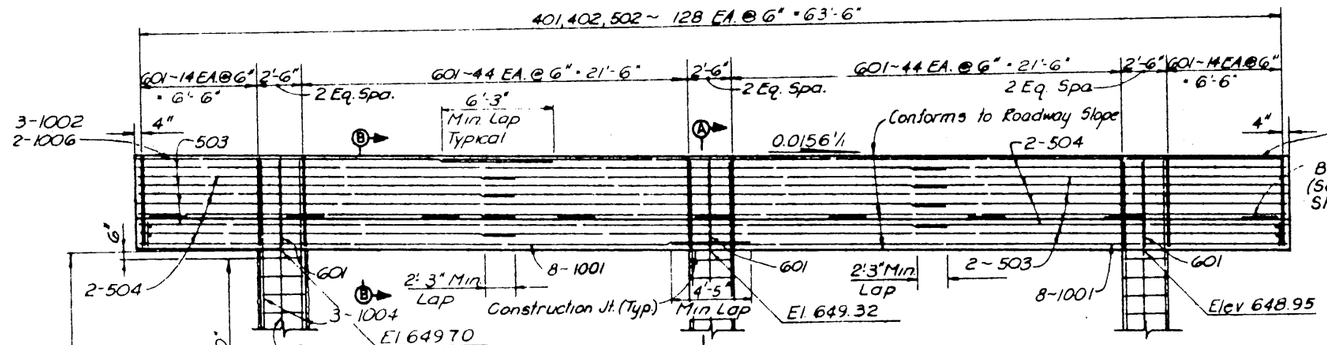


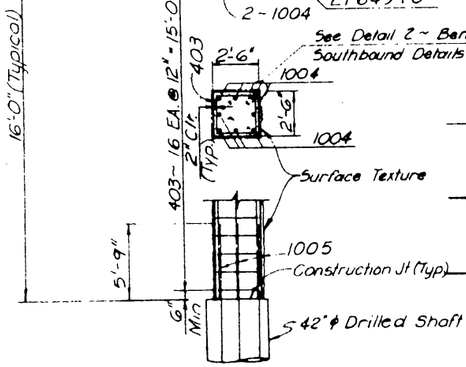
PLAN
Scale: 1/4"=1'-0"



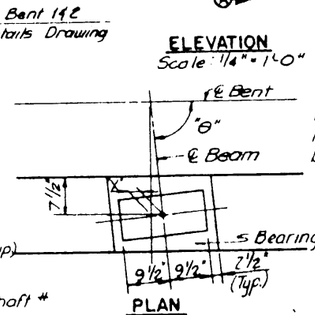
SECTION A-A
Scale 3/4"=1'-0"

401, 402, 502 ~ 128 EA. @ 6" = 63'-6"

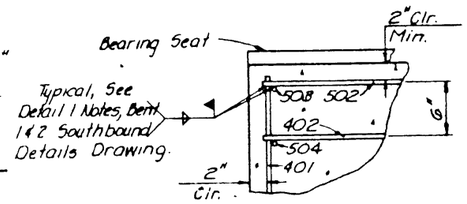




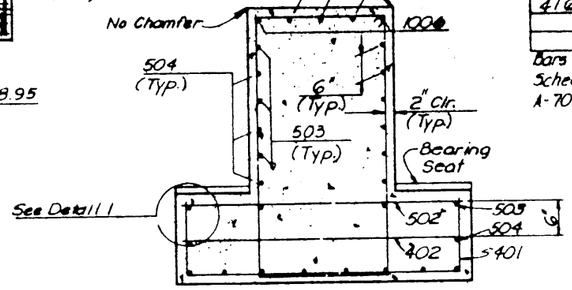
ELEVATION
Scale: 1/4"=1'-0"



PLAN



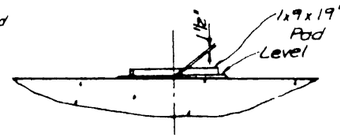
DETAIL 1
Scale: 1 1/2"=1'-0"



SECTION B-B
Scale: 3/4"=1'-0"

For 42" ϕ Drilled Shaft Lengths, Top Elevations And Details, See Bent Drilled Shaft Details On Sheet No. S-11.

BENT 2 NB.		
BEAM NO.	BK. X	FD. X
9 14	0	0
15	9/16"	7/16"
16	1 1/8"	13/16"
17	1 11/16"	1 1/4"
18	–	1 11/16"



ELEVATION

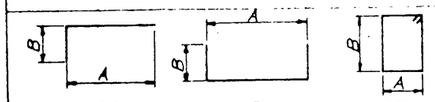
BEARING SEAT DETAILS
Scale: 3/4"=1'-0"

Note: Built-up portions of Bearing Seat shall be cast integrally with cap or constructed as follows: The area under the built-up portion is to be prepared in accordance with specification requirements for construction joints. The pedestal shall then be placed using an approved Pre-Packaged, Non-Shrink, Impact Resistant Grout Containing Non-Metallic Fibers, Similar to Set "Impact Resistant Grout". The Grout Shall be Mixed and Applied in Accordance With the Manufacturer's Recommendation.

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	128	7'-10"	105	5'-2"	1'-4"			670
402	128	5'-2"	Str.					442
403	48	9'-4"	109	2'-2"	2'-2"			299
							Total	1411
501		Omitted						
502	128	5'-2	Str.					690
503	18	45'-1"	Str.					846
504	18	21'-1"	Str.					396
							Total	1932
601	119	15'-6"	109	2'-5"	4'-10"		Total	2770
1001	16	94'-2"	Str.					2952
1002	3	51'-9"	104	46'-10 1/2"	4'-10"			668
1003	3	27'-9"	104	22'-10 1/2"	4'-10"			358
1004	24	20'-8"	Str.					2154
1005	24	11'-6"	Str.					1188
1006	2	46'-11"	Str.					404
1007	2	22'-10"	Str.					197
							Total	7301
							Total	15414

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
421	Class "C" Concrete (Bent)	C Y	56.0
440	Reinforcing Steel	Lb	15414
416	Drilled Shaft (42"ϕ)	L F.	25

Bars Marked With An Asterisk (*) In The Reinforcement Bar Schedule Shall Conform To The Requirements Of ASTM A-706, Grade 60.

NOTES:

1. All Concrete Shall Be Class "C"; f'c = 3600 p.s.i. Chamfer All Exposed Corners 3/4" Unless Otherwise Noted
2. All Reinforcing Steel Shall Be ASTM A615 Grade 60, fy = 60,000 p.s.i.
3. Dimensions Relating to Reinforcing Steel Are To Outside Dimension of Bar, With Radii Shown To Be Inside of Bar.
4. See General Plan & Elevation For End Condition of Spans
5. Average Calculated Drilled Shaft Load = 256 Tons/Shaft.
6. For Understructure Lighting Conduit Plan See Sheet No. S-11.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
VERDE VALLEY LANE OVERPASS
BENT 2 NORTHBOUND DETAILS

Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

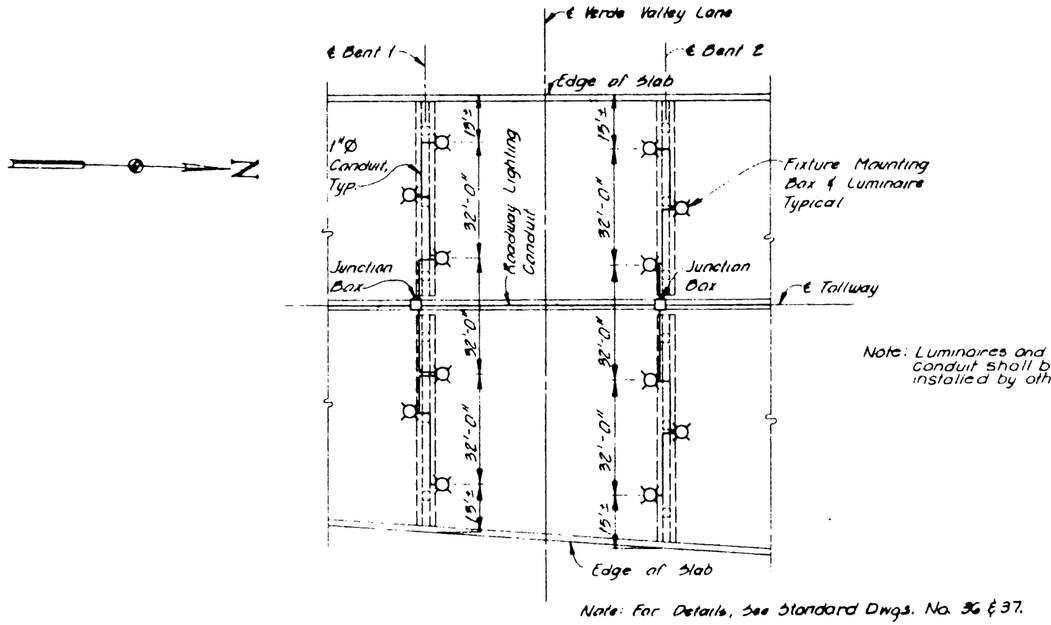
DRAWN RGD DATE 3-83		DESIGNED TJR DATE 3-83	
CHECKED TJR DATE 3-83		SCALE AS NOTED	

CONTRACT NO DNT-114 SHEET S-10 OF S-82

004078

BEARING SEAT ELEVATIONS

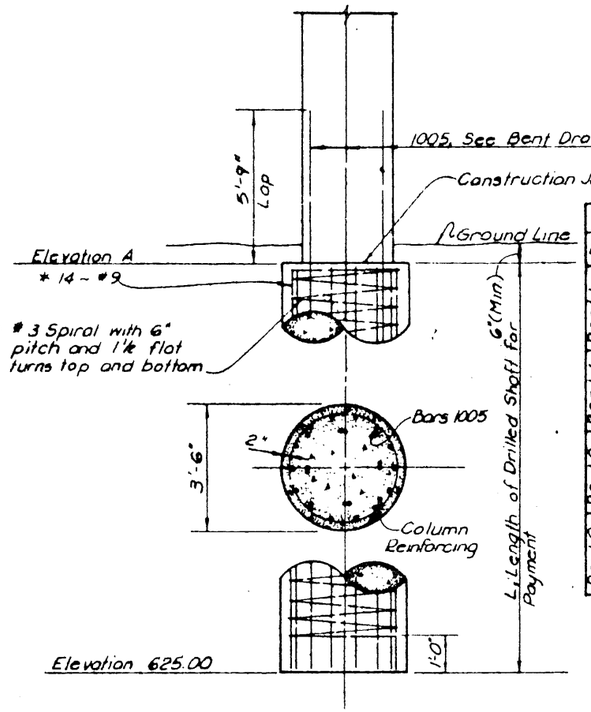
SOUTH ABUTMENT (FWD)	BEAM 1 650.00	BEAM 2 650.12	BEAM 3 650.23	BEAM 4 650.34	BEAM 5 650.45	BEAM 6 650.57	BEAM 7 650.68	BEAM 8 650.79
	BEAM 9 650.79	BEAM 10 650.67	BEAM 11 650.55	BEAM 12 650.44	BEAM 13 650.32	BEAM 14 650.20	BEAM 15 650.13	BEAM 16 650.07
	BEAM 17 650.00							
BENT 1 (BK)	BEAM 1 650.58	BEAM 2 650.69	BEAM 3 650.81	BEAM 4 650.92	BEAM 5 651.03	BEAM 6 651.14	BEAM 7 651.26	BEAM 8 651.37
(FWD)	650.60	650.71	650.83	650.94	651.05	651.16	651.28	651.39
(BK)	BEAM 9 651.37	BEAM 10 651.25	BEAM 11 651.13	BEAM 12 651.01	BEAM 13 650.90	BEAM 14 650.78	BEAM 15 650.68	BEAM 16 650.59
(FWD)	651.39	651.27	651.15	651.03	650.92	650.80	650.70	650.61
(BK)	BEAM 17 650.50							
(FWD)	650.51							
BENT 2 (BK)	BEAM 1 650.80	BEAM 2 650.91	BEAM 3 651.02	BEAM 4 651.14	BEAM 5 651.25	BEAM 6 651.36	BEAM 7 651.47	BEAM 8 651.59
(FWD)	650.80	650.92	651.03	651.14	651.25	651.37	651.48	651.59
(BK)	BEAM 9 651.59	BEAM 10 651.47	BEAM 11 651.35	BEAM 12 651.23	BEAM 13 651.11	BEAM 14 650.99	BEAM 15 650.88	BEAM 16 650.76
(FWD)	651.59	651.47	651.35	651.24	651.12	651.00	650.91	650.82
(BK)	BEAM 17 650.64	BEAM 18						
(FWD)	650.73	650.64						
NORTH ABUTMENT (BK)	BEAM 1 650.69	BEAM 2 650.81	BEAM 3 650.92	BEAM 4 651.03	BEAM 5 651.14	BEAM 6 651.26	BEAM 7 651.37	BEAM 8 651.48
	BEAM 9 651.48	BEAM 10 651.36	BEAM 11 651.25	BEAM 12 651.13	BEAM 13 651.01	BEAM 14 650.89	BEAM 15 650.78	BEAM 16 650.67
	BEAM 17 650.56	BEAM 18 650.45						



Note: For Details, See Standard Dwgs. No. 36 & 37.

Note: Luminaires and surface mounted conduit shall be provided and installed by others.

UNDERBRIDGE LIGHTING PLAN



BENT DRILLED SHAFT DATA

Bent	Location	Elevation A	Length of Shaft, L
Bent 1 South-bound	Lt. Column	632.88	7.88
	Center Col	633.19	8.19
	Rt Column	633.51	8.51
Bent 1 North-bound	Lt Column	633.50	8.50
	Center Col	633.15	8.15
	Rt Column	632.85	7.85
Bent 2 South-bound	Lt. Column	633.09	8.09
	Center Col	633.40	8.40
	Rt Column	633.72	8.72
Bent 2 North-bound	Lt Column	633.70	8.70
	Center Col	633.32	8.32
	Rt Column	632.95	7.95

* Notes: The cost of reinforcing steel to be included in the price bid for drilled shafts.
Bottom of shaft elevation is approximate and should be varied as required to provide a 5'-0" minimum penetration into unweathered rock.

BENT DRILLED SHAFT
Scale: ½"=1'-0"

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

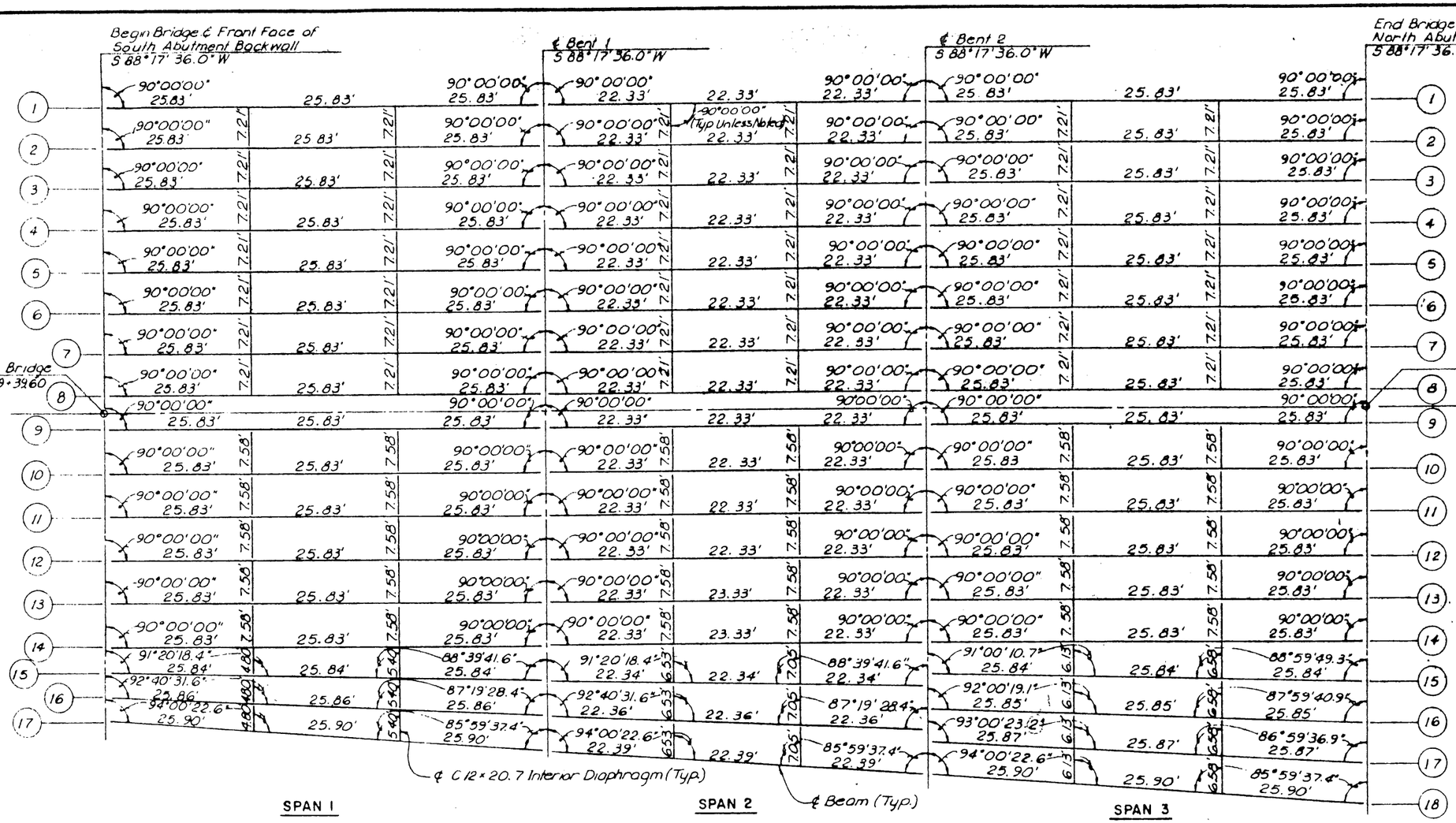
VERDE VALLEY LANE OVERPASS
BEARING SEAT ELEVATIONS AND
BENT DRILLED SHAFT DETAILS

Turner Collie & Braden Inc. Consulting Engineers | SECTION VI

DRAWN RGD DATE 4-83 | DESIGNED IJR DATE 3-83
CHECKED JRA DATE 5-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-11 OF S-82

004073



GENERAL FRAMING NOTES

1. Diaphragm Lengths are shown between Beam ℄s.
2. All dimensions shown are Horizontal and must be corrected for Grade, Crown and/or Superelevation.
3. Diaphragm locations are shown from Bent ℄ along Beam ℄ to ℄ of first Diaphragm and along Beam ℄s between Diaphragm ℄s.

Notes:
For Bent Details, see Sheets No. S-4 thru S-10
For Beam Details, see Sheet No. S-13
For Beam Spacings and Slab Details, see Sheets No. S-14 thru S-18

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

FRAMING PLAN

Turner Collie & Braden Inc. (Consulting Engineers)

SECTION VI

DESIGN BST DATE 2-83 | DRAWN JRA DATE 1-83
CHECKED JRA DATE 2-83 | SCALE 1" = 10'-0"

CONTRACT NO. DNT-114 SHEET S-12 OF S-82

C04080

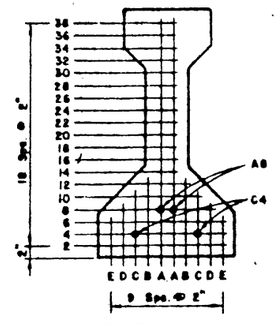
DESIGNED BEAMS (DEPRESSED STRANDS)

SPAN NUMBER	* SPAN LENGTH	BEAM NO.	BEAM LENGTH (FT.)	BEAM TYPE	PRESTRESSING STRANDS TOTAL NO.	TOTAL SIZE	TOTAL STRGTH	"g" ℄ In.	"g" END In.	DEPRESSED NO.	DEPRESSED TO	CONCRETE RELEASE STRENGTH f'ci (psi)	CONCRETE MINIMUM 28 DAY COMP. STRENGTH f'c (psi)
1	77'-6"	1-14	75.79	C	34	1/2"	270K	12.62	5.56	8	A-38	3260	5660
		15	75.81	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
		16	75.87		↓			↓	↓	↓	↓	↓	↓
		17	75.99		34			12.62	5.56	8	A-38	3260	5660
2	67'-0"	1-14	63.92		22			13.82	8.36	6	A-26	4000	5000
		15	63.94		↑			↑	↑	↑	↑	↑	↑
		16	64.00		↓			↓	↓	↓	↓	↓	↓
		17	64.09		22			13.82	8.36	6	A-26	4000	5000
3	77'-6"	1-14	75.79		34			12.62	5.56	8	A-38	3260	5660
		15	75.81		↑			↑	↑	↑	↑	↑	↑
		16	75.84		↓			↓	↓	↓	↓	↓	↓
		17	75.90		↓			↓	↓	↓	↓	↓	↓
		18	75.99	C	34	1/2"	270K	12.62	5.56	8	A-38	3260	5660

OPTIONAL DESIGN

DN. LOAD COMP STRESS (TOP ℄) fcl (psi)	DN. LOAD TENSILE STRESS (BOTT. ℄) ftob (psi)	REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (Ft-Kips)
3275	3600	3300
↑	↑	↑
↓	↓	↓
3275	3600	3300
2362	2690	2550
↑	↑	↑
↓	↓	↓
2362	2690	2550
3275	3600	3300
↑	↑	↑
↓	↓	↓
3275	3600	3300

* LENGTH AT ℄ OF TOLLWAY



TYPE C BM.

GENERAL NOTES:

Designed in accordance with current A.A.S.H.T.O. Specifications.

All concrete shall be Class H.

When shown on this sheet, the fabricator has the option of furnishing either the designed depressed strand beam or an approved optional beam design. Low relaxation strands may be used.

Prestressed losses for the designed beams have been calculated according to the A.A.S.H.T.O. 1982 Interim Specifications for a relative humidity of 65%. Optional designs shall likewise conform.

Certain beams with depressed strands are subject to cracking in the end of the beam. When such cracks occur, all subsequent beams of the same type and strand pattern shall have strands wrapped in the following manner:
1. Alternate rows of depressed strands shall be wrapped for 2 feet from each end of the beam.
2. One half of the straight strands, as nearly as possible, shall be wrapped for 4 feet from each end of the beam.
3. The wrapping pattern shall be symmetrical about the vertical axis of the beam for both depressed and straight strands.
4. Strands shall be wrapped so that the centers of gravity of the depressed strands and the straight strands will remain within 1 inch of their original location.
5. Strands shall be tightly wrapped with a waterproof adhesive tape or plastic tubing may be used provided both ends and the seam of the tube are sealed with a waterproof tape.
6. Revised shop drawings will not be required, but wrapping patterns, and the beams effected, shall appear on the as-built drawings.

For depressed strand designed beams, strands shall be located as low as possible on the 2" grid system shown hereon, unless a non-standard strand pattern is indicated. Fill Row "2", then Row "4", then Row "6", etc., beginning each row in the "A" position and working outward until the required number of strands is reached. All strands in the "A" position shall be depressed, maintaining the 2" spacing so that the upper two strands are in the position shown in the table at the beam ends.

Initial pretension for 1/2" 270 K strands = 28.9 K for regular stress relieved strand or 31.0 K for low relaxation strands.

Horizontal distances are shown for SPAN LENGTH and BEAM LENGTH. They must be corrected for grade or cross slope where appropriate.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

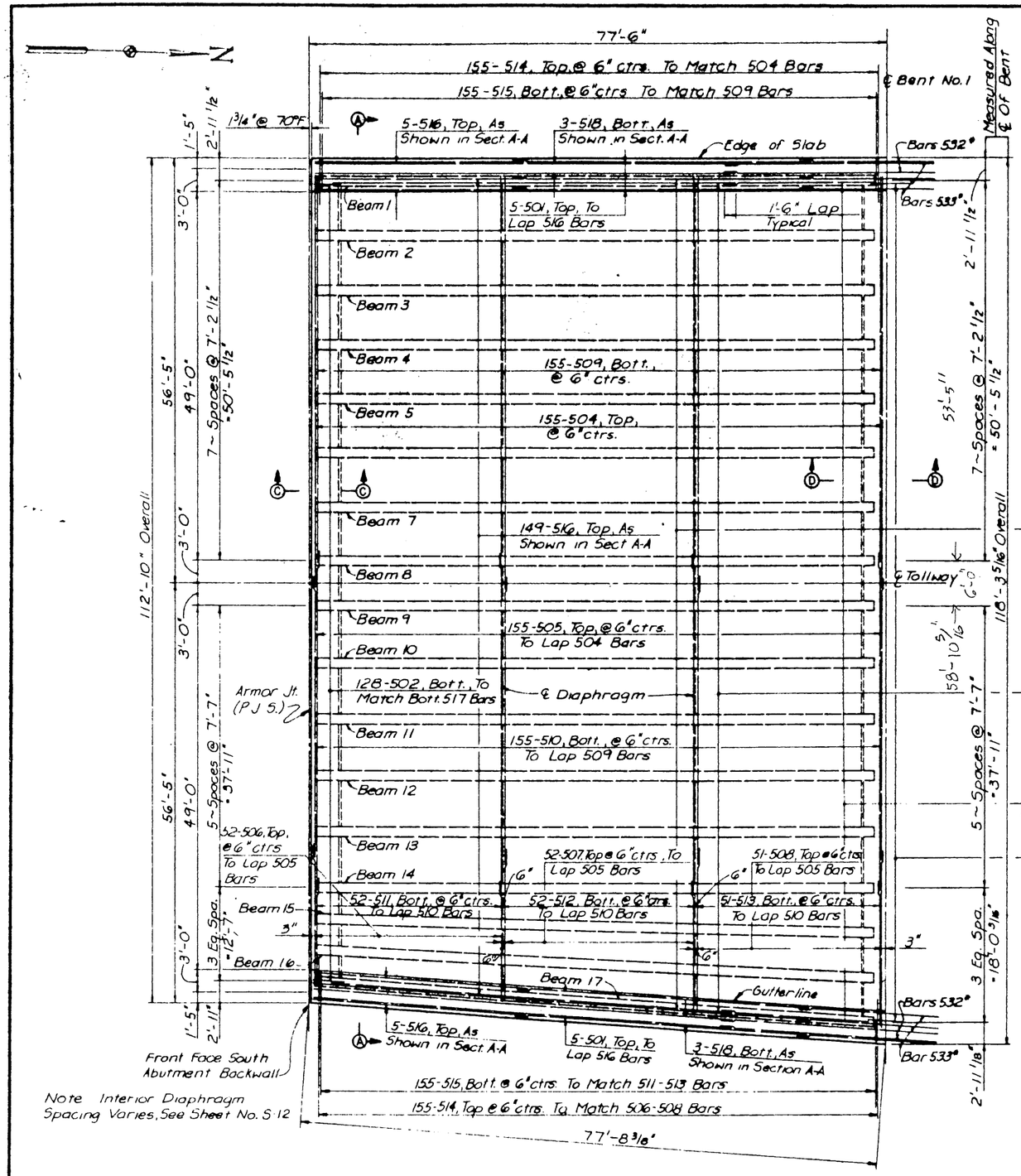
PRESTRESSED CONCRETE BEAMS

Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

DRAWN DRD DATE 2-83 DESIGNED FRW DATE 2-83
CHECKED FRW DATE 4-83 SCALE NO SCALE

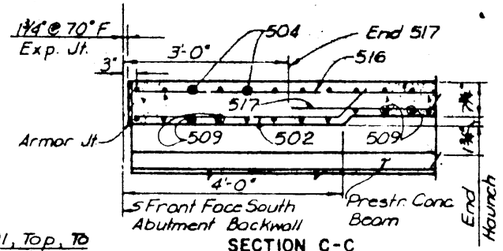
CONTRACT NO. DNT-114 SHEET S-13 OF S-82

004081



PLAN
Scale: 1/8"=1'-0"

Note: For Section A-A, see Sheet 4 of 5.



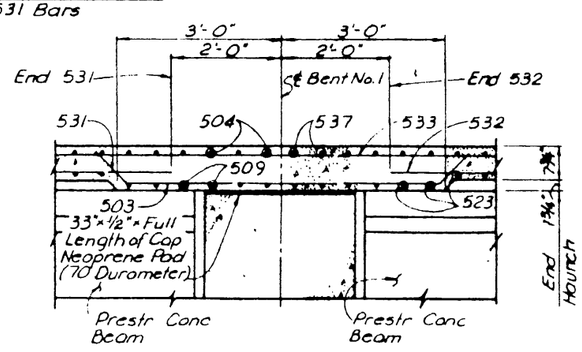
149-501, Top, To Lap 516 Bars

SECTION C-C
Scale: 3/4"=1'-0"

128-517, Bott., As Shown in Section A-A

128-531, Bott., To Lap 517 Bars

128-503, Bott., To Match Bott. 531 Bars



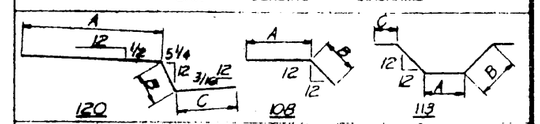
SECTION D-D
Scale: 3/4"=1'-0"

*See Reinforcement Bar Schedule, Sheet 2 Of 5.

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
501	159	39'-7"	Str.					6564
502	128	4'-5"	108	3'-8"	0'-9"			590
509	128	7'-2"	113	5'-8"	0'-9"	0'-0"		957
504	155	54'-8"	Str.					8838
505	155	38'-8"	Str.					6251
506	52	19'-5"	Str.					1053
507	52	21'-2"	Str.					1148
508	51	22'-7"	Str.					1201
509	165	51'-8"	Str.					8353
510	155	45'-5"	Str.					7342
511	52	16'-7"	Str.					845
512	52	17'-5"	Str.					935
513	51	19'-3"	Str.					1024
514	310	6'-3"	120	3'-11"	0'-10"	1'-6"		2021
515	310	4'-1"	Str.					1320
516	159	28'-9"	Str.					4768
517	128	54'-0"	Str.					7209
518	6	56'-10"	Str.					356
531	128	20'-3"	Str.					2709
							Total	63488

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
425	Prestr. Conc. Beams (Type C)	L.F.	288.73
422	Reinforced Concrete Slab	S.F.	8939
#440	Reinforcing Steel	Lb.	63488
442	Structural Steel (HYC)	Lb.	4958
442	Struct. Steel (HYC) (Armor Jt.)	Lb.	3602
450	Concrete Traffic Rail (Type T5)	L.F.	155.2
514	Concrete Traffic Barrier	L.F.	77.5
#421	Class "C" Concrete (Slab)	C.Y.	228.6

For Contractor's information only

NOTES

1. Concrete to be Class "C" Design strength fc = 1200 p.s.i. Steel Reinforcing to be ASTM A615 Grade 60 unless noted
2. For Concrete Traffic Rail (Type T5) details, see Standard Drawing No. 30.
3. For Armor Jt. details, see Standard Drawing No. 28
4. For Concrete Traffic Barrier details, see Standard Drawing No. 31 & 32.
5. For Slab Elevations and Dead Load Deflections, see Sheet No. S-19.
6. Dimensions Relating To Reinforcing Steel Are Outside To Outside Dimensions Of Bar.

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS
SLAB DETAILS - SPAN 1

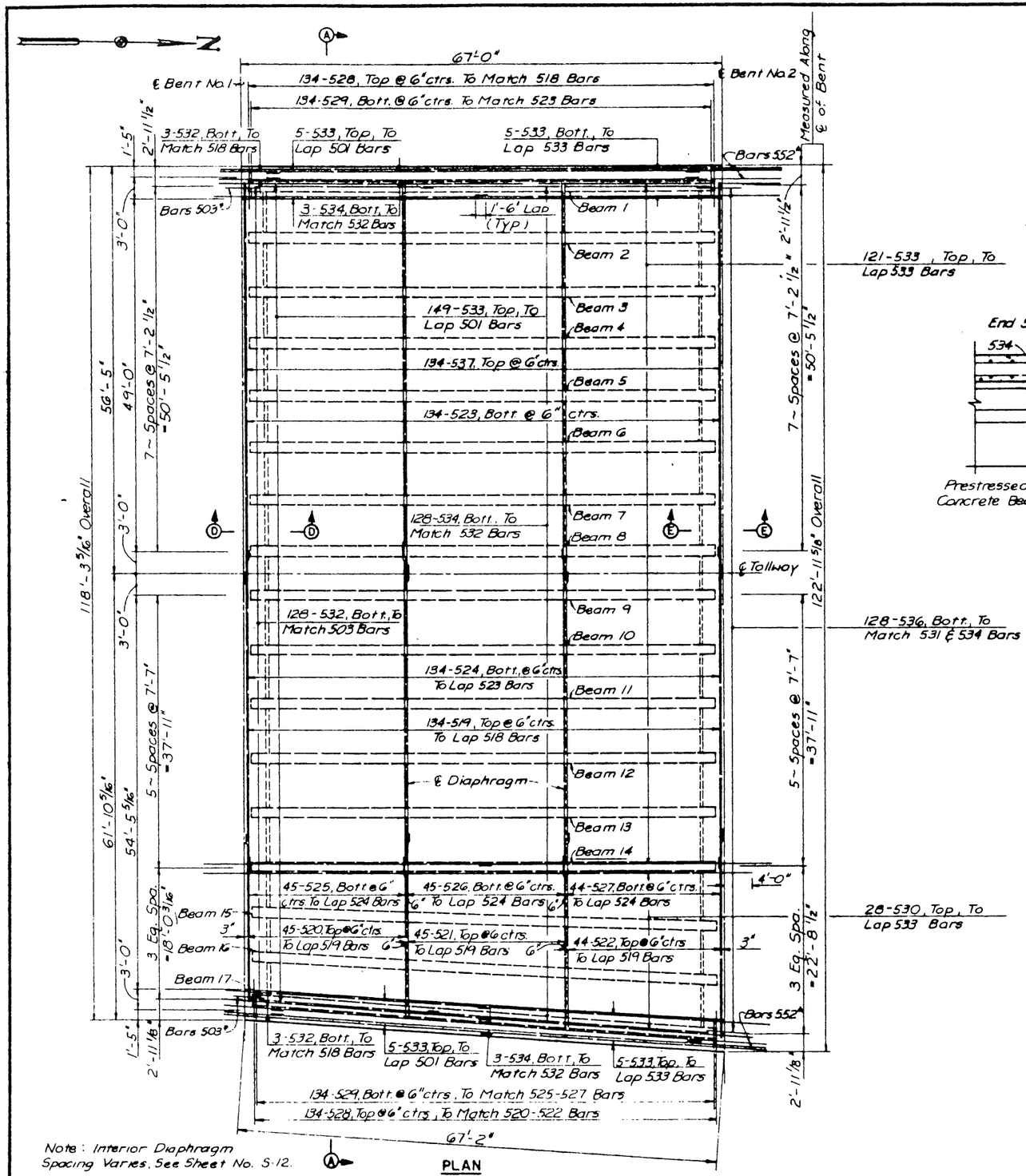
Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

DRAWN RGD DATE 3-83 DESIGNED FRW DATE 3-83
CHECKED FRW DATE 4-83 SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-14 OF S-82

1 OF 5

004082



PLAN

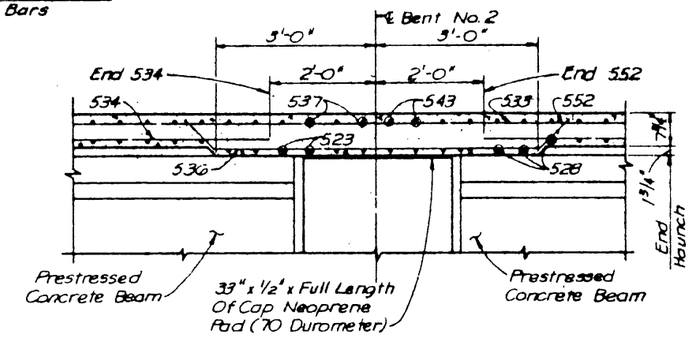
Scale: 1/8" = 1'-0"

Note: Interior Diaphragm Spacing Varies, See Sheet No. S-12.

*See Reinforcement Bar Schedule, Sheet 1 Of 5

*See Reinforcement Bar Schedule, Sheet 3 Of 5

Note: For Section D-D, See Sheet 1 Of 5
For Section A-A, See Sheet 4 Of 5



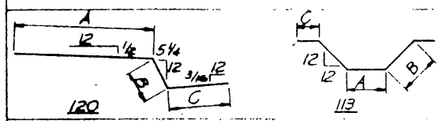
SECTION E-E

Scale: 3/4" = 1'-0"

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
519	134	38'-8"	Str.					5404
520	45	24'-7"	Str.					1154
521	45	26'-2"	Str.					1228
522	44	27'-8"	Str.					1270
523	134	51'-8"	Str.					7221
524	134	45'-5"	Str.					6348
525	45	20'-10"	Str.					978
526	45	22'-4"	Str.					1048
527	44	23'-11"	Str.					1098
528	268	6'-3"	120	3'-11"	0'-10"	1'-6"		1747
529	268	4'-1"	Str.					1141
530	28	38'-4"	Str.					1119
532	134	24'-8"	Str.					3448
533	290	46'-3"	Str.					13989
534	128	40'-0"	Str.					5340
535		Omitted						
536	128	7'-2"	113	5'-8"	0'-9"	0'-0"		957
537	134	54'-8"	Str.					7640
							Total	61130

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
425	Prestr. Conc. Beams (Type C)	L.F.	10869
422	Reinforced Concrete Slab	S.F.	8082
#440	Reinforcing Steel	Lb.	61130
442	Structural Steel (HYC)	Lb.	5168
450	Concrete Traffic Rail (Type T5)	L.F.	134.2
514	Concrete Traffic Barrier	L.F.	67.0
#421	Class C Concrete (Slab)	C.Y.	206.3

For Contractor's Information Only.

NOTES:

1. Concrete To Be Class C - Design Strength fc = 1200 psi. Steel Reinforcement To Be ASTM A615 Grade 60 Unless Noted
2. For Concrete Traffic Rail (Type T5) Details, See Standard Drawing No. 30.
3. For Concrete Traffic Barrier Details, See Standard Drawing No. 31 & 32.
4. For Slab Elevations And Dead Load Deflections, See Sheet No. S-20
5. Dimensions Relating To Reinforcing Steel Are Outside To Outside Dimensions Of Bars

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

SLAB DETAILS - SPAN 2

Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

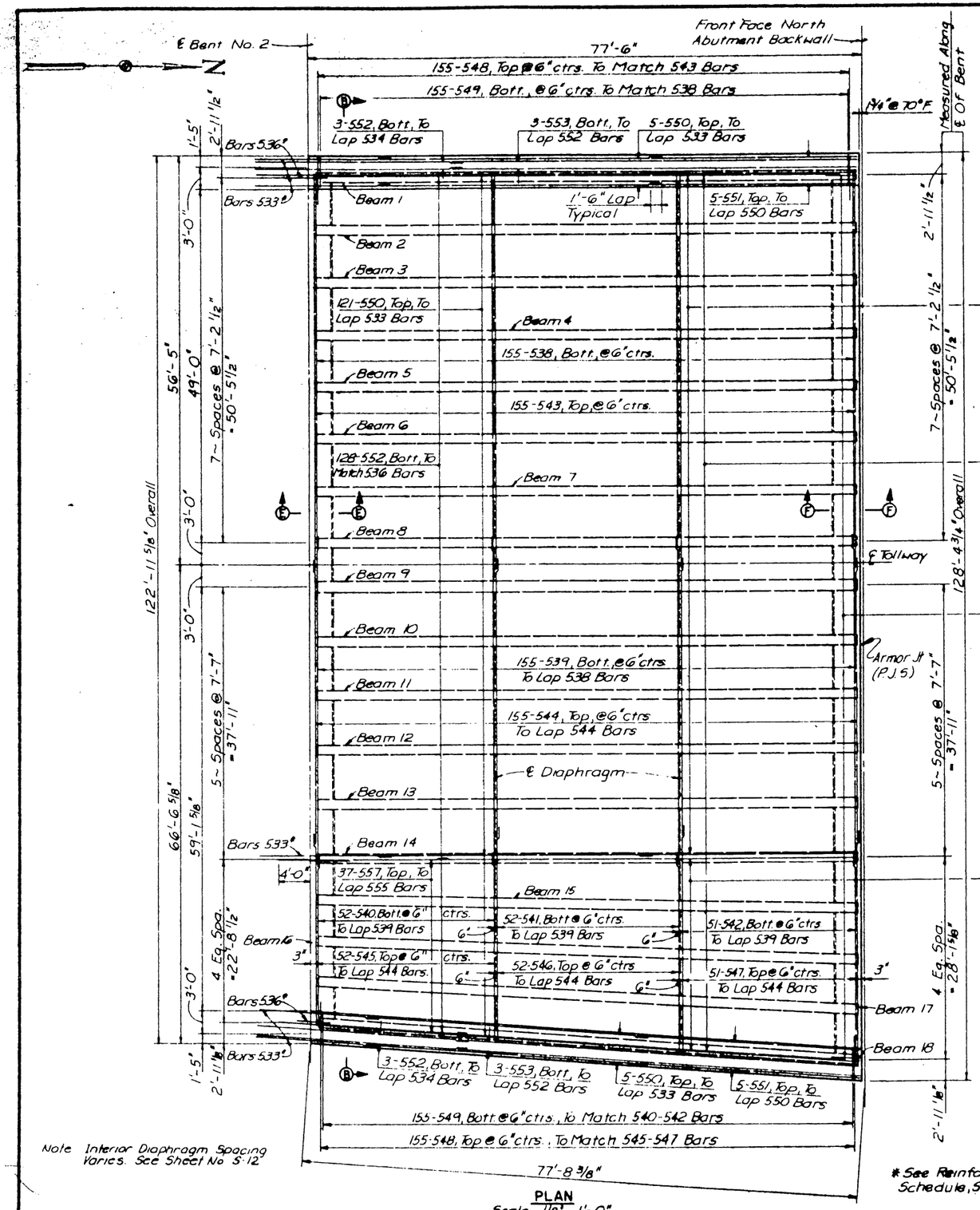
DRAWN RGD DATE 3-83 DESIGNED FRW DATE 3-83

CHECKED FRW DATE 4-83 SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-15 OF S-82

2 OF 5

004083

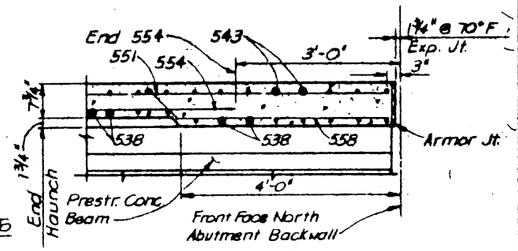


Note Interior Diaphragm Spacing Varies. See Sheet No S-12

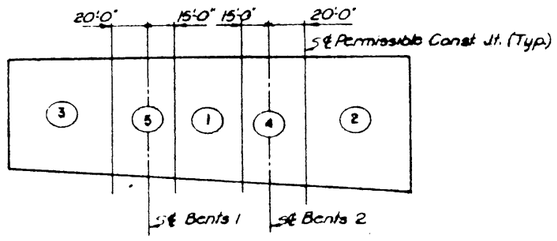
PLAN
Scale: 1/8" = 1'-0"

* See Reinforcement Bar Schedule, Sheet 2 Of 5

Note: For Section B-B, See Sheet 5 Of 5
For Section E-E, See Sheet 2 Of 5



SECTION F-F
Scale: 3/4" = 1'-0"

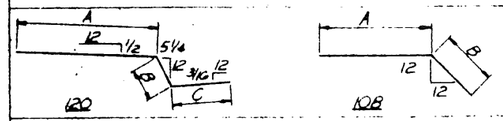


SLAB POUR SEQUENCE
N.T.S.

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
538	155	51'-8"	Str.					8353
539	155	45'-5"	Str.					7342
540	52	25'-9"	Str.					1397
541	52	27'-6"	Str.					1492
542	51	29'-4"	Str.					1560
543	155	54'-8"	Str.					8838
544	155	38'-8"	Str.					6251
545	52	29'-6"	Str.					1600
546	52	31'-4"	Str.					1699
547	51	33'-2"	Str.					1766
548	310	6'-3"	120	3'-11"	0'-10"	1'-6"		2021
549	310	4'-1"	Str.					1320
550	131	39'-7"	Str.					5408
551	131	28'-4"	Str.					3928
552	128	20'-3"	Str.					2703
559	6	56'-10"	Str.					356
554	128	54'-0"	Str.					7209
555	70	60'-0"	Str.					4381
556		Omitted						
557	37	23'-1"	Str.					891
558	136	4'-5"	108	3'-8"	0'-9"			627
							Total	69140

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
425	Prest. Conc. Beams (Type C)	L.F.	1364.60
422	Reinforced Concrete Slab	S.F.	9722
#440	Reinforcing Steel	Lb.	69140
442	Structural Steel (HYC)	Lb.	5423
442	Structural Steel (HYC) (Armor Jt)	Lb	4135
450	Concrete Traffic Rail (Type T.5)	L.F.	155.2
514	Concrete Traffic Barrier	L.F.	77.5
#421	Class "C" Concrete (Slab)	C.Y.	247.9

\# For Contractor's Information Only.

NOTES

1. Concrete To Be Class "C" - Design Strength fc = 1200 psi. Steel Reinforcement To Be A.S.T.M. A615 Grade 60 Unless Noted.
2. For Concrete Traffic Rail (Type T.5) Details, See Standard Drawing No. 30.
3. For Armor Joint Details, See Standard Drawing No. 28.
4. For Concrete Traffic Barrier Details, See Standard Drawing No. 31 & 32.
5. For Slab Elevations And Dead Load Deflections, See Sheet No. S-21.
6. Dimensions Relating To Reinforcing Steel Are Outside To Outside Dimensions Of Bar.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS
SLAB DETAILS - SPAN 3

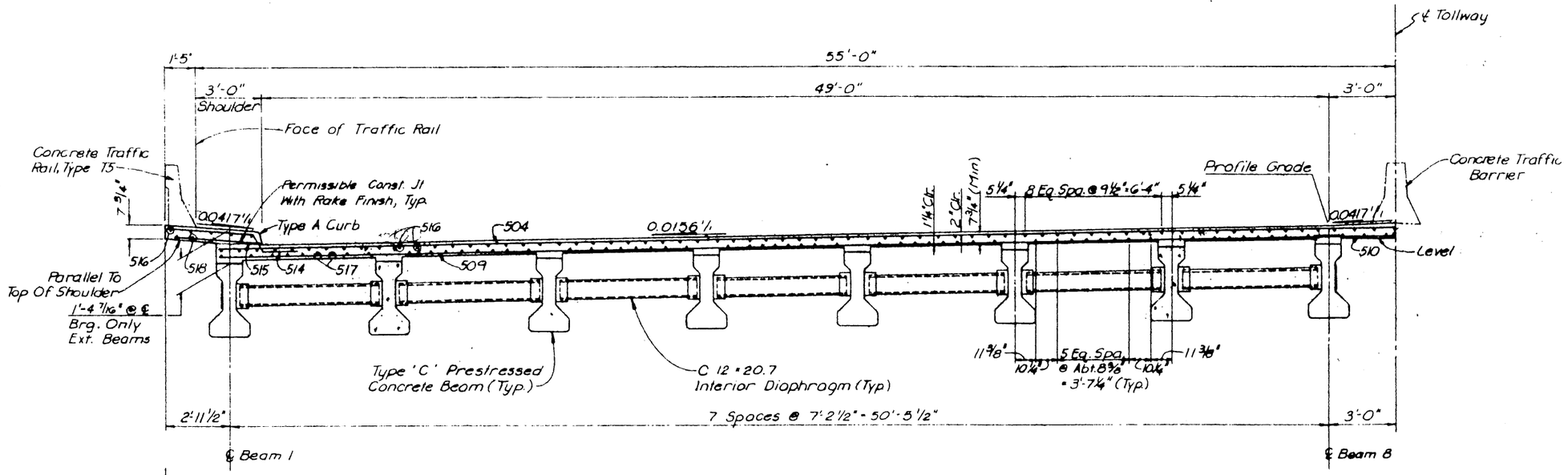
Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

DRAWN RGD DATE 3-83 CHECKED FRW DATE 4-83
DESIGNED FRW DATE 3-83 SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-16 OF S-82

3 OF 5

C04084



SECTION A-A

Scale: 3/8" = 1'-0"

NOTES:

1. For Dimensions And Details Of Type A Curb, See Standard Drawing No. 11.
2. For Dimensions And Details Of Concrete Traffic Rail, Type T5, See Standard Drawing No. 30.
3. For Dimensions And Details Of Concrete Traffic Barrier, See Standard Drawings No. 31 & 32.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

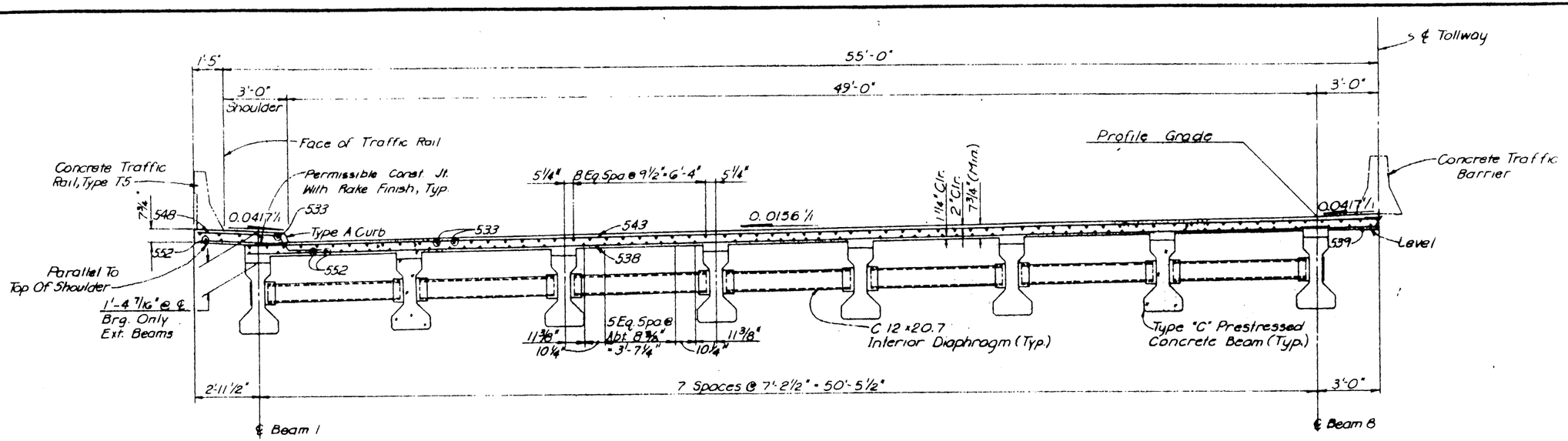
SLAB DETAILS - SECTION A-A

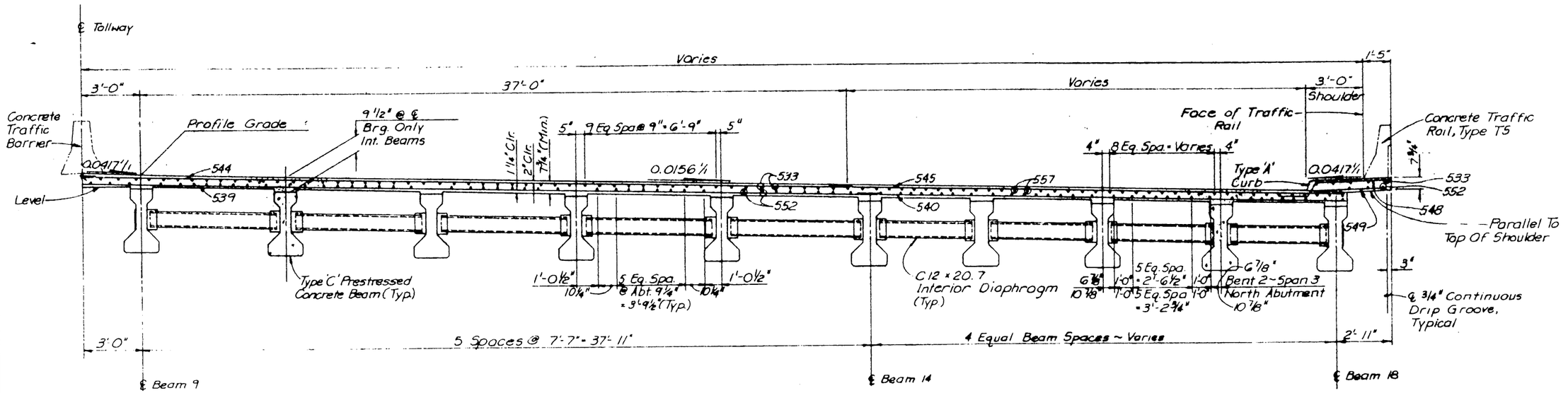
Turner Collie & Braden Inc. (consulting engineers) — SECTION VI

DRAWN BST	DATE 4-83	DESIGNED FRW	DATE 3-83
CHECKED FRW	DATE 4-83	SCALE AS NOTED	

CONTRACT NO. DNT-114 SHEET S-17 OF S-82

4 OF 5





SECTION B-B
Scale 3/8" = 1'-0"

NOTES:
1. For Dimensions And Details Of Type 'A' Curb, See Standard Drawing No. 11.
2. For Dimensions And Details Of Concrete Traffic Rail, Type T5, See Standard Drawing No. 30.
3. For Dimensions And Details Of Concrete Traffic Barrier, See Standard Drawings No. 31 & 32.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
VERDE VALLEY LANE OVERPASS
SLAB DETAILS - SECTION B-B

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN BST DATE 3-83 — DESIGNED FRW DATE 3-83
CHECKED FRW DATE 4-83 — SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-18 OF S-82

5 OF 8

004083

SLAB ELEVATIONS - LEFT EDGE OF SLAB

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	654.96
2	7.4875	655.03
3	14.9750	655.09
4	22.4625	655.15
5	29.9500	655.21
6	37.4375	655.27
7	44.9250	655.32
8	52.4125	655.37
9	59.9000	655.41
10	67.3875	655.46
11	74.8750	655.50

BEAM 1

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.25
2	7.4875	0.04	654.32
3	14.9750	0.06	654.39
4	22.4625	0.09	654.45
5	29.9500	0.10	654.51
6	37.4375	0.10	654.56
7	44.9250	0.10	654.61
8	52.4125	0.09	654.66
9	59.9000	0.06	654.71
10	67.3875	0.04	654.75
11	74.8750	0.00	654.79

SLAB ELEVATIONS - LEFT EDGE OF TRAVELWAY

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	654.28
2	7.4875	654.34
3	14.9750	654.41
4	22.4625	654.47
5	29.9500	654.53
6	37.4375	654.58
7	44.9250	654.64
8	52.4125	654.68
9	59.9000	654.73
10	67.3875	654.77
11	74.8750	654.81

BEAM 2

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.37
2	7.4875	0.04	654.43
3	14.9750	0.06	654.50
4	22.4625	0.09	654.56
5	29.9500	0.10	654.62
6	37.4375	0.10	654.67
7	44.9250	0.10	654.72
8	52.4125	0.09	654.77
9	59.9000	0.06	654.82
10	67.3875	0.04	654.86
11	74.8750	0.00	654.90

BEAM 3

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.48
2	7.4875	0.04	654.55
3	14.9750	0.06	654.61
4	22.4625	0.09	654.67
5	29.9500	0.10	654.73
6	37.4375	0.10	654.78
7	44.9250	0.10	654.84
8	52.4125	0.09	654.89
9	59.9000	0.06	654.93
10	67.3875	0.04	654.97
11	74.8750	0.00	655.02

BEAM 4

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.59
2	7.4875	0.04	654.66
3	14.9750	0.06	654.72
4	22.4625	0.09	654.78
5	29.9500	0.10	654.84
6	37.4375	0.10	654.90
7	44.9250	0.10	654.95
8	52.4125	0.09	655.00
9	59.9000	0.06	655.04
10	67.3875	0.04	655.09
11	74.8750	0.00	655.13

BEAM 5

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.70
2	7.4875	0.04	654.77
3	14.9750	0.06	654.84
4	22.4625	0.09	654.90
5	29.9500	0.10	654.96
6	37.4375	0.10	655.01
7	44.9250	0.10	655.06
8	52.4125	0.09	655.11
9	59.9000	0.06	655.16
10	67.3875	0.04	655.20
11	74.8750	0.00	655.24

BEAM 6

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.82
2	7.4875	0.04	654.88
3	14.9750	0.06	654.95
4	22.4625	0.09	655.01
5	29.9500	0.10	655.07
6	37.4375	0.10	655.12
7	44.9250	0.10	655.17
8	52.4125	0.09	655.22
9	59.9000	0.06	655.27
10	67.3875	0.04	655.31
11	74.8750	0.00	655.35

BEAM 7

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.93
2	7.4875	0.04	655.00
3	14.9750	0.06	655.06
4	22.4625	0.09	655.12
5	29.9500	0.10	655.18
6	37.4375	0.10	655.23
7	44.9250	0.10	655.29
8	52.4125	0.09	655.34
9	59.9000	0.06	655.38
10	67.3875	0.04	655.42
11	74.8750	0.00	655.46

BEAM 8

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.04
2	7.4875	0.04	655.11
3	14.9750	0.06	655.17
4	22.4625	0.09	655.23
5	29.9500	0.10	655.29
6	37.4375	0.10	655.35
7	44.9250	0.10	655.40
8	52.4125	0.09	655.45
9	59.9000	0.06	655.49
10	67.3875	0.04	655.54
11	74.8750	0.00	655.58

SLAB ELEVATIONS - LEFT PROFILE GRADE LINE

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.04
2	7.4875	655.11
3	14.9750	655.17
4	22.4625	655.23
5	29.9500	655.29
6	37.4375	655.35
7	44.9250	655.40
8	52.4125	655.45
9	59.9000	655.49
10	67.3875	655.54
11	74.8750	655.58

SLAB ELEVATIONS - CENTER-LINE OF TOLLWAY

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.17
2	7.4875	655.23
3	14.9750	655.30
4	22.4625	655.36
5	29.9500	655.42
6	37.4375	655.47
7	44.9250	655.53
8	52.4125	655.57
9	59.9000	655.62
10	67.3875	655.66
11	74.8750	655.70

SLAB ELEVATIONS - RIGHT PROFILE GRADE LINE

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.04
2	7.4875	655.11
3	14.9750	655.17
4	22.4625	655.23
5	29.9500	655.29
6	37.4375	655.35
7	44.9250	655.40
8	52.4125	655.45
9	59.9000	655.49
10	67.3875	655.54
11	74.8750	655.58

BEAM 9

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.04
2	7.4875	0.04	655.11
3	14.9750	0.06	655.17
4	22.4625	0.09	655.23
5	29.9500	0.10	655.29
6	37.4375	0.10	655.35
7	44.9250	0.10	655.40
8	52.4125	0.09	655.45
9	59.9000	0.06	655.49
10	67.3875	0.04	655.54
11	74.8750	0.00	655.58

BEAM 10

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.92
2	7.4875	0.04	654.99
3	14.9750	0.06	655.05
4	22.4625	0.09	655.12
5	29.9500	0.10	655.17
6	37.4375	0.10	655.23
7	44.9250	0.10	655.28
8	52.4125	0.09	655.33
9	59.9000	0.06	655.38
10	67.3875	0.04	655.42
11	74.8750	0.00	655.46

BEAM 11

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.80
2	7.4875	0.04	654.87
3	14.9750	0.06	654.94
4	22.4625	0.09	655.00
5	29.9500	0.10	655.06
6	37.4375	0.10	655.11
7	44.9250	0.10	655.16
8	52.4125	0.09	655.21
9	59.9000	0.06	655.26
10	67.3875	0.04	655.30
11	74.8750	0.00	655.34

BEAM 12

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.69
2	7.4875	0.04	654.75
3	14.9750	0.06	654.82
4	22.4625	0.09	654.88
5	29.9500	0.10	654.94
6	37.4375	0.10	654.99
7	44.9250	0.10	655.04
8	52.4125	0.09	655.09
9	59.9000	0.06	655.14
10	67.3875	0.04	655.18
11	74.8750	0.00	655.22

BEAM 13

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.57
2	7.4875	0.04	654.64
3	14.9750	0.06	654.70
4	22.4625	0.09	654.76
5	29.9500	0.10	654.82
6	37.4375	0.10	654.88
7	44.9250	0.10	654.93
8	52.4125	0.09	654.97
9	59.9000	0.06	655.02
10	67.3875	0.04	655.06
11	74.8750	0.00	655.10

BEAM 14

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.45
2	7.4875	0.04	654.52
3	14.9750	0.06	654.58
4	22.4625	0.09	654.64
5	29.9500	0.10	654.70
6	37.4375	0.10	654.76
7	44.9250	0.10	654.81
8	52.4125	0.09	654.86
9	59.9000	0.06	654.90
10	67.3875	0.04	654.95
11	74.8750	0.00	654.98

BEAM 15

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.38
2	7.4895	0.04	654.45
3	14.9791	0.06	654.51
4	22.4686	0.09	654.57
5	29.9582	0.10	654.62
6	37.4477	0.10	654.68
7	44.9372	0.10	654.73
8	52.4268	0.09	654.77
9	59.9163	0.06	654.82
10	67.4059	0.04	654.86
11	74.8954	0.00	654.89

BEAM 16

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.32
2	7.4957	0.04	654.38
3	14.9913	0.06	654.44
4	22.4870	0.09	654.49
5	29.9826	0.10	654.55
6	37.4783	0.10	654.60
7	44.9740	0.10	654.64
8	52.4696	0.09	654.69
9	59.9653	0.06	654.73
10	67.4610	0.04	654.77
11	74.9566	0.00	654.80

SLAB ELEVATIONS - RIGHT EDGE OF TRAVELWAY

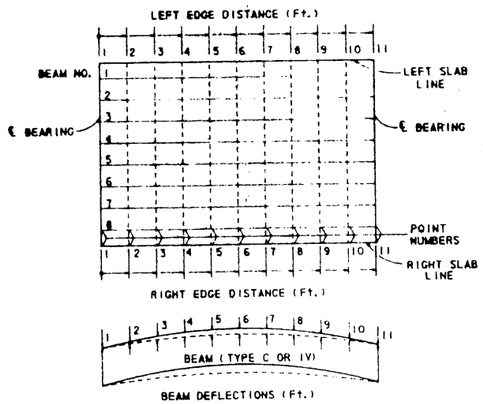
PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	654.28
2	7.5059	654.34
3	15.0117	654.39
4	22.5176	654.45
5	30.0234	654.49
6	37.5293	654.54
7	45.0351	654.59
8	52.5410	654.63
9	60.0468	654.66
10	67.5527	654.70
11	75.0585	654.73

BEAM 17

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.25
2	7.5059	0.04	654.31
3	15.0117	0.06	654.37
4	22.5176	0.09	654.42
5	30.0234	0.10	654.47
6	37.5293	0.10	654.52
7	45.0351	0.10	654.56
8	52.5410	0.09	654.60
9	60.0468	0.06	654.64
10	67.5527	0.04	654.67
11	75.0585	0.00	654.71

SLAB ELEVATIONS - RIGHT EDGE OF SLAB

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	654.96
2	7.5059	655.02
3	15.0117	655.08
4	22.5176	655.13
5	30.0234	655.18
6	37.5293	655.23
7	45.0351	655.27
8	52.5410	655.31
9	60.0468	655.35
10	67.5527	655.38
11	75.0585	655.41



NOTE: FOR SLAB LAYOUT, SEE SHEETS S-14 THRU S-16
FOR BEAM LAYOUT, SEE SHEET S-12.

NOTE: DEFLECTIONS SHOWN ARE DUE TO CAST-IN-PLACE CONCRETE ONLY.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

SLAB ELEVATIONS-SPAN 1

Turner Collie & Braden Inc. (Consulting Engineers) — SECTION VI

DRAWN RGD DATE 4-83 — DESIGNED TJR DATE 3-83

CHECKED TJR DATE 4-83 — SCALE NO SCALE

CONTRACT NO. DNT-114 SHEET S-19 OF S-82

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SPAN 2

SLAB ELEVATIONS - LEFT EDGE OF SLAB

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.52
2	6.3000	655.55
3	12.6000	655.57
4	18.9000	655.60
5	25.2000	655.62
6	31.5000	655.64
7	37.8000	655.66
8	44.1000	655.68
9	50.4000	655.69
10	56.7000	655.70
11	63.0000	655.71

BEAM 1

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.81
2	6.3000	0.02	654.84
3	12.6000	0.03	654.87
4	18.9000	0.04	654.89
5	25.2000	0.05	654.91
6	31.5000	0.05	654.94
7	37.8000	0.05	654.95
8	44.1000	0.04	654.97
9	50.4000	0.03	654.98
10	56.7000	0.02	655.00
11	63.0000	0.00	655.01

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	654.83
2	6.3000	654.86
3	12.6000	654.89
4	18.9000	654.91
5	25.2000	654.94
6	31.5000	654.96
7	37.8000	654.98
8	44.1000	654.99
9	50.4000	655.01
10	56.7000	655.02
11	63.0000	655.03

BEAM 2

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.92
2	6.3000	0.02	654.95
3	12.6000	0.03	654.98
4	18.9000	0.04	655.00
5	25.2000	0.05	655.03
6	31.5000	0.05	655.05
7	37.8000	0.05	655.07
8	44.1000	0.04	655.08
9	50.4000	0.03	655.10
10	56.7000	0.02	655.11
11	63.0000	0.00	655.12

BEAM 3

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.03
2	6.3000	0.02	655.06
3	12.6000	0.03	655.09
4	18.9000	0.04	655.12
5	25.2000	0.05	655.14
6	31.5000	0.05	655.16
7	37.8000	0.05	655.18
8	44.1000	0.04	655.20
9	50.4000	0.03	655.21
10	56.7000	0.02	655.22
11	63.0000	0.00	655.23

BEAM 4

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.15
2	6.3000	0.02	655.18
3	12.6000	0.03	655.20
4	18.9000	0.04	655.23
5	25.2000	0.05	655.25
6	31.5000	0.05	655.27
7	37.8000	0.05	655.29
8	44.1000	0.04	655.31
9	50.4000	0.03	655.32
10	56.7000	0.02	655.33
11	63.0000	0.00	655.34

BEAM 5

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.26
2	6.3000	0.02	655.29
3	12.6000	0.03	655.32
4	18.9000	0.04	655.34
5	25.2000	0.05	655.36
6	31.5000	0.05	655.39
7	37.8000	0.05	655.40
8	44.1000	0.04	655.42
9	50.4000	0.03	655.43
10	56.7000	0.02	655.45
11	63.0000	0.00	655.46

BEAM 6

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.37
2	6.3000	0.02	655.40
3	12.6000	0.03	655.43
4	18.9000	0.04	655.45
5	25.2000	0.05	655.48
6	31.5000	0.05	655.50
7	37.8000	0.05	655.52
8	44.1000	0.04	655.53
9	50.4000	0.03	655.55
10	56.7000	0.02	655.56
11	63.0000	0.00	655.57

BEAM 7

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.48
2	6.3000	0.02	655.51
3	12.6000	0.03	655.54
4	18.9000	0.04	655.57
5	25.2000	0.05	655.59
6	31.5000	0.05	655.61
7	37.8000	0.05	655.63
8	44.1000	0.04	655.65
9	50.4000	0.03	655.66
10	56.7000	0.02	655.67
11	63.0000	0.00	655.68

BEAM 8

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.60
2	6.3000	0.02	655.63
3	12.6000	0.03	655.65
4	18.9000	0.04	655.68
5	25.2000	0.05	655.70
6	31.5000	0.05	655.72
7	37.8000	0.05	655.74
8	44.1000	0.04	655.76
9	50.4000	0.03	655.77
10	56.7000	0.02	655.78
11	63.0000	0.00	655.79

SLAB ELEVATIONS - LEFT PROFILE GRADE LINE

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.60
2	6.3000	655.63
3	12.6000	655.65
4	18.9000	655.68
5	25.2000	655.70
6	31.5000	655.72
7	37.8000	655.74
8	44.1000	655.76
9	50.4000	655.77
10	56.7000	655.78
11	63.0000	655.79

SLAB ELEVATIONS - CENTER-LINE OF TOLLWAY

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.72
2	6.3000	655.75
3	12.6000	655.78
4	18.9000	655.80
5	25.2000	655.83
6	31.5000	655.85
7	37.8000	655.87
8	44.1000	655.88
9	50.4000	655.90
10	56.7000	655.91
11	63.0000	655.92

SLAB ELEVATIONS - RIGHT PROFILE GRADE LINE

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.60
2	6.3000	655.63
3	12.6000	655.65
4	18.9000	655.68
5	25.2000	655.70
6	31.5000	655.72
7	37.8000	655.74
8	44.1000	655.76
9	50.4000	655.77
10	56.7000	655.78
11	63.0000	655.79

BEAM 9

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.60
2	6.3000	0.02	655.63
3	12.6000	0.03	655.65
4	18.9000	0.04	655.68
5	25.2000	0.05	655.70
6	31.5000	0.05	655.72
7	37.8000	0.05	655.74
8	44.1000	0.04	655.76
9	50.4000	0.03	655.77
10	56.7000	0.02	655.78
11	63.0000	0.00	655.79

BEAM 10

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.48
2	6.3000	0.02	655.51
3	12.6000	0.03	655.53
4	18.9000	0.04	655.56
5	25.2000	0.05	655.58
6	31.5000	0.05	655.60
7	37.8000	0.05	655.62
8	44.1000	0.04	655.64
9	50.4000	0.03	655.65
10	56.7000	0.02	655.67
11	63.0000	0.00	655.68

BEAM 11

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.36
2	6.3000	0.02	655.39
3	12.6000	0.03	655.42
4	18.9000	0.04	655.44
5	25.2000	0.05	655.47
6	31.5000	0.05	655.49
7	37.8000	0.05	655.51
8	44.1000	0.04	655.52
9	50.4000	0.03	655.53
10	56.7000	0.02	655.55
11	63.0000	0.00	655.56

BEAM 12

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.24
2	6.3000	0.02	655.27
3	12.6000	0.03	655.30
4	18.9000	0.04	655.32
5	25.2000	0.05	655.35
6	31.5000	0.05	655.37
7	37.8000	0.05	655.39
8	44.1000	0.04	655.40
9	50.4000	0.03	655.42
10	56.7000	0.02	655.43
11	63.0000	0.00	655.44

BEAM 13

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.12
2	6.3000	0.02	655.15
3	12.6000	0.03	655.18
4	18.9000	0.04	655.21
5	25.2000	0.05	655.23
6	31.5000	0.05	655.25
7	37.8000	0.05	655.27
8	44.1000	0.04	655.28
9	50.4000	0.03	655.30
10	56.7000	0.02	655.31
11	63.0000	0.00	655.32

BEAM 14

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.01
2	6.3000	0.02	655.03
3	12.6000	0.03	655.06
4	18.9000	0.04	655.09
5	25.2000	0.05	655.11
6	31.5000	0.05	655.13
7	37.8000	0.05	655.15
8	44.1000	0.04	655.17
9	50.4000	0.03	655.18
10	56.7000	0.02	655.19
11	63.0000	0.00	655.20

BEAM 15

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.91
2	6.3017	0.02	654.94
3	12.6034	0.03	654.96
4	18.9052	0.04	654.99
5	25.2069	0.05	655.01
6	31.5086	0.05	655.03
7	37.8103	0.05	655.04
8	44.1120	0.04	655.06
9	50.4137	0.03	655.07
10	56.7155	0.02	655.08
11	63.0172	0.00	655.09

BEAM 16

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.82
2	6.3069	0.02	654.84
3	12.6137	0.03	654.86
4	18.9206	0.04	654.89
5	25.2275	0.05	654.90
6	31.5343	0.05	654.92
7	37.8412	0.05	654.93
8	44.1481	0.04	654.95
9	50.4549	0.03	654.96
10	56.7618	0.02	654.96
11	63.0687	0.00	654.97

SLAB ELEVATIONS - RIGHT EDGE OF TRAVELWAY

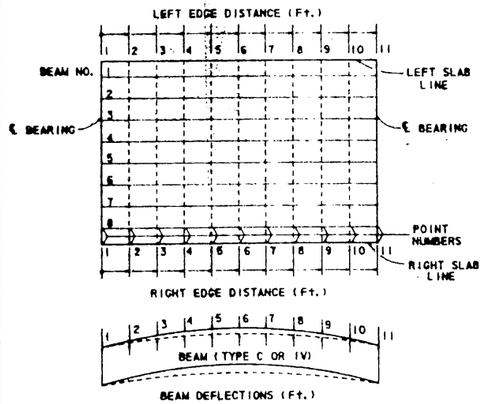
PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	654.75
2	6.3154	654.77
3	12.6309	654.79
4	18.9463	654.81
5	25.2618	654.82
6	31.5772	654.84
7	37.8926	654.85
8	44.2081	654.86
9	50.5235	654.87
10	56.8390	654.87
11	63.1544	654.87

BEAM 17

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.72
2	6.3154	0.02	654.74
3	12.6309	0.03	654.77
4	18.9463	0.04	654.78
5	25.2618	0.05	654.80
6	31.5772	0.05	654.81
7	37.8926	0.05	654.83
8	44.2081	0.04	654.84
9	50.5235	0.03	654.84
10	56.8390	0.02	654.85
11	63.1544	0.00	654.85

SLAB ELEVATIONS - RIGHT EDGE OF SLAB

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.43
2	6.3154	655.45
3	12.6309	655.47
4	18.9463	655.49
5	25.2618	655.51
6	31.5772	655.52
7	37.8926	655.53
8	44.2081	655.54
9	50.5235	655.55
10	56.8390	655.56
11	63.1544	655.56



NOTE: FOR SLAB LAYOUT, SEE SHEETS S-14 THRU S-16.
FOR BEAM LAYOUT, SEE SHEET S-12.

NOTE: DEFLECTIONS SHOWN ARE DUE TO CAST-IN-PLACE CONCRETE ONLY.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

SLAB ELEVATIONS-SPAN 2

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DESIGN RGD DATE 4-83 | DRAWN TJR DATE 3-83

CHECKED TJR DATE 4-83 | SCALE NO SCALE

CONTRACT NO DNT-114 SHEET S-20 OF S-82

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SPAN 3

SLAB ELEVATIONS - LEFT EDGE OF SLAB

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.72
2	7.4875	655.73
3	14.9750	655.73
4	22.4625	655.73
5	29.9500	655.73
6	37.4375	655.72
7	44.9250	655.72
8	52.4125	655.70
9	59.9000	655.69
10	67.3875	655.67
11	74.8750	655.65

BEAM 1

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.01
2	7.4875	0.04	655.02
3	14.9750	0.06	655.02
4	22.4625	0.09	655.02
5	29.9500	0.10	655.02
6	37.4375	0.10	655.02
7	44.9250	0.10	655.01
8	52.4125	0.09	655.00
9	59.9000	0.06	654.98
10	67.3875	0.04	654.97
11	74.8750	0.00	654.95

SLAB ELEVATIONS - LEFT EDGE OF TRAVELWAY

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.03
2	7.4875	655.04
3	14.9750	655.05
4	22.4625	655.05
5	29.9500	655.04
6	37.4375	655.04
7	44.9250	655.03
8	52.4125	655.02
9	59.9000	655.01
10	67.3875	654.99
11	74.8750	654.97

BEAM 2

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.12
2	7.4875	0.04	655.13
3	14.9750	0.06	655.14
4	22.4625	0.09	655.14
5	29.9500	0.10	655.14
6	37.4375	0.10	655.13
7	44.9250	0.10	655.12
8	52.4125	0.09	655.11
9	59.9000	0.06	655.09
10	67.3875	0.04	655.08
11	74.8750	0.00	655.06

BEAM 3

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.24
2	7.4875	0.04	655.24
3	14.9750	0.06	655.25
4	22.4625	0.09	655.25
5	29.9500	0.10	655.25
6	37.4375	0.10	655.24
7	44.9250	0.10	655.23
8	52.4125	0.09	655.22
9	59.9000	0.06	655.21
10	67.3875	0.04	655.19
11	74.8750	0.00	655.17

BEAM 4

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.35
2	7.4875	0.04	655.36
3	14.9750	0.06	655.36
4	22.4625	0.09	655.36
5	29.9500	0.10	655.36
6	37.4375	0.10	655.35
7	44.9250	0.10	655.35
8	52.4125	0.09	655.34
9	59.9000	0.06	655.32
10	67.3875	0.04	655.30
11	74.8750	0.00	655.28

BEAM 5

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.46
2	7.4875	0.04	655.47
3	14.9750	0.06	655.47
4	22.4625	0.09	655.47
5	29.9500	0.10	655.47
6	37.4375	0.10	655.47
7	44.9250	0.10	655.46
8	52.4125	0.09	655.45
9	59.9000	0.06	655.43
10	67.3875	0.04	655.41
11	74.8750	0.00	655.39

BEAM 6

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.57
2	7.4875	0.04	655.58
3	14.9750	0.06	655.59
4	22.4625	0.09	655.59
5	29.9500	0.10	655.58
6	37.4375	0.10	655.58
7	44.9250	0.10	655.57
8	52.4125	0.09	655.56
9	59.9000	0.06	655.54
10	67.3875	0.04	655.53
11	74.8750	0.00	655.51

BEAM 7

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.69
2	7.4875	0.04	655.69
3	14.9750	0.06	655.70
4	22.4625	0.09	655.70
5	29.9500	0.10	655.70
6	37.4375	0.10	655.69
7	44.9250	0.10	655.68
8	52.4125	0.09	655.67
9	59.9000	0.06	655.66
10	67.3875	0.04	655.64
11	74.8750	0.00	655.62

BEAM 8

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.80
2	7.4875	0.04	655.81
3	14.9750	0.06	655.81
4	22.4625	0.09	655.81
5	29.9500	0.10	655.81
6	37.4375	0.10	655.80
7	44.9250	0.10	655.80
8	52.4125	0.09	655.78
9	59.9000	0.06	655.77
10	67.3875	0.04	655.75
11	74.8750	0.00	655.73

SLAB ELEVATIONS - LEFT PROFILE GRADE LINE

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.80
2	7.4875	655.81
3	14.9750	655.81
4	22.4625	655.81
5	29.9500	655.81
6	37.4375	655.80
7	44.9250	655.80
8	52.4125	655.78
9	59.9000	655.77
10	67.3875	655.75
11	74.8750	655.73

SLAB ELEVATIONS - CENTER-LINE OF TOLLWAY

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.92
2	7.4875	655.93
3	14.9750	655.93
4	22.4625	655.94
5	29.9500	655.93
6	37.4375	655.93
7	44.9250	655.92
8	52.4125	655.91
9	59.9000	655.90
10	67.3875	655.88
11	74.8750	655.86

SLAB ELEVATIONS - RIGHT PROFILE GRADE LINE

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.80
2	7.4875	655.81
3	14.9750	655.81
4	22.4625	655.81
5	29.9500	655.81
6	37.4375	655.80
7	44.9250	655.80
8	52.4125	655.78
9	59.9000	655.77
10	67.3875	655.75
11	74.8750	655.73

BEAM 9

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.80
2	7.4875	0.04	655.81
3	14.9750	0.06	655.81
4	22.4625	0.09	655.81
5	29.9500	0.10	655.81
6	37.4375	0.10	655.80
7	44.9250	0.10	655.80
8	52.4125	0.09	655.78
9	59.9000	0.06	655.77
10	67.3875	0.04	655.75
11	74.8750	0.00	655.73

BEAM 10

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.68
2	7.4875	0.04	655.69
3	14.9750	0.06	655.69
4	22.4625	0.09	655.69
5	29.9500	0.10	655.69
6	37.4375	0.10	655.69
7	44.9250	0.10	655.68
8	52.4125	0.09	655.67
9	59.9000	0.06	655.65
10	67.3875	0.04	655.63
11	74.8750	0.00	655.61

BEAM 11

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.56
2	7.4875	0.04	655.57
3	14.9750	0.06	655.57
4	22.4625	0.09	655.58
5	29.9500	0.10	655.57
6	37.4375	0.10	655.57
7	44.9250	0.10	655.56
8	52.4125	0.09	655.55
9	59.9000	0.06	655.53
10	67.3875	0.04	655.52
11	74.8750	0.00	655.49

BEAM 12

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.44
2	7.4875	0.04	655.45
3	14.9750	0.06	655.46
4	22.4625	0.09	655.46
5	29.9500	0.10	655.45
6	37.4375	0.10	655.45
7	44.9250	0.10	655.44
8	52.4125	0.09	655.43
9	59.9000	0.06	655.41
10	67.3875	0.04	655.40
11	74.8750	0.00	655.38

BEAM 13

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.33
2	7.4875	0.04	655.33
3	14.9750	0.06	655.34
4	22.4625	0.09	655.34
5	29.9500	0.10	655.34
6	37.4375	0.10	655.33
7	44.9250	0.10	655.32
8	52.4125	0.09	655.31
9	59.9000	0.06	655.30
10	67.3875	0.04	655.28
11	74.8750	0.00	655.26

BEAM 14

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.21
2	7.4875	0.04	655.22
3	14.9750	0.06	655.22
4	22.4625	0.09	655.22
5	29.9500	0.10	655.22
6	37.4375	0.10	655.21
7	44.9250	0.10	655.20
8	52.4125	0.09	655.19
9	59.9000	0.06	655.18
10	67.3875	0.04	655.16
11	74.8750	0.00	655.14

BEAM 15

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.12
2	7.4886	0.04	655.12
3	14.9773	0.06	655.13
4	22.4659	0.09	655.13
5	29.9546	0.10	655.12
6	37.4432	0.10	655.11
7	44.9319	0.10	655.10
8	52.4205	0.09	655.09
9	59.9092	0.06	655.07
10	67.3978	0.04	655.05
11	74.8865	0.00	655.03

BEAM 16

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	655.03
2	7.4921	0.04	655.03
3	14.9842	0.06	655.03
4	22.4763	0.09	655.03
5	29.9684	0.10	655.02
6	37.4605	0.10	655.01
7	44.9525	0.10	655.00
8	52.4446	0.09	654.99
9	59.9367	0.06	654.97
10	67.4288	0.04	654.95
11	74.9209	0.00	654.92

BEAM 17

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.94
2	7.4978	0.04	654.94
3	14.9957	0.06	654.94
4	22.4935	0.09	654.93
5	29.9913	0.10	654.93
6	37.4891	0.10	654.91
7	44.9870	0.10	654.90
8	52.4848	0.09	654.88
9	59.9826	0.06	654.86
10	67.4804	0.04	654.84
11	74.9783	0.00	654.81

SLAB ELEVATIONS - RIGHT EDGE OF TRAVELWAY

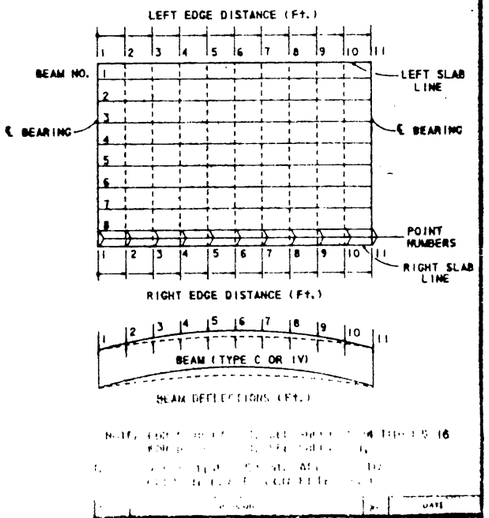
PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	654.88
2	7.5059	654.87
3	15.0117	654.87
4	22.5176	654.86
5	30.0234	654.85
6	37.5293	654.84
7	45.0351	654.82
8	52.5410	654.80
9	60.0468	654.78
10	67.5527	654.76
11	75.0585	654.73

BEAM 18

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	654.85
2	7.5059	0.04	654.85
3	15.0117	0.06	654.85
4	22.5176	0.09	654.84
5	30.0234	0.10	654.83
6	37.5293	0.10	654.82
7	45.0351	0.10	654.80
8	52.5410	0.09	654.78
9	60.0468	0.06	654.76
10	67.5527	0.04	654.73
11	75.0585	0.00	654.70

SLAB ELEVATIONS - RIGHT EDGE OF SLAB

PT. NO.	SLAB DISTANCE	SURFACE ELEVATION
1	0.0000	655.56
2	7.5059	655.56
3	15.0117	655.55
4	22.5176	655.55
5	30.0234	655.54
6	37.5293	655.52
7	45.0351	655.51
8	52.5410	655.49
9	60.0468	655.46
10	67.5527	655.44
11	75.0585	655.41



TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE OVERPASS

SLAB ELEVATIONS-SPAN 3

Turner Collie & Braden Inc. | SECTION VI

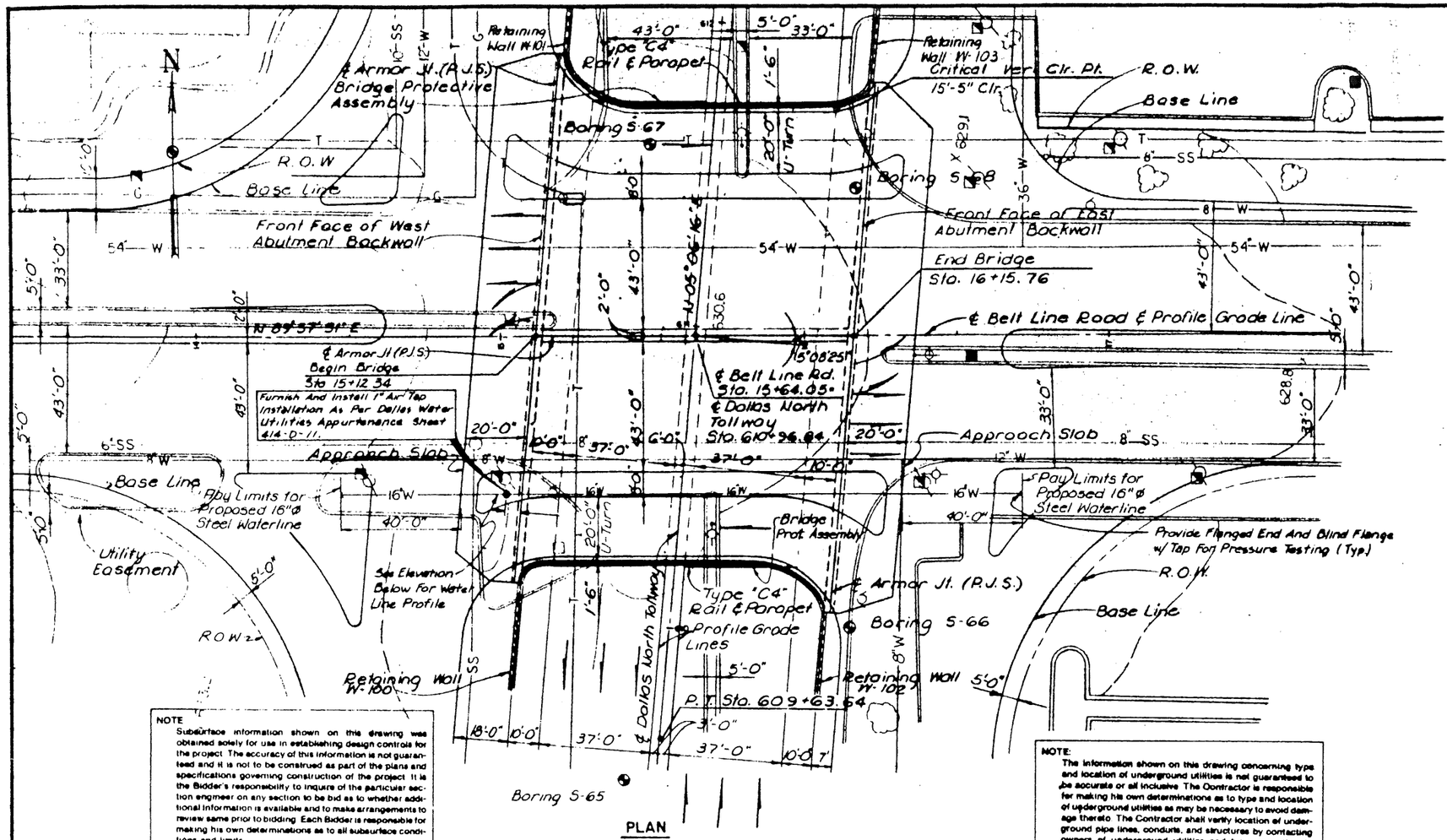
DRAWN RGD DATE 4-83 | DESIGNED TJR DATE 3-83

CHECKED TJR DATE 4-83 | SCALE NO SCALE

CONTRACT NO DNT-114 SHEET S-21 OF S-82

3 OF 3

004089



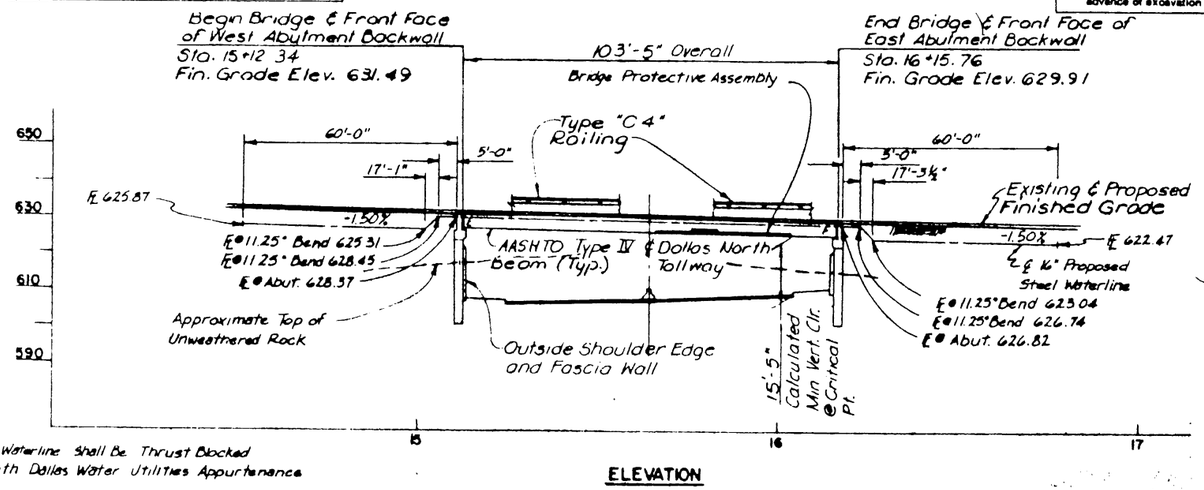
PLAN

NOTE

Subsurface information shown on this drawing was obtained solely for use in establishing design controls for the project. The accuracy of this information is not guaranteed and it is not to be construed as part of the plans and specifications governing construction of the project. It is the Bidder's responsibility to inquire of the particular section engineer on any section to be bid as to whether additional information is available and to make arrangements to review same prior to bidding. Each Bidder is responsible for making his own determinations as to all subsurface conditions and limits.

NOTE:

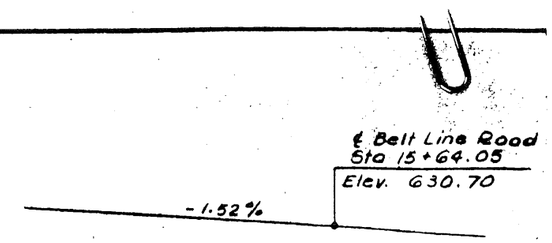
The information shown on this drawing concerning type and location of underground utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor shall verify location of underground pipe lines, conduits, and structures by contacting owners of underground utilities and by prospecting in advance of excavation operations.



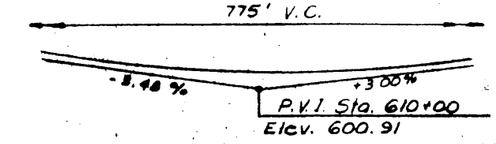
ELEVATION

NOTE:

1. All Bends On 16" Waterline Shall Be Thrust Blocked In Accordance With Dallas Water Utilities Appurtenance Sheet 414-D-15.
2. All Joints of 16" Waterline Shall Be Welded.



PROFILE GRADE LINE - BELT LINE ROAD



PROFILE GRADE LINE - TOLLWAY

GENERAL NOTES:

Designed according to AASHTO 1977 Standard and Interim Specifications thru 1982 for an HS20-44 loading.

Bridge Protective Assembly shall be attached to the outside face of exterior beams to points 6 inches beyond the limits of the roadway at the locations shown. For details, see Standard Drawing No. 29.

For Traffic Barrier and Combination Rail Details, See Standard Drawings No. 31, 32, & 33.

All dimensions are horizontal or vertical and must be corrected for Grade, Crown, and/or Superelevation.

BENCHMARK DATA

Chiseled Square in Concrete Curb at Nose Point of Triangular Island that Frames a Steak and Ale Sign at N.W. Corner of Steak and Ale Parking Lot at Intersection of Belt Line Road and Sakowitz Drive, Approximately 500 Feet East of Dallas Parkway Along Belt Line Road, El 625.59.

ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30" ø)	L.F.	2632
421	Class "C" Concrete (Abutment)	C.Y.	170.0
422	Reinforced Concrete Slab	S.F.	16049
423	Retaining Wall (Fascia Wall)	S.F.	5369
425	Prestr. Conc. Beams (AASHTO Type IV)	L.F.	1855.50
436	Preformed Joint Sealer (2 in.)	L.F.	456
440	Reinforcing Steel	Lb.	11,999
442	Struct. Steel (H.Y.C.)	Lb.	16072
442	Struct. Steel (H.Y.C.) (Armor Jt.)	Lb.	15,624
444	Bridge Protective Assembly	Ea.	2
450	Railing, Type C4	L.F.	192.1
556	Filter Material (Type D)	C.Y.	110
442	Struct. Steel (Pipe Roll Stands & Steps)	Lb.	263
618	Conduit (Galvanized) (1")	L.F.	296
618	Conduit (Galvanized) (1½")	L.F.	113
900	Filter Well (12" ø)	L.F.	713
901	Steel Pipe And Fittings (16" Dia.)	L.F.	226

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD UNDERPASS

GENERAL PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers

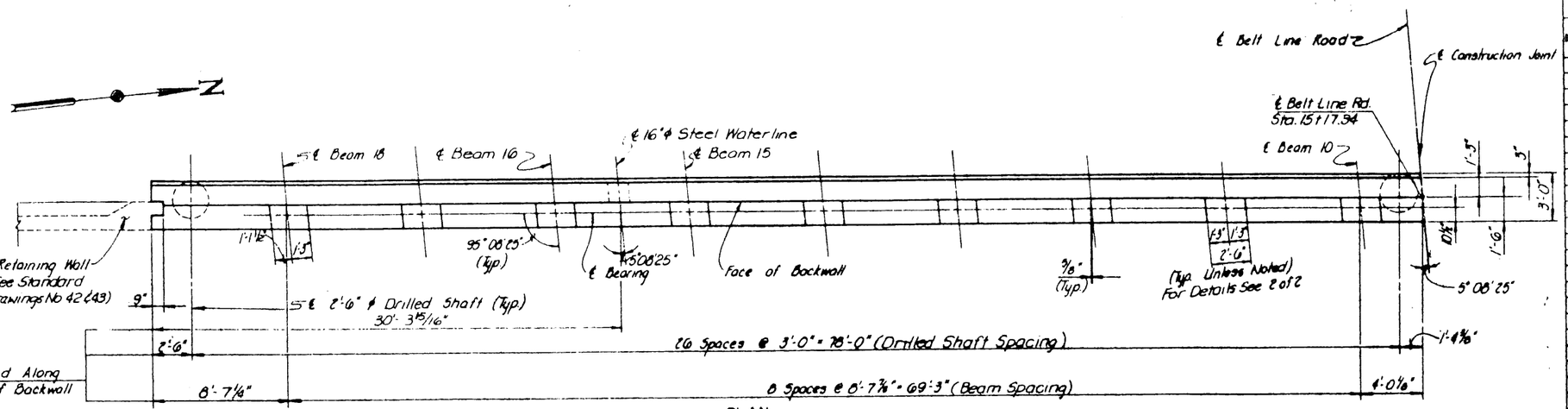
SECTION VI

DESIGNED BST DATE 2-83 CHECKED JRA DATE 5-83

DRAWN JRA DATE 2-85 SCALE 1" = 20'-0"

CONTRACT NO. DNT-114 SHEET S-22 OF S-8

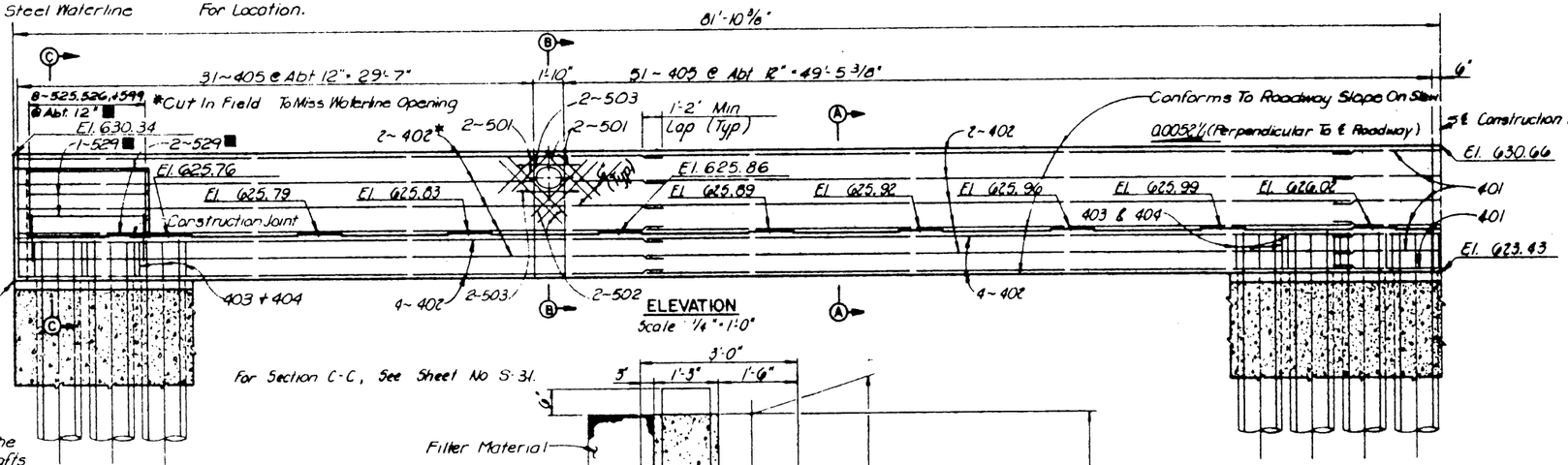
004090



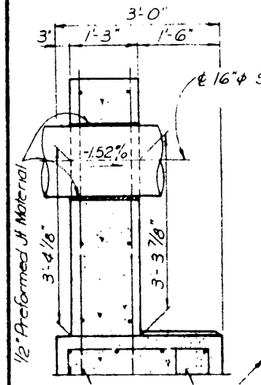
PLAN
Scale 1/4" = 1'-0"

△Note: Waterline Opening Reinforcing Not Shown For Clarity

■ See Section C-C, Sheet S-31, For Location.

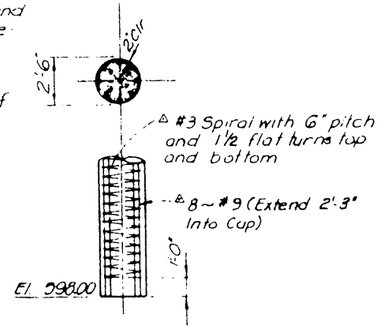


ELEVATION
Scale 1/4" = 1'-0"



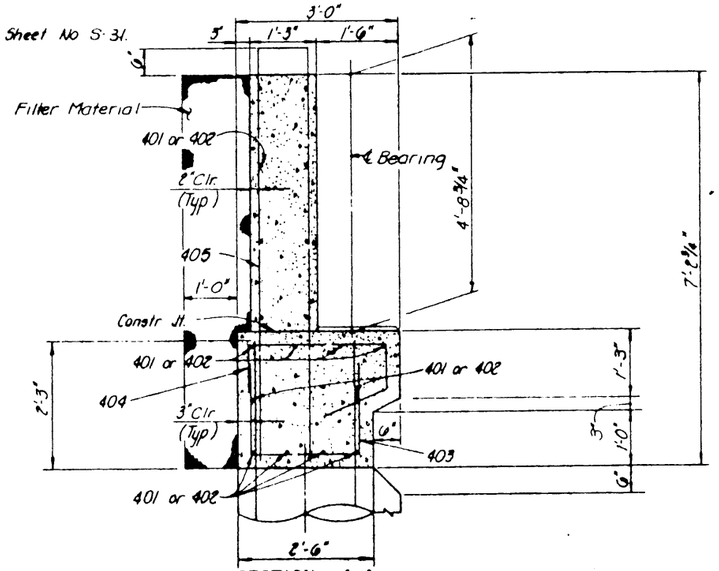
△SECTION B-B
Scale 3/4" = 1'-0"

△Note
The cost of reinforcing steel to be included in the price bid for drilled shafts. Bottom of drilled shaft elevation is approximate and should be varied as required to provide 8'-0" minimum penetration into unweathered rock measured from top of finished grade.



DRILLED SHAFTS (TYP.)

For Section C-C, See Sheet No S-31.



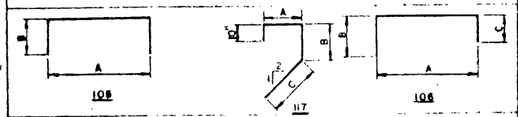
SECTION A-A
Scale 3/4" = 1'-0"

NOTES:
1. All concrete shall be Class "C", Design f_c = 1200 p.s.i. Chamfer all exposed corners 3/4" unless otherwise noted
2. All reinforcing steel shall be ASTM A615 Grade 60.
3. Dimensions relating to reinforcing steel are to outside dimension of bar, with radii shown to the inside of bar.
4. For Drilled Shaft and Fascia Wall Details, See Sheet No. S-35.
5. Elevations shown, other than the Bearing Seat Elevations, are given at front face of Abutment Backwall.
6. For under bridge lighting conduit details, see Standard Drawing No. 36 and "Underbridge Lighting Plan" on Sheet 4 of 5.

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	36	50'-8"	Str.					1818
402	36	39'-0"	Str.					938
403	174	5'-4"	105	2'-0"	1'-8"			620
404	174	5'-6"	117	2'-6"	0'-11"	1'-3"		639
405	177	15'-11"	105	0'-11"	7'-6"			1882
							Total	5297
501	8	3'-6"	Str.					29
502	8	5'-0"	Str.					42
503	4	4'-0"	Str.					17
524	6	18'-8"	Str.					117
525	28	5'-5"	105	2'-5"	1'-6"			158
526	28	7'-7"	106	2'-5"	1'-6"	3'-8"		221
529	6	6'-5"	Str.					40
599	28	2'-6"	Str.					73
							Total	697
							Total	5994

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30"ϕ)	L.F.	1448
421	Class "C" Concrete (Abutment)	C.Y.	85.0
423	Retaining Wall (Fascia Wall)	S.F.	3617
440	Reinforcing Steel	Lb.	5994
556	Filter Material (Type D)	C.Y.	55
900	Filter Wall (12"ϕ)	L.F.	364

NOTE:
Armor Joint at Abutment is included in the Slab Details Drawings, Item No. 442 Quantity.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
BELT LINE ROAD UNDERPASS
WEST ABUTMENT DETAILS

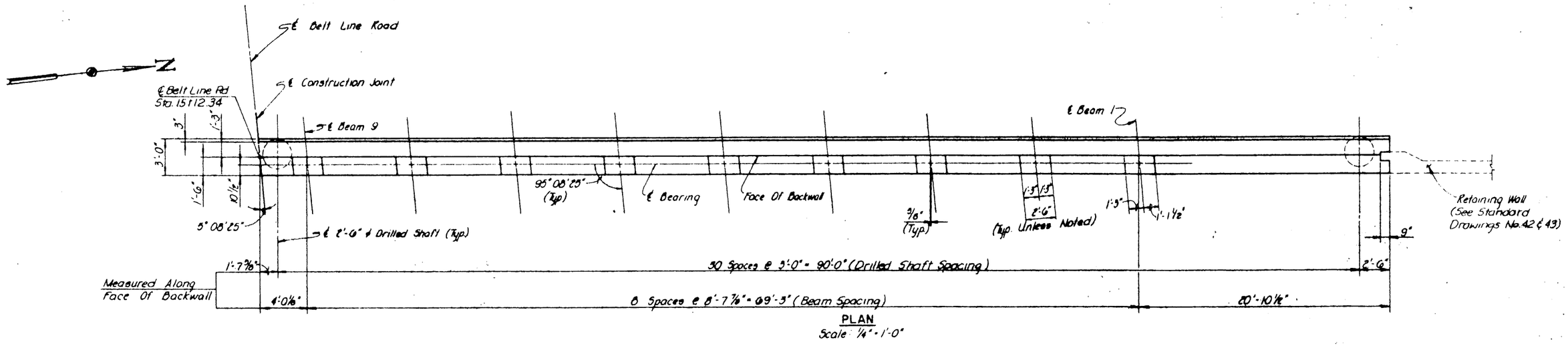
Turner Collie & Braden Inc. Consulting Engineers | SECTION VI

DRAWN DRD DATE 4-83 | DESIGNED FRW DATE 3-83
CHECKED FRW DATE 4-83 | SCALE AS NOTED

1 OF 2

CONTRACT NO. DNT-114 SHEET S-23 OF S-87

004091



NOTES:
1 See West Abutment Details, 1 of 2 for Notes, Estimated Quantities and Details not shown

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD UNDERPASS

WEST ABUTMENT DETAILS

Turner Collie & Braden Inc. (Consulting Engineers) | SECTION VI

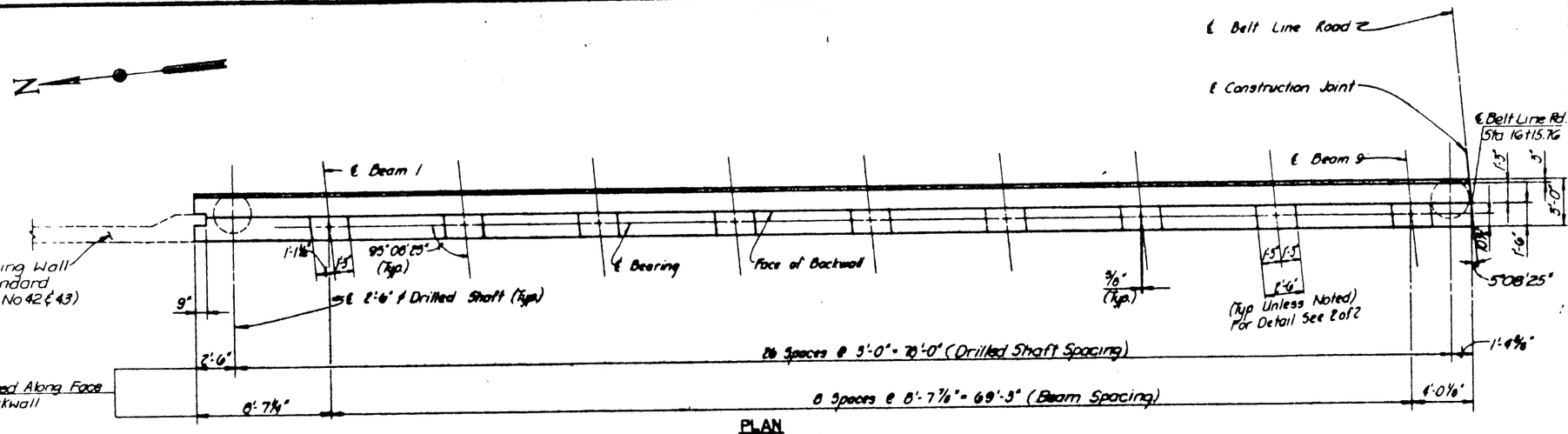
DRAWN DRD DATE 4-83 | DESIGNED FRW DATE 3-83

CHECKED FRW DATE 4-83 | SCALE AS NOTED

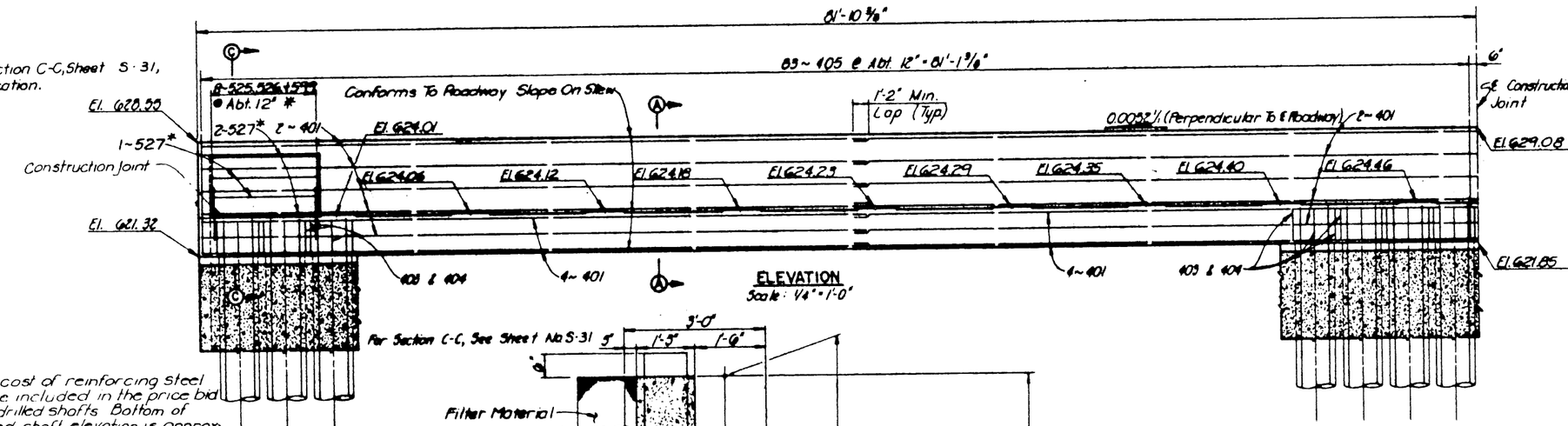
CONTRACT NO DNT-114 SHEET S-24 OF S-82

2 OF 2

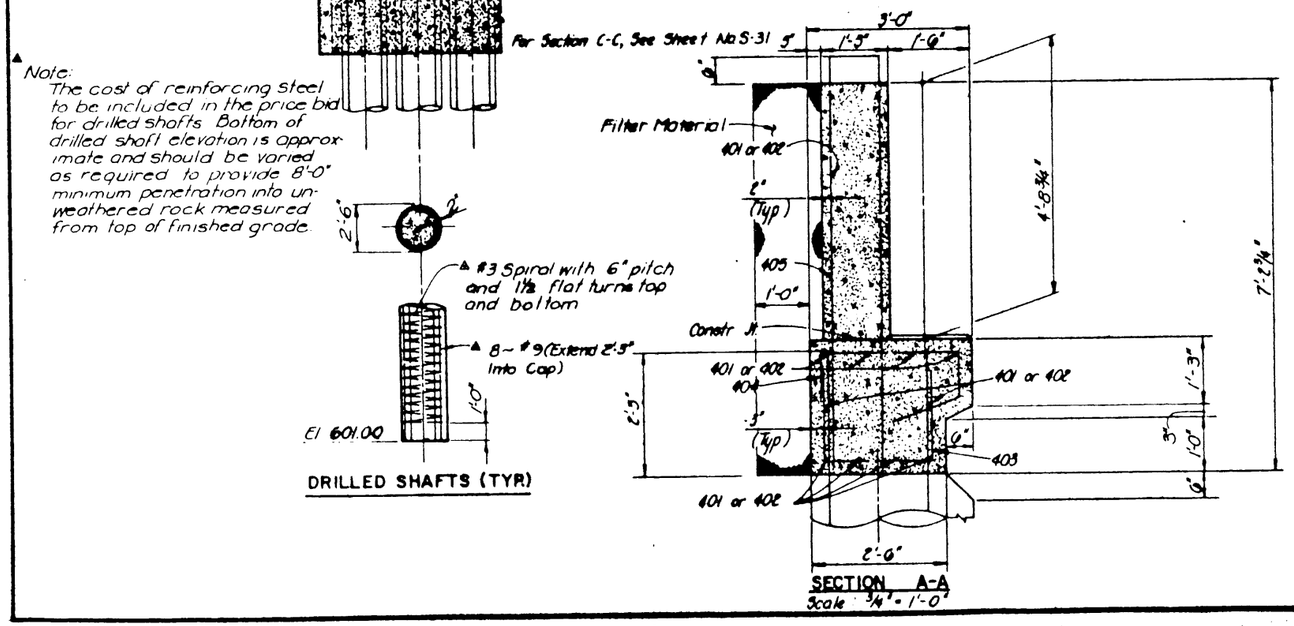
004092



PLAN
Scale: ¼" = 1'-0"



ELEVATION
Scale: ¼" = 1'-0"

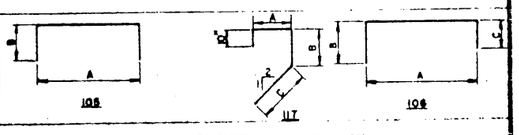


NOTES:
1. All concrete shall be Class "C", Design fc = 4000 p.s.i. Chamfer all exposed corners ¾" unless otherwise noted.
2. All reinforcing steel shall be ASTM A615 Grade 60.
3. Dimensions relating to reinforcing steel are to outside dimension of bar, with radii shown to the inside of bar.
4. For Drilled Shaft and Fascia Wall Details, See Sheet No. S-35
5. Elevations shown, other than the Bearing Seat Elevations, are given at front face of Abutment Backwall.
6. For Under Bridge Lighting Conduit Details, see Standard "Drawing No. 96 and Underbridge Lighting Plan" on Sheet 4 of 5.

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	36	44'-6"	Str.					1070
402	30	45'-2"	Str.					1086
403	174	3'-4"	105	2'-0"	1'-8"			620
404	174	3'-6"	117	2'-6"	0'-11"	1'-3"		639
405	178	15'-11"	105	0'-11"	7'-6"			1893
							Total	5308
501	8	3'-6"	Str.					29
502	8	5'-0"	Str.					42
503	4	4'-0"	Str.					17
525	28	5'-5"	105	2'-5"	1'-6"			158
526	28	7'-7"	106	2'-5"	1'-6"	3'-8"		221
527	6	6'-5"	Str.					40
528	6	18'-8"	Str.					117
599	28	2'-6"	Str.					73
							Total	697
							Total	6005

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30"ϕ)	L.F.	1184
421	Class "C" Concrete (Abutment)	C.Y.	85
423	Retaining Wall (Fascia Wall)	S.F.	2352
440	Reinforcing Steel	Lb.	6005
556	Filter Material (Type D)	C.Y.	55
900	Filter Well (12"ϕ)	L.F.	349

NOTE:
Armor Joint at Abutment is included in the Slab Details Drawings, Item No. 442 Quantity.

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
BELT LINE ROAD UNDERPASS
EAST ABUTMENT DETAILS

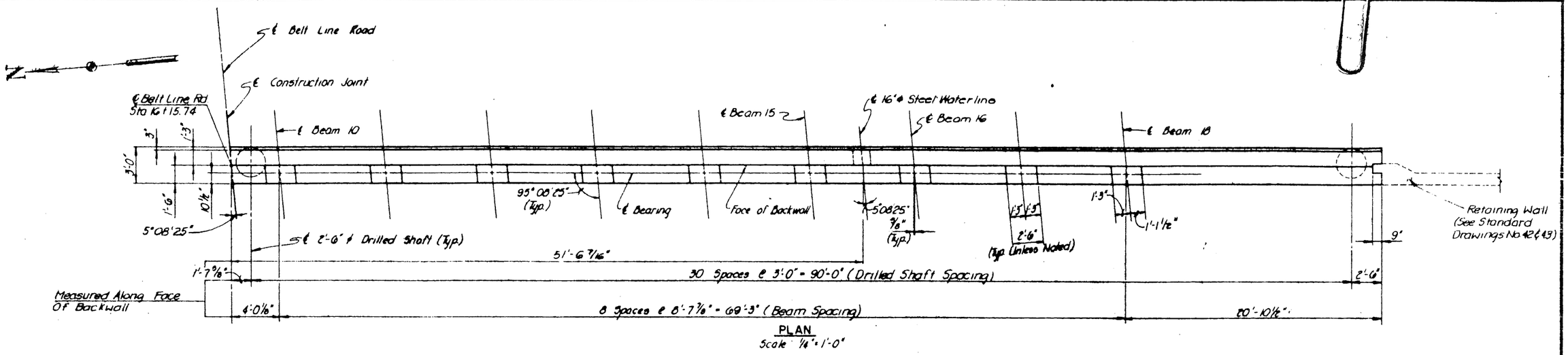
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

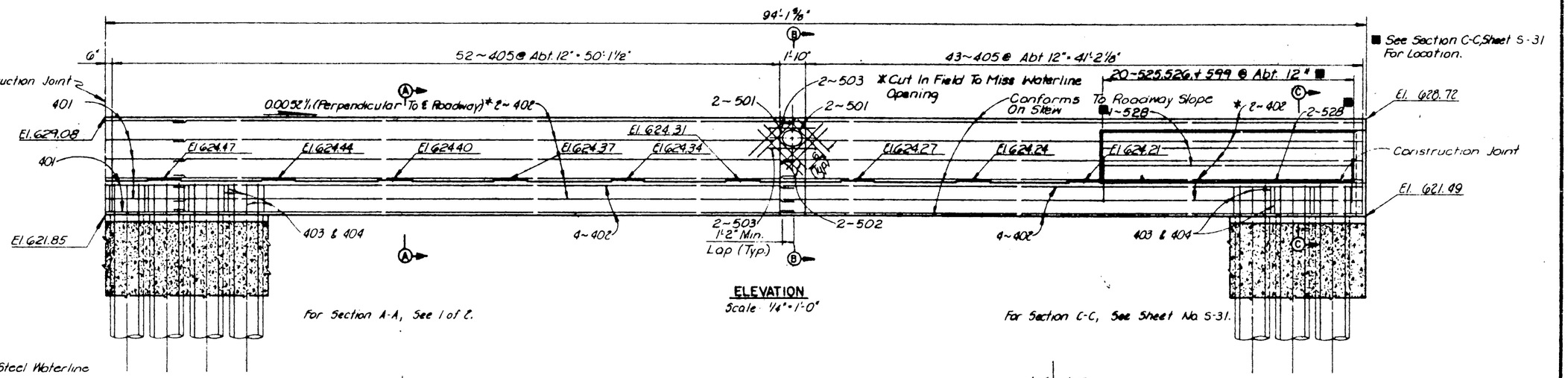
DRAWN DRD DATE 4-83 — APPROVED FRW DATE 5-83
CHECKED FRW DATE 4-83 — SCALE AS NOTED

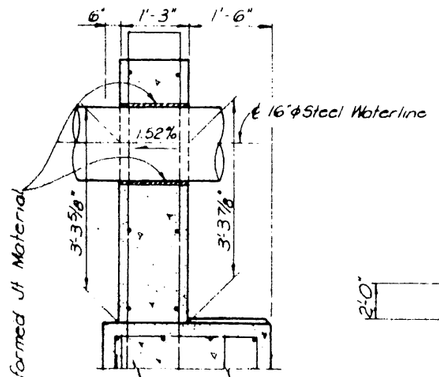
CONTRACT NO. DNT-114 SHEET S-25 OF S-82

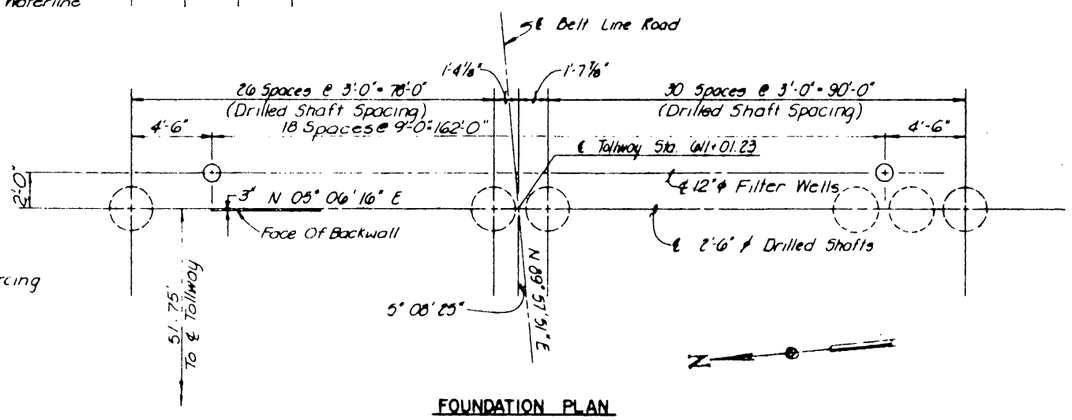
1 OF 2

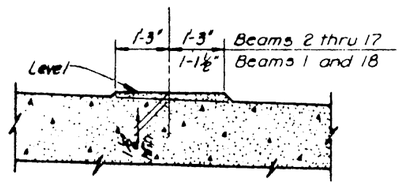
004093











BEARING SEAT DETAIL
Scale 3/4" = 1'-0"

Note: Built-up portions of bearing seat shall be cast integrally with cap or constructed as follows: The area under the built-up portion is to be prepared in accordance with specification requirements for construction joints. The pedestal shall then be placed using an approved pre-packaged, non-shrink, impact resistant grout containing non-metallic fibers, similar to Sat "Impact Resistant Grout." The grout shall be mixed and applied in accordance with the manufacturer's recommendations.

Notes

1 See East Abutment Details, 1 of 2 for Notes, Estimated Quantities and Details not shown

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD UNDERPASS

EAST ABUTMENT DETAILS

Turner Collie & Braden Inc. (Consulting Engineers) — SECTION VI

DRAWN DRD DATE 4-83 — DESIGNED FRW DATE 3-83

CHECKED FRW DATE 4-83 — SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-26 OF S-82

2 OF 2

004094

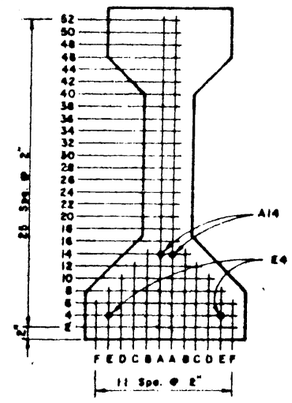
DESIGNED BEAMS (DEPRESSED STRANDS)

SPAN NUMBER	* SPAN LENGTH	BEAM NO.	BEAM LENGTH (FT.)	BEAM TYPE	PRESTRESSING STRANDS TOTAL NO.	TOTAL SIZE	TOTAL STRGTH.	TOTAL %" ℄ in.	%" END in.	DEPRESSED NO	DEPRESSED TO	CONCRETE RELEASE STRENGTH f'ci (psi)	CONCRETE MINIMUM 28 DAY COMP. STRENGTH f'c (psi)
1	103'-5"	1-18	103'-1"	IV	54	½"	270 k	19 12	11 34	10	A-52	5420	6000

OPTIONAL DESIGN

DN. LOAD COMP. STRESS (TOP ℄) fot (psi)	DN. LOAD TENSILE STRESS (BOTT. ℄) fcb (psi)	REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (Ft Kips)
3395	3640	6500

* LENGTH AT ℄ OF BELT LINE RD.



AASHTO TYPE IV BM.

GENERAL NOTES:

Designed in accordance with current A.A.S.H.T.O. Specifications.

All concrete shall be Class H

When shown on this sheet, the fabricator has the option of furnishing either the designed depressed strand beam or an approved optional beam design. Low relaxation strands may be used

Prestressed losses for the designed beams have been calculated according to the A.A.S.H.T.O. 1982 Interim Specifications for a relative humidity of 65%. Optional designs shall likewise conform

Certain beams with depressed strands are subject to cracking in the end of the beam. When such cracks occur, all subsequent beams of the same type and strand pattern shall have strands wrapped in the following manner:
1. Alternate rows of depressed strands shall be wrapped for 2 feet from each end of the beam.
2. One half of the straight strands, as nearly as possible, shall be wrapped for 4 feet from each end of the beam.
3. The wrapping pattern shall be symmetrical about the vertical axis of the beam for both depressed and straight strands.
4. Strands shall be wrapped so that the centers of gravity of the depressed strands and the straight strands will remain within 1 inch of their original location.
5. Strands shall be tightly wrapped with a waterproof adhesive tape or plastic tubing may be used provided both ends and the seam of the tube are sealed with a waterproof tape.
6. Revised shop drawings will not be required, but wrapping patterns, and the beams affected, shall appear on the as-built drawings.

For depressed strand designed beams, strands shall be located as low as possible on the 2" grid system shown hereon, unless a non-standard strand pattern is indicated. Fill Row "2", then Row "4", then Row "6", etc., beginning each row in the "A" position and working outward until the required number of strands is reached. All strands in the "A" position shall be depressed, maintaining the 2" spacing so that the upper two strands are in the position shown in the table at the beam ends.

Initial pretension for 1/2" 270 K strands = 28.9 K for regular stress relieved strand or 31.0 K for low relaxation strands.

Horizontal distances are shown for SPAN LENGTH and BEAM LENGTH. They must be corrected for grade or cross slope, where appropriate.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD UNDERPASS

PRESTRESSED CONCRETE BEAMS

Turner Collie & Braden Inc. Consulting Engineers

SECTION VI

DRAWN DRD DATE 4-83 CHECKED FRW DATE 5-83

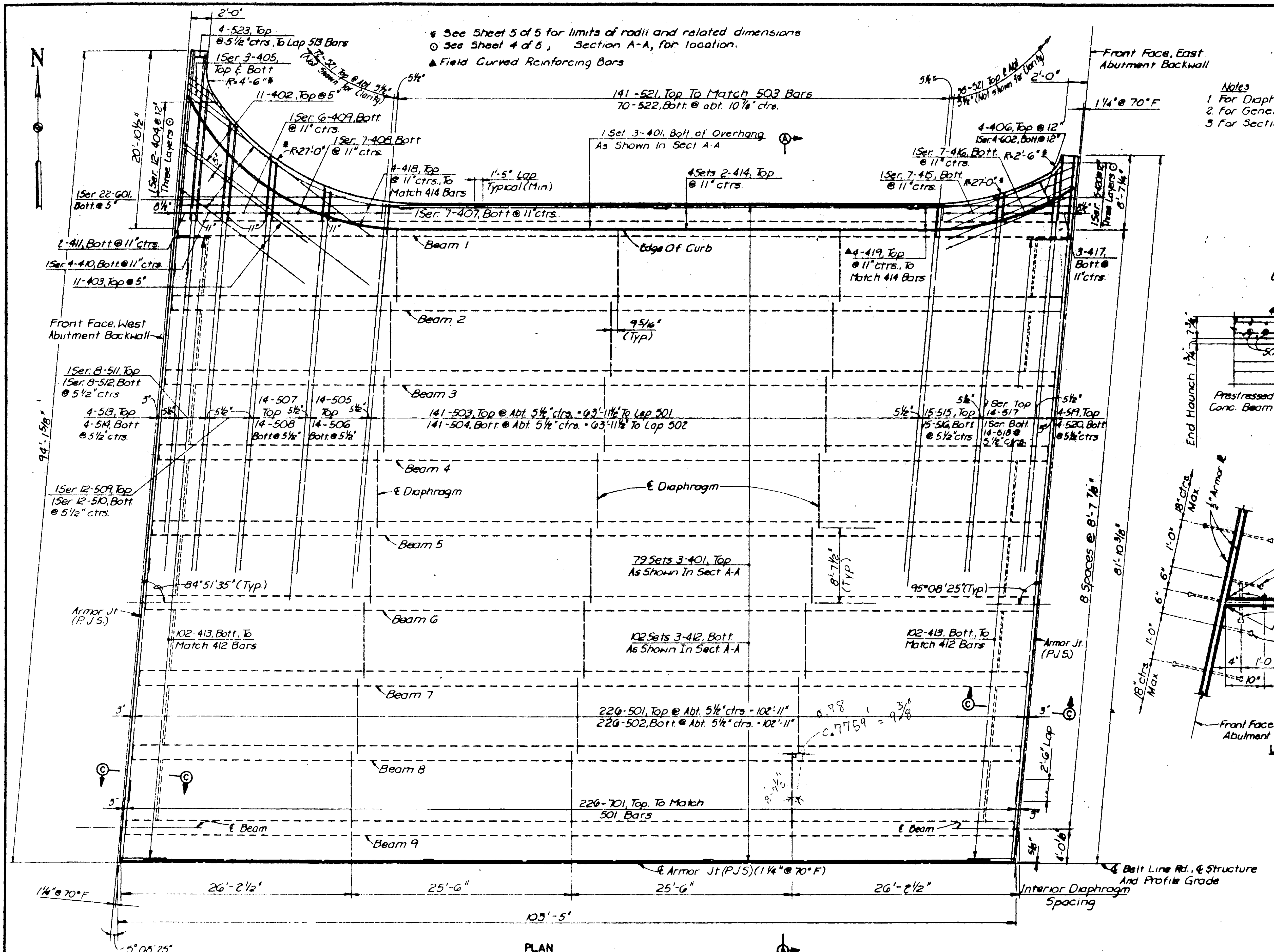
DESIGNED FRW DATE 3-83 SCALE NO SCALE

CONTRACT NO. DNT-114 SHEET S-27 OF S-82

004095

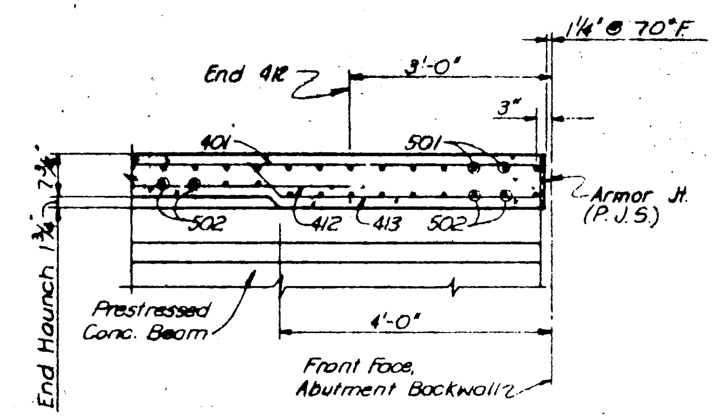
Notes
1. For Diaphragm Notes See Sheet 2 of 5
2. For General Notes See Sheet 3 of 5
3. For Section A-A, See Sheet 3 of 5

\# See Sheet 5 of 5 for limits of radii and related dimensions
⊙ See Sheet 4 of 5, Section A-A, for location.
▲ Field Curved Reinforcing Bars

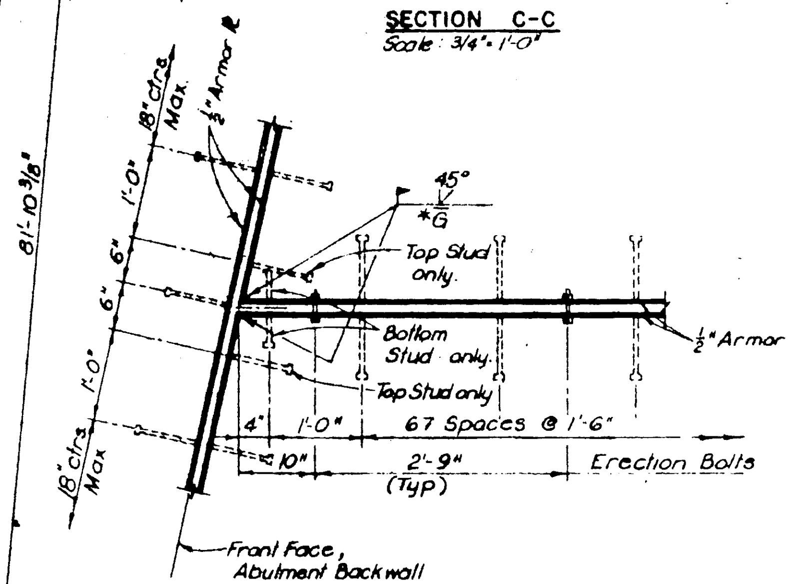


N
2'-0"
4-523, Top @ 5½" ctrs. To Lap 513 Bars
1Ser 3-405, Top & Bott R=4'-6"
11-402, Top @ 5"
1Ser 6-409, Bott @ 11" ctrs.
R=27'-0"
1Ser 7-408, Bott @ 11" ctrs.
141-521, Top To Match 503 Bars
70-522, Bott. @ abt. 10⅛" ctrs.
1 Set 3-401, Bott of Overhang As Shown In Sect A-A
4 Sets 2-414, Top @ 11" ctrs.
4-418, Top @ 11" ctrs. To Match 414 Bars
1'-5" Lap Typical (Min)
1Ser 7-407, Bott @ 11" ctrs.
1Ser 22-601, Bott @ 5"
1Ser 12-404 @ 12" Three Layers ⊙
20'-10½"
2-411, Bott @ 11" ctrs.
1Ser 4-410, Bott @ 11" ctrs.
11-403, Top @ 5"
Beam 1
Edge Of Curb
Front Face, East Abutment Backwall
1¼" @ 70° F
4-406, Top @ 12"
1Ser 4-602, Bott @ 12"
1Ser 7-416, Bott. @ 11" ctrs.
R=2'-6"
1Ser 7-415, Bott @ 11" ctrs.
R=27'-0"
1Ser 4-404 Three Layers ⊙
6'-7¼"
4-419, Top @ 11" ctrs., To Match 414 Bars
3-417, Bott @ 11" ctrs.
Front Face, West Abutment Backwall
Beam 2
9 5/16" (Typ)
Beam 3
1Ser. 8-511, Top
1Ser. 8-512, Bott @ 5½" ctrs
4-513, Top
4-514, Bott @ 5½" ctrs.
14-507 Top
14-508 Bott @ 5½"
14-505 Top
14-506 Bott @ 5½"
141-503, Top @ Abt. 5½" ctrs. = 63'-11⅛" To Lap 501
141-504, Bott. @ Abt. 5½" ctrs. = 63'-11⅛" To Lap 502
15-515, Top
15-516, Bott @ 5½" ctrs
14-517 Top
14-518 Bott @ 5½" ctrs.
4-519, Top
4-520, Bott @ 5½" ctrs
Beam 4
℄ Diaphragm
1Ser 12-509, Top
1Ser 12-510, Bott. @ 5½" ctrs.
94'-1⅝"
Beam 5
79 Sets 3-401, Top As Shown In Sect A-A
8'-7½" (Typ)
84°51'35" (Typ)
95°08'25" (Typ)
8 Spaces @ 8'-7⅛"
81'-10⅜"
Armor Jt (PJS)
Beam 6
102-413, Bott. To Match 412 Bars
102 Sets 3-412, Bott As Shown In Sect A-A
Beam 7
226-501, Top @ Abt. 5½" ctrs. = 102'-11"
226-502, Bott @ Abt. 5½" ctrs. = 102'-11"
2'-6" Lap
Beam 8
226-701, Top. To Match 501 Bars
℄ Beam
Beam 9
℄ Armor Jt (PJS) (1¼" @ 70° F)
℄ Belt Line Rd., ℄ Structure And Profile Grade
26'-2½"
25'-6"
25'-6"
26'-2½"
Interior Diaphragm Spacing
103'-5"
1¼" @ 70° F
5°08'25"

PLAN
Scale 3/16" = 1'-0"



SECTION C-C
Scale: 3/4" = 1'-0"



LONGITUDINAL JOINT DETAILS

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
BELT LINE ROAD UNDERPASS
SLAB DETAILS - NORTH

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN RGD DATE 4-83 — DESIGNED LGL DATE 4-83
CHECKED FRW DATE 6-83 — SCALE AS SHOWN

1 OF 5 — CONTRACT NO. DNT-114 SHEET S-28 OF S-82

004096

N

103'-5"

26'-2½" | 25'-6" | 25'-6" | 26'-2½"

Front Face, West Abutment Backwall

Interior Diaphragm Spacing

Front Face, East Abutment Backwall

5°08'25"

℄ Structure, ℄ Belt Line Rd. And Profile Grade

℄ Armor Jt (P J S)(1¼"@ 70°F)

℄ Beam

Beam 10

226-701, Top, To Match 501 Bars

Beam 11

79 Sets 3-401, Top As Shown In Sect. A-A

102-413, Bott. To Match 402 Bars

Beam 12

102 Sets 3-402, Bott. As Shown In Sect A-A

8'-7½" (Typ.)

102-413, Bott. To Match 402 Bars

Armor Jt (P J S)

Beam 13

226-501, Top, @ Abt 5½" ctrs = 102'-11"

226-502, Bott, @ Abt 5½" ctrs. = 102'-11"

84°51'35" (Typ.)

95°08'25" (Typ.)

8'-10⅜"

Beam 14

℄ Diaphragm (Typ. Unless Noted)

℄ Diaphragm (Typ. Unless Noted)

11-515, Top 11-516, Bott @ 5½" ctrs.

15ser. 3-517, Top 15ser. 3-518, Bott @ 5½" ctrs.

Beam 15

4-519, Top 4-520, Bott @ 5½" ctrs.

5½"

℄ 16"ϕ Steel Waterline

154-503, Top, @ abt 5½" = 69'-11"

154-504, Bott, @ abt 5½" = 69'-11"

5 ℄ Diaphragms & Waterline Supports

℄ Diaphragm & Waterline Supports

14-505, Top 14-506, Bott @ 5½" ctrs.

14-507, Top 14-508, Bott @ 5½" ctrs.

15ser. 10-511, Top 15ser. 10-512, Bott @ 5½" ctrs.

4-513, Top @ 5½" ctrs. 4-514, Bott. @ 5½" ctrs.

15ser. 12-509, Top 15ser. 12-510, Bott. @ 5½" ctrs.

1¼" @ 70°F

Beam 16

9⅝" (Typ)

Beam 17

154-521, Top, To Match 503 Bars

78-522, Bott @ abt 10⅞"

72-521, Top @ abt 5½" Not Shown for Clarity

11-403, Top @ 5" ctrs. 15ser. 11-602, Bott @ 5" ctrs. 3-411, Bott @ 5½" ctrs.

29-521, Top @ abt 5½" Not Shown for Clarity

4-416, Top @ 11" ctrs To Match 414 Bars

Beam 18

Edge Of Curb

2-525, Bott. @ 11" ctrs.

15ser 2-524, Bott @ 11" ctrs

15ser. 5-523, Bott @ 11" ctrs

15ser. 5-417 @ 12" Three Layers ⊙

15ser 4-412, Top 15ser 4-418, Bott @ 12" ctrs (Max)

8'-7½"

2'-0"

4 Sets 2-414, Top of Curb @ 11" ctrs.

1'-5" Lap (Typical)

1 Set 3-401 Bott of Overhang as shown on Section A-A

15ser 7-407, Bott @ 11" ctrs.

15ser 7-408, Bott @ 11" ctrs.

R-27'-0"

11-404, Top @ 5" ctrs 15ser 11-601, Bott @ 5" ctrs

15ser 6-409, Bott @ 11" ctrs

15ser 4-410, Bott @ 11" ctrs.

4-415 Top @ 11" ctrs to Match 414 Bars

R=2'-6"

15ser 12-405 @ 12" Three Layers ⊙

15ser 3-406, Top 15ser 3-406, Bott @ 12" ctrs. (Max.)

2'-0"

20'-10½"

8 Spaces @ 8'-7 7/16" = 94'-1.5/8"

* See 5 of 5 For Limits Of Radii And Related Dimensions

▲ Field Curved Reinforcing Bars

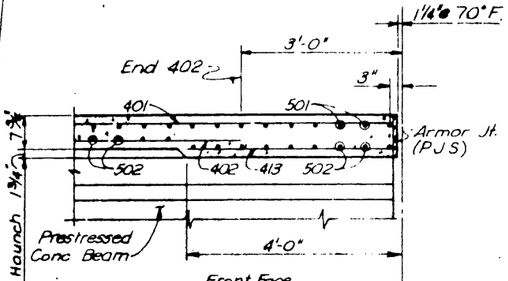
⊙ See 4 of 5, Section A-A, For Location.

PLAN

Scale: 3/16" = 1'-0"

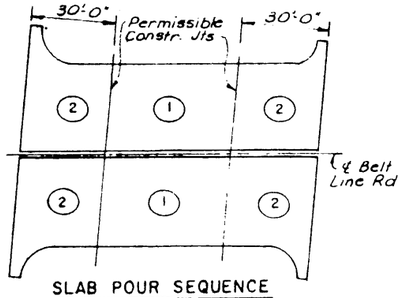
General Notes

1. Diaphragm Lengths Are Shown Between Beam ℄s
2. All Dimensions Are Shown Horizontal And Must Be Corrected For Grade, Crown And/Or Superelevation.
3. Diaphragm Locations Are Shown From Front Face of Backwall Along Beam ℄ To ℄ Of First Diaphragm And Along Beam ℄s Between Diaphragm ℄s
4. For Section B-B, See Sheet 3 of 5.
5. For Longitudinal Joint Details, See Sheet 1 of 5.



SECTION D-D

Scale 3/4" = 1'-0"



SLAB POUR SEQUENCE

N.T.S.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD UNDERPASS

SLAB DETAILS - SOUTH

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

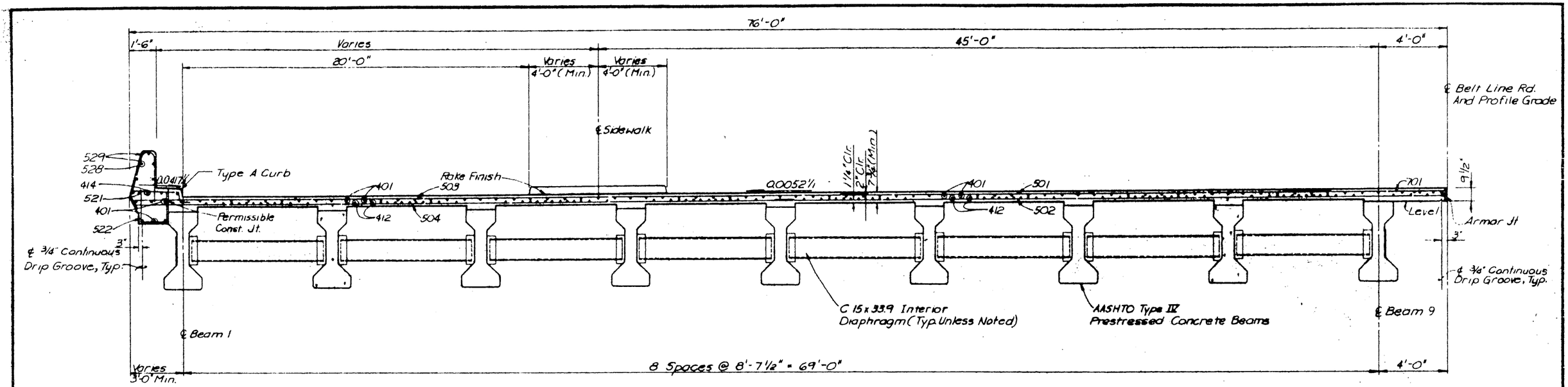
DRAWN RGD DATE 4-83 | DESIGNED L G L DATE 4-83

CHECKED F R W DATE 5-83 | SCALE AS SHOWN

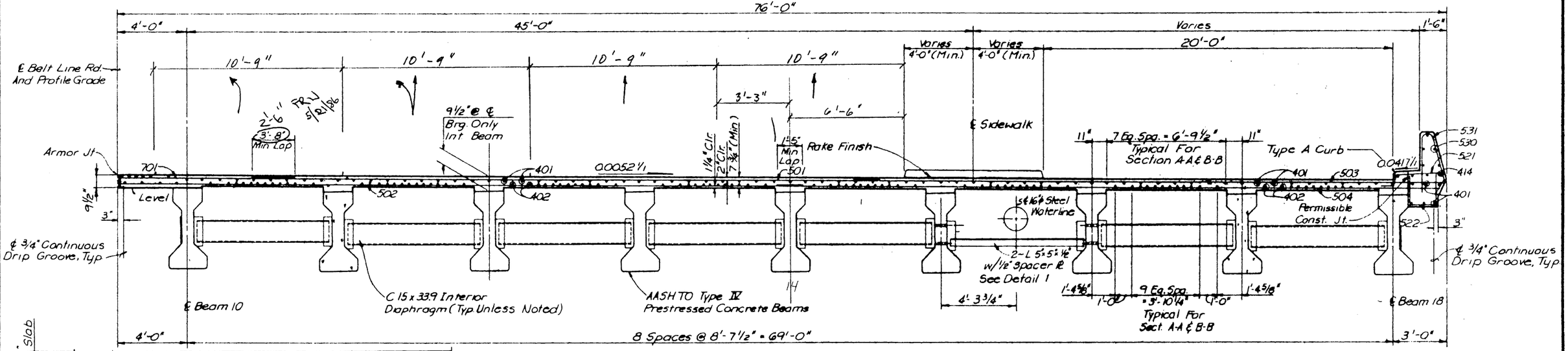
CONTRACT NO. DNT-114 SHEET S-29 OF S-82

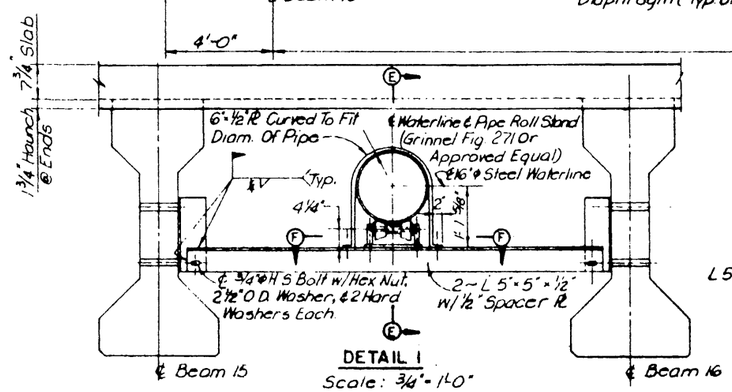
2 OF 5

004097

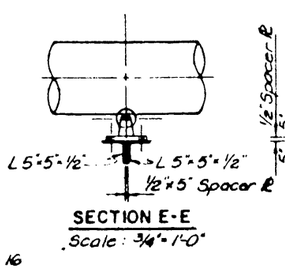


SECTION A-A
Scale: 3/8"-1'-0"

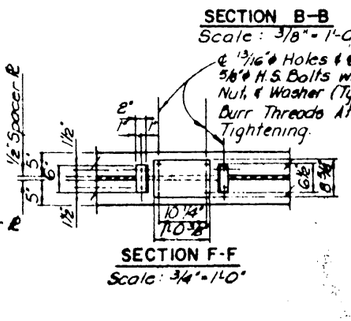




DETAIL 1
Scale: 3/4"-1'-0"



SECTION E-E
Scale: 3/4"-1'-0"



SECTION F-F
Scale: 3/4"-1'-0"

SECTION B-B
Scale: 3/8"-1'-0"

GENERAL NOTES

1. Concrete To Be Class C. Design Strength fc = 4200 psi. Steel Reinforcement To Be ASTM A615, Grade 60.
2. For Aluminum Combination Rail (Type C4) Details, See Standard Drawing No. 33.
3. For Parapet Details See Section A-A, Sheet 4 of 5.
4. For Slab Elevations And Dead Load Deflections, See Sheet No. S-33.
5. For Armor Jt Details, See Standard Dwg. 28.
6. For Thickened Slab Details, See Sheet 4 of 5.
7. For Type A Curb Details, See Standard Dwg. 11.
8. For Sidewalk Details And Dimensions, See Sheet No. R-37.
9. Pipe Roll Stands And Appurtenances Shall Be Paid For Under Structural Steel Pipe Roll Stands And Straps.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD UNDERPASS
SLAB DETAILS-
SECTION A-A AND SECTION B-B

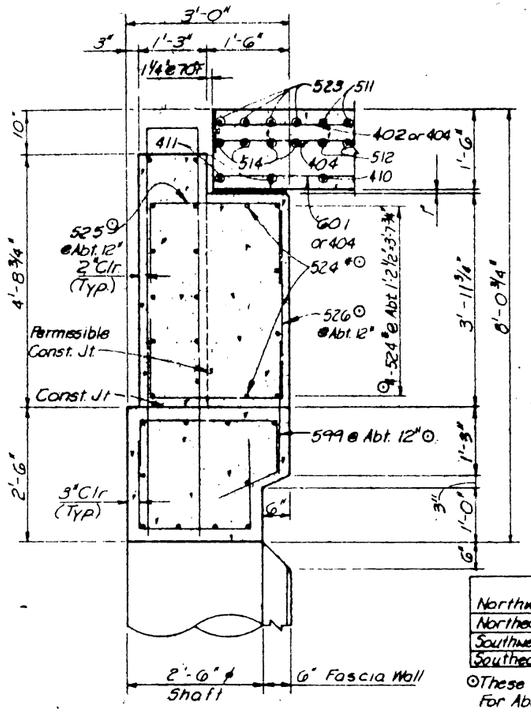
Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

DESIGNED RGD	DATE 5-83	DRAWN GL	DATE 5-83
CHECKED FRW	DATE 6-83	SCALE NOTED	

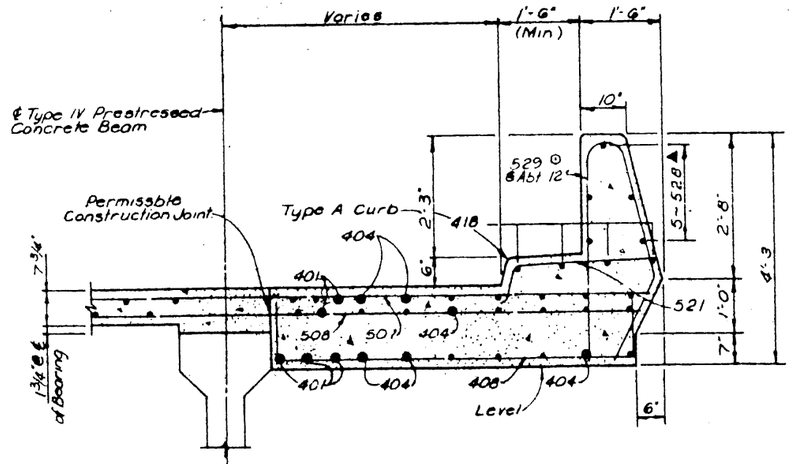
CONTRACT NO DNT-114 SHEET S-30 OF S-82

3 OF 5

004098



SECTION C-C
Scale: ¾"=1'-0"

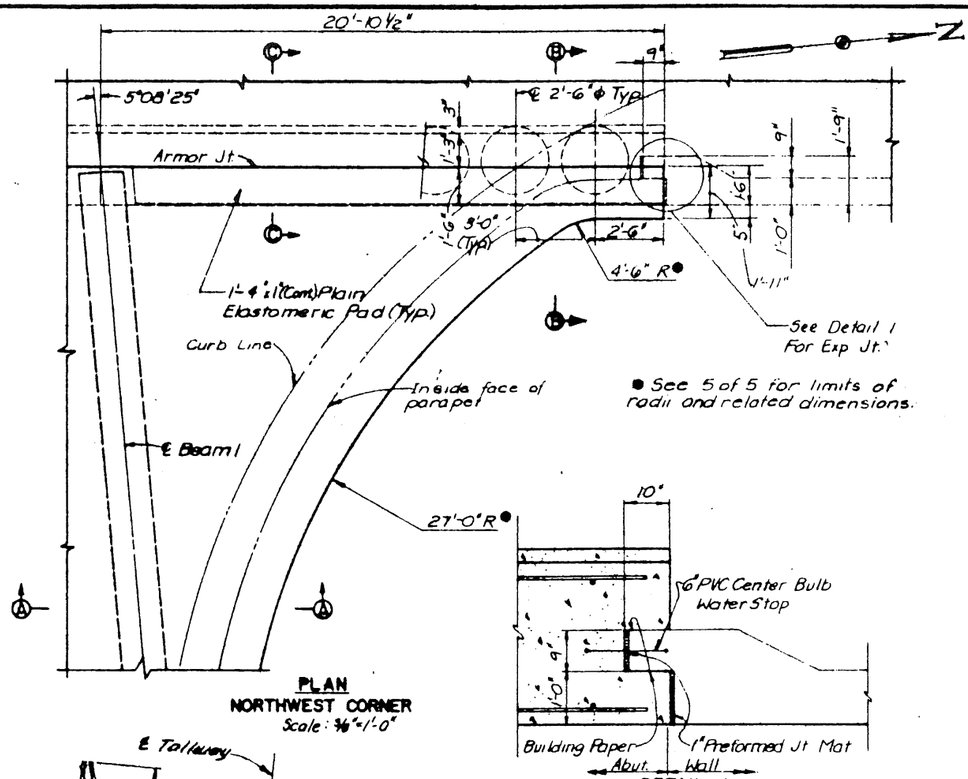


SECTION A-A
(NORTHWEST CORNER SHOWN, OTHER CORNERS SIMILIAR)
Scale: ¾"=1'-0"

		⑤	⑥	⑦
Northwest Corner	Bars	524	528	529
Northeast Corner	Bars	527	528	529
Southwest Corner	Bars	529	530	531
Southeast Corner	Bars	528	530	531

⊙These Bars Are Included In Bill Of Reinf. For Abutments, See Sheet S-23 and S-25

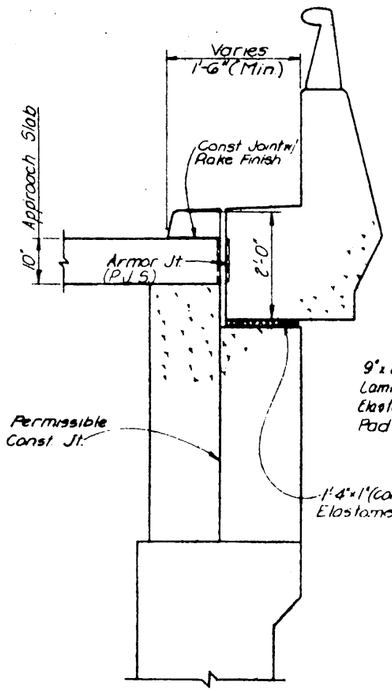
NOTE: 1. All bars shown are included in bill of reinforcing steel for North slab, Except As Noted.
2. Diagonal reinforcement not shown for clarity, see Sheets No. S-28 and S-29.



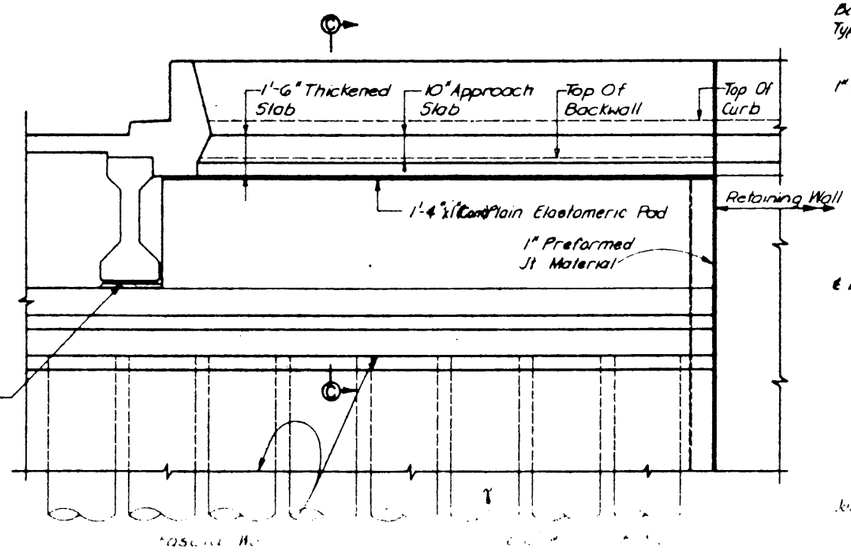
PLAN
NORTHWEST CORNER
Scale: ⅜"=1'-0"

DETAIL 1
Scale ¾"=1'-0"

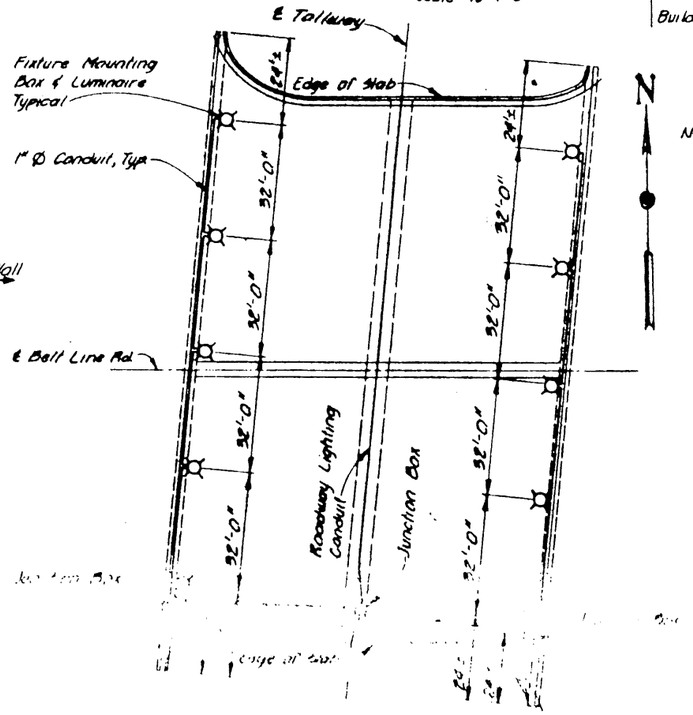
NOTE: Luminaires And Surface Mounted Conduit Shall Be Provided And Installed By Others.



SECTION B-B
Scale: ¾"=1'-0"



ELEVATION
AT NORTHWEST SLAB CORNER
Scale ⅜"=1'-0"



UNDERBRIDGE LIGHTING PLAN
For Underbridge Lighting Conduit Details, See Std. Dwg. No. 3/4 OF 5

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
[illegible] UNDERPASS
MISC. THICKENED SLAB DETAILS

Turner Collie & Braden Inc. | SECTION VI

DESIGNED	RGD	DATE 4-83	CHECKED	LGL	DATE 3-83
CHECKED	LGL	DATE 4-83	SCALE	AS NOTED	

CONTRACT NO DNT-114 SHEET S-31 OF S-82

004099

NORTH SLAB

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	237	35'-4"	Str.					5594
402	11	27'-0"	Str.					198
403	11	18'-0"	Str.					132
404	35ser.	19'-6" To	Str.					277
	36	3'-6", Abt. 5½" Inc.						
405	25ser.	7'-0" To	Str.					20
	6	3'-0", 2'-0"	Inc.					
406	4	16'-0"	Str.					43
407	15ser.	3'-11" To	106	1'-6" To	1'-2"	1'-3"		22
	7	5'-5"		3'-0", 3" Inc.				
408	15ser.	5'-8" To	106	3'-3" To	1'-2"	1'-3"		33
	7	8'-5"		6'-0", 5½" Inc.				
409	15ser.	8'-5" To	106	6'-0" To	1'-2"	1'-3"		42
	6	12'-7"		10'-2", 10" Inc.				
410	15ser.	13'-3" To	106	10'-10" To	1'-2"	1'-3"		40
	4	17'-0"		14'-7", 1'-3" Inc.				
411	2	19'-9"	Str.					26
412	306	33'-5"	Str.					6831
413	204	4'-3"	108	3'-8"	0'-7"			579
414	8	30'-9"	Str.					164
415	15ser.	3'-8" To	106	1'-3" To	1'-2"	1'-3"		20
	7	4'-8"		2'-3", 2" Inc.				
416	15ser.	4'-11" To	106	2'-6" To	1'-2"	1'-3"		30
	7	7'-11"		5'-6", 6" Inc.				
417	3	7'-6"	Str.					15
501	226	27'-9"	Str.					6541
502	226	39'-7"	Str.					9330
503	141	42'-7"	Str.					6262
504	141	38'-3"	Str.					5625
505	141	44'-7"	Str.					651
506	14	40'-3"	Str.					588
507	14	47'-10"	Str.					698
508	14	43'-6"	Str.					635
509	15ser.	47'-10 To	Str.					624
	12	51'-11½", 4½"	Inc.					
510	15ser.	49'-6" To	Str.					570
	12	47'-7½", 4½"	Inc.					
511	15ser.	52'-10" To	Str.					458
	8	56'-11", 7"	Inc.					
512	15ser.	48'-6" To	Str.					422
	8	52'-7", 7"	Inc.					
513	4	36'-0"	Str.					150
514	4	56'-1"	Str.					294
515	15	44'-0"	Str.					688
516	15	39'-9"	Str.					622
517	15ser.	44'-0" To	Str.					666
	14	47'-3", 3"	Inc.					
518	15ser.	40'-0" To	Str.					608
	14	43'-3", 3"	Inc.					
519	4	48'-2"	Str.					201
520	4	43'-10"	Str.					183
521	251	4'-10"	119	2'-6"	0'-10"	1'-6"		1266
522	70	3'-9"	106	1'-4"	1'-2"	1'-3"		274
523	4	26'-0"	Str.					108
601	15ser.	6'-0" To	Str.					487
	22	23'-6", 10"	Inc.					
602	15ser.	7'-0" To	Str.					69
	4	16'-0", 9'-0"	Inc.					
701	226	10'-0"	Str.					4619
418	4	34'-6"	121				28'-6"	92
419	4	18'-6"	Str.					49
420	Ser.	8'-6" To	Str.					53
	15	2'-0", 1'-7½"	Inc.					
524								
525		See Abutment Details						
526								
527								
528	15	40'-0"	Str.					626
529	111	8'-2"	120					945

SOUTH SLAB

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
✓ 401	237	35'-4"	Str.					5594
402	306	33'-5"	Str.					6831
✓ 403	11	18'-0"						132
✓ 404	11	26'-0"						191
405	35ser.	22'-6" To						310
	36	3'-3", 1'-9"	Inc.					
406	25ser.	6'-0" To	Str.					16
	6	2'-0", 2'-0"	Inc.					
407	15ser.	3'-11" To	106	1'-6" To	1'-3"	1'-2"		21
	7	4'-11"		2'-6", 2" Inc.				
408	15ser.	5'-2" To	106	2'-9" To	1'-3"	1'-2"		30
	7	7'-8"		5'-3", 5" Inc.				
409	15ser.	8'-1" To	106	5'-8" To	1'-3"	1'-2"		40
	6	11'-10"		9'-5", 9" Inc.				
410	15ser.	12'-5" To	106	10'-0" To	1'-3"	1'-2"		59
	4	16'-11"		14'-6", 1'-6" Inc.				
411	3	21'-11"	106	19'-6"	1'-3"	1'-2"		44
412	15ser.	8'-0" To	Str.					25
	4	10'-6", 10"	Inc.					
413	204	4'-3"	108	3'-8"	0'-7"			579
414	8	34'-0"	Str.					182
415	4	33'-10"	120	12			28'-6"	90
416	4	16'-0"	Str.					43
417	35ser.	6'-6" To	Str.					30
	15	1'-6", 9"	Inc.					
501	226	36'-11"	Str.					8702
502	226	39'-7"	Str.					9330
503	154	33'-11"						5448
504	154	38'-2"						6131
505	14	35'-5"						517
506	14	39'-8"						579
507	14	37'-8"						550
508	14	42'-8"						623
509	15ser.	38'-0" To						499
	12	41'-8", 4"	Inc.					
510	15ser.	43'-0" To						561
	12	46'-8", 4"	Inc.					
511	15ser.	42'-2" To						467
	10	47'-5", 7"	Inc.					
512	15ser.	47'-2" To						549
	10	52'-5", 7"	Inc.					
513	4	52'-0"						217
514	4	56'-5"						295
515	11	35'-2"						404
516	11	39'-5"						452
517	15ser.	35'-6" To						113
	3	36'-10", 8"	Inc.					
518	15ser.	39'-10" To						127
	3	41'-2", 8"	Inc.					
519	4	39'-6"						165
520	4	43'-10"	Str.					183
521	255	4'-10"	119	2'-6"	0'-10"	1'-6"		1285
522	78	3'-9"	106	1'-4"	1'-3"	1'-2"		305
523	15ser.	4'-9" To		2'-4" To				22
	5	3'-9"		1'-4", 3" Inc.				
524	15ser.	6'-2" To		3'-9" To				12
	2	4'-11"		2'-6", 1'-3" Inc.				
525	2	9'-11"	106	7'-6"	1'-3"	1'-2"		21
526								
527		See Abutment Details						
528								
529								
530	15	40'-0"	Str.					626
531	112	8'-2"	120					954
601	15ser.	14'-9" To	Str.					306
	11	22'-3", 9"	Inc.					
602	15ser.	5'-3" To	Str.					149
	11	12'-9", 9"	Inc.					
701	226	10'-0"	Str.					4619
418	15ser.	5'-6" To	Str.					21
	4	10'-0", 1'-6"	Inc.					

SUMMARY NORTH SLAB

BAR SIZE	TOTAL
#4	14,260
#5	38,974
#6	556
#7	4,619
Total	58,409

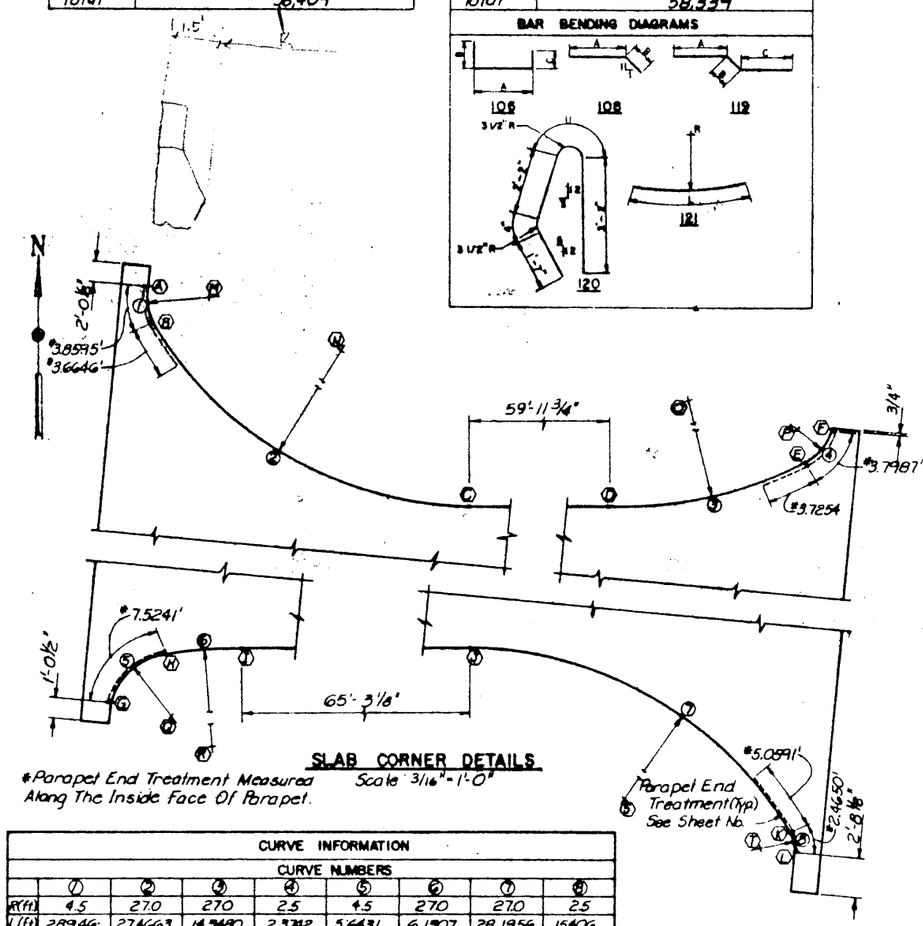
SUMMARY SOUTH SLAB

BAR SIZE	TOTAL
#4	14,218
#5	39,047
#6	455
#7	4,619
Total	58,339

BAR BENDING DIAGRAMS

General Notes:

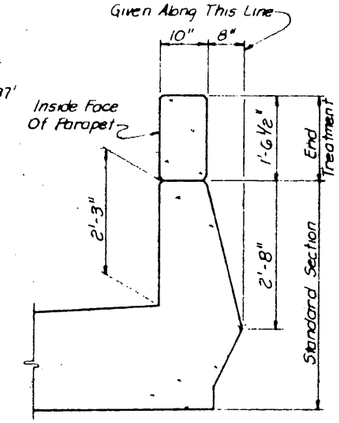
1 Dimensions relating to reinforcing steel are to outside dimension of bar, with radii shown to the inside of bar.



SLAB CORNER DETAILS
Scale 3/16"=1'-0"

*Parapet End Treatment Measured Along The Inside Face Of Parapet.

Curve Information And Point Offset Schedule Given Along This Line



PARAPET DETAIL
Scale: 3/4"=1'-0"

CURVE INFORMATION

CURVE NUMBERS

	①	②	③	④	⑤	⑥	⑦	⑧
R(ft)	4.5	270	270	2.5	4.5	270	270	25
L(ft)	28.946	27.4663	14.9480	2.3742	5.6431	6.1907	28.1956	15.406

POINT OFFSET SCHEDULE

POINT	STATION	OFFSET
A	15+22.58	91.58 Lt.
B	15+23.24	88.81 Lt.
C	15+46.21	76.00 Lt.
D	16+06.19	76.06 Lt.
E	16+19.87	79.72 Lt.
F	16+21.10	81.65 Lt.
G	15+07.09	80.67 Rt.
H	15+10.56	76.69 Rt.
I	15+66.64	76.00 Rt.
J	15+81.90	76.00 Rt.
K	16+05.24	89.43 Rt.
L	16+08.57	90.91 Rt.
M	15+27.07	91.17 Lt.
N	15+46.21	103.00 Lt.
O	16+06.19	103.00 Lt.
P	16+18.60	81.88 Lt.
Q	15+11.57	81.08 Rt.
R	15+66.64	103.00 Rt.
S	15+81.90	103.00 Rt.
T	16+09.08	90.69 Rt.

ESTIMATED QUANTITY SUMMARY NORTH SLAB

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
425	Prestr. Conc. Beams (AASHTO Type IV)	L.F.	927.75
422	Reinforced Concrete Slab	S.F.	8032
442	Structural Steel (H.Y.C.)	Lb.	7084
442	Structural Steel (H.Y.C.) (Armor Jt.)	Lb.	7012
#440	Reinforcing Steel	Lb.	58409.9
#421	Class 'C' Concrete (Slab)	C.Y.	226.9
450	Type C4 Railing	L.F.	94.2

ESTIMATED QUANTITY SUMMARY SOUTH SLAB

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
425	Prestr. Conc. Beams (AASHTO Type IV)	L.F.	927.75
422	Reinforced Concrete Slab	S.F.	8017
442	Structural Steel (H.Y.C.)	Lb.	8188
442	Structural Steel (H.Y.C.) (Armor Jt.)	Lb.	7012
#440	Reinforcing Steel	Lb.	58,339
#421	Class 'C' Concrete (Slab)	C.Y.	226.2
450	Type C4 Railing	L.F.	97.9

For Contractor's Information Only.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD UNDERPASS
SLAB DETAILS AND
REINFORCEMENT BAR SCHEDULE

Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

DESIGNED RGD DATE 6-83 DETAILED LGL DATE 6-83
CHECKED FRW DATE 6-83 SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-32 OF S-82

BEAM 1

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.00
2	10.2161	0.05	630.84
3	20.4322	0.08	630.69
4	30.6482	0.11	630.53
5	40.8643	0.12	630.38
6	51.0804	0.13	630.22
7	61.2965	0.12	630.07
8	71.5126	0.11	629.91
9	81.7287	0.08	629.76
10	91.9447	0.05	629.60
11	102.1608	0.00	629.44

BEAM 2

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.05
2	10.2161	0.05	630.90
3	20.4322	0.08	630.74
4	30.6482	0.11	630.59
5	40.8643	0.12	630.43
6	51.0804	0.13	630.28
7	61.2965	0.12	630.12
8	71.5126	0.11	629.97
9	81.7287	0.08	629.81
10	91.9447	0.05	629.66
11	102.1608	0.00	629.50

BEAM 3

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.11
2	10.2161	0.05	630.96
3	20.4322	0.08	630.80
4	30.6482	0.11	630.64
5	40.8643	0.12	630.49
6	51.0804	0.13	630.33
7	61.2965	0.12	630.18
8	71.5126	0.11	630.02
9	81.7287	0.08	629.87
10	91.9447	0.05	629.71
11	102.1608	0.00	629.56

BEAM 4

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.17
2	10.2161	0.05	631.01
3	20.4322	0.08	630.86
4	30.6482	0.11	630.70
5	40.8643	0.12	630.55
6	51.0804	0.13	630.39
7	61.2965	0.12	630.23
8	71.5126	0.11	630.08
9	81.7287	0.08	629.92
10	91.9447	0.05	629.77
11	102.1608	0.00	629.61

BEAM 5

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.22
2	10.2161	0.05	631.07
3	20.4322	0.08	630.91
4	30.6482	0.11	630.76
5	40.8643	0.12	630.60
6	51.0804	0.13	630.45
7	61.2965	0.12	630.29
8	71.5126	0.11	630.14
9	81.7287	0.08	629.98
10	91.9447	0.05	629.83
11	102.1608	0.00	629.67

BEAM 6

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.28
2	10.2161	0.05	631.13
3	20.4322	0.08	630.97
4	30.6482	0.11	630.81
5	40.8643	0.12	630.66
6	51.0804	0.13	630.50
7	61.2965	0.12	630.35
8	71.5126	0.11	630.19
9	81.7287	0.08	630.04
10	91.9447	0.05	629.88
11	102.1608	0.00	629.73

BEAM 7

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.34
2	10.2161	0.05	631.18
3	20.4322	0.08	631.03
4	30.6482	0.11	630.87
5	40.8643	0.12	630.72
6	51.0804	0.13	630.56
7	61.2965	0.12	630.41
8	71.5126	0.11	630.25
9	81.7287	0.08	630.09
10	91.9447	0.05	629.94
11	102.1608	0.00	629.78

BEAM 8

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.39
2	10.2161	0.05	631.24
3	20.4322	0.08	631.08
4	30.6482	0.11	630.93
5	40.8643	0.12	630.77
6	51.0804	0.13	630.62
7	61.2965	0.12	630.46
8	71.5126	0.11	630.31
9	81.7287	0.08	630.15
10	91.9447	0.05	630.00
11	102.1608	0.00	629.84

BEAM 9

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.45
2	10.2161	0.05	631.29
3	20.4322	0.08	631.14
4	30.6482	0.11	630.98
5	40.8643	0.12	630.83
6	51.0804	0.13	630.67
7	61.2965	0.12	630.52
8	71.5126	0.11	630.36
9	81.7287	0.08	630.21
10	91.9447	0.05	630.05
11	102.1608	0.00	629.90

BEAM 10

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.46
2	10.2161	0.05	631.31
3	20.4322	0.08	631.15
4	30.6482	0.11	630.99
5	40.8643	0.12	630.84
6	51.0804	0.13	630.68
7	61.2965	0.12	630.53
8	71.5126	0.11	630.37
9	81.7287	0.08	630.22
10	91.9447	0.05	630.06
11	102.1608	0.00	629.91

BEAM 11

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.43
2	10.2161	0.05	631.27
3	20.4322	0.08	631.12
4	30.6482	0.11	630.96
5	40.8643	0.12	630.81
6	51.0804	0.13	630.65
7	61.2965	0.12	630.50
8	71.5126	0.11	630.34
9	81.7287	0.08	630.19
10	91.9447	0.05	630.03
11	102.1608	0.00	629.88

BEAM 12

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.40
2	10.2161	0.05	631.24
3	20.4322	0.08	631.08
4	30.6482	0.11	630.93
5	40.8643	0.12	630.77
6	51.0804	0.13	630.62
7	61.2965	0.12	630.46
8	71.5126	0.11	630.31
9	81.7287	0.08	630.15
10	91.9447	0.05	630.00
11	102.1608	0.00	629.84

BEAM 13

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.36
2	10.2161	0.05	631.21
3	20.4322	0.08	631.05
4	30.6482	0.11	630.90
5	40.8643	0.12	630.74
6	51.0804	0.13	630.59
7	61.2965	0.12	630.43
8	71.5126	0.11	630.28
9	81.7287	0.08	630.12
10	91.9447	0.05	629.96
11	102.1608	0.00	629.81

BEAM 14

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.33
2	10.2161	0.05	631.17
3	20.4322	0.08	631.02
4	30.6482	0.11	630.86
5	40.8643	0.12	630.71
6	51.0804	0.13	630.55
7	61.2965	0.12	630.40
8	71.5126	0.11	630.24
9	81.7287	0.08	630.09
10	91.9447	0.05	629.93
11	102.1608	0.00	629.78

BEAM 15

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.30
2	10.2161	0.05	631.14
3	20.4322	0.08	630.98
4	30.6482	0.11	630.83
5	40.8643	0.12	630.67
6	51.0804	0.13	630.52
7	61.2965	0.12	630.36
8	71.5126	0.11	630.21
9	81.7287	0.08	630.05
10	91.9447	0.05	629.90
11	102.1608	0.00	629.74

BEAM 16

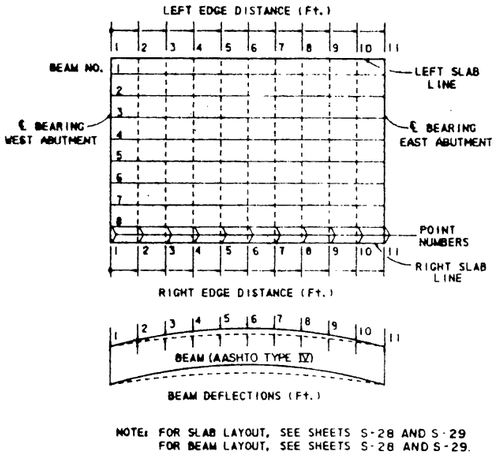
PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.26
2	10.2161	0.05	631.11
3	20.4322	0.08	630.95
4	30.6482	0.11	630.80
5	40.8643	0.12	630.64
6	51.0804	0.13	630.49
7	61.2965	0.12	630.33
8	71.5126	0.11	630.18
9	81.7287	0.08	630.02
10	91.9447	0.05	629.86
11	102.1608	0.00	629.71

BEAM 17

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.23
2	10.2161	0.05	631.07
3	20.4322	0.08	630.92
4	30.6482	0.11	630.76
5	40.8643	0.12	630.61
6	51.0804	0.13	630.45
7	61.2965	0.12	630.30
8	71.5126	0.11	630.14
9	81.7287	0.08	629.99
10	91.9447	0.05	629.83
11	102.1608	0.00	629.68

BEAM 18

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	631.20
2	10.2161	0.05	631.04
3	20.4322	0.08	630.89
4	30.6482	0.11	630.73
5	40.8643	0.12	630.58
6	51.0804	0.13	630.42
7	61.2965	0.12	630.27
8	71.5126	0.11	630.11
9	81.7287	0.08	629.95
10	91.9447	0.05	629.80
11	102.1608	0.00	629.64



NOTE: FOR SLAB LAYOUT, SEE SHEETS S-28 AND S-29
FOR BEAM LAYOUT, SEE SHEETS S-28 AND S-29.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

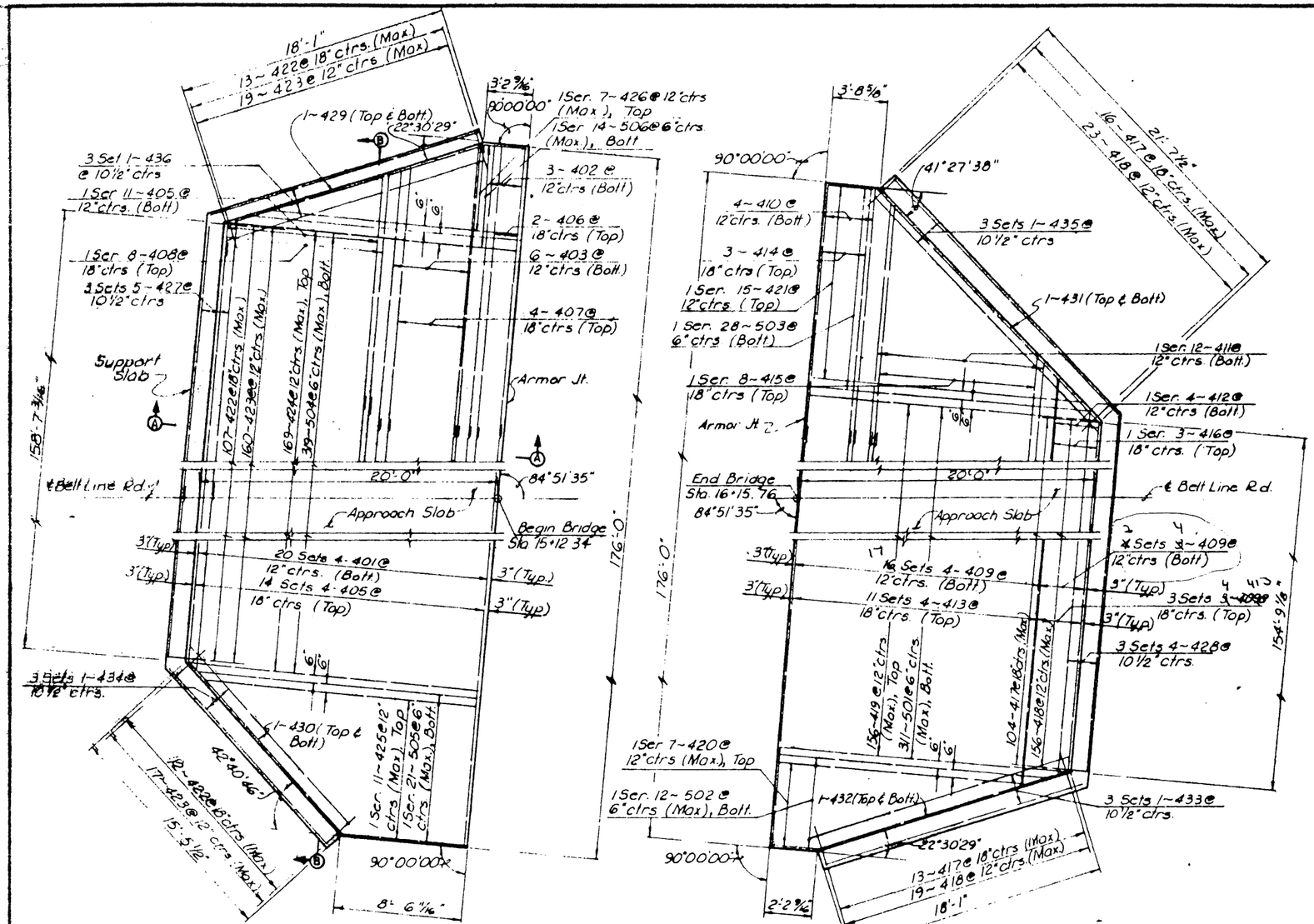
BELT LINE ROAD UNDERPASS
SLAB ELEVATIONS AND
DEAD LOAD DEFLECTIONS

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN RGD DATE 5-83 | DESIGNED TJR DATE 5-83
CHECKED TJR DATE 6-83 | SCALE NO SCALE

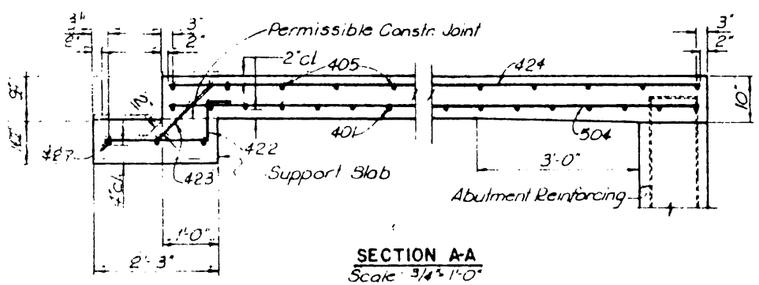
CONTRACT NO DNT-114 SHEET S-33 OF S-82

004101

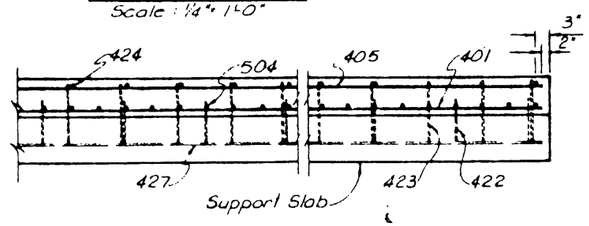


WEST APPROACH SLAB
Scale: ¼"=1'-0"

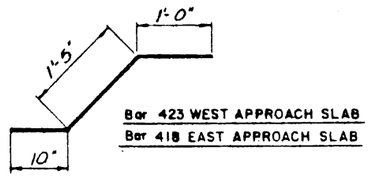
EAST APPROACH SLAB
Scale: ¼"=1'-0"

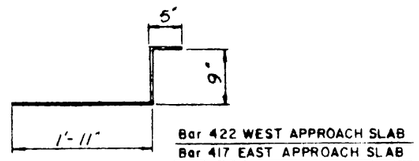


SECTION A-A
Scale: 3/4"=1'-0"
West Abutment shown, East Abutment Similar



SECTION B-B
Scale: 3/4"=1'-0"
West Abutment shown, East Abutment Similar





BENT BAR DIAGRAMS

GENERAL NOTES

The approach slab shall be finished as required for the structure or as directed by the Engineer.

Reinforcing steel shall conform to ASTM designation A-615, Grade 60. Splices shall be a minimum of 20 times the nominal diameter of the bar.

The chairs used to support the bar mat shall be of sufficient structural quality and number to hold the mat within the placement height tolerances, and shall be of a type approved by the Engineer.

Payment for the variable thickness approach slab, and support slab, shall be made at the unit price bid for "Concrete Pavement (Water Cement Ratio)(Approach Slab) (9")." Joint seals, reinforcing steel, and any excavation and backfill required for the approach slab and support slab shall be considered subsidiary to the bid item.

For roadway pavement details, see Standard Drawings No. 12 and 15.

FRV/CAG 6/30/86

NO	REVISION	BY	DATE

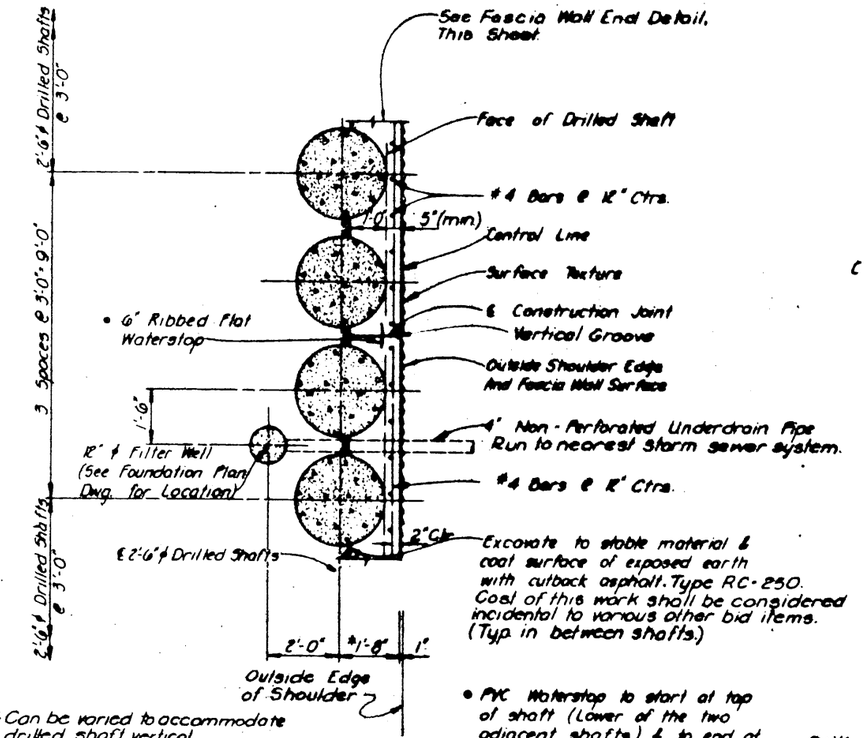
TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
BELT LINE ROAD UNDERPASS
APPROACH SLAB DETAILS

Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

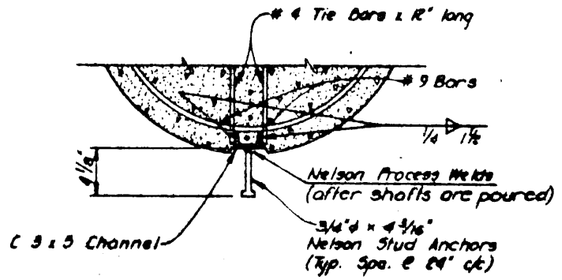
DESIGN BST DATE 6-83 DRAWN JRA DATE 5-83
CHECKED JRA DATE 5-83 SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-34 OF S-82

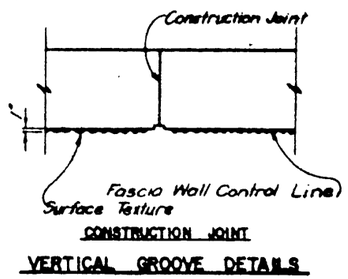
004102



PLAN
Scale: 1/8" = 1'-0"

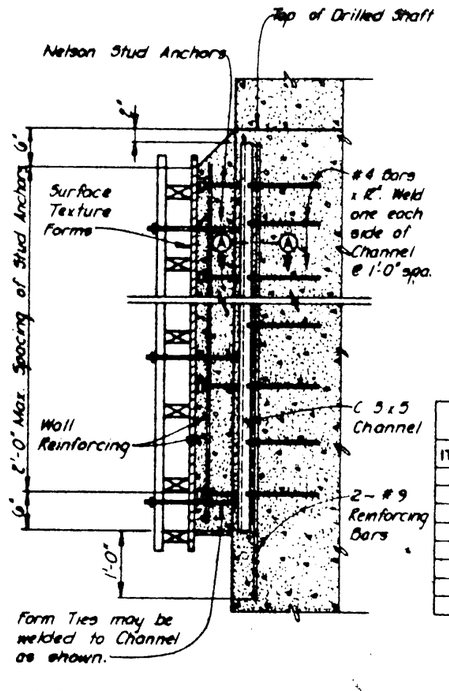


SECTION A-A
N.T.S.



CONSTRUCTION JOINT

VERTICAL GROOVE DETAILS
N.T.S.



NOTE:
Forming details shown are diagrammatic only, Contractor shall select type of form ties, etc., subject to approval of Engineer.

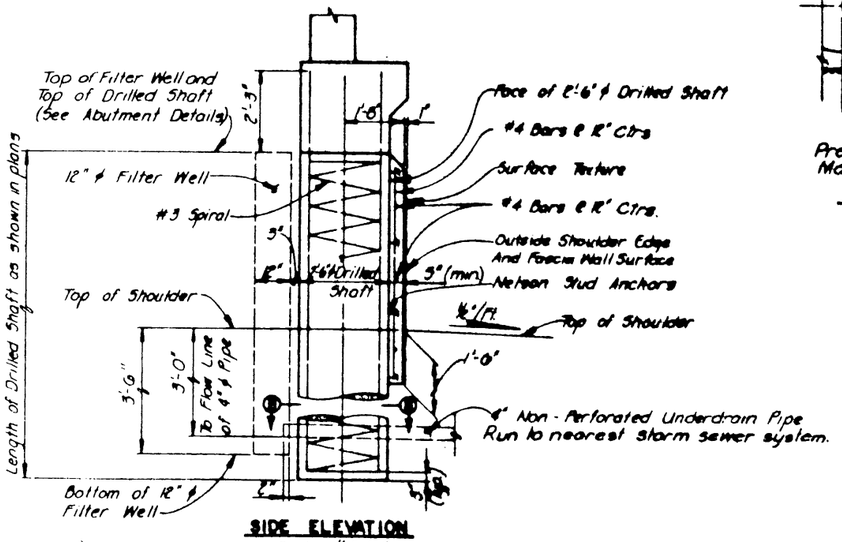
VERTICAL SECTION
N.T.S.

ESTIMATED QUANTITY SUMMARY▲

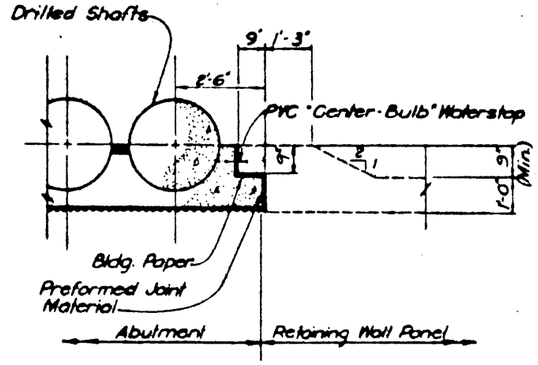
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
#421	Class "C" Concrete (Fascia Wall)	C.Y.	0.10
#430	Reinforcing Steel (Fascia Wall)	Lb.	2.67
556	Pipe Underdrains (4 in. Non Perf.)	L.F.	453

For Contractors' Information only.
▲ Quantities for 1'-0" Height Fascia Wall Per Shaft Space

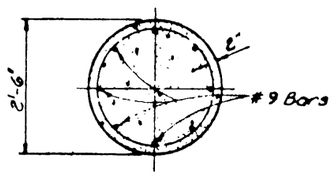
GENERAL NOTES:
1. All concrete for drilled shafts and concrete fascia walls shall be Class "C".
2. All reinforcing steel shall be ASTM A615, Grade 60, except spiral bars.
3. For details and dimensions of Surface Texture, see Standard Dwg No 41. The Contractor shall develop a Rustication Layout for each Abutment for approval by the Engineer.



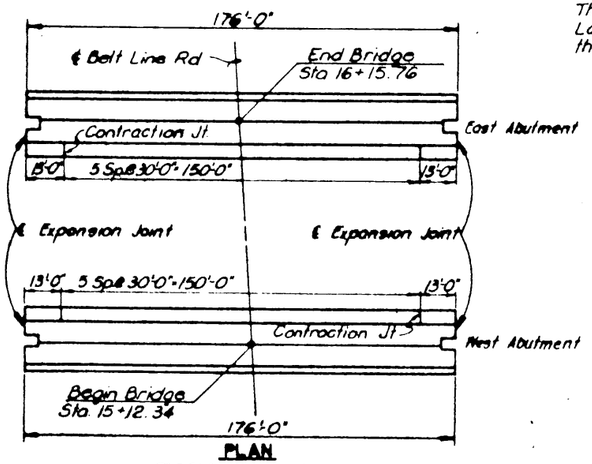
SIDE ELEVATION
Scale: 1/2" = 1'-0"



FASCIA WALL END DETAIL
Scale: 1/2" = 1'-0"



SECTION B-B
Scale 3/4" = 1'-0"



PLAN
FASCIA WALL PANELS
N.T.S.

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

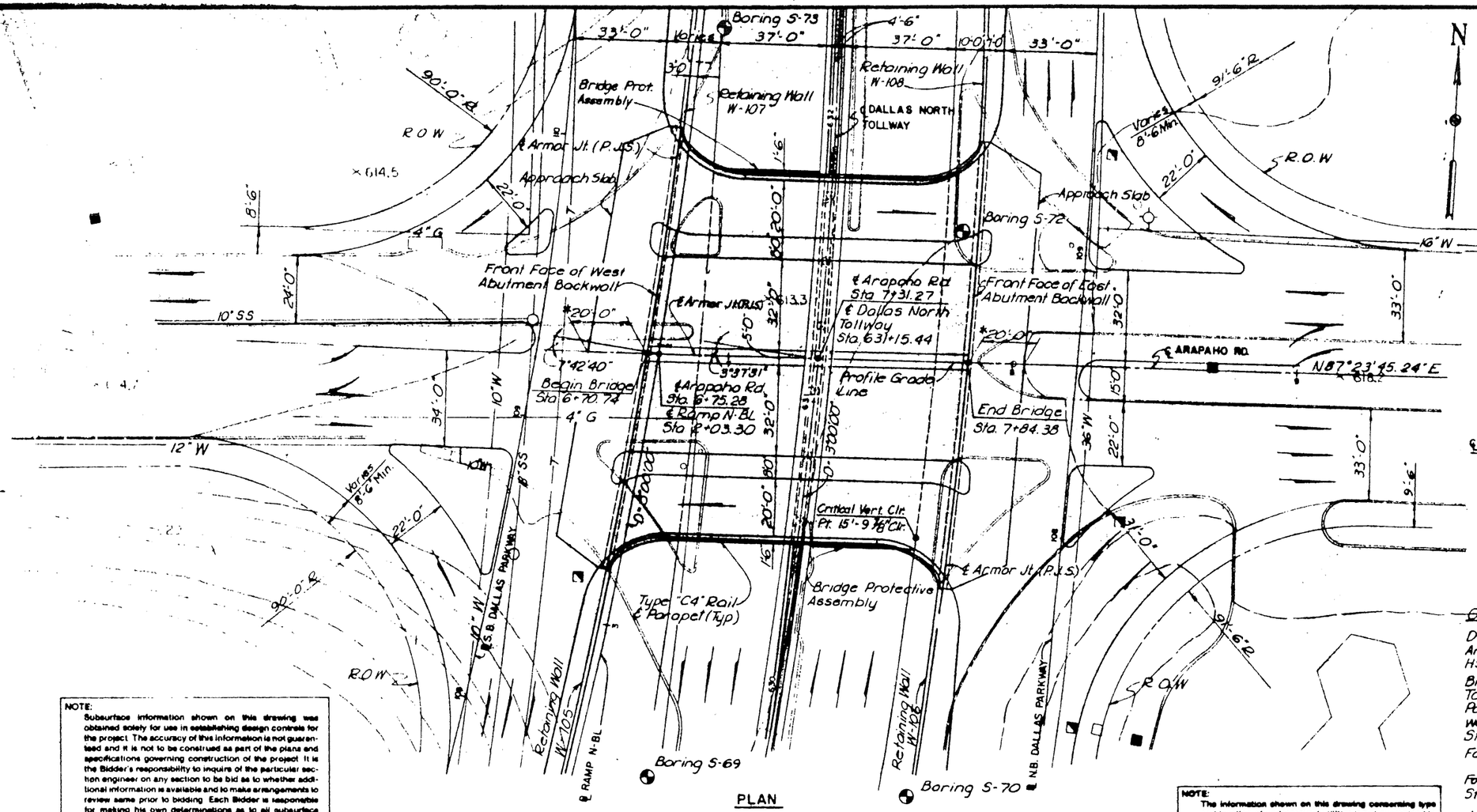
BELT LINE ROAD UNDERPASS
DRILLED SHAFT AND
FASCIA WALL DETAILS

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN GAD DATE 6-65 — DESIGNED WRA DATE 6-65 — CHECKED — DATE — SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-35 OF S-82

004103

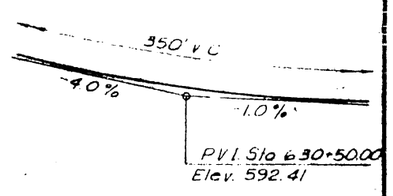


PLAN

℄ Arapaho Rd
Sta 7+31.27
Elev 614.60

+1.23%

PROFILE GRADE LINE - ARAPAHO RD.

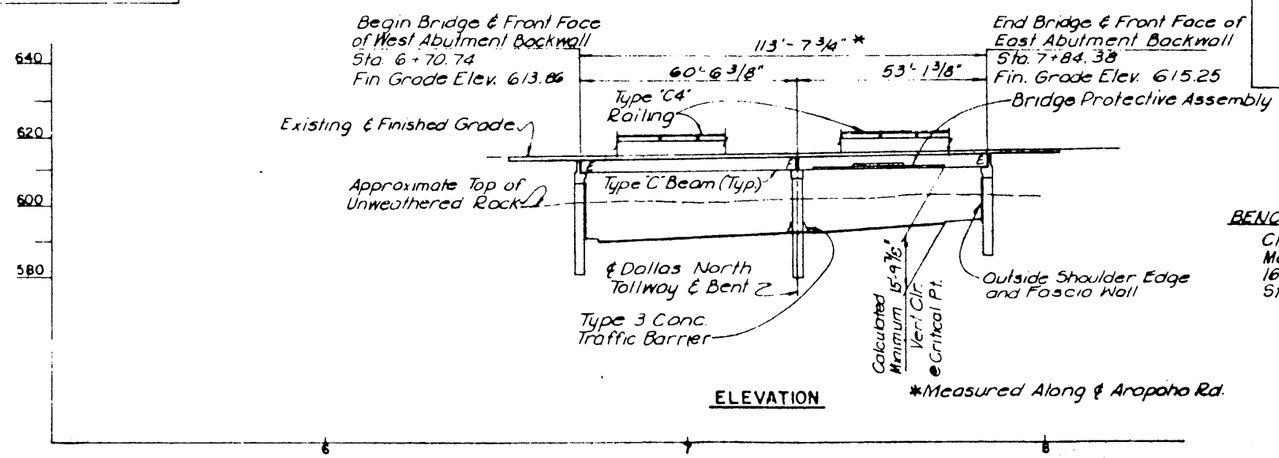


PROFILE GRADE LINE - TOLLWAY

℄ TOLLWAY CURVE DATA		RAMP N-BL CURVE DATA	
P.I.	= Sta 632+12.13	P.I.	= Sta 2+32.83
D	= 3°00'00.0"	D	= 3°00'00.0"
Δ	= 23°25'25.0"Lt	Δ	= 13°54'04.5"Rt
R	= 1909.86'	R	= 1909.86'
T	= 395.92'	T	= 232.83'
L	= 780.79'	L	= 463.38'

NOTE:
Subsurface information shown on this drawing was obtained solely for use in establishing design controls for the project. The accuracy of this information is not guaranteed and it is not to be construed as part of the plans and specifications governing construction of the project. It is the Bidder's responsibility to inquire of the particular section engineer on any section to be bid as to whether additional information is available and to make arrangements to review same prior to bidding. Each Bidder is responsible for making his own determinations as to all subsurface conditions and limits.

NOTE:
The information shown on this drawing concerning type and location of underground utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor shall verify location of underground pipe lines, conduits, and structures by contacting owners of underground utilities and by prospecting in advance of excavation operations.



ELEVATION

*Measured Along ℄ Arapaho Rd.

GENERAL NOTES

Designed According To AASHTO 1977 Standard And Interim Specifications Thru 1982 For HS20-44 Loading.

Bridge Protective Assemblies Shall Be Attached To The Outside Face Of Exterior Beams To Points 6 Inches Beyond The Limits Of The Roadway At The Locations Shown. For Details, See Standard Drawing No. 29.

For Approach Slab Details, See Sheet No.

For Traffic Barrier And Combination Rail Details, See Standard Drawing No. 31, 32 And 33.

All Dimensions Are Horizontal Or Vertical And Must Be Corrected For Grade, Crown, And/Or Superelevation.

BENCHMARK DATA

Chiseled Square on Nose of N.E. Parking Median in Front of ESQ, Esquire Tuxedo, 169 Feet Plus or Minus East of ℄ Tollway Station 628+88, El. 620.80

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS

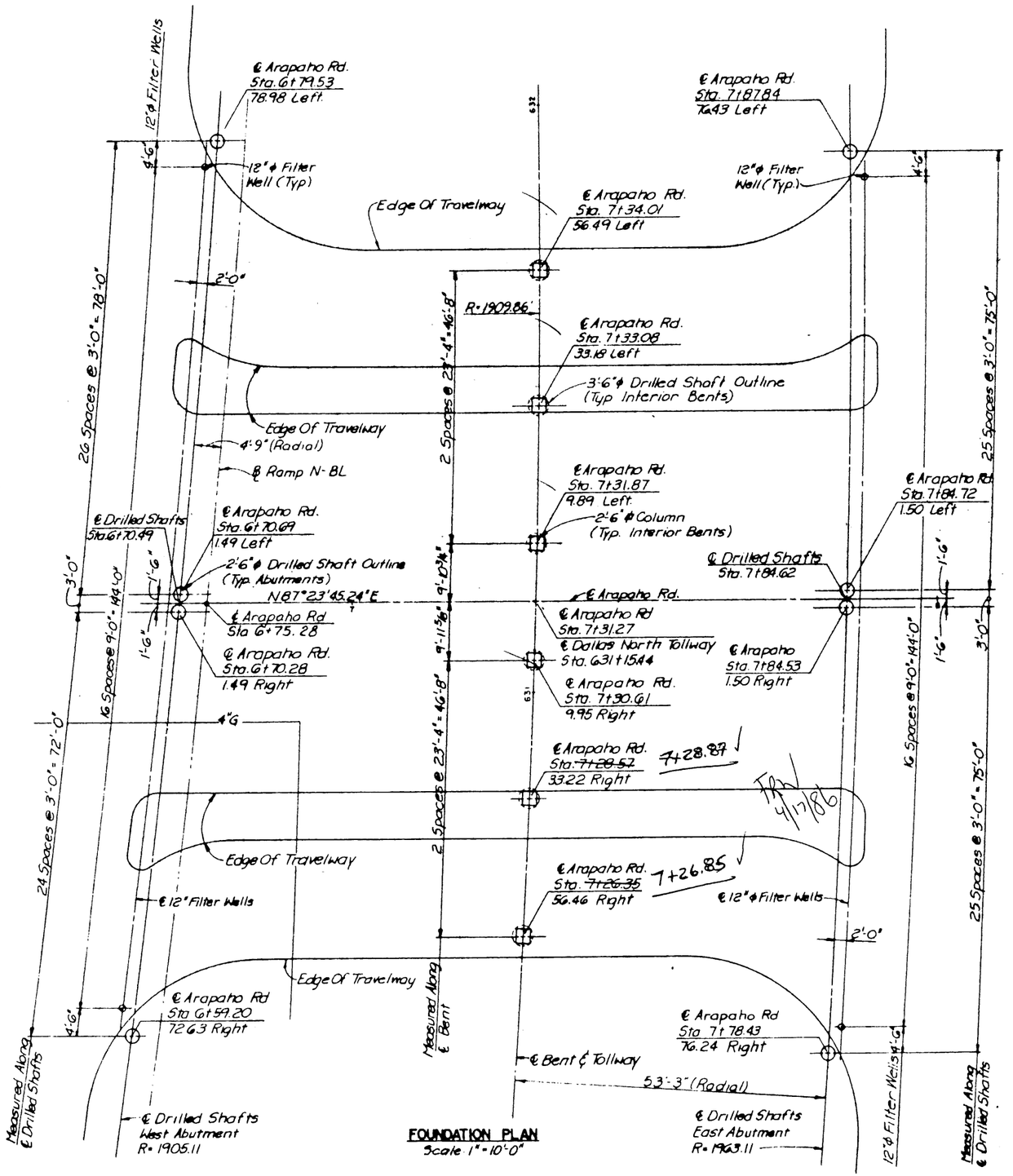
GENERAL PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN BST DATE 4-83 | DESIGNED JRA DATE 4-83
CHECKED JRA DATE 7-83 | SCALE 1"=20'-0"

CONTRACT NO. DNT-114 SHEET S-36 OF S-82

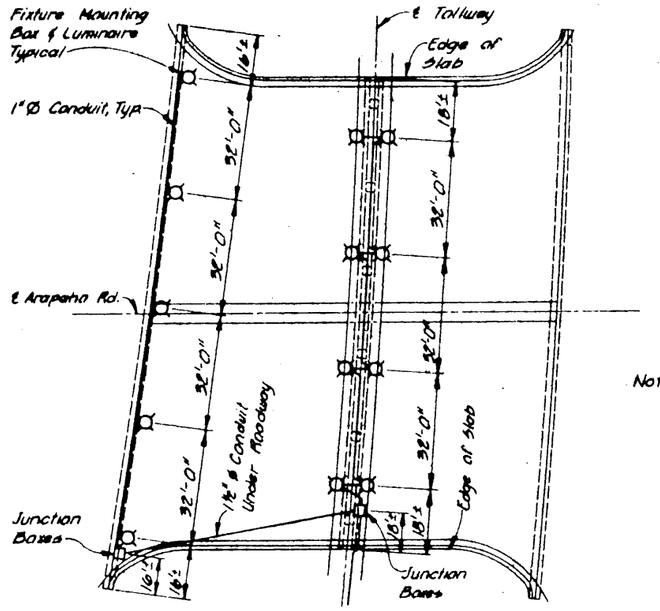
004104



FOUNDATION PLAN
Scale: 1" = 10'-0"

N

ESTIMATED QUANTITY SUMMARY			
ITEM NO	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30"ϕ)	L.F.	256.3
416	Drilled Shaft (42"ϕ)	L.F.	47
421	Class "C" Concrete (Abutment)	C.Y.	132.6
421	Class "C" Concrete (Bent)	C.Y.	57.5
422	Reinforced Concrete Slab	S.F.	15279
423	Retaining Wall (Fascia Wall)	S.F.	5151
425	Prestr. Conc. Beams (AASHTO Type II)	L.F.	1807.88
436	Preformed Joint Sealer (2")	L.F.	430
440	Reinforcing Steel	Lb.	29,788
442	Struct. Steel (H.Y.C.)	Lb.	5,502
442	Struct. Steel (H.Y.C.) (Armor Jt.)	Lb.	15,077
444	Bridge Protective Assembly	Ea.	2
450	Railing, Type C4	L.F.	222.2
556	Filter Material (Type D)	C.Y.	82
618	Conduit (Galvanized) (1")	L.F.	285
618	Conduit (Galvanized) (1½")	L.F.	77
900	Filter Wall (12"ϕ)	L.F.	623



Note: Luminaires and Surface Mounted Conduit shall be provided and installed by others.

UNDERBRIDGE LIGHTING PLAN
For Underbridge Lighting Conduit Details, See Standard Dwg. No. 36.

General Notes
1. All Station Designations Are ℄ Arapaho Rd. Stations.
2. For Top And Bottom Column Elevations, See Sheets S-42 and S-43.
3. For Additional Drilled Shaft Layout Dimensions See Misc. Slab Details, Sheet 6 of 6.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

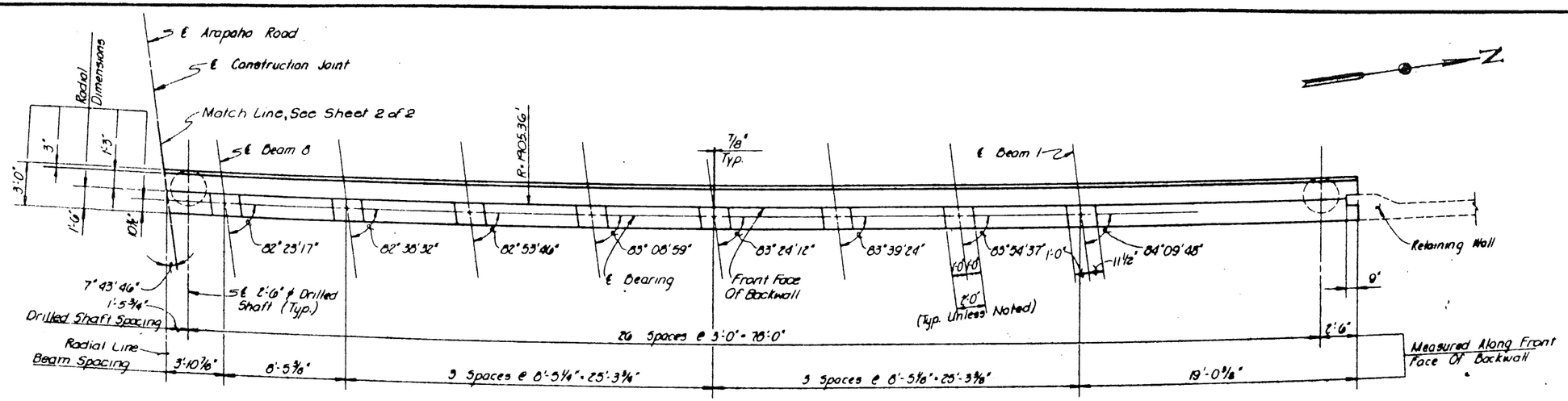
ARAPAHO ROAD UNDERPASS
FOUNDATION PLAN &
ESTIMATED QUANTITY SUMMARY

Turner Collie & Braden Inc. (Consulting Engineers) | SECTION VI

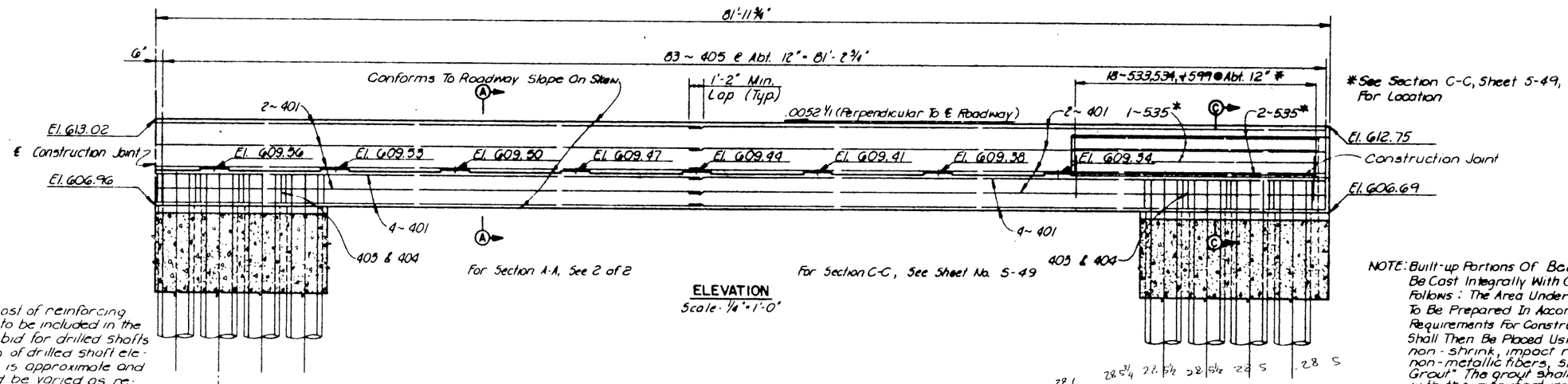
DRAWN BST DATE 6-83 | DESIGNED FRW DATE 6-83
CHECKED FRW DATE 7-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-37 OF S-82

004105



PLAN
Scale: 1/8" = 1'-0"



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

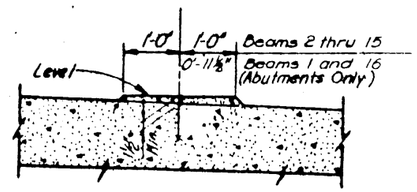
*See Section C-C, Sheet 5-49, For Location

△ Note
The cost of reinforcing steel to be included in the price bid for drilled shafts. Bottom of drilled shaft elevation is approximate and should be varied as required to provide 8'-0" minimum penetration into unweathered rock measured from top of finished grade

DRILLED SHAFTS (TYP.)

NOTE: Built-up Portions Of Bearing Seats Shall Be Cast Integrally With Cap Or Constructed As Follows: The Area Under The Built-up Portion Is To Be Prepared In Accordance With Specification Requirements For Construction Joints. The Pedestal Shall Then Be Placed Using an approved pre-packaged, non-shrink, impact resistant grout containing non-metallic fibers, similar to "Set" Impact Resistant Grout". The grout shall be mixed and applied in accordance with the manufacturer's recommendations.

NOTES:
1. See West Abutment Details, 2 of 2 for Notes, Estimated Quantities and Details not shown.



BEARING SEAT DETAIL
Scale 3/4" = 1'-0"

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS
WEST ABUTMENT DETAILS

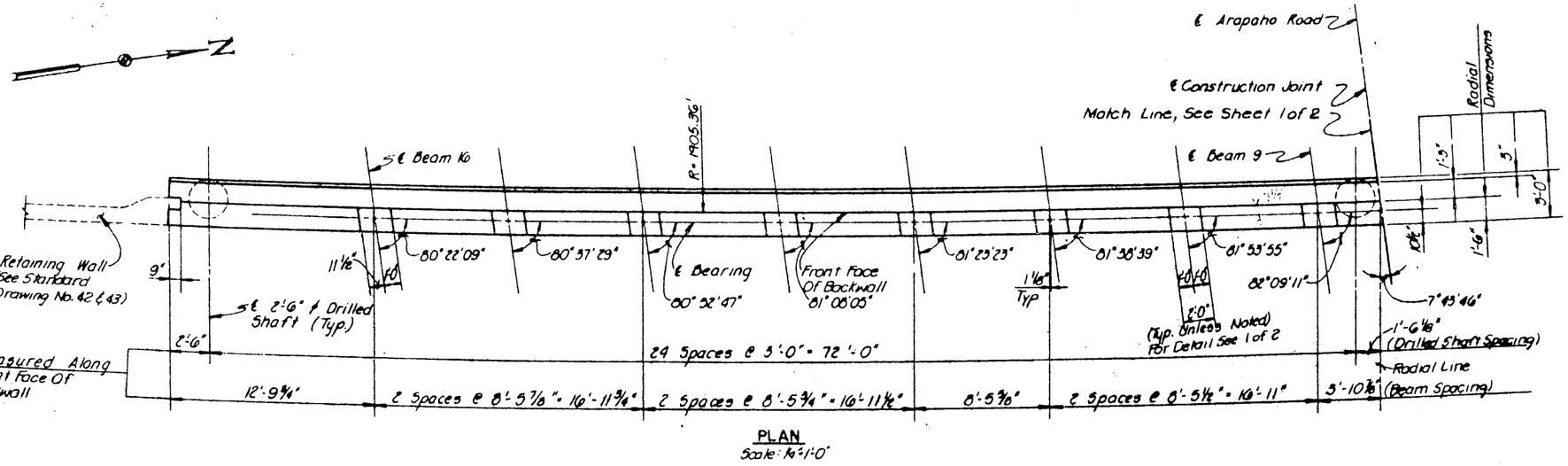
Turner Collie & Braden Inc. (consulting engineers) — SECTION VI

DRAWN	DRD	DATE 6-83	DESIGNED	FRW	DATE 5-83
CHECKED	JRA	DATE 6-83	SCALE	AS NOTED	

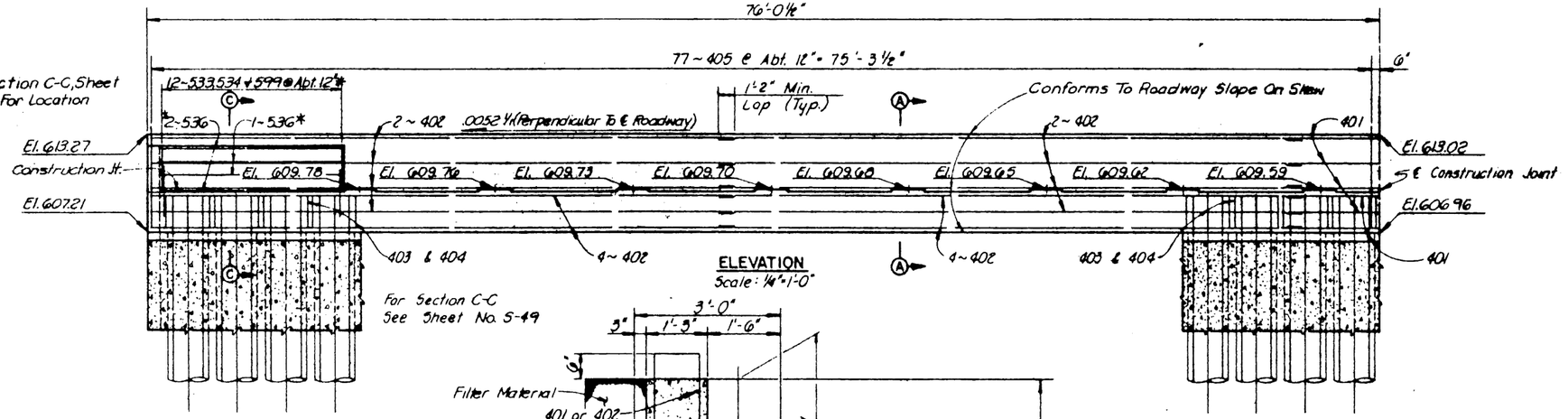
CONTRACT NO DNT-114 SHEET S-38 OF S-82

1 OF 2

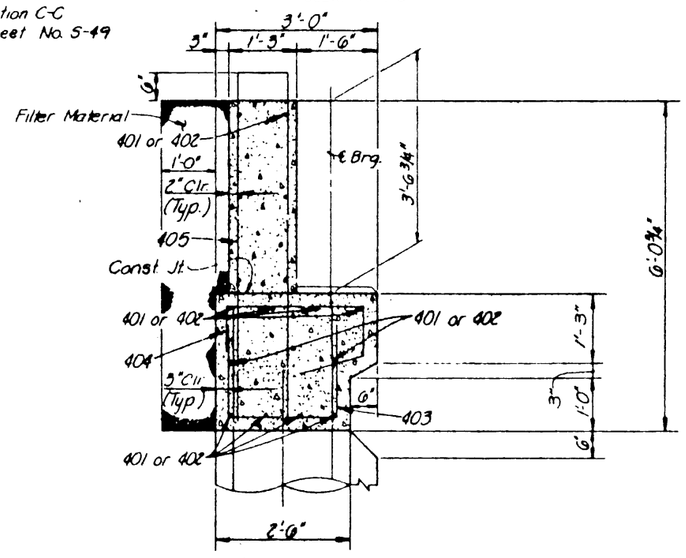
004106



PLAN
Scale: ¼"=1'-0"



ELEVATION
Scale: ¼"=1'-0"



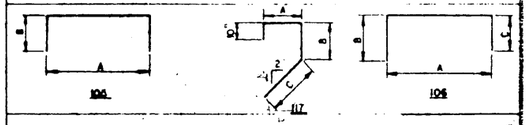
SECTION A-A
Scale: ¾"=1'-0"

NOTES:
1. All concrete shall be Class "C". Design fc = 1200 p.s.i.. Chamfer all exposed corners ¾" unless otherwise noted.
2. All reinf. steel shall be ASTM A615, Grade 60.
3. Dimensions relating to reinforcing steel are to outside dimension of bar, with radii shown to the inside of bar.
4. For Drilled Shaft and Fascia Wall Details, See Sheet No. 5-55.
5. Elevations shown, other than the Bearing Seat Elevations, are given at front face of Abutment Backwall.
6. For Under Bridge Lighting Conduit Details, See Standard Drawing No. 36 and Foundation Plan Drawing

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	33	44'-7"	Str.					953
402	32	36'-2"	Str.					773
403	156	5'-4"	105	2'-0"	1'-8"			556
404	156	5'-6"	117	2'-6"	0'-11"	1'-3"		573
405	160	13'-7"	105	0'-11"	6'-4"			1452
							Total	4307
533	30	5'-5"	105	2'-5"	1'-6"			169
534	30	6'-4"	106	2'-5	1'-6"	2'-5"		198
535	6	17'-0"	Str.					106
536	6	10'-9"	Str.					67
599	30	2'-6"	Str.					78
							Total	618
							Total	4925

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30"ϕ)	L.F.	1375
421	Class "C" Concrete (Abutment)	C.Y.	66.3
423	Retaining Wall (Fascia Wall)	S.F.	2885
440	Reinforcing Steel	Lb.	4925
556	Filter Material (Type D)	C.Y.	41
900	Filter Wells (12"ϕ)	L.F.	344

NOTE:
Armor Joint at Abutment is included in the Slab Details Drawing, Item No. 442 Quantity.

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
ARAPAHO ROAD UNDERPASS
WEST ABUTMENT DETAILS

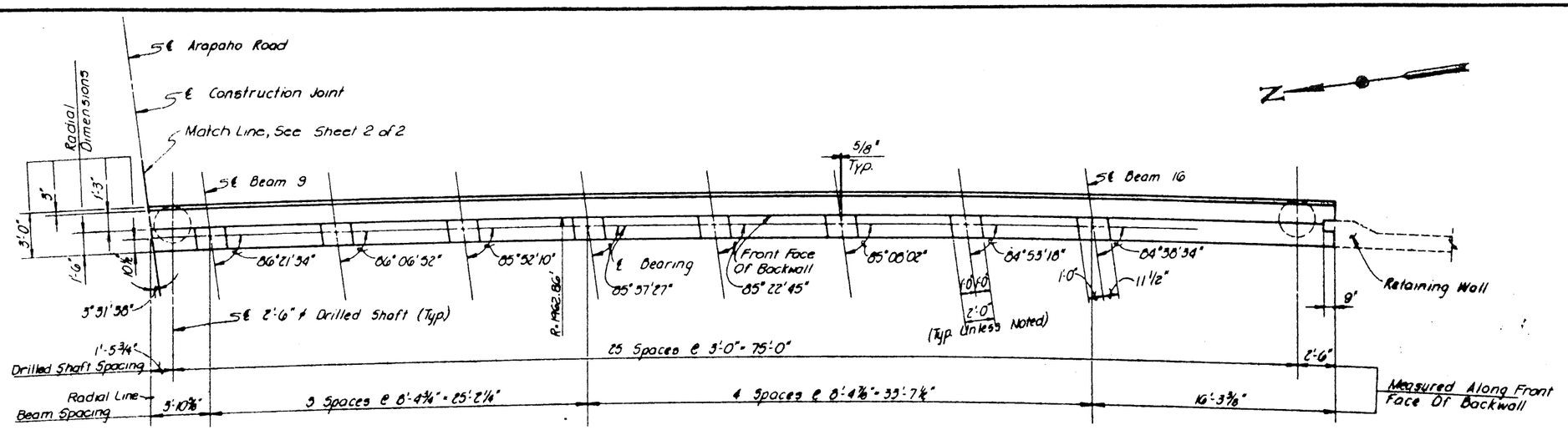
Turner Collie & Braden Inc. (consulting engineers) SECTION VI

DRAWN DRD DATE 5-83 DESIGNED FRW DATE 5-83
CHECKED JRA DATE 6-83 SCALE AS NOTED

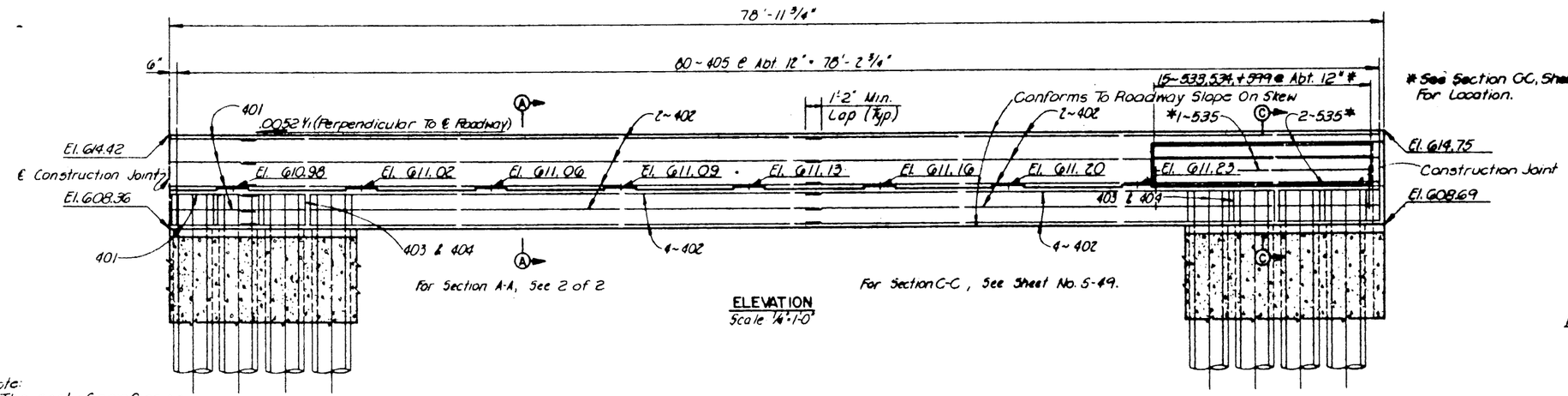
CONTRACT NO DNT-114 SHEET S-39 OF S-82

2 OF 2

004107

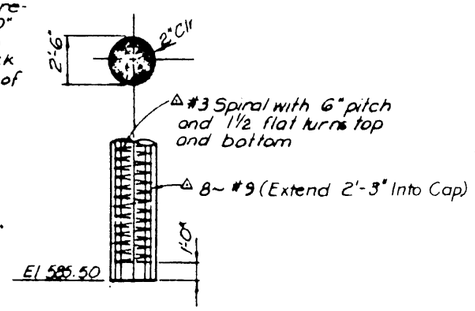


PLAN
Scale 1/4"=1'-0"



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

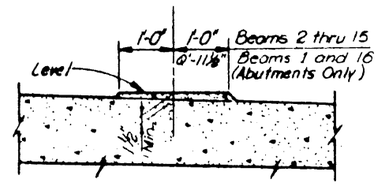
△Note:
The cost of reinforcing steel to be included in the price bid for drilled shafts. Bottom of drilled shaft elevation is approximate and should be varied as required to provide 8'-0" minimum penetration into unweathered rock measured from top of finished grade.



DRILLED SHAFTS (TYP)

NOTES:
1. See East Abutment Details, 2 of 2 for Notes, Estimated Quantities and Details not shown.

NOTE: Built-up Portions Of Bearing Seat Shall Be Cast Integrally With Cap Or Constructed As Follows: The Area Under The Built-up Portion Is To Be Prepared In Accordance With Specification Requirements For Construction Joints. The Pedestal Shall Then Be Placed Using An Approved pre-packaged, non-shrink, impact resistant grout containing non-metallic fibers, similar to Set "Impact Resistant Grout" The grout shall be mixed and applied in accordance with the manufacturer's recommendations



BEARING SEAT DETAIL
Scale 3/4"=1'-0"

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
ARAPAHO ROAD UNDERPASS
EAST ABUTMENT DETAILS

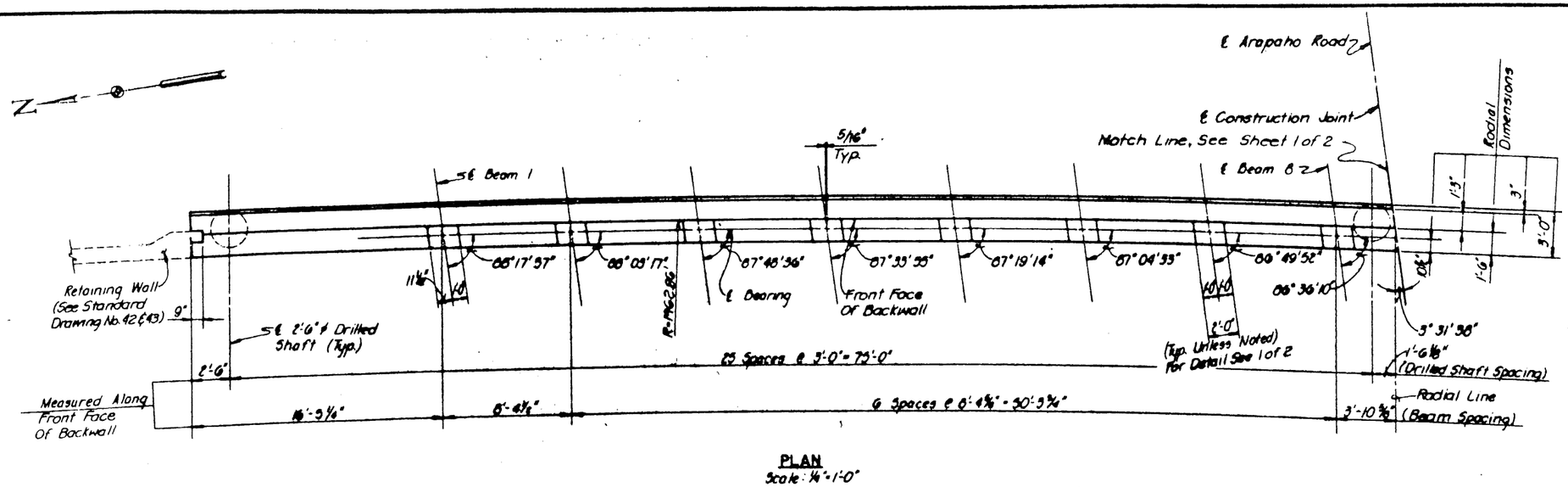
Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

DRAWN	DRD	DATE 5-83	DESIGNED	FRW	DATE 5-83
TRACED	JRA	DATE 6-83	SCALE	AS NOTED	

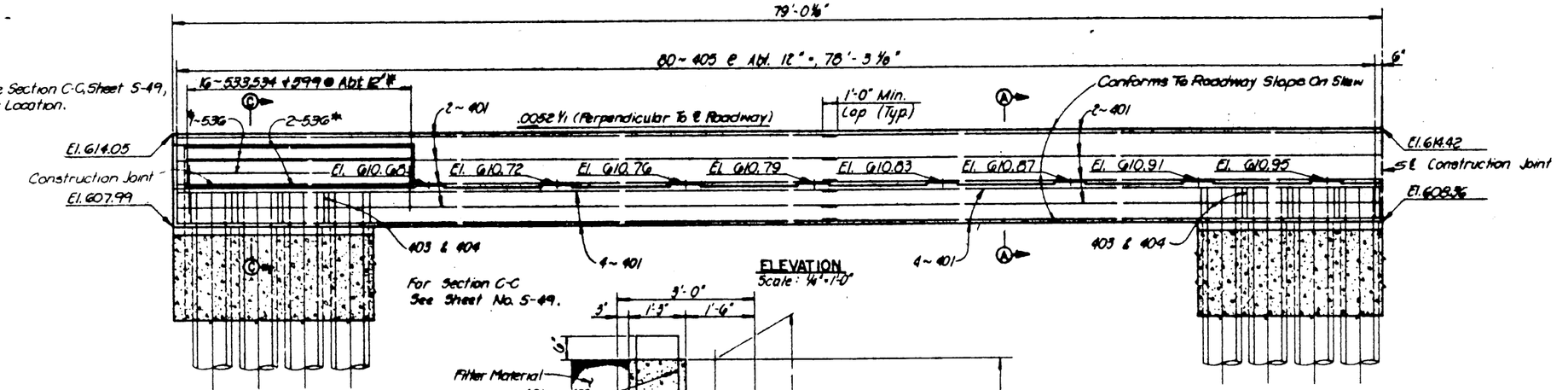
CONTRACT NO. DNT-114 SHEET S-40 OF S-82

1 OF 2

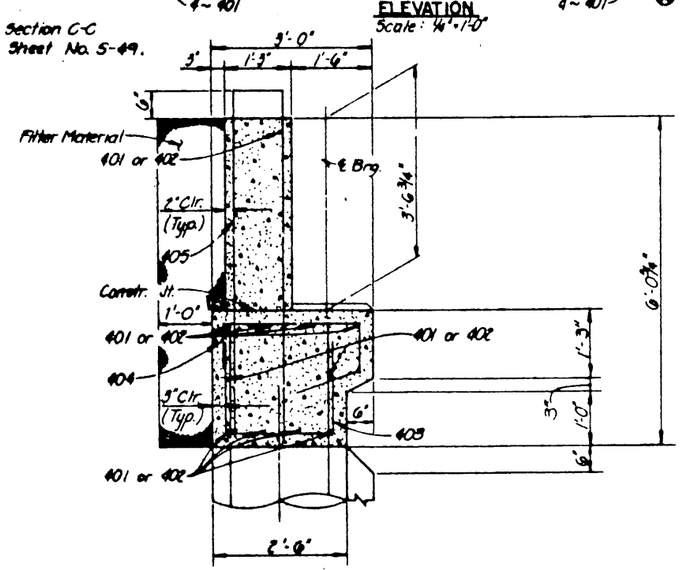
004108



PLAN
Scale: ¼"=1'-0"



ELEVATION
Scale: ¼"=1'-0"



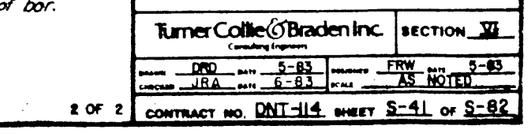
SECTION A-A
Scale: ¼"=1'-0"

NOTES:
1. All concrete shall be Class "C" Design ft'=1200 p.s.i. Chamfer all exposed corners ¾" unless otherwise noted.
2. All reinf. steel shall be ASTM A-615, Grade 60.
3. Dimensions relating to reinforcing steel are to outside dimension of bar, with radii shown to the inside of bar.
4. For Drilled Shaft and Fascia Wall Details, See Sheet No. S-55.
5. Elevations shown, other than the Bearing Seat Elevations, are given at front face of Abutment Backwall.
6. For Under Bridge Lighting Conduit Details, see Standard Drawing No 36 and Foundation plan drawing

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	32	43'-2"	Str.	✓				923
402	32	37'-7"	Str.	✓				803
403	156	3'-4"	105	✓ 2'-0"	1'-8"			556
404	156	5'-6"	117	✓ 2'-6"	0'-11"	1'-3"		573
405	160	13'-7"	108	✓ 0'-11"	6'-4"			1452
							Total	4307
539	31	5'-5"	105	✓ 2'-5"	1'-6"			175
539	31	6'-4"	106	✓ 2'-5"	1'-6"	2'-5		205
535	6	14'-3"	Str.	✓				89
536	6	14'-5"	Str.	✓				90
599	31	2'-6"	Str.	✓				81
							Total	640
							Total	4947

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30"ϕ)	L.F.	1188
421	Class "C" Concrete (Abutment)	C.Y.	66.3
423	Retaining Wall (Fascia Wall)	S.F.	2266
440	Reinforcing Steel	Lb.	4947
556	Filter Material (Type D)	C.Y.	41
900	Filter Well (12'ϕ)	L.F.	279

NOTE:
Armor Joint at Abutment is included in the Slab Details Drawings, Item No. 442 Quantity.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
ARAPAHO ROAD UNDERPASS
EAST ABUTMENT DETAILS

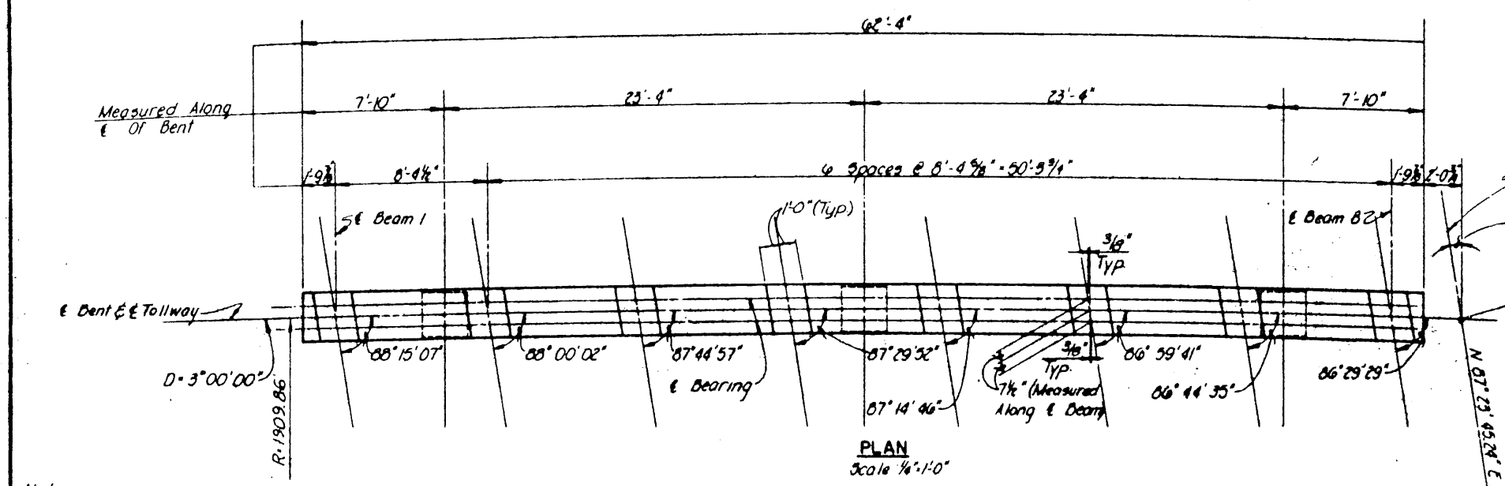
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN DRD DATE 5-83 | DESIGNED FRW DATE 5-83
CHECKED JRA DATE 6-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-41 OF S-82

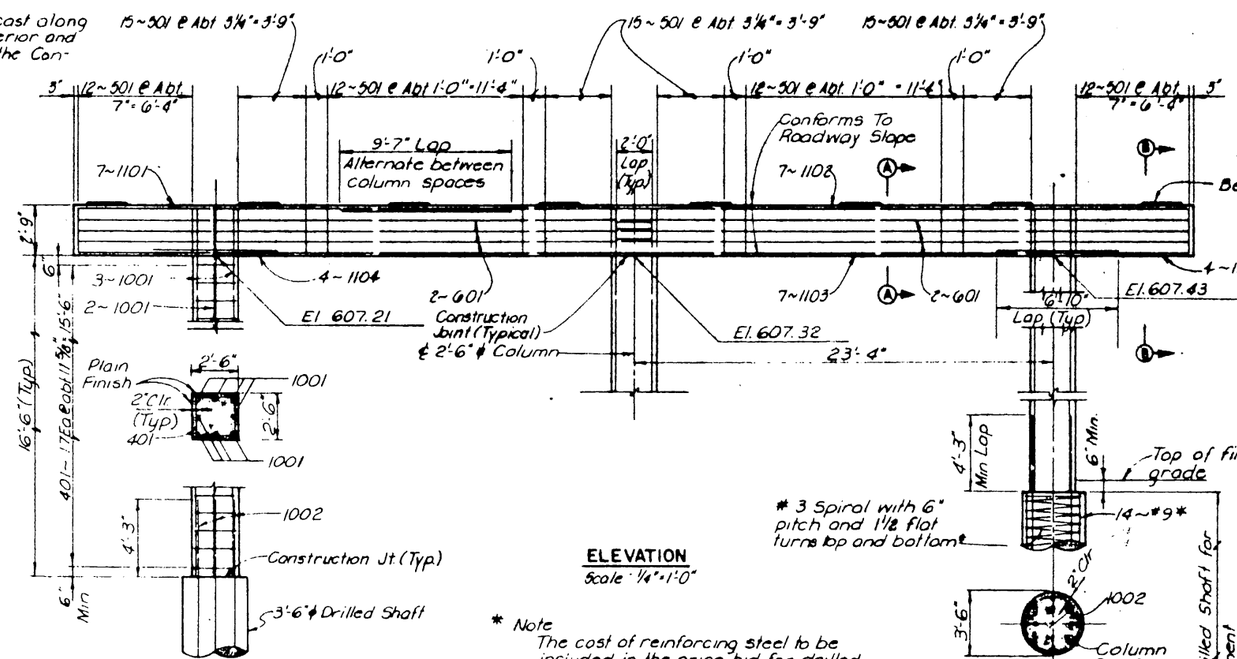
2 OF 2

004109



PLAN
Scale ¼"=1'-0"

Note
Cap beam may be cast along chord between exterior and center columns at the Contractors option.



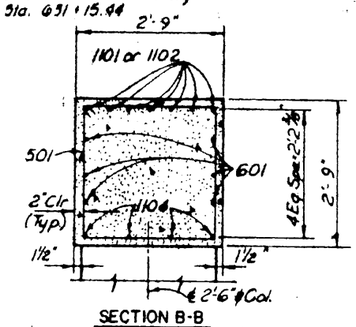
COLUMN ELEVATION (TYP.)

ELEVATION
Scale ¼"=1'-0"

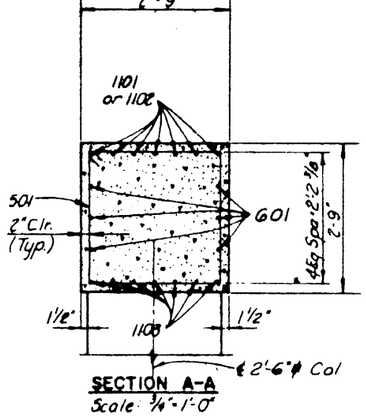
DRILLED SHAFTS (TYP.)

* Note
The cost of reinforcing steel to be included in the price bid for drilled shafts

Bottom of drilled shaft elevation is approximate and should be varied as required to provide 8'-0" min. penetration into unweathered rock measured from top of finished grade



SECTION B-B
Scale ¾"=1'-0"



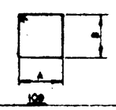
SECTION A-A
Scale ¾"=1'-0"

NOTES:
1. All concrete shall be Class "C". f'c = 3,600 p.s.i. Chamfer all exposed corners ¾" unless otherwise noted.
2. All reinforcing steel shall be ASTM A615 Grade 60.
3. Dimensions relating to reinforcing steel are to outside dimension of bar, with radii shown to the inside of bar.
4. For details and dimensions of concrete Bearing Seat see Sheet No. S-40.
5. Average calculated drilled shaft load = 170 Tons/Shaft
6. For Under Bridge Lighting Conduit Details, See Standard Drawing No 36 and Foundation plan drawing.

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
501	108	10'-6"	109	2'-5"	2'-5"		Total	1183
601	12	32'-0"	Str. ✓				Total	577
1101	7	24'-2"	Str ✓					899
1102	7	27'-6"	Str ✓					1707
1103	7	53'-6"	Str ✓					1990
1104	8	11'-1"	Str ✓					477
							Total	5127
1001	24	18'-9"	Str ✓					1936
1002	24	8'-6"	Str ✓					878
							Total	2814
401	51	9'-4"	109 ✓	2'-2"	2'-2"		Total	318
							Total	10,019

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (3'-6"ϕ)	L.F.	24
421	Class C Concrete (Bent)	C.Y.	29.1
440	Reinforcing Steel	Lbs.	10,019

LOCATION		BEARING SEAT ELEVATIONS — BEAM NUMBERS							
SPAN	BENT	1	2	3	4	5	6	7	8
1	North	610.06	610.10	610.14	610.18	610.22	610.26	610.30	610.33
2	North	610.08	610.12	610.16	610.20	610.23	610.27	610.31	610.35

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

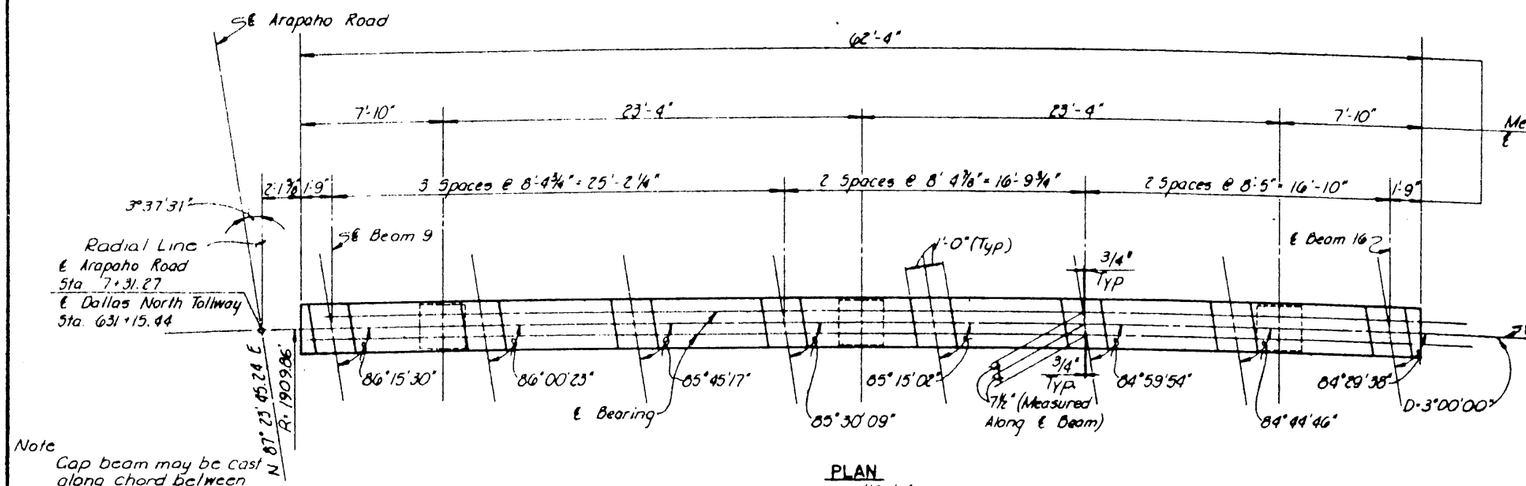
ARAPAHO ROAD UNDERPASS
BENT DETAIL – NORTH

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN DRD DATE 5-83 DESIGNED FRW DATE 5-83
CHECKED JRA DATE 6-83 SCALE AS NOTED

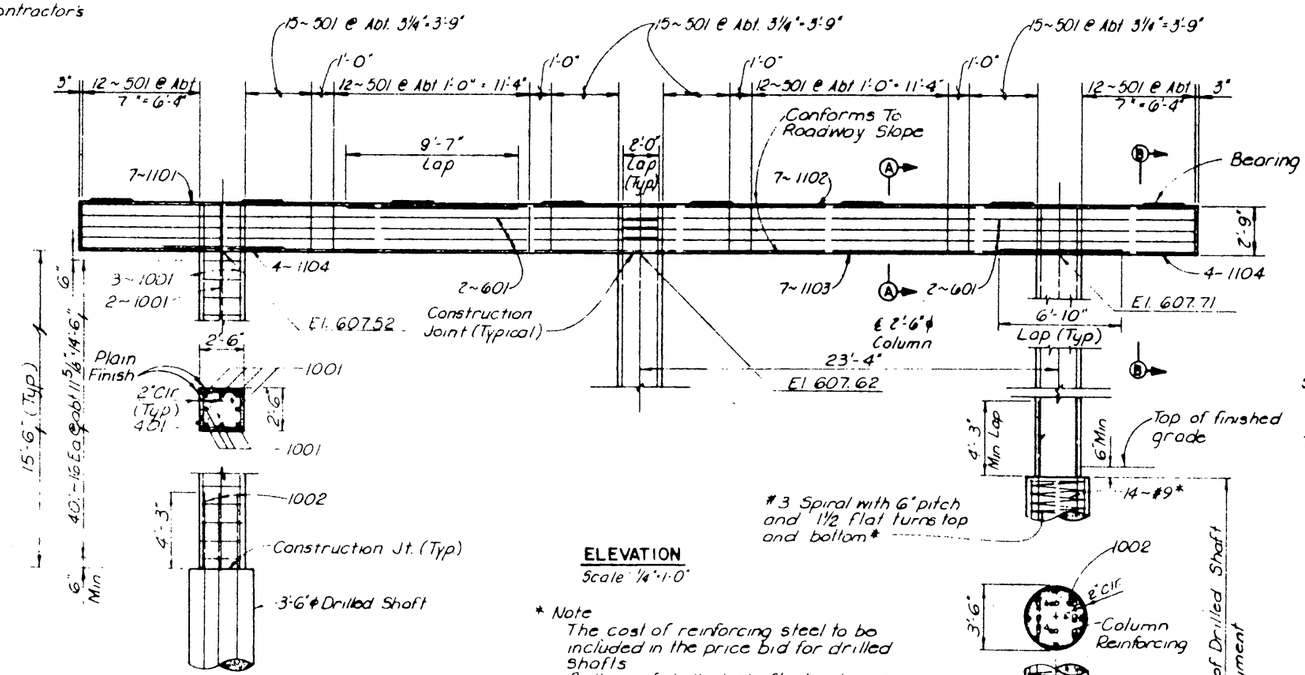
CONTRACT NO DNT-114 SHEET S-42 OF S-82

004110



Note
Cap beam may be cast along chord between exterior and center columns at the contractors option.

PLAN
Scale 1/4"=1'-0"

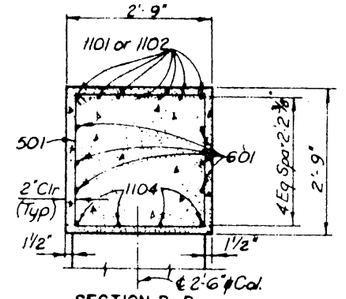


COLUMN ELEVATION (TYP.)

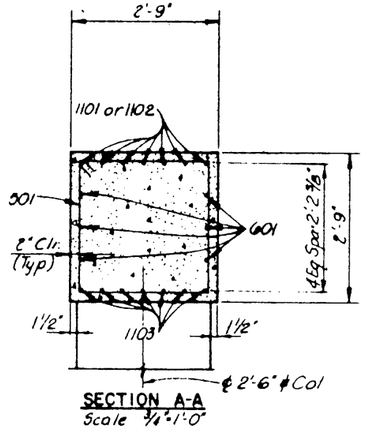
ELEVATION
Scale 1/4"=1'-0"

DRILLED SHAFTS (TYP.)

* Note
The cost of reinforcing steel to be included in the price bid for drilled shafts
Bottom of drilled shaft elevation is approximate and should be varied as required to provide 8'-0" minimum penetration into unweathered rock measured from top of finished grade



SECTION B-B
Scale ¾"=1'-0"



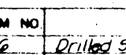
SECTION A-A
Scale ¾"=1'-0"

NOTES:
1. All concrete shall be Class "C", f'c = 3600 psi. p.s.i. chamfer all exposed corners ¾" unless otherwise noted.
2. All reinforcing steel shall be ASTM A615, Grade 60.
3. Dimensions relating to reinforcing steel are to outside dimension of bar, with radii shown to the inside of bar
4. For details and dimensions of concrete Bearing Seat see Sheet No 5-40.
5. Average calculated drilled shaft load = 175 Tons / Shaft
6. For Under Bridge Lighting Conduit Details, see Standard Drawing No 36 and Foundation Plan drawing.

REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
501	108	10'-6"	109	✓ 2'-5"	2'-5"		Total	1183
601	12	32'-0"	Str.	✓			Total	577
1101	7	24'-2"	Str.	✓				899
1102	7	47'-6"	Str.	✓				1767
1103	7	53'-6"	Str.	✓				1990
1104	8	11'-1"	Str.	✓				471
1001	24	17'-9"	Str.	✓			Total	5127
1002	24	8'-6"	Str.					1833
								878
							Total	2711
401	48	9'-4"	109	✓ 2'-2"	2'-2"		Total	299
							Total	9897

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

ITEM NO	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (42"ϕ)	L F	23
421	Class "C" Concrete (Bent)	C Y	28.4
440	Reinforcing Steel	Lbs	9897

LOCATION		BEARING SEAT ELEVATIONS — BEAM NUMBERS							
SPAN	BENT	9	10	11	12	13	14	15	16
1	South	610.37	610.40	610.44	610.48	610.51	610.55	610.58	610.61
2	South	610.38	610.42	610.46	610.49	610.53	610.56	610.60	610.63

NO	REVISION	BY	DATE

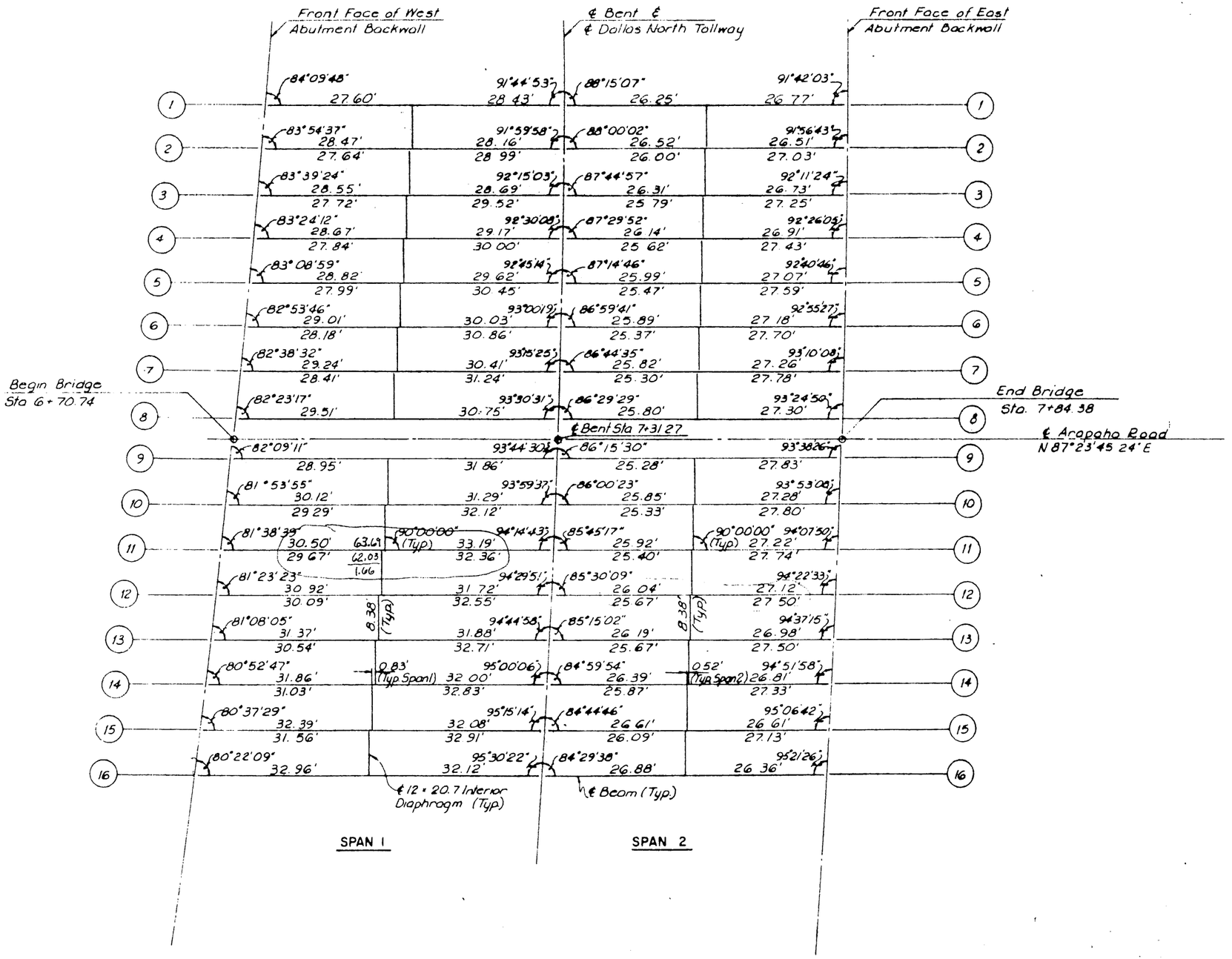
TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
ARAPAHO ROAD UNDERPASS
BENT DETAIL - SOUTH

Turner Collie & Braden Inc. SECTION VI

DRAWN DRD DATE 5-83 DESIGNED FRW DATE 5-83
CHECKED JRA DATE 6-83 SCALE AS NOTED

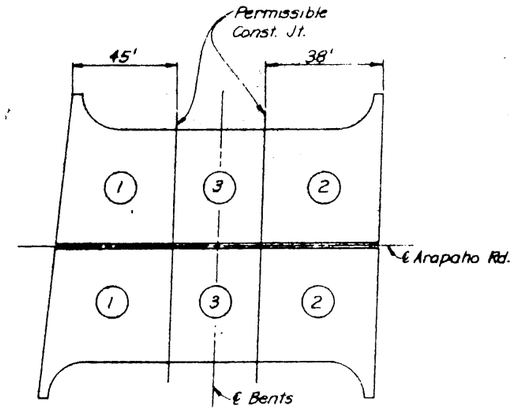
CONTRACT NO DNT-114 SHEET S-43 OF S-82

004111



GENERAL FRAMING NOTES

1. Diaphragm Lengths are shown between Beam ℄s
2. All dimensions shown are Horizontal and must be corrected for Grade, Crown and/or Superelevation
3. Diaphragm locations are shown from ℄ Abutment and ℄ Bent along ℄ Beam to ℄ Diaphragm



SLAB POUR SEQUENCE
N.T.S.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS
FRAMING PLAN

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN BST DATE 6-83 | DESIGNED JRA DATE 6-83
CHECKED JRA DATE 6-83 | SCALE 1" = 10'-0"

CONTRACT NO. DNT-114 SHEET S-44 OF S-82

C04112

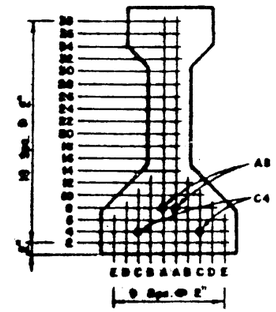
DESIGNED BEAMS (DEPRESSED STRANDS)

SPAN NUMBER	* SPAN LENGTH	BEAM NO.	BEAM LENGTH (FT.)	BEAM TYPE	PRESTRESSING STRANDS TOTAL NO.	SIZE	STRGTH.	"a" ℄ in.	"a" END in.	DEPRESSED NO.	DEPRESSED TO	CONCRETE RELEASE STRENGTH f'ci (psi)	CONCRETE MINIMUM 28 DAY COMP. STRENGTH f'c (psi)
1	60'-0⅝"	1	55.70	C	20	½"	270K	14.09	10.09	4	A-24	4000	5000
		2	56.30	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
		3	56.90										
		4	57.50		20			14.09	10.09	4	A-24		
		5	58.10		22			13.82	8.36	6	A-26		
		6	58.71		22			13.82	8.36	6	A-26		
		7	59.31		22			13.82	8.36	6	A-26		
		8	59.92		24			13.59	6.59	6	A-34		
		9	60.48		↑			↑	↑	↑	↑		
		10	61.08										
		11	61.69										
		12	62.30		↓			↓	↓	↓	↓	↓	
		13	62.91		24			13.59	6.59	6	A-34	4000	
		14	63.52		26			13.40	6.47	6	A-36	4280	
		15	64.13		26			13.40	6.47	6	A-36	4280	
		16	64.75		26			13.40	6.47	6	A-36	4280	
2	53'-1⅛"	1	52.70		16			14.34	10.84	4	A-18	4000	
		2	52.70		↑			↑	↑	↑	↑	↑	
		3	52.71										
		4	52.72										
		5	52.73										
		6	52.74										
		7	52.76										
		8	52.77										
		9	52.78										
		10	52.80										
		11	52.82										
		12	52.83										
		13	52.85										
		14	52.87										
		15	52.89	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
		16	52.91	C	16	½"	270K	14.34	10.84	4	A-18	4000	5000

OPTIONAL DESIGN

DN. LOAD COMP. STRESS (TOP ℄) fci (psi)	DN. LOAD TENSILE STRESS (BOTT. ℄) fcb (psi)	REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (Ft Kips)
2033	2446	2400
↑	↑	↑
↓	↓	↓
2033	2446	2400
2100	2583	2522
2160	2583	2522
2160	2583	2522
2424	2803	2703
↑	↑	↑
↓	↓	↓
2424	2803	2703
2564	3011	2890
2564	3011	2890
2564	3011	2890
1729	2113	2103
↑	↑	↑
↓	↓	↓
1729	2113	2103

* LENGTH AT ℄ OF ARAPAHO ROAD



TYPE C BM.

GENERAL NOTES:

Designed in accordance with current A.A.S.H.T.O. Specifications.

All concrete shall be Class H.

When shown on this sheet, the fabricator has the option of furnishing either the designed depressed strand beam or an approved optional beam design. Low relaxation strands may be used.

Prestressed losses for the designed beams have been calculated according to the A.A.S.H.T.O. 1982 Interim Specifications for a relative humidity of 65%. Optional designs shall likewise conform.

Certain beams with depressed strands are subject to cracking in the end of the beam. When such cracks occur, all subsequent beams of the same type and strand pattern shall have strands wrapped in the following manner:
1. Alternate rows of depressed strands shall be wrapped for 2 feet from each end of the beam.
2. One half of the straight strands, as nearly as possible, shall be wrapped for 4 feet from each end of the beam.
3. The wrapping pattern shall be symmetrical about the vertical axis of the beam for both depressed and straight strands.
4. Strands shall be wrapped so that the centers of gravity of the depressed strands and the straight strands will remain within 1 inch of their original location.
5. Strands shall be tightly wrapped with a waterproof adhesive tape or plastic tubing may be used provided both ends and the seam of the tube are sealed with a waterproof tape.
6. Revised shop drawings will not be required, but wrapping patterns, and the beams affected, shall appear on the as-built drawings.

For depressed strand designed beams, strands shall be located as low as possible on the 2" grid system shown hereon, unless a non-standard strand pattern is indicated. Fill Row "2", then Row "4", then Row "6", etc., beginning each row in the "A" position and working outward until the required number of strands is reached. All strands in the "A" position shall be depressed, maintaining the 2" spacing so that the upper two strands are in the position shown in the table at the beam ends.

Initial pretension for 1/2" 270 K strands = 28.9 K for regular stress relieved strand or 31.0 K for low relaxation strands.

Horizontal distances are shown for SPAN LENGTH and BEAM LENGTH. They must be corrected for grade or cross slope, where appropriate.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS

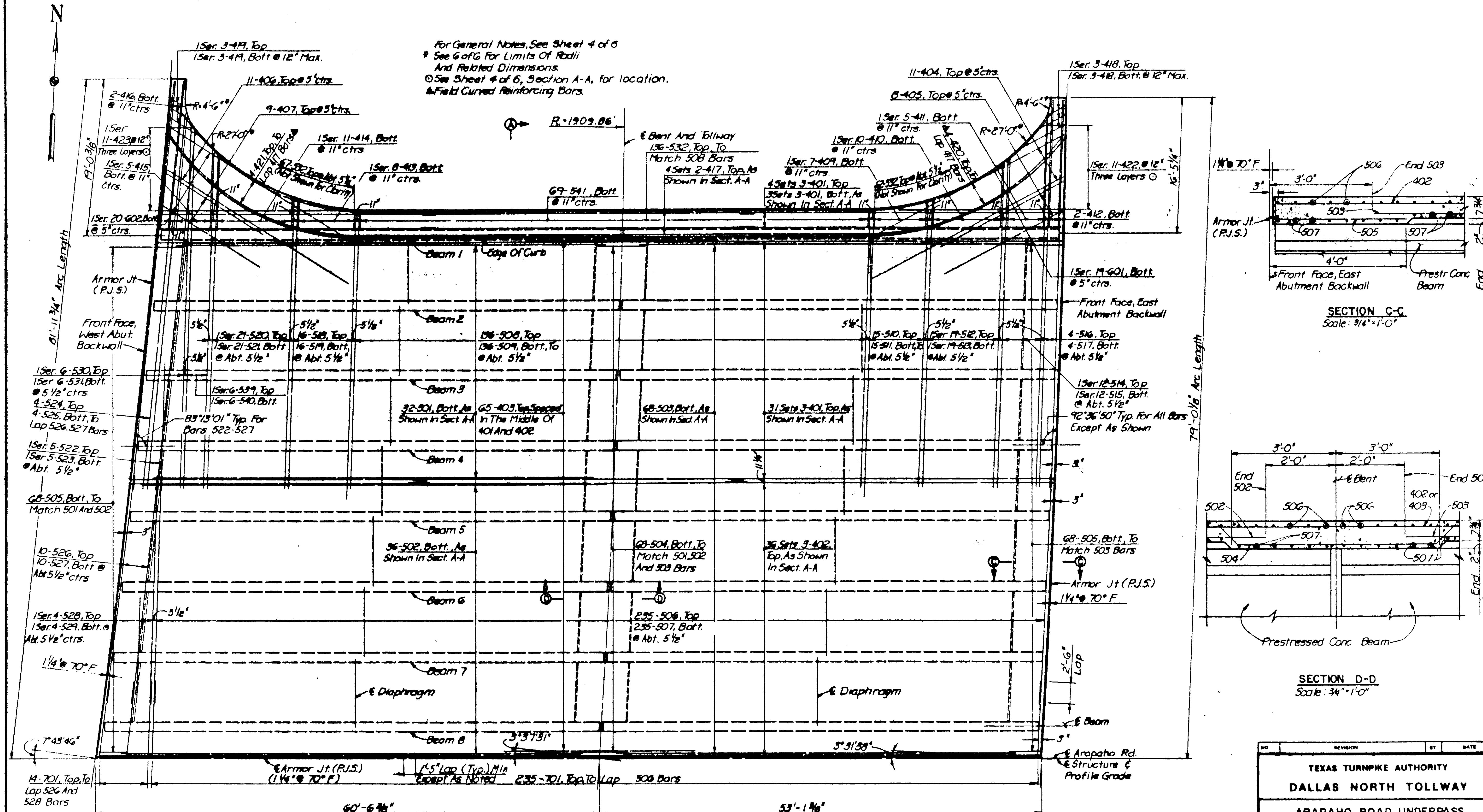
PRESTRESSED CONCRETE BEAMS

Turner Collie & Braden Inc. (consulting engineers) SECTION VI

DRAWN DRD DATE 5-83 CHECKED FRW DATE 5-83 DESIGNED FRW DATE 5-83 SCALE

CONTRACT NO. DNT-114 SHEET S-45 OF S-82

004113


N
For General Notes, See Sheet 4 of 6
* See 6 of 6 For Limits Of Radii And Related Dimensions.
⊙ See Sheet 4 of 6, Section A-A, for location.
▲ Field Curved Reinforcing Bars.
R. = 1909.86'
℄ Bent And Tollway
1Ser. 3-419, Top
1Ser. 3-419, Bott @ 12" Max.
11-406, Top @ 5" ctrs.
9-407, Top @ 5" ctrs.
2-4K6, Bott. @ 11" ctrs.
1Ser. 11-423 @ 12" Three Layers ⊙
1Ser. 5-415 Bott. @ 11" ctrs.
1Ser. 20-602, Bott @ 5" ctrs.
1Ser. 11-414, Bott @ 11" ctrs.
1Ser. 8-413, Bott @ 11" ctrs.
69-541, Bott. @ 11" ctrs.
136-532, Top, To Match 508 Bars
4 Sets 2-417, Top, As Shown In Sect. A-A
4 Sets 3-401, Top
35 ets 3-401, Bott., As Shown In Sect. A-A
1Ser. 7-409, Bott @ 11" ctrs.
1Ser. 10-410, Bott @ 11" ctrs
1Ser. 5-411, Bott. @ 11" ctrs.
8-405, Top @ 5" ctrs.
11-404, Top @ 5" ctrs.
1Ser. 3-418, Top
1Ser. 3-418, Bott. @ 12" Max
1Ser. 11-422 @ 12" Three Layers ⊙
2-412, Bott. @ 11" ctrs.
1Ser. 19-601, Bott @ 5" ctrs.
Front Face, East Abutment Backwall
19'-0 3/8"
81'-11 3/4" Arc Length
16'-5 1/4"
79'-0 1/8" Arc Length
R. 4'-6"
R. 27'-0"
Armor Jt. (P.J.S.)
Front Face, West Abut. Backwall
Beam 1
Edge Of Curb
Beam 2
Beam 3
Beam 4
Beam 5
Beam 6
Beam 7
Beam 8
1Ser. 21-520, Top
1Ser. 21-521, Bott @ Abt. 5 1/2"
16-518, Top
16-519, Bott. @ Abt. 5 1/2"
136-508, Top
136-509, Bott., To @ Abt. 5 1/2"
15-510, Top
15-511, Bott. @ Abt. 5 1/2"
1Ser. 19-512, Top
1Ser. 19-513, Bott.
@ Abt. 5 1/2"
4-516, Top
4-517, Bott. @ Abt. 5 1/2"
1Ser. 12-514, Top
1Ser. 12-515, Bott. @ Abt. 5 1/2"
92°36'50" Typ. For All Bars Except As Shown
1Ser. 6-530, Top
1Ser. 6-531, Bott. @ 5 1/2" ctrs.
4-524, Top
4-525, Bott., To Lap 526, 527 Bars
1Ser. 6-539, Top
1Ser. 6-540, Bott.
83°13'01" Typ. For Bars 522-527
32-501, Bott., As Shown In Sect. A-A
65-403, Top, Spaced In The Middle Of 401 And 402
68-503, Bott., As Shown In Sect. A-A
31 Sets 3-401, Top, As Shown In Sect. A-A
1Ser. 5-522, Top
1Ser. 5-523, Bott. @ Abt. 5 1/2"
68-505, Bott., To Match 501 And 502
10-526, Top
10-527, Bott @ Abt 5 1/2" ctrs
36-502, Bott., As Shown In Sect. A-A
68-504, Bott., To Match 501, 502 And 503 Bars
36 Sets 3-402, Top, As Shown In Sect. A-A
68-505, Bott., To Match 503 Bars
Armor Jt (P.J.S.)
1 1/4" @ 70° F
1Ser. 4-528, Top
1Ser. 4-529, Bott. @ Abt. 5 1/2" ctrs.
235-506, Top
235-507, Bott. @ Abt. 5 1/2"
2'-6" Lap
℄ Diaphragm
℄ Diaphragm
℄ Beam
7°43'46"
3°37'31"
3°31'38"
14-701, Top, To Lap 526 And 528 Bars
℄ Armor Jt. (P.J.S.) (1 1/4" @ 70° F)
1'-5" Lap (Typ.) Min Except As Noted
235-701, Top, To Lap 506 Bars
℄ Arapaho Rd.
℄ Structure ℄ Profile Grade
60'-6 3/8"
53'-1 3/8"
1 1/4" @ 70° F
3'-0"
506
End 503
402
503
505
507
Armor Jt. (P.J.S.)
4'-0"
Front Face, East Abutment Backwall
Prestr Conc Beam
End Haunch
SECTION C-C
Scale: 3/4" = 1'-0"
End 502
℄ Bent
End 503
402 or 403
504
Prestressed Conc Beam
SECTION D-D
Scale: 3/4" = 1'-0"

For Beam Spacing And Diaphragm Spacing See Framing Plan Drawing
For Section A-A, See Sheet 3 of 6.
For Longitudinal Joint Details, See Sheet 6 of 6.
For Slab Pour Sequence, See Sheet No. S-44.

PLAN
Scale: 3/16" = 1'-0"

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS

SLAB DETAILS – NORTH

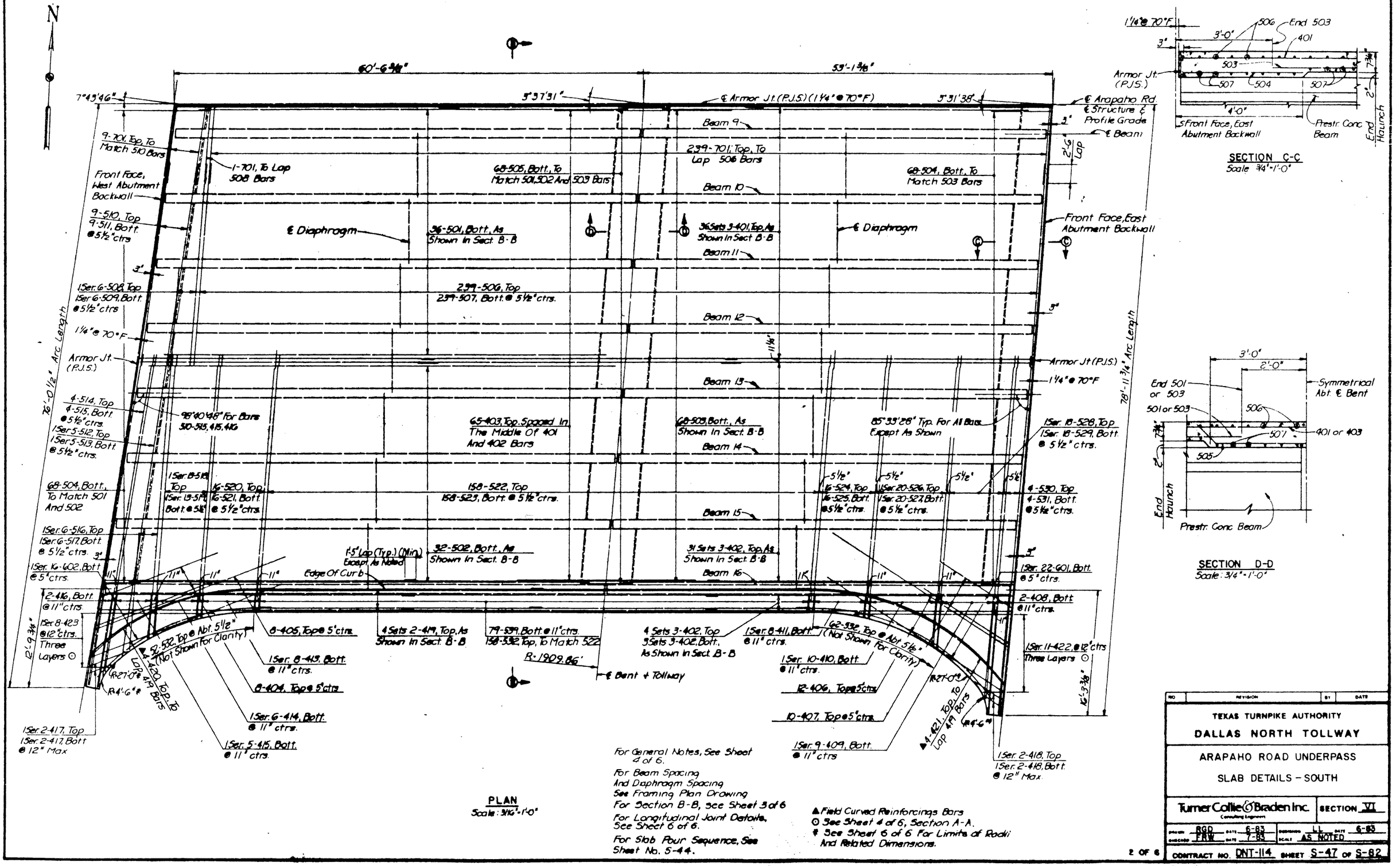
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN RGD DATE 6-83 · DESIGNED LL DATE 6-83 · CHECKED FRW DATE 7-83 · SCALE AS NOTED

1 OF 6

CONTRACT NO. DNT-114 SHEET S-46 OF S-82

004114



PLAN
Scale: 3/16"=1'-0"

For General Notes, See Sheet 4 of 6.
For Beam Spacing And Diaphragm Spacing See Framing Plan Drawing
For Section B-B, See Sheet 3 of 6
For Longitudinal Joint Details, See Sheet 6 of 6.
For Slab Pour Sequence, See Sheet No. 5-44.

▲ Field Curved Reinforcing Bars
⊙ See Sheet 4 of 6, Section A-A.
See Sheet 6 of 6 For Limits of Radii And Related Dimensions.

SECTION C-C
Scale 3/4"-1'-0"

SECTION D-D
Scale: 3/4"=1'-0"

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
ARAPAHO ROAD UNDERPASS
SLAB DETAILS – SOUTH

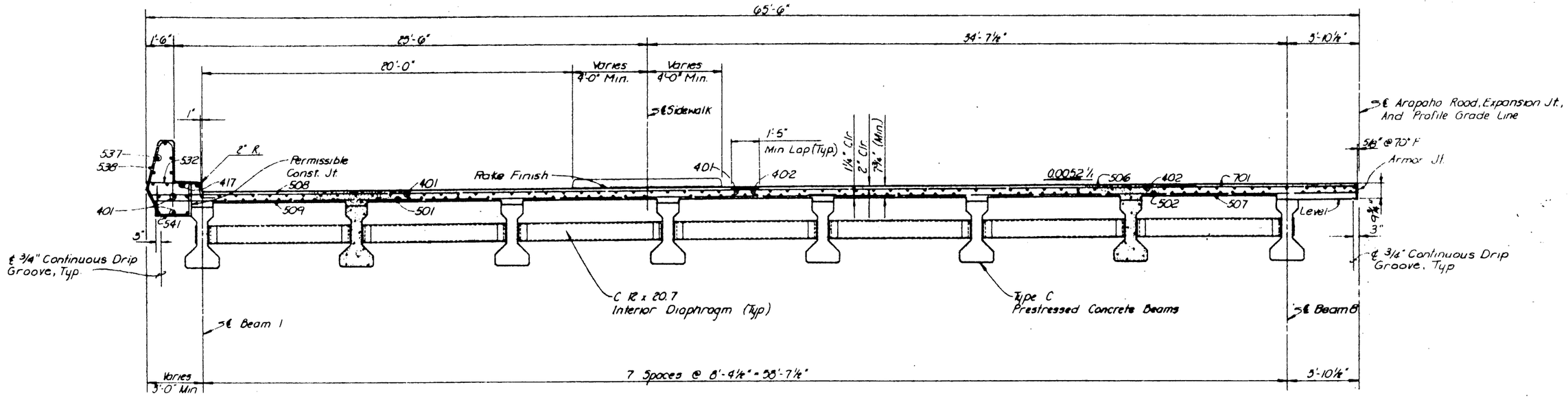
Turner Collie & Braden Inc. Consulting Engineers | SECTION VII

DRAWN BGD DATE 6-83 | DESIGNED LL DATE 6-83
CHECKED PRW DATE 7-83 | SCALE AS NOTED

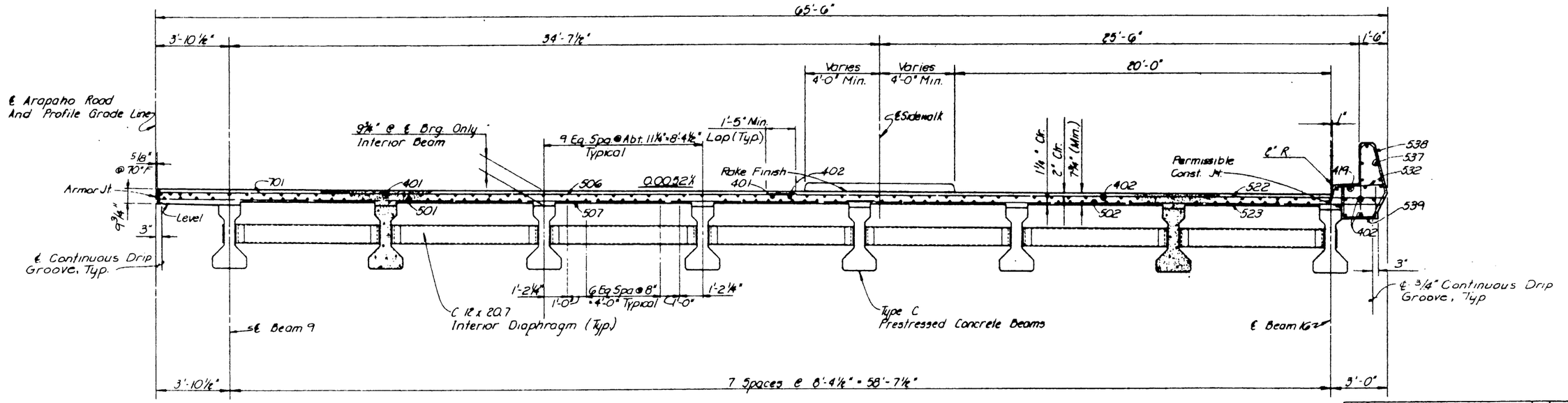
CONTRACT NO. DNT-114 SHEET S-47 OF S-82

2 OF 6

004115



SECTION A-A



SECTION B-B

For General Notes, See Sheet 4 of 6.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS
SLAB DETAILS-
SECTION A-A AND SECTION B-B

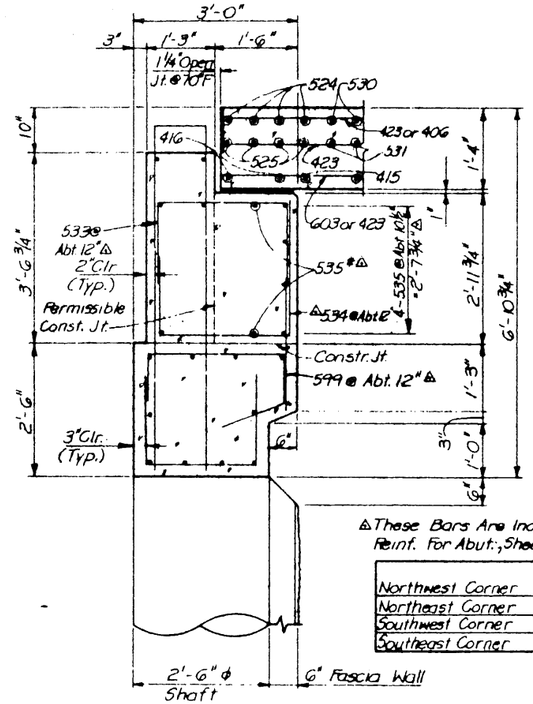
Turner Collie & Braden Inc. (Consulting Engineers) — SECTION VI

DRAWN RGD	DATE 6-83	DESIGNED LL	DATE 6-83
CHECKED FRW	DATE 7-83	SCALE 3/8" = 1'-0"	

CONTRACT NO DNT-114 SHEET S-48 OF S-82

3 OF 6

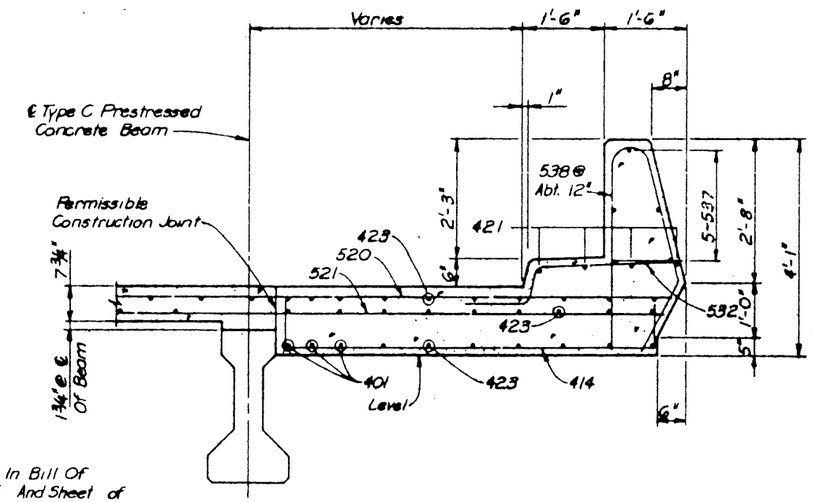
004116



△These Bars Are Included In Bill Of Reinf. For Abut:, Sheet of And Sheet of

		*
Northwest Corner	Bars	535
Northeast Corner	Bars	536
Southwest Corner	Bars	536
Southeast Corner	Bars	535

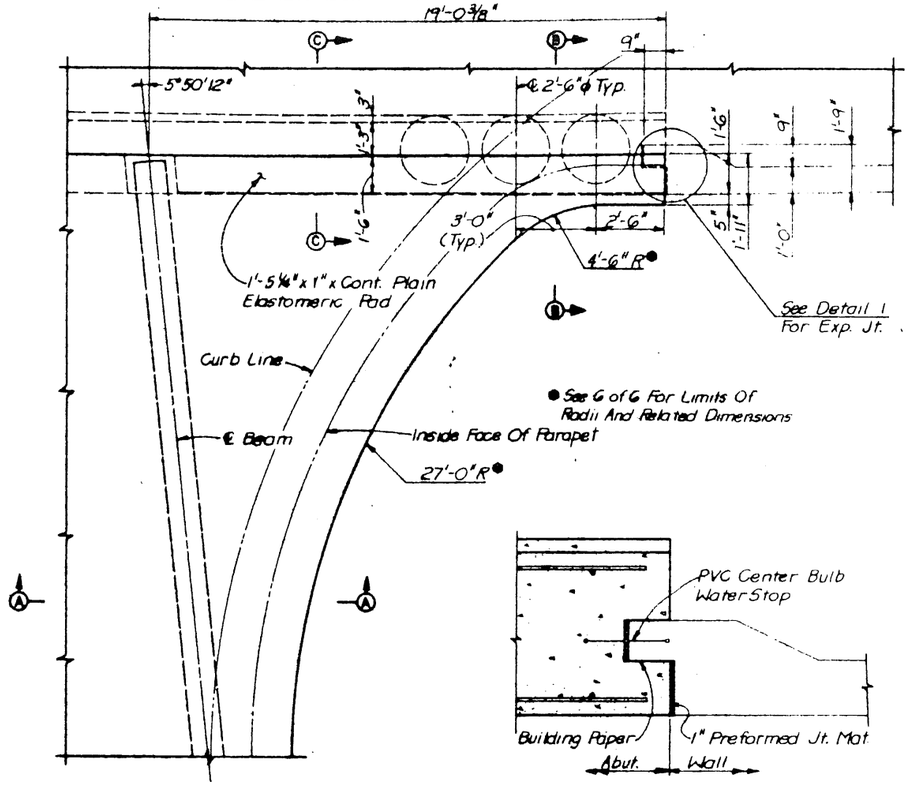
SECTION C-C
Scale: 3/4" = 1'-0"



SECTION A-A
NORTHWEST CORNER
Scale: 3/4" = 1'-0"

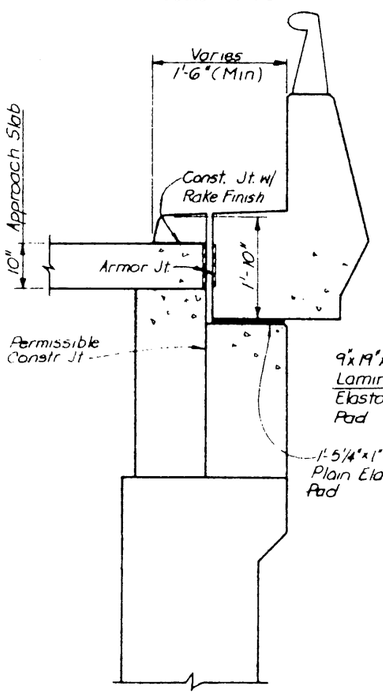
NOTE. 1. All Bars Shown Are Included In Bill Of Reinforcing Steel For North Slab, Except As Noted.

2. Diagonal Reinforcement. Not Shown For Clarity, See Sheet Nos. S-46 and S-47.

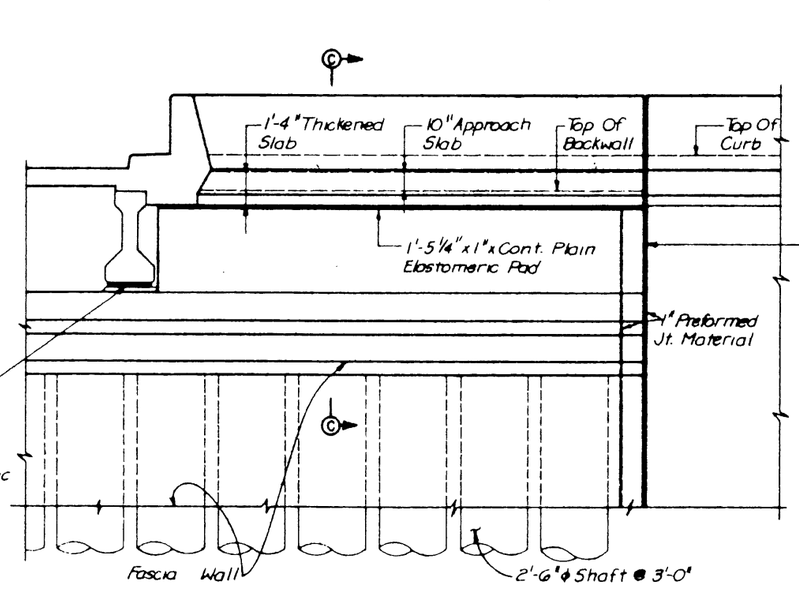


PLAN
NORTHWEST CORNER
Scale: 3/8" = 1'-0"

DETAIL 1
Scale: 3/4" = 1'-0"



SECTION B-B
Scale: 3/4" = 1'-0"



ELEVATION
AT NORTHWEST SLAB CORNER
Scale 3/8" = 1'-0"

General Notes:

1. Concrete To Be Class C. Design Strength fc = 1200 psi. Steel Reinforcement To Be ASTM A615, Grade 60.
2. For Aluminum Combination Rail (Type C4) Details, See Standard Drawing No. 33.
3. For Slab Elevations And Dead Load Deflections, See Sheet No. S-52.
4. For Armor Jt. Details, See Standard Drawing No. 28.
5. For Type A Curb Details, See Standard Drawing No. 11.
6. For Sidewalk Details And Dimensions, See Sheet No. R-40.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS

MISC. THICKENED SLAB DETAILS

Turner Collie & Braden Inc. Consulting Engineers

SECTION VI

DRAWN RGD DATE 6-83 | DESIGNED LL DATE 6-83
CHECKED FRW DATE 7-83 | SCALE AS NOTED

CONTRACT NO DNT-114 SHEET S-49 OF S-82

4 OF 6

004117

REINFORCEMENT BAR SCHEDULE - NORTH

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	114	38'-0"	Str.					2894
402	108	38'-9"						2796
403	65	23'-0"						999
404	11	26'-0"						191
405	8	16'-0"						86
406	11	26'-0"						191
407	9	16'-0"	Str.					96
408		Omitted						
409	1 Ser.	4'-6" To	106	1'-6" To	1'-6"	1'-6"		23
	7	5'-6"		2'-6" 2" Inc.				
410	1 Ser.	5'-8" To		2'-8" To				53
	10	10'-2"		7'-2" 6" Inc.				
411	1 Ser.	11'-1" To		8'-1" To				45
	5	15'-9"		12'-9" 1'-2" Inc.				
412	2	17'-10"		14'-10"				24
413	1 Ser.	4'-6" To		1'-6" To				28
	8	5'-11"		2'-11 1/2" 2 1/2" Inc.				
414	1 Ser.	6'-3" To		9'-3" To				66
	11	11'-3		8'-3" 6" Inc.				
415	1 Ser.	12'-2" To		9'-2" To				47
	5	16'-2"		13'-2" 1'-0" Inc.				
416	2	20'-6"	106	17'-6"	1'-6"	1'-6"		27
417	8	31'-6"	Str.					168
418	2 Ser.	2'-0" To						15
	6	3'-6", 1'-9"	Inc.					
419	2 Ser.	1'-6" To						12
	6	4'-6", 1'-6"	Inc.					
420	4	30'-0"						80
421	4	32'-0"						86
422	3 Ser.	17'-10" To						219
	33	2'-0", 1'-7"	Inc.					
423	3 Ser.	19'-7" To	Str.					243
	33	2'-6", 1'-8 1/2"	Inc.					
501	32	53'-5"	Str.					1789
502	36	55'-7"	Str.					2087
503	68	48'-2"	Str.					3416
504	68	7'-2"	113	5'-8"	0'-9"	0'-0"		508
505	136	3'-8"	Str.					520
506	235	26'-8"						6536
507	235	29'-10"						7312
508	136	32'-9"						4646
509	136	37'-0"						5248
510	15	34'-0"						532
511	15	38'-3"						598
512	1 Ser.	34'-0" To						718
	19	38'-6" 3"	Inc.					
513	1 Ser.	38'-3" To						803
	19	42'-9", 3"	Inc.					
514	1 Ser.	39'-0" To						523
	12	44'-6", 6"	Inc.					
515	1 Ser.	43'-3" To						576
	12	48'-9", 6"	Inc.					
516	4	46'-5"						194
517	4	50'-7"						211
518	16	34'-0"						567
519	16	38'-3"						638
520	1 Ser.	34'-3" To						805
	21	39'-3", 3"	Inc.					
521	1 Ser.	38'-6" To						898
	21	43'-6", 3"	Inc.					
522	1 Ser.	43'-0" To						229
	5	45'-0", 6"	Inc.					
523	1 Ser.	47'-2 To						251
	5	49'-2", 6"	Inc.					
524	4	49'-0"						204
525	4	53'-2"						222
526	10	26'-8"						278
527	10	29'-10"						311
528	1 Ser.	12'-8" To						82
	4	26'-8", 9'-8"	Inc.					
529	1 Ser.	19'-0" To						101
	4	29'-6", 3'-6"	Inc.					
530	1 Ser.	16'-0" To	Str.					106
	6	43'-6", 5'-6"	Inc.					

REINFORCEMENT BAR SCHEDULE - NORTH

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
531	1 Ser.	20'-2" To	Str.					218
	6	47'-8", 5'-6"	Inc.					
532	269	4'-10"	119	2'-6"	0'-10"	1'-6"		1336
533								
534		See Abutment Details						
535								
536								
537	15	42'-0"	Str.					657
538	119	8'-2"	121					1014
539	1 Ser.	40'-6" To						261
	6	43'-0", 6"	Inc.					
540	1 Ser.	44'-8" To						287
	6	47'-2", 6"	Inc.					
541	69	4'-4"	106	1'-4"	1'-6"	1'-6"		312
601	1 Ser.	3'-3" To	Str.					971
	19	22'-9", 11"	Inc.					
602	1 Ser.	5'-0" To	Str.					412
	20	22'-5, 11"	Inc.					
701	249	10'-0"	Str.					5090

REINFORCEMENT BAR SCHEDULE - SOUTH

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	108	39'-7"	Str.					2856
402	114	40'-4"						3071
403	65	23'-0"						999
404	8	16'-0"						86
405	8	26'-0"						199
406	12	27'-0"						216
407	10	14'-0"	Str.					94
408	2	18'-5"	106	15'-5"	1'-6"	1'-6"		25
409	1 Ser.	15'-6" To		12'-6" To				75
	9	9'-6"		6'-6" 9" Inc.				
410	1 Ser.	9'-2" To		6'-2" To				49
	10	5'-5"		2'-5" 3" Inc.				
411	1 Ser.	5'-1" To		2'-1" To				26
	8	4'-6"	106	1'-6", 1" Inc.	1'-6"	1'-6"		
412		Omitted						
413	1 Ser.	4'-6" To	106	1'-6" To	1'-6"	1'-6"		26
	8	5'-1"		2'-1" 1" Inc.				
414	1 Ser.	5'-3" To		2'-3" To				25
	6	7'-4		4'-4' 5" Inc.				
415	1 Ser.	7'-10" To		4'-10" To				34
	5	12'-4"		9'-4", 1'-1/2" Inc.				
416	2	14'-9"	106	11'-9"	1'-6"	1'-6"		20
417	2 Ser.	4'-0" To	Str.					9
	4	2'-6", 1'-6"	Inc.					
418	2 Ser.	4'-0" To						9
	4	2'-6", 1'-6"	Inc.					
419	8	36'-9"						196
420	4	28'-0"						75
421	4	32'-0"						86
422	3 Ser.	19'-11" To						242
	33	2'-0", 1'-9 1/8"	Inc.					
423	3 Ser.	14'-10" To	Str.					195
	24	2'-0", 1'-10"	Inc.					
501	36	58'-7"	Str.					2181
502	32	59'-10"						1997
503	68	48'-3						3422
504	136	3'-8"	Str.					520
505	68	7'-2"	113	5'-8"	0'-9"	0'-0"		508
506	239	26'-6"	Str.					6606

REINFORCEMENT BAR SCHEDULE - SOUTH

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
507	239	38'-3"	Str.					9535
508	1 Ser.	26'-8" To						125
	6	13'-4", 2'-8"	Inc.					
509	1 Ser.	38'-0" To						171
	6	16'-9", 4'-3"	Inc.					
510	9	26'-6"						249
511	9	38'-3"						359
512	1 Ser.	41'-6" To						210
	5	39'-0", 7 1/2"	Inc.					
513	1 Ser.	36'-4" To						186
	5	34'-10", 4 1/2"	Inc.					
514	4	43'-0"						179
515	4	38'-10"						162
516	1 Ser.	37'-0" To						192
	6	24'-6", 2'-6"	Inc.					
517	1 Ser.	32'-10" To						179
	6	24'-6", 1'-8"	Inc.					
518	1 Ser.	37'-0" To						185
	13	34'-6", 2 1/2"	Inc.					
519	1 Ser.	32'-10" To						428
	13	30'-4", 2 1/2"	Inc.					
520	16	34'-6"						576
521	16	30'-2"						503
522	158	32'-11"						5424
523	158	28'-8"						4724
524	16	33'-5"						558
525	16	29'-2"						487
526	1 Ser.	33'-9" To						797
	20	36'-11", 2"	Inc.					
527	1 Ser.	29'-6" To						648
	20	32'-8", 2"	Inc.					
528	1 Ser.	43'-7" To						858
	18	47'-10", 3"	Inc.					
529	1 Ser.	39'-4" To						781
	18	43'-11", 3"	Inc.	4 1/2 - 7"				
530	4	46'-2"						193
531	4	42'-0	Str.					175
532	272	4'-10"	119	2'-6"	0'-10"	1'-6"		1371
533								
534		See Abutment Details						
535								
536								
537	15	43'-0"	Str.					673
538	126	8'-2"	121					1073
539	79	4'-4"	106	1'-4"	1'-6"	1'-6"		357
601	1 Ser.	2'-0" To	Str.					394
	22	21'-3", 11"	Inc.					
602	1 Ser.	1'-0" To	Str.					264
	16	21'-0", 1'-4"	Inc.					
701	249	10'-0"	Str.					5090

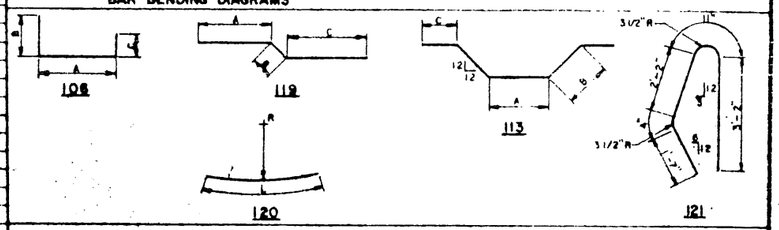
SUMMARY NORTH SLAB

BAR SIZE	TOTAL
#4	8389
#5	45062
#6	783
#7	5090
Total	59324

SUMMARY SOUTH SLAB

BAR SIZE	TOTAL
#4	8493
#5	46832
#6	648
#7	5090
Total	61063

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY - NORTH

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
425	Prestr. Conc. Beams (AASHTO Type IV)	L.F.	889.27
422	Reinforced Concrete Slab	S.F.	7505
442	Structural Steel (H.Y.C.)	Lb.	2751
442	Structural Steel (H.Y.C. Armor Jt.)	Lb.	7643
#430	Reinforcing Steel	Lb.	59324
#421	Class 'C' Concrete (Slab)	C.Y.	231.4
450	Type C4 Railing	L.F.	107.8

ESTIMATED QUANTITY SUMMARY - SOUTH

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
425	Prestr. Conc. Beams (AASHTO Type IV)	L.F.	923.61
422	Reinforced Concrete Slab	S.F.	7774
442	Struct. Steel (H.Y.C.)	Lb.	2751
442	Struct. Steel (H.Y.C.) (Armor Jt.)	Lb.	7434
#430	Reinforcing Steel	Lb.	61063
#421	Class 'C' Concrete (Slab)	C.Y.	230.3
450	Type C4 Railing	L.F.	113.4

For Contractor's Information Only.

General Notes:

1. Dimensions Relating To Reinforcing Steel Are Outside To Outside Dimensions Of Bars, With Radii Shown To The Inside Of Bar.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS

SLAB DETAILS -

REINFORCEMENT BAR SCHEDULE

Turner Collie & Braden Inc. Consulting Engineers | SECTION VI

DESIGNED RGD DATE 6-83 | DRAWN LL DATE 6-83 | CHECKED FRW DATE 7-83 | SCALE NO SCALE

CONTRACT NO DNT-114 SHEET S-50 OF S-82

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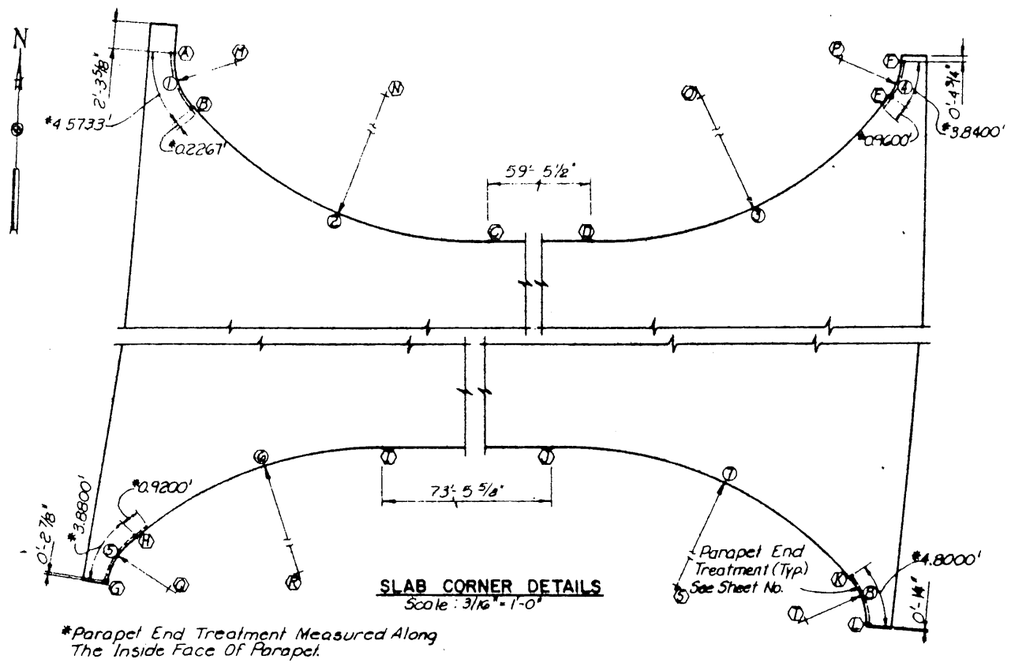
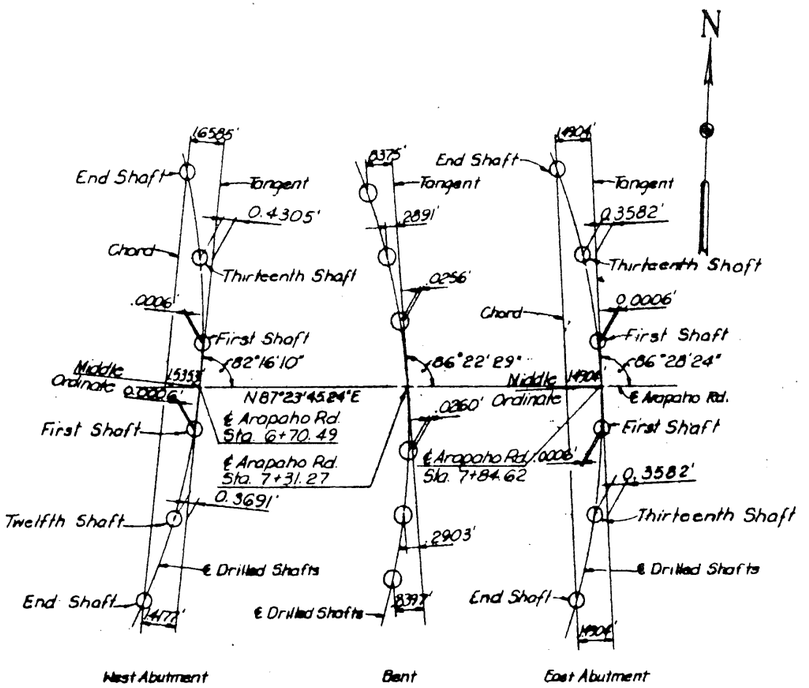
004118



SLAB CORNER DETAILS
Scale: 3/16" = 1'-0"

*Parapet End Treatment Measured Along The Inside Face Of Parapet.



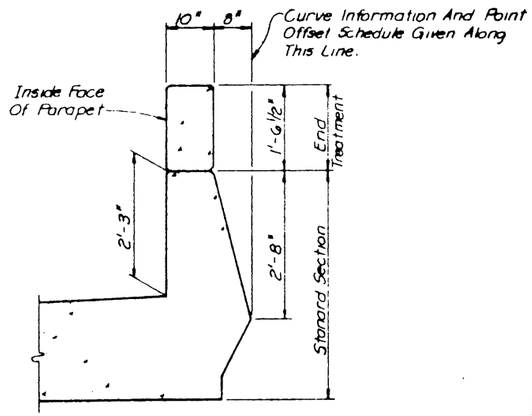
DRILLED SHAFT LAYOUT
N.T.S.

See Foundation Plan, Sheet S-37, For Additional Information.

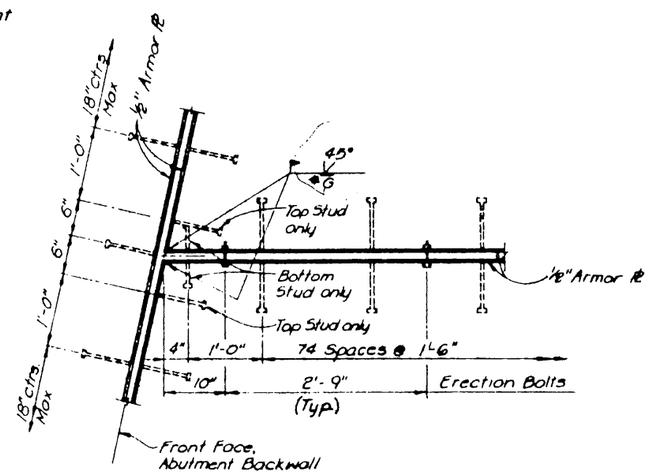
CURVE INFORMATION								
CURVE NUMBERS								
	①	②	③	④	⑤	⑥	⑦	⑧
R(ft)	4.5	27.0	27.0	4.5	4.5	27.0	27.0	4.5
∠(Ft)	3.43	24.36	24.55	2.88	2.91	20.22	23.55	3.60

POINT OFFSET SCHEDULE

POINT	STATION	OFFSET
A	6+81.79	78.97 Lt.
B	6+82.74	75.76 Lt.
C	7+03.93	65.50 Lt.
D	7+63.39	65.50 Lt.
E	7+84.69	75.92 Lt.
F	7+85.64	78.59 Lt.
G	6+61.02	75.24 Rt.
H	6+62.39	72.72 Rt.
I	6+80.77	65.50 Rt.
J	7+54.24	65.50 Rt.
K	7+74.91	75.14 Rt.
L	7+75.94	78.49 Rt.
M	6+86.27	78.55 Lt.
N	7+03.93	92.50 Lt.
O	7+63.39	92.50 Lt.
P	7+81.14	78.68 Lt.
Q	6+66.45	76.02 Rt.
R	6+80.77	92.50 Rt.
S	7+54.24	92.50 Rt.
T	7+71.47	78.03 Rt.



PARAPET DETAIL
Scale: 3/4" = 1'-0"



LONGITUDINAL JOINT DETAILS
N.T.S.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS
MISC. SLAB DETAILS

Turner Collie & Braden Inc. (consulting engineers) SECTION VI

DRAWN RGD DATE 6-83 DESIGNED FRW DATE 6-83
CHECKED FRW DATE 7-83 SCALE AS NOTED

CONTRACT NO DNT-114 SHEET S-51 OF S-82

6 OF 6

004119

BEAM 1

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.62
2	5.4777	0.02	613.69
3	10.9554	0.03	613.76
4	16.4332	0.04	613.83
5	21.9109	0.05	613.89
6	27.3886	0.05	613.96
7	32.8663	0.05	614.03
8	38.3441	0.04	614.10
9	43.8218	0.03	614.16
10	49.2995	0.02	614.23
11	54.7772	0.00	614.30

BEAM 2

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.66
2	5.5378	0.02	613.72
3	11.0755	0.03	613.79
4	16.6133	0.04	613.86
5	22.1511	0.05	613.93
6	27.6889	0.05	614.00
7	33.2266	0.05	614.07
8	38.7644	0.04	614.14
9	44.3022	0.03	614.20
10	49.8399	0.02	614.27
11	55.3777	0.00	614.34

BEAM 3

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.69
2	5.5979	0.02	613.76
3	11.1958	0.03	613.83
4	16.7936	0.04	613.90
5	22.3915	0.05	613.97
6	27.9894	0.05	614.03
7	33.5873	0.05	614.10
8	39.1851	0.04	614.17
9	44.7830	0.03	614.24
10	50.3809	0.02	614.31
11	55.9788	0.00	614.38

BEAM 4

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.72
2	5.6581	0.02	613.79
3	11.3161	0.03	613.86
4	16.9742	0.04	613.93
5	22.6322	0.05	614.00
6	28.2903	0.05	614.07
7	33.9483	0.05	614.14
8	39.6064	0.04	614.21
9	45.2644	0.03	614.28
10	50.9225	0.02	614.35
11	56.5805	0.00	614.42

BEAM 5

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.75
2	5.7183	0.02	613.82
3	11.4366	0.03	613.89
4	17.1549	0.04	613.96
5	22.8732	0.05	614.03
6	28.5915	0.05	614.10
7	34.3098	0.05	614.17
8	40.0281	0.04	614.25
9	45.7464	0.03	614.32
10	51.4647	0.02	614.39
11	57.1830	0.00	614.46

BEAM 6

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.78
2	5.7786	0.02	613.85
3	11.5572	0.03	613.92
4	17.3358	0.04	614.00
5	23.1145	0.05	614.07
6	28.8931	0.05	614.14
7	34.6717	0.05	614.21
8	40.4503	0.04	614.28
9	46.2289	0.03	614.35
10	52.0075	0.02	614.42
11	57.7861	0.00	614.50

BEAM 7

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.81
2	5.8390	0.02	613.89
3	11.6780	0.03	613.96
4	17.5170	0.04	614.03
5	23.3560	0.05	614.10
6	29.1950	0.05	614.17
7	35.0340	0.05	614.24
8	40.8730	0.04	614.32
9	46.7121	0.03	614.39
10	52.5511	0.02	614.46
11	58.3901	0.00	614.53

BEAM 8

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.84
2	5.8995	0.02	613.92
3	11.7990	0.03	613.99
4	17.6984	0.04	614.06
5	23.5979	0.05	614.13
6	29.4974	0.05	614.21
7	35.3969	0.05	614.28
8	41.2964	0.04	614.35
9	47.1959	0.03	614.42
10	53.0953	0.02	614.50
11	58.9948	0.00	614.57

BEAM 9

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.87
2	5.9555	0.02	613.94
3	11.9110	0.03	614.02
4	17.8666	0.04	614.09
5	23.8221	0.05	614.16
6	29.7776	0.05	614.24
7	35.7331	0.05	614.31
8	41.6886	0.04	614.39
9	47.6442	0.03	614.46
10	53.5997	0.02	614.53
11	59.5552	0.00	614.60

BEAM 10

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.90
2	6.0162	0.02	613.97
3	12.0323	0.03	614.05
4	18.0485	0.04	614.12
5	24.0646	0.05	614.20
6	30.0808	0.05	614.27
7	36.0970	0.05	614.34
8	42.1131	0.04	614.42
9	48.1293	0.03	614.49
10	54.1454	0.02	614.57
11	60.1616	0.00	614.64

BEAM 11

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.93
2	6.0769	0.02	614.00
3	12.1538	0.03	614.08
4	18.2307	0.04	614.15
5	24.3076	0.05	614.23
6	30.3845	0.05	614.30
7	36.4614	0.05	614.38
8	42.5382	0.04	614.45
9	48.6151	0.03	614.53
10	54.6920	0.02	614.60
11	60.7689	0.00	614.68

BEAM 12

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.96
2	6.1377	0.02	614.03
3	12.2754	0.03	614.11
4	18.4132	0.04	614.18
5	24.5509	0.05	614.26
6	30.6886	0.05	614.34
7	36.8263	0.05	614.41
8	42.9640	0.04	614.49
9	49.1018	0.03	614.56
10	55.2395	0.02	614.64
11	61.3772	0.00	614.71

BEAM 13

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	613.98
2	6.1986	0.02	614.06
3	12.3973	0.03	614.14
4	18.5959	0.04	614.21
5	24.7946	0.05	614.29
6	30.9932	0.05	614.37
7	37.1919	0.05	614.44
8	43.3905	0.04	614.52
9	49.5892	0.03	614.60
10	55.7878	0.02	614.67
11	61.9865	0.00	614.75

BEAM 14

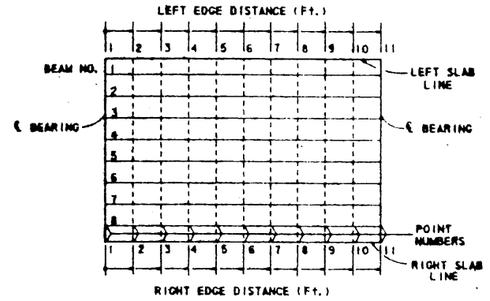
PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.01
2	6.2597	0.02	614.09
3	12.5194	0.03	614.16
4	18.7790	0.04	614.24
5	25.0387	0.05	614.32
6	31.2984	0.05	614.40
7	37.5581	0.05	614.47
8	43.8178	0.04	614.55
9	50.0774	0.03	614.63
10	56.3371	0.02	614.71
11	62.5968	0.00	614.78

BEAM 15

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.04
2	6.3208	0.02	614.11
3	12.6416	0.03	614.19
4	18.9624	0.04	614.27
5	25.2833	0.05	614.35
6	31.6041	0.05	614.43
7	37.9249	0.05	614.51
8	44.2457	0.04	614.58
9	50.5665	0.03	614.66
10	56.8873	0.02	614.74
11	63.2082	0.00	614.82

BEAM 16

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.06
2	6.3821	0.02	614.14
3	12.7641	0.03	614.22
4	19.1462	0.04	614.30
5	25.5283	0.05	614.38
6	31.9103	0.05	614.46
7	38.2924	0.05	614.54
8	44.6745	0.04	614.61
9	51.0565	0.03	614.69
10	57.4386	0.02	614.77
11	63.8206	0.00	614.85



NOTE: DEFLECTIONS SHOWN ARE DUE TO CAST-IN-PLACE CONCRETE ONLY.

NOTE: FOR SLAB LAYOUT, SEE SHEETS S-46 AND S-47.
FOR BEAM LAYOUT, SEE SHEET S-44.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS

SLAB ELEVATIONS - SPAN I

Turner Collie & Braden Inc. (consulting engineers) | SECTION VI

DESIGN RGD DATE 6-83 | RECOMMENDED TJR DATE 5-83

CHECKED TJR DATE 6-83 | SCALE NO SCALE

CONTRACT NO. DNT-114 SHEET S-52 OF S-82

004120

BEAM 1

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.32
2	5.1773	0.02	614.38
3	10.3547	0.03	614.44
4	15.5320	0.04	614.51
5	20.7094	0.05	614.57
6	25.8867	0.05	614.64
7	31.0641	0.05	614.70
8	36.2414	0.04	614.76
9	41.4188	0.03	614.83
10	46.5961	0.02	614.89
11	51.7734	0.00	614.95

BEAM 2

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.35
2	5.1781	0.02	614.42
3	10.3561	0.03	614.48
4	15.5342	0.04	614.55
5	20.7123	0.05	614.61
6	25.8903	0.05	614.67
7	31.0684	0.05	614.74
8	36.2465	0.04	614.80
9	41.4245	0.03	614.87
10	46.6026	0.02	614.93
11	51.7807	0.00	614.99

BEAM 3

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.40
2	5.1789	0.02	614.46
3	10.3578	0.03	614.52
4	15.5367	0.04	614.59
5	20.7156	0.05	614.65
6	25.8944	0.05	614.72
7	31.0733	0.05	614.78
8	36.2522	0.04	614.84
9	41.4311	0.03	614.91
10	46.6100	0.02	614.97
11	51.7889	0.00	615.03

BEAM 4

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.43
2	5.1798	0.02	614.50
3	10.3596	0.03	614.56
4	15.5394	0.04	614.63
5	20.7192	0.05	614.69
6	25.8990	0.05	614.75
7	31.0788	0.05	614.82
8	36.2586	0.04	614.88
9	41.4384	0.03	614.95
10	46.6183	0.02	615.01
11	51.7981	0.00	615.07

BEAM 5

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.47
2	5.1808	0.02	614.54
3	10.3616	0.03	614.60
4	15.5425	0.04	614.66
5	20.7233	0.05	614.73
6	25.9041	0.05	614.79
7	31.0849	0.05	614.86
8	36.2657	0.04	614.92
9	41.4466	0.03	614.98
10	46.6274	0.02	615.05
11	51.8082	0.00	615.11

BEAM 6

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.51
2	5.1819	0.02	614.58
3	10.3639	0.03	614.64
4	15.5458	0.04	614.70
5	20.7277	0.05	614.77
6	25.9097	0.05	614.83
7	31.0916	0.05	614.90
8	36.2735	0.04	614.96
9	41.4555	0.03	615.02
10	46.6374	0.02	615.09
11	51.8193	0.00	615.15

BEAM 7

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.55
2	5.1831	0.02	614.61
3	10.3663	0.03	614.68
4	15.5494	0.04	614.74
5	20.7326	0.05	614.80
6	25.9157	0.05	614.87
7	31.0989	0.05	614.93
8	36.2820	0.04	615.00
9	41.4652	0.03	615.06
10	46.6483	0.02	615.13
11	51.8315	0.00	615.19

BEAM 8

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.59
2	5.1845	0.02	614.65
3	10.3689	0.03	614.72
4	15.5534	0.04	614.78
5	20.7378	0.05	614.84
6	25.9223	0.05	614.91
7	31.1067	0.05	614.97
8	36.2912	0.04	615.03
9	41.4756	0.03	615.10
10	46.6601	0.02	615.16
11	51.8446	0.00	615.23

BEAM 9

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.62
2	5.1858	0.02	614.68
3	10.3715	0.03	614.75
4	15.5573	0.04	614.81
5	20.7430	0.05	614.88
6	25.9288	0.05	614.94
7	31.1145	0.05	615.01
8	36.3003	0.04	615.07
9	41.4860	0.03	615.13
10	46.6718	0.02	615.20
11	51.8576	0.00	615.26

BEAM 10

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.66
2	5.1873	0.02	614.72
3	10.3745	0.03	614.79
4	15.5618	0.04	614.85
5	20.7490	0.05	614.91
6	25.9363	0.05	614.98
7	31.1235	0.05	615.04
8	36.3108	0.04	615.11
9	41.4980	0.03	615.17
10	46.6853	0.02	615.23
11	51.8725	0.00	615.30

BEAM 11

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.69
2	5.1889	0.02	614.76
3	10.3777	0.03	614.82
4	15.5666	0.04	614.89
5	20.7554	0.05	614.95
6	25.9443	0.05	615.01
7	31.1331	0.05	615.08
8	36.3220	0.04	615.14
9	41.5108	0.03	615.21
10	46.6997	0.02	615.27
11	51.8885	0.00	615.33

BEAM 12

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.73
2	5.1905	0.02	614.79
3	10.3811	0.03	614.86
4	15.5716	0.04	614.92
5	20.7622	0.05	614.99
6	25.9527	0.05	615.05
7	31.1433	0.05	615.11
8	36.3338	0.04	615.18
9	41.5244	0.03	615.24
10	46.7149	0.02	615.31
11	51.9055	0.00	615.37

BEAM 13

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.76
2	5.1923	0.02	614.83
3	10.3847	0.03	614.89
4	15.5770	0.04	614.96
5	20.7694	0.05	615.02
6	25.9617	0.05	615.09
7	31.1541	0.05	615.15
8	36.3464	0.04	615.21
9	41.5388	0.03	615.28
10	46.7311	0.02	615.34
11	51.9235	0.00	615.41

BEAM 14

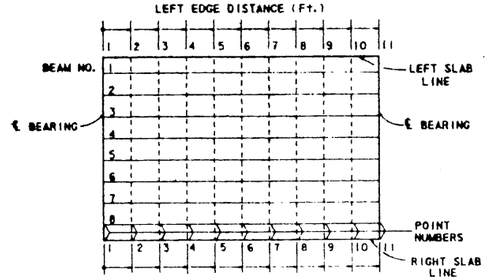
PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.80
2	5.1942	0.02	614.86
3	10.3885	0.03	614.93
4	15.5827	0.04	614.99
5	20.7770	0.05	615.06
6	25.9712	0.05	615.12
7	31.1655	0.05	615.18
8	36.3597	0.04	615.25
9	41.5539	0.03	615.31
10	46.7482	0.02	615.38
11	51.9424	0.00	615.44

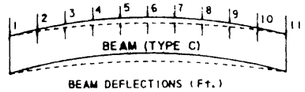
BEAM 15

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.83
2	5.1962	0.02	614.90
3	10.3925	0.03	614.96
4	15.5887	0.04	615.03
5	20.7850	0.05	615.09
6	25.9812	0.05	615.15
7	31.1774	0.05	615.22
8	36.3737	0.04	615.28
9	41.5699	0.03	615.35
10	46.7662	0.02	615.41
11	51.9624	0.00	615.47

BEAM 16

PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.00	614.87
2	5.1983	0.02	614.93
3	10.3967	0.03	615.00
4	15.5950	0.04	615.06
5	20.7933	0.05	615.12
6	25.9917	0.05	615.19
7	31.1900	0.05	615.25
8	36.3884	0.04	615.32
9	41.5867	0.03	615.38
10	46.7850	0.02	615.45
11	51.9834	0.00	615.51





NOTE: DEFLECTIONS SHOWN ARE DUE TO CAST-IN-PLACE CONCRETE ONLY.

NOTE: FOR SLAB LAYOUT, SEE SHEETS S-46 AND S-47.
FOR BEAM LAYOUT, SEE SHEET S-44.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

ARAPAHO ROAD UNDERPASS

SLAB ELEVATIONS - SPAN 2

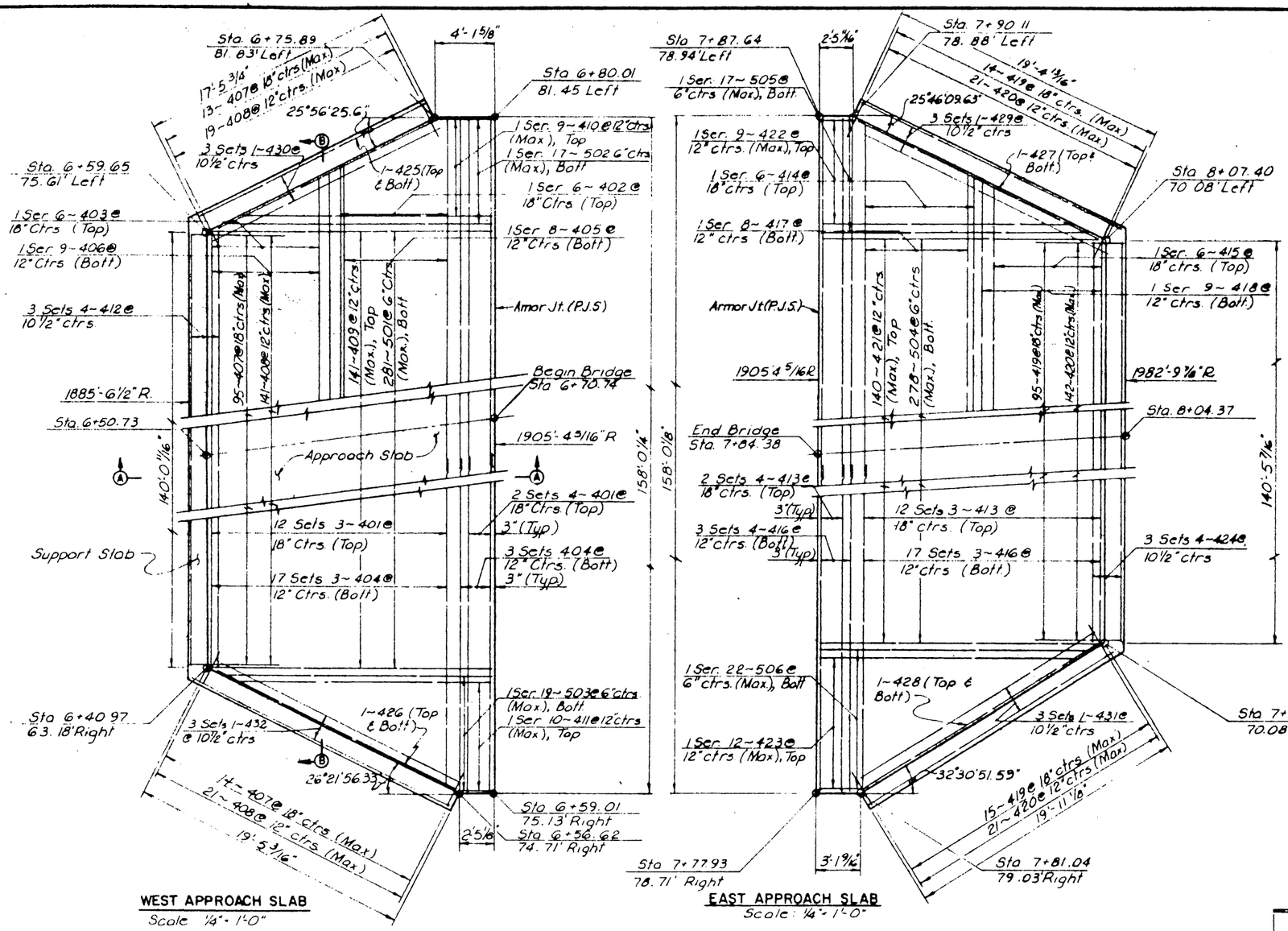
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN RGD DATE 6-83 — DESIGNED TJR DATE 5-83

CHECKED TJR DATE 6-83 — SCALE NO SCALE

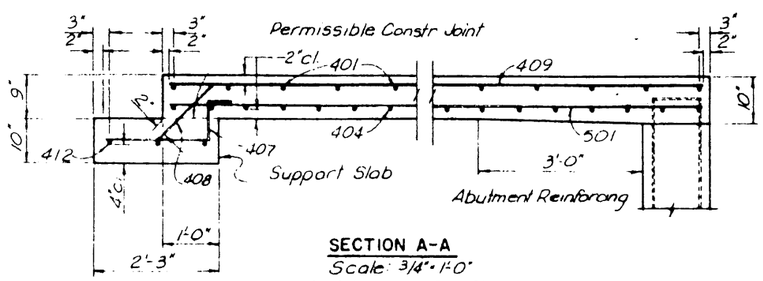
CONTRACT NO DNT-114 SHEET S-53 OF S-82

004121

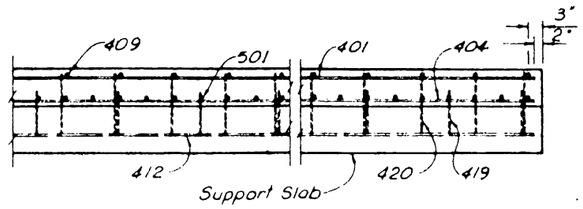


WEST APPROACH SLAB
Scale 1/4"=1'-0"

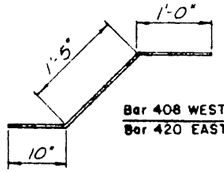
EAST APPROACH SLAB
Scale: 1/4"=1'-0"



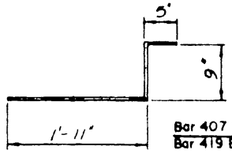
SECTION A-A
Scale: 3/4"=1'-0"
West Approach Slab Shown;
East Approach Slab Similar



SECTION B-B
Scale: 3/4"=1'-0"
West Approach Slab Shown;
East Approach Slab Similar



Bar 408 WEST APPROACH SLAB
Bar 420 EAST APPROACH SLAB



Bar 407 WEST APPROACH SLAB
Bar 419 EAST APPROACH SLAB

BENT BAR DIAGRAMS

GENERAL NOTES:

The approach slab shall be finished as required for the structure or as directed by the Engineer

Reinforcing steel shall conform to ASTM designation A-615, Grade 60 Splices shall be a minimum of 20 times the nominal diameter of the bar.

The chair used to support the bar mat shall be of sufficient structural quality and number to hold the mat within the placement height tolerances, and shall be of a type approved by the Engineer

Payment for the variable thickness approach slab and support slab, shall be made at the unit price bid for "Concrete Pavement (Water Cement Ratio)(Approach Slab)(9)". Joint seals, reinforcing steel, and any excavation and backfill required for the approach slab and support slab shall be considered subsidiary to the bid item.

For roadway pavement details, see Standard Drawings No. 12 and 15

NO	REVISION	BY	DATE

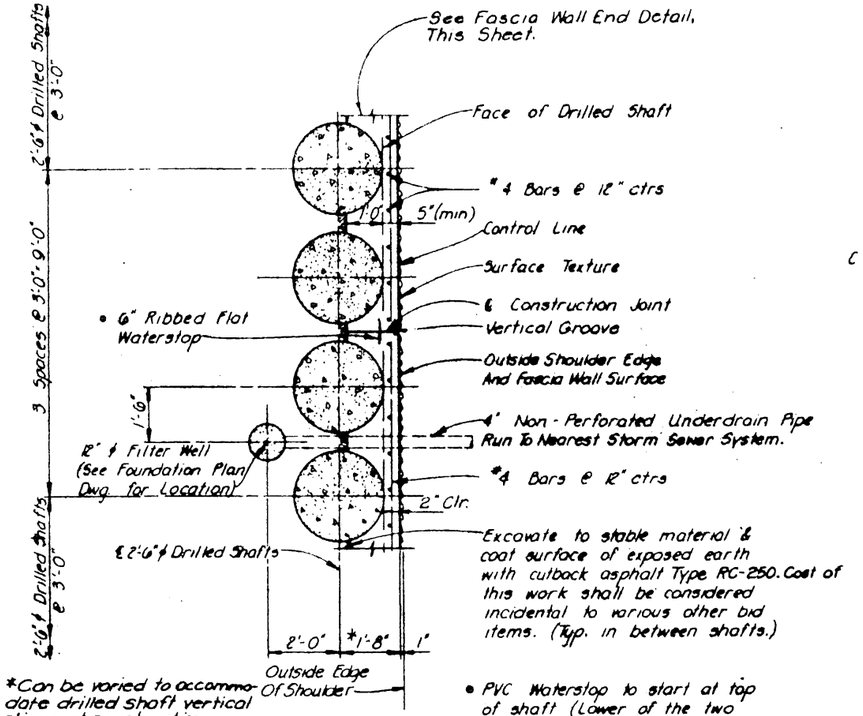
TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
ARAPAHO ROAD UNDERPASS
APPROACH SLAB DETAILS

Turner Collie & Braden Inc. (Consulting Engineers) | SECTION VI

DRAWN BST DATE 6-83 | DESIGNED JRA DATE 6-83
CHECKED JRA DATE 6-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-54 OF S-82

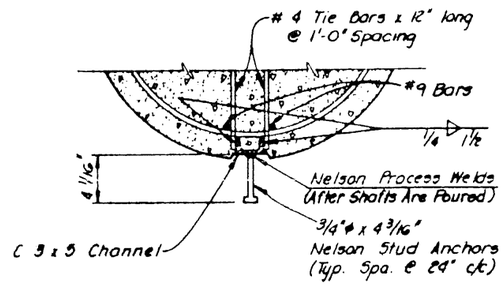
004122



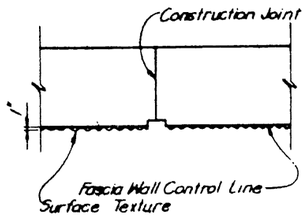
*Can be varied to accommodate drilled shaft vertical alignment construction tolerances, as per specifications.

PLAN
Scale: ½" = 1'-0"

- PVC Waterstop to start at top of shaft (Lower of the two adjacent shafts) & to end at bottom of Fascia. Use 6" Bulb Type Waterstop at expansion joints.

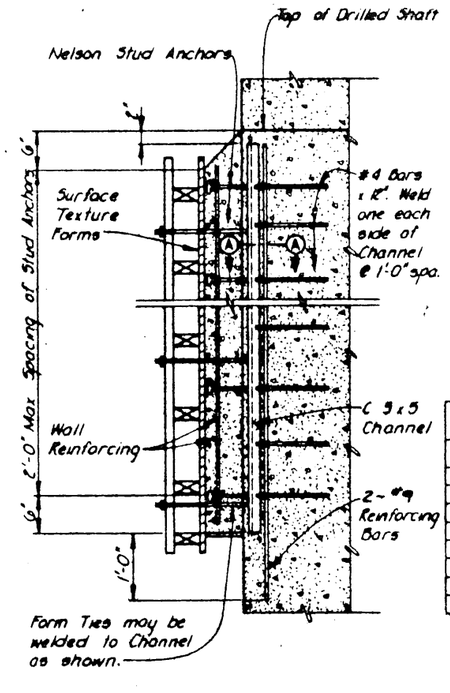


SECTION A-A
N.T.S.



CONSTRUCTION JOINT

VERTICAL GROOVE DETAILS
N.T.S.



NOTE:
Forming details shown are diagrammatic only, Contractor shall select type of form ties, etc., subject to approval of Engineer.

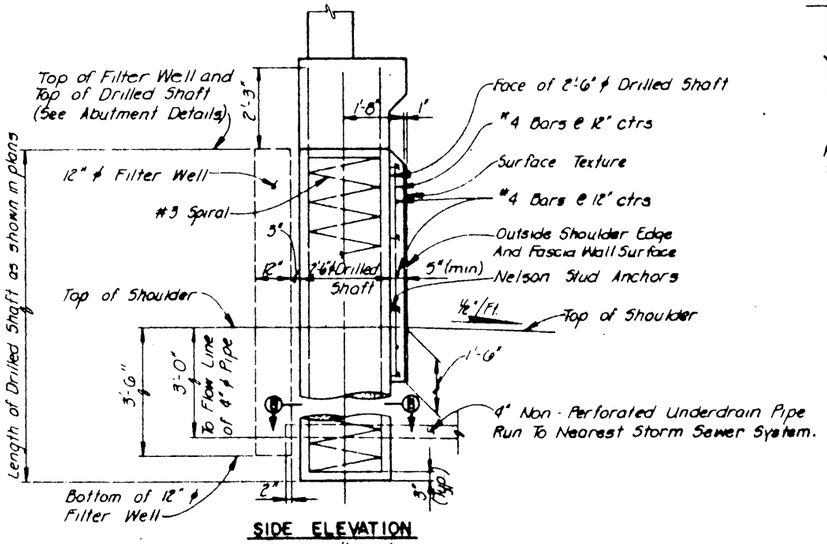
VERTICAL SECTION
N.T.S.

ESTIMATED QUANTITY SUMMARY▲

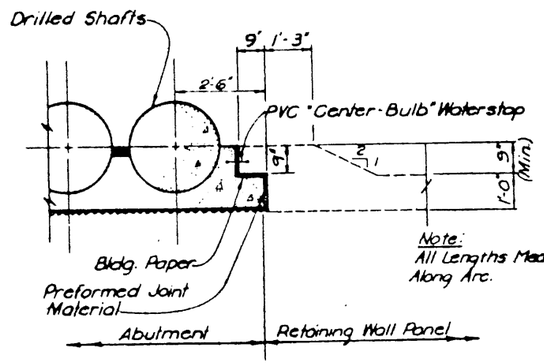
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
#421	Class "C" Concrete (Fascia Wall)	C.Y.	0.10
#430	Reinforcing Steel (Fascia Wall)	Lb.	2.67
556	Pipe Underdrains (4in - Non Perf.)	L.F.	1.05

For Contractors' Information only.
▲ Quantities For 1'-0" Height Fascia Wall Per Shaft Space.

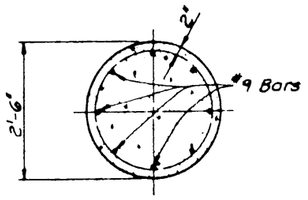
General Notes:
1. All concrete for drilled shafts and concrete fascia walls shall be Class "C".
2. All reinforcing steel shall be ASTM A-615, Grade 60, except spiral bars.
3. For details and dimensions of Surface Texture, see Standard Dwg. No. 41. The Contractor shall develop a Rustication Layout for each Abutment for Approval by the Engineer.



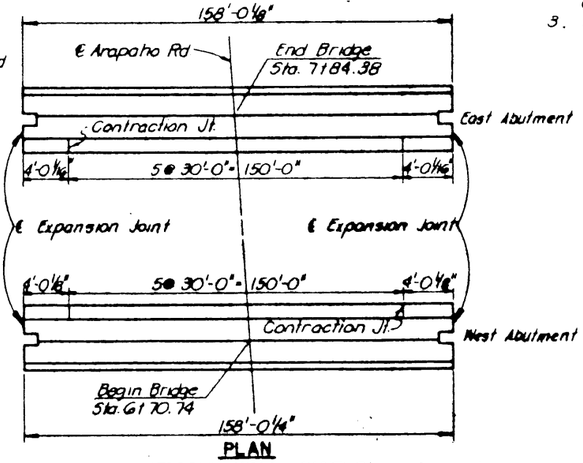
SIDE ELEVATION
Scale: ½" = 1'-0"



FASCIA WALL END DETAIL
Scale: ½" = 1'-0"



SECTION B-B
Scale: ¾" = 1'-0"



PLAN
FASCIA WALL PANELS
N.T.S.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

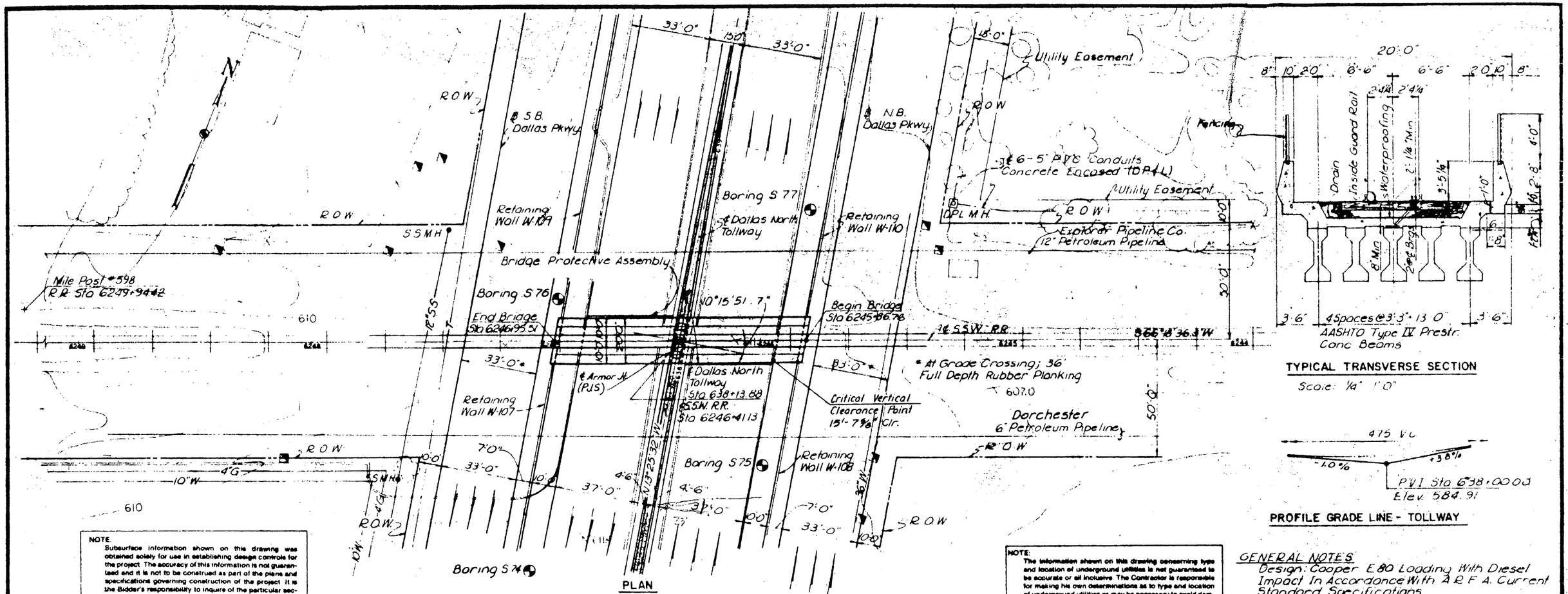
ARAPAHO ROAD UNDERPASS
DRILLED SHAFT AND
FASCIA WALL DETAILS

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN DRD	DATE 6-83	DESIGNED FRW	DATE 6-83
CHECKED JRA	DATE 6-83	SCALE AS NOTED	

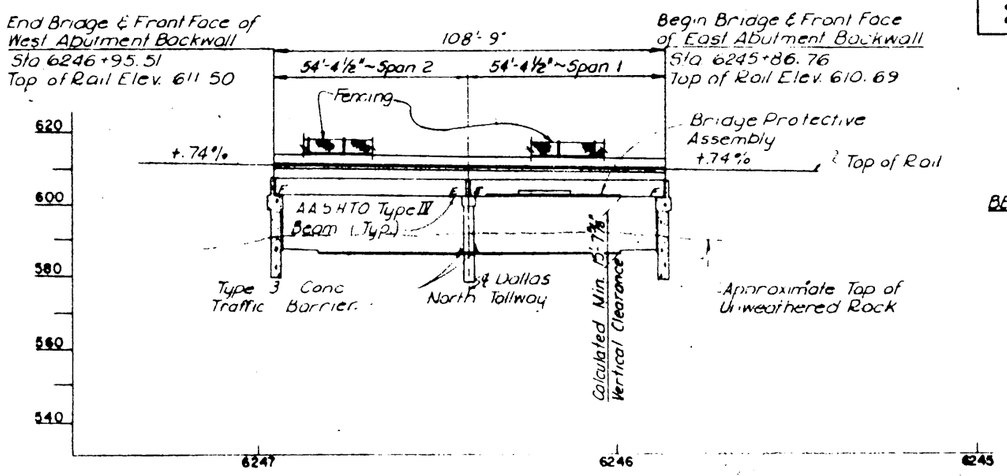
CONTRACT NO. DNT-114 SHEET S-55 OF S-82

004123



PLAN

Scale 1" = 20'-0"



ELEVATION

Scale 1" = 20'-0"

TYPICAL TRANSVERSE SECTION

Scale: ¼" = 1'-0"

PROFILE GRADE LINE - TOLLWAY

NOTE:
Subsurface information shown on this drawing was obtained solely for use in establishing design controls for the project. The accuracy of this information is not guaranteed and it is not to be construed as part of the plans and specifications governing construction of the project. It is the Bidder's responsibility to inquire of the particular section engineer on any section to be bid as to whether additional information is available and to make arrangements to review same prior to bidding. Each Bidder is responsible for making his own determinations as to all subsurface conditions and limits.

NOTE:
The information shown on this drawing concerning type and location of underground utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor shall verify location of underground pipe lines, conduits, and structures by contacting owners of underground utilities and by prospecting in advance of excavation operations.

ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30"ø)	L.F.	246
416	Drilled Shaft (42"ø)	L.F.	24
421	Class "C" Concrete (Abutment)	C.Y.	32.6
421	Class "C" Concrete (Bent)	C.Y.	13.4
422	Reinforced Concrete Slab	S.F.	2,175
423	Retaining Wall (Fascia Wall)	S.F.	548
425	Prestr. Conc. Beams (AASHTO Type IV)	L.F.	540.4
436	Preformed Joint Segler (2½ in.)	L.F.	15
440	Reinforcing Steel	Lb.	9,676
442	Struct. Steel (H.Y.C.) (Armor Jt.)	Lb.	815
444	Bridge Protective Assembly	Ea.	2
458	Waterproofing (Type I)	S.Y.	74
459	Railroad Waterproofing (Type RR-I)	S.Y.	~~1269~~ 161
556	Deck Drains	L.F.	231
556	Filter Material (Type D)	C.Y.	4
556	Pipe Underdrain Type B-6"CGM	L.F.	26
900	Filter Wall (12"ø)	L.F.	94
590	Chain Link Security Fence (4' High)	L.F.	218

GENERAL NOTES

Design: Cooper E 80 Loading With Diesel Impact In Accordance With A.R.E.A. Current Standard Specifications

All Cast-in-place Concrete Shall Be Class C. Design f'c = 3,600 p.s.i. All reinforcing steel shall be ASTM A615, Grade 60

All Construction Within the Southern Pacific's St. Louis Southwestern Railway Right-of-Way, To Meet the Requirements of the A.R.E.A. "Manual For Railway Engineering".

BENCHMARK DATA

Chiseled Square on Nose of N.E. Parking Median in Front of ESQ, Esquire Tuxedo, 169 Feet Plus or Minus East of ℄ Tollway Station 628+88; El. 620.80

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

SSW RAILWAY UNDERPASS

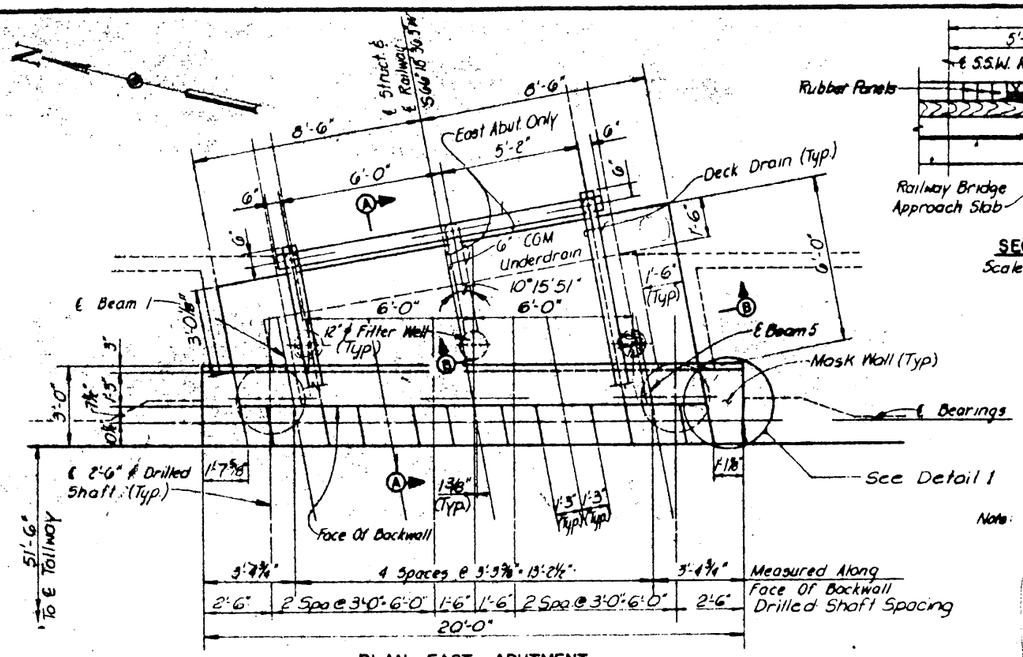
GENERAL PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

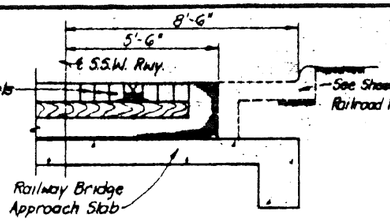
DESIGNED BSY	DATE 3-83	CHECKED JRA	DATE 3-83
DRAWN JRA	DATE 4-83	SCALE AS NOTED	

CONTRACT NO. DNT-114 SHEET S-56 OF S-82

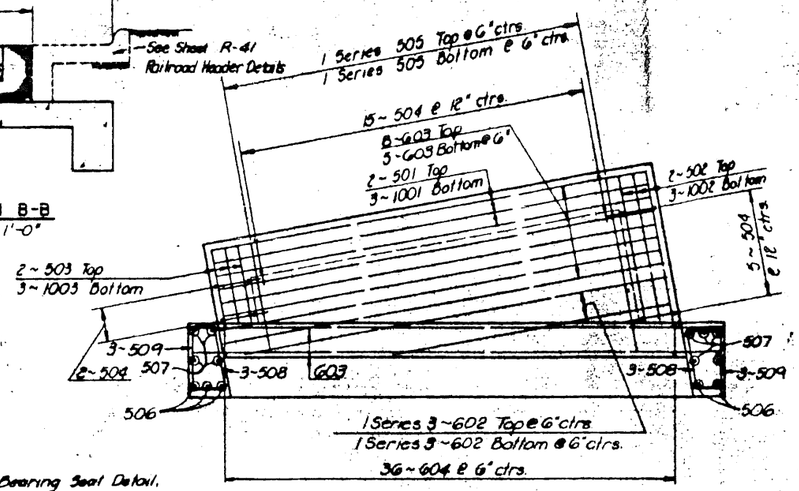
004124



PLAN EAST ABUTMENT
(WEST ABUTMENT OPPOSITE HAND)
Scale: ⅜"=1'-0"



SECTION B-B
Scale ⅜"=1'-0"

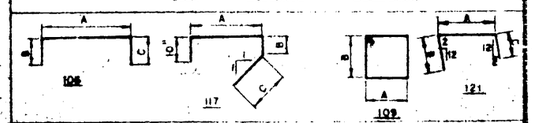


Note: For Bearing Seat Detail, See Sheet No.

REINFORCING PLAN
Scale: ⅜"=1'-0"

REINFORCEMENT BAR SCHEDULE⊙								
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
401	11	19'-8"	Str.					145
402	26	5'-6"	117	2'-6"	0'-11"	1'-3"		96
403	26	5'-4"	106	2'-0"	1'-8"	1'-8"		93
							Total	334
501	2	16'-8"	Str.					35
502	2	5'-6"	Str.					11
503	2	2'-6"	Str.					5
504	22	8'-0"	109	1'-2"	2'-2"			184
505	2Spr	4'-2" To	Str.					316
	56	6'-8 4bt 11	Inc.					
506	5	9'-7"	Str.					50
507	9	8'-9"	Str.					82
508	6	4'-1"	121	2'-2"	1'-2"	0'-9"		26
509	6	4'-1"	106	2'-2"	1'-2"	0'-9"		26
							Total	739
601	8	19'-8"	Str.					256
602	1Ser.	10'-7" To	Str.					
	6	16'-2"	2'-9"	Inc.				121
603	15	16'-8"	Str.					376
604	36	15'-11"	106	0'-11"	7'-6"	7'-6"		860
							Total	1593
1001	3	16'-8"	Str.					215
1002	3	5'-6"	Str.					71
1003	3	2'-6"	Str.					32
							Total	318
							Total	2980

BAR BENDING DIAGRAMS

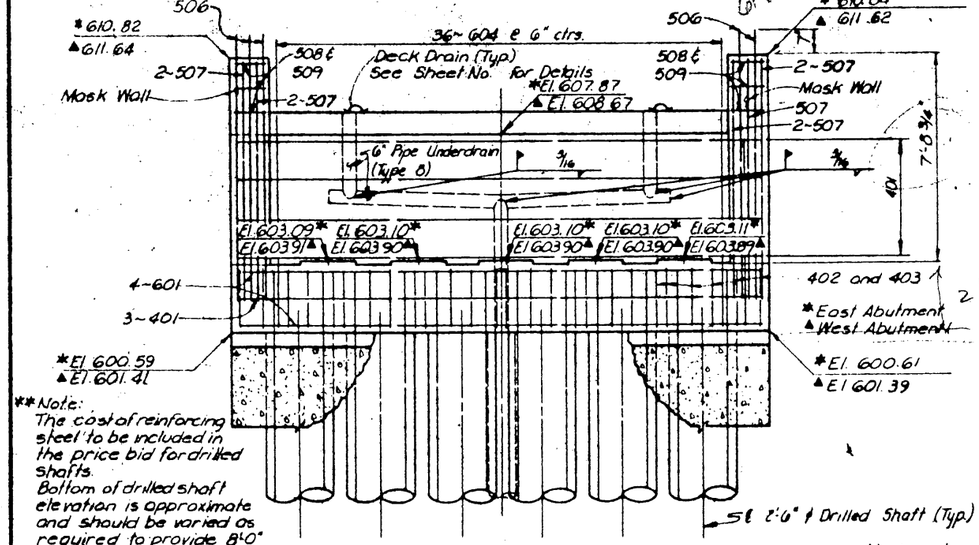


ESTIMATED QUANTITY SUMMARY⊙

ITEM NO	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (30"ϕ)	L.F.	123
421	Class C Concrete (Abutment)	C.Y.	16.3
423	Retaining Wall (Fascia Wall)	S.F.	274
440	Reinforcing Steel	Lbs	2980
556	Pipe Underdrain Type B-6"CGM	L.F.	26
556	Deck Drains	L.F.	14
459	Railroad Waterproofing (Type RR-1)⊞	S.Y.	11
458	Waterproofing (Type I)⊞	S.Y.	37
900	Filter Well (12"ϕ)	L.F.	47
526	Filter Material (Type D)	C.Y.	2

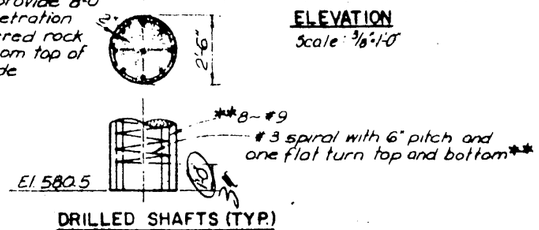
⊙Quantities are for one Abutment only.
⊞Quantities for East Abutment only.

Notes:
1. See General Plan and Elevation Drawing For General Notes.
2. Dimensions Relating to Reinforcing Steel are to Outside Dimension of Bar, With Radii Shown to the Inside Of Bar.
3. For Drilled Shaft and Fascia Wall Details See Sheet No. S-63.
4. Elevations Shown, Other Than the Bearing Seat Elevations, Are Given at Front Face of Abutment Backwall.

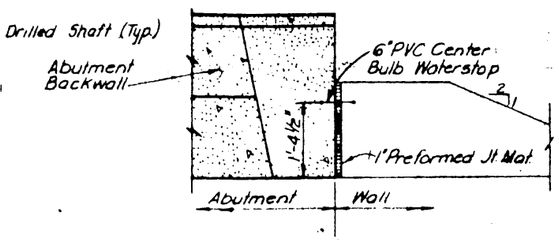


ELEVATION
Scale: ⅜"=1'-0"

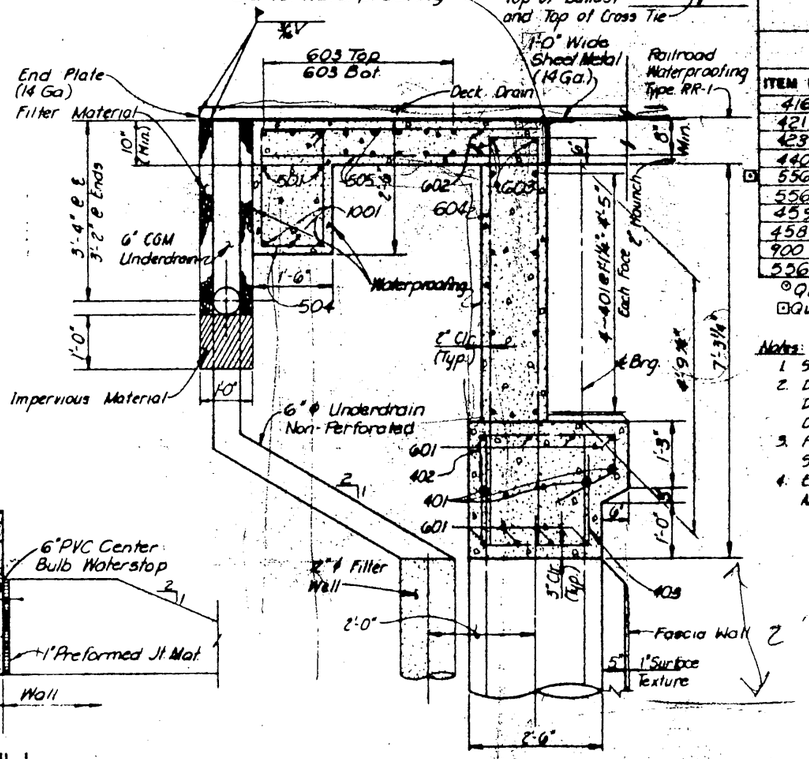
**Note:
The cost of reinforcing steel to be included in the price bid for drilled shafts.
Bottom of drilled shaft elevation is approximate and should be varied as required to provide 8'-0" minimum penetration into unweathered rock measured from top of finished grade



DRILLED SHAFTS (TYP.)



DETAIL 1
Scale ¾"=1'-0"



SECTION A-A
Scale: ⅜"=1'-0"

NO	REVISION	BY	DATE

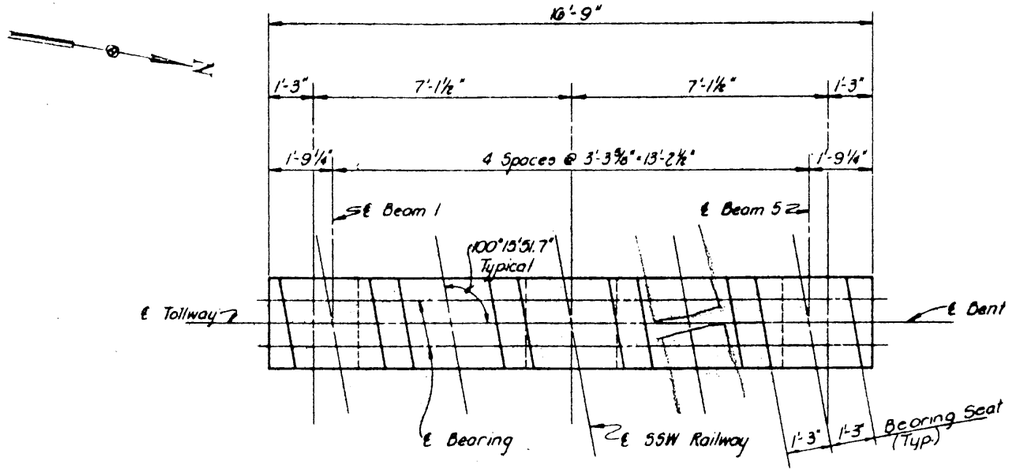
TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
SSW. RAILWAY UNDERPASS
ABUTMENT DETAILS

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

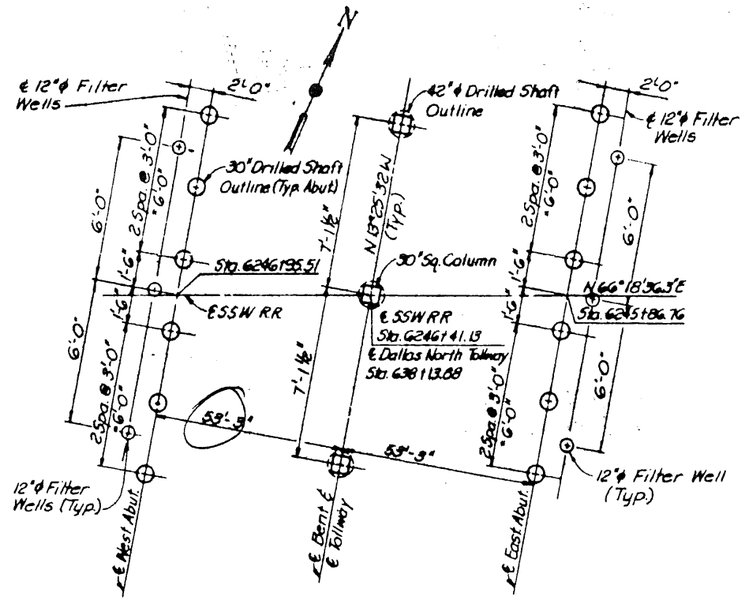
DRAWN DRD DATE 6-83 | DESIGNED LGL DATE 6-83
CHECKED FRW DATE 7-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-57 OF S-82

004125



PLAN
Scale ½"=1'-0"

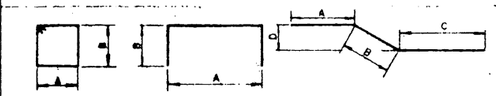


FOUNDATION PLAN
N.T.S.

REINFORCEMENT BAR SCHEDULE

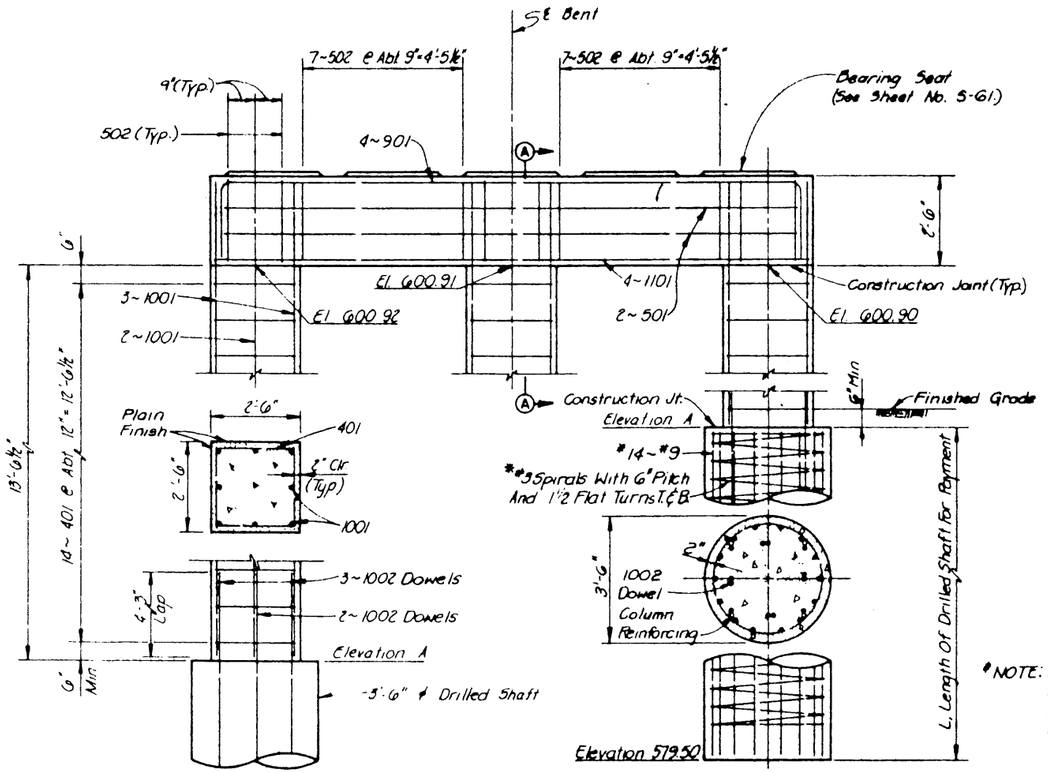
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
501	4	16'-5"	Str.					68
502	20	9'-4"	109	2'-2"	2'-2"			198
							Total	266
801	4	19'-11"	105	16'-1"	1'-11"			271
1101	4	16'-3"	Str.					349
401	42	9'-6"	109	2'-2"	2'-2"			267
1001	24	15'-9"	119	2'-0"	0'-3"	13'-6"	0'-1⅛"	1627
1002	24	8'-6"	Str.					878
							Total	2505
							Total	3658

BAR BENDING DIAGRAMS



ESTIMATED QUANTITY SUMMARY

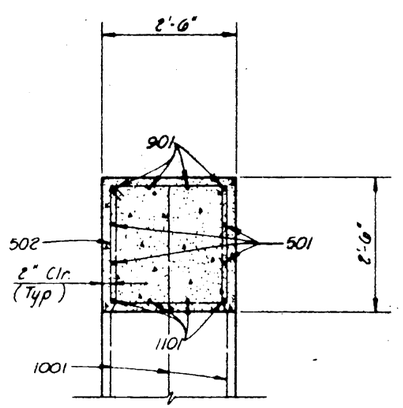
ITEM NO	DESCRIPTION	UNIT	QUANTITY
416	Drilled Shaft (42"ϕ)	L.F.	24
421	Class "C" Concrete (Bent)	C.Y.	13.4
440	Reinforcing Steel	Lb.	3658



SHOWING COLUMN

ELEVATION
Scale: ½"=1'-0"

SHOWING DRILLED SHAFT



SECTION A-A
Scale: ¾"=1'-0"

*NOTE: The Cost Of Reinforcing Steel To Be Included In The Price Bid For Drilled Shafts. Bottom Of Shaft Elevation Is Approximate And Should Be Varied As Required To Provide A 8'-0" Minimum Penetration Into Unweathered Rock Measured From Top Of Finished Grade

BEARING SEAT ELEVATIONS

Int. Bent	Beam Number 1	2	3	4	5
Bkd.	603.54	603.53	603.53	603.53	603.52
Fwd.	603.55	603.54	603.54	603.54	603.53

BENT DRILLED SHAFT DATA

Bent	Location	Elevation A	Length Of Shaft, L
Bent 1	Lt. Column	587.34	7.84
	Center Col.	587.33	7.83
	Rt. Column	587.32	7.82

Notes:
1. For General Notes, See General Plan and Elevations Drawing.
2. Dimensions Relating to Reinforcing Steel are to Outside Dimension of Bar, With Radii Shown to The Inside of Bar.
3. For Details and Dimensions of Concrete Bearing Seat See Sheet No. S-61.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
SSW RAILWAY UNDERPASS
BENT DETAIL

Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

DRAWN DRD DATE 5-83 DESIGNED LGL DATE 5-83
CHECKED FRW DATE 5-83 SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-58 OF S-61

004126

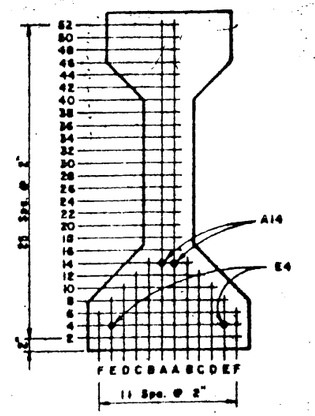
DESIGNED BEAMS (DEPRESSED STRANDS)

SPAN NUMBER	* SPAN LENGTH	BEAM NO.	BEAM LENGTH (FT.)	BEAM TYPE	PRESTRESSING STRANDS TOTAL NO.	TOTAL SIZE	TOTAL STRGTH	TOTAL "a" ℄ in.	"a" END in.	DEPRESSED NO.	DEPRESSED TO	CONCRETE RELEASE STRENGTH f'ci (psi)	CONCRETE MINIMUM 28 DAY COMP. STRENGTH f'c (psi)
1-2	54'-4½"	1-5	54.04	IV	24	½"	270K	20.75	10.75	10	A-34	4000	5000

OPTIONAL DESIGN

DN. LOAD COMP. STRESS (TOP ℄) fcot (psi)	DN. LOAD TENSILE STRESS (BOTT. ℄) ftob (psi)	REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (Ft Kips)
1911	1070	3891

* LENGTH AT ℄ OF S.S.W. RAILWAY.



AASHTO TYPE IV BM.

GENERAL NOTES:

Designed in accordance with current A.R.E.A Specifications.

All concrete shall be Class H.

When shown on this sheet, the fabricator has the option of furnishing either the designed depressed strand beam or an approved optional beam design. Low relaxation strands may be used.

Prestressed losses for the designed beams have been calculated according to the A.R.E.A Specifications for a relative humidity of 65%. Optional designs shall likewise conform.

Certain beams with depressed strands are subject to cracking in the end of the beam. When such cracks occur, all subsequent beams of the same type and strand pattern shall have strands wrapped in the following manner:
1. Alternate rows of depressed strands shall be wrapped for 2 feet from each end of the beam.
2. One half of the straight strands, as nearly as possible, shall be wrapped for 4 feet from each end of the beam.
3. The wrapping pattern shall be symmetrical about the vertical axis of the beam for both depressed and straight strands.
4. Strands shall be wrapped so that the centers of gravity of the depressed strands and the straight strands will remain within 1 inch of their original location.
5. Strands shall be tightly wrapped with a waterproof adhesive tape or plastic tubing may be used provided both ends and the seam of the tube are sealed with a waterproof tape.
6. Revised shop drawings will not be required, but wrapping patterns, and the beams affected, shall appear on the as-built drawings.

For depressed strand designed beams, strands shall be located as low as possible on the 2" grid system shown hereon, unless a non-standard strand pattern is indicated. Fill Row "2", then Row "4", then Row "6", etc., beginning each row in the "A" position and working outward until the required number of strands is reached. All strands in the "A" position shall be depressed, maintaining the 2" spacing so that the upper two strands are in the position shown in the table of the beam ends.

Initial pretension for 1/2" 270 K strands = 28.9 K for regular stress relieved strand or 31.0 K for low relaxation strands.

Horizontal distances are shown for SPAN LENGTH and BEAM LENGTH. They must be corrected for grade or cross slope, where appropriate.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

SSW RAILWAY UNDERPASS

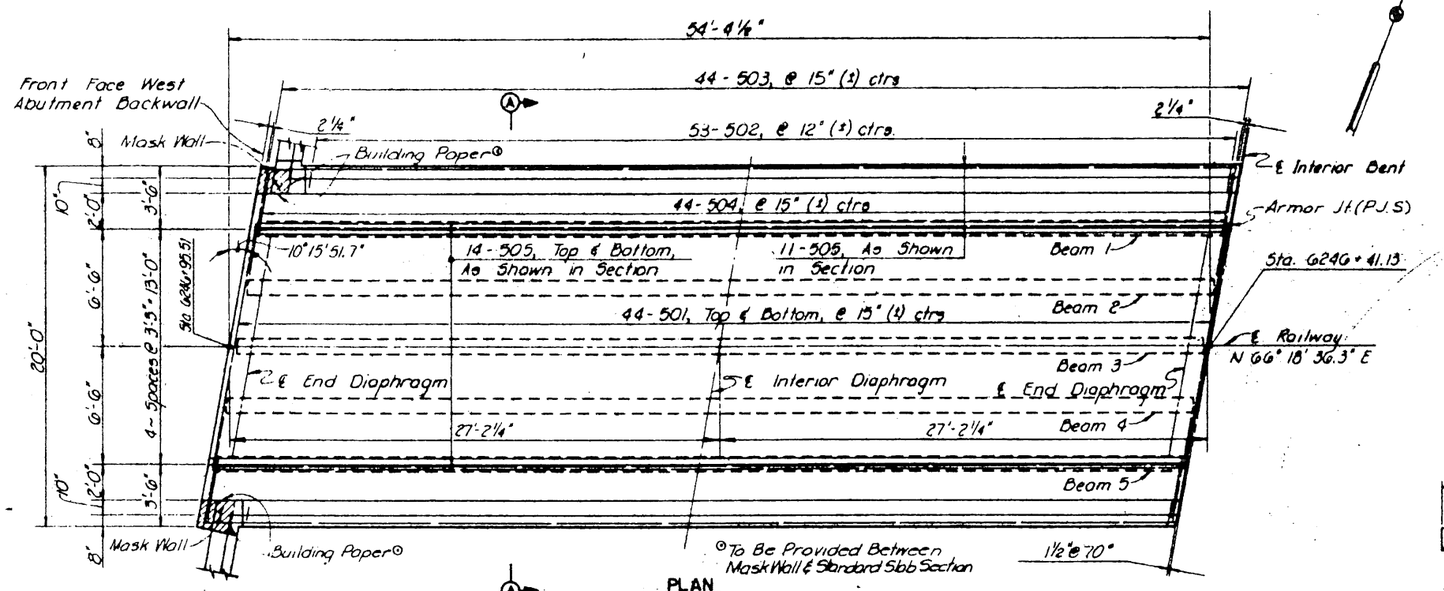
PRESTRESSED CONCRETE BEAMS

Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

DRAWN DRD DATE 6-83 CHECKED FRW DATE 7-83 DESIGNED FRW DATE 6-83 SCALE NONE

CONTRACT NO DNT-114 SHEET S-59 OF S-82

004127

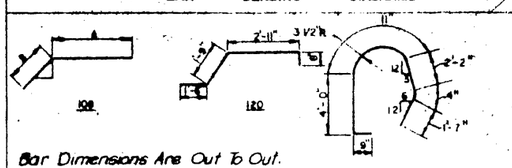


PLAN
Scale: 1/4" = 1'-0"
(Span No. 2 Shown, Span No. 1 Opposite Hand)

Note: Bars 503, 504, & 505 To Be Field Cut In Area Of Mask Wall For Mask Wall Details, See Abutment Details, Sheet No. S-57.

REINFORCEMENT BAR SCHEDULE								
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
501	176	14'-6"	Str.					2662
502	212	9'-0"	121					1990
503	176	6'-10"	120					1254
504	176	3'-1"	108	1'-7"	1'-6"			546
505	100	33'-9"	Str.					3006
						Sub Total		12,078
					Diaphragm Sub Total			552
						Total		12,630

BAR BENDING DIAGRAMS

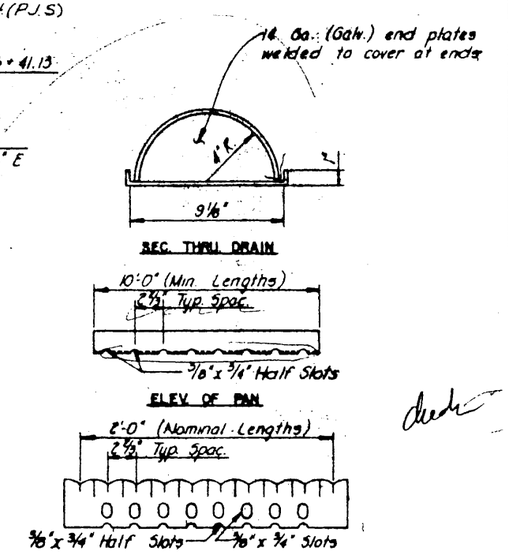


Bar Dimensions Are Out To Out. Radius To Inside.

ESTIMATED QUANTITY SUMMARY ▲

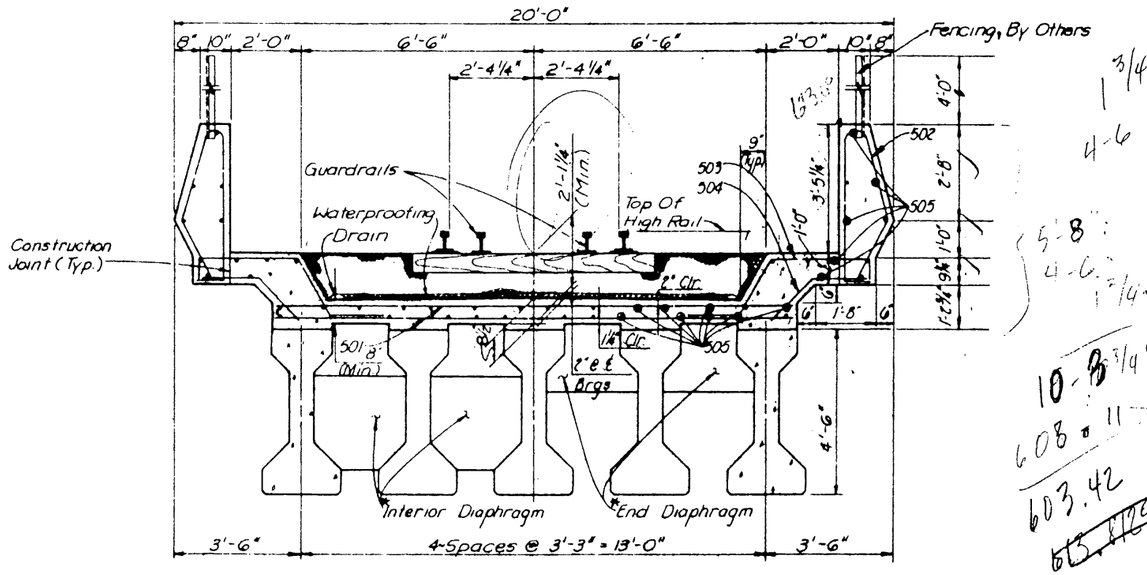
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
422	Reinforced Concrete Slab	S F	2775
425	Prestr. Conc. Beams (AASHTO Type IV)	L F	540.4
442	Structural Steel (H.Y.C.) (Armor Jt.)	Lb	815
556	Deck Drain	L F	217
459	Railroad Waterproofing (Type RR)	S Y	1247
#430	Reinforcing Steel	Lb.	12,630
#421	Class "C" Concrete (Slab)	C Y	78.2

For Contractors information only.
▲ Estimated Quantities Given Are For Span 1 & Span 2.



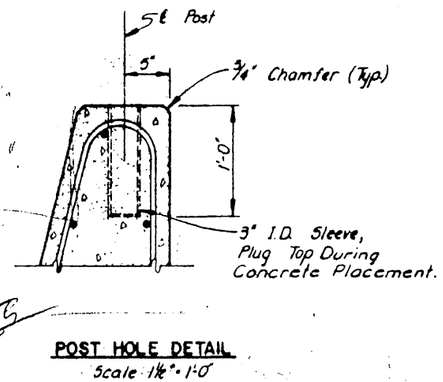
DRAIN DETAILS
N.T.S.

Drain Cover: 14 Ga. Min. made from Std 8" ϕ CGMP.
Drain Pan: 12 Ga. Min. Steel (Galvanized)
Drains shall be installed continuously throughout entire length of structure.



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

* For Diaphragm Details, See Sheet No. S-62



POST HOLE DETAIL
Scale: 1 1/2" = 1'-0"

NO	REVISION	BY	DATE

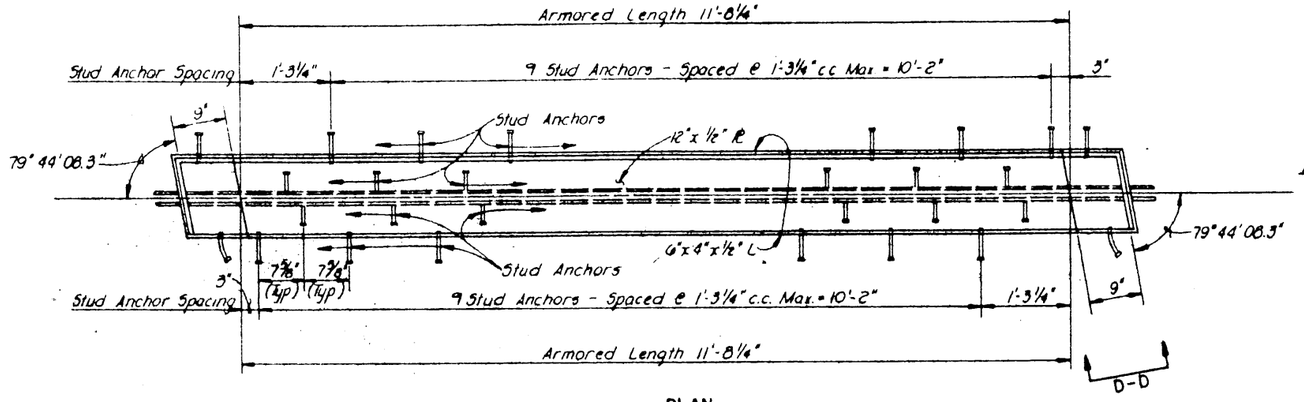
TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
SSW RAILWAY UNDERPASS
SLAB DETAILS

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

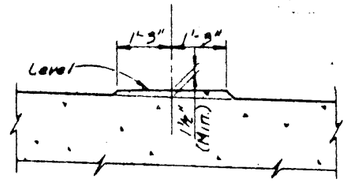
DRAWN DRD DATE 6-83 | DESIGNED LGL DATE 6-83
CHECKED FRW DATE 6-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-60 OF S-82

004128



PLAN
Scale: 1"=1'-0"



BEARING SEAT DETAIL
Scale: 3/4"=1'-0"

Note:
Built-Up Portions of Bearing Seat Shall be Cast Integrally With Cap or Constructed as Follows: The Area Under the Built-Up Portion is to be Prepared in Accordance With Specification Requirements for Construction Joints. The Pedestal Shall Then be Placed Using an Approved Pre-Packaged, Non-Shrink, Impact Resistant Grout Containing Non-Metallic Fibers, Similar to Set "Impact Resistant Grout." The Grout Shall be Mixed and Applied in Accordance With the Manufacturer's Recommendations.

SLAB ELEVATIONS — SPAN 1

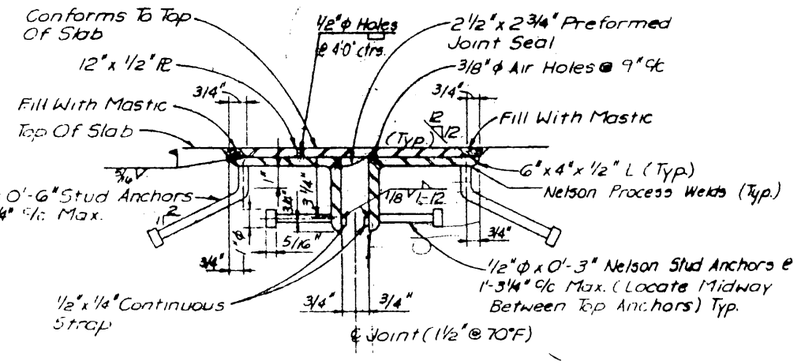
BEAM 3

PT. NO	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.000	608.62
2	13.2838	0.003	608.72
3	26.5675	0.004	608.82
4	39.8513	0.003	608.91
5	53.1350	0.000	609.01

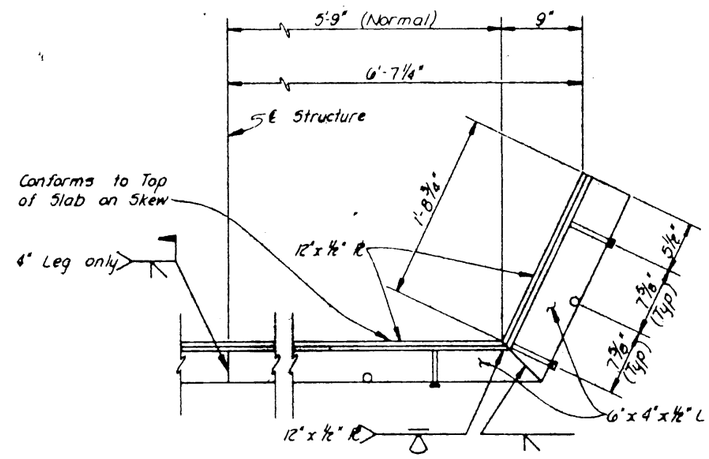
SLAB ELEVATIONS — SPAN 2

BEAM 3

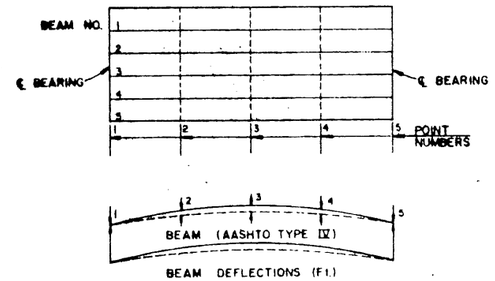
PT. NO.	DISTANCE TO POINT	DEFL.	SURFACE ELEVATION
1	0.0000	0.000	609.02
2	13.2838	0.003	609.12
3	26.5675	0.004	609.22
4	39.8513	0.003	609.32
5	53.1350	0.000	609.42



ARMOR JOINT DETAIL
Scale: 3"=1'-0"



VIEW D-D
Scale 1 1/2"=1'-0"



NOTE: DEFLECTIONS SHOWN ARE DUE TO CAST-IN-PLACE CONCRETE ONLY

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

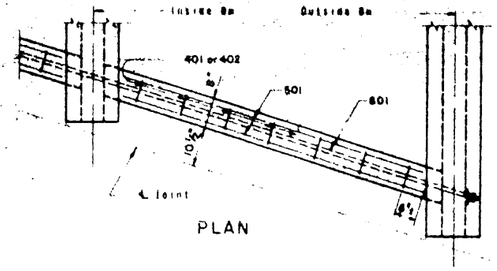
SSW RAILWAY UNDERPASS
ARMOR JOINT DETAILS
AND SLAB ELEVATIONS

Turner Collie & Braden Inc. (Consulting Engineers) — SECTION VI

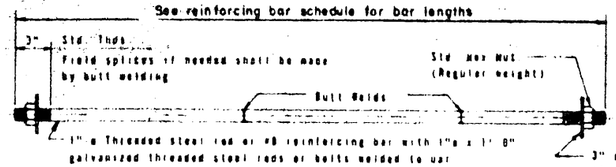
DRAWN DRD DATE 6-83 — DESIGNED LGL DATE 6-83
CHECKED JRA DATE 7-83 — SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-61 OF S-82

004129

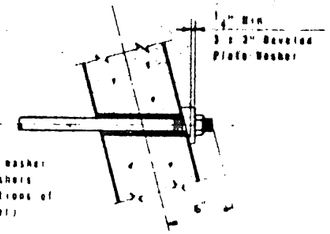


PLAN



NOTE After fabrication the nuts plates sleeves and not less than 10" of each end of the threaded bar shall be galvanized Plate washers nuts and pipe sleeves are to be considered subsidiary to reinforcing steel

BARS 801 (FOR NORMAL DIAPHRAGMS)



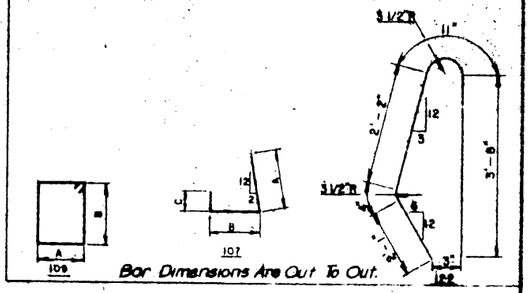
BARS 801
(SKEWS THRU. 15°)

NOTE See span details for skew angles of diaphragms to beams.

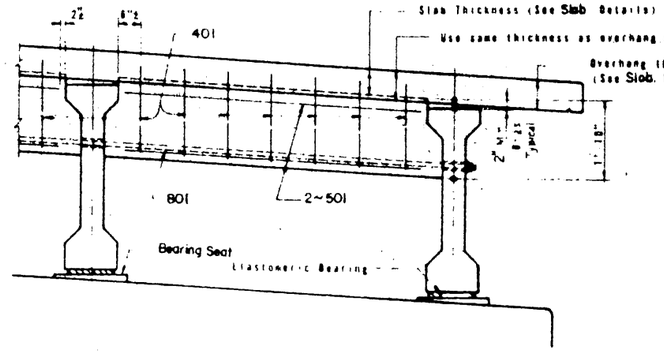
REINFORCEMENT BAR SCHEDULE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D or R	WEIGHT
DIAPHRAGM 401	32	5'-4"	109	0'-4½"	1'-11½"			114
402	16	6'-0"	109	0'-4½"	2'-3½"			64
501	112	1'-3"	STR.					146
801	6	14'-3"	STR.					228
							TOTAL	552
PARAPET CORNER 502	8	2'-4"	107	1'-2"	1'-2"	0'-0"		19
503	8	9'-2"	122					76
504	4	1'-6"	107	0'-9"	0'-9"	0'-0"		6
505	8	3'-6"	107	1'-9"	1'-9"	0'-0"		29
510	4	2'-2"	107	1'-1"	1'-1"	0'-0"		9
							TOTAL	285

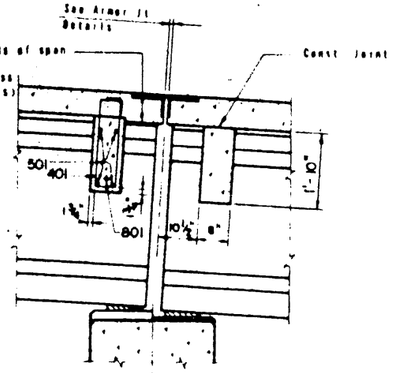
BAR BENDING DIAGRAMS



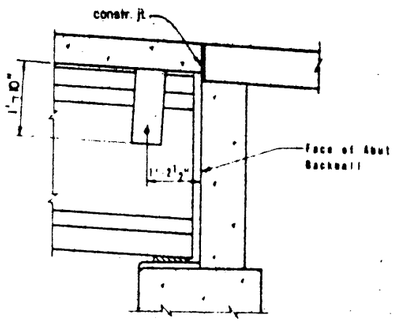
Bar Dimensions Are Out To Out.



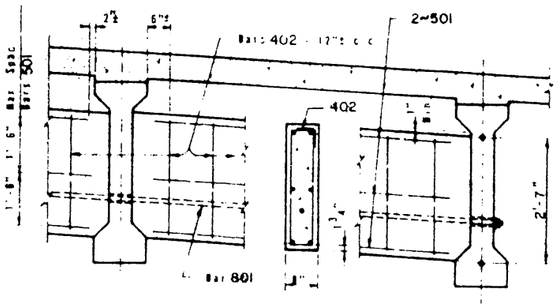
ELEVATION ~ END DIAPHRAGMS



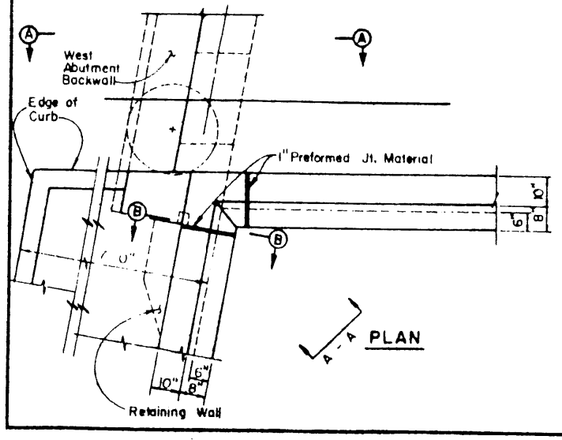
SEC. THRU. END DIAPHRAGMS AT ARMOR JT.



SEC. THRU. STRUCTURE AT ABUTMENT



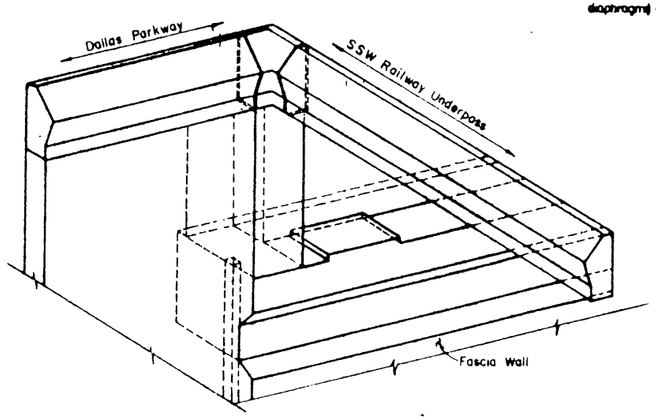
ELEV. ~ INTERIOR DIAPHRAGMS



GENERAL DIAPHRAGM NOTES:

All cast in place concrete shall be Class C unless otherwise shown on span details.

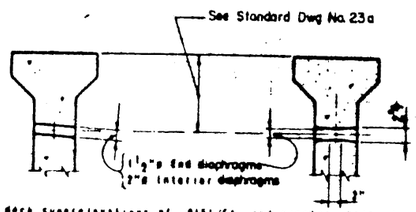
No concrete shall be placed in the bridge slab until the diaphragms are in place, the diaphragm concrete has reached a minimum flexural strength of 388 p.s.i., and the nuts of Bars 801 have subsequently been firmly tightened.



VIEW A-A

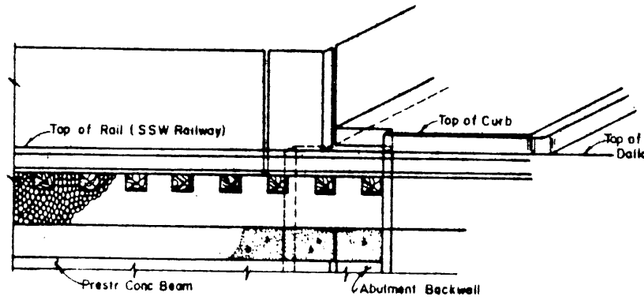
RETAINING WALL TO UNDERPASS STRUCTURE CONNECTION DETAILS

Southwest Corner Shown; Other Corners Similar

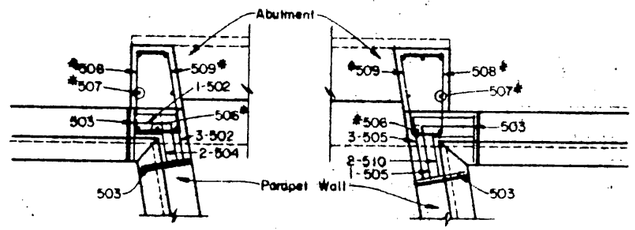


For deck superelevations of .015 ft/ft and greater, holes for diaphragms shall be formed parallel to roadway surface. Holes for square (end-diaphragms) may be formed with a double taper as shown

DIAPHRAGM HOLE DETAILS

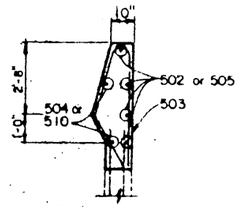


SECTION A-A



PARAPET CORNER TREATMENT DETAILS

*See Abutment Details



SECTION B-B

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

SSW RAILWAY UNDERPASS

MISCELLANEOUS DETAILS

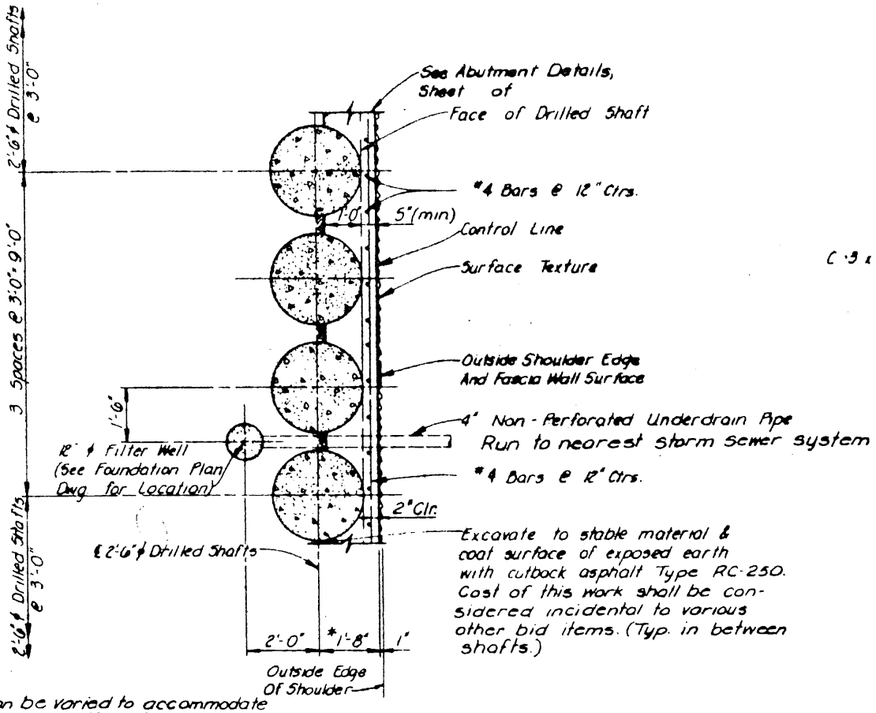
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DESIGN BST DATE 7-83 DETAILED JRA DATE 6-83

CHECKED JRA DATE 7-83 SCALE NONE

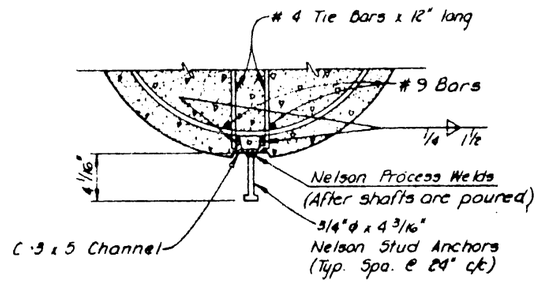
CONTRACT NO. DNT-114 SHEET S-62 OF S-82

C04130

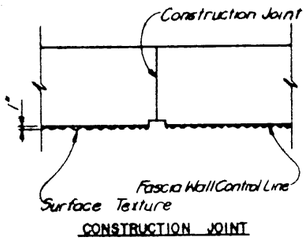


*Can be varied to accommodate drilled shaft vertical alignment construction tolerances, as per Specifications.

PLAN
Scale: ½"=1'-0"

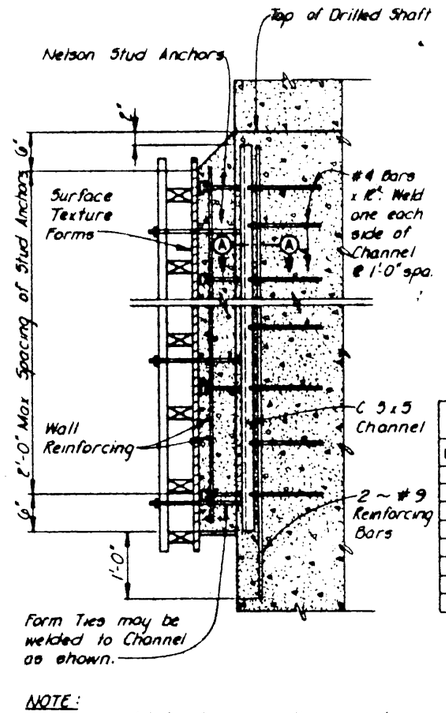


SECTION A-A
N.T.S.



CONSTRUCTION JOINT

VERTICAL GROOVE DETAILS
N.T.S.



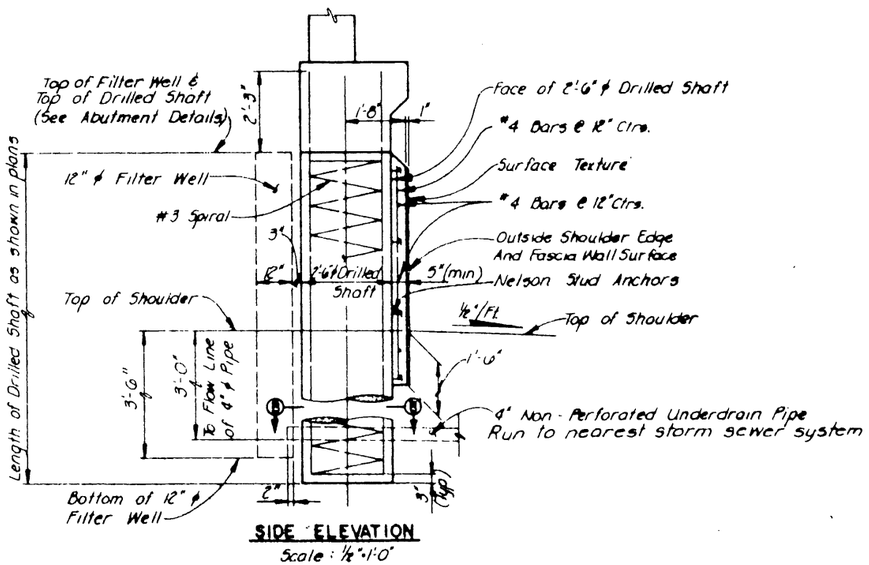
NOTE:
Forming details shown are diagrammatic only, Contractor shall select type of form ties, etc., subject to approval of Engineer.

VERTICAL SECTION
N.T.S

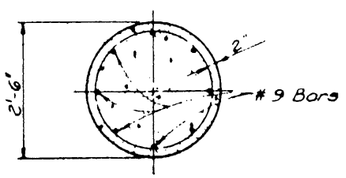
ESTIMATED QUANTITY SUMMARY▲

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
# 421	Class "C" Concrete (Fascia Wall)	C.Y.	0.10
#430	Reinforcing Steel (Fascia Wall)	Lb.	2.67
556	Pipe Underdrains (4in Non-Perf)	L.F.	72

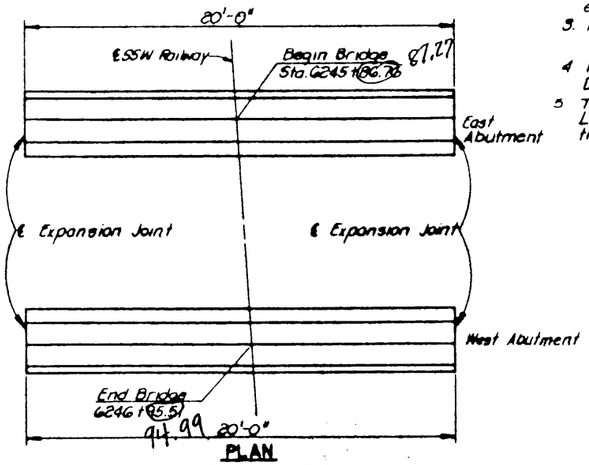
For Contractors' Information only.
▲ Quantities For 1'-0" Height Fascia Wall Per Shaft Space.



SIDE ELEVATION
Scale: ½"=1'-0"



SECTION B-B
Scale: ¼"=1'-0"



PLAN
FASCIA WALL PANELS
N.T.S.

General Notes:
1. All concrete for drilled shafts and concrete fascia walls shall be Class "C".
2. All reinforcing steel shall be ASTM A-615, Grade 60 except spiral bars.
3. For details and dimensions of Surface Texture, see Standard Dwg. No. 41
4. For Fascia Wall End Detail, See Detail 1, Abutment Details Sheet No.
5. The Contractor shall develop a Rustication Layout for each Abutment for approval by the Engineer.

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

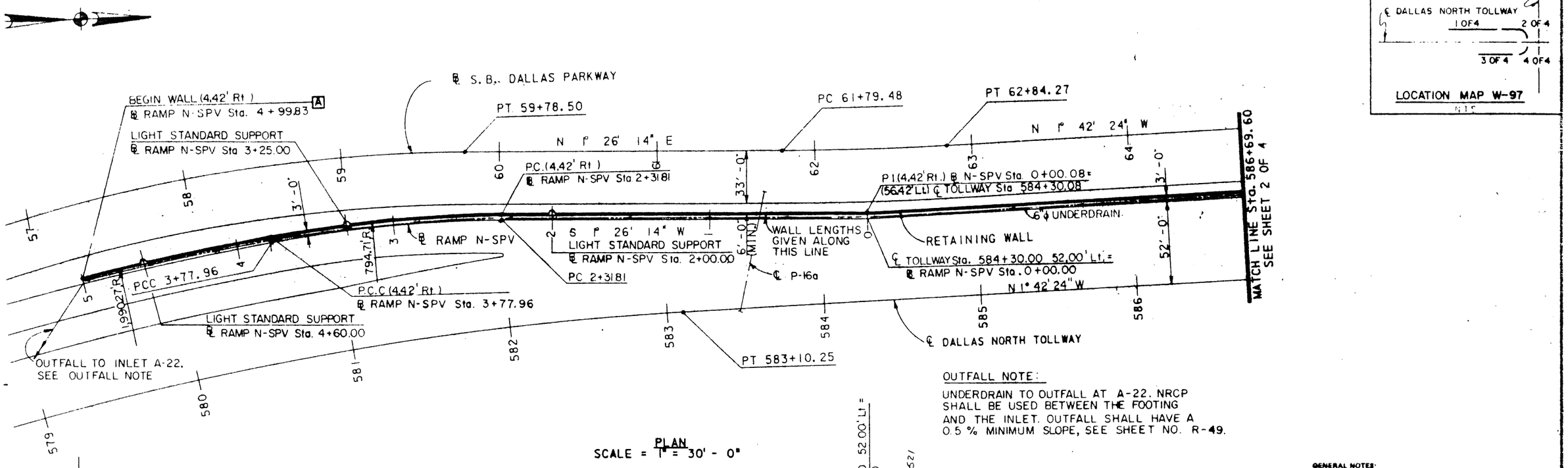
SSW RAILWAY UNDERPASS
DRILLED SHAFT AND
FASCIA WALL DETAILS

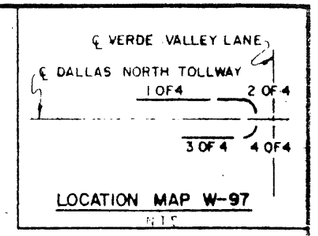
Turner Collie & Braden Inc. Consulting Engineers | SECTION VI

DRAWN DRD DATE 6-83 | DESIGNED FRW DATE 6-83
CHECKED JRA DATE 6-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-63 OF S-82

004131



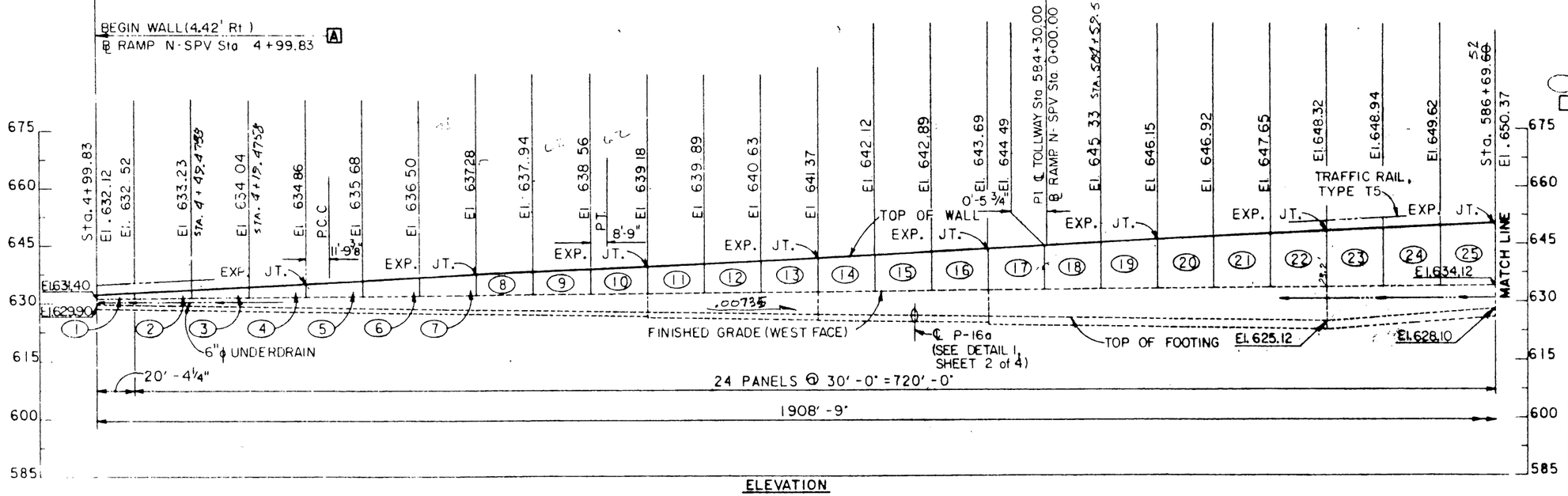


PLAN

SCALE = 1" = 30' - 0"

OUTFALL NOTE:

UNDERDRAIN TO OUTFALL AT A-22. NRCP SHALL BE USED BETWEEN THE FOOTING AND THE INLET. OUTFALL SHALL HAVE A 0.5 % MINIMUM SLOPE, SEE SHEET NO. R-49.



ELEVATION

(LOOKING WEST)

SCALE = 1" = 30' - 0" HORZ.
1" = 15' = 0" VERT.

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 40 AND 41.

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

○ DENOTES PANEL NUMBER

□ DENOTES MATCH POINT

FOR CONCRETE TRAFFIC RAIL, TYPE T5, SEE STANDARD DRAWING NUMBER 30

ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S.F.	32,883
450	CONCRETE TRAFFIC RAIL (TYPE T5)	L.F.	1,750.3
556	PIPE UNDERDRAIN 6"(NRCP)	L.F.	95

WALL NO. W-97

1 OF 4

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

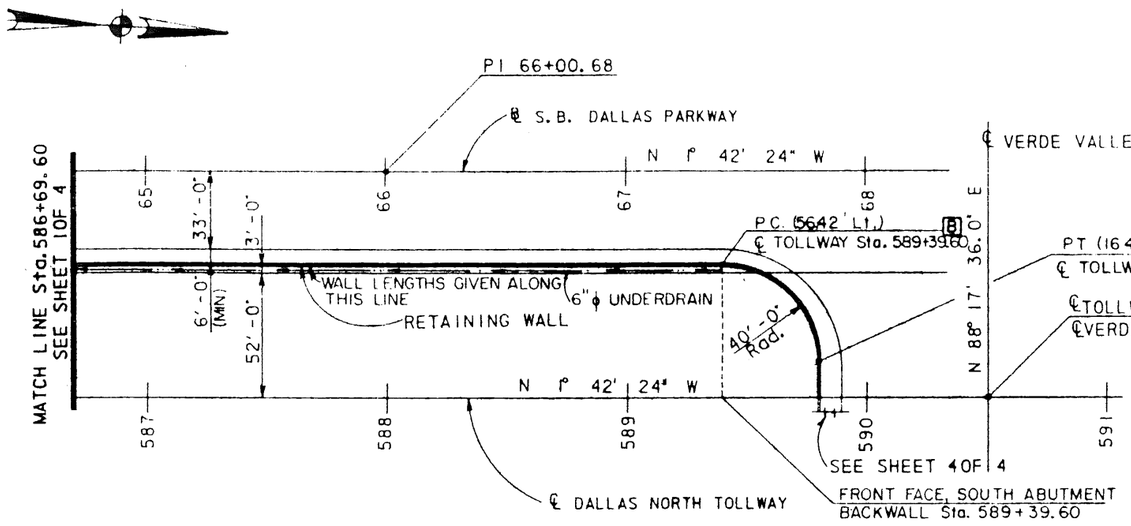
VERDE VALLEY LANE ~ SOUTH
RETAINING WALLS
PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

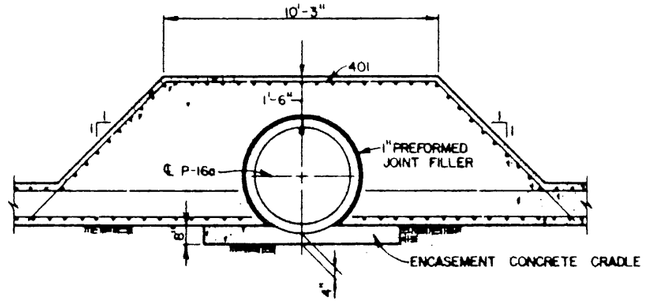
DRAWN RGD DATE 8-83 | CHECKED TJR DATE 7-83
DESIGNED TJR DATE 8-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-64 OF S-82

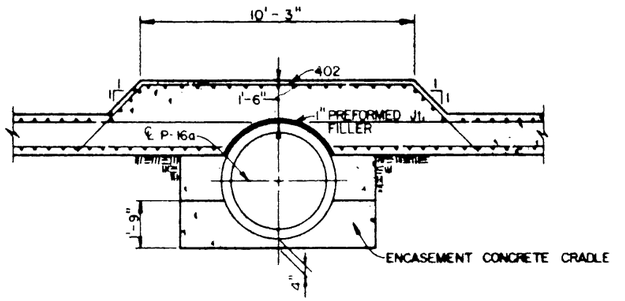
004132



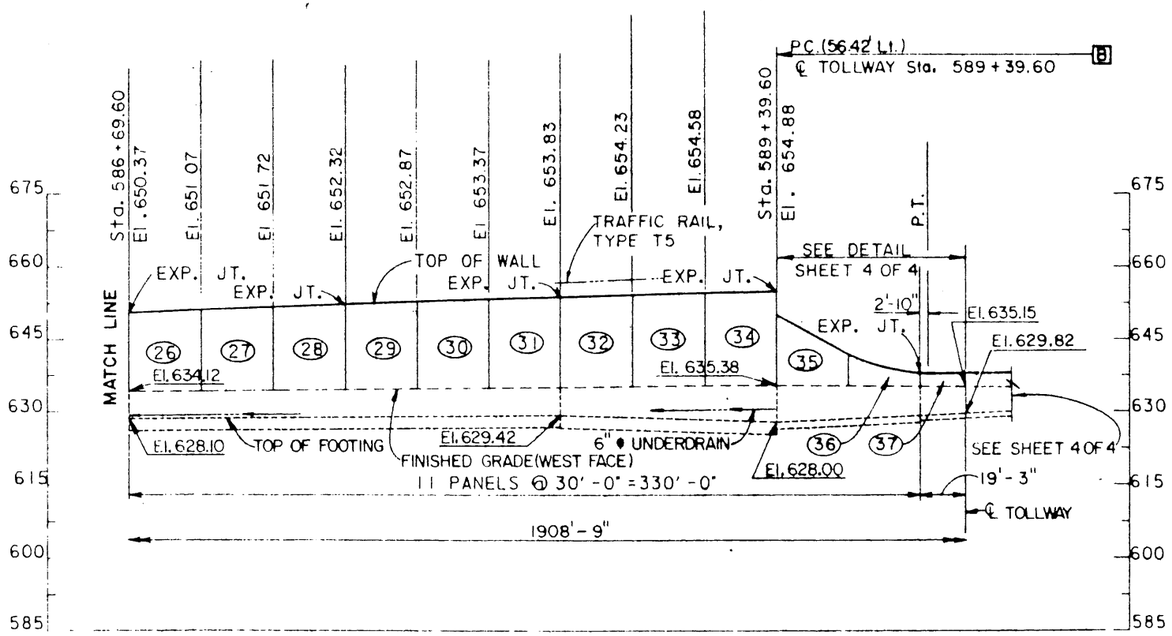
PLAN
SCALE = 1" = 30'-0"



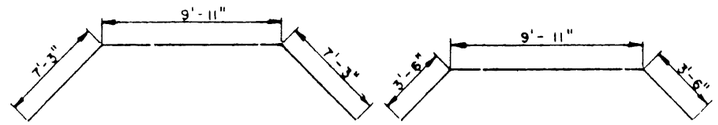
DETAIL 1
SCALE = 3/8" = 1'-0"



DETAIL 2
SCALE = 3/8" = 1'-0"



ELEVATION
(LOOKING WEST)
SCALE = 1" = 30'-0" HORZ.
1" = 15'-0" VERT.



BAR 401 BAR 402

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 40 AND 41

FOR CONCRETE RIPRAP DETAILS, SEE STANDARD DRAWING NUMBER 21.

FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

⬭ DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT

FOR CONCRETE TRAFFIC RAIL, TYPE T5, SEE STANDARD DRAWING NUMBER 30

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
VERDE VALLEY LANE ~ SOUTH RETAINING WALLS
PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers | SECTION VI

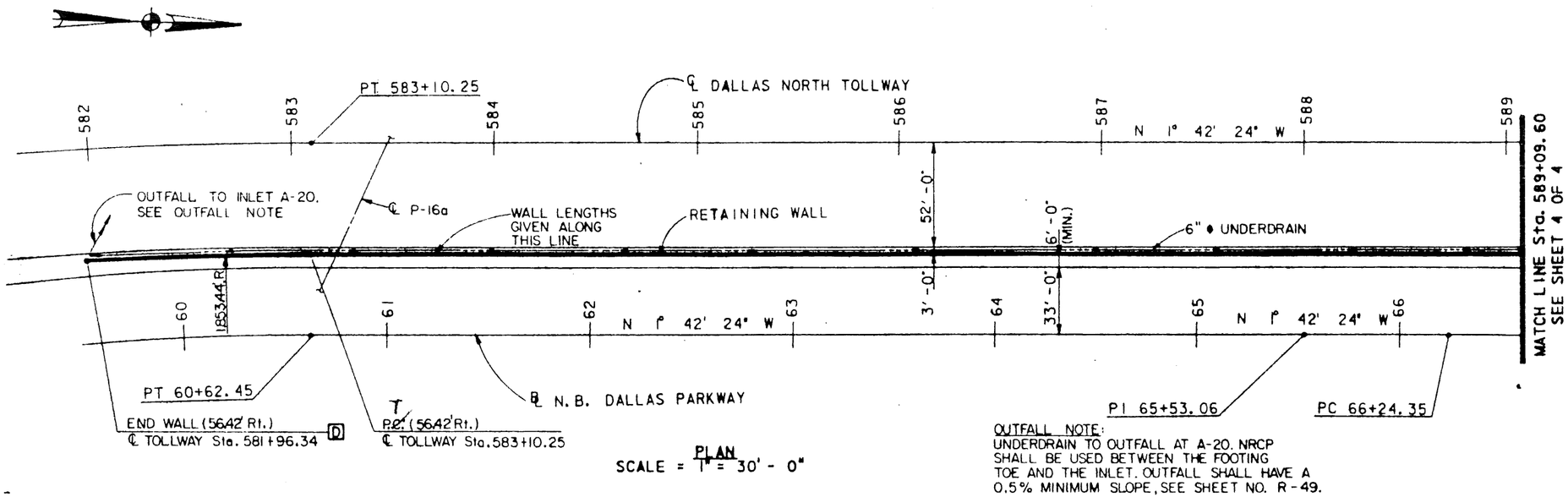
DRAWN RGD DATE 8-83 | DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 | SCALE AS NOTED

CONTRACT NO DNT-114 SHEET S-65 OF S-82

WALL NO. W-97

2 OF 4

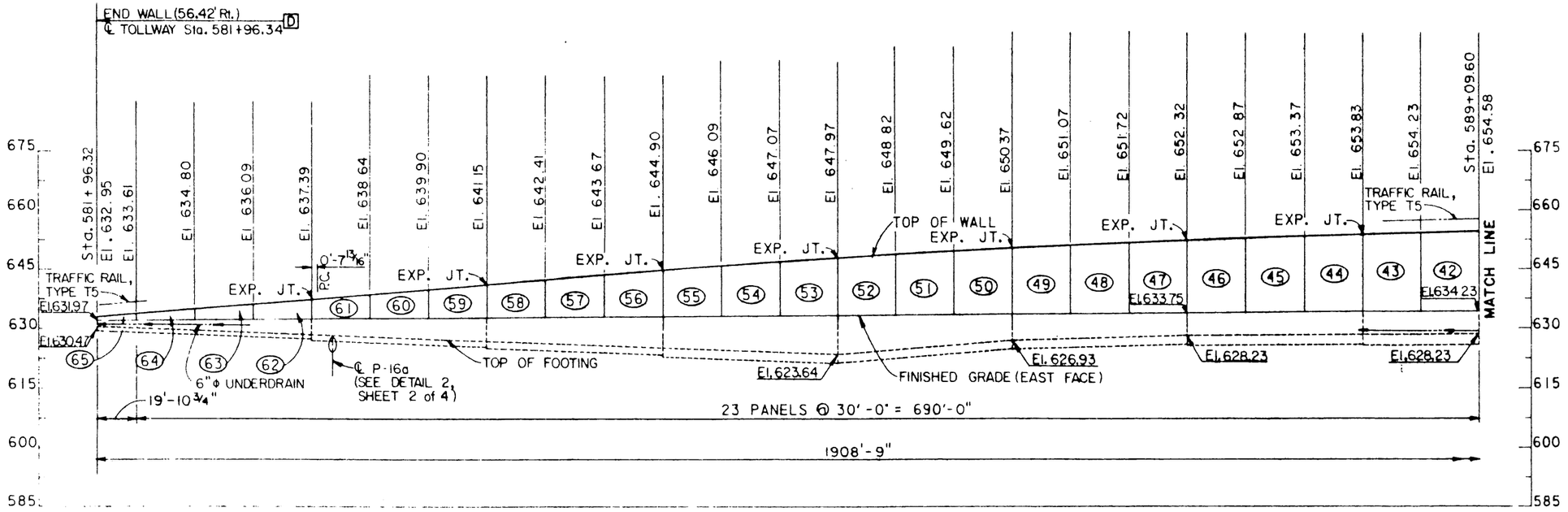
004133



PLAN

SCALE = 1" = 30' - 0"

OUTFALL NOTE:
UNDERDRAIN TO OUTFALL AT A-20. NRCP SHALL BE USED BETWEEN THE FOOTING TOE AND THE INLET. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO. R-49.



ELEVATION
(LOOKING WEST)

SCALE = 1" = 30' - 0" HORZ.
1" = 15' - 0" VERT.

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 40 AND 41

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

(n) DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT.

FOR CONCRETE TRAFFIC RAIL, TYPE T5, SEE STANDARD DRAWING NUMBER 30.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE ~ SOUTH RETAINING WALLS

PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN RGD DATE 8-83 — DESIGNED TJR DATE 7-83

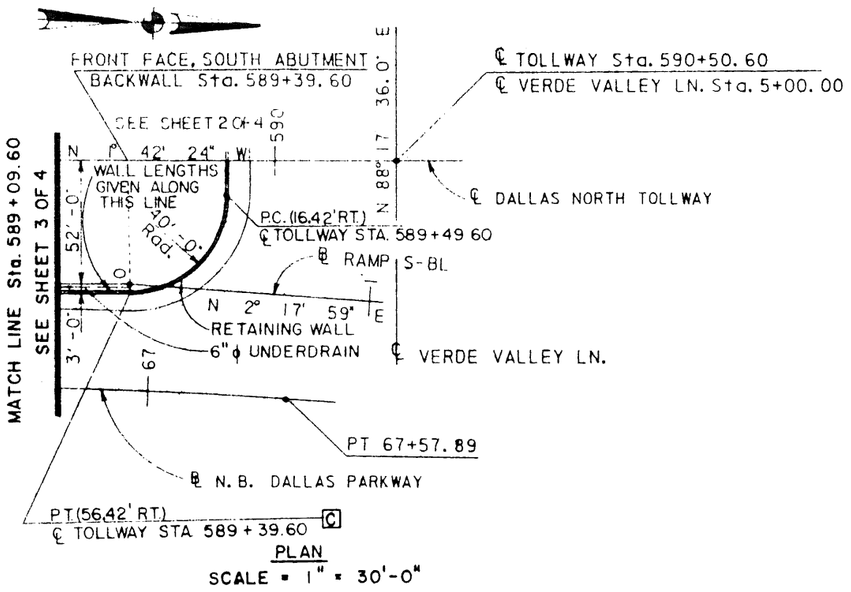
CHECKED TJR DATE 8-83 — SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-66 OF S-82

WALL NO. W-97

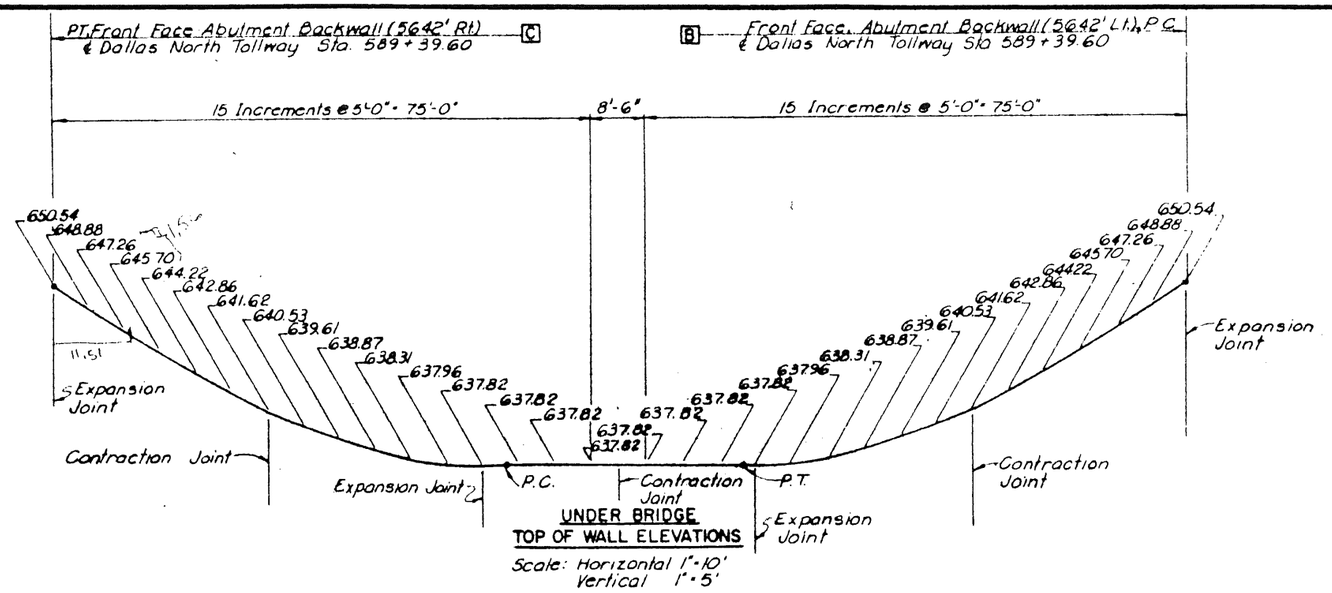
3 OF 4

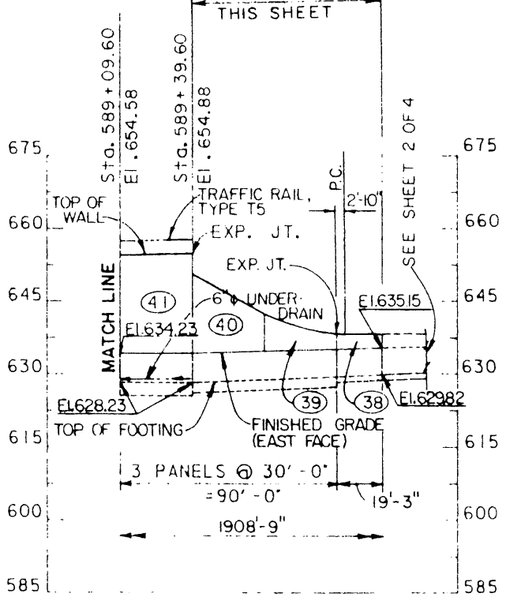
004134



PLAN

SCALE = 1" = 30'-0"





ELEVATION

(LOOKING WEST)

SCALE = 1" = 30'-0" HORZ.
1" = 15'-0" VERT.

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 40 AND 41.

FOR CONCRETE RIPRAP DETAILS, SEE STANDARD DRAWING NUMBER 21.

FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

(○) DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT

FOR CONCRETE TRAFFIC RAIL, TYPE T5, SEE STANDARD DRAWING NUMBER 30.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE ~ SOUTH
RETAINING WALLS
PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers | SECTION VI

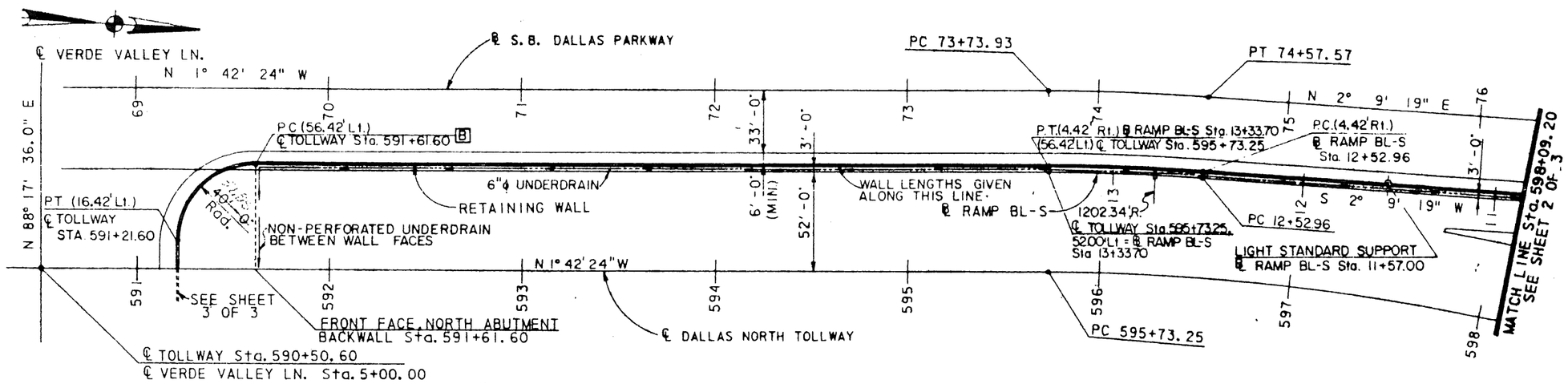
DRAWN RGO/BST DATE 8-83 | DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-67 OF S-82

WALL NO. W-97

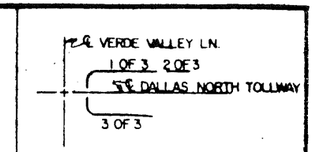
4 OF 4

004135

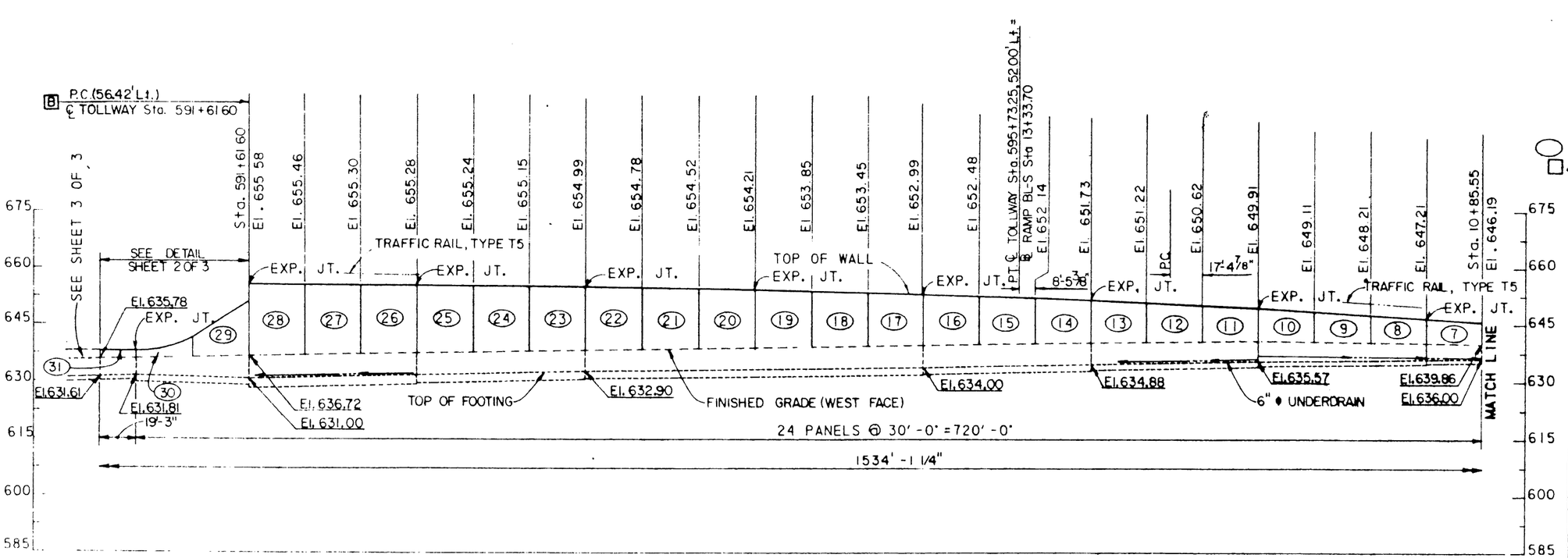


PLAN

SCALE = 1" = 30'-0"



LOCATION MAP W-98
N.T.S.



ELEVATION
(LOOKING WEST)

SCALE = 1" = 30'-0" HORZ.
1" = 15'-0" VERT.

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 40 AND 41.

FOR CONCRETE RIPRAP DETAILS, SEE STANDARD DRAWING NUMBER 21.

FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

(n) DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT.

FOR CONCRETE TRAFFIC RAIL, TYPE T5, SEE STANDARD DRAWING NUMBER 30.

ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S.F.	23,613
450	CONCRETE TRAFFIC RAIL (TYPE T5)	L.F.	1,360.1
556	PIPE UNDERDRAIN (6") (N R C P)	L.F.	195

WALL NO. W-98

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

VERDE VALLEY LANE ~ NORTH
RETAINING WALLS
PLAN AND ELEVATION

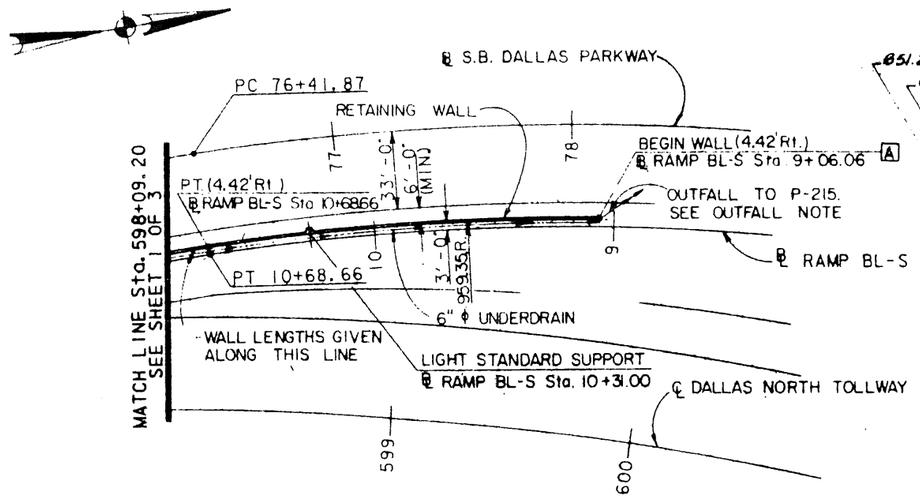
Turner Collie & Braden Inc. Consulting Engineers | SECTION VI

DESIGNED RGD DATE 8-83 | DRAWN TJR DATE 7-83
CHECKED TJR DATE 8-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-68 OF S-82

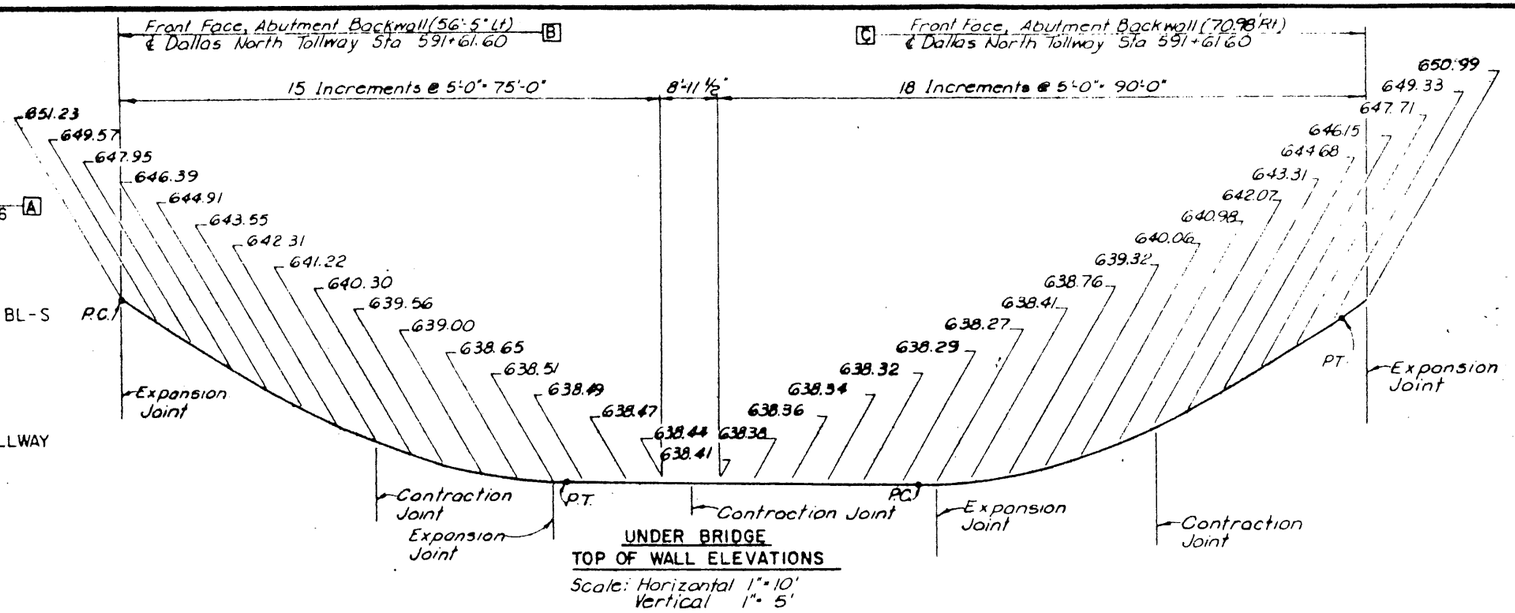
1 OF 3

004136



PLAN

SCALE = 1" = 30'-0"

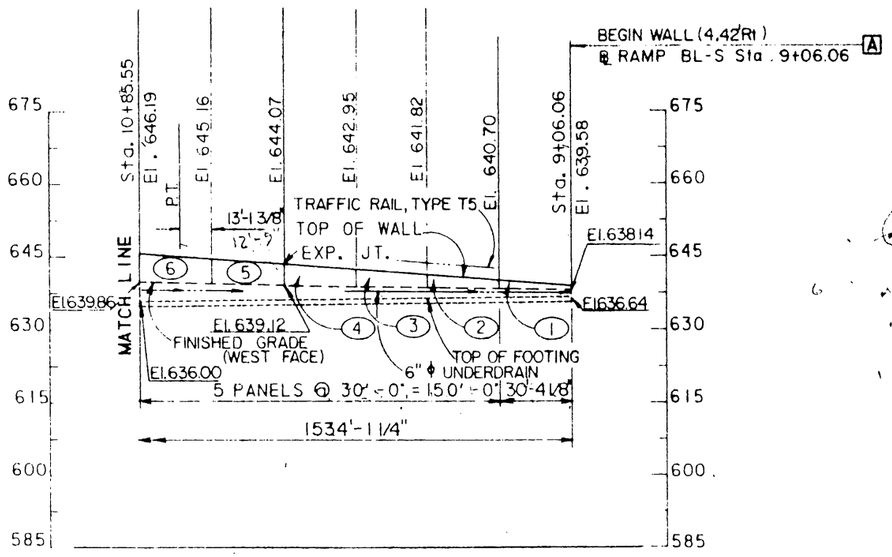


UNDER BRIDGE
TOP OF WALL ELEVATIONS

Scale: Horizontal 1" = 10'
Vertical 1" = 5'

OUTFALL NOTE:

UNDERDRAIN TO OUTFALL AT P-215. NR&P SHALL BE USED BETWEEN THE FOOTING TOE AND THE PIPE. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO. R-51.



ELEVATION
(LOOKING WEST)

SCALE = 1" = 30'-0" HORZ.
1" = 15'-0" VERT.

WALL NO. W-98

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 40 AND 41.

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

○ DENOTES PANEL NUMBER.

□ DENOTES CONTROL POINT.

FOR CONCRETE TRAFFIC RAIL, TYPE T5, SEE STANDARD DRAWING NUMBER 30.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE ~ NORTH
RETAINING WALLS
PLAN AND ELEVATION

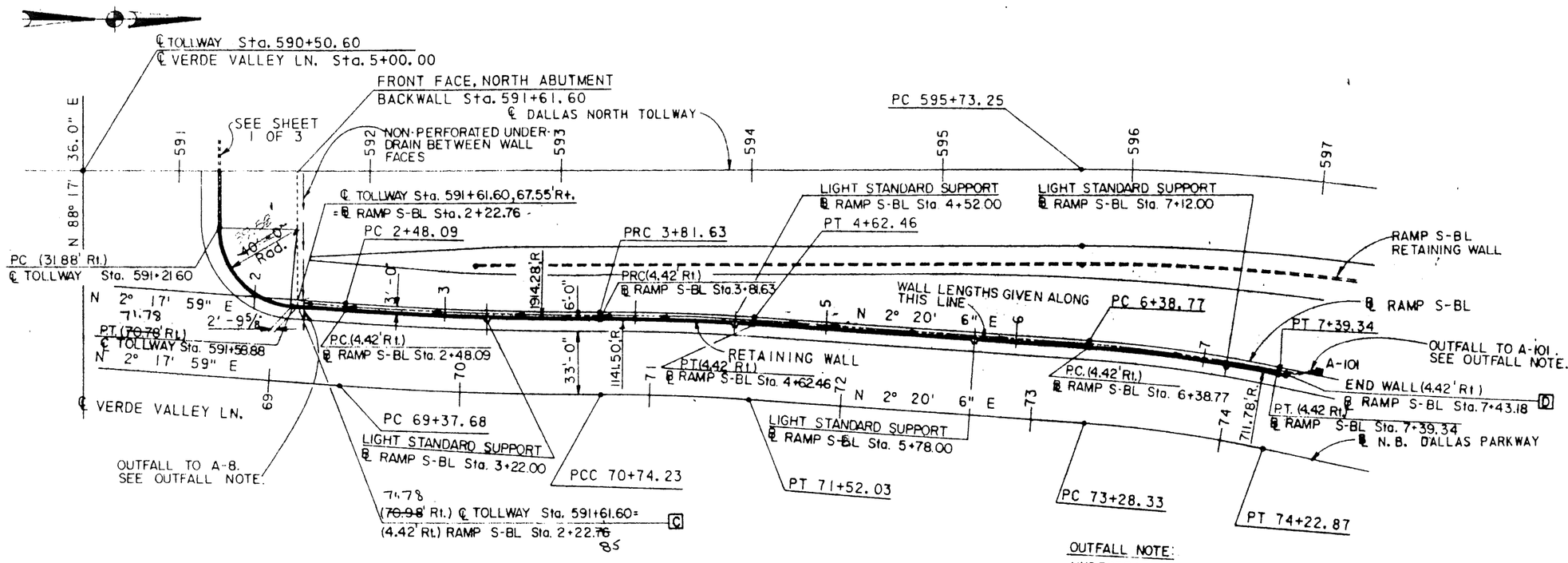
Turner Collie & Braden Inc. (Consulting Engineers) | SECTION VI

DRAWN RGD DATE 8-83 | DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-69 OF S-82

2 OF 3

004137



PLAN

SCALE = 1" = 30' - 0"

OUTFALL NOTE:

UNDERDRAIN TO OUTFALL AT A-100 NRCP SHALL BE USED BETWEEN THE FOOTING TOE AND THE INLET. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO. R-50.

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 40 AND 41

FOR CONCRETE RIPRAP DETAILS, SEE STANDARD DRAWING NUMBER 21.

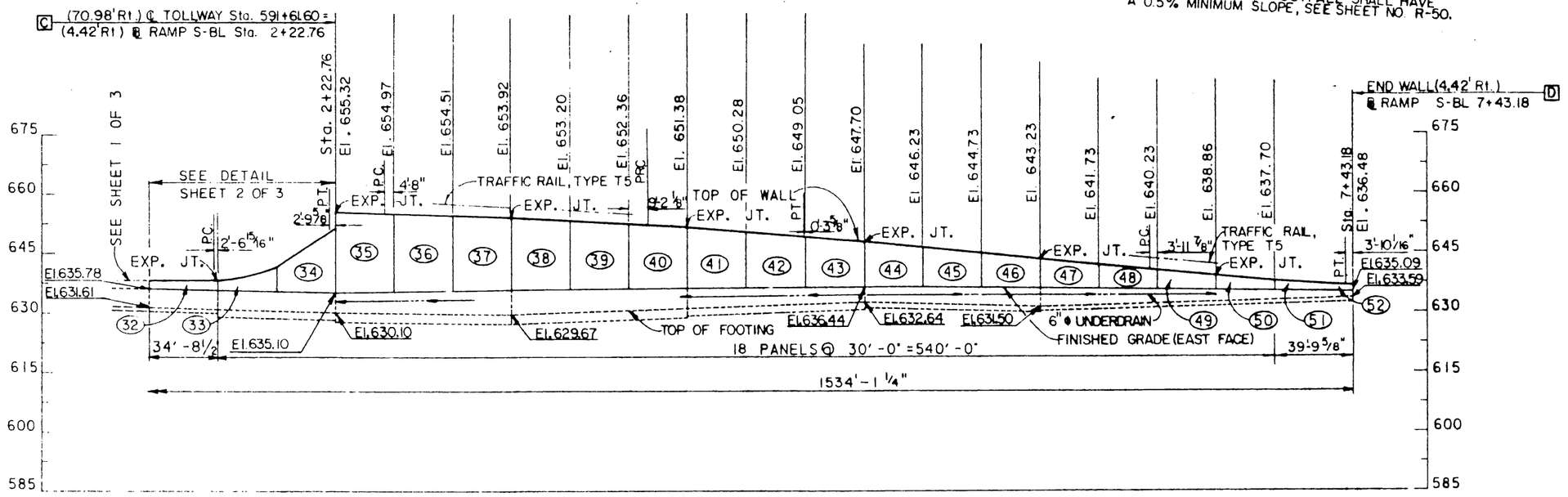
FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED ALL OTHER JOINTS SHALL BE CONTRACTION.

◯ DENOTES PANEL NUMBER

□ DENOTES MATCH POINT.

FOR CONCRETE TRAFFIC RAIL, TYPE T5, SEE STANDARD DRAWING NUMBER 30



ELEVATION
(LOOKING WEST)

SCALE = 1" = 30' - 0" HORZ.
1" = 15' - 0" VERT.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

VERDE VALLEY LANE ~ NORTH
RETAINING WALLS
PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

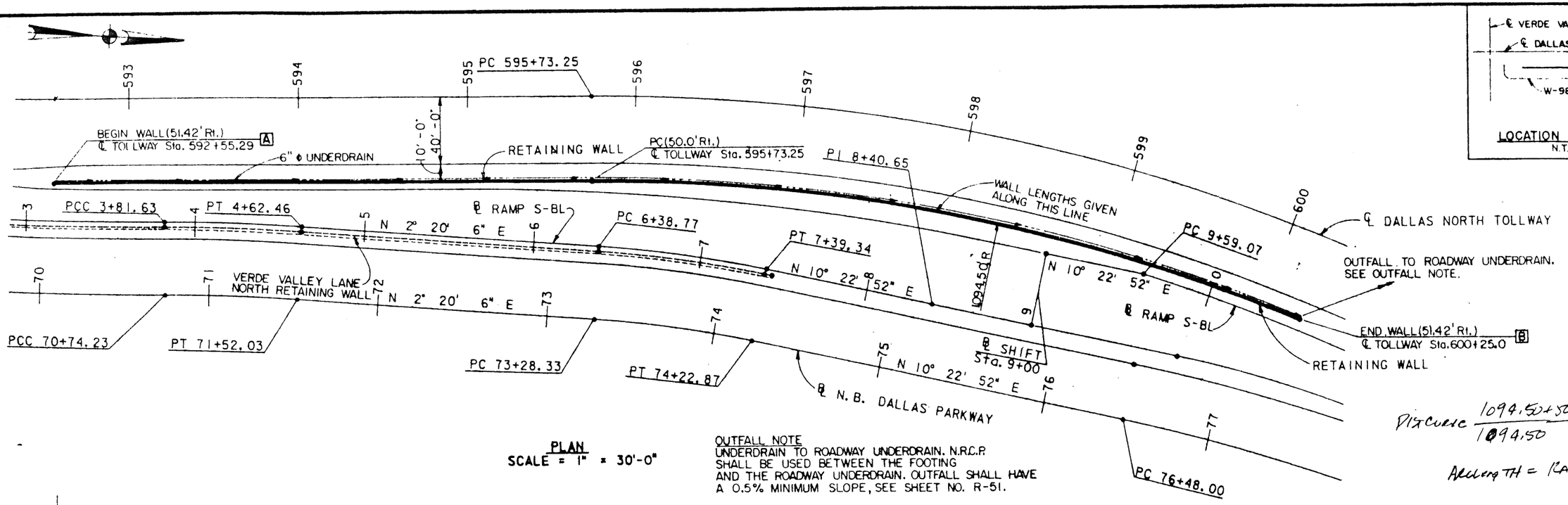
DRAWN RGD DATE 8-83 | DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-70 OF S-82

WALL NO. W-98

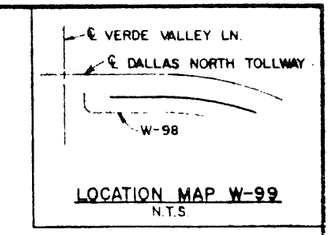
3 OF 3

004138



PLAN
SCALE = 1" = 30'-0"

OUTFALL NOTE
UNDERDRAIN TO ROADWAY UNDERDRAIN. N.R.C.P. SHALL BE USED BETWEEN THE FOOTING AND THE ROADWAY UNDERDRAIN. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO. R-51.



LOCATION MAP W-99
N.T.S.

Pi curve $\frac{1094.50 \times 50}{1094.50}$

Arc length = 1 RADIANS RAD

GENERAL NOTES:

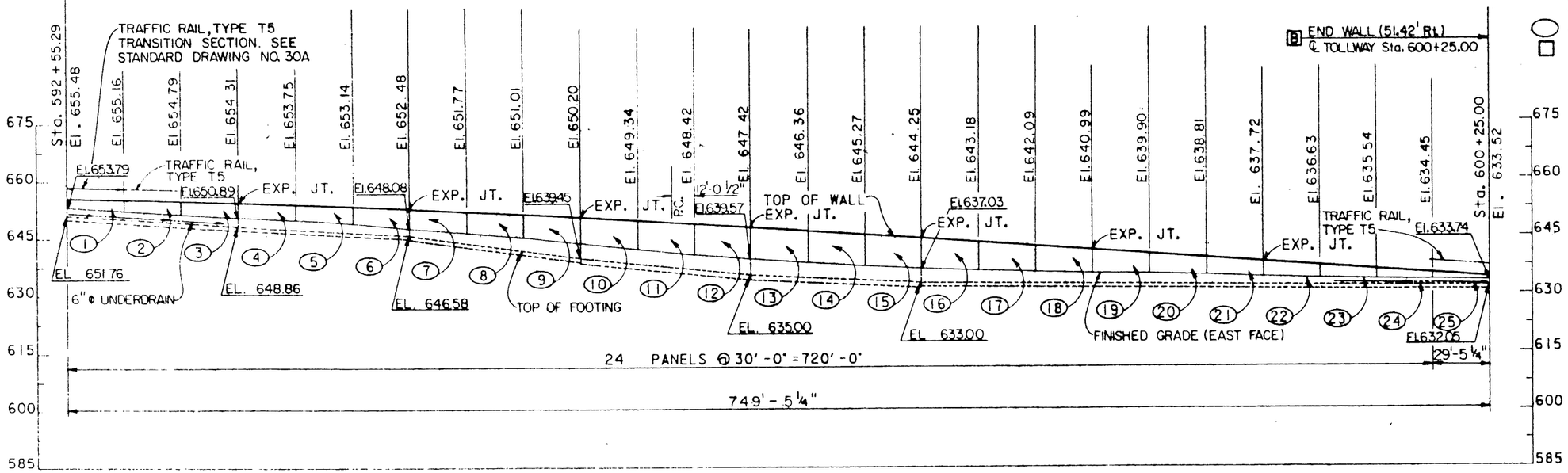
FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 40 AND 41.

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

○ DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT.

FOR CONCRETE TRAFFIC RAIL, TYPE T5, SEE STANDARD DRAWING NUMBER 36.



ELEVATION
(LOOKING WEST)
SCALE = 1" = 30'-0" HORZ.
1" = 15'-0" VERT.

ESTIMATED QUANTITY SUMMARY			
ITEM NO	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S. F.	5683
450	CONCRETE TRAFFIC RAIL (TYPE T5)	L. F.	749.2
556	PIPE UNDERDRAIN (6") (NRCP)	L. F.	12

WALL NO. W-99

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

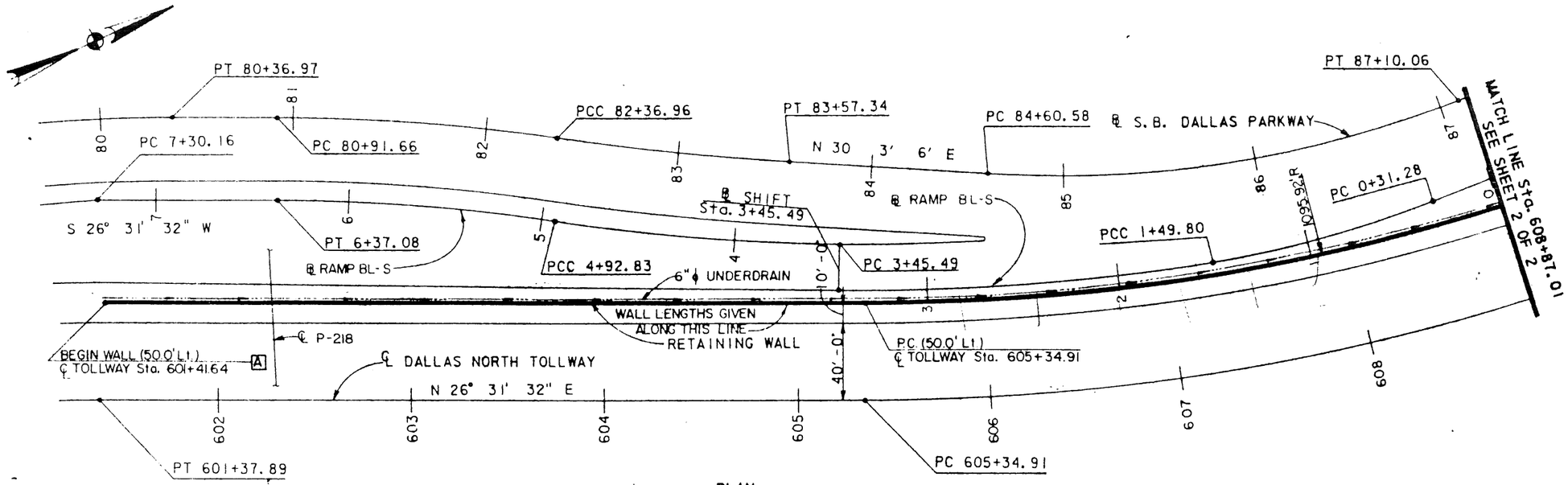
RAMP S-BL
RETAINING WALL
PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers — SECTION IV

DRAWN RGD/BST DATE 8-83 — DESIGNED TJR DATE 8-83
CHECKED TJR DATE 8-83 — SCALE AS NOTED

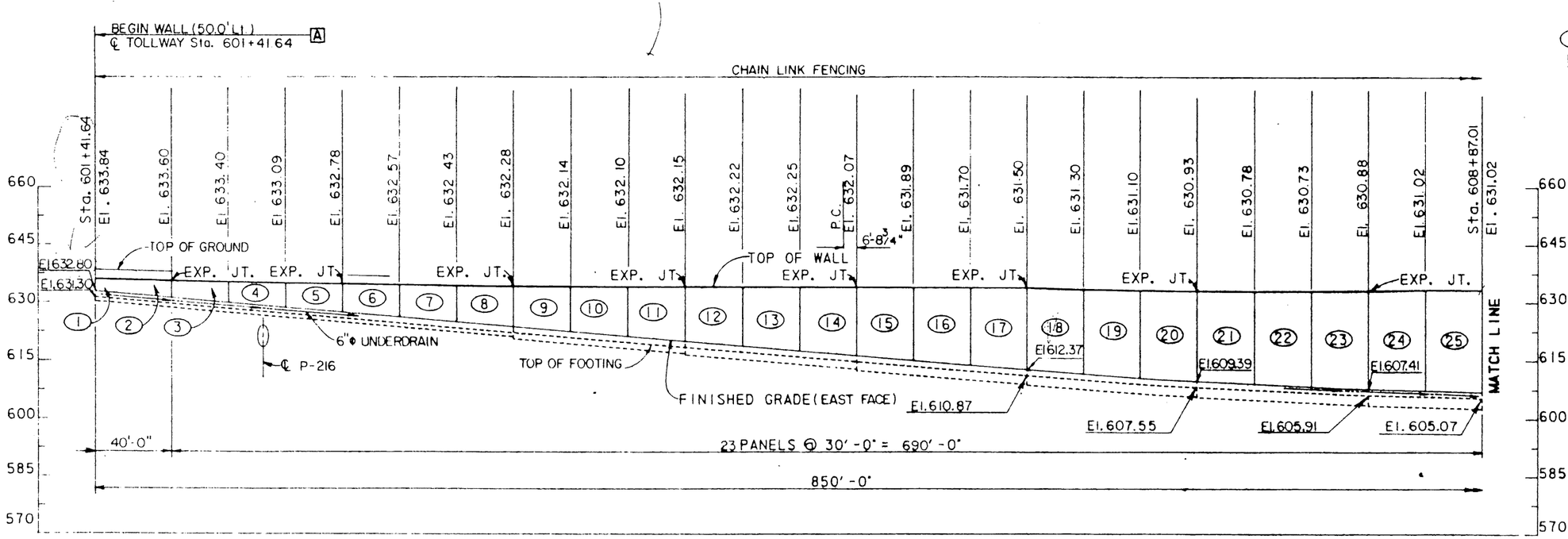
CONTRACT NO. DNT-114 SHEET S-71 OF S-82

004139



PLAN

SCALE = 1" = 30'-0"



ELEVATION
(LOOKING WEST)

SCALE = 1" = 30'-0" HORZ.
1" = 15'-0" VERT.

ESTIMATED QUANTITY SUMMARY			
ITEM NO	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S.F.	14,378
450	RAILING (WALL) (TYPE C4)	L.F.	30.0
450	RAILING (WALL) (PARAPET ONLY)	L.F.	820.0
556	PIPE UNDERDRAIN (6") (NR C.P)	L.F.	9

WALL NO. W-100

1 OF 2 2 OF 2

℄ DALLAS NORTH TOLLWAY

℄ BELT LINE RD.

LOCATION MAP W-100
N.T.S

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 42 AND 43.

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION

(n) DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT.

FOR TYPE C4 RAILING DETAILS, SEE STANDARD DRAWING NUMBER 38.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD ~ SOUTHWEST
RETAINING WALL
PLAN AND ELEVATION

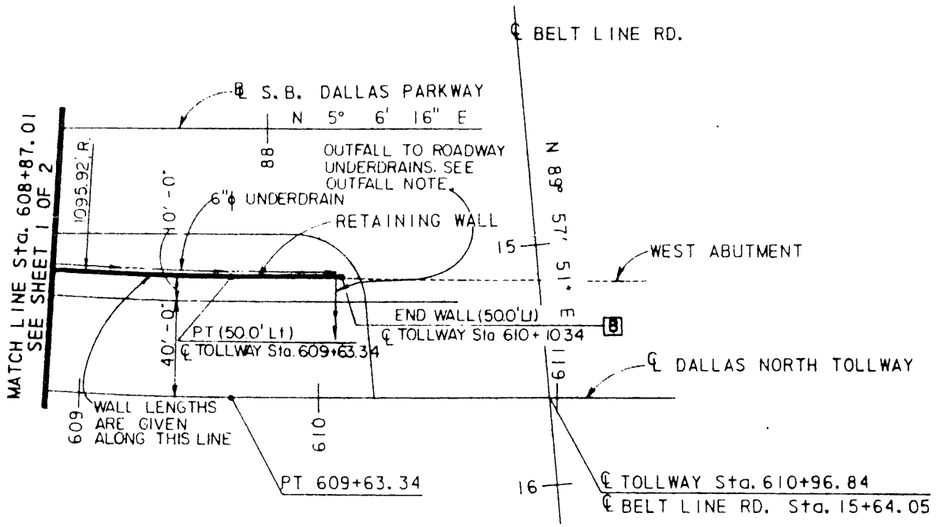
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN RGD DATE 8-83 | REVIEWED TJR DATE 7-83
CHECKED TJR DATE 8-83 | SCALE AS NOTED

CONTRACT NO DNT-114 SHEET S-72 OF S-82

1 OF 2

004140

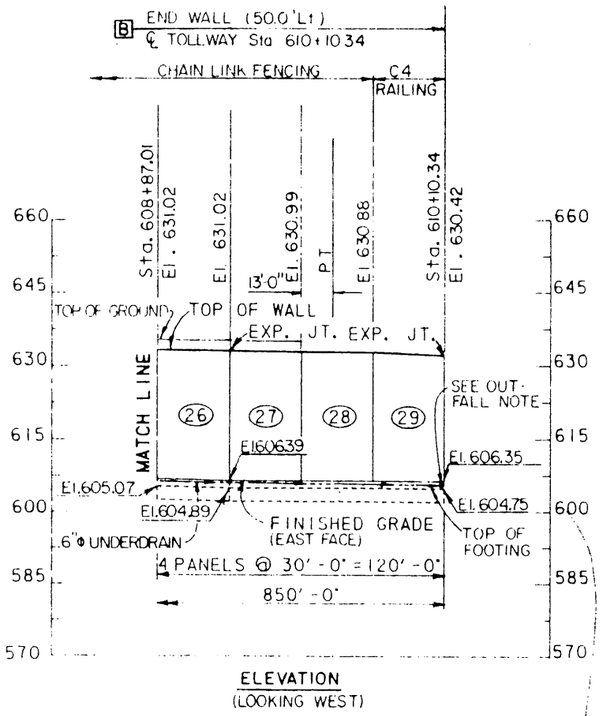


PLAN

SCALE = 1" = 30' - 0"

OUTFALL NOTE

UNDERDRAIN TO OUTFALL AT ROADWAY UNDERDRAINS NRCP SHALL BE USED BETWEEN THE WALL FACE AND THE ROADWAY UNDERDRAIN. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO R-51.



ELEVATION
(LOOKING WEST)

SCALE = 1" = 30' - 0" HORZ.
1" = 15' - 0" VERT.

WALL NO. W-100

GENERAL NOTES.

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 42 AND 43

FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

○ DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT.

FOR TYPE C4 RAILING DETAILS, SEE STANDARD DRAWING NUMBER 33.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD ~ SOUTHWEST
RETAINING WALL
PLAN AND ELEVATION

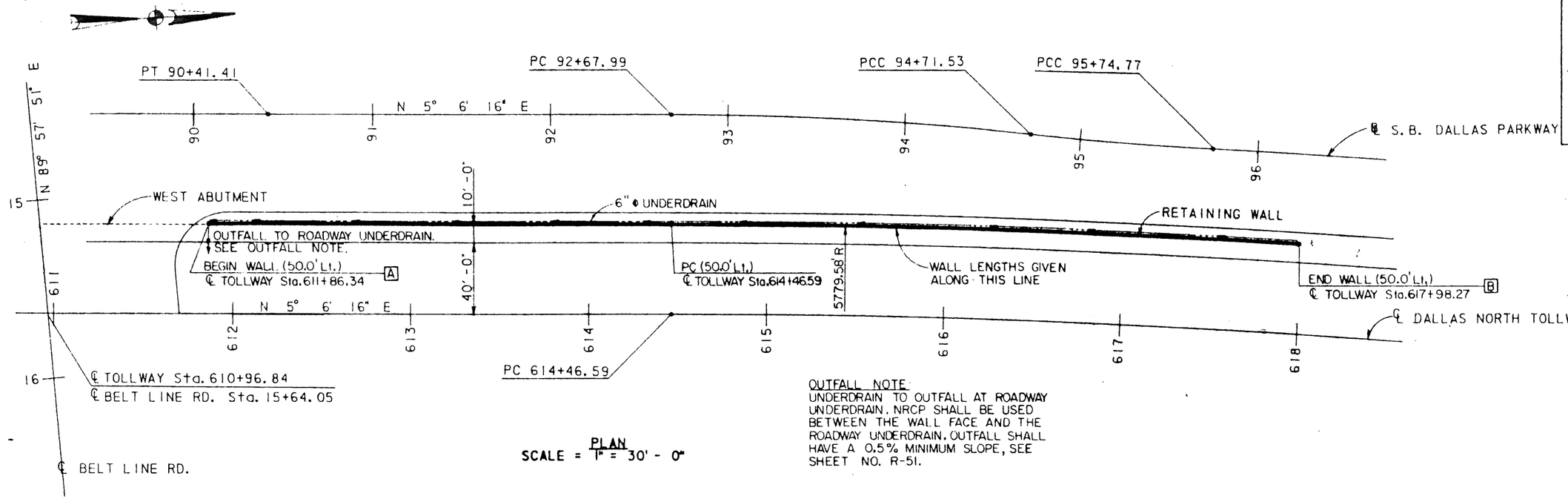
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN RGD DATE 8-83 — DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 — SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-73 OF S-82

2 OF 2

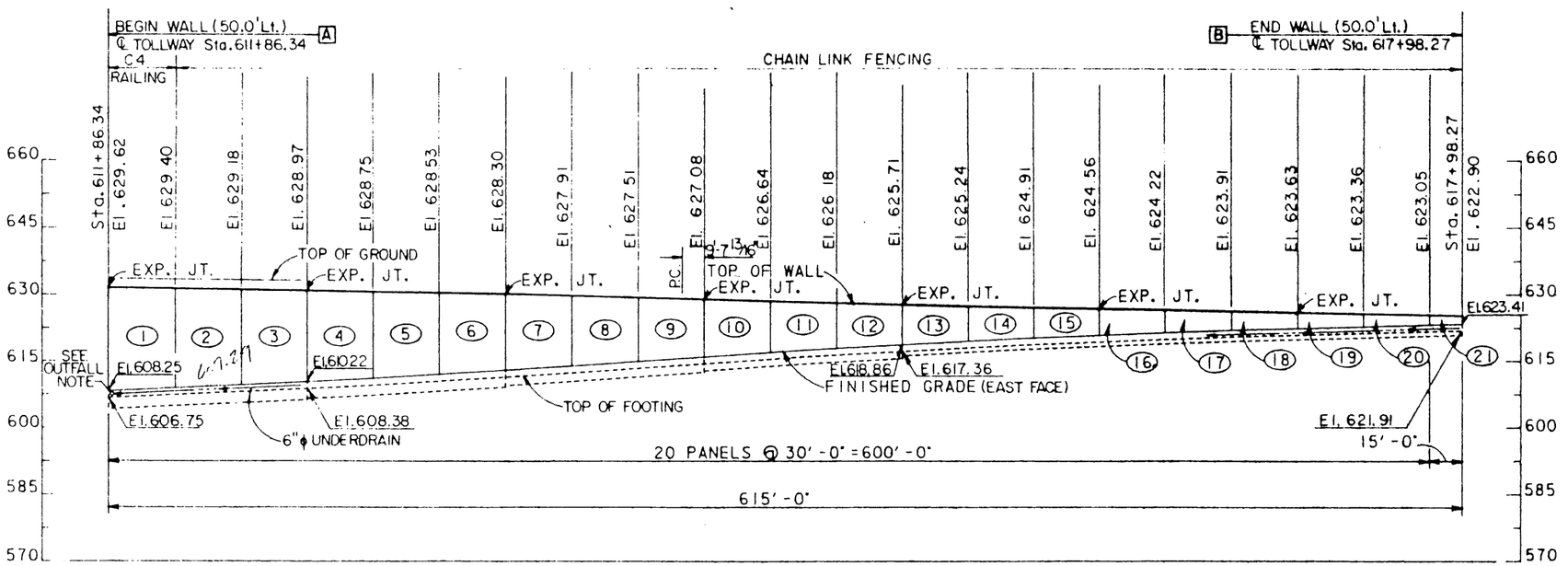
C04141



PLAN

SCALE = 1" = 30'-0"

OUTFALL NOTE
UNDERDRAIN TO OUTFALL AT ROADWAY UNDERDRAIN. NRCP SHALL BE USED BETWEEN THE WALL FACE AND THE ROADWAY UNDERDRAIN. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO. R-51.



ELEVATION
(LOOKING WEST)

SCALE = 1" = 30'-0" HORZ.
1" = 15'-0" VERT.

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 42 AND 43.

FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED ALL OTHER JOINTS SHALL BE CONTRACTION.

(1) DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT

FOR TYPE C4 RAILING DETAILS, SEE STANDARD DRAWING NUMBER 33

ESTIMATED QUANTITY SUMMARY

ITEM NO	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S.F.	7,094
450	RAILING (WALL) (TYPE C4)	L.F.	300
450	RAILING (WALL) (PARAPET ONLY)	L.F.	585.0
556	PIPE UNDERDRAIN (6") (N.R.C.P.)	L.F.	9

WALL NO. W-101

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

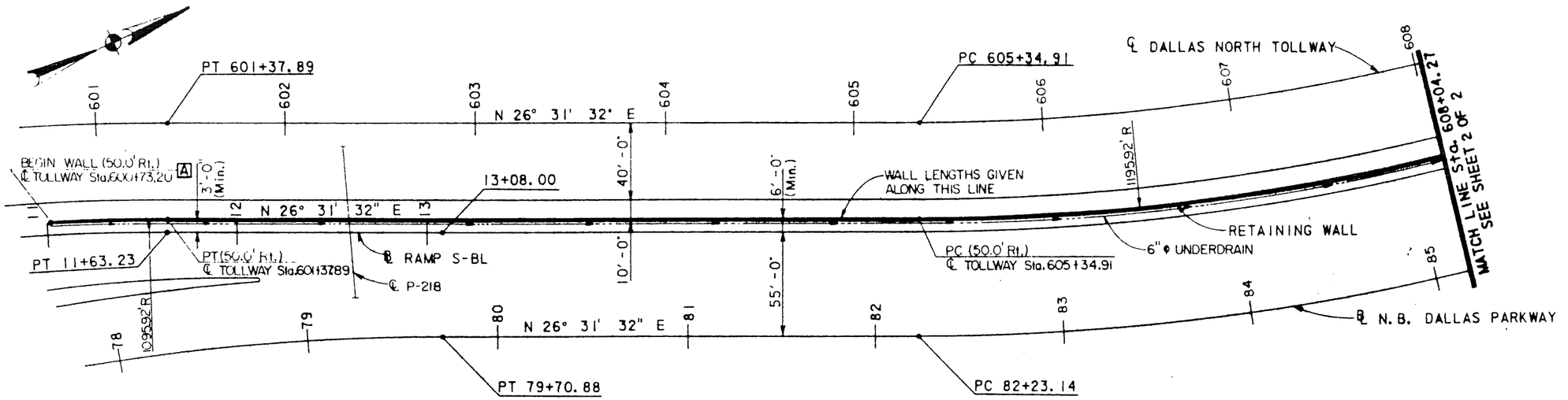
BELT LINE ROAD ~ NORTHWEST
RETAINING WALLS
PLAN AND ELEVATION

Turner Collie & Braden Inc. (Consulting Engineers) SECTION VI

DRAWN RGD DATE 8-83 DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-74 OF S-82

004142



SCALE = $\frac{\text{PLAN}}{1" = 30' - 0"}$

GENERAL NOTES:

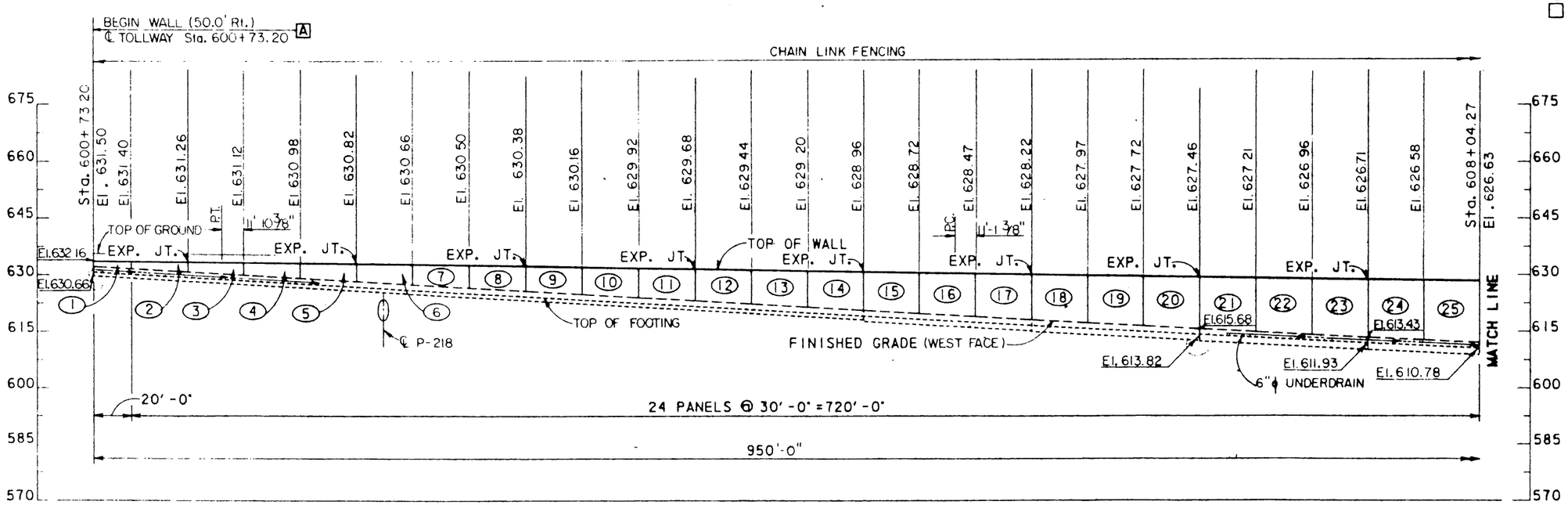
FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 42 AND 43.

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

⬭ DENOTES PANEL NUMBER.

☐ DENOTES MATCH POINT

FOR TYPE C4 RAILING DETAILS, SEE STANDARD DRAWING NUMBER 33.



ELEVATION (LOOKING WEST)

SCALE = 1" = 30' - 0" HORZ.
1" = 15' = 0" VERT.

ESTIMATED QUANTITY SUMMARY			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S.F.	10,478
450	RAILING (WALL) (TYPE C4)	L.F.	30.0
450	RAILING (WALL) (PARAPET ONLY)	L.F.	920.0
556	PIPE UNDERDRAIN (6") (N.R.C.P.)	L.F.	11

WALL NO. W-102

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD ~ SOUTHEAST RETAINING WALLS

PLAN AND ELEVATION

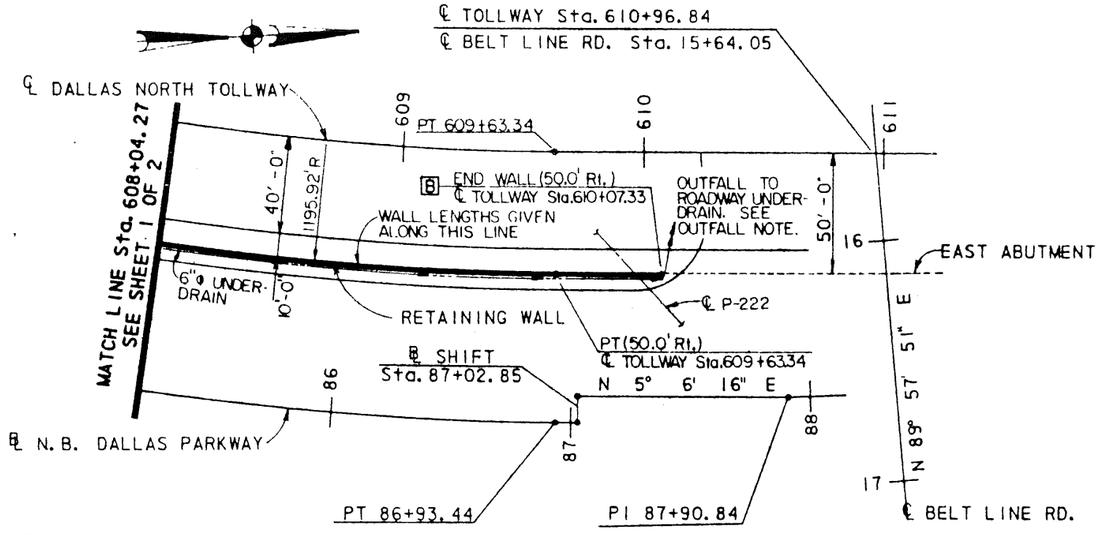
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DESIGN RGD DATE 8-83 DETAILED TJR DATE 7-83
CHECKED TJR DATE 8-83 SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-75 OF S-82

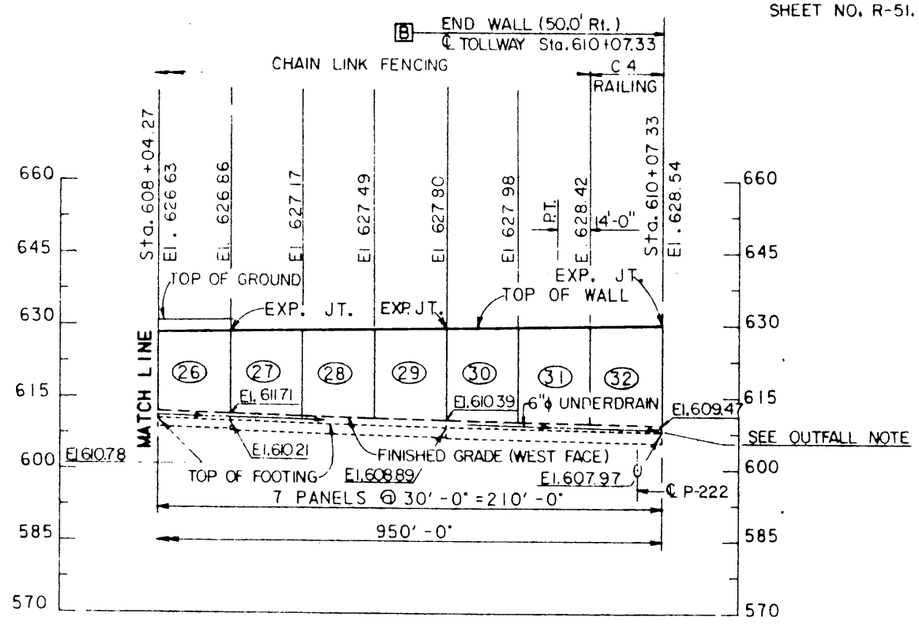
1 OF 2

C04143



PLAN
SCALE = 1" = 30'-0"

OUTFALL NOTE:
UNDERDRAIN TO OUTFALL AT ROADWAY UNDERDRAIN. NRCP SHALL BE USED BETWEEN THE WALL FACE AND THE ROADWAY UNDERDRAIN. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO. R-51.



ELEVATION
(LOOKING WEST)
SCALE = 1" = 30'-0" HORZ.
1" = 15'-0" VERT.

WALL NO. W-102

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 42 AND 43.

FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED ALL OTHER JOINTS SHALL BE CONTRACTION.

◯ DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT.

FOR TYPE C4 RAILING DETAILS, SEE STANDARD DRAWING NUMBER 33.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

BELT LINE ROAD ~ SOUTHEAST
RETAINING WALLS
PLAN AND ELEVATION

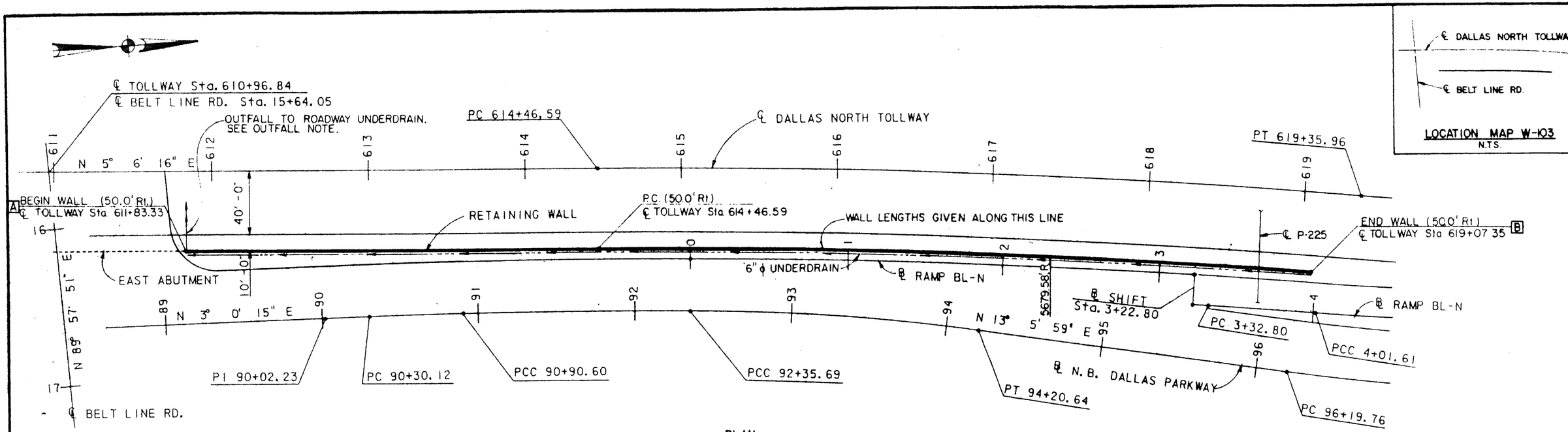
Turner Collie & Braden Inc. Consulting Engineers | SECTION VI

DRAWN RGD	DATE 8-83	DESIGNED TJR	DATE 7-83
CHECKED TJR	DATE 8-83	SCALE AS NOTED	

CONTRACT NO. DNT-114 SHEET S-76 OF S-82

2 OF 2

C04144



PLAN
SCALE = 1" = 30' - 0"

LOCATION MAP W-103
N.T.S.

OUTFALL NOTE:
UNDERDRAIN TO OUTFALL AT ROADWAY UNDERDRAIN. NRCP SHALL BE USED BETWEEN THE WALL FACE AND THE ROADWAY UNDERAIN. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO. R-51.

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 42 AND 43.

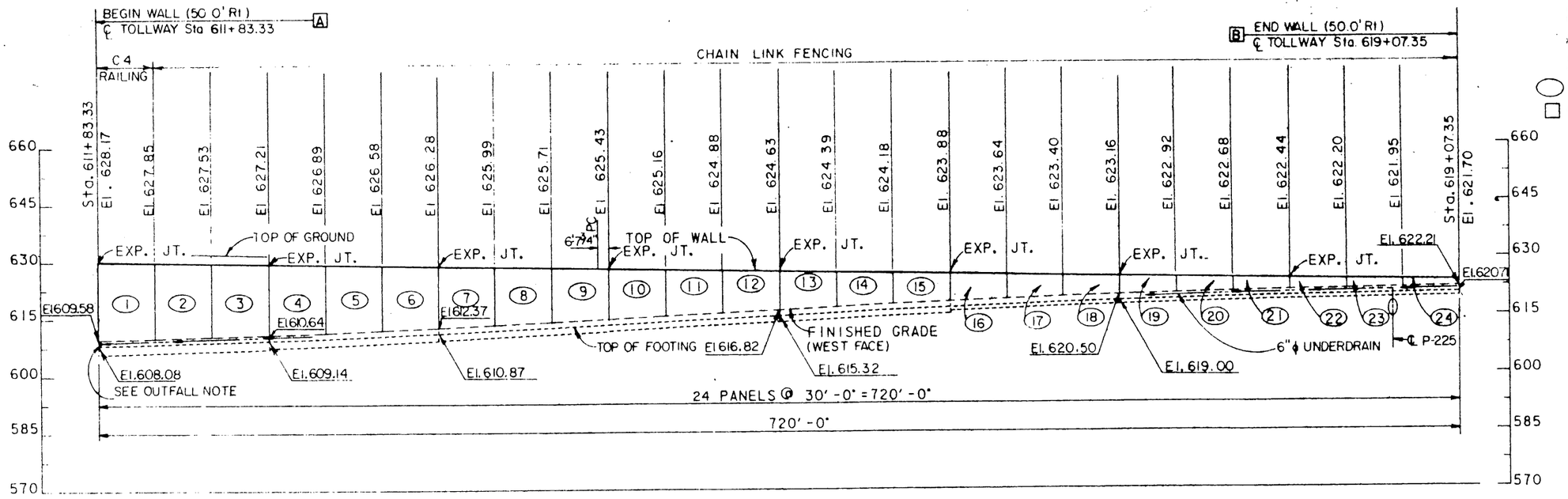
FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

○ DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT.

FOR TYPE C4 RAILING DETAILS, SEE STANDARD DRAWING NUMBER 33.



ELEVATION
(LOOKING WEST)
SCALE = 1" = 30' - 0" HORZ.
1" = 15' - 0" VERT.

ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S.F.	7,121
450	RAILING (WALL) (TYPE C4)	L.F.	30.0
450	RAILING (WALL) (PARAPET ONLY)	L.F.	690.0
556	PIPE UNDERDRAIN (6") (N.R.C.P.)	L.F.	9

WALL NO. W-103

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

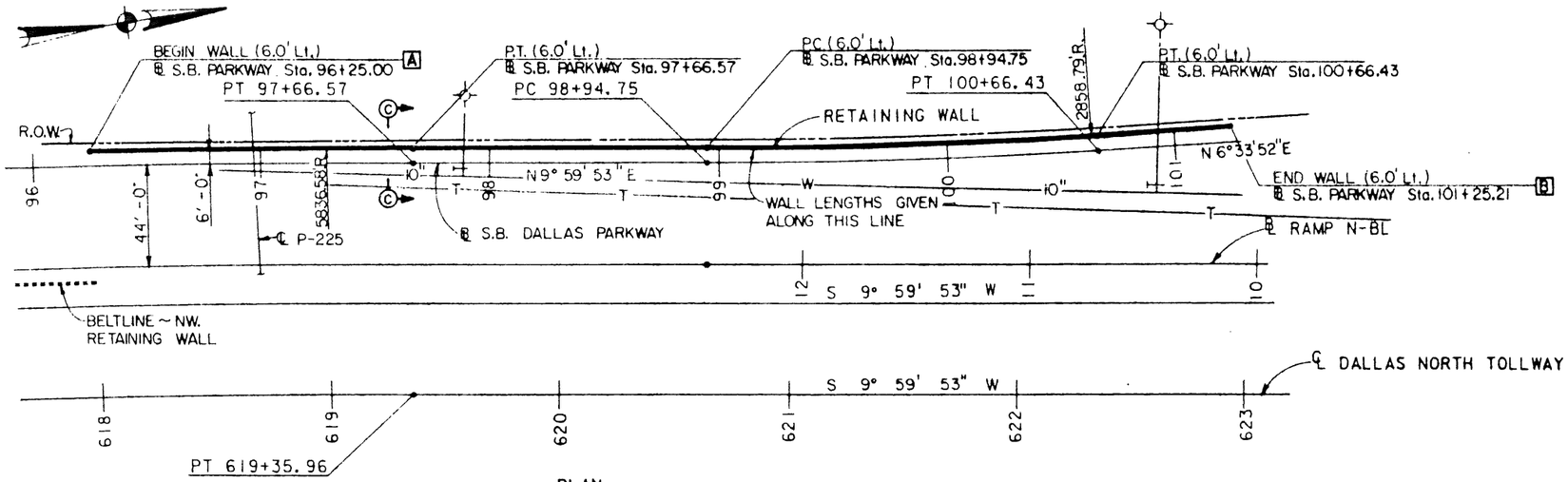
BELT LINE ROAD ~ NORTHEAST
RETAINING WALLS
PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers — SECTION XI

DESIGNED RGD DATE 8-83 | DRAWN TJR DATE 7-83
CHECKED TJR DATE 8-83 | SCALE AS NOTED

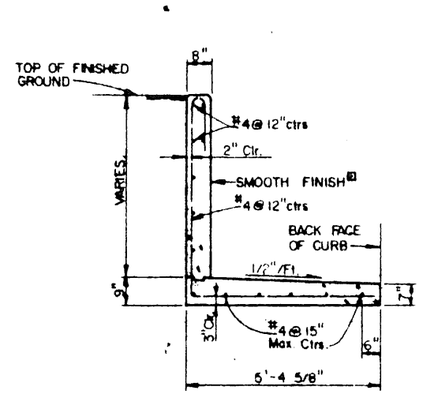
CONTRACT NO DNT-114 SHEET S-77 OF S-82

004145



PLAN

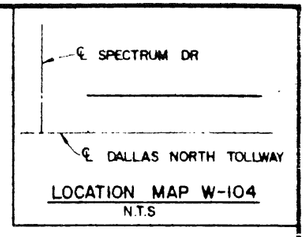
SCALE = 1" = 30' - 0"



SECTION C-C

SCALE = 1/2" = 1'-0"

*NOTE: EXPOSED SURFACES, EXCEPT THE SIDEWALK, SHALL RECEIVE A GRADE I FINISH, TINTED A LIGHT GREY SIMILIAR TO FEDERAL SPECIFICATION COLOR No 26405, IN ACCORDANCE WITH ITEM 427. SIDEWALK SURFACE SHALL RECEIVE A NON-SKID WOOD FLOAT SURFACE.



LOCATION MAP W-104

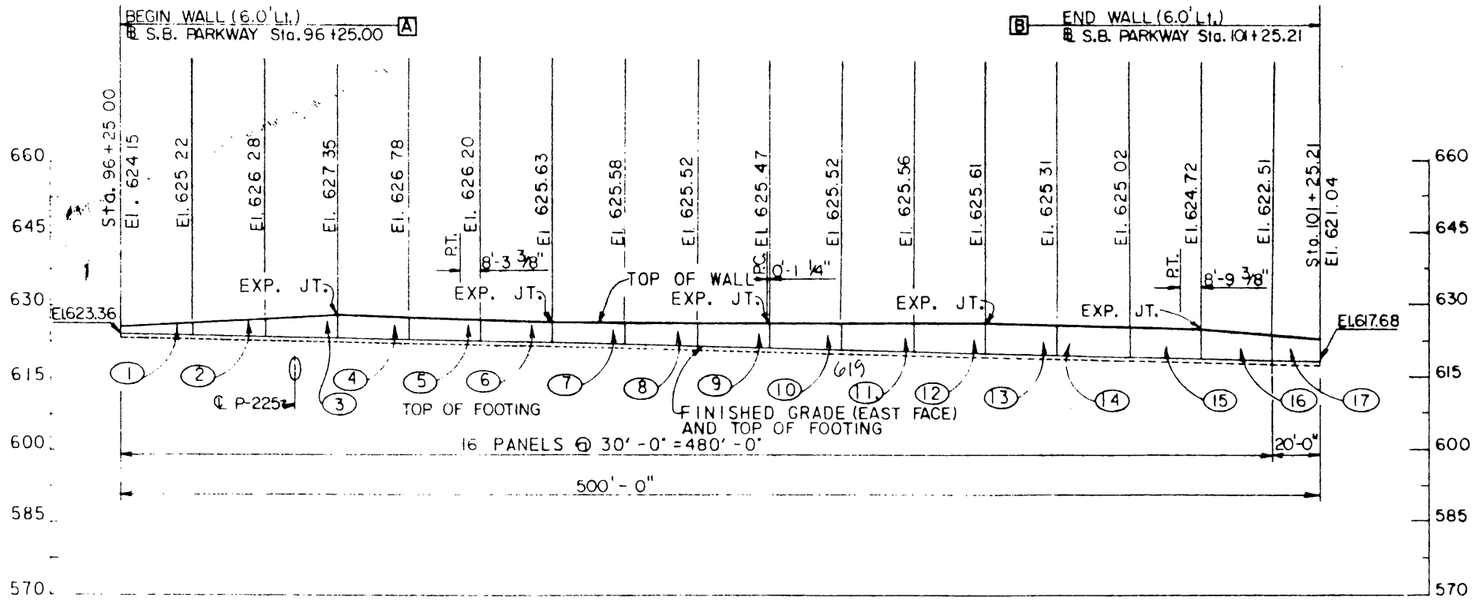
N.T.S

GENERAL NOTES:

ALL CONCRETE TO BE CLASS "A", DESIGN f'c = 3,000 psi.
ALL REINFORCING STEEL TO BE ASTM A-615, GRADE 60.
ALL REINFORCING STEEL BAR LAPS TO BE 18-INCH MINIMUM.
ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4-INCH.
EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

○ DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT.



ELEVATION

(LOOKING WEST)

SCALE = 1" = 30' - 0" HORZ.
1" = 15' - 0" VERT.

NOTE:
The information shown on this drawing concerning type and location of underground utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor shall verify location of underground pipe lines, conduits, and structures by contacting owners of underground utilities and by prospecting in advance of excavation operations.

ESTIMATED QUANTITY SUMMARY			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (C.I.P.)	S.F.	2448

WALL NO. W-104

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

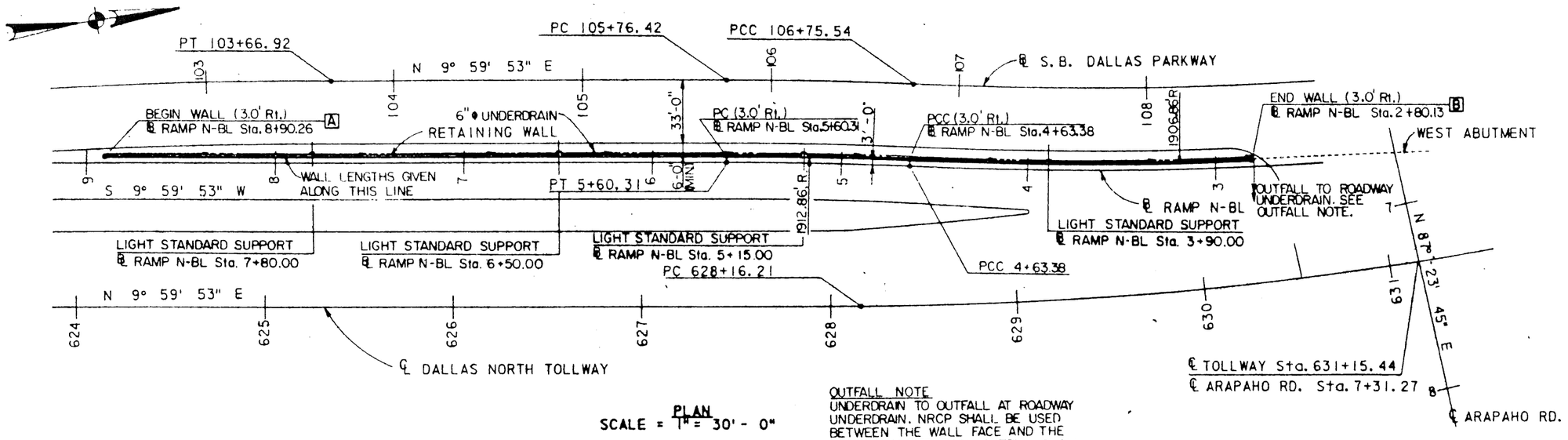
S.B. DALLAS PARKWAY
RETAINING WALLS
PLAN AND ELEVATIONS

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DESIGN RGD DATE 8-83 — DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 — SCALE AS NOTED

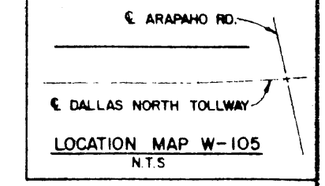
CONTRACT NO. DNT-114 SHEET S-78 OF S-82

004146



SCALE = PLAN 1" = 30'-0"

OUTFALL NOTE
UNDERDRAIN TO OUTFALL AT ROADWAY UNDERDRAIN. NRCP SHALL BE USED BETWEEN THE WALL FACE AND THE ROADWAY UNDERDRAIN. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO. R-54.



GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 42 AND 43.

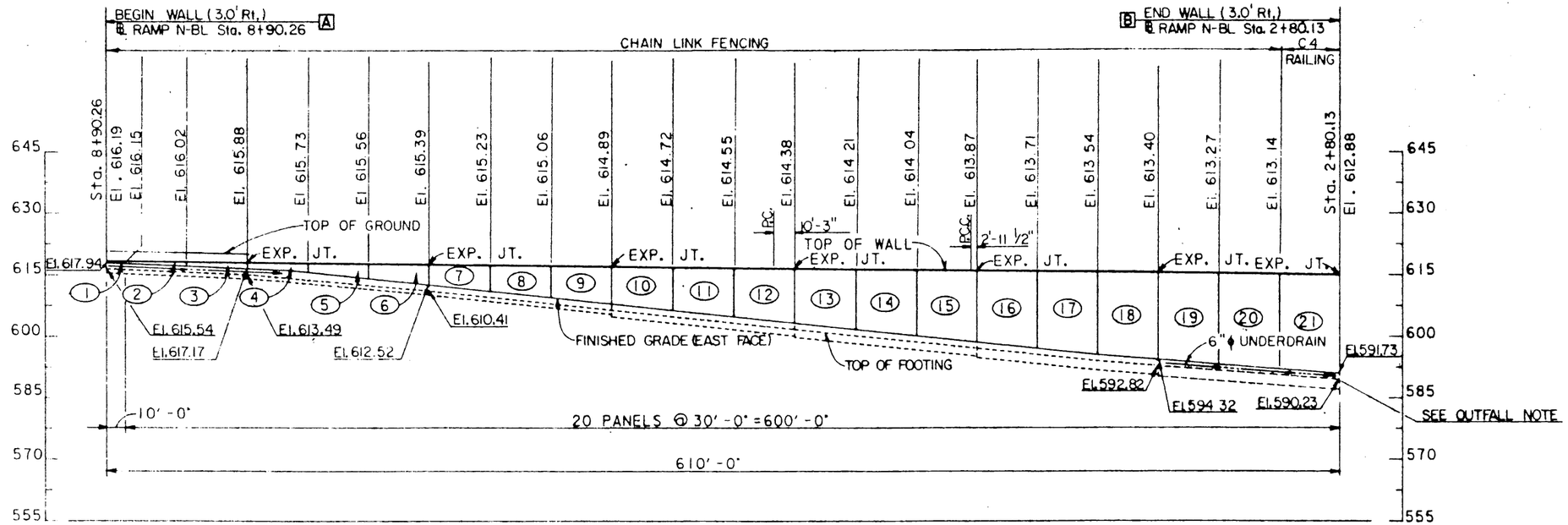
FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

⬭ DENOTES PANEL NUMBER

☐ DENOTES MATCH POINT.

FOR TYPE C4 RAILING DETAILS, SEE STANDARD DRAWING NUMBER 33.



ELEVATION
(LOOKING WEST)
SCALE = 1" = 30'-0" HORZ.
1" = 15'-0" VERT.

ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S.F.	6981
450	RAILING (WALL) (TYPE C4)	L.F.	30.0
450	RAILING (WALL) (PARAPET ONLY)	L.F.	580.0
556	PIPE UNDERDRAIN (6") (N.R.C.P.)	L.F.	6

WALL NO. W-105

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

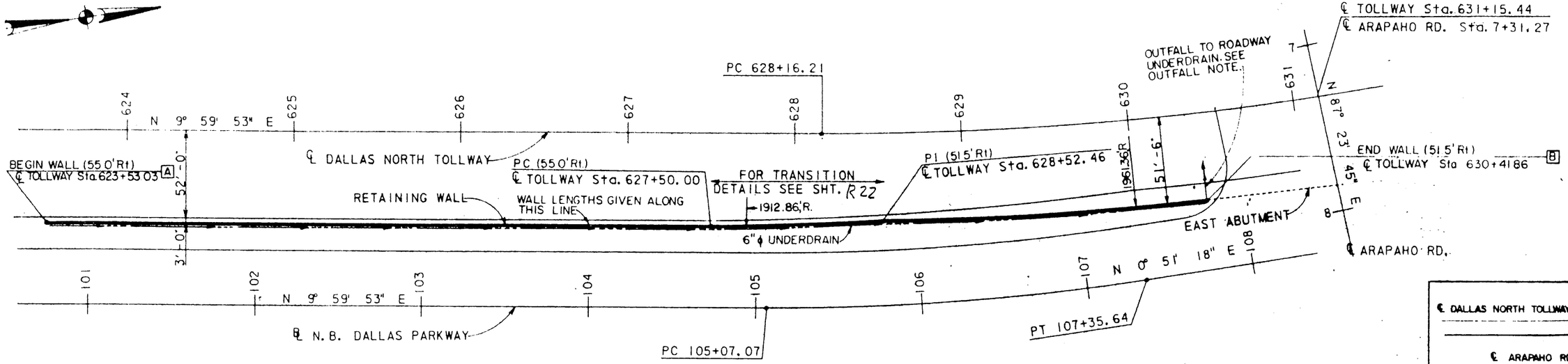
ARAPAHO ROAD ~ SOUTHWEST
RETAINING WALLS
PLAN AND ELEVATION

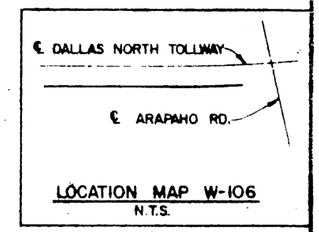
Turner Collie & Braden Inc. Consulting Engineers | SECTION VI

DRAWN RGD DATE 8-83 | DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 | SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-79 OF S-82

004147

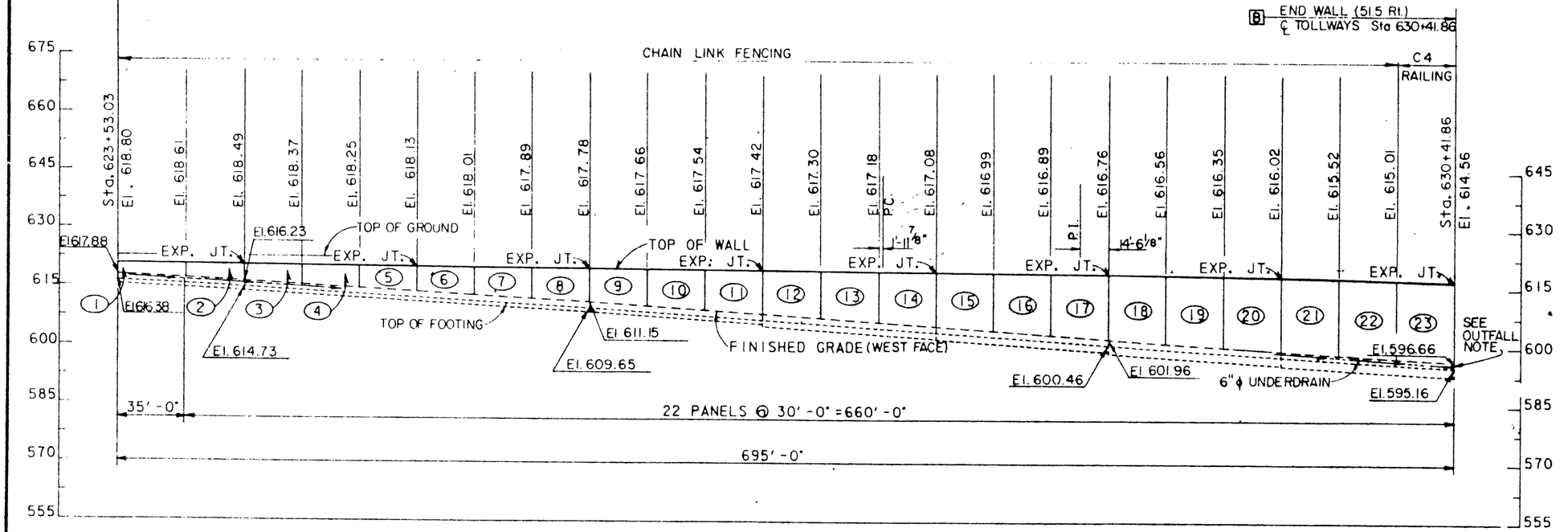




LOCATION MAP W-106
N.T.S.

PLAN
SCALE = 1" = 30' - 0"

OUTFALL NOTE:
UNDERDRAIN TO OUTFALL AT ROADWAY UNDERDRAINS. NRCP SHALL BE USED BETWEEN THE WALL FACE AND THE ROADWAY UNDERDRAINS. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO R-54.



ELEVATION
(LOOKING WEST)
SCALE = 1" = 30' - 0" HORZ.
1" = 15' - 0" VERT.

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 42 AND 43

FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

◯ DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT.

FOR TYPE C4 RAILING DETAILS, SEE STANDARD DRAWING NUMBER 33.

ESTIMATED QUANTITY SUMMARY

ITEM NO	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S F	7,810
450	RAILING (WALL) (TYPE C4)	L.F.	30.0
450	RAILING (WALL) (PARAPET ONLY)	L.F.	665.0
556	PIPE UNDERDRAIN (6") (N.R.C.P.)	L.F.	11

WALL NO. W-106

NO	REVISION	BY	DATE

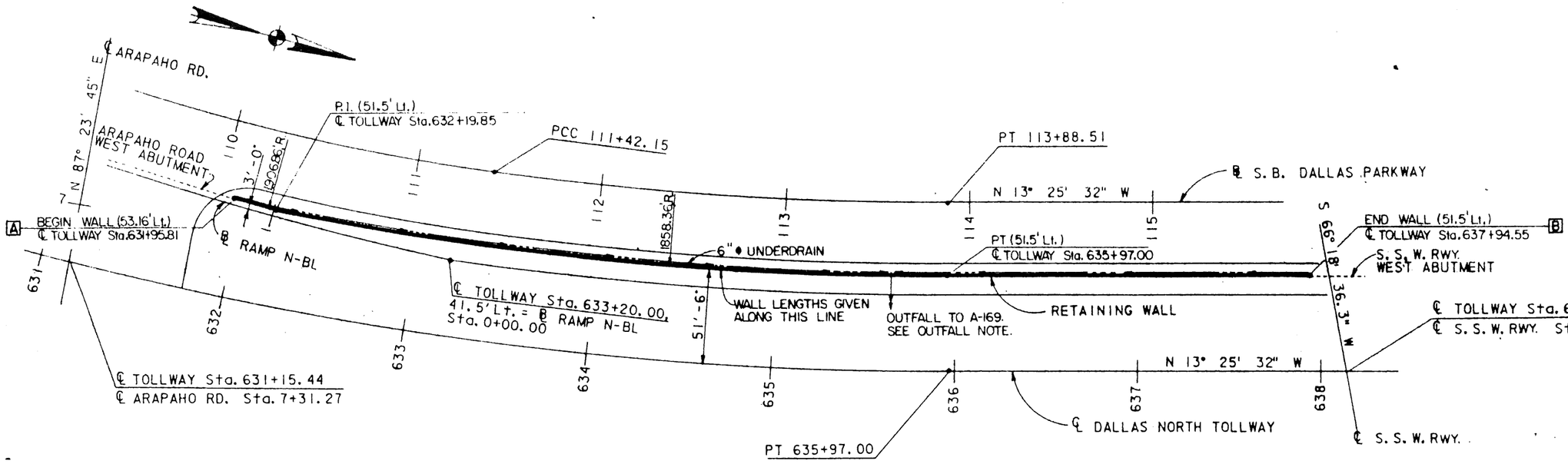
TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
ARAPAHO ROAD ~ SOUTHEAST
RETAINING WALLS
PLAN AND ELEVATION

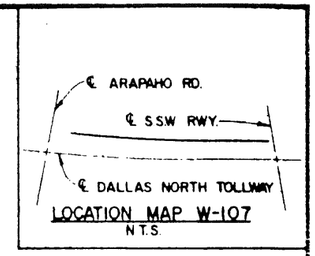
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN RGD DATE 8-83 DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-80 OF S-82

004148





SCALE = PLAN 1" = 30'-0"

OUTFALL NOTE:
UNDERDRAIN TO OUTFALL AT A-169. NRCP SHALL BE USED BETWEEN THE WALL FACE AND THE INLET. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO. R-54.

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 42 AND 43

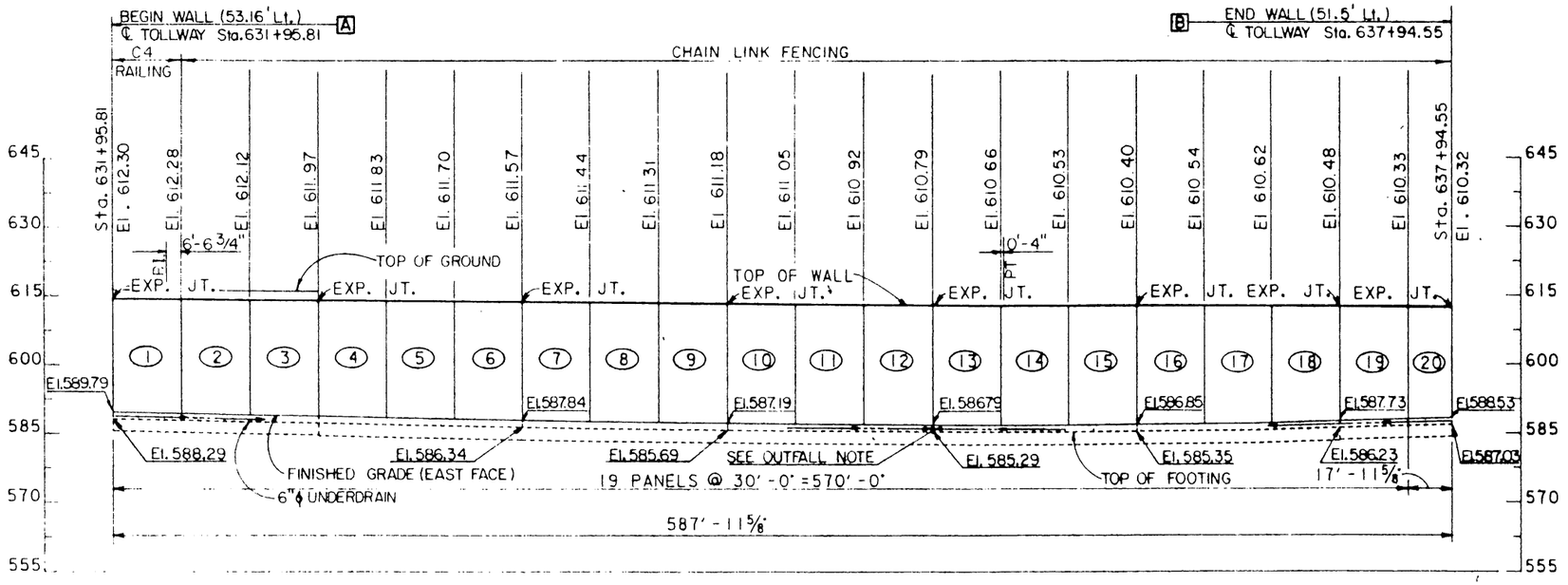
FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION

(○) DENOTES PANEL NUMBER

□ DENOTES MATCH POINT

FOR TYPE C4 RAILING DETAILS, SEE STANDARD DRAWING NUMBER 33.



ELEVATION (LOOKING WEST)
SCALE = 1" = 30'-0" HORZ.
1" = 15'-0" VERT.

ESTIMATED QUANTITY SUMMARY

ITEM NO	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S.F.	14,648
450	RAILING (WALL) (TYPE C4)	L.F.	300
450	RAILING (WALL) (PARAPET ONLY)	L.F.	558.0
556	PIPE UNDERDRAIN (6") (N.R.C.P.)	L.F.	8

WALL NO. W-107

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

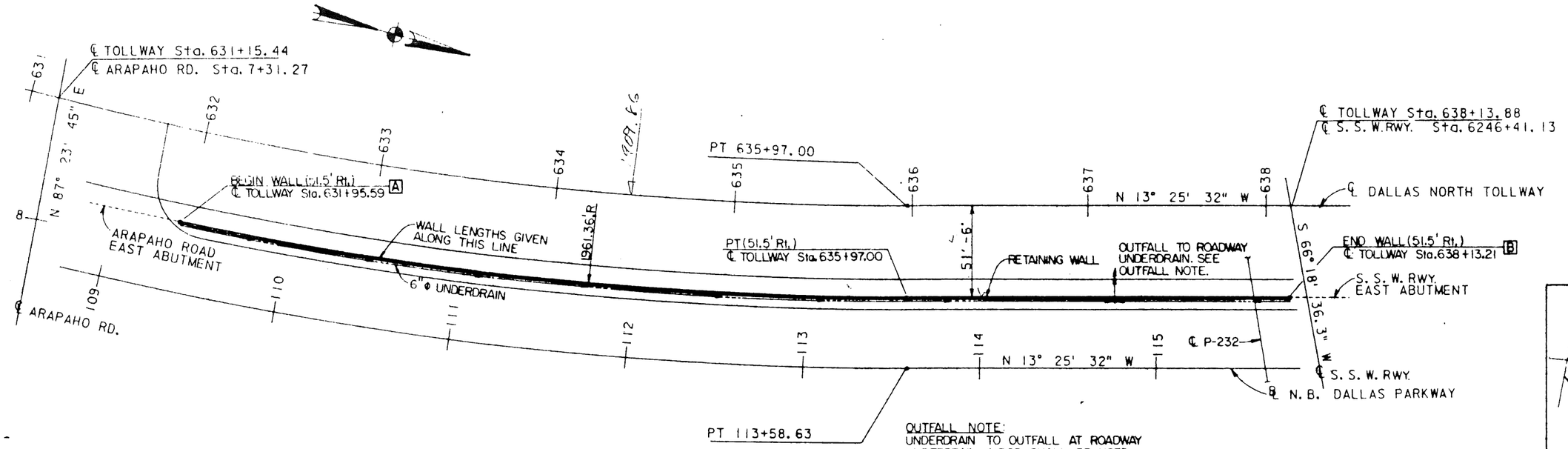
ARAPAHO ROAD - S.S.W. RAILWAY ~ WEST
RETAINING WALL
PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN RGD DATE 8-83 | DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 | SCALE AS NOTED

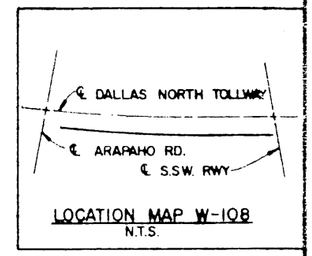
CONTRACT NO. DNT-114 SHEET S-81 OF S-82

004149



PLAN
SCALE = 1" = 30' - 0"

OUTFALL NOTE:
UNDERDRAIN TO OUTFALL AT ROADWAY UNDERDRAIN. NRCP SHALL BE USED BETWEEN THE WALL FACE AND THE ROADWAY UNDERDRAIN. OUTFALL SHALL HAVE A 0.5% MINIMUM SLOPE, SEE SHEET NO. R-54.



LOCATION MAP W-108
N.T.S.

GENERAL NOTES:

FOR RETAINING WALL DESIGN AND DETAILS, SEE STANDARD DRAWING NUMBERS 42 AND 43.

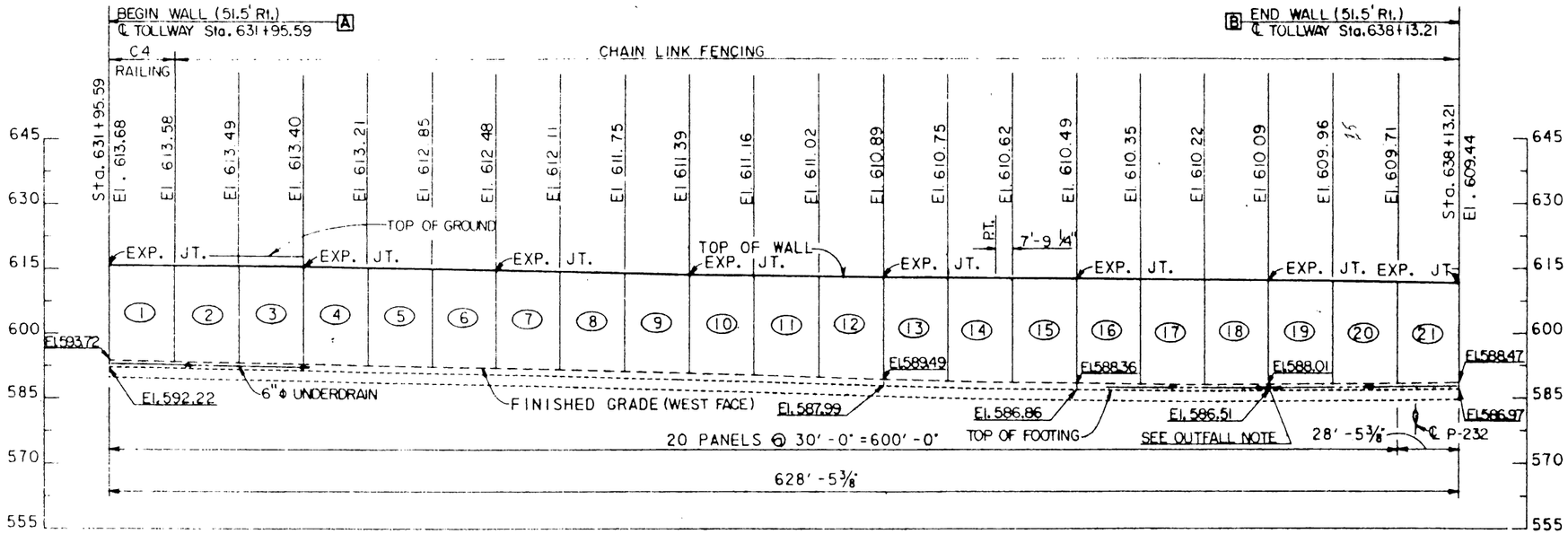
FOR ABUTMENT DETAILS, SEE SHEET NUMBER

EXPANSION JOINTS ARE NOTED. ALL OTHER JOINTS SHALL BE CONTRACTION.

◯ DENOTES PANEL NUMBER.

□ DENOTES MATCH POINT.

FOR TYPE C4 RAILING DETAILS, SEE STANDARD DRAWING NUMBER 33.



ELEVATION
(LOOKING WEST)
SCALE = 1" = 30' - 0" HORZ.
1" = 15' - 0" VERT.

ESTIMATED QUANTITY SUMMARY

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
423	RETAINING WALL (OPTIONAL)	S.F.	14,276
450	RAILING (WALL) (TYPE C4)	L.F.	30.0
450	RAILING (WALL) (PARAPET ONLY)	L.F.	598.4
556	PIPE UNDERDRAIN (6") (N.R.C.P.)	L.F.	11

WALL NO. W-108

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

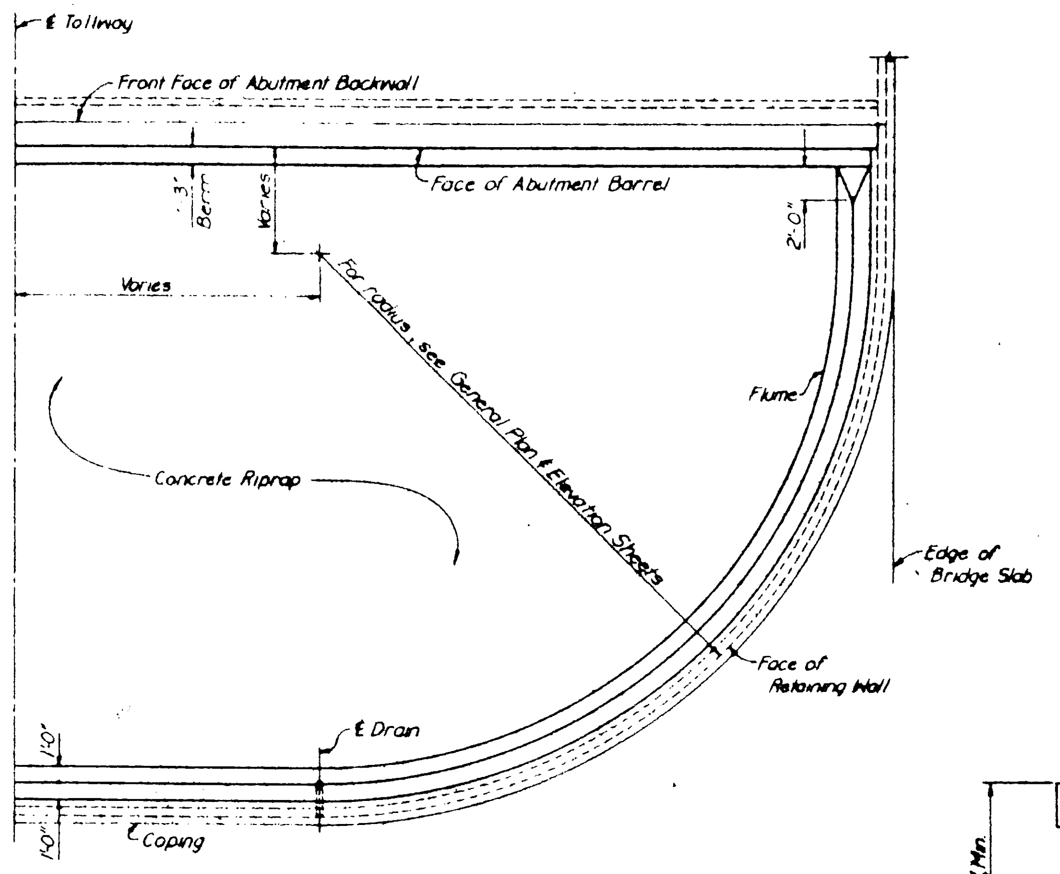
ARAPAHO ROAD - S.S.W. RAILWAY ~ EAST
RETAINING WALLS
PLAN AND ELEVATION

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

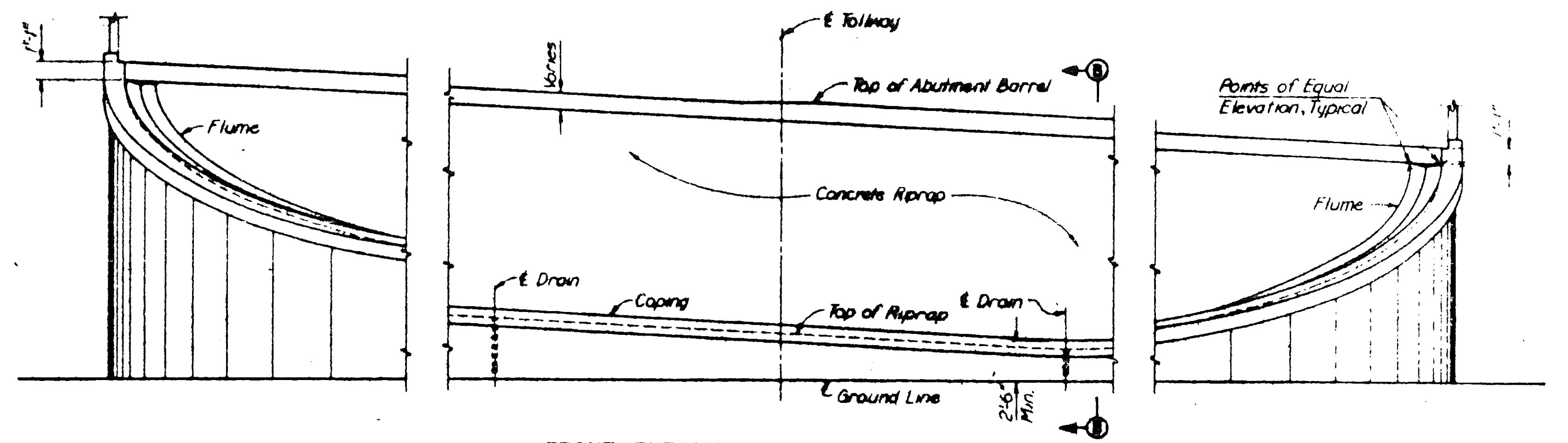
DRAWN RGD DATE 8-83 — DESIGNED TJR DATE 7-83
CHECKED TJR DATE 8-83 — SCALE AS NOTED

CONTRACT NO. DNT-114 SHEET S-82 OF S-82

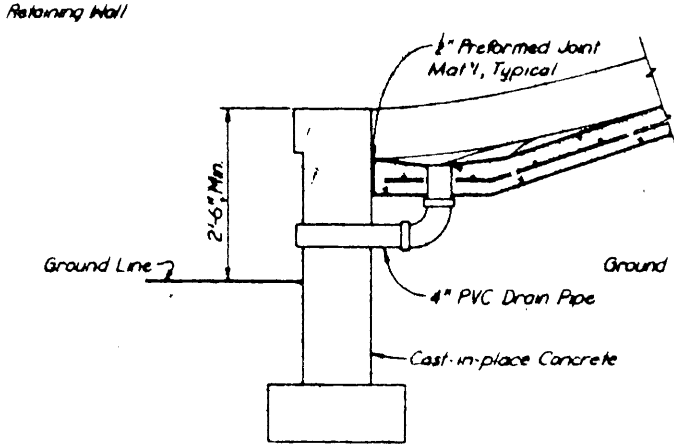
004150



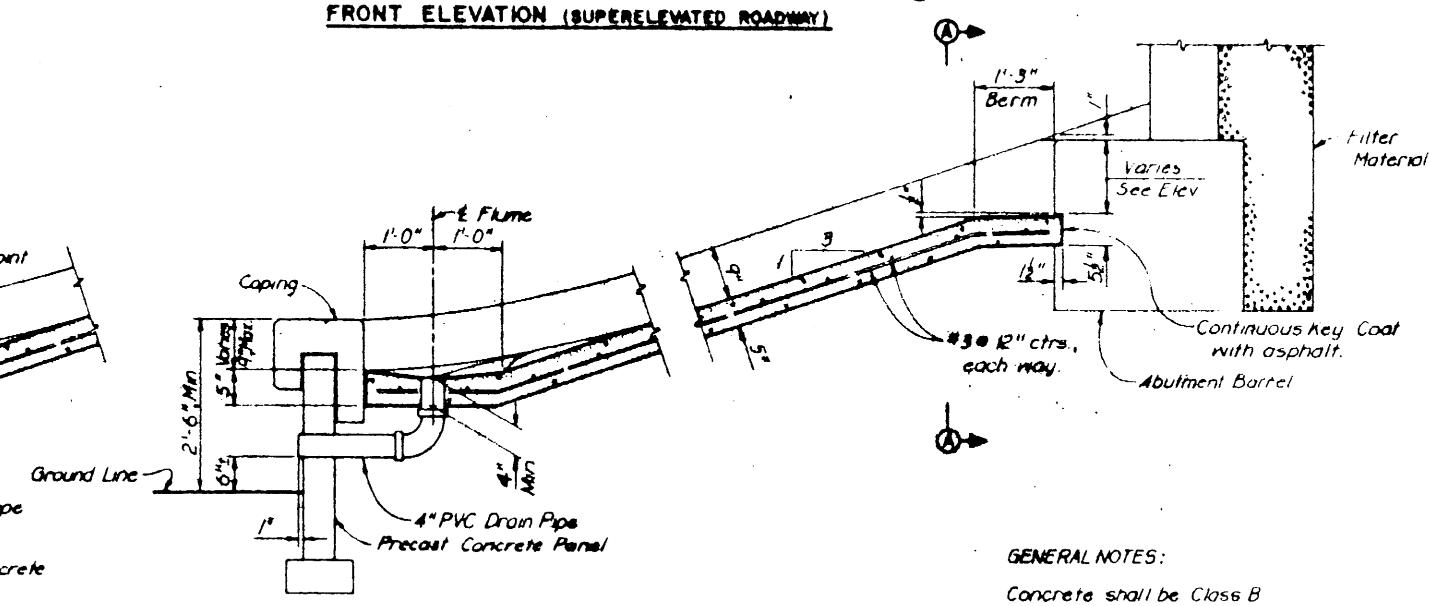
PLAN



FRONT ELEVATION (SUPERELEVATED ROADWAY)



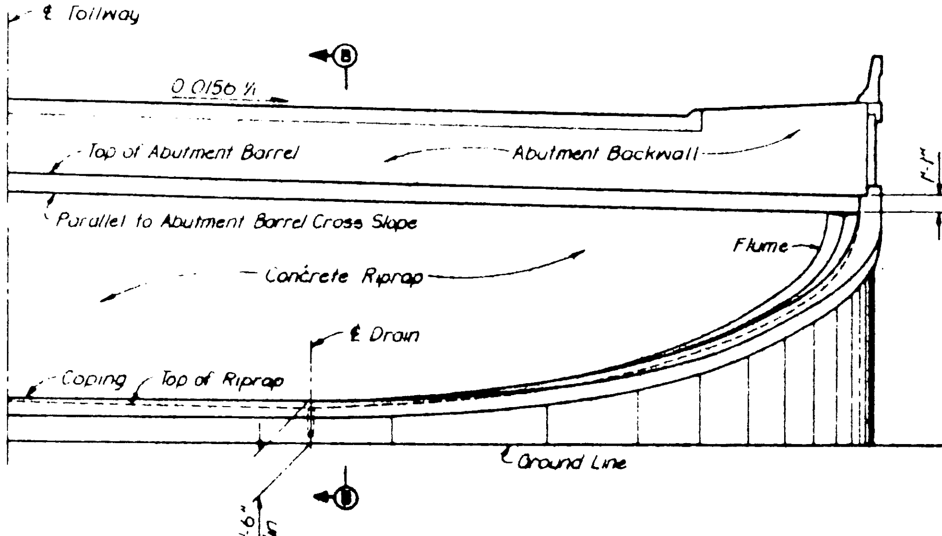
ALTERNATE SECTION B-B



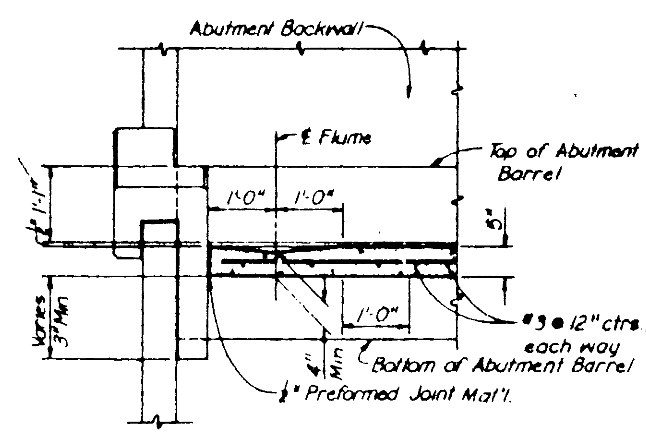
SECTION B-B

GENERAL NOTES:

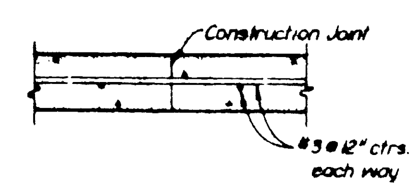
Concrete shall be Class B
For abutment and underdrain details, see individual bridge abutment details.
Construction joints shall be located where directed by the Engineer.
See the individual bridge plans for possible deviations from the details shown on this sheet.



FRONT ELEVATION (CROWNED ROADWAY)



SECTION A-A



CONSTRUCTION JOINT DETAIL

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

CONCRETE RIPRAP

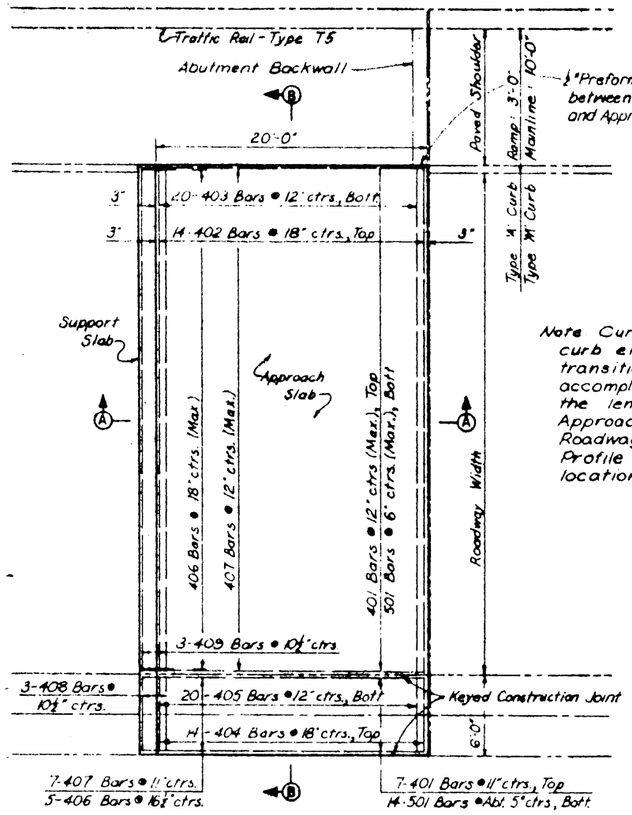
SLOPE PROTECTION WITH WALLS

HNTB — HOWARD NEEDLES TAMMEN & BERGENDOFF — SECTION VI

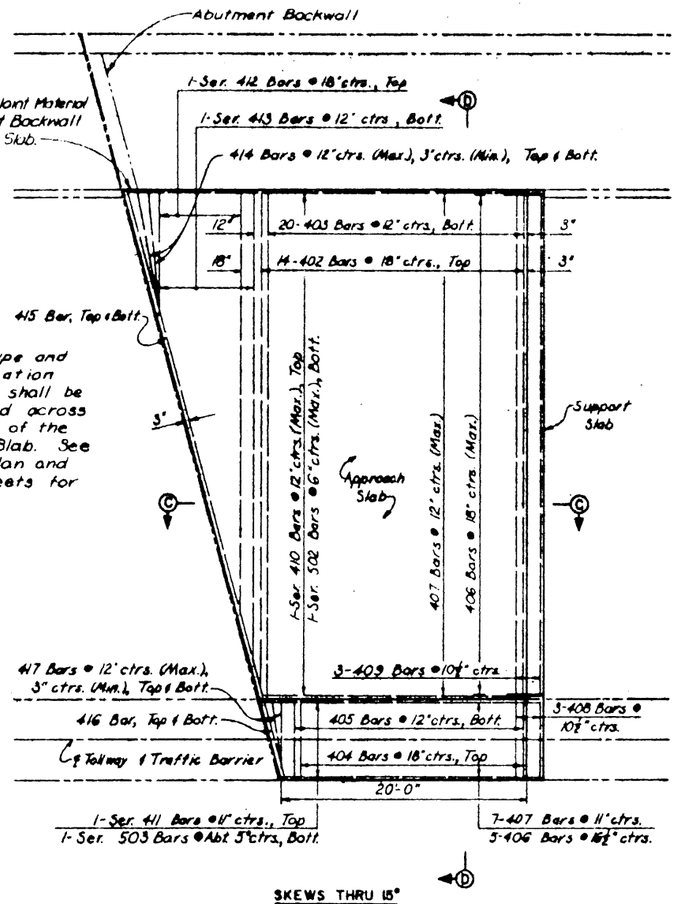
DRAWN JTK DATE 2-2-83 DESIGNED GDH DATE 2-9-83
CHECKED GDH DATE 3-14-83 SCALE NONE

STANDARD DRAWING NO. 21

004151



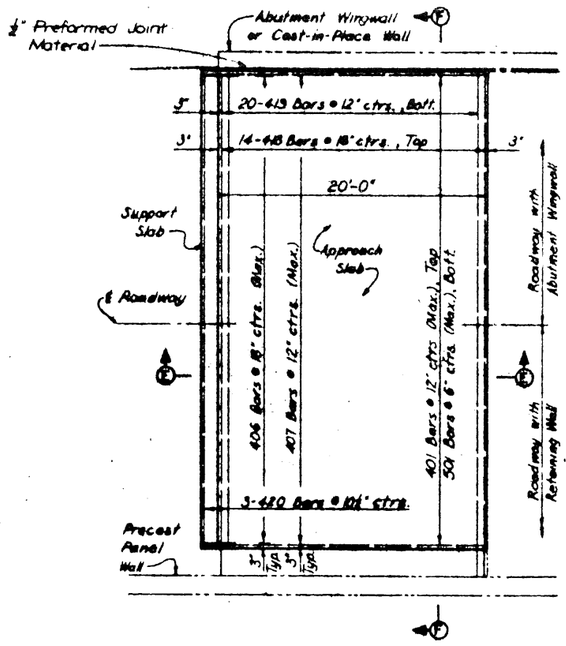
NORMAL CONDITION



Note Curb type and curb elimination transitions shall be accomplished across the length of the Approach Slab. See Roadway Plan and Profile sheets for locations.

SKEWS THRU 15°

MAINLINE APPROACH SLAB



INTERCHANGE APPROACH SLAB

GENERAL NOTES:

The approach slab shall have the same transverse crown throughout its length as the structure which it adjoins.

The approach slab shall be finished as required for the structure or as directed by the Engineer.

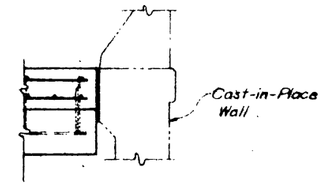
Reinforcing steel shall conform to ASTM Designation A-615, Grade 60. Splices shall be a minimum of 20 times the nominal diameter of the bar.

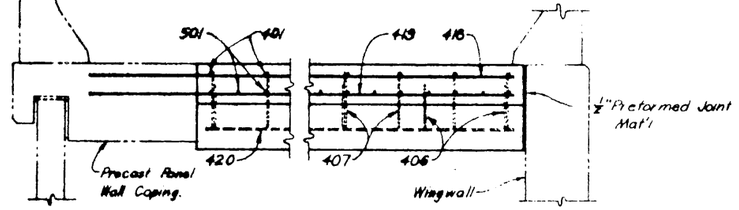
The chairs used to support the bar mat shall be of sufficient structural quality and number to hold the mat within the placement height tolerances, and shall be of a type approved by the Engineer.

For details of Type A and Type M curbs, see Standard Drawing No. 11.

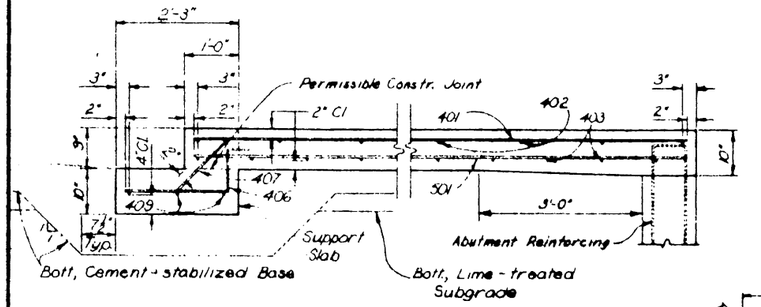
Payment for the approach slab, support slab, and curb shall be made at the unit price bid for "Concrete Pavement (Water Cement Ratio) (Approach Slab) (9")." Joint seals, reinforcing steel, and any excavation required for the approach slab and support slab shall be considered subsidiary to the bid item.

For roadway pavement details, see Standard Drawings No. 12 and 15.



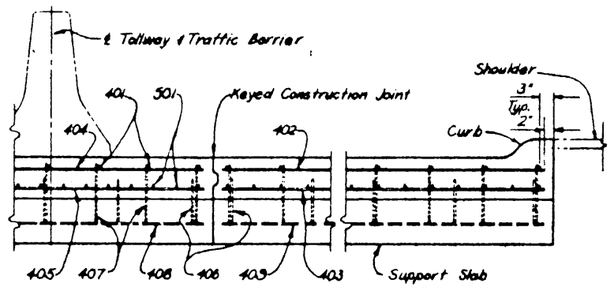


SECTION F-F



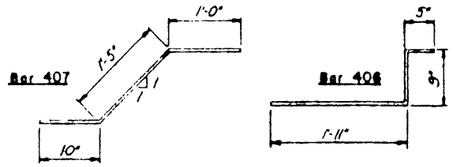
NOTE
Sections C-C & E-E are similar to Section A-A.

SECTION A-A



SECTION B-B

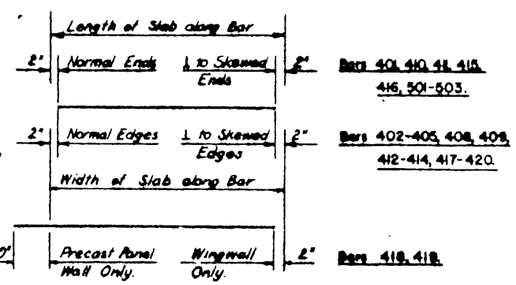
NOTE:
Section D-D is similar to Section B-B.



BENT BAR DIAGRAMS

REINFORCING STEEL NOTES:

Bar dimensions are given out-to-out of bar.
Radii are given to inside of bar.
Reinforcing bar callouts consist of the bar size, followed by an individual two digit number.



STRAIGHT BAR DIAGRAMS

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

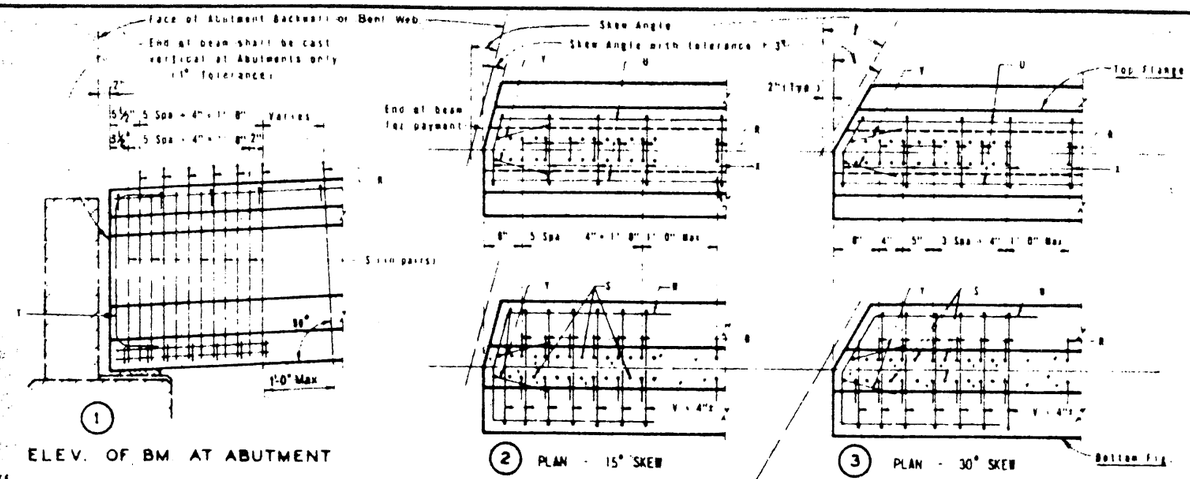
APPROACH SLAB DETAILS

HNTB — SECTION VI

DRAWN JFH DATE 2-7-83 | DESIGNED GDH DATE 2-7-83
CHECKED GDH DATE 3-14-83 | PLANS None

STANDARD DRAWING NO. 22

004152



NOTE

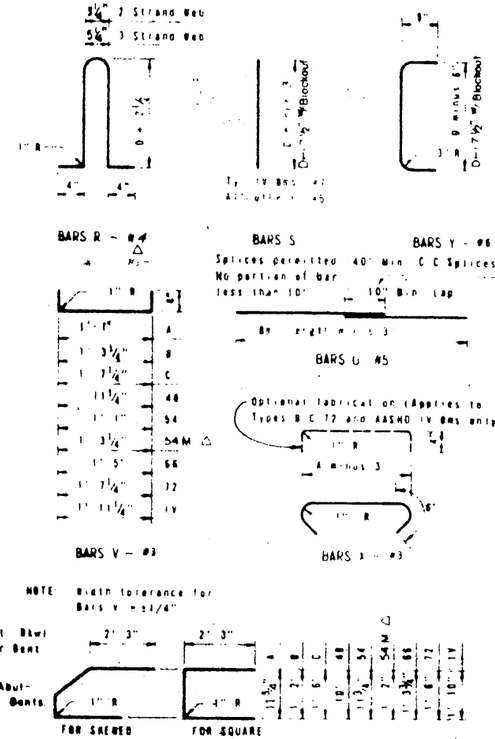
Reinforcing patterns shown above are to be used as guides in determining the reinforcement for the actual beam type and skew angle used. In general, the distances between consecutive Bars R and or S shall be 2". This spacing may be varied in order to avoid diafram holes however a minimum cross sectional area equivalent to that of Bars R and S in square beam end shall be provided

DETAILS OF SKEWED BEAM ENDS

ADDITIONAL BARS R							
BRIDGE	SPAN	M	N	BRIDGE	SPAN	M	N
VERDE VALLEY LANE	1 & 3	14	40				
VERDE VALLEY LANE	2	12	33				
BELTLINE ROAD	1	21	64				
ARAPAHO ROAD (BMS. 1-4)	1	14	28				
ARAPAHO ROAD (BMS. 5-7)	1	10	31				
ARAPAHO ROAD (BMS. 8-13)	1	11	33				
ARAPAHO ROAD (BMS. 14-18)	1	12	35				
ARAPAHO ROAD (BMS. 1-16)	2	9	27				

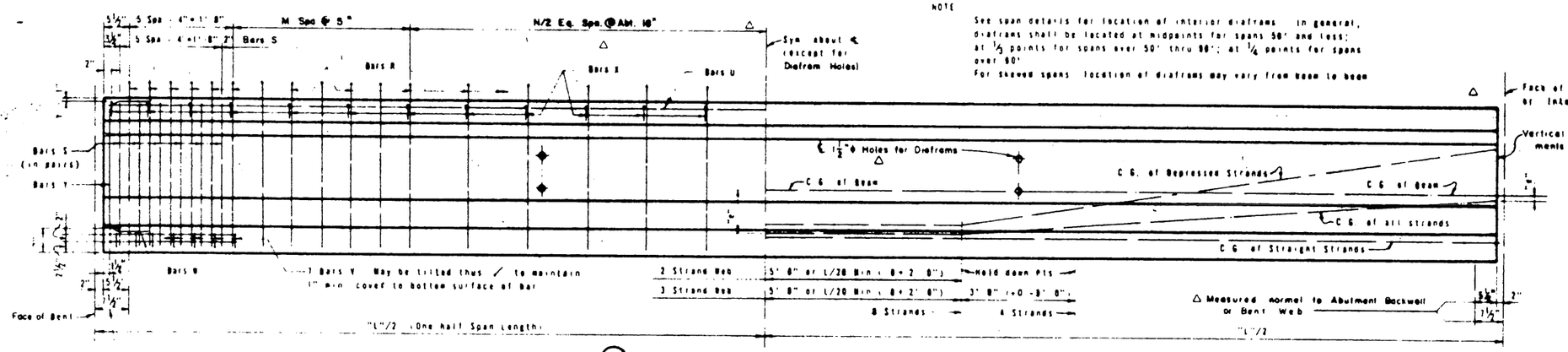
NOTE

It is permissible for bars or strands to come in contact with materials used in forming anchor and diafram holes



NOTE

See span details for location of interior diaframs. In general, diaframs shall be located at midpoints for spans 50' and less; at ⅓ points for spans over 50' thru 80'; at ¼ points for spans over 80'.
For skewed spans location of diaframs may vary from beam to beam



NOTE

All reinforcing bars for beams shall be ASTM Grade 60 steel

GENERAL NOTES

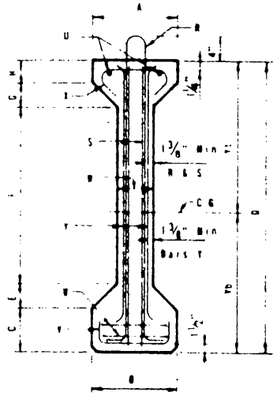
Designed in accordance with current AASHTO Specifications

All concrete shall be Class H

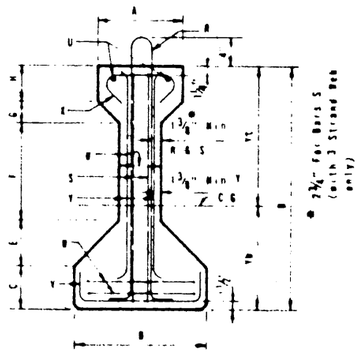
Bottom corners of all beam flanges and outside corners of exterior beam ends shall be chamfered ¾" or rounded to a ¾" radius

The use of diafram holes for lifting purposes will not be permitted

6 ELEVATION OF BEAM



7 TYPES 48, 54, 54M, 66, & 72 BEAMS



8 TYPES A, B, C, & A.A.S.H.T.O. IV BMS.

BEAM DIMENSIONS AND SECTION PROPERTIES																	
BEAM TYPE	A IN	B IN	C IN	D IN	E IN	F IN	G IN	H IN	Δ	Δ	W IN	Yt IN	Yb IN	AREA IN²	I IN⁴	WT P L F LB
A	12	16	5	28	5	11	3	4	For Diafram Hole Locations, see Standard Drawing No 26		6	15 39	12 61	275 4	22 650	287
B	12	18	6	34	5¾	14	2¾	5½			6½	19 07	14 93	360 3	43.177	375
C	14	22	7	40	7½	16	3½	6			7	22 91	17 09	494 9	82 602	516
48	14	14	7	48	4	29½	4	3½			6	25 13	22 87	403 4	101 950	420
54	16	16	8	54	5	32	5	4			6	28 47	25 53	493 4	164 022	514
54M	18	18	8	54	5	32	5	4			8	28.20	25.79	604.4	190,522	626
66	20	20	10	66	6½	38	6½	5			7	34 93	31 07	740 9	374 688	772
72	22	22	11	72	7½	40½	7½	5½			7	38 27	33 73	863 4	532 060	899
IV	20	26	8	54	9	23	6	8			8	29 25	24 75	788 4	260 403	821

REPRODUCED FROM

TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

STANDARD DRAWING Gp A
Rev 4-82

NO	REVISION	BY	DATE
△	General Revisions	TCB	10-83

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

PRESTRESSED CONCRETE BEAMS

BEAM DETAILS

HNTB

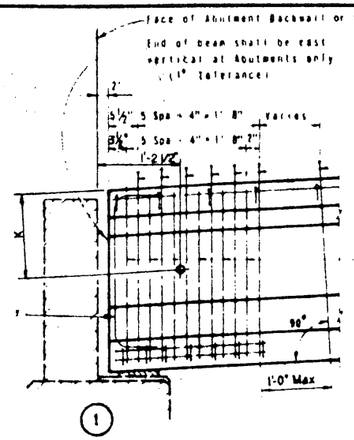
SECTION VI

DRAWN THD DATE 4-82 | DESIGNED THD DATE 4-82
CHECKED GDM DATE 9-16-83 | SLAB NONE

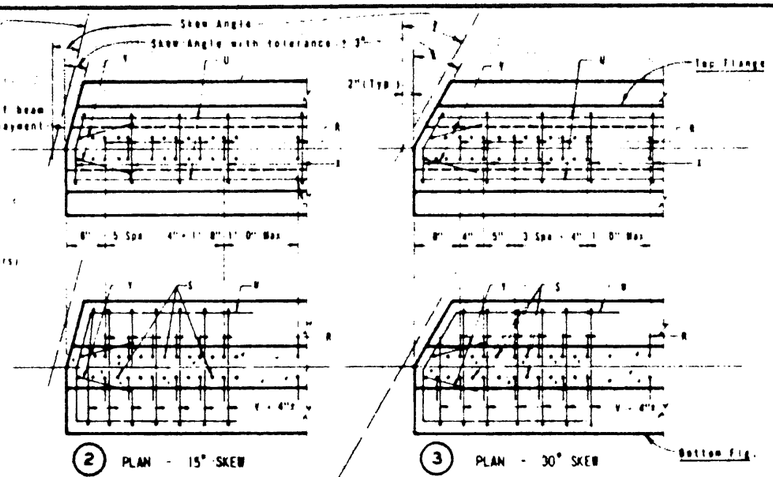
STANDARD DRAWING NO 23

CONTRACT NO. DNT-114

004153



① ELEV. OF BM AT ABUTMENT



② PLAN - 15° SKEW

③ PLAN - 30° SKEW

NOTE

Reinforcing patterns shown above are to be used as guides in determining the reinforcement for the actual beam type and skew angle used. In general, the distances between consecutive Bars R and or S shall be 2". This spacing may be varied in order to avoid diafram holes. However, a minimum cross sectional area equivalent to that of Bars R and S in square beam ends shall be provided

DETAILS OF SKEWED BEAM ENDS

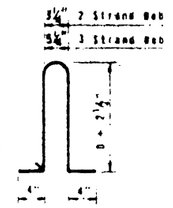
ADDITIONAL BARS R

BRIDGE	SPAN	M	BRIDGE	SPAN	M
SSW RAILWAY	54'-4 1/2"	51			

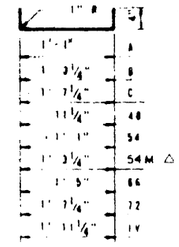
△

NOTE

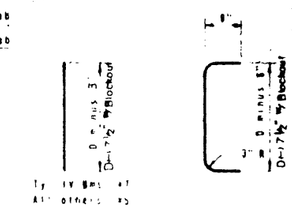
It is permissible for bars or strands to come in contact with materials used in forming anchor and diafram holes



BARS R - #4 △

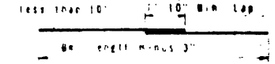


BARS V - #3



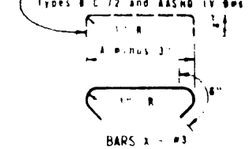
BARS S

Splices permitted (40" Min C C Splices) No portion of bar less than 10" 10" Min Lap

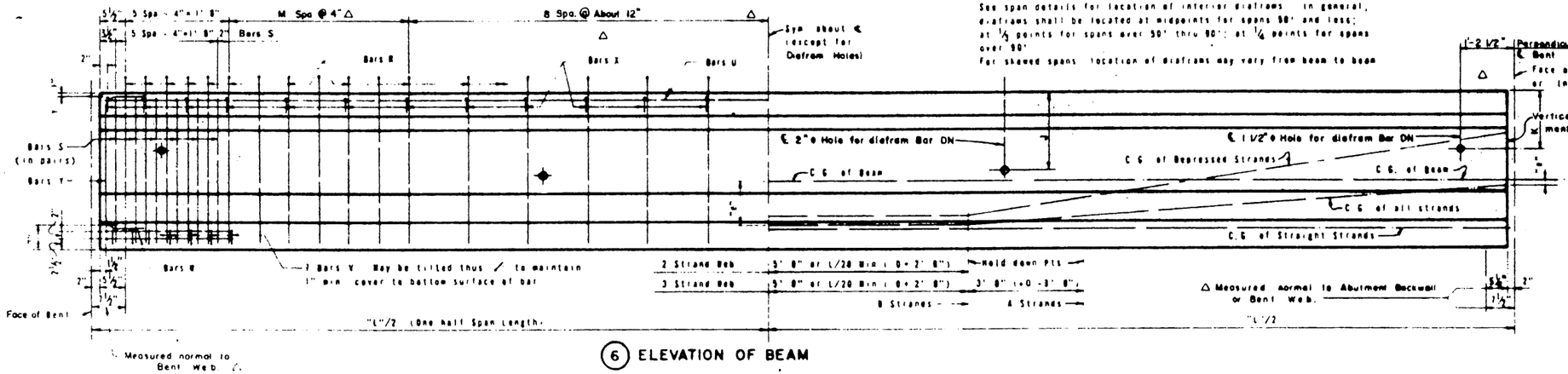


BARS U #5

BARS Y - #6



BARS X - #3



NOTE

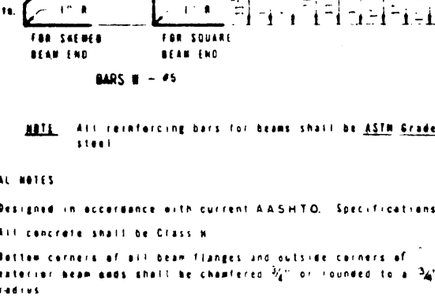
See span details for location of interior diaframs. In general, diaframs shall be located at midpoints for spans 50' and less; at ⅓ points for spans over 50' thru 90'; at ¼ points for spans over 90'

For skewed spans location of diaframs may vary from beam to beam

⑥ ELEVATION OF BEAM

NOTE

Width tolerance for Bars V = ±1/4"



BARS W - #5

NOTE All reinforcing bars for beams shall be ASTM Grade 60 steel

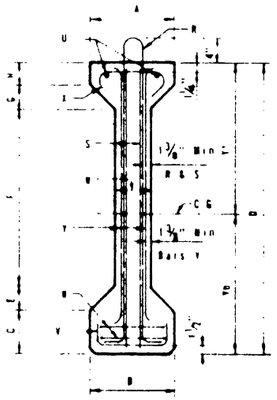
GENERAL NOTES

Designed in accordance with current A.A.S.H.T.O. Specifications

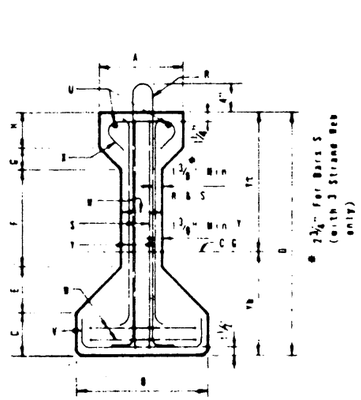
All concrete shall be Class H

Bottom corners of all beam flanges and outside corners of exterior beam ends shall be chamfered ¾" or rounded to a ¾" radius

The use of diafram holes for lifting purposes will not be permitted



⑦ TYPES 48, 54, 54M, 66, & 72 BEAMS



⑧ TYPES A, B, C, & AASHTO IV BMS.

BEAM DIMENSIONS AND SECTION PROPERTIES

BEAM TYPE	A IN	B IN	C IN	D IN	E IN	F IN	G IN	H IN	J IN	K IN	W IN	Y1 IN	Yb IN	AREA IN²	I IN⁴	WT PLF LB
A	12	16	5	28	5	11	3	4	13	15	6	15 39	12 61	275 4	22 658	287
B	12	18	6	34	5⅝	14	2⅜	5½	17	15	6½	19 07	14 93	360 3	43 177	375
C	14	22	7	40	7½	16	3½	6	21	15	7	22 91	17 09	494 9	82 602	516
48	14	14	7	48	4	29½	4	3½	31	15	6	25 13	22 87	403 4	101 950	420
54	16	16	8	54	5	32	5	4	35	15	6	28 47	25 53	493 4	164 022	514
△ 54M	18	18	8	54	5	32	5	4	39	15	8	28.20	25.79	601.4	190,522	626
66	20	20	10	66	6½	38	6½	5	43	15	7	34 93	31 07	740 9	374 688	772
72	22	22	11	72	7½	40½	7½	5½	47	15	7	38 27	33 73	863 4	532 060	899
IV	20	26	8	54	9	23	6	8	33	18	8	29 25	24 75	788 4	260 403	821

Tolerance for Dimensions J & K = (+1/2" ; -1") (Same tolerance to be applied to all holes for given diafram Bar DN)

REPRODUCED FROM

TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

STANDARD DRAWING Gp A Rev. 4-82

NO	REVISION	BY	DATE
△	General Revisions	TCB	10-83

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

PRESTRESSED CONCRETE BEAMS SSW RAILWAY UNDERPASS BEAM DETAILS

HNTB — SECTION____

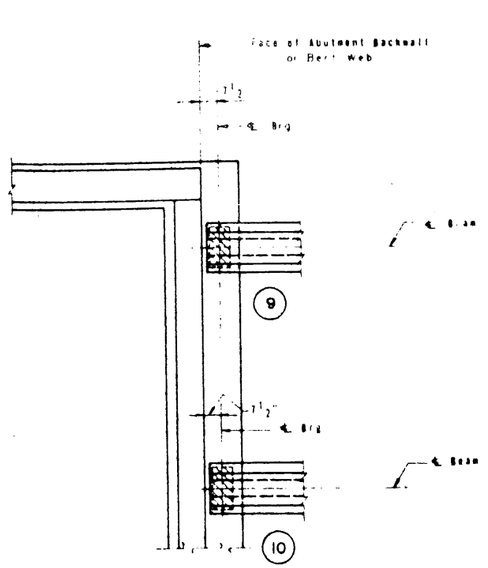
DRAWN THD DATE 4-82 DESIGNED THD DATE 4-82

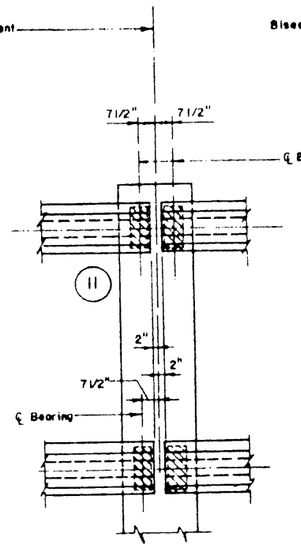
CHECKED BDH DATE 3-16-83 BY PAT NONE

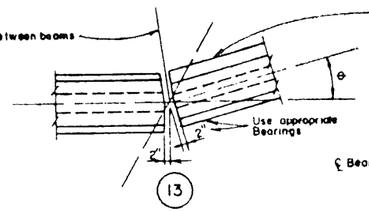
STANDARD DRAWING NO 23A

CONTRACT NO. DNT-114

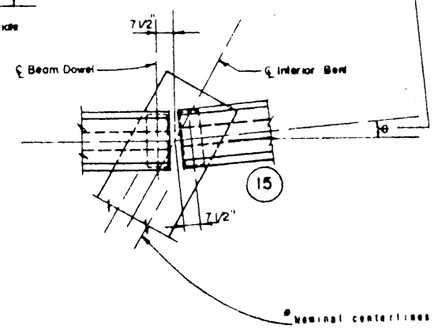
004154

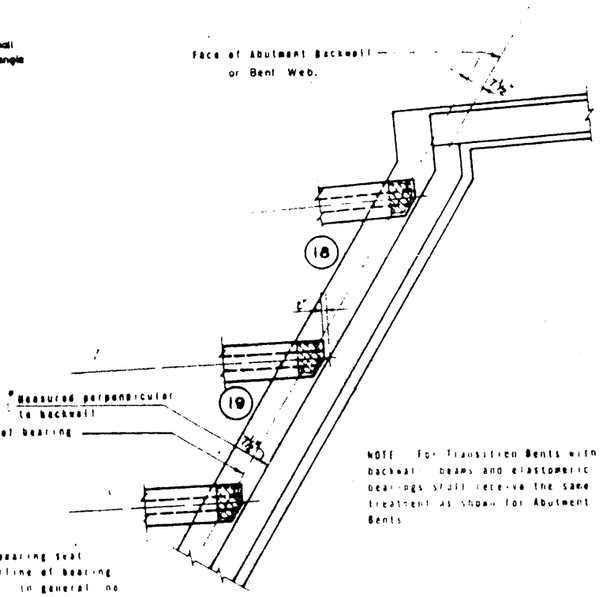






When Angle θ exceeds 10°, the beam ends shall be beveled parallel to the bisector of the angle between beams as shown in View (13)

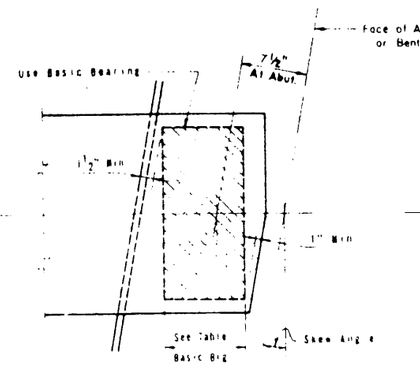




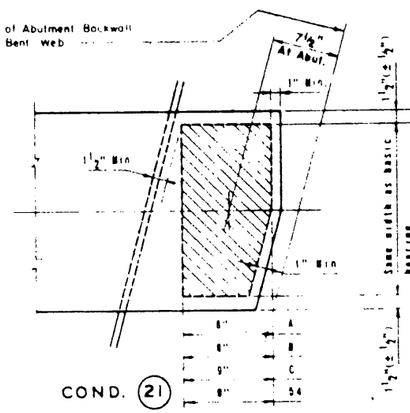
NOTE For Transitven Bents with backwall, beams and elastomeric bearings shall receive the same treatment as shown for Abutment Bents

For purpose of computing bearing seat elevations, nominal centerline of bearing shall be defined as shown. In general, no distinction shall be made for offset beams where center of pad does not coincide with nominal centerline of bearing

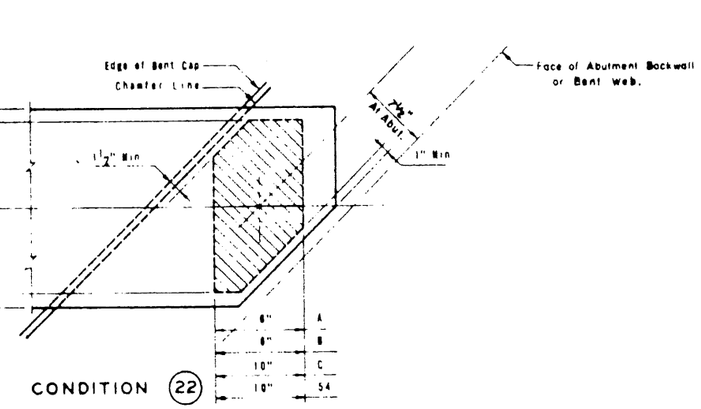
DETAILS OF BEAM ENDS



CONDITION (20)



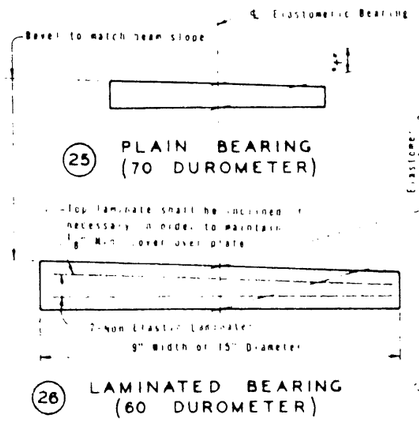
COND. (21)



CONDITION (22)

NOTE Basic Bearings are to be used for square beam ends and for moderately skewed beam ends as covered in Condition (20)

DETAILS OF ELASTOMERIC BEARINGS



BASIC BEARINGS			
BM TYPE	SIZE	THICKNESS "t"	DESCRIPTION
A	8" X 14"	¾"	PLAIN
C(ABUT)	9" X 19"	1½"	LAMINATED
C(BENT)	9" X 19"	1"	PLAIN
S4	9" X 14"	1½"	LAMINATED
S4M	9" X 16"	1½"	LAMINATED
IV	9" X 22"	1¾"	LAMINATED

BEARINGS FOR BEVELED BEAM ENDS					
BM TYPE	CONDITION (20)	CONDITION (21)	CONDITION (22)		
A	0° THRU 20°	20° THRU 30°	OVER 30°		
C(ABUT)	0° THRU 10°	10° THRU 20°	20° THRU 55°		
C(BENT)	0° THRU 10°	10° THRU 20°	20° THRU 50°		
S4	0° THRU 10°	10° THRU 25°	OVER 25°		
S4M	0° THRU 10°	10° THRU 25°	NOT APPLICABLE		
IV	0° THRU 8°	NOT APPLICABLE	NOT APPLICABLE		

Skew Angle of Bent End

REPRODUCED FROM

TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

STANDARD DRAWING Gp B 4-71

GENERAL NOTES

Beams shall be seated on elastomeric bearings of the dimensions shown.

Bearings shall be furnished with their thickness varying in one direction depending on the slope of the erected bear to 5% grades.

Constant thickness bearings may be used for moderate beam slopes if the variation is within the allowable dimensional tolerances given in the specifications.

Cost of furnishing and installing elastomeric bearing shall be included in unit price bid for "Prestressed Concrete Beams"

	Details 11, 12, 13, & 15 Added	TCB	10-83
○	Note Change	EHC	3-83
△	Bearing Pad Dimensions	GDH	1-83
No.		By	Date

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

PRESTRESSED CONCRETE BEAMS

BEAM ENDS & BEARINGS

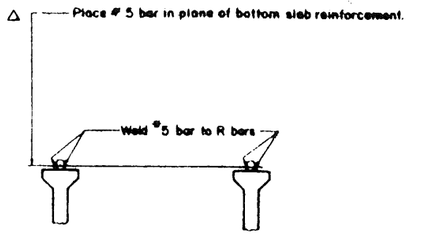
HNTB — SECTION VI

DESIGN	THD	4-71	THD 4-71
DETAILED	GDH	3-16-83	NONE

STANDARD DRAWING NO. 24

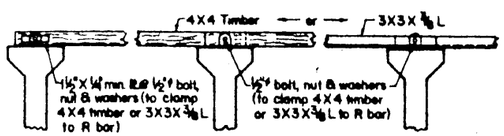
CONTRACT NO. DNT-114

004155

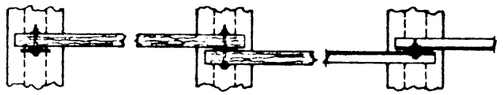


PERMANENT TOP BRACING

⑤



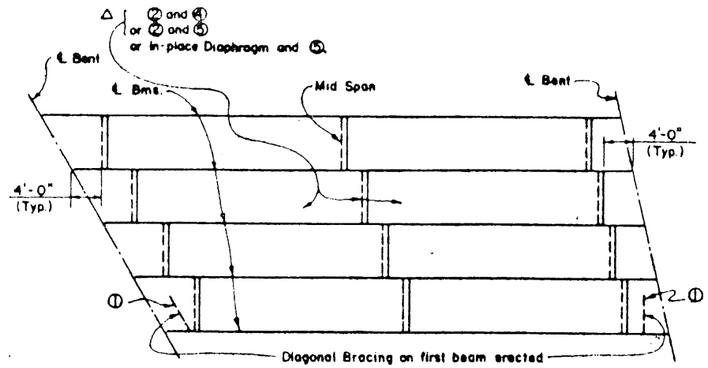
ELEVATION



PLAN

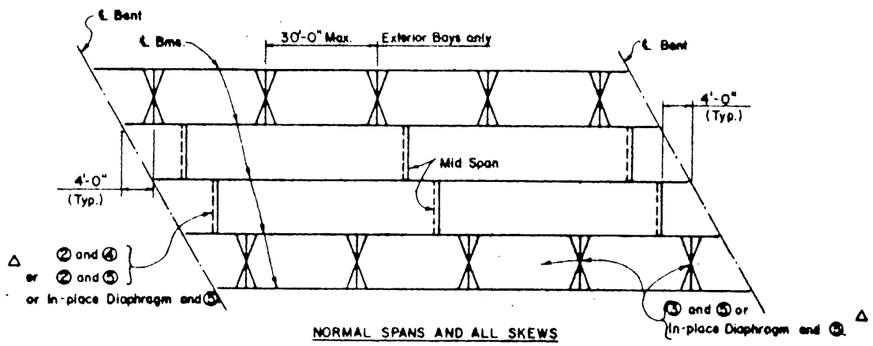
TEMPORARY TOP BRACING

④



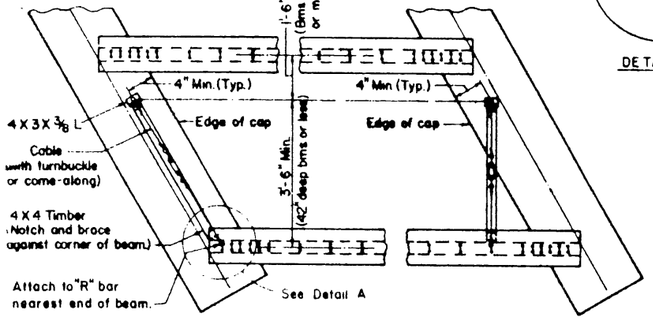
NORMAL SPANS AND ALL SKEWS

ERECTION BRACING

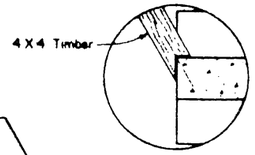


NORMAL SPANS AND ALL SKEWS

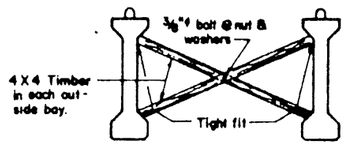
SLAB PLACEMENT BRACING



PLAN

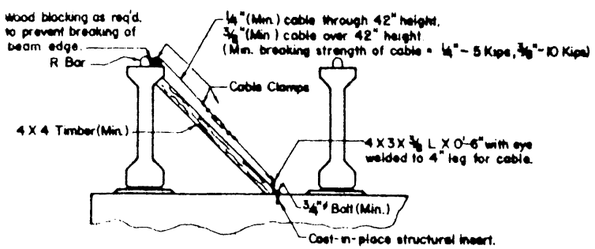


DETAIL A



"X" BRACING

③

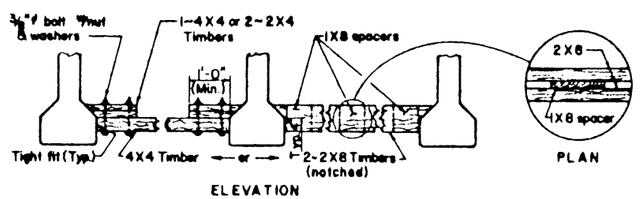


END VIEW

DIAGONAL BRACING DETAILS

(To be used on both ends of the first beam erected in the span.)

①



ELEVATION

PLAN

BOTTOM FLANGE BRACING DETAILS

②

GENERAL NOTES:

ERECTION BRACING

Erection bracing details are considered minimum for fulfilling the requirements of Specification Item 425 (Article 425.5), and Special Provisions thereto, for bracing Types A, B, C, III, IV and V prestressed concrete beams erected in the span over a traveled way or railroad, and in those spans generally parallel to a traveled way or railroad and within a distance equal to the difference in elevation between the top of cap upon which the beams are being erected and the traveled way, or 30 feet, whichever is greater.

△ Required erection bracing shall be placed immediately after erection of each beam and remain in place until channel diaphragms are tightened and additional bracing as required for slab placement is in place.

SLAB PLACEMENT BRACING

The details for slab placement bracing are considered minimum for fulfilling the requirements of Specification Item 420, Article 420.9(4) and special provisions thereto.

Required slab placement bracing shall remain in place until the slab concrete has attained a flexural strength of 500 p.s.i.

GENERAL

Bracing details for closely spaced beams (as on ramps or railroad structures) are not included herein. The Contractor shall submit his proposed bracing details for such conditions to the Engineer for approval prior to erection.

Systems equal to or better than those shown may be used provided details of such systems are submitted to and approved by the Engineer prior to erection.

Use of these systems and/or details does not relieve the Contractor of the responsibility for the adequacy of the bracing and the safety of the structure.

Removal of bracing for short periods of time to align beams is permissible.

Bottom flange bracing at beam ends may be omitted when all beams are fixed with dowel bars or when erection is on steel caps or floor beams containing bearing seats which restrict lateral movement.

All turn-buckles, come-alongs and other connections shall be capable of developing the full strength of the cable shown hereon.

REPRODUCED FROM

TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

STANDARD DRAWING PCB-MEBR(1) 12-80

△ LEGEND

Indicates Diagonal Bracing ①

Indicates Bottom Bracing ② with either Temporary Top Bracing ④ or Permanent Top Bracing ⑤, or an In-Place Diaphragm with Permanent Top Bracing ⑤.

Indicates "X" Bracing ③ and Permanent Top Bracing ⑤ or on In-Place Diaphragm with Permanent Top Bracing ⑤.

△	General Revisions	JFM	3-5-83
NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

PRESTRESSED CONCRETE BEAMS MINIMUM ERECTION AND BRACING REQUIREMENTS — TYPES C & IV BEAMS

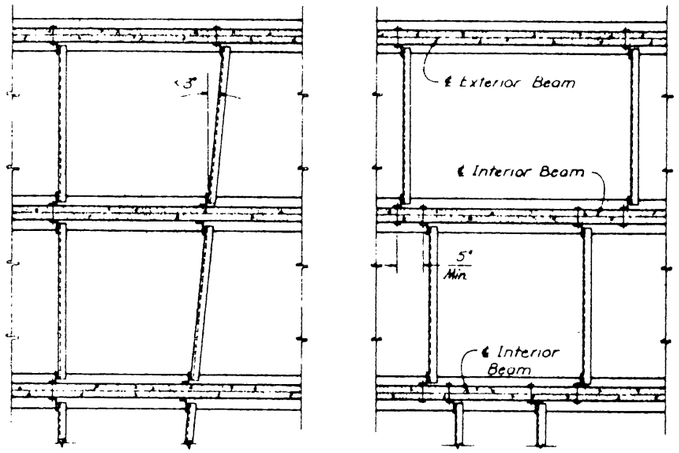
HNTB — SECTION VI

DESIGNED THD DATE 12-80 — CHECKED THD DATE 12-80

DETAILED BDH DATE 3-5-84 — APPROVED ALVINE

STANDARD DRAWING NO 25

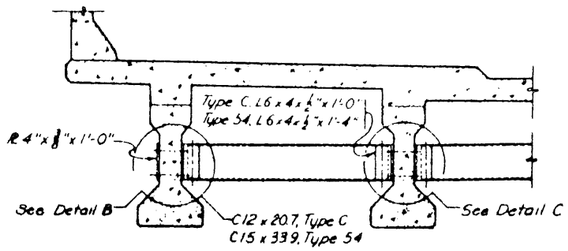
004156



SKEW ANGLE 0°-3°

SKEW ANGLE GREATER THAN 3°

DIAPHRAGM PLAN



DISCONTINUOUS ASSEMBLY

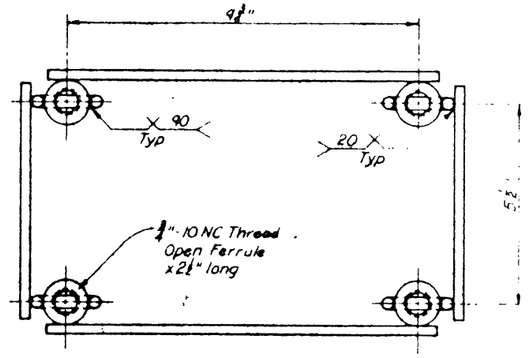
CONTINUOUS ASSEMBLY

DIAPHRAGM ELEVATION

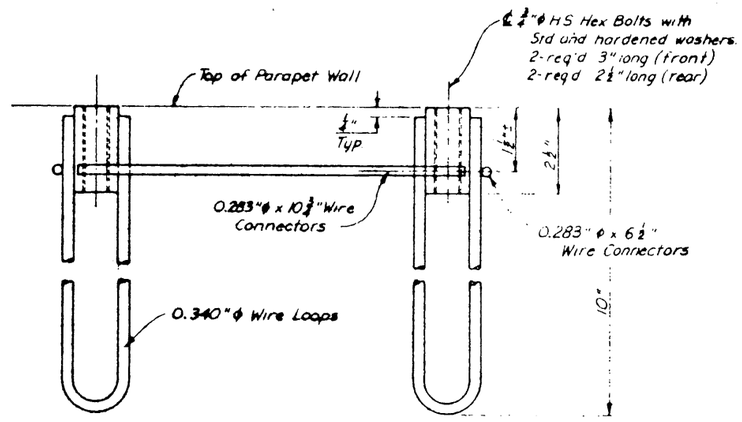
INTERIOR DIAPHRAGM NOTES:

See Slab Plans for location and spacing of interior diaphragms.

All parts of steel diaphragms shall be galvanized after fabrication. After erection, all scratched or otherwise damaged galvanized parts shall be repaired in accordance with Item 450.5.



PLAN



ELEVATION

PRESET ANCHORAGE

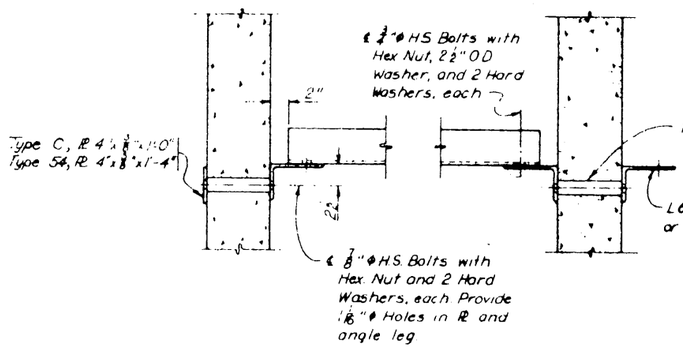
PRESET ANCHORAGE NOTES:

Post anchorages shown hereon may be used in place of the conventional anchor bolt system shown on Standard Drawing No 33, at the option of the contractor. If the contractor elects to use the system shown hereon, the fabricator shall so indicate on erection drawings.

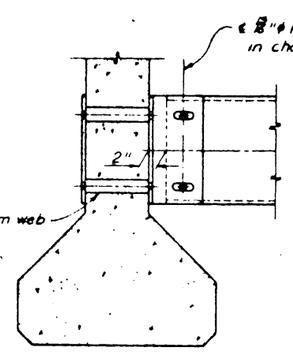
Material for the preset anchorage shall be as follows:
Ferrules Steel ASTM A-108, Grade 12 L 14
Wire Connectors Steel ASTM A-510, Grade 1008.
Wire Loops Steel ASTM A-510, Grade 1030.
Hex Bolts: Steel ASTM A-325.

All bolts and washers shall be galvanized.

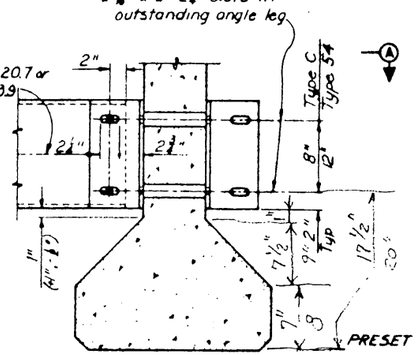
Numerals shown on weld symbols indicate the strength of weld in single shear in units of 100 pound per weld.



SECTION A-A



DETAIL B



DETAIL C

INTERIOR DIAPHRAGM DETAILS

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

INTERIOR DIAPHRAGM AND PRESET RAIL ANCHORAGE DETAILS

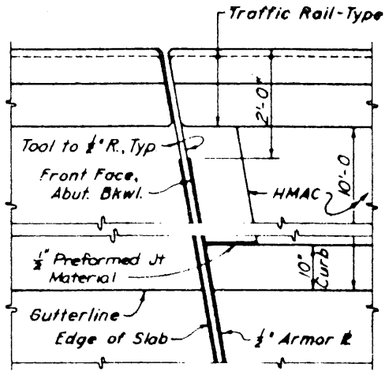
HNTB — SECTION VI

DRAWN Rgm DATE 3-983 | DESIGNED THD DATE

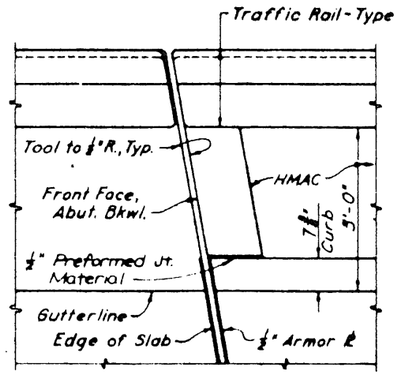
CHECKED BDH DATE 3-16-83 | SCALE NONE

STANDARD DRAWING NO 27

004157

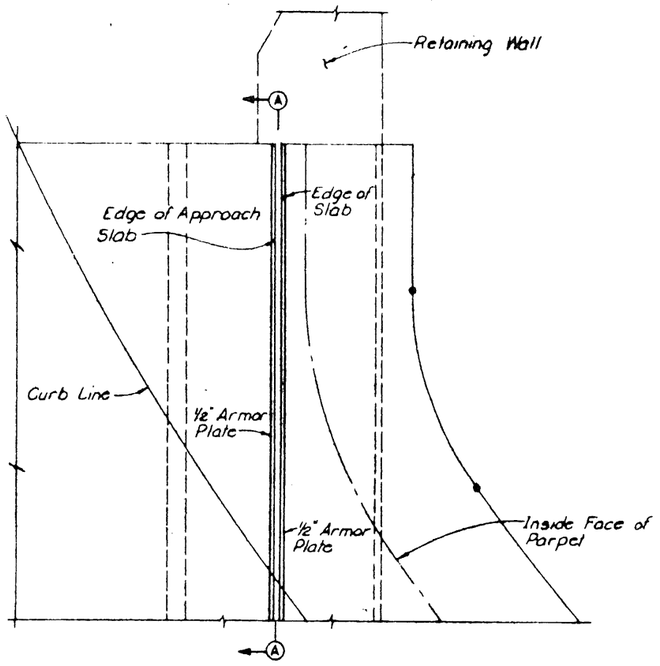


MAINLINE SHOULDER PLAN
(Mountable Curb)



RAMP SHOULDER PLAN
(Non-Mountable Curb)

PLANS - SKEWS THRU 15°

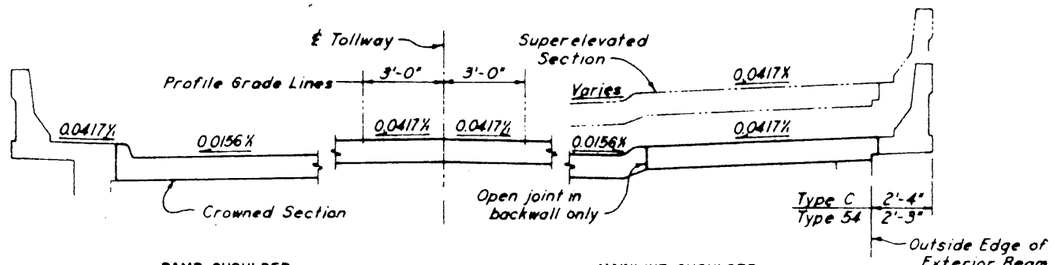


PLAN

BELT LINE ROAD UNDERPASS - ARAPAHO ROAD UNDERPASS
(NORTWEST CORNER - BELT LINE ROAD SHOWN; OTHERS SIMILAR)

GENERAL NOTES:

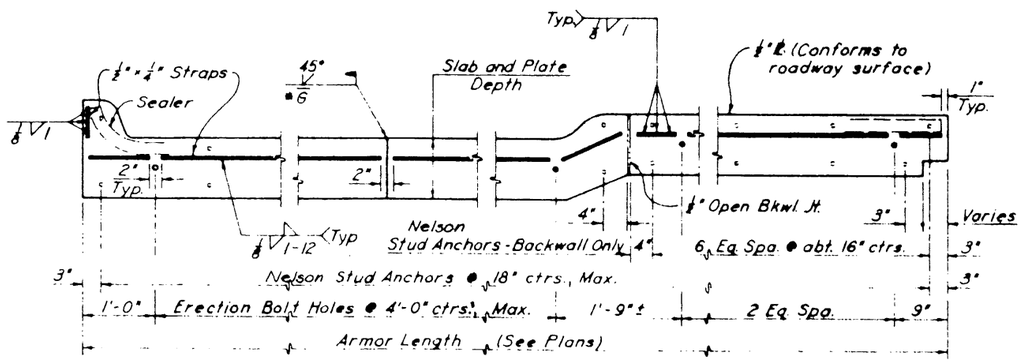
Armor joints with preformed joint sealer shall be provided at all locations shown on the plans. See General Plan and Elevation sheets.
Stud anchors shall be electric arc end-welded to the plates with complete fusion.
Erection bolt holes shall be punched to line up in the final position of the armor joint plates.
Armor joint plates shall be shipped in convenient lengths (20'-0", max., and 10'-0", min.). Corresponding plate sections shall be match marked and bolted together for shipment.
Erection bolts shall be cut off flush with armor plate straps promptly after the concrete in the latter of the two placements has taken initial set.
Armor plates shall be galvanized after fabrication. Damage to galvanizing shall be repaired by thorough cleaning and painting with two coats of zinc dust-zinc oxide paint conforming to the requirements of Federal Specification TT-P-641b.
All material shall conform to the requirements of Item 442, Metal for Structures.
For roadway curb details, see Standard Drawing No 11



RAMP SHOULDER

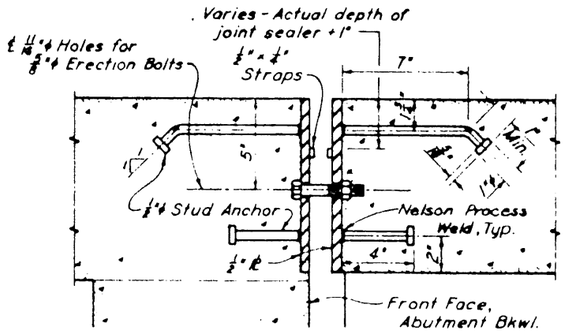
MAINLINE SHOULDER

NORMAL BRIDGE SECTION AT EXPANSION JOINT



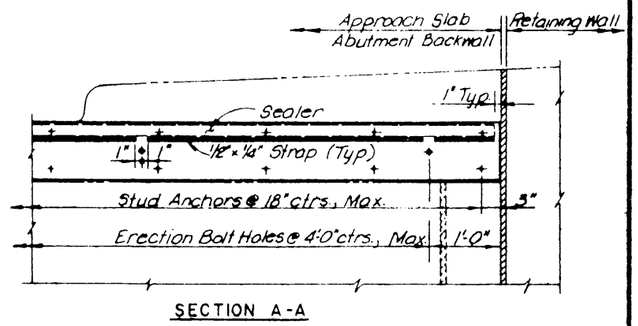
* Note: Portions of welded splices to come in contact with preformed joint sealer shall be ground smooth.

ARMOR PLATE ELEVATION



Note: For the joint opening width, see the Plans.

ARMOR JOINT SECTION



SECTION A-A

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

ARMOR JOINT DETAILS

HNTB — SECTION VI

DRAWN GDH DATE 2-1-83 DESIGNED GDH DATE 2-1-83
CHECKED VBL DATE 3-14-83 SCALE NONE

STANDARD DRAWING NO 28

CONTRACT NO. DNT-114

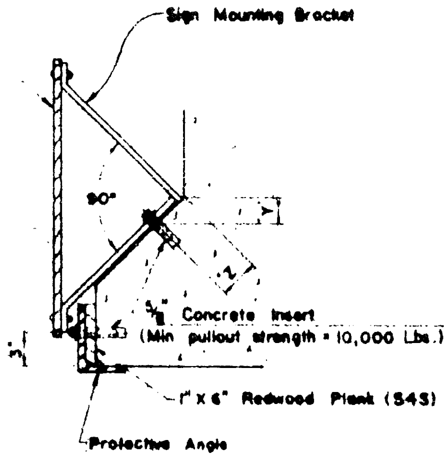
004158

PRESTRESSED CONCRETE UNITS

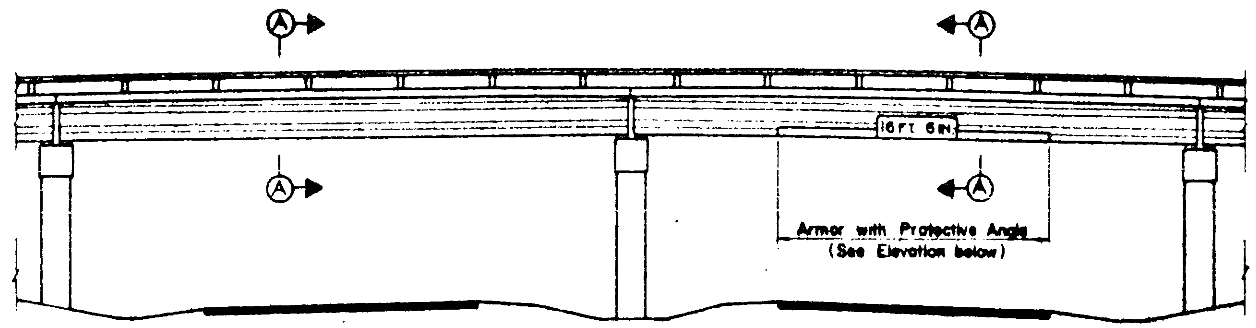
W12-3 CLEARANCE SIGN

BEAM	"Y"	"Z"
TY. A	2 9/16"	3 9/16"
TY. B	2 1/4"	3 3/16"
TY. C	2 1/4"	3 3/16"
TY. 54	2 1/4"	3 3/16"
TY. 72	2 1/4"	3 3/16"
TY. IV	6 1/4"	8 13/16"

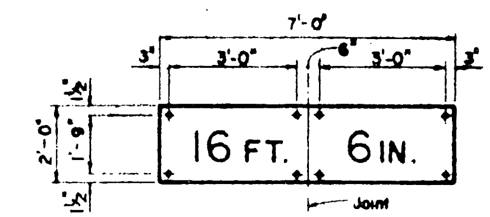
△



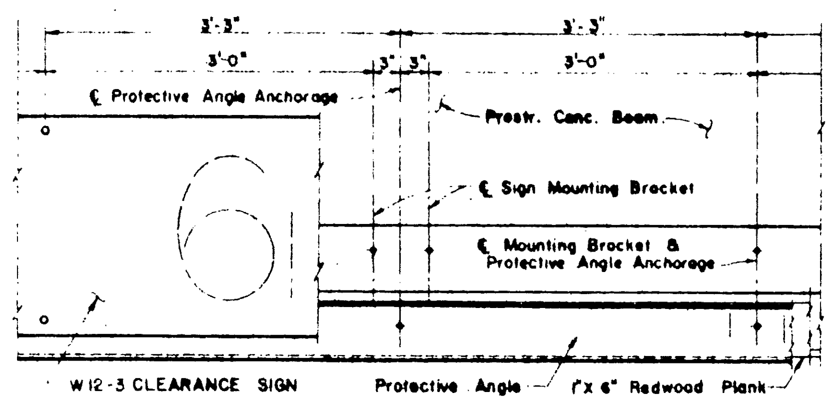
△ SEC. A-A



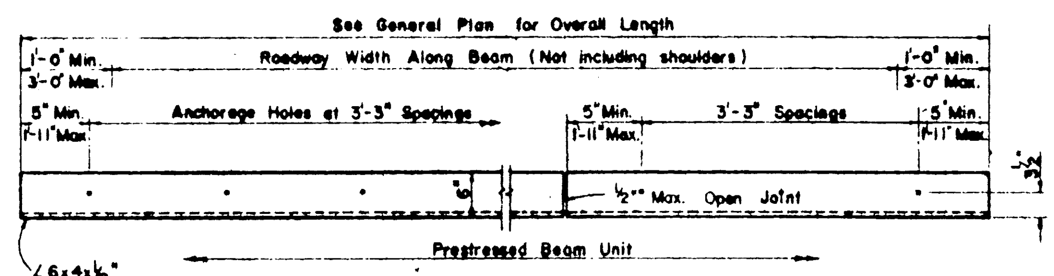
TYPICAL BRIDGE ELEVATION



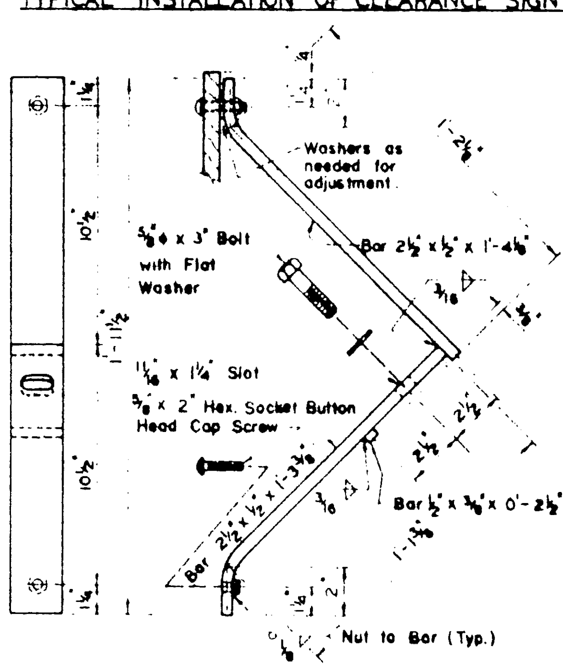
ELEV. OF W12-3 CLEARANCE SIGN △



△ TYPICAL INSTALLATION OF CLEARANCE SIGN & PROTECTIVE ANGLE

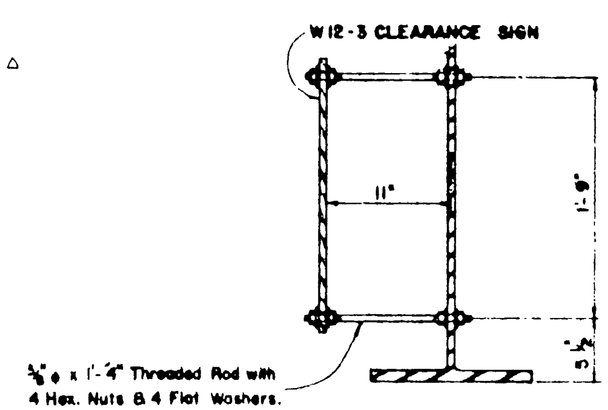


△ ELEVATION OF PROTECTIVE ANGLE



CLEARANCE SIGN MOUNTING BRACKET

STEEL GIRDER & I-BEAM UNITS



CLEARANCE SIGN MOUNTING BOLTS

GENERAL NOTES:

Clearance signs shall be furnished by the Authority for installation by the Contractor. Blanks shall be of 0.080 inch aluminum. Sign numerals and letters shall be Series E with stroke modified to 20% of letter height. Numbers shall be 12 inches high and letters shall be 8 inches high.

Protective Angles shall be Structural steel conforming to A.S.T.M. Designation A36, A441, A572 or A588 and may be shipped in convenient lengths (11'-4" Min.)

Redwood Planks shall be beveled to clear inside radius of Protective Angle and shall be full length of angle. Joints in plank shall not coincide with joints in angle.

Either clearance signs, protective angles or both together may be installed using these details. For clearance signs these details are appropriate for skew angles up to 30°. For protective angles these details are appropriate for any skew.

Plans may require the complete assembly consisting of protective angle and mounting brackets, sign and sign mounting brackets, or may require only portions of this assembly, all as noted on the △ General Plan and Elevation sheet.

REPRODUCED FROM
TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION
STANDARD DRAWING BPA
Rev. 5-81

No.	Revision	By	Date
△	GENERAL REVISIONS	JFH	3-14-83

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

BRIDGE PROTECTIVE ASSEMBLY

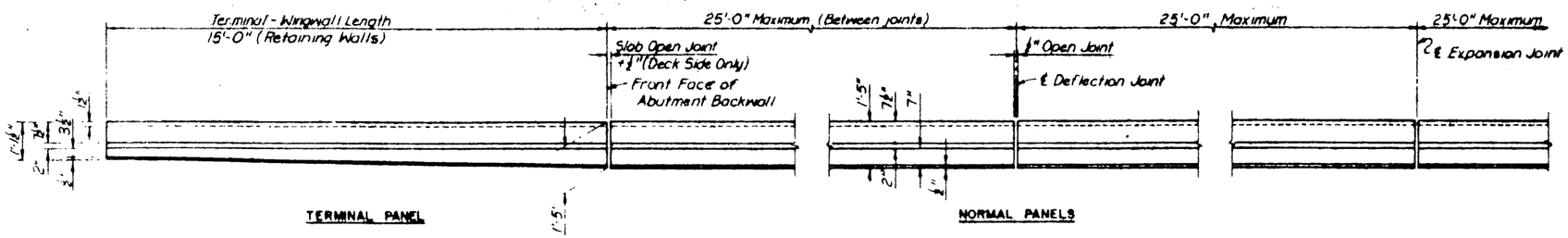
HNTB

SECTION VI

Design: THD 5-81 | Checked: BDH 3-12-83 | Drawn: THD | Date: 5-81 | Scale: NONE

STANDARD DRAWING NO. 29

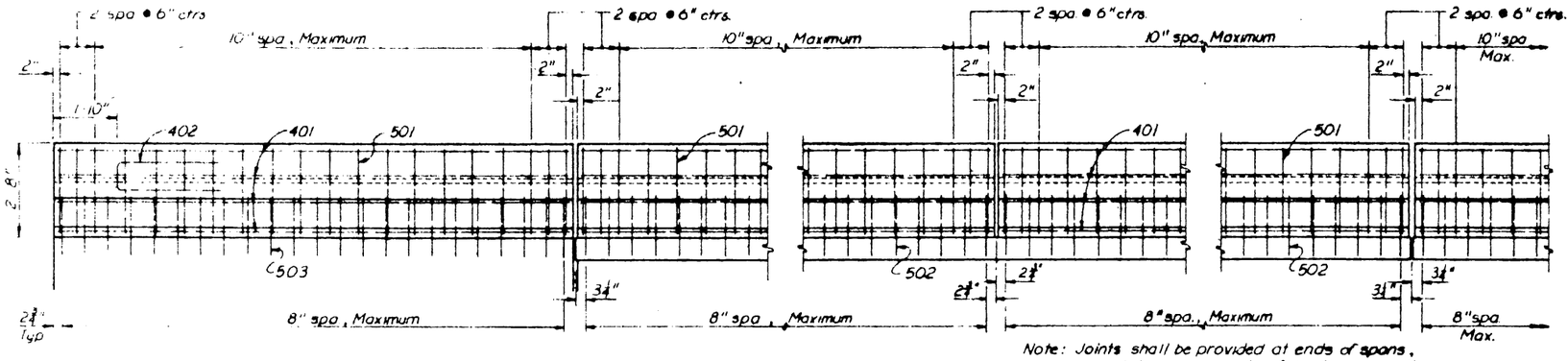
004159



TERMINAL PANEL

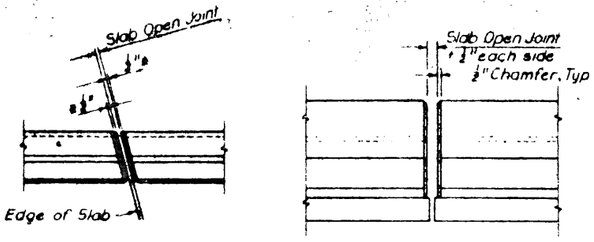
NORMAL PANELS

PLAN



ELEVATION

Note: Joints shall be provided at ends of spans, over interior supports of continuous units, and at equal intervals in between as required to maintain 25'-0" maximum and 15'-0" minimum panel lengths. Joints over walls may be spaced at 30'-0" maximum centers.

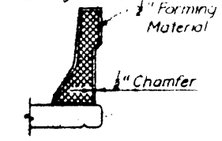


PLAN - TO 15° SKEW

ELEVATION

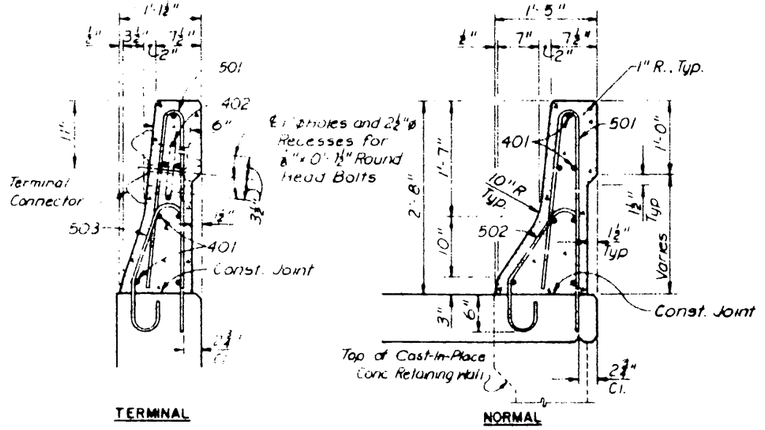
EXPANSION JOINT DETAILS

℄ The traffic rail end setback dimension will be "0" inches at the low side of all Interstate 635 Interchange bridges where armor joints with turned-up premolded joint sealer is required. See Standard Drawing No 28



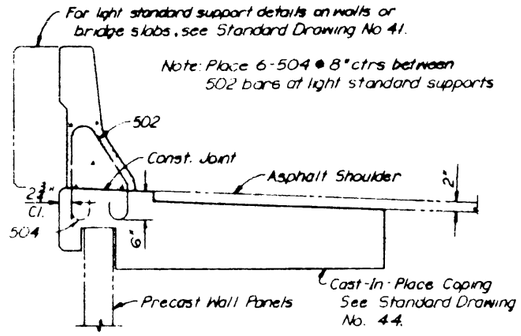
Note. Forming material such as sponge, molded cork granules, polystyrene, rubber sheet, etc., may be left in place if it is compressible and light in color.

DEFLECTION JOINT FORMING

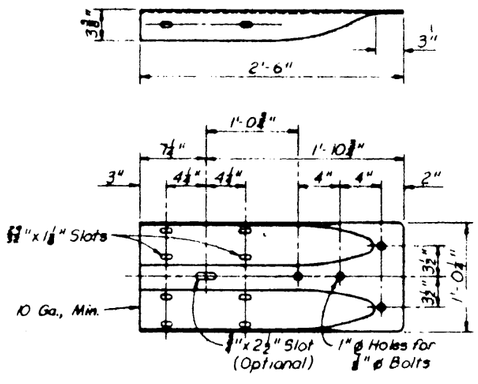


TERMINAL

NORMAL



PRECAST WALL ANCHORAGE



TERMINAL CONNECTOR DETAIL

GENERAL NOTES:

Designed according to AASHTO 1977 Standard Specifications and Interim Specifications thru 1982.

All parts of the parapet barrier, including concrete, reinforcing steel, inserts, terminal connector, bolts, nuts, and washers, are included in the price bid per lineal foot of parapet barrier.

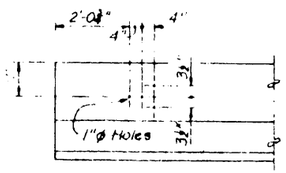
All concrete shall be Class C, all reinforcing steel shall be Grade 60, and all steel for terminal connectors shall be galvanized after fabrication. The gage of the terminal connector shall be at least equal to that of the approach metal beam guard fence.

Parapet barriers shall be vertical on both bridges and walls.

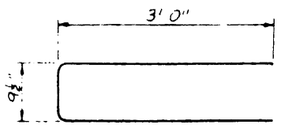
Shop drawings will not be required for this rail.

This railing may be constructed with slip-forms with equipment approved by the Engineer. Sensor control for both line and grade must be provided. When slip forming is used, the concrete may be cured with membrane curing compound.

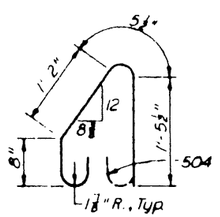
SECTIONS



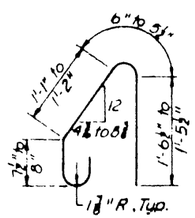
TERMINAL ELEVATION



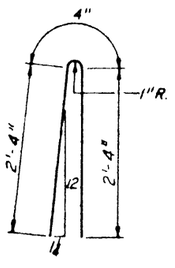
402



502 & 504



503



501

BAR BENDING DIAGRAMS

TERMINAL CONNECTOR DETAIL

REINFORCING STEEL NOTES.

Bar dimensions are given out to out of bar. Radii are given to inside of bar.

Additional reinforcing may be tack welded to the upper two thirds of the required steel to provide bracing of the cage when slip-forming is used.

Reinforcing bar callouts consist of the bar size followed by an individual two digit number.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

CONCRETE TRAFFIC RAIL

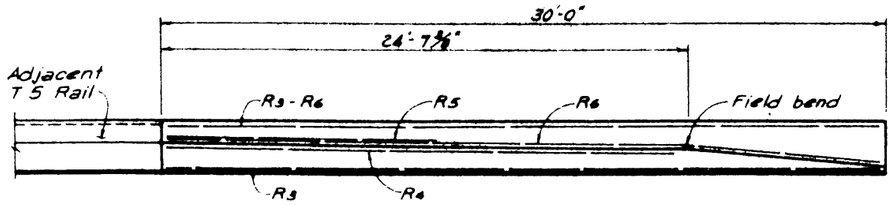
TYPE. T5

HNTB — HOWARD NEEDLES TAMMEN & BERGENDOFF — SECTION VI

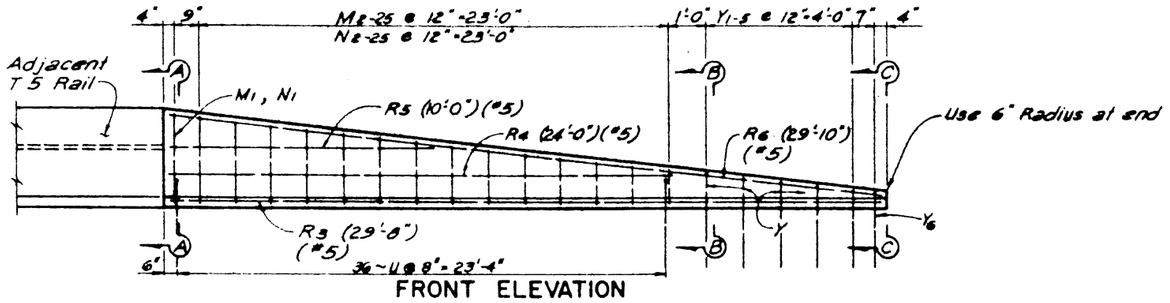
DRAWN JTN	DATE 11-30-82	DESIGNED SDH	DATE 11-30-82
CHECKED SDH	DATE 9-12-83	V.A.T. NONE	

STANDARD DRAWING NO 30

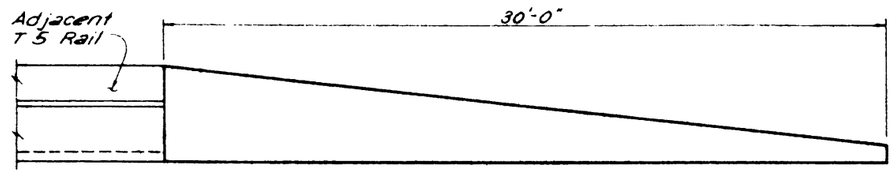
004160



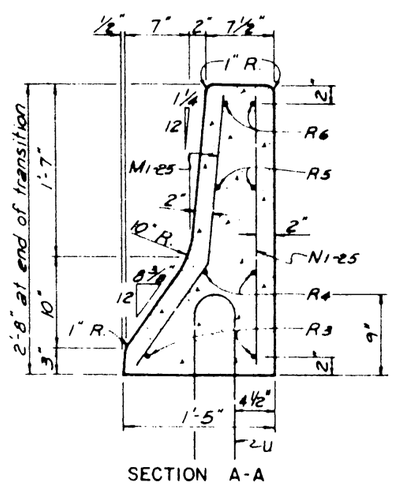
PLAN



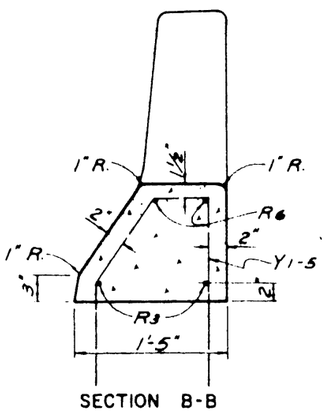
FRONT ELEVATION



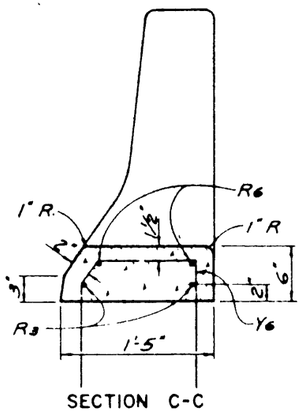
REAR ELEVATION



SECTION A-A

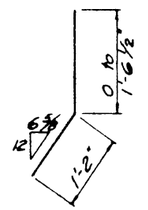


SECTION B-B

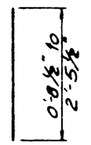


SECTION C-C

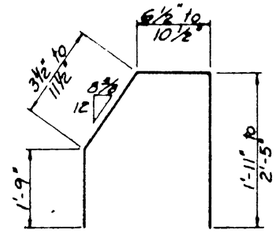
TRANSITION SECTION FROM T 5 RAIL TO 6" CURB



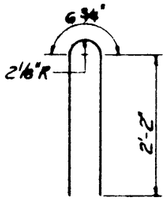
BARS M (#5)



BARS N (#5)



BARS Y (#5)



BARS U (#5)

GENERAL NOTES:

Designed according to A.A.S.H.T.O. 1977 Standard Specifications and Interims thru 1982.

All parts of the railing including concrete parapet wall and reinforcing are included in the price bid per linear foot of rail.

All concrete for railing wall shall be Class C.

Dimensions relating to reinforcing steel are to centers of bars.

See Standard Drawing No. 30 for Concrete Traffic Rail, Type T5 Details.

REPRODUCED FROM

TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION
HOUSTON URBAN PROJECT

TRAFFIC RAIL TYPE T5 (MOD.)
TRANSITION SECTION
8-82

NO	REVISION	BY	DATE
1	General Revisions	JRA	1-84

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

CONCRETE TRAFFIC RAIL, TYPE T5

TRANSITION SECTION

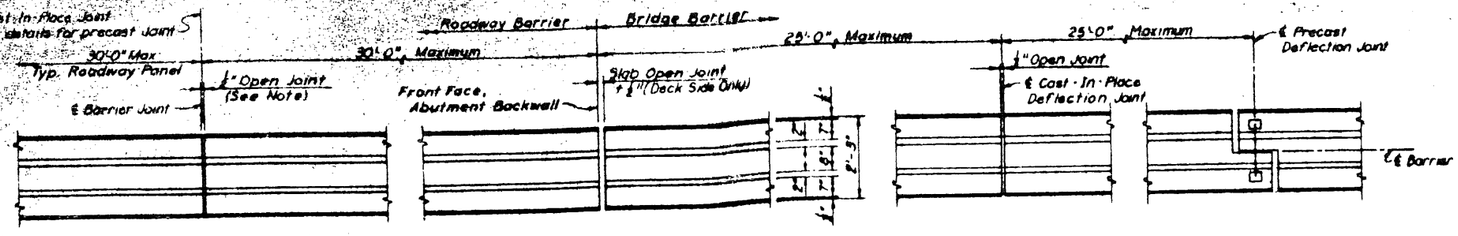
Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN THD	DATE 8-82	DESIGNED THD	DATE 8-82
CHECKED JRA	DATE 1-84	SCALE NONE	

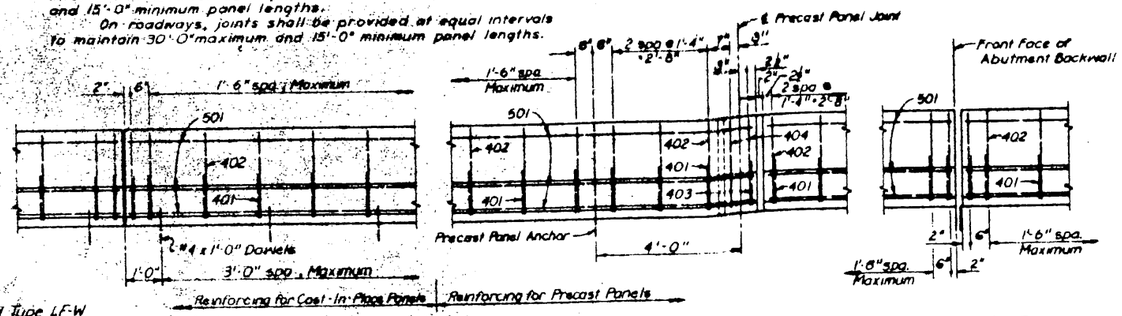
STANDARD DRAWING NO. 30A

CONTRACT NO. DNT-114

004161

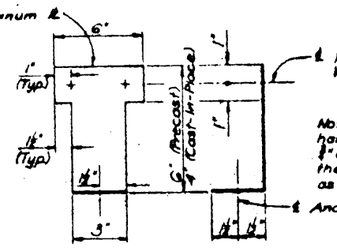


Note: On bridges, joints shall be provided at ends of spans, over interior supports of continuous units, and at equal intervals in between as required to maintain 25'-0" maximum and 15'-0" minimum panel lengths.
On roadways, joints shall be provided at equal intervals to maintain 30'-0" maximum and 15'-0" minimum panel lengths.



ELEVATION

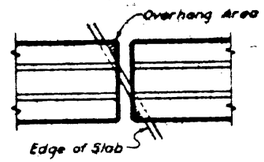
ABUTMENT JOINT



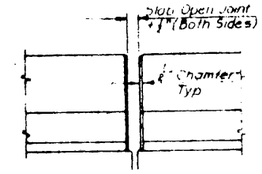
STATION MARKER BRACKET

Note: Place bracket @ 500'± centers. Fasten to barrier at anchorage locations (Precast Roadway Units) or special insert locations (Precast Bridge Units and Cast-In-Place Units).

Note: At points where the barrier overhangs an adjacent bridge span slab, a ⅜" clearance shall be provided between the barrier and the slab using material as described for panel joint forming.



PLAN

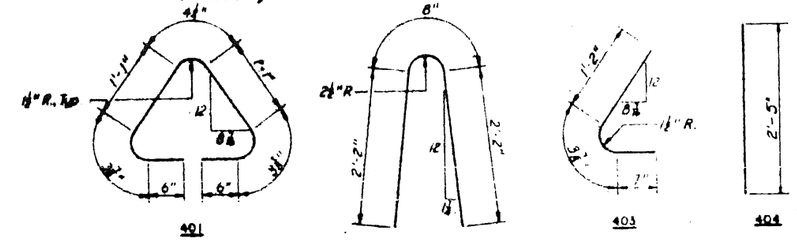


ELEVATION

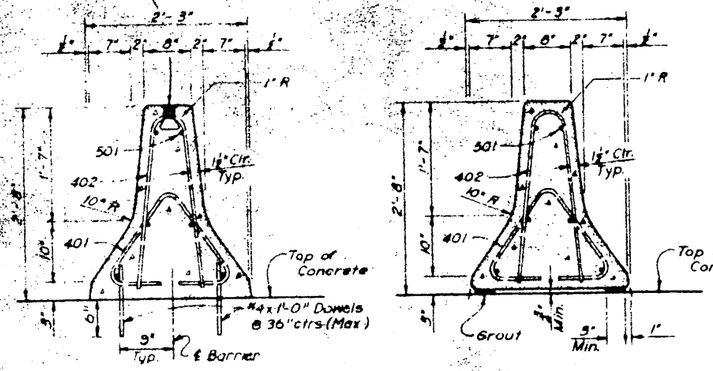
EXPANSION JOINT DETAILS

REINFORCING STEEL NOTES

Bar dimension are given out-to-out of bar.
Radii are given to inside of bar.
Reinforcing bar callouts consist of the bar size, followed by an individual two digit number

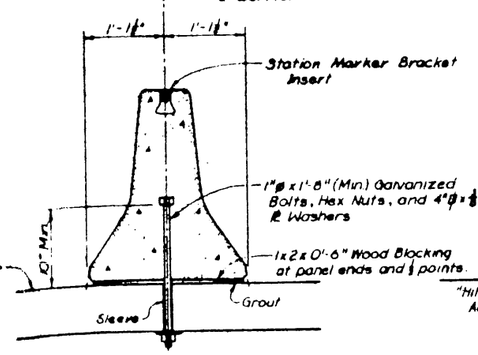


BAR BENDING DIAGRAMS

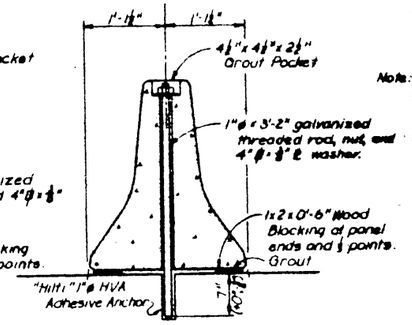


CAST-IN-PLACE SECTION

PRECAST SECTION

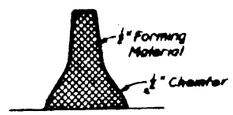


BRIDGE ANCHORAGE SECTION
(PRECAST UNITS)

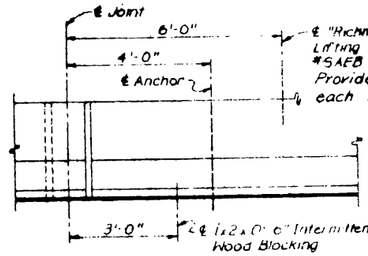


ROADWAY ANCHORAGE SECTION
(PRECAST UNITS)

Note: Forming material such as sponge, molded cork granules, polystyrene, rubber sheet, etc., may be left in place if it is compressible and light in color



BARRIER JOINT AND
DEFLECTION JOINT FORMING



PRECAST PANEL LIFTING DETAIL

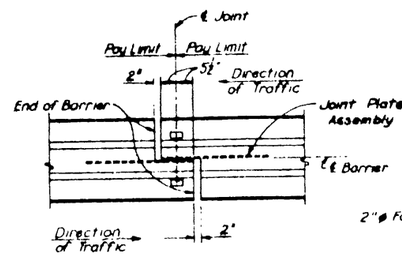
2 "ø Richmond Type LF-W Insert for Tollway station marker where required by the Engineer.

GENERAL NOTES:

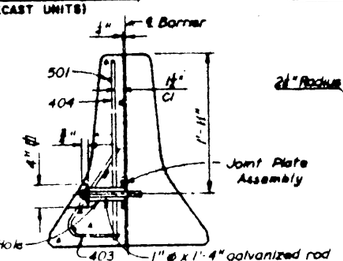
Designed according to AASHTO 1977 Standard Specifications and Interim Specifications thru 1982.
All concrete, reinforcement, anchor bolts, blocking, inserts, grout, etc., as shown, are considered a part of the barrier for payment.
The centerline axis of the barrier shall be vertical unless otherwise shown on the plans or directed by the Engineer.
Unless otherwise shown on the plans, the Contractor may furnish either a precast or a cast-in-place traffic barrier.
The maximum offset from the center of the barrier to the true circular centerline shall be one inch for precast segments installed on horizontal curves. If this would require segment lengths of less than 15 feet, then the barrier shall be cast in place to the correct radius.
Shop drawings are not required for this barrier.
All steel fittings for barrier joints shall be galvanized after fabrication.
For modifications to the standard barrier cross section at median drainage inlets, see Standard Drawing No. 2.

MATERIAL NOTES:

All concrete shall be Class C.
Barrier forms shall be constructed of steel.
Grout for precast barriers shall consist of two parts sand and one part cement. Latex adhesive may be added to the grout if directed by the Engineer. Wood, or other material approved by the Engineer, shall be used for blocking. At other locations, any suitable material may be used to retain the grout.
Anchor bolts, threaded rods, and associated nuts, washers, and plates for the precast panel to slab and panel to panel attachment shall be galvanized.
Bolts shall conform to ASTM A-307 (or A-36 threaded rod with tack welded nut). Threaded rods may be 0.906 inch minimum diameter with rolled threads. Nuts shall conform to A-307 requirements and shall be tapped or chased after galvanizing. Bolts and nuts shall have Class 2A and 2B fit tolerances.
All precast panel joint plates and plate washers shall conform to the requirements of ASTM A-36.

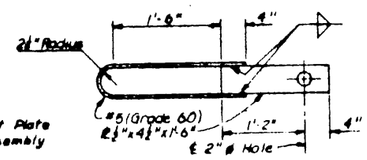


PLAN



TYPICAL SECTION

PRECAST PANEL JOINT DETAILS



JOINT PLATE ASSEMBLY

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

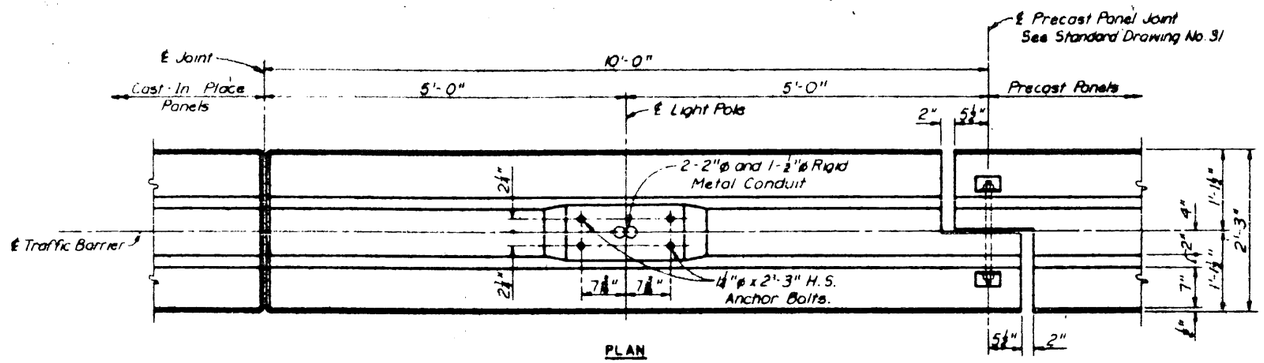
CONCRETE TRAFFIC BARRIER
CAST-IN-PLACE AND
PRECAST TYPE I PANEL DETAILS

HNTB — HOWARD NEEDLES TAMMEN & BERGENDOFF — SECTION VI

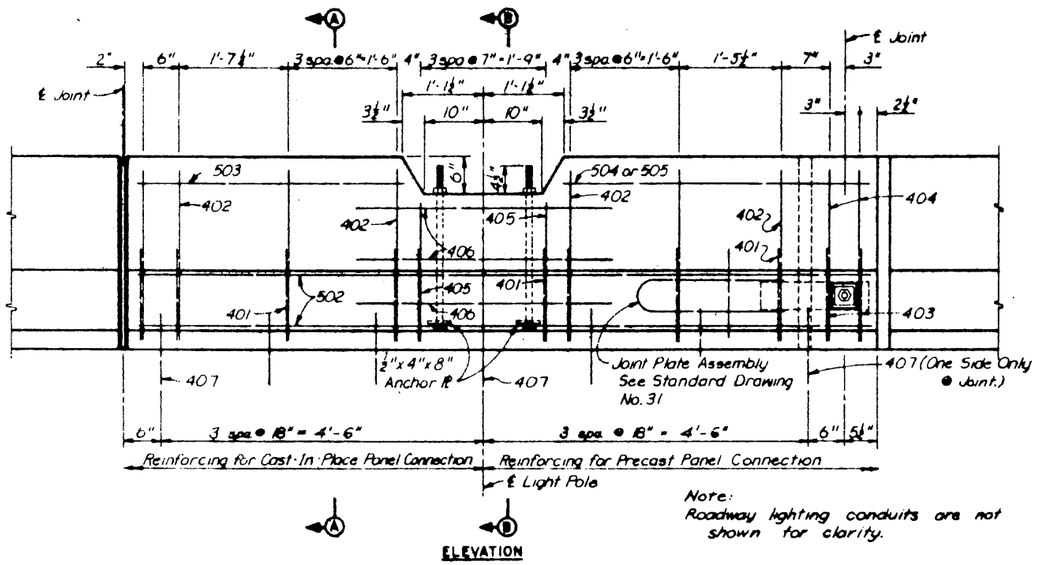
DRAWN	L.T.H.	DATE	1-21-83	DESIGNED	GDH	DATE	1-21-83
CHECKED	GDH	DATE	3-16-83	SCALE	NONE		

STANDARD DRAWING NO 31

004162



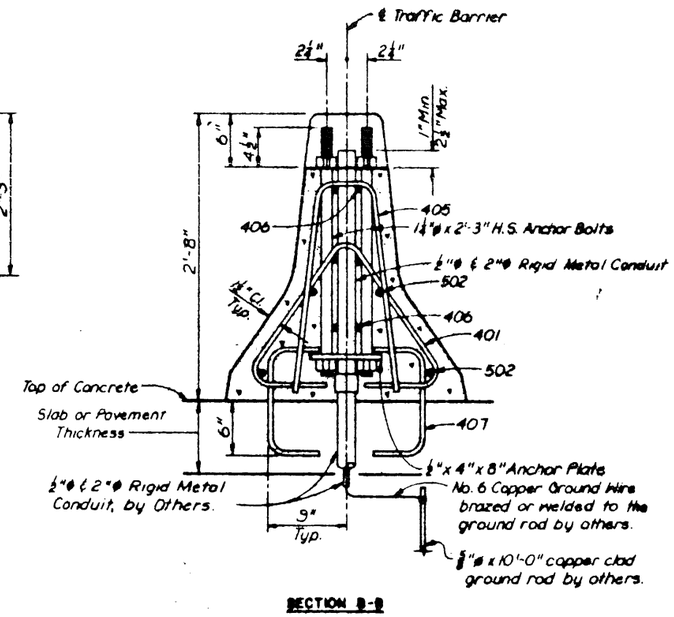
PLAN



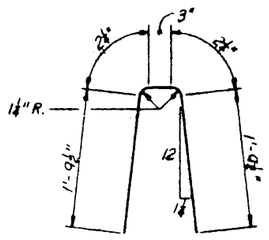
ELEVATION

Note:
Roadway lighting conduits are not shown for clarity.

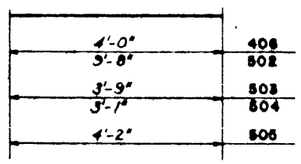
TYPE 2 CONCRETE TRAFFIC BARRIER



SECTION B-B

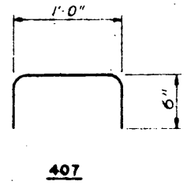


406



STRAIGHT BARS

BAR BENDING DIAGRAMS



407

REINFORCING STEEL NOTES

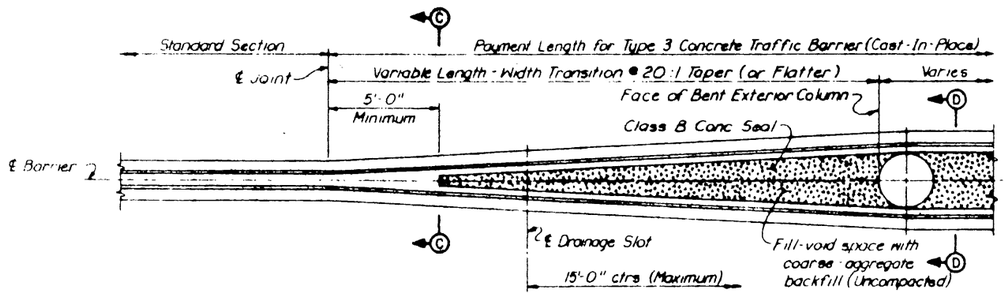
Bar dimensions are given out to out of bar.
Radii are given to inside of bar.
Reinforcing bar callouts consist of the bar size followed by an individual two digit number.

TYPE 2 CONCRETE TRAFFIC BARRIER NOTES:

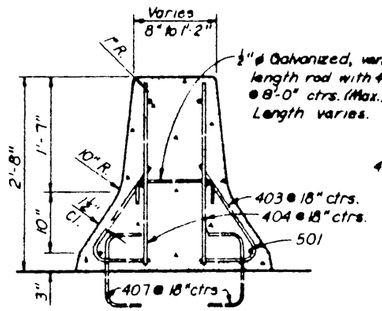
Anchor bolts and conduit will not be paid directly but shall be considered subsidiary to the item "Concrete Traffic Barrier (Type 2)".
All high strength anchor bolts shall be ¼"ø x 2'-3" ASTM A 325 bolts with the top threaded not less than 6", and this threaded end galvanized not less than 8" and furnished with galvanized hex nuts, flat and lock washers. The lower end of the rods shall be threaded 2" and furnished with ⅜"x4"x8" anchor plates and nuts. Tack weld anchor plates to nuts.
For Section A-A, see Cast In Place Section on Standard Drawing No. 31.
For additional notes, see Standard Drawing No. 31.

TYPE 3 CONCRETE TRAFFIC BARRIER NOTES:

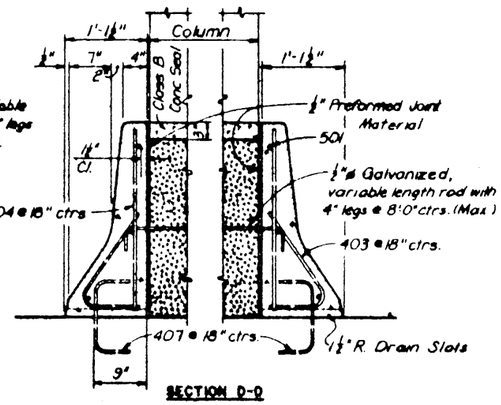
Longitudinal bars at construction joints shall extend beyond the joint so that 24 bar diameter splices will be a minimum of two feet from the construction joint.
For details of standard sections and the cast-in place & precast joints, see Standard Drawing No. 31.
For additional notes, see Standard Drawing No. 31.



PLAN



SECTION C-C



SECTION D-D

TYPE 3 CONCRETE TRAFFIC BARRIER

NO	REVISION	BY	DATE

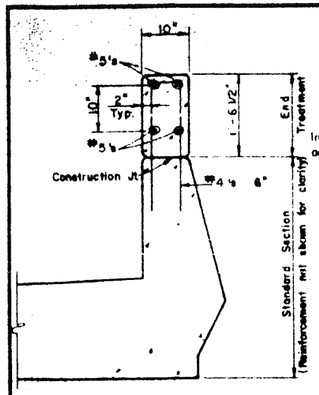
TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
CONCRETE TRAFFIC BARRIER
TYPE 2 AND TYPE 3 PANEL DETAILS

HNTB — SECTION VI

DRAWN JTK DATE 1-27-93 | DESIGNED GDH DATE 1-21-93
CHECKED GDH DATE 3-16-93 | SCALE NONE

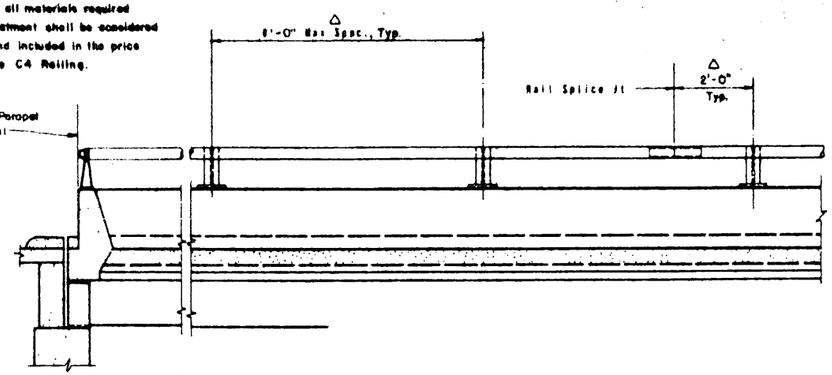
STANDARD DRAWING NO. 32

004163

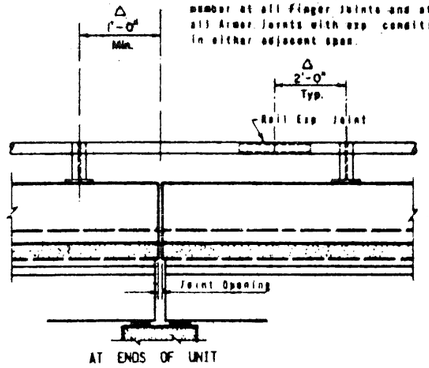


SECTION A-A

Payment for all materials required for End Treatment shall be considered incidental and included in the price bid for Type C4 Railing.

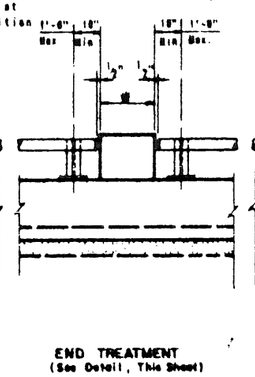


△ AT ABUTMENT BENTS

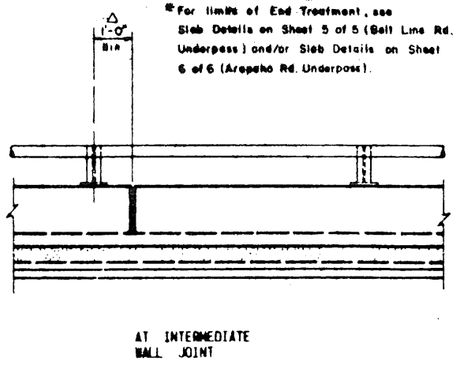


AT ENDS OF UNIT

NOTE Provide Exp. Joints in rail member at all Finger Joints and at all Armor Joints with exp condition in either adjacent span.



END TREATMENT
(See Detail, This Sheet)

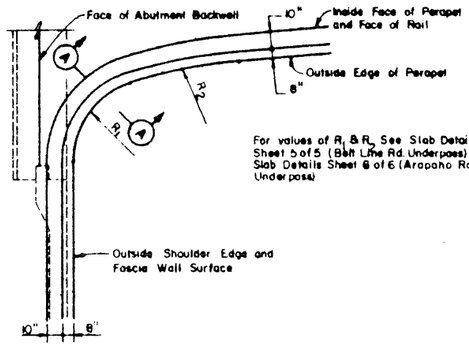


AT INTERMEDIATE WALL JOINT

*For limits of End Treatment, see Slab Details on Sheet 5 of 5 (Belt Line Rd. Underpass) and/or Slab Details on Sheet 6 of 6 (Arapaho Rd. Underpass).

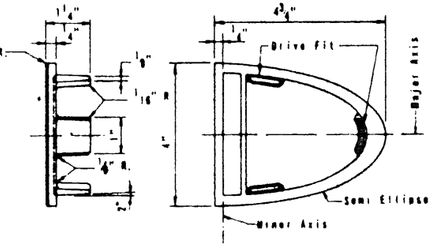
ROADWAY ELEVATION OF RAIL

TYP. END TREATMENT DETAIL

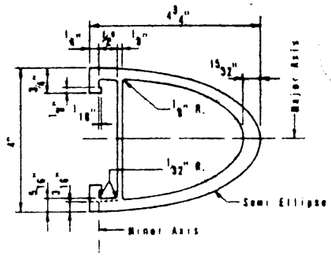


For values of R_1 & R_2 See Slab Details Sheet 5 of 5 (Belt Line Rd. Underpass) and/or Slab Details Sheet 6 of 6 (Arapaho Rd. Underpass)

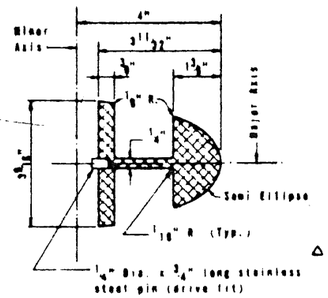
△PARTIAL PLAN



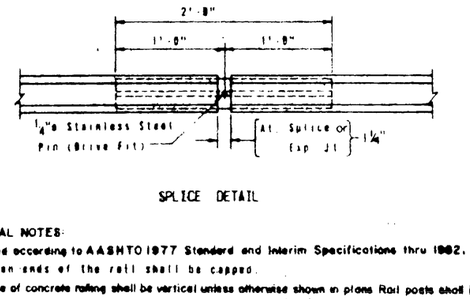
END PLUG DETAILS



RAIL EXTRUSION



SEC THRU. SPLICE MEMBER



SPLICE DETAIL

RAIL MEMBER DETAILS

GENERAL NOTES:

△ Designed according to AASHTO 1977 Standard and Interim Specifications thru 1982.

All span ends of the rail shall be capped.

The face of concrete railing shall be vertical unless otherwise shown in plans. Rail posts shall be perpendicular to top of concrete. Grout may be used under base plates if necessary.

Panel lengths of rail shall be attached to a minimum of three posts except at abutment wingwall.

All steel components except reinforcing shall be galvanized unless otherwise shown in plans. Nuts and washers for anchor bolts shall conform to A 325 requirements. Nuts shall be tapped or chased after galvanizing. Bolts and nuts shall have Class 2A and 2B fit tolerances.

△ For precast anchorage details, see Standard Drawing No. 27.

Posts shall be cast aluminum alloy A444 T4

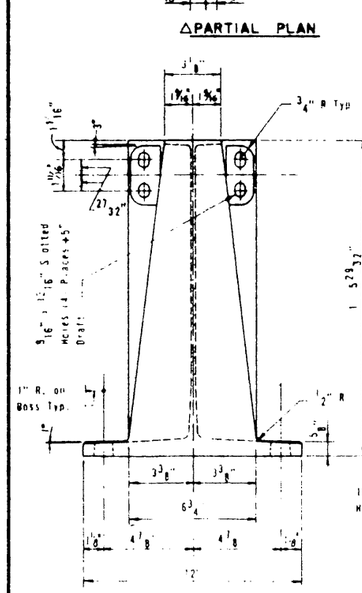
Material for rails shall be aluminum - A S T M B221 - alloy 6061-T6

Machine screws for rail attachment shall be stainless steel

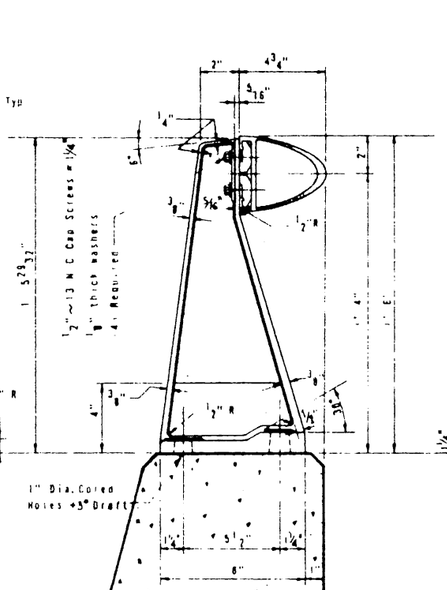
For horizontal curves of radius less than 1080 ft the rail member shall be fabricated to follow the curvature of the roadway

Castings shall have a maximum draft of 3° and a minimum radius of fillet of 1/4" unless otherwise shown

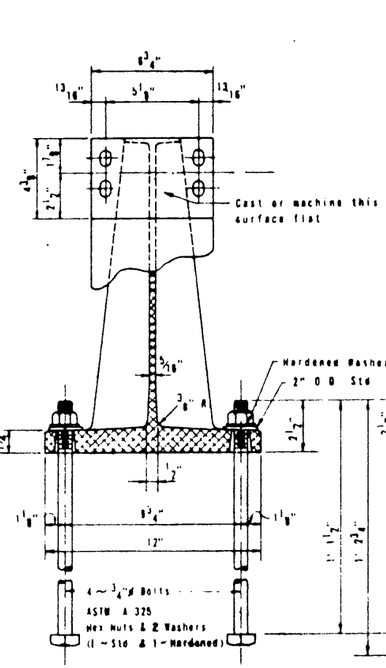
Unit bid price for Rail Type C4 includes: Metal Railing, Posts, Connectors, Anchor Bolts; Concrete Parapet Wall is included in the Class "C" Concrete (Slab) Quantity and will be paid for under Item 422, Reinforced Concrete Slab



REAR ELEVATION OF POST

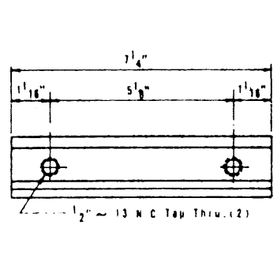


SECTION THRU RAIL

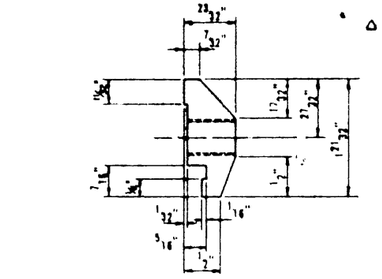


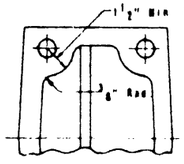
ROADWAY VIEW OF POST

OPTIONAL ANCHORS

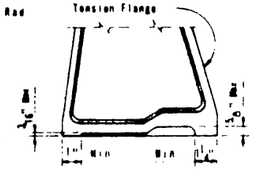


CLAMP BAR DETAIL





PARTIAL PLAN OF UNDERSIDE



SECTION

PERMISSIBLE RECESS IN POST BASE

RAIL POST & ANCHORAGE DETAILS

REPRODUCED FROM

△ TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

STANDARD DRAWING C4
12-80

NO	REVISION	BY	DATE
△	General Revisions	GDH	1-83

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

ALUMINUM COMBINATION RAIL

TYPE C4

Turner Collie & Braden Inc. Consulting Engineers — SECTION VI

DRAWN THD DATE 12-80 — DESIGNED THD DATE 12-80

CHECKED VRA DATE 7-83 — SCALE NONE

STANDARD DRAWING NO. 33

CONTRACT NO. DNT-114

C04164

WALL PROPERTIES											REINFORCING STEEL FOR A 30'-0" WALL PANEL								
DIMENSIONS							MAX SOIL PRESS	MIN. As REQ'D. (□"/Ft)			A1 @ 12"					A2 @ 6", H > 12' A2 @ 12", H ≤ 12'			
H	Fw	Tw	Sw	Hw	Ft	Kw	(T/□')	STEM	TOE	HEEL	SIZE	NO.	X	Y	LGTH.	SIZE	NO.	Y	LGTH.
4'	3'-3"	1'-0"	1'-0"	1'-3"	1'-0"	0	0.56	0.31	0.35	0.31	#6	30	1'-7"	3'-6"	5'-1"	—	—	—	—
6	4'-3"	1'-4"	1'-0"	1'-11"	1'-0"	0	0.74	0.40	0.35	0.31	↓	↓	1'-11"	5'-6"	7'-5"	—	—	—	—
8	5'-3"	1'-8"	1'-0"	2'-7"	1'-0"	0	0.91	0.55	0.35	0.31	↓	↓	2'-3"	7'-6"	9'-9"	#6	29	3'-3"	4'-5"
10	6'-3"	2'-0"	1'-0"	3'-3"	1'-0"	0	1.01	0.78	0.35	0.31	↓	↓	2'-7"	9'-6"	12'-1"	#6	29	5'-3"	6'-5"
12	7'-3"	2'-4"	1'-0"	3'-11"	1'-0"	0	1.25	1.12	0.35	0.48	↓	30	2'-11"	11'-6"	14'-5"	#8	29	7'-3"	8'-5"
14	8'-0"	2'-6"	1'-8 1/4"	3'-9 3/4"	1'-3"	0	1.54	0.78	0.40	0.46	#6	29	—		5'-2"	#6	59	3'-2"	4'-4"
16'	9'-8"	3'-4"	1'-9 5/16"	4'-7 1/16"	1'-4"	0	1.48	0.97	0.51	0.60	#7	↓	—	—	8'-1"	#7	↓	3'-11"	5'-1"
18'	11'-4"	4'-0"	1'-11 9/16"	5'-4 7/16"	1'-6"	0	1.46	1.19	0.68	0.68	#7	↓	—	—	8'-0"	#7	↓	4'-1"	5'-3"
20'	13'-0"	5'-0"	2'-1 3/16"	5'-10 13/16"	1'-8"	0	1.46	1.44	0.87	0.77	#8	↓	—	—	7'-9"	#8	↓	5'-2"	6'-4"
22'	14'-9"	5'-10"	2'-2 3/4"	6'-8 1/4"	1'-10"	1'-3"	1.48	1.72	1.05	0.90	#9	↓	—	—	9'-7"	#9	↓	6'-2"	7'-4"
24'	16'-6"	6'-8"	2'-4 5/16"	7'-5 11/16"	2'-1"	1'-6"	1.51	2.03	1.19	0.99	#10	↓	—	—	9'-7"	#10	↓	7'-8"	8'-10"
26	18'-6"	7'-8"	2'-5 11/16"	8'-4 5/16"	2'-4"	1'-6"	1.51	2.37	1.35	1.08	#10	↓	—	—	10'-1"	#10	↓	7'-11"	9'-1"
28'	20'-3"	8'-6"	2'-7 3/8"	9'-1 5/8"	2'-7"	1'-9"	1.52	2.72	1.49	1.16	#11	↓	—	—	11'-10"	#11	↓	9'-5"	10'-7"
30'	22'-0"	9'-6"	2'-8 7/8"	9'-9 1/8"	2'-10"	1'-9"	1.58	3.10	1.71	1.28	#11	29	—	—	12'-4"	#11	59	9'-8"	10'-10"

	REINFORCING STEEL FOR A 30'-0" WALL PANEL																		
	A3 @ 12"			A4 @ 12"			B1 @ 12"			B2 @ 12"				C1 @ 12", TOP C1 @ 6", BOT.			C2 @ 12"		
H	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	Y	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.
4'	—	—	—	—	—	—	—	—	—	#5	30	3'-6"	4'-0"	#5	30	2'-9"	—	—	—
6	—	—	—	—	—	—	—	—	—	↓	↓	5'-6"	6'-0"	↓	↓	3'-9"	—	—	—
8	—	—	—	—	—	—	#5	30	6'-9"	↓	↓	2'-3"	2'-9"	↓	↓	4'-9"	—	—	—
10	—	—	—	—	—	—	↓	↓	8'-9"	↓	↓	2'-3"	2'-9"	↓	↓	5'-9"	—	—	—
12	—	—	—	—	—	—	↓	↓	10'-9"	↓	↓	2'-3"	2'-9"	↓	30	6'-9"	#5	29	6'-0"
14	#6	30	12'-7"	—	—	—	↓	↓	12'-6"	↓	↓	2'-6"	3'-0"	↓	89	5'-3"	#5	↓	4'-4"
16'	#6	↓	14'-6"	—	—	—	↓	↓	14'-5"	↓	↓	2'-7"	4'-3"	#5	↓	6'-2"	#5	↓	5'-0"
18'	#7	↓	10'-10"	#6	30	7'-8"	↓	↓	16'-3"	↓	↓	2'-9"	4'-5"	#6	↓	7'-0"	#6	↓	5'-8"
20'	#8	↓	12'-8"	↓	↓	↓	↓	↓	18'-1"	↓	↓	2'-11"	4'-7"	#6	↓	7'-9"	#6	↓	6'-3"
22'	#8	↓	14'-6"	↓	↓	↓	↓	↓	19'-11"	↓	↓	3'-1"	4'-9"	#7	↓	8'-8"	#5	↓	7'-0"
24'	#9	↓	16'-3"	↓	↓	↓	↓	↓	21'-8"	↓	↓	3'-4"	5'-0"	#7	↓	9'-7"	#6	↓	7'-9"
26	#10	↓	18'-0"	↓	↓	↓	↓	↓	23'-5"	↓	↓	3'-7"	5'-3"	#7	↓	10'-7"	#7	↓	8'-6"
28'	#10	↓	19'-9"	↓	↓	↓	↓	↓	25'-2"	↓	↓	3'-10"	5'-6"	#8	↓	11'-11"	#7	↓	9'-8"
30'	#11	30	21'-6"	#6	30	7'-8"	#5	30	26'-11"	#5	30	4'-1"	5'-9"	#8	89	12'-6"	#7	29	10'-1"

	REINFORCING STEEL FOR A 30'-0" WALL PANEL												QUANTITIES PER LIN. FT. OF WALL	
	D @ 18"			H @ 18"			T @ 18"			U @ 8"				
H	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO	LGTH.	CONC (C.Y.)	REINF (LB)
4'	#5	4	29'-6"	#5	3	31'-9"	#5	2	31'-9"	#5	45	5'-9"	0.247	33.3
6	↓	8	↓	↓	3	↓	↓	2	↓	↓	↓	↓	0.358	44.0
8	↓	10	↓	↓	3	↓	↓	2	↓	↓	↓	↓	0.469	60.7
10	↓	12	↓	↓	4	↓	↓	3	↓	↓	↓	↓	0.580	74.4
12	↓	16	↓	↓	4	↓	↓	3	↓	↓	↓	↓	0.691	103.6
14	↓	18	↓	↓	4	↓	↓	3	↓	↓	↓	↓	0.979	112.6
16'	↓	20	↓	↓	4	↓	↓	4	↓	↓	↓	↓	1.209	140.1
18'	↓	22	↓	↓	5	↓	↓	4	↓	↓	↓	↓	1.491	173.0
20'	↓	26	↓	↓	5	↓	↓	5	↓	↓	↓	↓	1.804	212.6
22'	↓	28	↓	↓	6	↓	↓	6	↓	↓	↓	↓	2.204	267.1
24'	↓	30	↓	↓	7	↓	↓	6	↓	↓	↓	↓	2.651	332.6
26	↓	32	↓	↓	7	↓	↓	7	↓	↓	↓	↓	3.130	375.9
28'	↓	34	↓	↓	8	↓	↓	8	↓	↓	↓	↓	3.665	474.8
30'	#5	36	29'-6"	#5	9	31'-9"	#5	8	31'-9"	#5	45	5'-9"	4.210	519.9

H ≤ 12'

BARS A1

BARS A2

BARS A4

BARS B2

BARS U□

SPECIAL WALL CAP DETAIL
STA. 702+80.0 & STA. 710+00.0

GENERAL NOTES:

Designed according to AASHTO 1977 Standard Specifications and Interim Specifications thru 1982.

Walls are designed using a 40 p.s.f. eq. fluid pressure and a 2'-0" live load surcharge.

All concrete to be Class C, f'c = 3,600 p.s.i.; fc = 1,440 p.s.i.

All reinforcing steel to be ASTM A 615, Grade 60. Bar dimensions are given out to out of bar. Radii are given to the inside of the bar.

Footings shall be poured to neat lines against undisturbed material.

Expansion joints shall be placed at 90 ft centers. Contraction joints shall be placed at all other panel points.

Quantities include wall and footing only.

For additional details, see Standard Drawing No. 41.

If this wall construction type is selected, the Contractor shall develop all necessary reinforcing steel schedules and shop drawings necessary to complete the work and submit these drawings and schedules for approval prior to beginning fabrication and construction.

The top surfaces of walls must be sloped to correspond with the adjacent roadway shoulder cross slope.

□ See Standard Drawing 30A for the Bar U configuration to be used with the Traffic Rail, Type T5 (mod.)

✱ The bottom of the footing shall be placed at H/4 or 1'-0" below the top of weathered rock, whichever is deeper.

SECTION
H > 12'

SECTION
H ≤ 12'

REAR ELEVATION
H > 12'

REAR ELEVATION
H ≤ 12'

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

ELEVATED ROADWAY SECTION
CAST-IN-PLACE CONCRETE
RETAINING WALL DETAILS

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

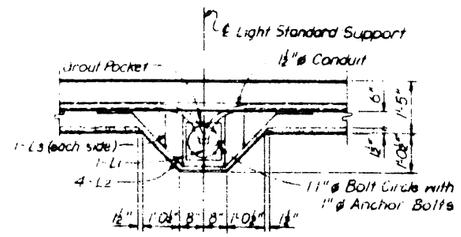
SECTION VI

DRAWN JTK DATE 3-18-83 DESIGNED JBL DATE 3-10-83
CHECKED YAL DATE 5-2-83 SCALE None

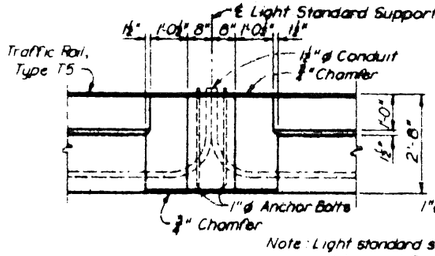
1 OF 2

STANDARD DRAWING NO. 40

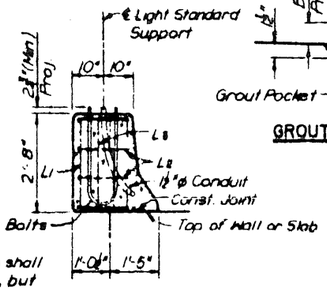
CONTRACT NO. DNT-114



PLAN



ELEVATION

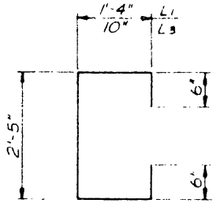


SECTION

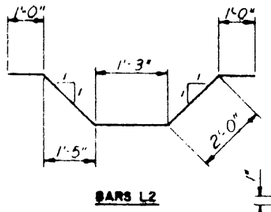
Note: Light standard supports shall not be paid for directly, but shall be considered subsidiary to Item 450, Traffic Rail, Type "T5"

Note: All light support reinforcing bars shall be #5, ASTM A-615, Grade 60.

LIGHT STANDARD SUPPORT DETAILS

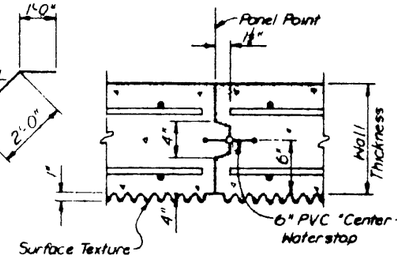


BARS L1 & L3

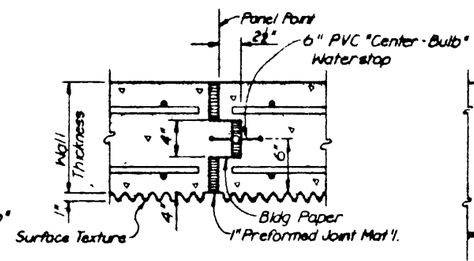


BARS L2

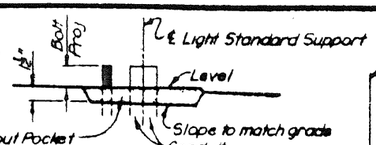
BAR BENDING DIAGRAMS



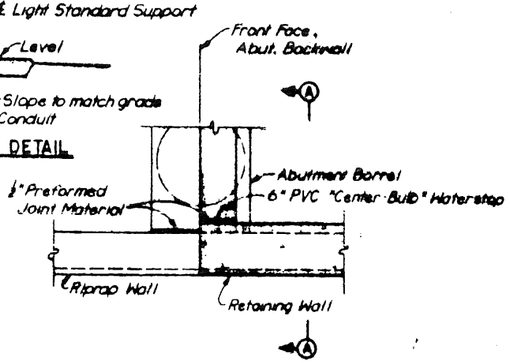
CONTRACTION JOINT



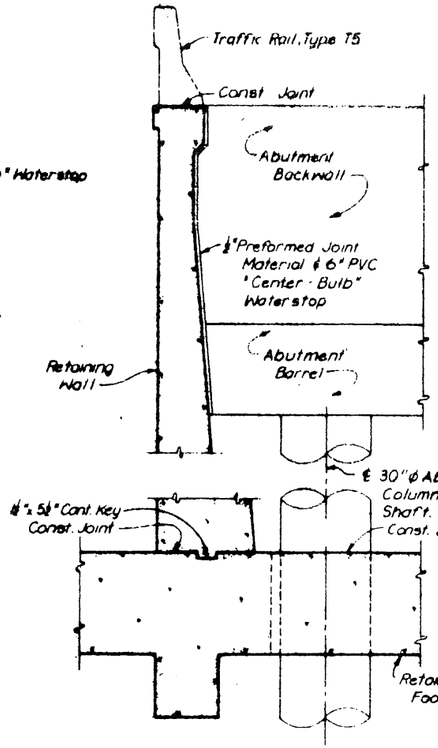
EXPANSION JOINT



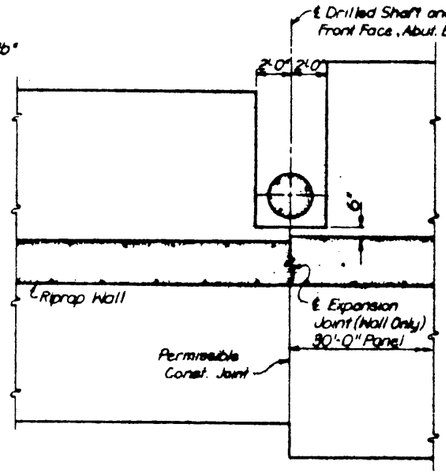
GROUT POCKET DETAIL



PLAN - TOP OF WALL

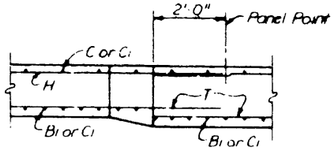


SECTION A-A

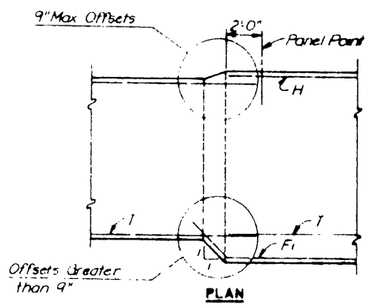


PLAN - TOP OF FOOTING

ABUTMENT CONNECTION DETAILS

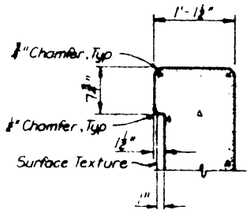


ELEVATION

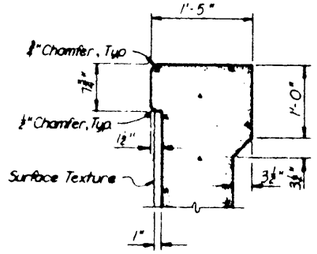


PLAN

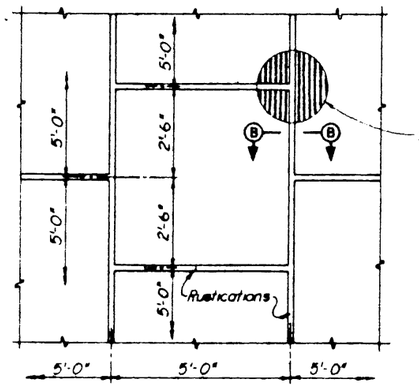
FOOTING TRANSITION DETAILS



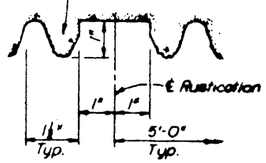
WALL CAP AT RIPRAP



TYPICAL WALL CAP



SURFACE TEXTURE PATTERN



SECTION B-B

Note: Vertical rustication is shown, horizontal rustication is similar.

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

ELEVATED ROADWAY SECTION
CAST-IN-PLACE CONCRETE
RETAINING WALL DETAILS

HNTB — SECTION VI

DRAWN JTK DATE 4-8-83 DESIGNED GDH DATE 4-8-83
CHECKED YAL DATE 6-3-83 SCALE

STANDARD DRAWING NO. 41

2 OF 2

004166

WALL PROPERTIES										REINFORCING STEEL FOR A 30'-0" WALL PANEL												
DIMENSIONS							MAX. SOIL PRESS.	MIN. As REQD. (□"/FT)		A1 @ 12"					A2 @ 12"					A3 @ 12"		
H	Fw	Tw	Sw	Hw	Ft	Tt	(T/□')	STEM	TOE	SIZE	NO.	X	Y	LGTH.	SIZE	NO.	X	Y	LGTH.	SIZE	NO.	LGTH.
4'	3'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-2"	0.53	0.33	0.13	#6	30	1'-7"	3'-9"	5'-4"	—	—	—	—	—	—	—	—
6	4'-0"	1'-10"	1'-0"	1'-2"	1'-0"	1'-1 3/16"	0.58	0.38	0.13	#6	30	2'-5"	5'-9"	8'-2"	—	—	—	—	—	—	—	—
8	5'-0"	2'-8"	1'-0"	1'-4"	1'-0"	1'-0 5/16"	0.64	0.49	0.13	#6	30	3'-3"	7'-9"	11'-0"	#6	29	2'-9"	2'-11"	5'-8"	—	—	—
10	6'-0"	3'-6"	1'-0"	1'-6"	1'-0"	0'-11 1/2"	0.70	0.64	0.24	#6	30	4'-1"	9'-9"	13'-10"	#6	29	3'-4"	4'-1"	8'-3"	—	—	—
12'	7'-0"	4'-4"	1'-0"	1'-8"	1'-0"	0'-10 11/16"	0.77	0.88	0.41	#6	30	4'-11"	11'-9"	16'-8"	#6	29	4'-0"	6'-11"	10'-11"	—	—	—
14	8'-0"	5'-2"	1'-0"	1'-0"	1'-0"	0'-9 15/16"	0.84	1.22	0.65	#6	30	5'-9"	13'-9"	19'-6"	#8	29	4'-7"	8'-11"	13'-6"	—	—	—
16	8'-10"	5'-6 9/16"	1'-9 7/8"	1'-6"	1'-5"	1'-2 7/16"	1.01	0.76	0.63	#6	29	5'-11"	7'-9"	13'-8"	#6	30	6'-11"	2'-10"	9'-9"	#6	30	7'-6"
18	10'-2"	6'-9 3/16"	1'-10 3/16"	1'-6"	1'-7"	1'-3 1/4"	1.01	0.93	0.82	#7	29	7'-1"	9'-9"	16'-10"	#6	30	8'-3"	3'-0"	11'-3"	#6	↓	9'-4"
20'	11'-6"	7'-11 13/16"	2'-0 3/16"	1'-6"	1'-9"	1'-4"	1.02	1.12	1.03	#7	29	8'-2"	9'-2"	17'-4"	#7	30	9'-7"	3'-8"	13'-3"	#7	↓	11'-2"
22'	12'-10"	9'-2 7/16"	2'-1 9/16"	1'-6"	1'-11"	1'-4 13/16"	1.05	1.34	1.26	#8	29	9'-3"	11'-2"	20'-5"	#7	30	10'-11"	3'-10"	14'-9"	#7	↓	13'-0"
24'	14'-2"	10'-5 1/16"	2'-2 5/16"	1'-6"	2'-1"	1'-5 9/16"	1.08	1.59	1.51	#8	29	10'-4"	11'-3"	21'-7"	#8	30	12'-3"	4'-8"	16'-11"	#8	↓	14'-10"
26	15'-6"	7 11/16"	2'-4 5/16"	1'-6"	2'-3"	1'-6 3/8"	1.11	1.87	1.80	#9	29	11'-5"	12'-1"	23'-6"	#9	30	13'-7"	5'-5"	19'-0"	#9	30	16'-8"

	REINFORCING STEEL FOR A 30'-0" WALL PANEL																											QUANTITIES PER LIN. FT. OF WALL	
	A4 @ 12"			B1 @ 12"			B2 @ 12"				C @ 18"			*D @ 18"			H @ 18"			T @ 18"			**S @ 9"						
H	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	Y	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.			CONC. (C.Y.)	REINF. (LB.)
4'	—	—	—	—	—	—	#5	30	3'-9"	4'-3"	#5	21	2'-6"	#5	9	29'-6"	#5	3	31'-9"	#5	2	31'-9"	#5	40	8'-10"			0.156	22.8
6	—	—	—	—	—	—	↓	↓	5'-9"	6'-3"	↓	↓	3'-6"	↓	11	↓	↓	4	↓	↓	3	↓	↓	↓	↓			0.271	34.2
8	—	—	—	#5	30	6'-9"	↓	↓	2'-6"	3'-0"	↓	↓	4'-6"	↓	15	↓	↓	5	↓	↓	4	↓	↓	↓	↓			0.384	56.8
10	—	—	—	↓	↓	8'-9"	↓	↓	2'-6"	3'-0"	↓	↓	5'-6"	↓	17	↓	↓	6	↓	↓	4	↓	↓	↓	↓			0.495	70.8
12'	—	—	—	↓	↓	10'-9"	↓	↓	2'-6"	3'-0"	↓	↓	6'-6"	↓	19	↓	↓	6	↓	↓	5	↓	↓	↓	↓			0.604	84.9
14	—	—	—	↓	↓	12'-9"	↓	↓	2'-6"	3'-0"	↓	↓	7'-6"	↓	21	↓	↓	7	↓	↓	5	↓	↓	↓	↓			0.710	114.1
16	#6	30	9'-3"	↓	↓	14'-4"	↓	↓	2'-11"	3'-5"	↓	↓	8'-4"	↓	25	↓	↓	7	↓	↓	6	↓	↓	↓	↓			1.116	117.5
18	↓	↓	9'-3"	↓	↓	16'-2"	↓	↓	3'-1"	3'-7"	↓	↓	9'-8"	↓	27	↓	↓	8	↓	↓	7	↓	↓	↓	↓			1.362	143.3
20'	↓	↓	9'-3"	↓	↓	18'-0"	↓	↓	3'-3"	3'-9"	↓	↓	11'-0"	↓	29	↓	↓	9	↓	↓	7	↓	↓	↓	↓			1.630	169.4
22'	↓	↓	9'-3"	↓	↓	19'-10"	↓	↓	3'-5"	3'-11"	↓	↓	12'-4"	↓	31	↓	↓	10	↓	↓	8	↓	↓	↓	↓			1.914	202.1
24'	↓	↓	9'-3"	↓	↓	21'-8"	↓	↓	3'-7"	4'-1"	↓	↓	13'-8"	↓	35	↓	↓	11	↓	↓	9	↓	↓	↓	↓			2.219	242.4
26	#6	30	9'-3"	#5	30	23'-6"	#5	30	3'-9"	4'-3"	#5	21	15'-0"	#5	37	29'-6"	#5	12	31'-9"	#5	9	31'-9"	#5	40	8'-10"			2.544	306.7

* 7-bars "D" in parapet are included for Contractor's information only.

** Bars for parapet are included for Contractor's information only.

BARS A1

BARS A2

BARS A4

BARS B2

BARS S

PARAPET DETAIL

GENERAL NOTES:

Designed according to AASHTO 1977 Standard Specifications and Interim Specifications thru 1982

Walls are designed using a 30 p.s.f. eq. fluid pressure and a 2'-0" live load surcharge.

All concrete to be Class C, f'c = 3,600 p.s.i.; fc = 1,440 p.s.i.

All reinforcing steel to be ASTM A-615, Grade 60. Bar dimensions are given out to out of bar. Radii are given to the inside of the bar.

The bottom of the footing shall be placed 1'-0" below the top of unweathered rock.

Expansion joints shall be placed at 90 ft. centers. Contraction joints shall be placed at all other panel points

Quantities include wall and footing only.

For additional details, see Standard Drawing No 43.

If this wall construction type is selected, the Contractor shall develop all necessary reinforcing steel schedules and shop drawings necessary to complete the work and submit these drawings and schedules for approval prior to beginning fabrication and construction.

Footings shall be poured to neat lines against undisturbed material.

Wall areas given are measured between the top of wall and the top of footing. The parapet or parapet and rail shall be paid for under Item 450, "Railing"

See Standard Drawing No 33 for details of C4 aluminum railing

SECTION
H > 14'

SECTION
H ≤ 14'

REAR ELEVATION
H > 14'

REAR ELEVATION
H ≤ 14'

NO.	REVISION	BY	DATE

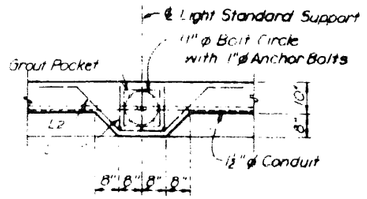
TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY

DEPRESSED ROADWAY SECTION
CAST-IN-PLACE CONCRETE
RETAINING WALL DETAILS

HNTB
SECTION VI

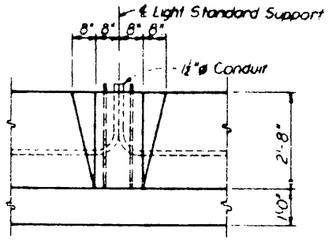
DRAWN JTK. DATE 3-29-83
CHECKED YAL DATE 4-29-83
DESIGNED DATE 3-10-83
SCALE None

1 OF 2
STANDARD DRAWING NO. 42

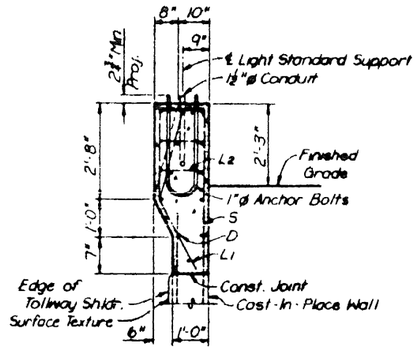


PLAN

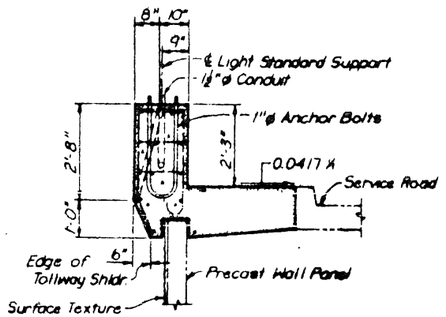
Note: Light standard supports shall not be paid for directly, but shall be considered subsidiary to Item 450, "Railing (Type T5)."



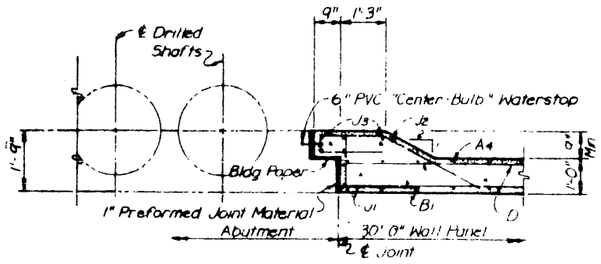
ELEVATION



SECTION - C.I.P. WALLS

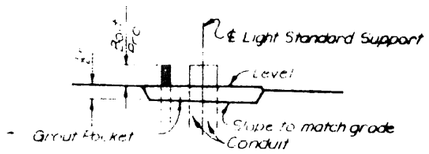


SECTION - PRECAST WALLS

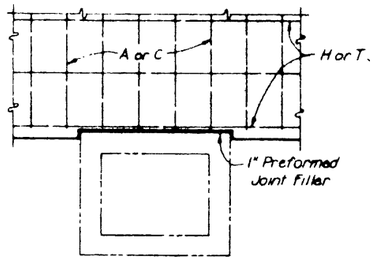


ABUTMENT CONNECTION

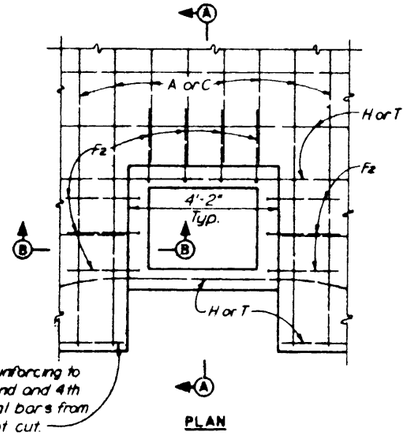
LIGHT STANDARD SUPPORT DETAILS



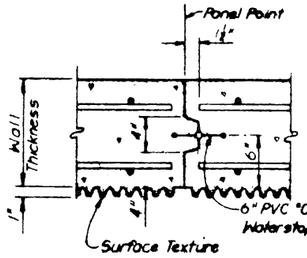
GROUT POCKET DETAIL



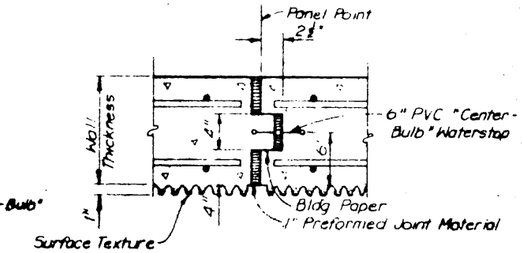
PLAN



PLAN

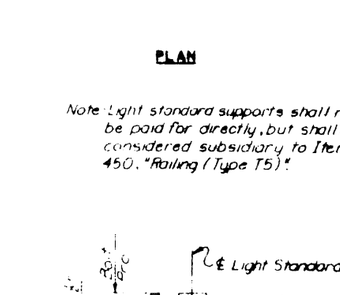


CONTRACTION JOINT



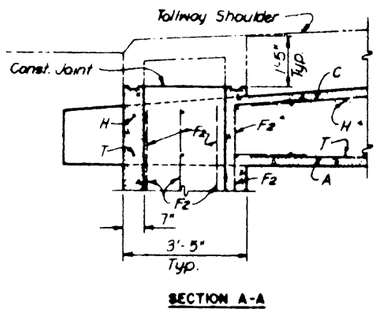
EXPANSION JOINT

ELEVATION



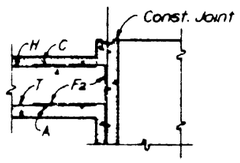
PLAN

FOOTING TRANSITION DETAILS

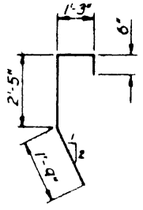


SECTION A-A

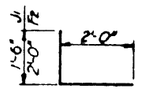
BOX INLET DETAILS



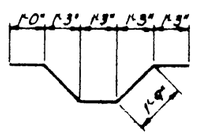
SECTION B-B



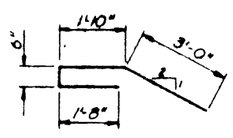
BARS L1



BARS J1 & F2



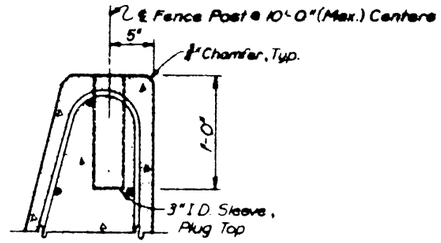
BARS L2



BARS J2

Note: Reinforcing bars shall be #5, ASTM A-615, Grade 60.

BAR BENDING DIAGRAMS



FENCE POST HOLE DETAIL

Note: For surface texture pattern details, see Standard Drawing No. 41

NO	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

DEPRESSED ROADWAY SECTION
CAST-IN-PLACE CONCRETE
RETAINING WALL DETAILS

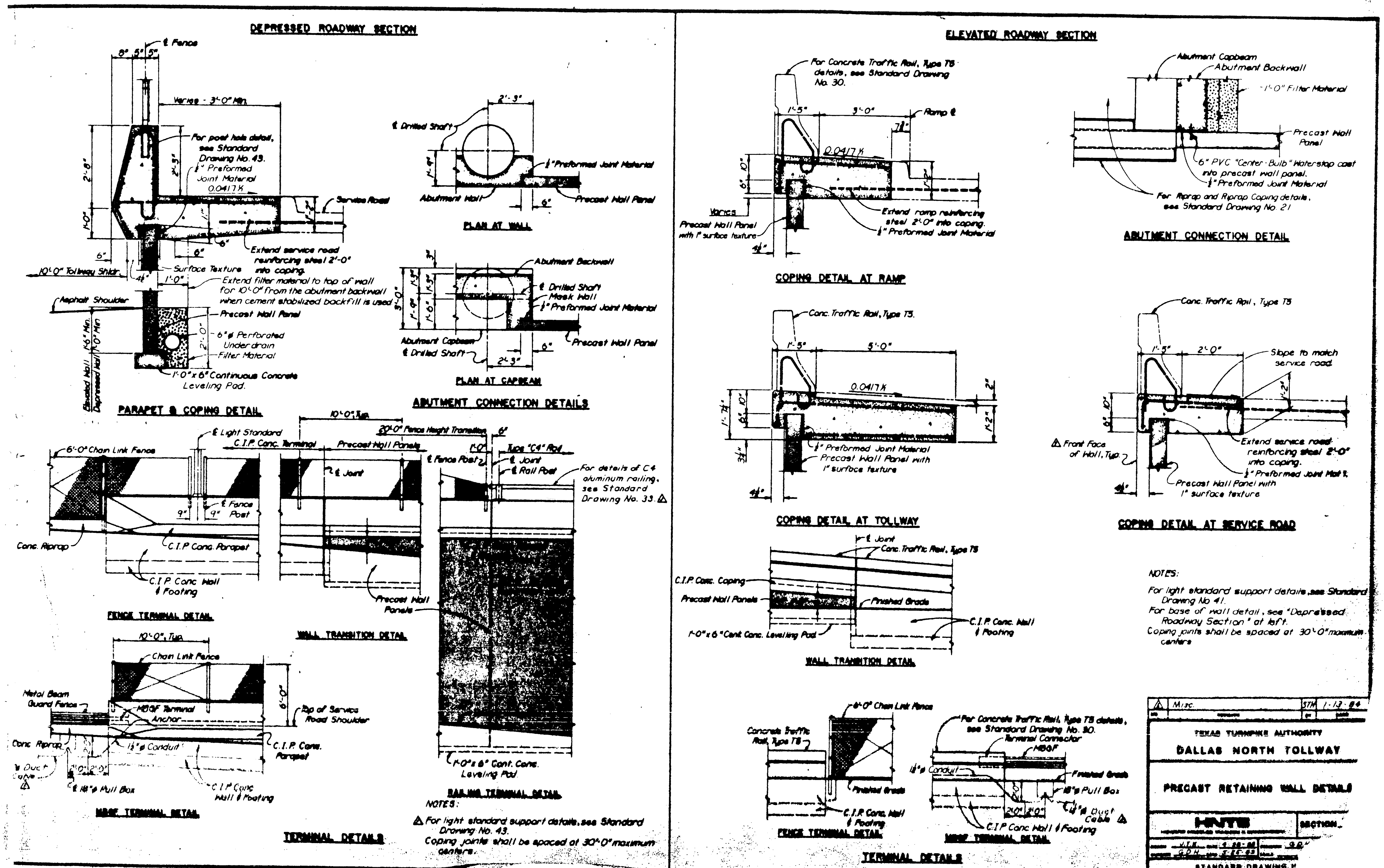
HNTB — SECTION VI

Drawn JTK DATE 4-6-83 | Designed GDH DATE 3-30-83
Supervised YAL DATE 5-5-83 | Scale None

STANDARD DRAWING NO 43

2 OF 2

C04168


DEPRESSED ROADWAY SECTION
℄ Fence
Varies - 3'-0" Min.
For post hole detail, see Standard Drawing No. 43.
½" Preformed Joint Material
0.0417 K
Service Road
Extend service road reinforcing steel 2'-0" into coping.
10'-0" Tollway Shldr.
Surface Texture
Extend filter material to top of wall for 10'-0" from the abutment backwall when cement stabilized backfill is used
Asphalt Shoulder
Precast Wall Panel
6" ø Perforated Underdrain
Filter Material
1'-0" x 6" Continuous Concrete Leveling Pad.
Elevated Wall
Depressed Wall
PARAPET & COPING DETAIL
℄ Drilled Shaft
½" Preformed Joint Material
Abutment Wall
Precast Wall Panel
PLAN AT WALL
Abutment Backwall
℄ Drilled Shaft
Mask Wall
½" Preformed Joint Material
Abutment Capbeam
℄ Drilled Shaft
Precast Wall Panel
PLAN AT CAPBEAM
ABUTMENT CONNECTION DETAILS
℄ Light Standard
C.I.P. Conc. Terminal
6'-0" Chain Link Fence
℄ Fence Post
Conc. Riprap
C.I.P. Conc. Parapet
C.I.P. Conc. Wall & Footing
FENCE TERMINAL DETAIL
10'-0" Typ.
Precast Wall Panels
℄ Joint
Precast Wall Panels
WALL TRANSITION DETAIL
20'-0" Fence Height Transition
Type "C4" Rail
℄ Fence Post
℄ Joint
℄ Rail Post
For details of C4 aluminum railing, see Standard Drawing No. 33.
1'-0" x 6" Cont. Conc. Leveling Pad
RAILING TERMINAL DETAIL
Chain Link Fence
Metal Beam Guard Fence
MBGF Terminal Anchor
Top of Service Road Shoulder
Conc. Riprap
1½" ø Conduit
C.I.P. Conc. Parapet
Duct Cable
℄ 18" ø Pull Box
C.I.P. Conc. Wall & Footing
MBGF TERMINAL DETAIL
TERMINAL DETAILS
NOTES:
For light standard support details, see Standard Drawing No. 43.
Coping joints shall be spaced at 30'-0" maximum centers.
ELEVATED ROADWAY SECTION
For Concrete Traffic Rail, Type T5 details, see Standard Drawing No. 30.
Ramp ℄
0.0417 K
Varies
Precast Wall Panel with 1" surface texture
Extend ramp reinforcing steel 2'-0" into coping.
½" Preformed Joint Material
COPING DETAIL AT RAMP
Abutment Capbeam
Abutment Backwall
1'-0" Filter Material
Precast Wall Panel
6" PVC "Center-Bulb" Waterstop cast into precast wall panel.
½" Preformed Joint Material
For Riprap and Riprap Coping details, see Standard Drawing No. 21
ABUTMENT CONNECTION DETAIL
Conc. Traffic Rail, Type T5.
0.0417 K
½" Preformed Joint Material
Precast Wall Panel with 1" surface texture
COPING DETAIL AT TOLLWAY
Conc. Traffic Rail, Type T5
Slope to match service road.
Front Face of Wall, Typ.
Extend service road reinforcing steel 2'-0" into coping.
½" Preformed Joint Mat'l.
Precast Wall Panel with 1" surface texture
COPING DETAIL AT SERVICE ROAD
℄ Joint
Conc. Traffic Rail, Type T5
C.I.P. Conc. Coping
Precast Wall Panels
Finished Grade
1'-0" x 6" Cont. Conc. Leveling Pad
C.I.P. Conc. Wall & Footing
WALL TRANSITION DETAIL
NOTES:
For light standard support details, see Standard Drawing No. 41.
For base of wall detail, see "Depressed Roadway Section" at left.
Coping joints shall be spaced at 30'-0" maximum centers
6'-0" Chain Link Fence
Concrete Traffic Rail, Type T5
Finished Grade
C.I.P. Conc. Wall & Footing
FENCE TERMINAL DETAIL
For Concrete Traffic Rail, Type T5 details, see Standard Drawing No. 30.
Terminal Connector
MBGF
1½" ø Conduit
Finished Grade
18" ø Pull Box
Duct Cable
C.I.P. Conc. Wall & Footing
MBGF TERMINAL DETAIL
TERMINAL DETAILS
Misc.
TEXAS TURNPIKE AUTHORITY
DALLAS NORTH TOLLWAY
PRECAST RETAINING WALL DETAILS
HNTB
SECTION
STANDARD DRAWING

004169