

No.	DESCRIPTION
A Sheets * A.1	Title Sheets Title Sheet
C Sheets C.1 - C.XX	C Sheets Project Quantities and Tabulations
J Sheets * J.1 * J.2	J Sheets Traffic Control Plan Detour Plan
U Sheets * U.1 * U.2 * U.3 * U.4 - U.11	U Sheets Test Pile Plan Sheet Fence Sheet Detail Sheet For Information Only Sheets * Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
WOODBURY COUNTY
GORDON DRIVE TEST PILE PROGRAM

Adjacent to Gordon
Drive Viaduct

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.

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INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	X	Primary Signature Block	X

PRELIMINARY PLANS

Subject to change by final design.

8/18/2026 DRAFT

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	50	Bid item included for excavation and haul away of rubble or debris hindering test pile installation, if encountered. Dispose of excess material according to Article 1106.07 of the current specifications.
2	2401-6750001	REMOVALS, AS PER PLAN	LS	1	Bid item includes removal of tops of test piles and test casing to 2 feet below existing ground line. Includes all work for excavation, removal, backfill, and off-site disposal of test element cutoffs. Removed pile and casing sections shall become property of the Contractor. Removal of the test pile top cannot begin until after the pile has been retapped. Removal of test casing top cannot begin until a minimum of 12 hours has elapsed since conclusion of casing installation. Bid item also includes vibratory extraction of test sheet pile. Removal of sheet pile cannot begin until at least 12 hours has elapsed since conclusion of sheet pile installation. Estimate assumes complete removal of test sheet pile sections. After removal, sheet pile shall become property of the Contractor. Bid item also includes the removal and reinstallation of the north-side structural bolts securing the separation diaphragms for Piers #45, #46, and #47 as shown on Sheet U.3. Remove the diaphragm bolts prior to driving any test piles. Resecure the pier separation diaphragms at the conclusion of pile driving using new high-strength bolts matching the existing size and type.
3	2501-0201517	PILES, STEEL, HP 14 X 117	LF	640	All test piles shall be installed with a DELMAG 30-32 open end diesel hammer according to the pile driving notes listed on Sheet U.3. Bid item includes effort to retap each test pile. Estimate assumes four test piles driven to a depth of 160 feet. The Contractor is to cease installation operations immediately if an alert threshold is exceeded and may not resume until directed by the Engineer. Bid item also includes effort to perform Pile Driving Analyzer (PDA) testing at all four test pile locations.
4	2501-5775000	PILES, STEEL SHEET	SF	600	Furnish and install PZ 27 section or larger sheet pile. The sheet pile shall be installed with a vibratory hammer at the locations shown in the plans. Estimate assumes 15-foot-wide pile section with 40-foot depth. The Contractor is to cease installation operations immediately if an alert threshold is exceeded and may not resume until directed by the Engineer.
5	2519-1003072	FENCE, CHAIN LINK WITH SECURITY TOP, 72 IN. HEIGHT	LF	644	Install security fence enclosures at locations shown in plans. Refer to Sheet U.2 and U.3 for additional details.
6	2519-3300600	FENCE, SAFETY	LF	360	Install Safety Fence 15 feet from edge of existing Bacon Creek Channel prior to beginning any construction activities. Safety Fence to remain in-place until all construction equipment has been demobilized. Estimate includes complete installation and removal of Safety Fence.
7	2519-3710000	GATE ASSEMBLY, CHAIN LINK, 8 FT.	EACH	1	Furnish and install 8-foot-wide gate assembly as part of 72-inch chain link security fence with security top. Gate assembly to match height and security rating of the security fence perimeter. Alternative size and location of gate may be submitted for approval by the Engineer to facilitate instrumentation and inspection activities.
8	2519-3711600	GATE ASSEMBLY, CHAIN LINK, 16 FT.	EACH	1	Furnish and install 16-foot-wide gate assembly as part of 72-inch chain link security fence with security top. Gate assembly to match height and security rating of the security fence perimeter. Alternative size and location of gate may be submitted for approval by the Engineer to facilitate instrumentation and inspection activities.
9	2519-4200120	REMOVAL OF FENCE, CHAIN LINK	LF	668	Bid item includes complete removal of security fence perimeters installed as part of this project, including removal of gate assemblies. Removal of fence will occur in two phases. Refer to Sheet U.2 for additional details.
10	2526-8285040	CONSTRUCTION SURVEY, LOCATION SURVEY	LS	1	Bid item included for staking location of test elements and fencing installations. All coordinates listed in plans are Iowa RCS Zone 4. Survey control monuments will be established by others and will not be paid for separately.
11	2528-2518000	SAFETY CLOSURE	EACH	2	Install on each approach of Gordon Drive. Refer to Traffic Control Plan and Sheet J.2 for additional details.

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Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
12	2528-8445110	TRAFFIC CONTROL	LS	1	** TRAFFIC CONTROL PLAN UNDER DEVELOPMENT ** The Gordon Drive Viaduct will be closed during pile driving operations. The Contractor will be responsible for installing and maintaining the PDMS boards and safety closures at the locations identified in the J sheets. The Contractor will be required to maintain existing traffic adjacent to worksite including Dace Avenue, Leech Avenue, and Cunningham Drive.
13	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS)	CDAY	0	See Proposal. Install four PDMS at locations in accordance with the Traffic Control Plan and Sheet J.2.
14	2533-4980005	MOBILIZATION	LS	1	Multiple mobilizations will be required for this project. Security Fence installation must occur prior to installation of instrumentation by others. Primary mobilization and setup of pile driving equipment will not be permitted until instrumentation has been installed and baseline readings are obtained. The Estimate assumes six working days to install the test elements, however actual installation times may differ depending on instrumentation readings and direction from the Engineer.
15	2599-9999009	('LINEAR FEET' ITEM) 54 IN. DIA. CASING	LF	60	Furnish and install 54 inch diameter casing pipe with a 0.375 inch minimum wall thickness at location shown in plans. Casing is to be installed with a vibratory hammer. The Contractor is to cease installation operations immediately if an alert threshold is exceeded and may not resume until directed by the Engineer. METHOD OF MEASUREMENT: Plan quantity. BASIS OF PAYMENT: Contract unit price is full compensation for delivering, preparing, and installing the casing. The length of unused casing will be subtracted from the plan quantity.
16	2599-9999010	('LUMP SUM' ITEM) WORKSITE SECURITY	LS	1	**PROVISIONAL** PROVIDED IF ADDITIONAL SECURITY MEASURES ARE JUSTIFIED

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**Traffic Control
Plan Under
Development**

PRELIMINARY

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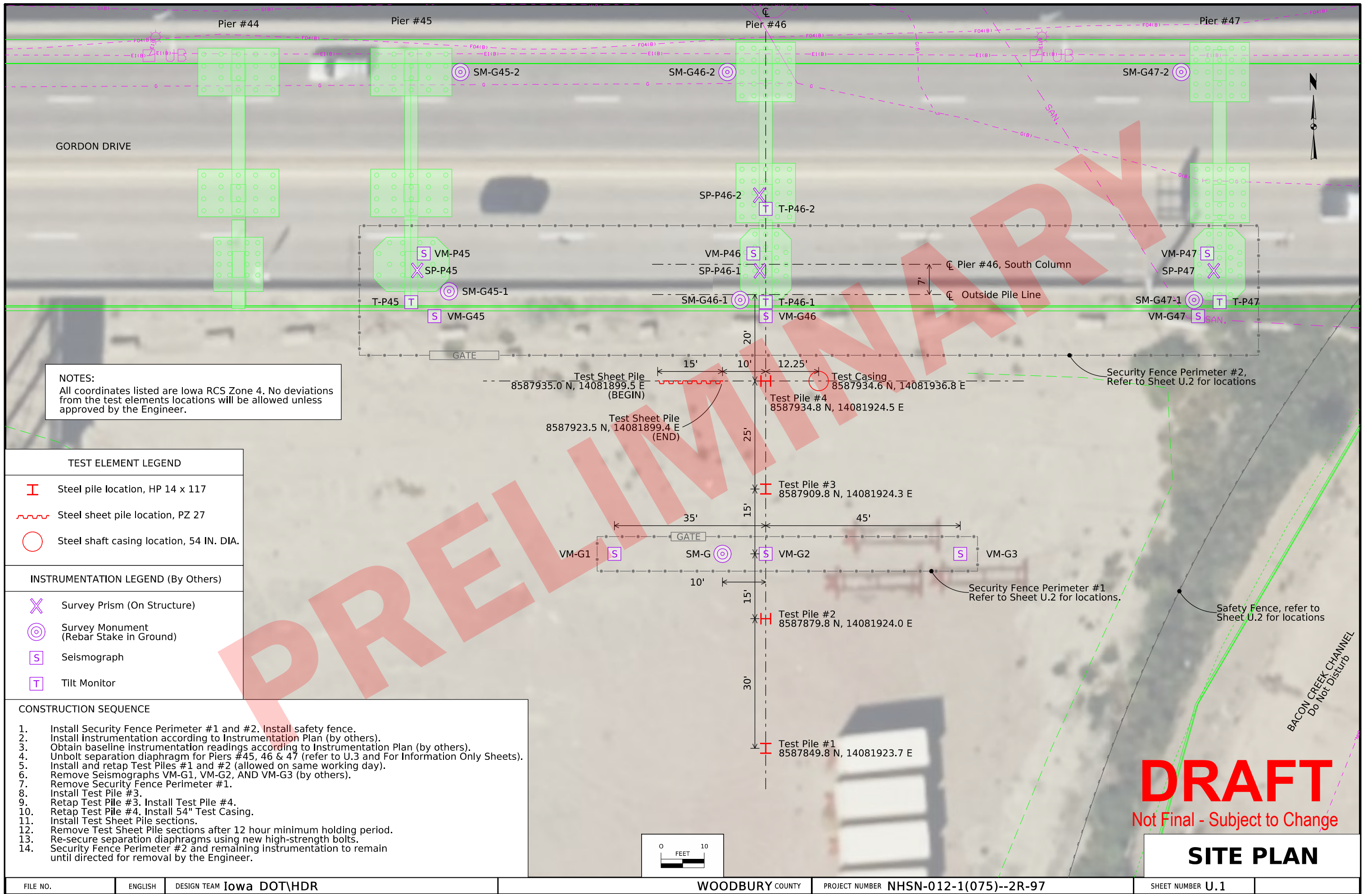
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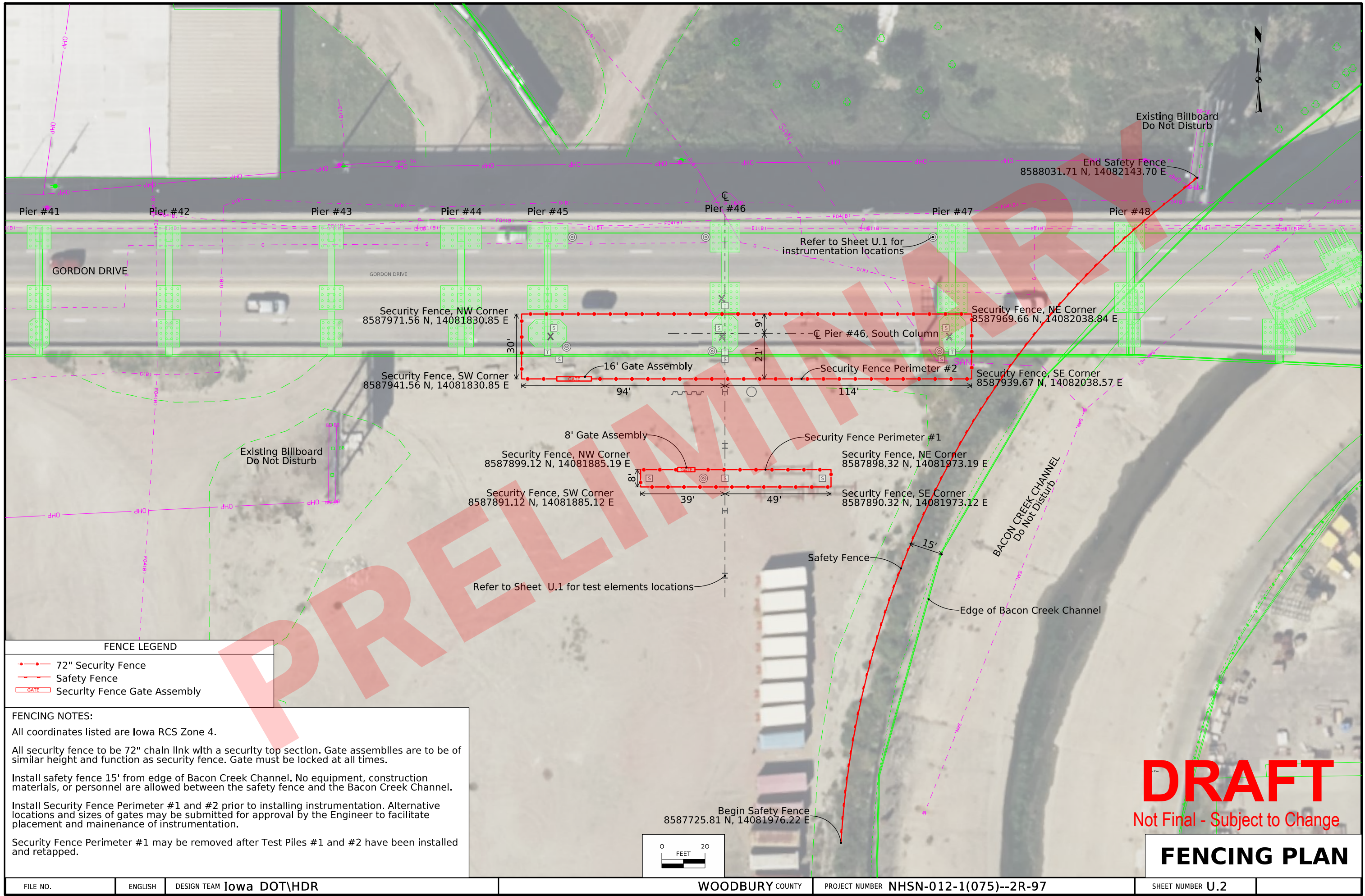
Traffic Control Plan Under Development

SCALE: 1" = 200'
0' 50' 100' 200'

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Not Final - Subject to Change

**GORDON DR
DETOUR**





CONSTRUCTION NOTES:

All monitoring and instrumentation devices associated with the test pile program will be installed by others. The Contractor shall not disturb the monitoring devices, power and data cables, and survey control points for the duration of the test pile program. The Contractor will be responsible for installing security fencing around the instrumentation sites and providing worksite security measures as needed.

The instrumentation readings will be continuously monitored against alert thresholds for ground vibration, ground deformation/settlement, pier settlement, and pier tilt. The Contractor must provide clear line-of-sight between survey station(s), control monuments, and survey elements during the active data collection.

The Contractor will not be permitted to begin installation of test elements until baseline instrumentation readings are acquired so normal site conditions can be isolated from construction operations.

All test pile are HP 14x117 sections. Each test pile will be driven according to the pile notes on this sheet. Pile driving will be paused if an alert threshold is exceeded. Pile driving will resume on the direction of the Engineer.

All test piles shall be installed with a DELMAG 30-32 open end diesel hammer. Use a hammer cushion according to the manufacturer's recommendations.

Pile Driving Analyzer (PDA) testing will be included at all four test pile locations.

The test piles shall be driven in the prescribed sequence, starting with the Test Pile #1 located furthest from the existing bridge. Test Piles #1 and #2 may be driven in their entirety and retapped on the first working day. Test Pile #3 cannot be installed until the next working day. Test Pile #3 and all remaining test element installations will be limited to one installation per working day, with the retap and/or removal occurring the next working day. Refer to Sheet U.1 for the complete test element construction sequence.

Install test piles in the orientation represented on Sheet U.1.

Leave a minimum of 6 feet of pile exposed above the ground surface after initial pile driving to facilitate retapping the following working day.

The test casing element will be a 54-inch diameter steel casing with a minimum wall thickness of 0.375 inches. The test casing will be installed with a vibratory hammer to a depth of 60 feet. Casing installation will be paused if an alert threshold is exceeded. Installation will resume on the direction of the Engineer.

The test sheet pile element will be a PZ 27 section or larger. The width of the installed sheet pile section shall be 15 feet minimum. The sheet pile section will be installed with a vibratory hammer to a depth of 40 feet. Sheet pile installation will be paused if an alert threshold is exceeded. Installation will resume on the direction of the Engineer.

The test sheet pile sections shall be extracted using a vibratory hammer. The removal of the sheet pile cannot begin until a minimum of 12 hours has elapsed since the end of installation operations.

The Contractor shall coordinate with monitoring and inspection personnel to maintain detailed driving logs with driving rates and time stamps for all test element installation and removal activities. Activities include but are not limited to: pile driving, pile splicing, pile retapping, vibratory installation, vibratory removal, and any pauses in operations due to alert threshold exceedence or otherwise.

The Contractor shall protect all existing utilities in-place.

PILE NOTES:

The contract length of 160 feet for the test pile is based on a non-cohesive soil classification, a total factored axial load per pile (PU) of 290 kips, and a geotechnical resistance factor (PHI) of 0.55.

The nominal axial bearing resistance for construction control was determined from a non-cohesive soil classification and a geotechnical resistance factor (PHI) of 0.55. Piles are assumed to be driven from a start elevation at ground line.

The required nominal axial bearing resistance for the test piles is 260 tons at end of drive or retap. The pile contract length shall be driven as per plan unless piles reach refusal. Construction control requires a Wave Equation Analysis Program (WEAP) simulation with bearing graph, to be prepared by Iowa DOT.

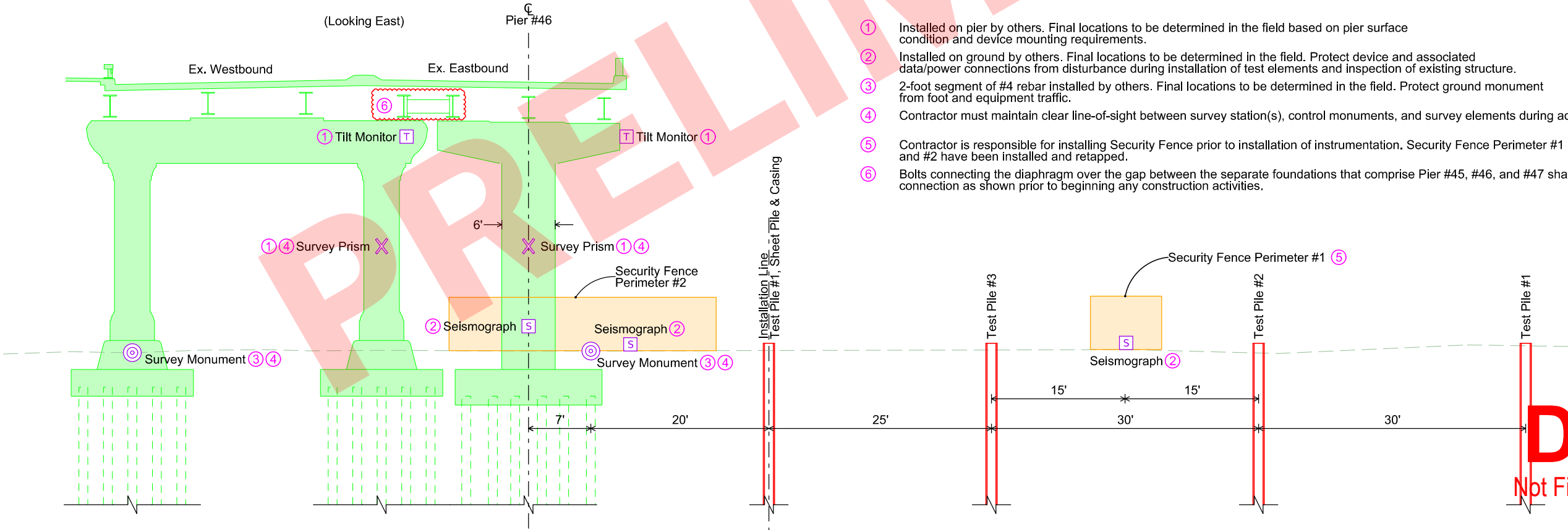
RESPONSIBILITIES BY OTHERS - ITEMS NOT COVERED OR PAID FOR IN THIS CONTRACT

- Inspection(s) and condition assessment(s) of the Gordon Drive Viaduct.
- Installation and maintenance of instrumentation and monitoring devices.
- Installation of survey monuments and establishment of survey control points outside the project zone of influence.
- Data collection, monitoring and reporting for vibration, displacement, and pier tilt measurements.
- Notification and reporting of alert threshold exceedence.

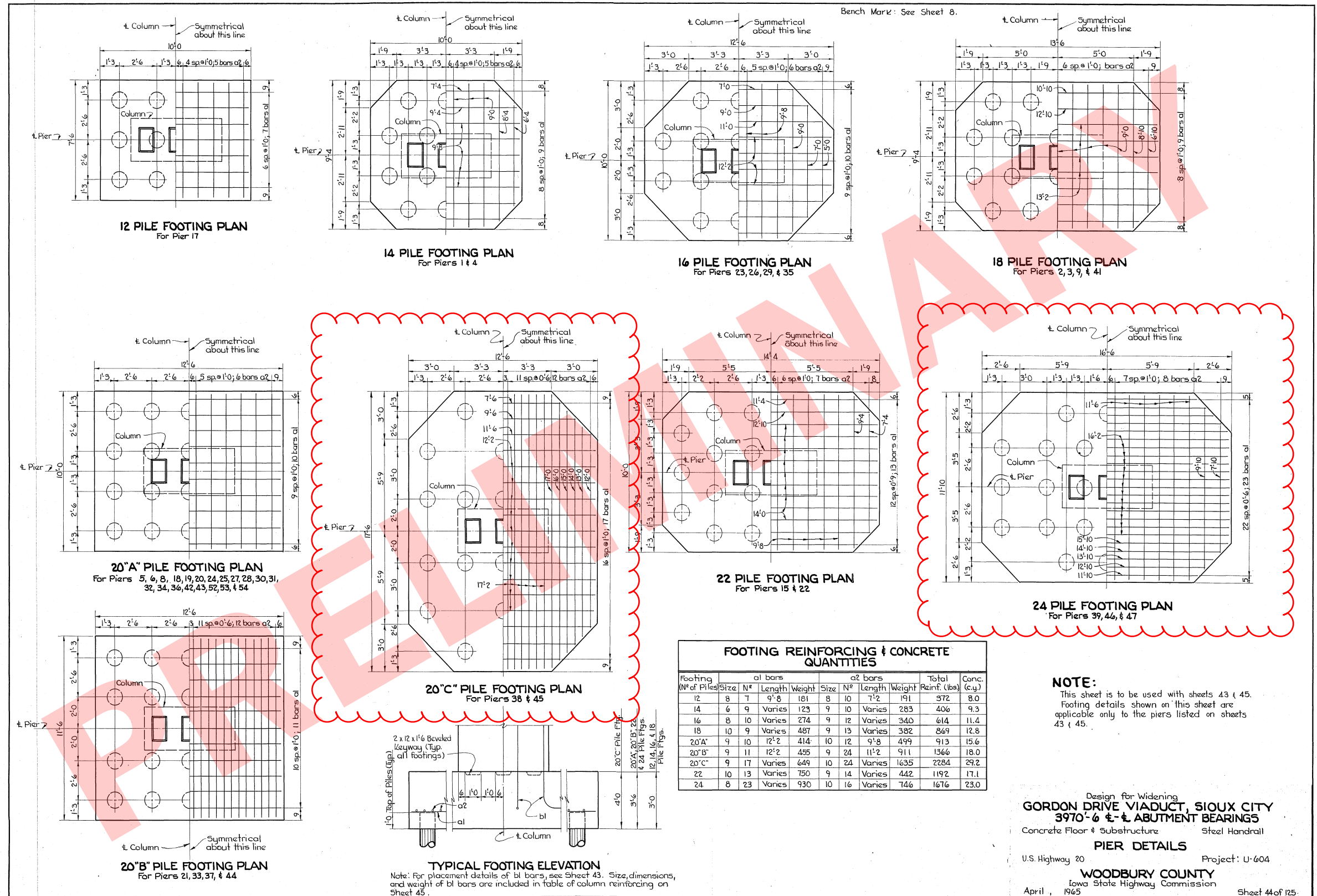
Refer to Instrumentation and Monitoring Plan for project contacts and additional details regarding project roles and responsibilities.

TEST ELEMENT & INSTRUMENTATION PLACEMENT DETAILS

- 1 Installed on pier by others. Final locations to be determined in the field based on pier surface condition and device mounting requirements.
- 2 Installed on ground by others. Final locations to be determined in the field. Protect device and associated data/power connections from disturbance during installation of test elements and inspection of existing structure.
- 3 2-foot segment of #4 rebar installed by others. Final locations to be determined in the field. Protect ground monument from foot and equipment traffic.
- 4 Contractor must maintain clear line-of-sight between survey station(s), control monuments, and survey elements during active data collection.
- 5 Contractor is responsible for installing Security Fence prior to installation of instrumentation. Security Fence Perimeter #1 may be removed after Test Piles #1 and #2 have been installed and retapped.
- 6 Bolts connecting the diaphragm over the gap between the separate foundations that comprise Pier #45, #46, and #47 shall be removed from the north connection as shown prior to beginning any construction activities.



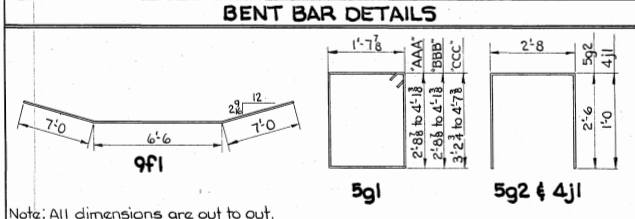
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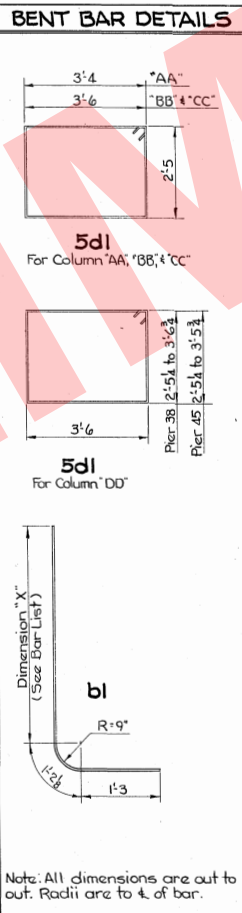
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PIER CAP REINFORCING STEEL																									
Bar	Shape	PIER CAP "AAA"				PIER CAP "BBB"				PIER CAP "CCC"															
		Size	N#	Length	Weight	Size	N#	Length	Weight	Size	N#	Length	Weight												
f1		9	4	20'-6"	279	9	4	20'-6"	279	9	4	20'-6"	279												
f2		9	2	16'-0"	109	9	2	16'-0"	109	9	2	16'-0"	109												
f3		9	2	20'-2"	137	9	2	20'-2"	137	9	2	20'-2"	137												
g1		5	48	Varies	344	5	32	Varies	363	5	56	Varies	692												
g2		5	6	7'-6"	47	5	6	7'-6"	47	5	6	7'-6"	47												
h1		10	6	20'-2"	521	10	6	20'-2"	521	11	6	20'-2"	643												
h2		10	6	20'-2"	521	8	4	20'-2"	215	10	6	20'-2"	521												
j1		4	3	4'-6"	9	4	3	4'-6"	9	4	3	4'-6"	9												
k1		4	2	3'-2"	4	4	2	3'-2"	4	4	2	3'-2"	4												
		Total (lbs.)				2171				Total (lbs.)				1684				Total (lbs.)				2441			

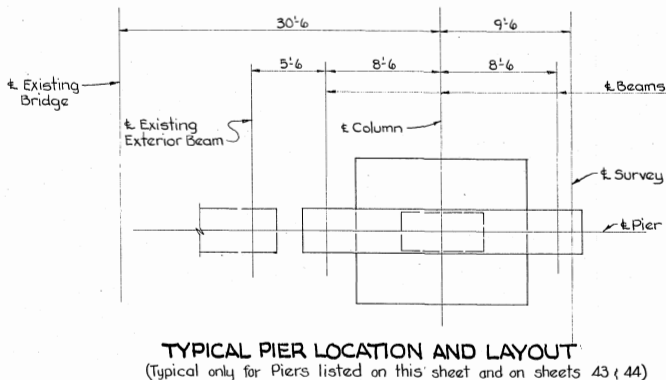


PIER CAP CONCRETE QUANTITIES			
	PIER CAP "AAA"	PIER CAP "BBB"	PIER CAP "CCC"
Quantity, C.Y.	9.4	9.4	10.5

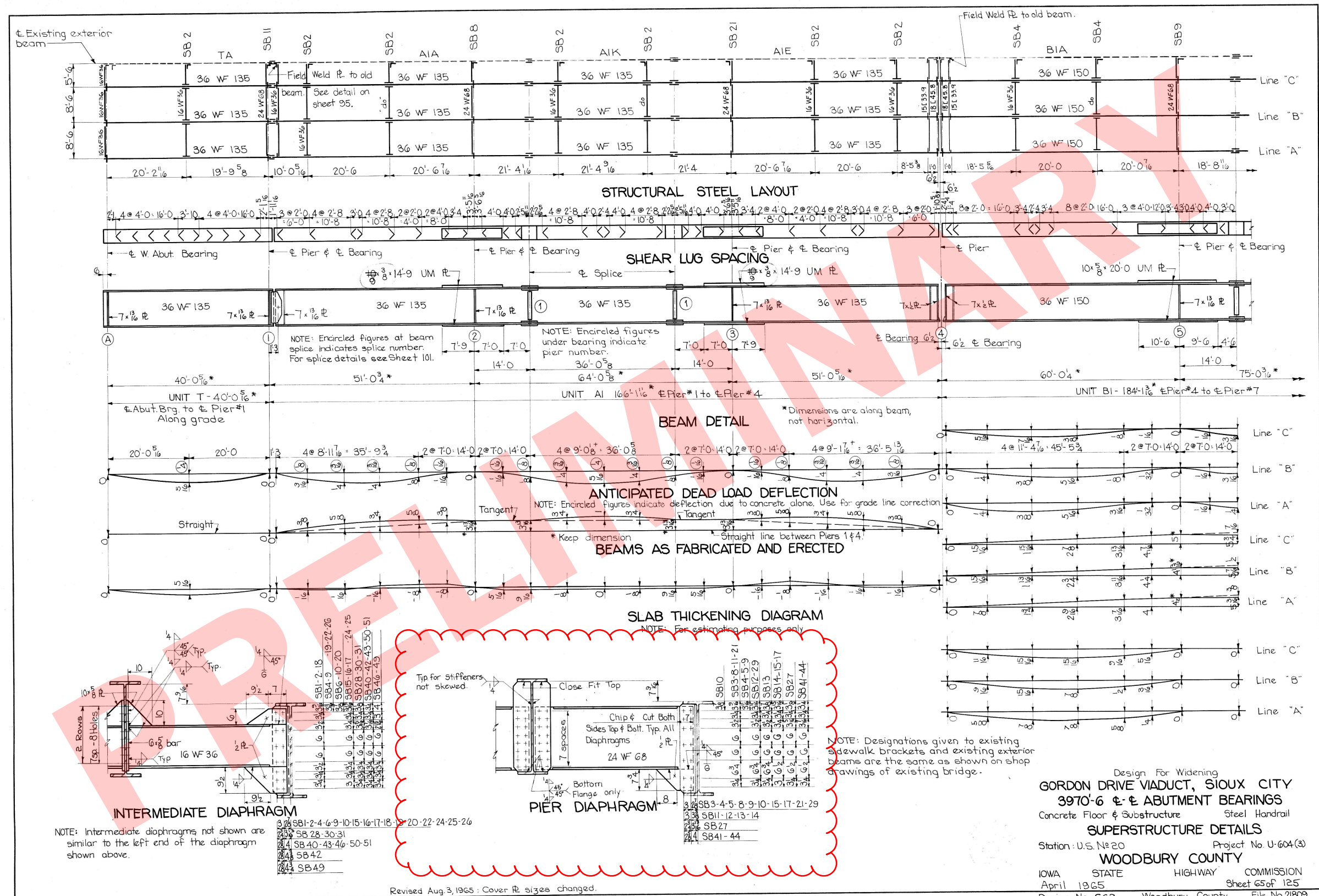
PIER COLUMN REINFORCING AND CONCRETE QUANTITIES																
Pier	Column	Column Height	bar b1				bar c1				bar d1				Total Reinf. (lbs)	Concrete (cu.)
			Size	N ^o	Dim. "X"	Length/Weight	Size	N ^o	Length/Weight	Size	N ^o	Length/Weight				
1	"AA"	9'-0"	10	24	4'-6"	6'-11"	714	10	24	12'-3"	1239	5	18	12'-3"	2183	5.5
2	"AA"	11'-0"	10	24	4'-6"	6'-11"	714	10	24	14'-0"	1446	5	22	12'-3"	2441	6.7
3	"AA"	14'-0"	10	24	4'-6"	6'-11"	714	10	24	17'-0"	1756	5	28	12'-3"	2828	8.6
4	"AA"	15'-0"	10	24	4'-6"	6'-11"	714	10	24	18'-0"	1859	5	30	12'-3"	3383	9.2
5	"AA"	17'-0"	10	24	5'-0"	7'-5"	766	10	24	20'-0"	2045	5	34	12'-3"	434	265
6	"AA"	18'-0"	10	24	5'-0"	7'-5"	766	10	24	21'-0"	2149	5	36	12'-3"	440	3395
8	"AA"	20'-0"	10	24	5'-0"	7'-5"	766	10	24	23'-0"	2375	5	40	12'-3"	511	3652
9	"AA"	20'-0"	10	24	4'-6"	6'-11"	714	10	24	23'-0"	2375	5	40	12'-3"	511	3600
15	"AA"	21'-0"	10	24	5'-0"	7'-5"	766	10	24	24'-0"	2479	5	42	12'-3"	537	3782
17	"AA"	21'-0"	10	24	4'-6"	6'-11"	714	10	24	24'-0"	2479	5	42	12'-3"	537	3730
18	"AA"	22'-0"	10	24	5'-0"	7'-5"	766	10	24	25'-0"	2582	5	44	12'-3"	562	3910
19	"AA"	23'-0"	10	24	5'-0"	7'-5"	766	10	24	26'-0"	2685	5	46	12'-3"	588	4039
20	"AA"	24'-0"	10	24	5'-0"	7'-5"	766	10	24	27'-0"	2788	5	48	12'-3"	613	4167
21	"BB"	25'-0"	10	42	5'-0"	7'-5"	1340	10	42	28'-0"	3060	5	50	12'-7"	656	7056
22	"AA"	25'-0"	10	24	5'-0"	7'-5"	766	10	24	28'-0"	2892	5	50	12'-3"	639	4297
23	"AA"	25'-0"	10	24	4'-6"	6'-11"	714	10	24	28'-0"	2892	5	50	12'-3"	639	4245
24	"AA"	25'-0"	10	24	5'-0"	7'-5"	766	10	24	28'-0"	2892	5	50	12'-3"	639	4297
25	"AA"	26'-0"	10	24	5'-0"	7'-5"	766	10	24	29'-0"	2995	5	52	12'-3"	664	4425
26	"AA"	26'-0"	10	24	4'-6"	6'-11"	714	10	24	29'-0"	2995	5	52	12'-3"	664	4373
27	"AA"	27'-0"	10	24	5'-0"	7'-5"	766	10	24	30'-0"	3098	5	54	12'-3"	690	4554
28	"AA"	27'-0"	10	24	5'-0"	7'-5"	766	10	24	30'-0"	3098	5	54	12'-3"	690	4554
29	"AA"	28'-0"	10	24	4'-6"	6'-11"	714	10	24	31'-0"	3201	5	56	12'-3"	716	4631
30	"AA"	28'-0"	10	24	5'-0"	7'-5"	766	10	24	31'-0"	3201	5	56	12'-3"	716	4683
31	"AA"	28'-0"	10	24	5'-0"	7'-5"	766	10	24	31'-0"	3201	5	56	12'-3"	716	4683
32	"AA"	28'-0"	10	24	5'-0"	7'-5"	766	10	24	31'-0"	3201	5	56	12'-3"	716	4683
33	"CC"	28'-0"	11	42	5'-6"	7'-11"	1767	11	42	31'-0"	6918	5	56	12'-7"	735	9420
34	"AA"	28'-0"	10	24	5'-0"	7'-5"	766	10	24	31'-0"	3201	5	56	12'-3"	716	4683
35	"AA"	28'-0"	10	24	4'-6"	6'-11"	714	10	24	31'-0"	3201	5	56	12'-3"	716	4631
36	"AA"	28'-0"	10	24	5'-0"	7'-5"	766	10	24	31'-0"	3201	5	56	12'-3"	716	4683
37	"BB"	28'-0"	10	42	5'-0"	7'-5"	1340	10	42	31'-0"	5603	5	56	12'-7"	735	7678
38	"DD"	28'-0"	11	42	6'-0"	8'-5"	1878	11	42	31'-0"	6918	5	56	Varies	801	9597
39	"AA"	23'-0"	10	24	5'-0"	7'-5"	766	10	24	26'-0"	2685	5	46	12'-3"	588	4039
41	"AA"	28'-0"	10	24	4'-6"	6'-11"	714	10	24	31'-0"	3201	5	56	12'-3"	716	4631
42	"AA"	27'-0"	10	24	5'-0"	7'-5"	766	10	24	30'-0"	3098	5	54	12'-3"	690	4554
43	"AA"	26'-0"	10	24	5'-0"	7'-5"	766	10	24	29'-0"	2995	5	52	12'-3"	664	4425
44	"CC"	26'-0"	11	42	5'-6"	7'-11"	1767	11	42	29'-0"	6471	5	52	12'-7"	682	8920
45	"DD"	26'-0"	11	42	6'-0"	8'-5"	1878	11	42	29'-0"	6471	5	52	Varies	739	9088
46	"AA"	22'-0"	10	24	5'-0"	7'-5"	766	10	24	25'-0"	2582	5	44	12'-3"	562	3910
47	"AA"	22'-0"	10	24	5'-0"	7'-5"	766	10	24	25'-0"	2582	5	44	12'-3"	562	3910
52	"AA"	20'-0"	10	24	5'-0"	7'-5"	766	10	24	23'-0"	2375	5	40	12'-3"	511	3652
53	"AA"	21'-0"	10	24	5'-0"	7'-5"	766	10	24	24'-0"	2479	5	42	12'-3"	537	3782
54	"AA"	19'-0"	10	24	5'-0"	7'-5"	766	10	24	22'-0"	2272	5	38	12'-3"	486	3524



Bench Mark: See Sheet 8.

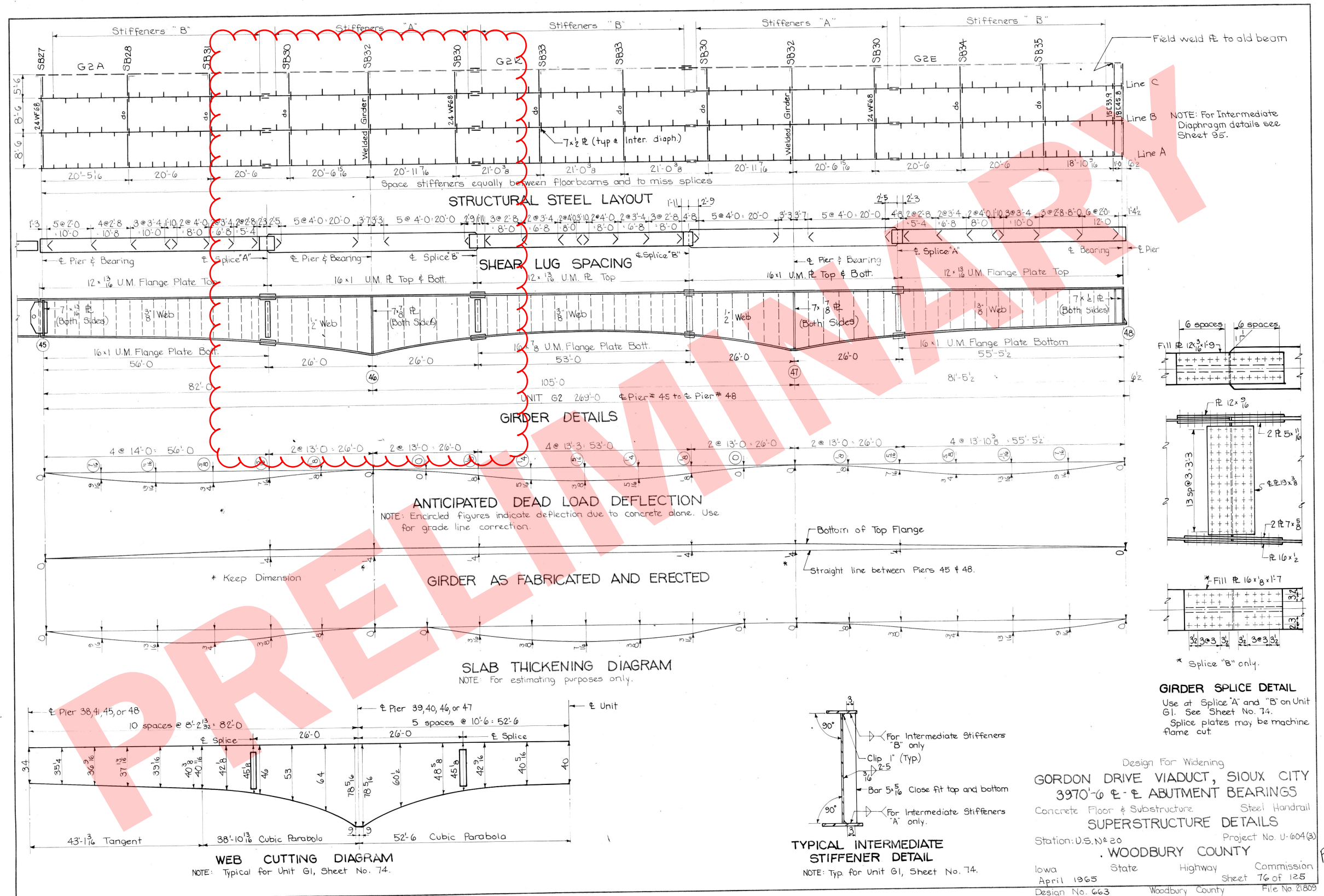


PIER DATA									
Pier	Brig. Type	Pier Height	Bott. Ftg. Elevation	Elevation A (Low Step)	Elevation B	Pier Top Elevation C	Footing (Nº of Piles)	Column	Cap
1	Fixed	16'-6"	1095.86	1112.36	1112.50	1112.63	14	"AA"	"BBB"
2	Exp.	18'-6"	1096.05	1114.55	1114.69	1114.82	18	"AA"	"AAA"
3	Exp.	21'-6"	1095.44	1116.94	1117.08	1117.21	18	"AA"	"AAA"
4	Exp.	22'-6"	1096.04	1118.54	1118.68	1118.81	14	"AA"	"BBB"
5	Exp.	25'-0"	1094.98	1119.98	1120.12	1120.25	20'A"	"AA"	"AAA"
6	Exp.	26'-0"	1095.36	1121.36	1121.48	1121.60	20'A"	"AA"	"AAA"
8	Exp.	28'-0"	1094.28	1122.28	1122.44	1122.58	20'A"	"AA"	"AAA"
9	Exp.	27'-6"	1095.69	1122.69	1122.83	1122.97	18	"AA"	"AAA"
15	Exp.	29'-6"	1095.10	1124.60	1124.74	1124.87	22	"AA"	"CCC"
17	Exp.	28'-6"	1096.84	1125.34	1125.48	1125.61	12	"AA"	"BBB"
18	Exp.	30'-0"	1095.53	1125.53	1125.67	1125.80	20'A"	"AA"	"AAA"
19	Exp.	31'-0"	1094.82	1125.82	1125.96	1126.09	20'A"	"AA"	"AAA"
20	Exp.	32'-0"	1094.11	1126.11	1126.25	1126.38	20'A"	"AA"	"AAA"
21	Fixed	33'-0"	1093.37	1126.37	1126.51	1126.64	20'B"	"BB"	"BBB"
22	Exp.	33'-6"	1093.03	1126.53	1126.67	1126.80	22	"AA"	"CCC"
23	Exp.	32'-6"	1094.33	1126.83	1126.97	1127.10	16	"AA"	"BBB"
24	Exp.	33'-0"	1093.96	1126.96	1127.10	1127.23	20'A"	"AA"	"AAA"
25	Exp.	34'-0"	1093.17	1127.17	1127.31	1127.44	20'A"	"AA"	"AAA"
26	Fixed	33'-6"	1093.89	1127.39	1127.53	1127.66	16	"AA"	"BBB"
27	Exp.	35'-0"	1092.48	1127.48	1127.62	1127.75	20'A"	"AA"	"AAA"
28	Exp.	35'-0"	1092.65	1127.65	1127.79	1127.92	20'A"	"AA"	"AAA"
29	Exp.	35'-6"	1092.35	1127.85	1127.99	1128.12	16	"AA"	"BBB"
30	Exp.	36'-0"	1091.91	1127.91	1128.05	1128.18	20'A"	"AA"	"AAA"
31	Exp.	36'-0"	1092.03	1128.03	1128.17	1128.30	20'A"	"AA"	"AAA"
32	Exp.	36'-0"	1092.15	1128.15	1128.29	1128.42	20'A"	"AA"	"AAA"
33	Fixed	36'-0"	1092.29	1128.29	1128.43	1128.56	20'B"	"CC"	"BBB"
34	Exp.	36'-0"	1092.30	1128.30	1128.44	1128.57	20'A"	"AA"	"AAA"
35	Exp.	35'-6"	1092.93	1128.43	1128.57	1128.70	16	"AA"	"BBB"
36	Exp.	36'-0"	1092.42	1128.42	1128.56	1128.69	20'A"	"AA"	"AAA"
37	Fixed	36'-0"	1092.51	1128.51	1128.65	1128.78	20'B"	"BB"	"AAA"
38	Fixed	36'-6"	1092.04	1128.54	1128.68	1128.81	20'C"	"DD"	"BBB"
39	Exp.	31'-6"	1093.37	1124.87	1125.01	1125.14	24	"AA"	"CCC"
41	Exp.	35'-6"	1093.05	1128.55	1128.69	1128.82	18	"AA"	"BBB"
42	Exp.	35'-0"	1093.47	1128.47	1128.61	1128.74	20'A"	"AA"	"AAA"
43	Exp.	34'-0"	1094.43	1128.43	1128.57	1128.70	20'A"	"AA"	"AAA"
44	Fixed	34'-0"	1094.44	1128.44	1128.58	1128.71	20'B"	"CC"	"BBB"
45	Fixed	34'-6"	1093.89	1128.39	1128.53	1128.66	20'C"	"DD"	"BBB"
46	Exp.	30'-6"	1094.11	1124.61	1124.75	1124.88	24	"AA"	"CCC"
47	Exp.	30'-6"	1093.97	1124.47	1124.61	1124.74	24	"AA"	"CCC"
52	Exp.	28'-0"	1095.58	1123.58	1123.72	1123.85	20'A"	"AA"	"AAA"
53	Exp.	24'-0"	1097.05	1121.95	1121.79	1121.36	20'A"	"AA"	"AAA"
54	Exp.	27'-0"	1090.95	1117.95	1117.19	1118.22	20'A"	"AA"	"AAA"



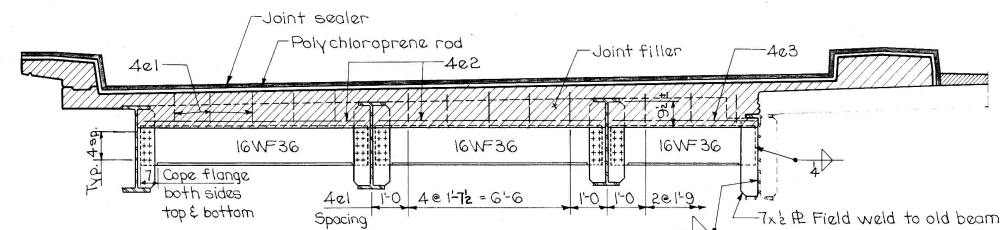
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NOTE:

The joint filler (compression material) shall conform to the specifications of AASHTO - M-153 (Type III) except the requirement for compression to 50% thickness shall be limited to 45 lb. per sq. inch.

The liquid sealer used for sealing joint as detailed hereon shall be of the two component synthetic polymer type of a manufacture approved by the Engineer. Joint sealing material shall be prepared and applied according to the manufacturer's recommendations or as directed by the Engineer. The edges of the concrete joint to be sealed shall be sandblasted or otherwise satisfactorily cleaned before sealing to assure adequate bonding of the sealer to the concrete.

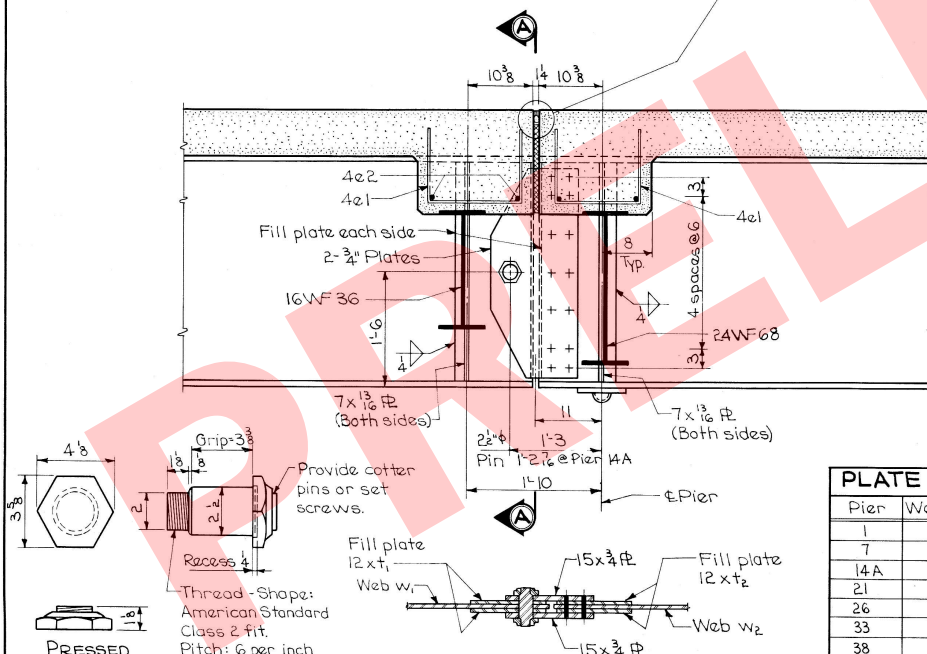
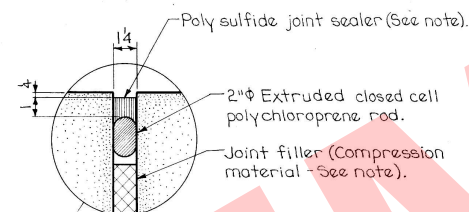
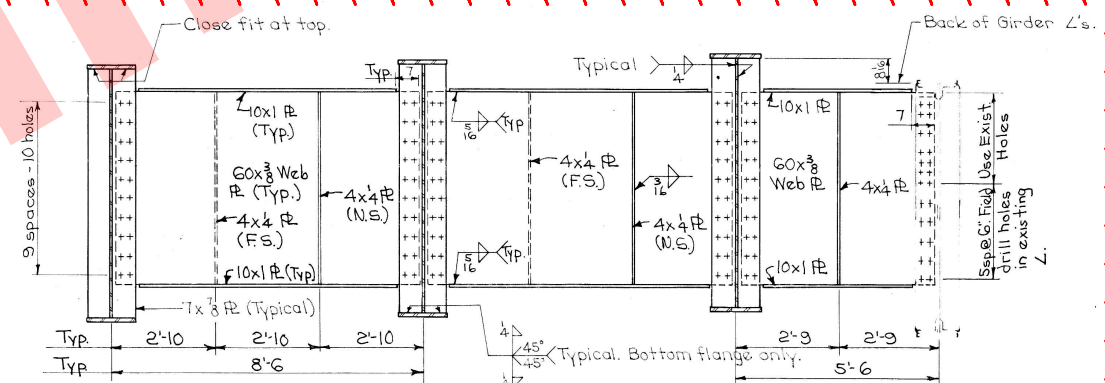
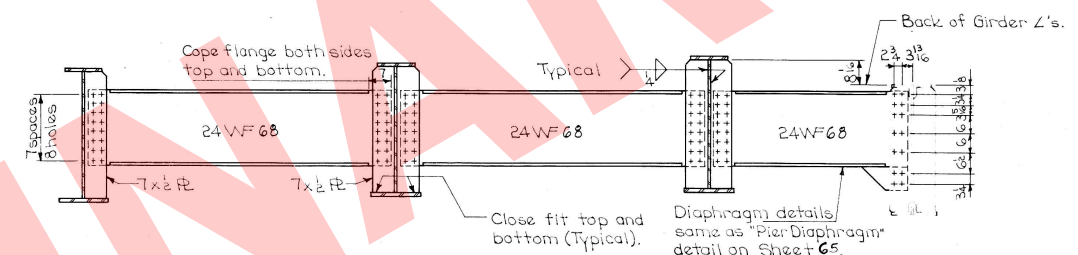
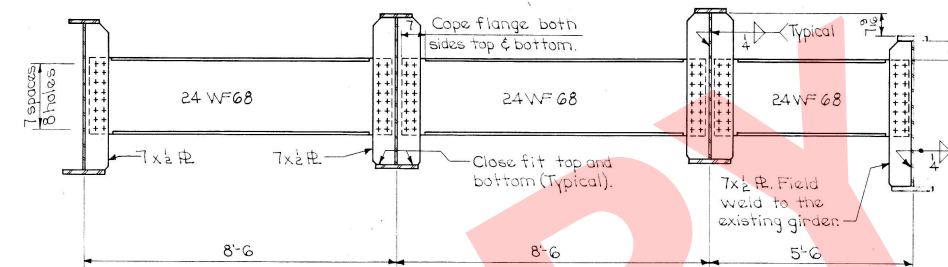


PLATE WIDTHS AT HINGES				
Pier	Web w_1	Fill t_1	Fill t_2	Web w_2
1	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$
7	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$
14A	3 $\frac{3}{8}$	3 $\frac{3}{4}$	5 $\frac{3}{8}$	11 $\frac{1}{16}$
21	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$	11 $\frac{1}{16}$
26	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$
33	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$
38	5 $\frac{3}{8}$	5 $\frac{3}{8}$	3 $\frac{3}{4}$	3 $\frac{3}{8}$
44	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$	5 $\frac{3}{8}$
45	5 $\frac{3}{8}$	5 $\frac{3}{8}$	3 $\frac{3}{4}$	5 $\frac{3}{8}$
51	5 $\frac{3}{8}$	5 $\frac{3}{8}$	11 $\frac{1}{16}$	1 $\frac{1}{2}$



SECTION SHOWING UNIT "G1" AND "G2" PIER DIAPHRAGMS
USE AT PIERS Nº 39, 46 AND 47

Design For Widening
GORDON DRIVE VIADUCT, SIOUX CITY
3970'-6 E-E ABUTMENT BEARINGS
 Concrete Floor & Substructure Steel Handrail
SUPERSTRUCTURE DETAILS

Station: U.S.Nº 20 Project Nº U-604(3)
WOODBURY COUNTY

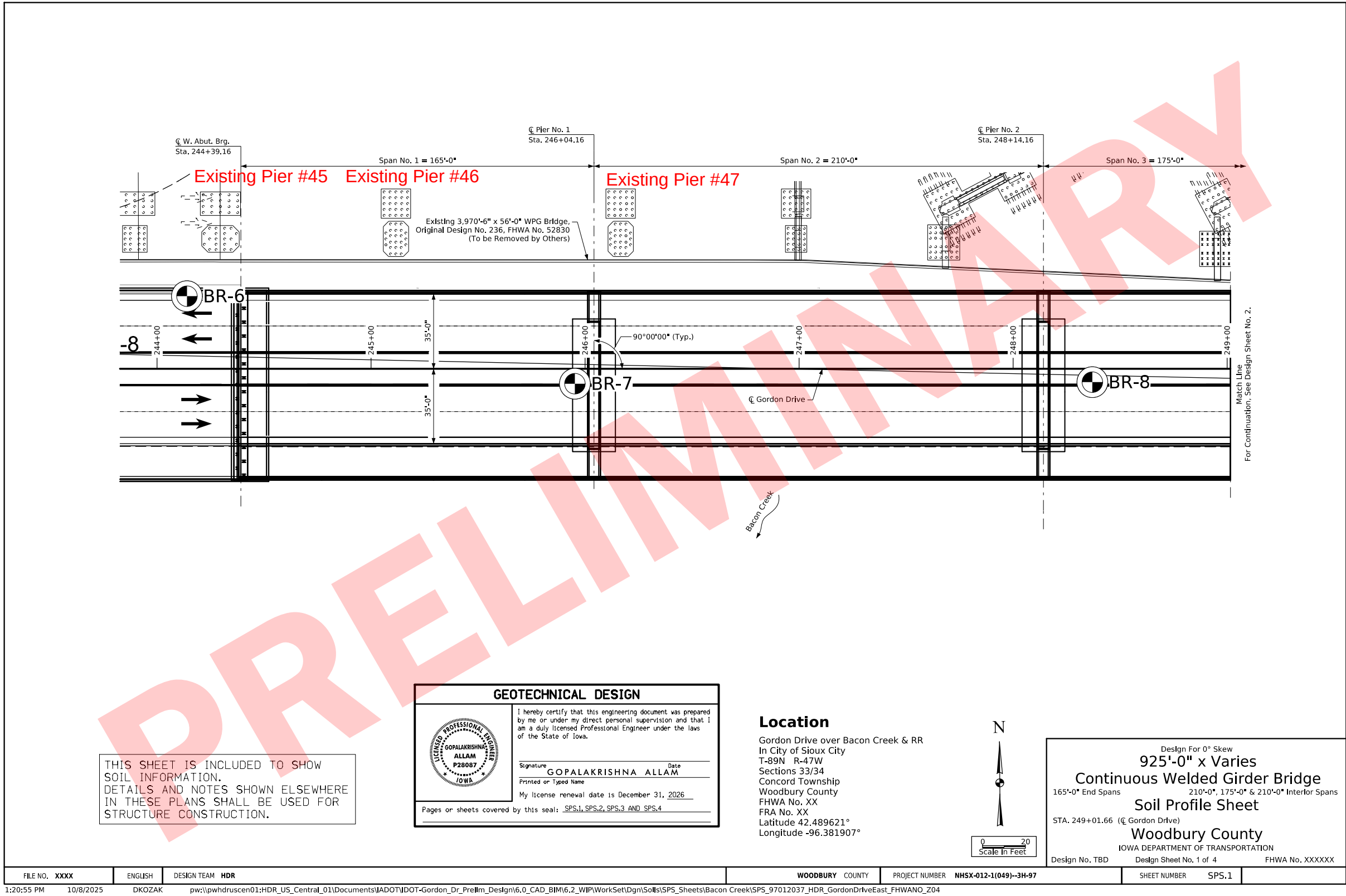
IOWA STATE HIGHWAY COMMISSION
April 1965 Sheet 95 of 125

Design No 663 Woodbury County File No 21809

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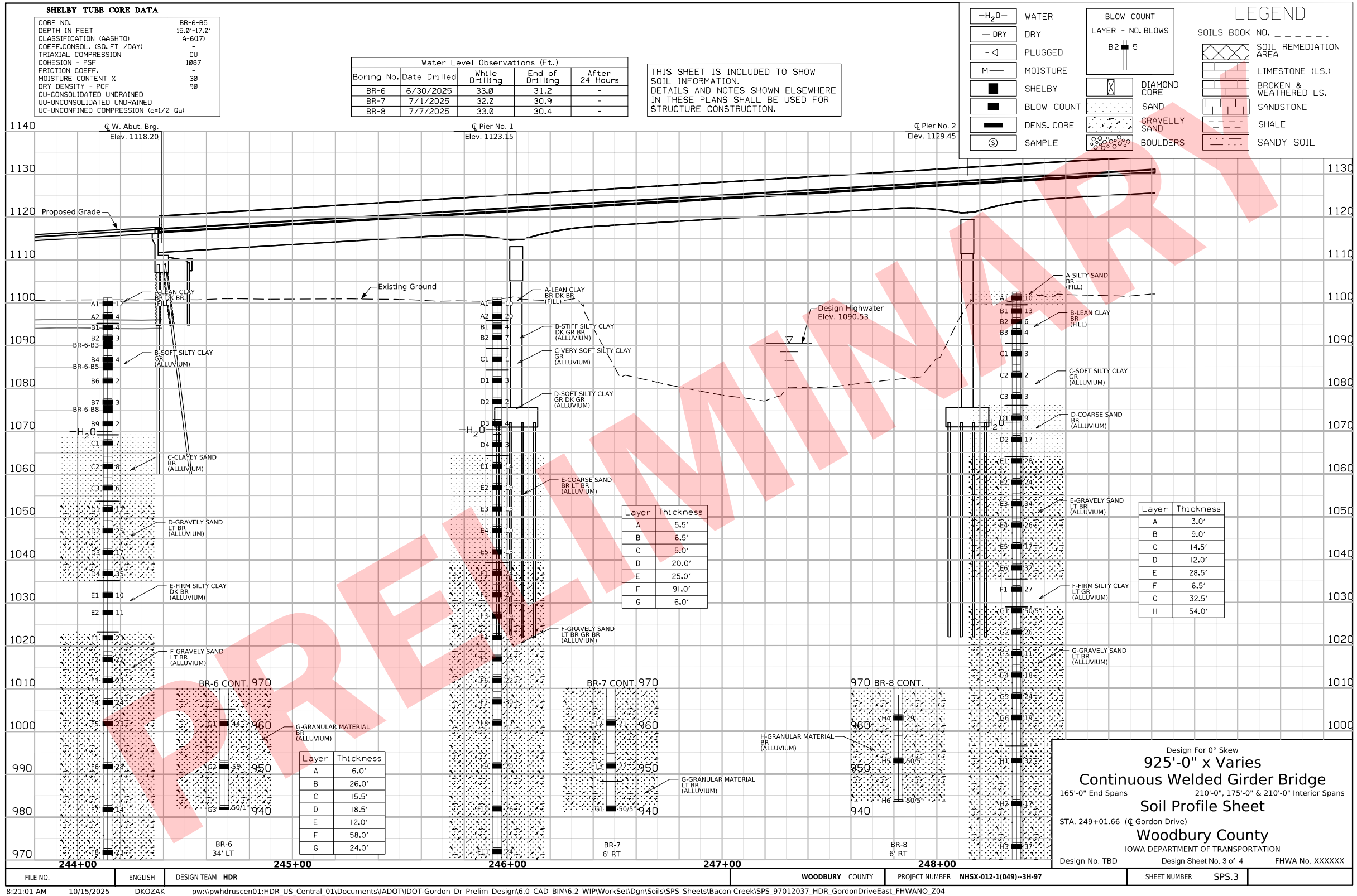
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