PRECASTEEL

TEST REPORT

for

StayPanel™ Forms
(Stay-in-Place Fascia Forms)

SERIES no. 2

LEHIGH UNIVERSITY

prepared by JSDA in cooperating with:

Structural Testing Laboratories
ATLSS Engineering Research Center
117 ATLSS Drive
Bethlehem, PA 18015-4729
(610) 758-3497 Fax (610) 758-5902

LaGuardia CTB Replacement Project
Revision Summary and Narrative to Precasteel Panel Test Reports

---

Subject: **Revision Summary and Narrative for Precasteel Panel Test Reports for testing done in August of 2018.**

Summary of Revisions:

1. Test reports were revised by Lehigh University to show that the primary ties were disengaged after placing deck pour, but before barrier pour to simulate actual field conditions where primary ties would be disengaged prior to placing the barriers.
2. JSDA provided Safety Factor markups and calculations per WSP comments received on December 12, 2018. See appendix A in package with JSDA load calculations that correspond to markups on Lehigh test reports.
3. JSDA response to comments on test reports is included in email format in Appendix B of package
4. Brief narratives are included below for the goal of each panel test per WSP comments received on December 12, 2018.

Test Narrative Overviews:

Test 1: Load Test of Precasteel Precast Stay in Place Fascia Form SZ-1 (Standard Test Panel)
The goal and purpose of test 1 on panel SZ-1 was to represent a typical panel installation using the bent plate primary and secondary tie connections as shown in Figure 1 of the test report. This configuration represents the typical installation that will occur in the field.

Test 2: Load Test of Precasteel Precast Stay in Place Fascia Form SZ-2 (Standard Test with Secondary Tie Omitted)
The goal and purpose of test 2 on panel SZ-2 was to show that the panels can be installed with only primary ties as support. As shown in the test, the panel was able to be loaded without the secondary ties and did not have an unwanted movement or shifting. For field installation, all panels will have secondary ties installed per plans even though this test showed they were redundant.

Test 3: Load Test of Precasteel Precast Stay in Place Fascia Form SZ-3 (Nonstandard Test, Primary Tie Engaged throughout and no Vertical Support Underneath Panel)
The goal and purpose of test 3 on panel SZ-3 was to prove an alternative connection using the Surebuilt Rebar clamp as shown in Figure 1 of the test report. This clamp was included as an alternative connection for locations or cases where the bent plate connections could not be used. This test also attempted to load the panel to failure while keeping the primary ties engaged.

Attachments:

- Revised Lehigh Test Reports for Panels SZ-1, SZ-2 and SZ-3.
- Appendix A – JSDA Safety Factor calculations
- Appendix B – JSDA Response to test report comments

LEHIGH UNIVERSITY

Structural Testing Laboratories
ATLSS Engineering Research Center
117 ATLSS Drive
Bethlehem, PA 18015-4729
(610) 758-3497 Fax (610) 758-5902

August 9, 2018
Revised: January 8, 2019

Robert Slaw
J&R Slaw, Inc.
438 Riverview Road
Lehighton, PA 18235

Subject: *Load Test of Precasteel Precast Stay in Place Fascia Form SZ-1 (Standard Test Panel)*

Dear Mr. Slaw,

On August 3, 2018, load tests were performed on a Precasteel Precast Stay in Place (SIP) Fascia Form. The tests were performed on test panel SZ1, the dimensions of which can be found in the construction drawings. The tests were performed at J&R Slaw, Inc. and consisted of three simulated load cases applied via iron abrasive load media. While monitoring key strains and panel and test setup deflections. The tests were witnessed by John Deerkoski and Vinod Reddy from JSDA, Dominick DaSilva from Skanska Walsh, Gary Dinmore from Precasteel and Bob Slaw from J&R Slaw Inc. The proposed test procedure, diagrams of the test setup, general information about the load media and calibration documents are attached as an appendix to this report.

The test loads were applied via an iron abrasive load media in three steps corresponding to different construction load cases. The tests cases were: Deck Pour, Barrier Pour, and Overpour. In each case, a load containment form was installed on the test panel and the load media was added to the containment form until the prescribed load condition had been attained. The dimensions of the containment forms for each load case are shown in Figure 1. Vibrating wire strand meters designated S1-S5 were attached to five critical panel ties to monitor the strains in the ties during and after each load case. Panel and test setup deflections designated D1-D7 were measured at seven locations using dial gauges. A diagram of the strain and deflection measurement locations is shown in Figure 2. Photographs of the test setup are shown in Figure 3 through Figure 6.

The load media was weighed in a one cubic foot form prior to the load test. The load media was first weighed without any compaction. After the non-compacted weight was measured, a concrete vibrator was clamped to the form and allowed to vibrate for several seconds. After compaction, additional media was added to the form until full and the compacted unit weight of the media was obtained. The unit weight of the media was 118.5 lbs/ft^3 non-compacted and 129.5 lbs/ft^3 compacted.

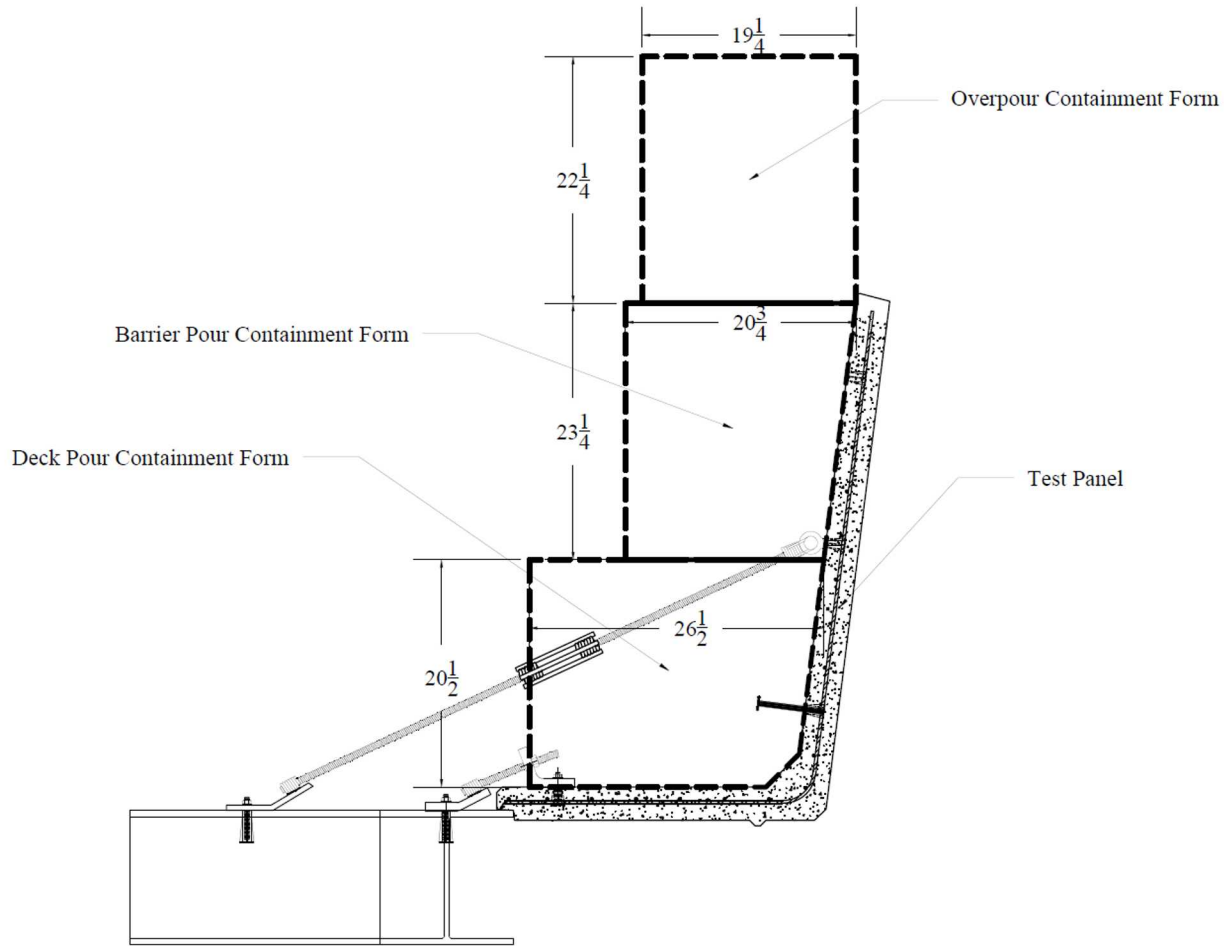


Figure 1: Containment Form dimensions for all Load Conditions (dimensions in inches)

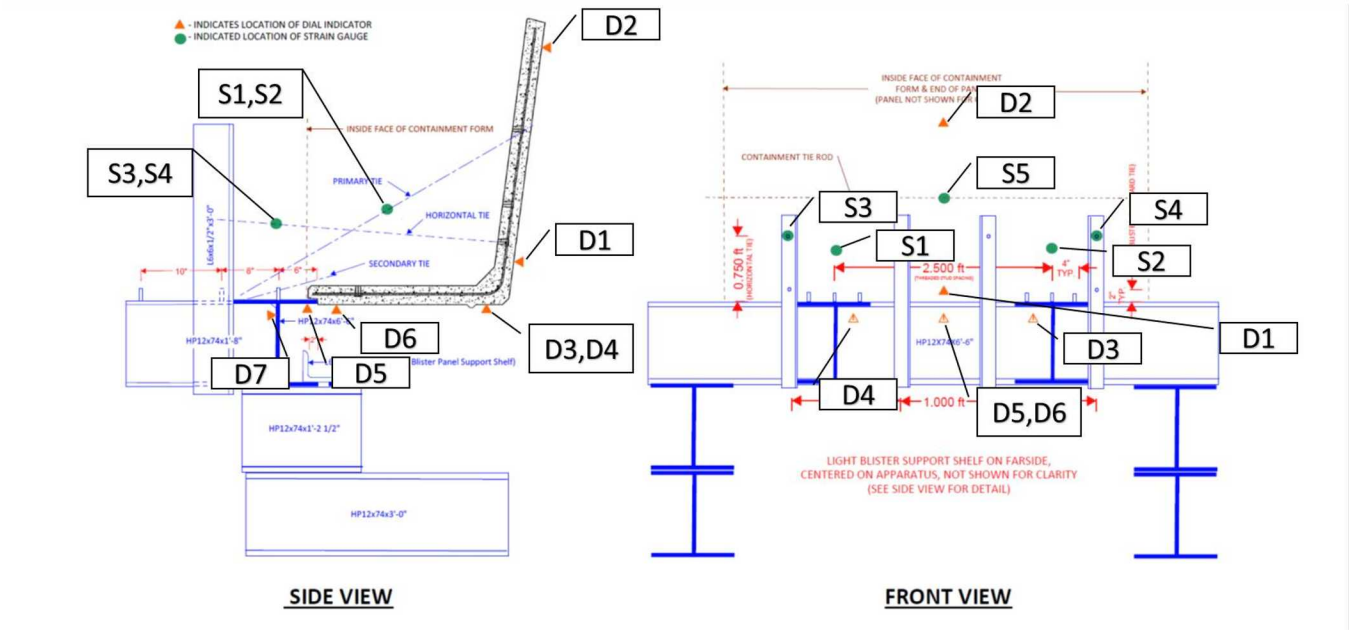


Figure 2: Location of Strain and Deflection Measurements

Figure 3: Test Panel with Deck Pour Containment Form

Figure 4: Load Media Being Weighed

Figure 5: Test Panel with Completed Deck Pour Load Condition

Figure 6: Test Panel with Containment Forms for all Load Cases

The general test procedure is outlined in the Proposed Test Procedure document attached as an appendix to this report and was performed as follows:

1. The containment form for the Deck Pour load condition was prepared.
2. Deck Pour initial strain and dial gauge readings were taken
3. The Deck Pour containment form was filled with the load media and an attached vibrator was activated to compact the load media
4. Deck Pour final strain and dial gauge readings were taken.
5. The horizontal ties were tightened and cribbing was installed under the test panel to simulate the constraint of the cured deck concrete
6. The attachment pins were removed from the primary ties
7. The containment form for the barrier pour load condition was prepared
8. Barrier Pour initial strain and dial gauge readings were taken

9. The Barrier Pour containment form was filled with load media. No vibration was peformed after completion of Barrier Pour load case
10. Several dial gauges were knocked out of place while the load media was being added and formwork for the next stage was being prepared. As such, no dial gauge readings were taken after the Barrier Pour load condition had been attained.
11. The containment form for the Overpour load condition was prepared
12. Overpour initial strain and dial gauge readings were taken
13. The Overpour containment form was filled with load media.
14. Strain and dial gauge readings were taken prior to load media compaction
15. The attached vibrator was activated to compact the load media
16. Overpour final strain and dial gauge readings were taken

A summary of the strain readings is show in Table 1. A summary of the dial gauge readings is shown in Table 2.

See Appendix B for signed letter from JSDA explaining issue with strain readings

Table 1: Summary of Strain Readings

	Deck Pour (ustrain)			Barrier Pour (ustrain)			Overpour Pre Compaction (ustrain)			Overpour Post Compaction (ustrain)		
	Start	**End**	**Δ**	**Start**	**End**	**Δ**	**Start**	**End**	**Δ**	**Start**	**End**	**Δ**
S1	2623	2628	5	2660	2671	11	2671	2674	3	2671	2675	4
S2	2670	2691	21	2564	2570	6	2570	2572	3	2570	2570	0
S3	3611	3565	-46	3587	3596	10	3594	3602	8	3594	3607	13
S4	3441	3343	-98	3339	3345	6	3345	3346	1	3345	3367	22
S5	2989	2955	-34	2954	2951	-3	2951	2951	0	2951	2948	-3

Table 2: Summary of Deflection Readings

	Deck Pour (inch)			Barrier Pour (inch)			Overpour Pre Compaction (inch)			Overpour Post Compaction (inch)		
	Start	**End**	**Δ**	**Start**	**End**	**Δ**	**Start**	**End**	**Δ**	**Start**	**End**	**Δ**
D1	0.200	0.284	0.084	0.154	NA	NA	0.211	0.217	0.006	0.211	0.215	0.004
D2	0.500	0.842	0.342	0.064	NA	NA	0.316	0.371	0.055	0.316	0.370	0.054
D3	0.500	0.584	0.084	0.471	NA	NA	0.203	0.218	0.015	0.203	0.216	0.013
D4	0.105	0.248	0.143	0.259	NA	NA	0.300	0.330	0.030	0.300	0.331	0.031
D5	0.140	0.149	0.009	0.139	NA	NA	0.138	0.139	0.001	0.138	0.139	0.001
D6	0.250	0.293	0.043	0.284	NA	NA	0.290	0.294	0.004	0.290	0.294	0.004
D7	0.160	0.123	-0.037	0.228	NA	NA	0.114	0.109	-0.005	0.114	0.107	-0.007
SF	6 x 1 [Note 1]			NA						2.08 x 1		

Sincerely,

Note 1: See Test SZ-3

See Appendix A for Calculations

(Red Comments per JSDA)

Robin J Hendricks
Research Scientist III

LEHIGH UNIVERSITY

Structural Testing Laboratories
ATLSS Engineering Research Center
117 ATLSS Drive
Bethlehem, PA 18015-4729
(610) 758-3497 Fax (610) 758-5902

October 10, 2018
Revised: January 8, 2019

Robert Slaw
J&R Slaw, Inc.
438 Riverview Road
Lehighton, PA 18235

Subject: *Load Test of Precasteel Precast Stay in Place Fascia Form Panel SZ-2 (Standard Test with Secondary Tie Omitted)*

Dear Mr. Slaw,

On August 17, 2018, load tests were performed on a Precasteel Precast Stay in Place (SIP) Fascia Form. The tests were performed on test panel SZ-2, the dimensions of which can be found in the construction drawings. The tests were performed at J&R Slaw, Inc. and consisted of three simulated load cases applied via iron abrasive load media. While monitoring key strains and panel and test setup deflections. The tests were witnessed by Vinod Reddy from JSDA, Gary Dinmore from Precasteel and Bob Slaw from J&R Slaw Inc. The proposed test procedure, diagrams of the test setup, general information about the load media and calibration documents are attached as an appendix to this report.

The panel was installed on the test stand according to the attached Proposed Test Procedure, except only the primary ties were attached as shown in Figure 1.

The test loads were applied via an iron abrasive load media in three steps corresponding to different construction load cases. The tests cases were: Deck Pour, Barrier Pour, and Overpour. In each case, a load containment form was installed on the test panel and the load media was added to the containment form until the prescribed load condition had been attained. The dimensions of the containment forms for each load case are shown in Figure 1. Vibrating wire strand meters designated S1-S5 were attached to five critical panel ties to monitor the strains in the ties during and after each load case. Panel and test setup deflections designated D1-D7 were measured at seven locations using dial gauges. A diagram of the strain and deflection measurement locations is shown in Figure 2. Photographs of the test setup are shown in Figure 3 through Figure 6.

The load media was weighed in a one cubic foot form prior to the load test. The load media was first weighed without any compaction. After the non-compacted weight was measured, a concrete vibrator was clamped to the form and allowed to vibrate for several seconds. After compaction, additional media was added to the form until full and the compacted unit weight of the media was

obtained. The unit weight of the media was 119.5 lbs/ft^3 non-compacted and 130.5 lbs/ft^3 compacted.

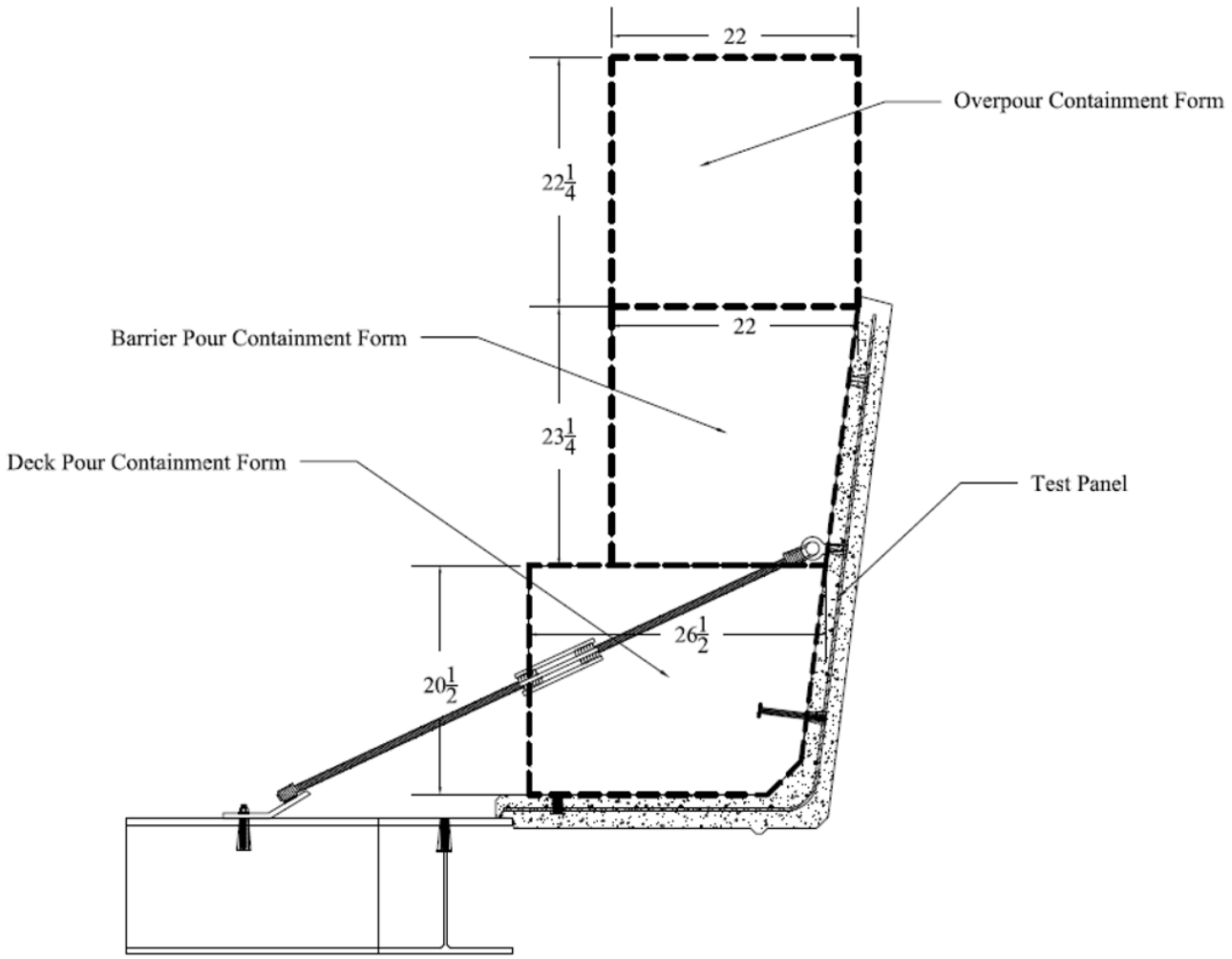


Figure 1: Containment Form dimensions for all Load Conditions (dimensions in inches) (Note that the secondary tie is not attached)

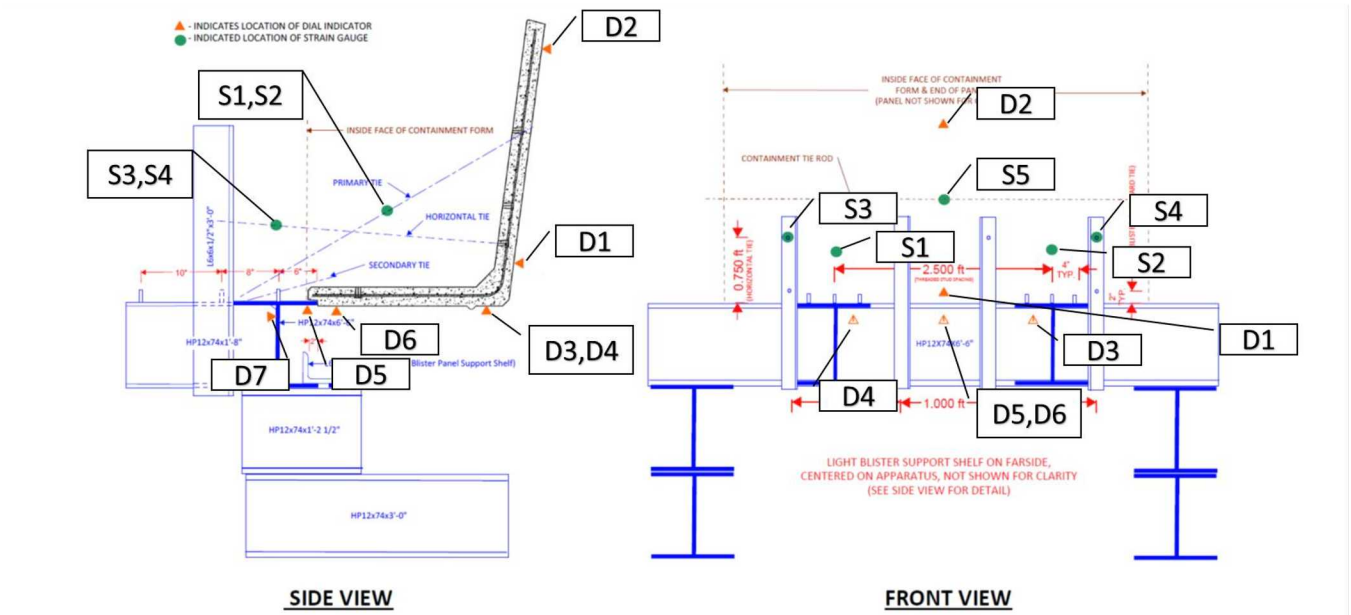


Figure 2: Location of Strain and Deflection Measurements

Figure 3: Test Panel with Deck Pour Containment Form

Figure 4: Load Media Being Weighed

Figure 5: Test Panel with Completed Deck Pour Load Condition

Figure 6: Test panel with Completed Overpour Load Condition

The general test procedure is outlined in the Proposed Test Procedure document attached as an appendix to this report and was performed as follows:

1. The panel was installed on the test stand as prescribed in the test plan except without the secondary ties attached.
2. The containment form for the Deck Pour load condition was prepared.
3. Deck Pour initial strain and dial gauge readings were taken
4. The Deck Pour containment form was filled with the load media and an attached vibrator was activated to compact the load media
5. Deck Pour final strain and dial gauge readings were taken.
6. The horizontal ties were tightened and cribbing was installed under the test panel to simulate the constraint of the cured deck concrete
7. The attachment pins were removed from the primary ties
8. The containment form for the barrier pour load condition was prepared

9. Barrier Pour initial strain and dial gauge readings were taken
10. The Barrier Pour containment form was filled with load media and the attached vibrator was activated to compact the load media.
11. Barrier Pour final strain and dial gauge readings were taken. These were also the initial readings for the Overpour.
12. The containment form for the Overpour load condition was prepared
13. The Overpour containment form was filled with load media and the attached vibrator was activated to compact the load media.
14. Overpour final strain and dial gauge readings were taken. Dial indicator D4 was bumped while loading occurred and was not read after the Overpour was complete.

A summary of the strain readings is show in Table 1. A summary of the dial gauge readings is shown in Table 2.

See Appendix B for signed letter from JSDA explaining issue with strain readings

Table 1: Summary of Strain Readings

	Deck Pour (ustrain)			Barrier Pour (ustrain)			Overpour (ustrain)		
	Start	**End**	**Δ**	**Start**	**End**	**Δ**	**Start**	**End**	**Δ**
S1	2994	3032	38	2728	2726	-2	2726	2720	-6
S2	2988	3023	35	2992	3001	9	3001	3010	9
S3	2946	2946	0	2960	2972	12	2972	2977	5
S4	3011	3001	-10	3014	3021	7	3021	3023	2
S5	3545	3552	7	3555	3556	1	3556	3553	-3

Table 2: Summary of Deflection Readings

	Deck Pour (inch)			Barrier Pour (inch)			Overpour (inch)		
	Start	**End**	**Δ**	**Start**	**End**	**Δ**	**Start**	**End**	**Δ**
D1	0.060	0.134	0.074	0.115	0.128	0.013	0.128	0.136	0.008
D2	0.396	0.740	0.344	0.333	0.491	0.158	0.491	0.550	0.059
D3	0.293	0.460	0.167	0.668	0.684	0.016	0.684	0.691	0.007
D4	0.501	0.773	0.272	0.243	0.243	0.000	0.243	NA	NA
D5	0.262	0.299	0.037	0.270	0.276	0.006	0.276	0.265	-0.011
D6	0.055	0.074	0.019	0.038	0.039	0.001	0.039	0.036	-0.003
D7	0.365	0.345	-0.020	0.489	0.480	-0.009	0.480	0.474	-0.006
SF	6 x 1 [Note 1]			NA			2.08 [Note 2]		

Sincerely,

Robin J Hendricks
Research Scientist III

Note 1: See Test SZ-3
Note 2: See Test SZ-1

See Appendix A for Calculations

(Red Comments per JSDA)

LEHIGH UNIVERSITY

Structural Testing Laboratories
ATLSS Engineering Research Center
117 ATLSS Drive
Bethlehem, PA 18015-4729
(610) 758-3497 Fax (610) 758-5902

October 10, 2018
Revised: January 8, 2019

Robert Slaw
J&R Slaw, Inc.
438 Riverview Road
Lehighton, PA 18235

Subject: *Load Test of Precasteel Precast Stay in Place Fascia Form Panel SZ-3 (Nonstandard Test, Primary Tie Engaged Throughout and no Vertical Support Underneath Panel)*

Dear Mr. Slaw,

On August 17, 2018, load tests were performed on a Precasteel Precast Stay in Place (SIP) Fascia Form. The tests were performed on test panel SZ-3, the dimensions of which can be found in the construction drawings. The tests were performed at J&R Slaw, Inc. and consisted of two simulated load cases applied via iron abrasive load media while monitoring key strains and panel and test setup deflections. The tests were witnessed by Vinod Reddy from JSDA, Gary Dinmore from Precasteel and Bob Slaw from J&R Slaw Inc. The proposed test procedure, diagrams of the test setup, general information about the load media and calibration documents are attached as an appendix to this report.

The panel was installed on the test stand as described in the proposed test procedure, except the rebar clamp was used in place of the bent plate clamp.

The test loads were applied via an iron abrasive load media. During application of the first test load (deck pour), the brake on the crane lifting the hopper relaxed and thehopper containing the load media was partially lowered on top of the test panel. A shear crack developed at the interface between the angled vertical and the horizontal region of the panel. The panel was subsequently loaded until all three media containment forms were full with no cribbing underneath the panel to simulate the failure load condition. The dimensions of the containment forms for each load case are shown in Figure 1. Vibrating wire strand meters designated S1-S5 were attached to five critical panel ties to monitor the strains in the ties during and after each load case. Panel and test setup deflections designated D1-D7 were measured at seven locations using dial gauges. A diagram of the strain and deflection measurement locations is shown in Figure 2. Photographs of the test setup are shown in Figure 3 through Figure 4.

The load media was weighed in a one cubic foot form prior to the load test. The load media was first weighed without any compaction. After the non-compacted weight was measured, a concrete vibrator was clamped to the form and allowed to vibrate for several seconds. After compaction, additional media was added to the form until full and the compacted unit weight of the media was

obtained. The unit weight of the media was 119.5 lbs/ft^3 non-compacted and 130.5 lbs/ft^3 compacted.

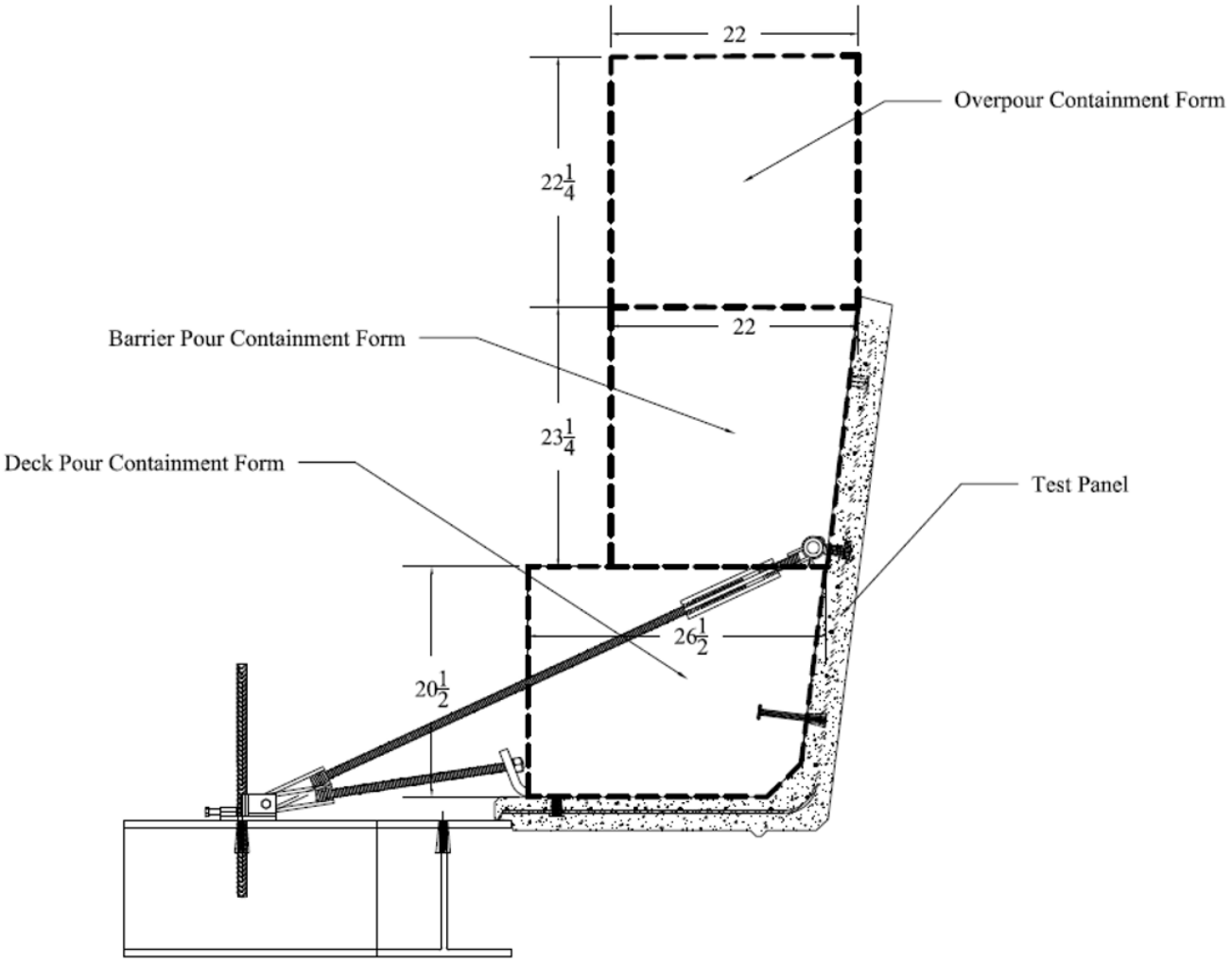


Figure 1: Containment Form dimensions for all Load Conditions (dimensions in inches). Note that the rebar clamp was used for the ties in place of the bent plate clamp in previous tests

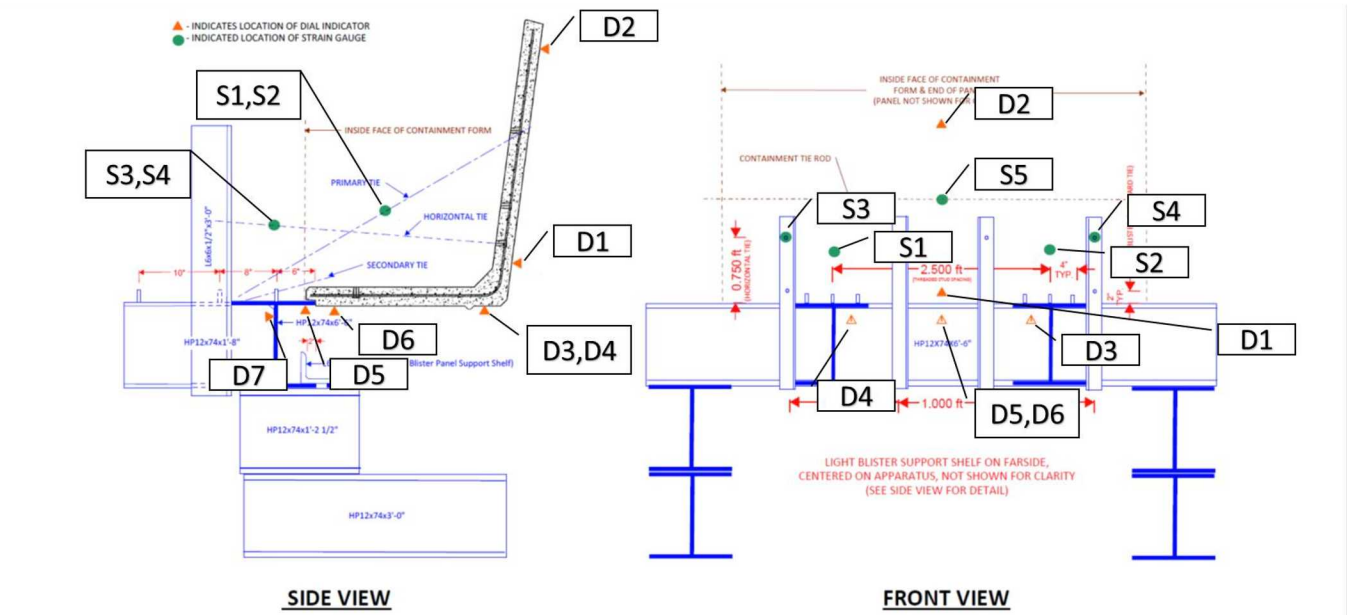


Figure 2: Location of Strain and Deflection Measurements

Figure 3: Test Panel with Deck Pour Containment Form

Figure 4: Load Media Being Weighed

The general test procedure is outlined in the Proposed Test Procedure document attached as an appendix to this report and was performed as follows:

1. The panel was installed on the test stand as prescribed in the test plan except the rebar clamp was used in place of the bent plate clamp.
2. The containment form for the Deck Pour load condition was prepared.
3. During the deck pour, the hopper containing the load media was accidentally partially lowered onto the angled vertical of the test panel, resulting in a significant concentrated overload applied on top of the panel angled vertical face. The weight lowered onto the panel is not precisely know.

4. A large shear crack between the angled panel interface was discovered as shown in Figure 5 and Figure 6.
5. The horizontal ties were tightened and no cribbing was placed under the panel for the failure load condition test.
6. Pre Failure Test strain and displacement readings were taken
7. The barrier and overpour containment forms were filled with load media to simulate the failure load condition.
8. Final strain and dial gauge readings were taken and the condition of the panel was documented as shown in Figure 7 and Figure 8.

A summary of the strain readings is show in Table 1. A summary of the dial gauge readings is shown in Table 2

Figure 5: Side view of crack after deck pour and accidental overload

Figure 6: Front view of crack after deck pour and accidental overload

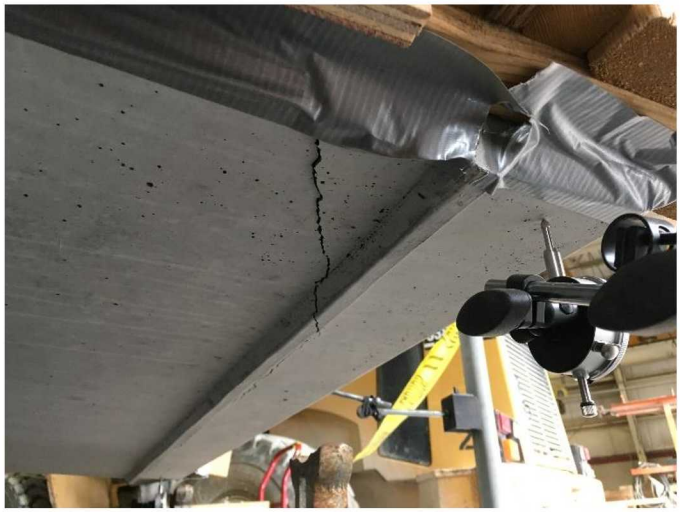


Figure 7: Side view of crack after failure load

Figure 8: Front view of crack after failure load

See Appendix B for signed letter from JSDA explaining issue with strain readings

Table 1: Summary of Strain Readings

	Deck Pour (ustrain)			Failure Pour (ustrain)		
	Start	**End**	**Δ**	**Start**	**End**	**Δ**
S1	2736	2755	19	2793	2851	58
S2	2338	2365	27	2402	2438	36
S3	4054	4109	55	4128	4171	43
S4	2240	2305	65	2296	2380	84
S5	2650	2614	-36	2615	2616	1

Table 2: Summary of Deflection Readings

	Deck Pour (inch)			Barrier Pour (inch)		
	Start	**End**	**Δ**	**Start**	**End**	**Δ**
D1	0.075	0.179	0.104	0.208	0.337	0.129
D2	0.116	0.665	0.549	0.382	0.735	0.353
D3	0.236	0.612	0.376	0.211	0.488	0.277
D4	0.269	0.629	0.360	0.280	0.558	0.278
D5	0.486	0.525	0.039	0.574	0.621	0.047
D6	0.124	0.130	0.006	0.142	0.169	0.027
D7	0.202	0.256	0.054	0.228	0.177	-0.051
SF	6 x 1			NA		

Sincerely,

See Appendix A for Calculations

(Red Comments per JSDA)

Robin J Hendricks
Research Scientist III

The results of the project presented in this report are provided on an "AS IS" basis. University makes no warranties of any kind, express or implied, as to any matter whatsoever, including, without limitation, warranties with respect to the merchantability or fitness for a particular purpose of the project or any deliverables. University makes no warranty of any kind with respect to freedom from patent, trademark, copyright or trade secret infringement arising from the use of the results of the project, deliverables, services, intellectual property or other materials provided hereunder. University shall not be liable for any direct, indirect, consequential, punitive, or other damages suffered by Sponsor or any other person resulting from the project or use of any deliverables. Sponsor agrees that it shall not make any warranty on behalf of University, express or implied, to any person containing the application of the results or any deliverables of this project.

Appendix A

SZ-1

9. The Barrier Pour containment form was filled with load media. No vibration was peformed after completion of Barrier Pour load case
10. Several dial gauges were knocked out of place while the load media was being added and formwork for the next stage was being prepared. As such, no dial gauge readings were taken after the Barrier Pour load condition had been attained.
11. The containment form for the Overpour load condition was prepared
12. Overpour initial strain and dial gauge readings were taken
13. The Overpour containment form was filled with load media.
14. Strain and dial gauge readings were taken prior to load media compaction
15. The attached vibrator was activated to compact the load media
16. Overpour final strain and dial gauge readings were taken

A summary of the strain readings is show in Table 1. A summary of the dial gauge readings is shown in Table 2.

Table 1: Summary of Strain Readings

	Deck Pour (ustrain)			Barrier Pour (ustrain)			Overpour Pre Compaction (ustrain)			Overpour Post Compaction (ustrain)		
	Start	End	Δ	Start	End	Δ	Start	End	Δ	Start	End	Δ
S1	2623	2628	5	2660	2671	11	2671	2674	3	2671	2675	4
S2	2670	2691	21	2564	2570	6	2570	2572	3	2570	2570	0
S3	3611	3565	-46	3587	3596	10	3594	3602	8	3594	3607	13
S4	3441	3343	-98	3339	3345	6	3345	3346	1	3345	3367	22
S5	2989	2955	-34	2954	2951	-3	2951	2951	0	2951	2948	-3

Table 2: Summary of Deflection Readings

	Deck Pour (inch)			Barrier Pour (inch)			Overpour Pre Compaction (inch)			Overpour Post Compaction (inch)		
	Start	End	Δ	Start	End	Δ	Start	End	Δ	Start	End	Δ
D1	0.200	0.284	0.084	0.154	NA	NA	0.211	0.217	0.006	0.211	0.215	0.004
D2	0.500	0.842	0.342	0.064	NA	NA	0.316	0.371	0.055	0.316	0.370	0.054
D3	0.500	0.584	0.084	0.471	NA	NA	0.203	0.218	0.015	0.203	0.216	0.013
D4	0.105	0.248	0.143	0.259	NA	NA	0.300	0.330	0.030	0.300	0.331	0.031
D5	0.140	0.149	0.009	0.139	NA	NA	0.138	0.139	0.001	0.138	0.139	0.001
D6	0.250	0.293	0.043	0.284	NA	NA	0.290	0.294	0.004	0.290	0.294	0.004
D7	0.160	0.123	-0.037	0.228	NA	NA	0.114	0.109	-0.005	0.114	0.107	-0.007

SE① 6x1 | NA | 2.08 x 1

Sincerely,

① SEE Test SZ3

Robin J Hendricks
Research Scientist III

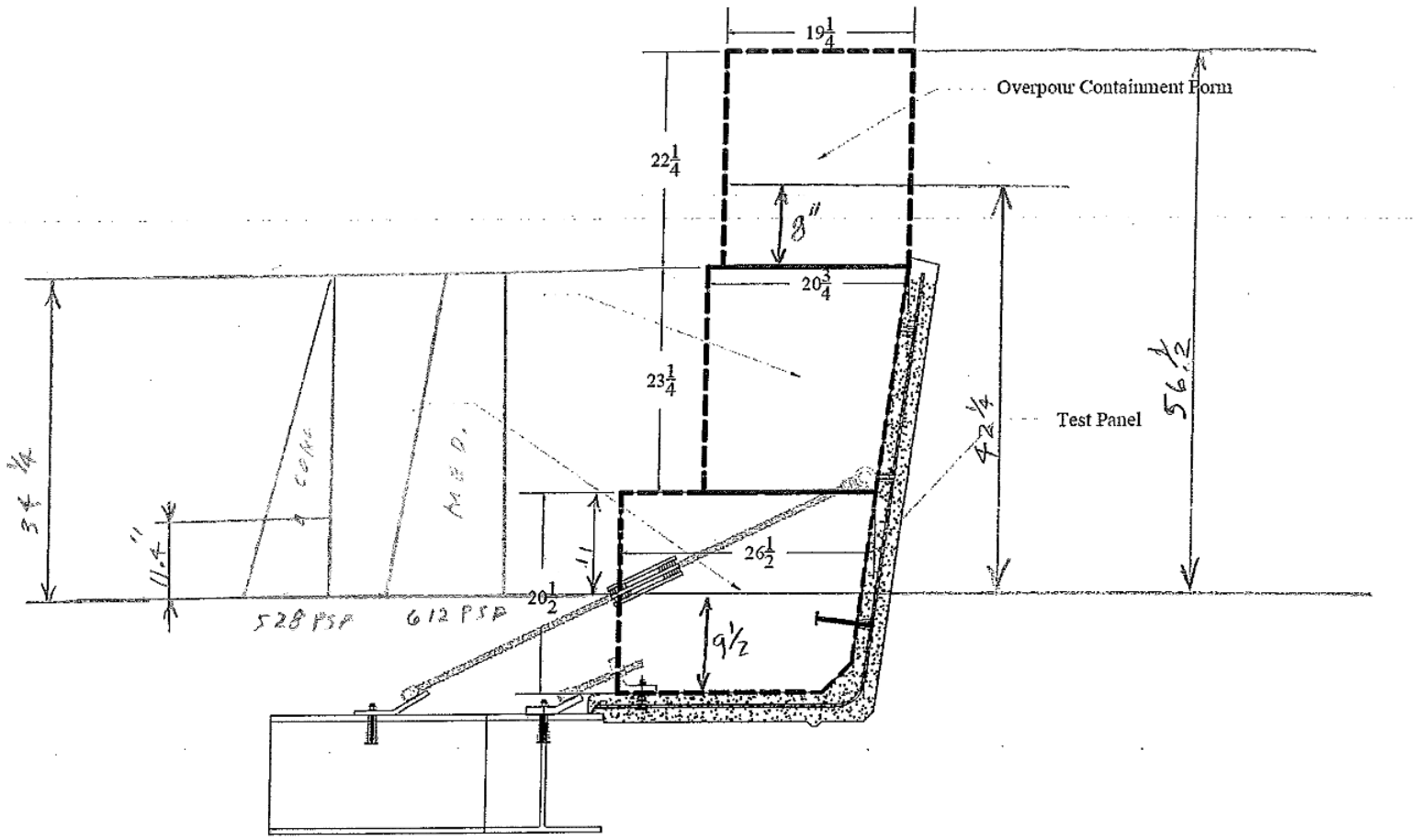


Figure 1: Containment Form dimensions for all Load Conditions (dimensions in inches)

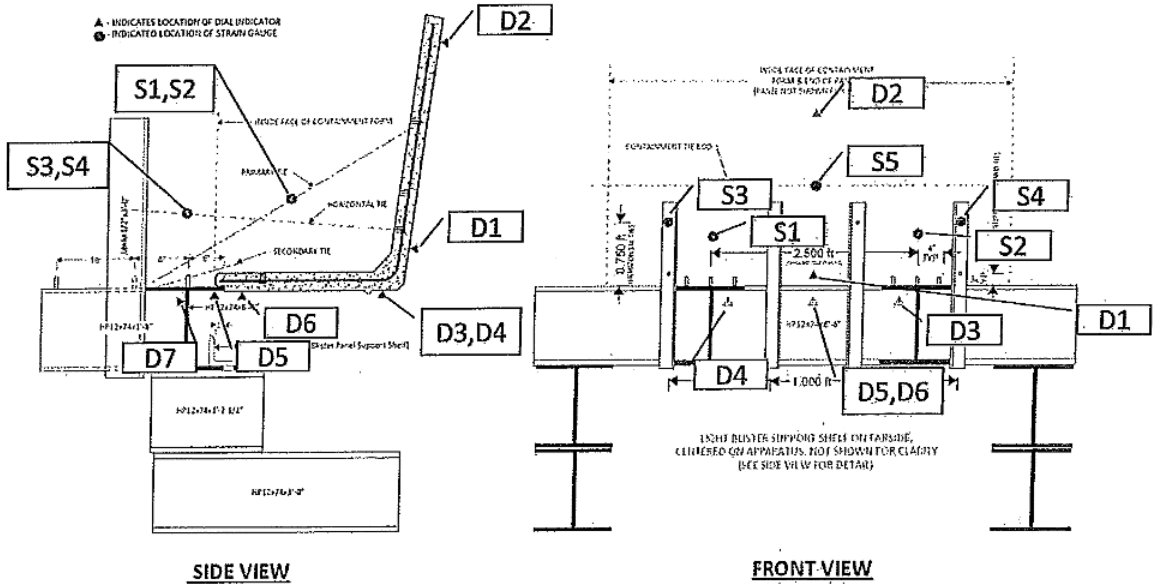


Figure 2: Location of Strain and Deflection Measurements

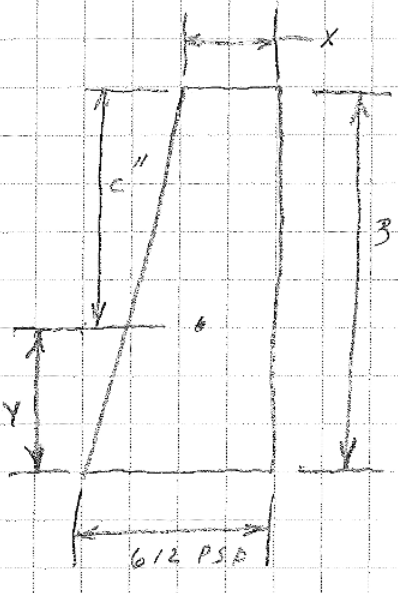
JOHN S. DEERKOSKI, P.E. & ASSOC.
56 Forester Avenue
WARWICK, NEW YORK 10990
(845) 986-2398
FAX (845) 986-2344

JOB SZ-1
SHEET NO. _____ OF _____
CALCULATED BY DAD DATE 1-8-19
CHECKED BY C.R. DATE _____
REVISION _____

$$CONC = \frac{42.25''}{12''/1'}\ (150\ PCF) = 528\ PSF$$

$$Medium = \frac{56.5''}{12''/1'}\ (130\ PCF) = 612\ PSF$$

$$SF = \frac{612}{528} = 1.16$$



$$x = \frac{22.25''}{12''/1'}\ (130\ PCF) = 241\ PSF$$

$$c = \frac{34.25\ (2(612) + 241)}{3(612 + 241)}$$

$$= \frac{34.25\ (1465)}{3\ (853)} = \frac{50176.25}{2559}$$

$$= 19.6$$

$$Y = 34.25 - 19.6 = 19.65'$$

$$CONC\ M = (11.4'')\ \frac{528\ PSF\ (34.25'')}{2} = 103,079\ ''\#$$

$$NEED\ M = 14.65\ \frac{612 + 241}{2}\ 34.25 = 214,002\ ''\#$$

$$SF = \frac{214,002\ ''\#}{103,079\ ''\#} = 2.08$$

S2-2

9. Barrier Pour initial strain and dial gauge readings were taken
10. The Barrier Pour containment form was filled with load media and the attached vibrator was activated to compact the load media.
11. Barrier Pour final strain and dial gauge readings were taken. These were also the initial readings for the Overpour.
12. The containment form for the Overpour load condition was prepared
13. The Overpour containment form was filled with load media and the attached vibrator was activated to compact the load media.
14. Overpour final strain and dial gauge readings were taken. Dial indicator D4 was bumped while loading occurred and was not read after the Overpour was complete.

A summary of the strain readings is show in Table 1. A summary of the dial gauge readings is shown in Table 2.

Table 1: Summary of Strain Readings

	Deck Pour (ustrain)			Barrier Pour (ustrain)			Overpour (ustrain)		
	Start	**End**	**Δ**	**Start**	**End**	**Δ**	**Start**	**End**	**Δ**
S1	2994	3032	38	2728	2726	-2	2726	2720	-6
S2	2988	3023	35	2992	3001	9	3001	3010	9
S3	2946	2946	0	2960	2972	12	2972	2977	5
S4	3011	3001	-10	3014	3021	7	3021	3023	2
S5	3545	3552	7	3555	3556	1	3556	3553	-3

Table 2: Summary of Deflection Readings

	Deck Pour (inch)			Barrier Pour (inch)			Overpour (inch)		
	Start	**End**	**Δ**	**Start**	**End**	**Δ**	**Start**	**End**	**Δ**
D1	0.060	0.134	0.074	0.115	0.128	0.013	0.128	0.136	0.008
D2	0.396	0.740	0.344	0.333	0.491	0.158	0.491	0.550	0.059
D3	0.293	0.460	0.167	0.668	0.684	0.016	0.684	0.691	0.007
D4	0.501	0.773	0.272	0.243	0.243	0.000	0.243	NA	NA
D5	0.262	0.299	0.037	0.270	0.276	0.006	0.276	0.265	-0.011
D6	0.055	0.074	0.019	0.038	0.039	0.001	0.039	0.036	-0.003
D7	0.365	0.345	-0.020	0.489	0.480	-0.009	0.480	0.474	-0.006
SF	6x1 (1)			NA			2.08 (2)		

Sincerely,

(1) SEE TEST S 23

(2) See TEST S 2-1

Robin J Hendricks
Research Scientist III

52-3

Table 1: Summary of Strain Readings

	Deck Pour (ustrain)			Failure Pour (ustrain)		
	Start	**End**	**Δ**	**Start**	**End**	**Δ**
S1	2736	2755	19	2793	2851	58
S2	2338	2365	27	2402	2438	36
S3	4054	4109	55	4128	4171	43
S4	2240	2305	65	2296	2380	84
S5	2650	2614	-36	2615	2616	1

Table 2: Summary of Deflection Readings

	Deck Pour (inch)			Barrier Pour (inch)		
	Start	**End**	**Δ**	**Start**	**End**	**Δ**
D1	0.075	0.179	0.104	0.208	0.337	0.129
D2	0.116	0.665	0.549	0.382	0.735	0.353
D3	0.236	0.612	0.376	0.211	0.488	0.277
D4	0.269	0.629	0.360	0.280	0.558	0.278
D5	0.486	0.525	0.039	0.574	0.621	0.047
D6	0.124	0.130	0.006	0.142	0.169	0.027
D7	0.202	0.256	0.054	0.228	0.177	-0.051
SF	6x1			NA		

Sincerely,

Robin J Hendricks
Research Scientist III

TEST S2-3

obtained. The unit weight of the media was 119.5 lbs/ft^3 non-compacted and 130.5 lbs/ft^3 compacted.

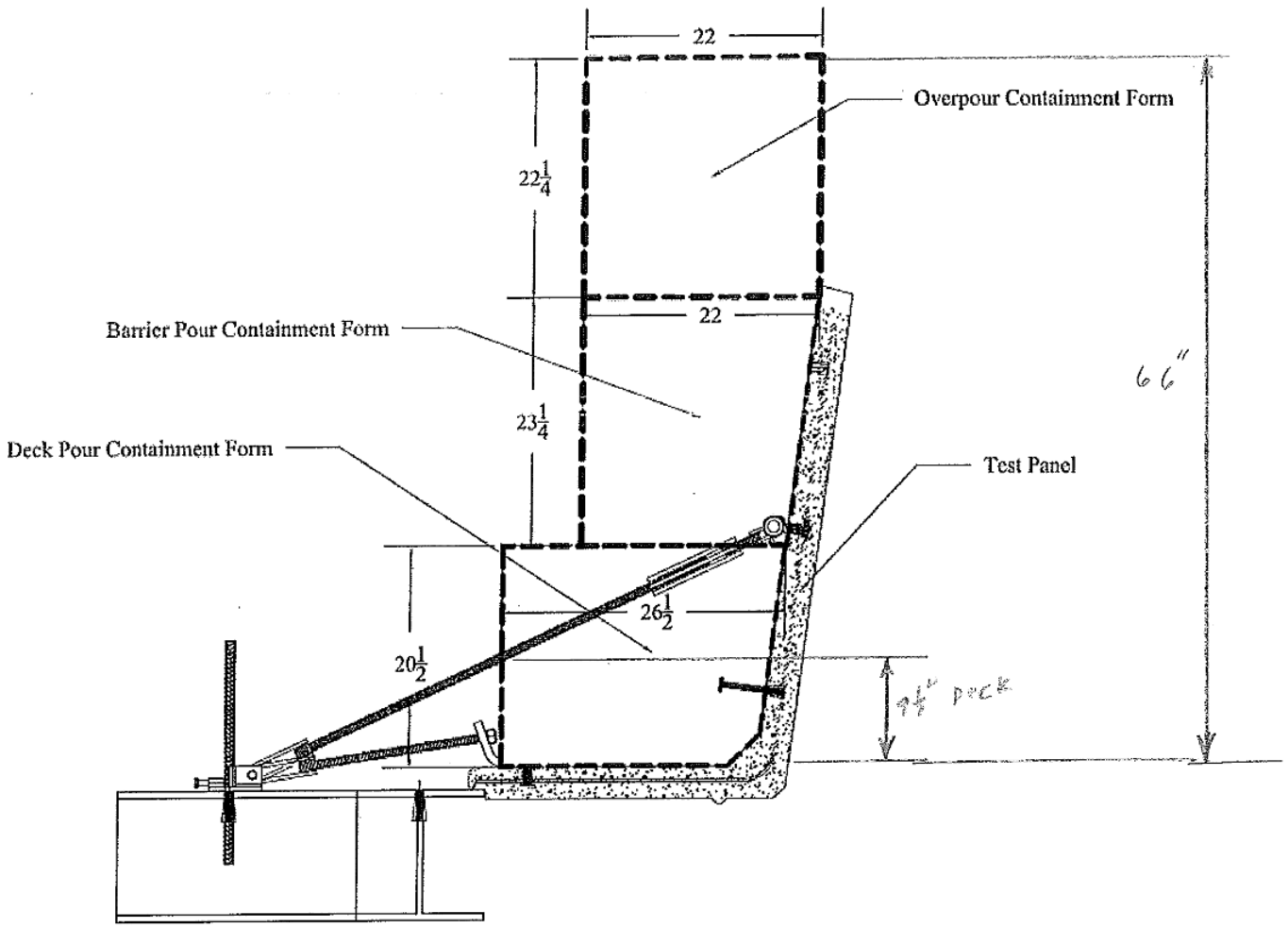


Figure 1: Containment Form dimensions for all Load Conditions (dimensions in inches). Note that the rebar clamp was used for the ties in place of the bent plate clamp in previous tests

Service condition Load =

JOHN S. DEERKOSKI, P.E. & ASSOC.
56 Forester Avenue
WARWICK, NEW YORK 10990
(845) 986-2398
FAX (845) 986-2344

JOB 1223 E Deer Park SE

SHEET NO. SR-3 OF

CALCULATED BY MD DATE 1-8-19

CHECKED BY LR DATE

REVISION

Conc: $\frac{9.5''}{12''/1'} (150\ PCF) = 118.75\ PSF\ (119)$

Medium $\frac{66}{12} (130\ PCF) = 715\ PSF$

$SF = \frac{715}{119} = 6 \times 1\ SF$

Appendix B

Lieb, Jason

From: Deerkoski Engineering - JSDA <jsda@deerkoskiengineering.com>
Sent: Thursday, January 24, 2019 8:34 PM
To: DaSilva, Dominick
Cc: Lieb, Jason; Precasteel LLC (gdinmore@precasteel.com)
Subject: FW: JSDA E LGA comment response tests JSDA 1223E
Attachments: Mimecast Attachment Protection Instructions; 1223e rev lh.pdf; 1223e sf.pdf

Dominick.

The following is my response to comments on the 3 tests.

1- see attached revised Lehigh reports dated 1/8/19 confirming the primary tie was disengaged by pulling the pin on the primary tie on vertical face for the barrier pour In tests SZ-1 and SZ-2*

2 – see attached markup with safety factors added to Lehigh table including calculations and load models. *Added comment Per JSDA 1/25/19

3 – please note that whether we use the slip form technique or conventional form work with hairpins the barrier pour puts essentially 0 lateral load on the vertical face of the precast unit

4 – cracking did not occur during the test loading except when the hopper carrying the medium accidentally hit the top edge of the precast unit which greatly exceeded any expected loading

John S. Deerkoski, P.E.
JOHN S. DEERKOSKI, P.E. & ASSOCIATES
Recipient NY/ACEC 2017 Diamond Award for Engineering Excellence
56 Forester Avenue
Warwick, NY 10990
P: (845) 986-2398 ext. 225
F: (845) 986-2344
Mobile: (845) 988-6192
Email: jsda@deerkoskiengineering.com

intended recipient is prohibited, and all liability arising therefrom is disclaimed. If you received this in error, please contact the sender and delete the material from any computer.

John S. Deerkoski, P.E., and Associates
CONSULTING ENGINEERS
56 FORESTER AVENUE / WARWICK, NY 10990 / 845-986-2398 / FAX 845-986-2344
jsda@deerkoskiengineering.com

January 29, 2019

Re: JSDA 1223E Testing Results

Jason,

The tension indicators that we purchased for the test were recommended by Lehigh. We specifically asked the manufacturer if the vibration compaction of the medium would affect their device. They told us that they had no data on that condition. The devices are vibrating wire tension indicators.

The inconsistent tension results on all of the tension ties indicates that the tension indicators were definitely affected by vibrating the load medium and should be disregarded.

The only uncontestable result of the tests is the performance of the panels under known loads, as indicated in the safety factor calculations.

John S Deerkoski, PE

Appendix C

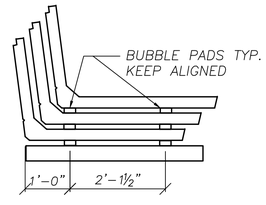
LaGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
FRONTAGE ROAD DEP.
PRECASTEEL PANELS

GENERAL NOTES:

1. *CONTRACTOR ERECTING THE PRECAST PANELS AND CONSTRUCTING THE BARRIER IS REQUIRED TO COMPLY WITH ALL NATIONALLY ACCEPTED SAFETY PRACTICES, O.S.H.A., AND ANY OTHER SAFETY REQUIREMENTS IMPOSED BY THE OWNER, AGENCY OR ANY OTHER PARTIES, WHICH MAY HAVE JURISDICTION.*
2. *ALL LOOSE ERECTION HARDWARE FURNISHED BY OTHERS AND INSTALLED USING DESIGN AND DETAILS DEPICTED ON PRECASTEEL DRAWINGS SUBMITTED UNDER SEPARATE COVER BY JOHN S. DEERKOSKI AND ASSOCIATES.*
3. *WELDED WIRE MESH (WWM) TO BE 4"x4"– W6.5xW6.5 GRADE 60 GALVANIZED STEEL. (ASTM DESIGNATION A185 & A641).*
4. *CONCRETE SPEC.*

   – CONCRETE TO BE 6500 PSI AIR ENTRAINED CONCRETE APPROVED MIX #62.
5. *EXTERIOR SURFACE SHALL BE SMOOTH FORM. INTERIOR LIGHT SANDBLAST*
6. *COVER ON STEEL MESH VARIES – SEE DETAILS*
7. *INSERTS FOR PRECAST UNIT TO BE ½"ø–13 UNC WITH A MINIMUM SAFE WORKING LOAD OF 1500 lbs W/ MIN. 3 TO 1 SAFETY FACTOR (SURE BUILT–USA PART § SBPCI12I12 OR APPROVED EQUAL).*
8. *A. INSERTS FOR BULB TEE BEAM TO BE)f0 – 13 UNC WITH A MINIMUM SAFE WORKING LOAD OF 2000 lbs W/ MIN. 3 TO 1 SAFETY FACTOR (SURE BUILT–USA PART § SBPCM2278 OR APPROVED EQUAL).*

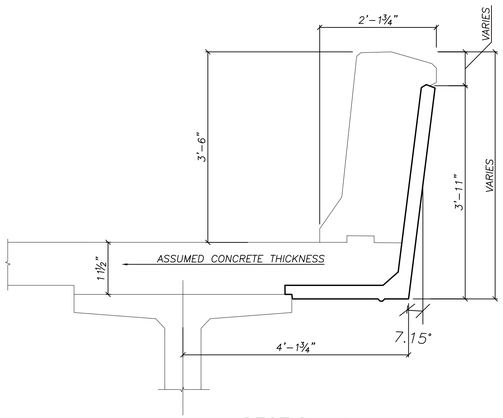
   B. ALTERNATE, HO HIT–HY 200 ADHESIVE ANCHOR.
9. *HARDWARE SHOWN MAY BE CHANGED TO GREATER OR APPROVED EQUAL STRENGTH.*
10. *HARDWARE SUBSTITUTIONS MUST BE APPROVED BY JSDA.*
11. *DRAWINGS ASSUME STRAIGHT SECTION IN PARAPET BETWEEN PIERS {PRECAST UNITS).*
12. *JOINT TAPE SPECIFIED BY OTHERS, SEE DETAIL.*
13. *MAX. PANEL LENGTH SHOWN. ADJUST PANEL LENGTH TO ALLOW FOR PANEL CONSTRUCTION TOLERANCE AND/OR SPAN FITTING. CONSTRUCTION TOLERANCES MAY NECESSITATE FIELD CUTTING END PANELS.*
14. *MANUFACTURE PER PCI MNL 116. STRUCTURAL PRODUCT MAY CONTAIN MINOR FORM IMPERFECTIONS AND COLOR MAY VARY.*



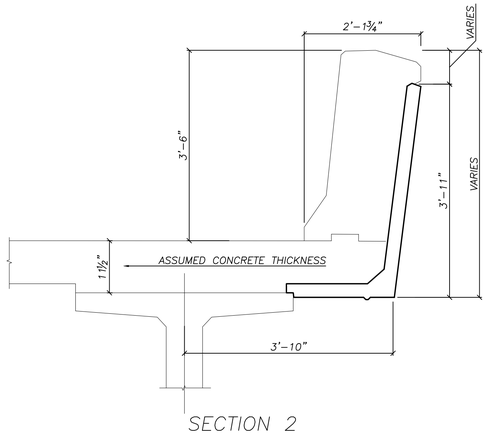
YARD STORAGE

				PROJECT: *LaGUARDIA AIRPORT CENTRAL TERMINAL*
				CONTRACTOR: *SKANSKA/WALSH JV.*
				DRAWN BY: *DATE:* *CHECKED BY:*
1			*4/19/2018*	*TITLE:* *COVER AND NOTES*
REVISION	*BY*	*CKD*	*DATE*	**J & R SLAW INC.** *J926* *SHT.NO. 1*

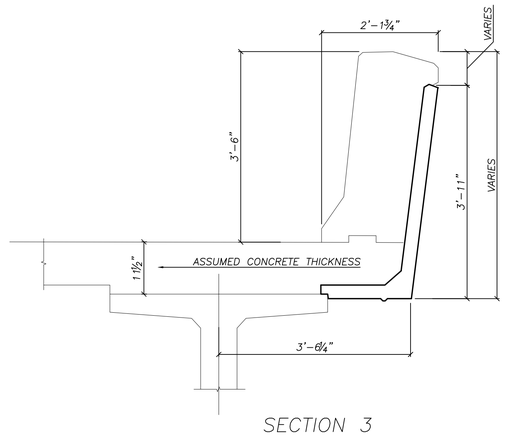
438 RIVERVIEW RD.,LEHIGHTON, PA 18235
PHONE (610) 852–2020 FAX (610) 852–2098



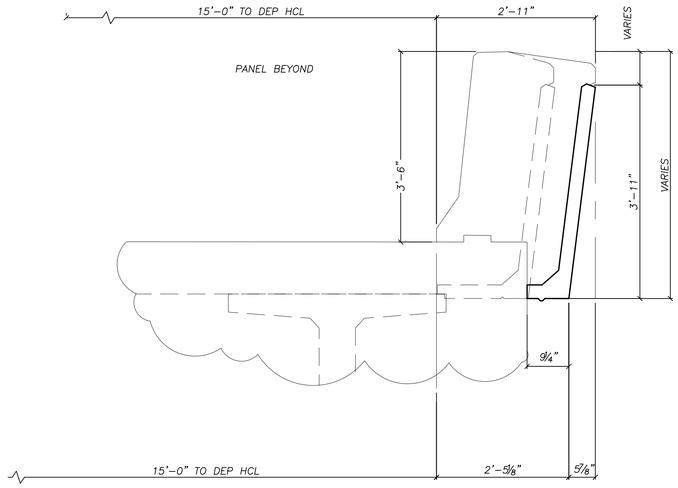
SECTION 1



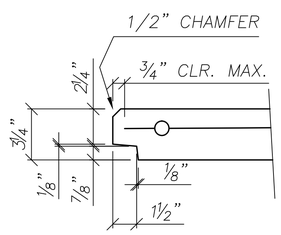
SECTION 2



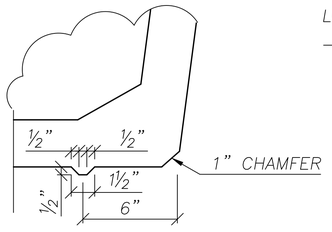
SECTION 3



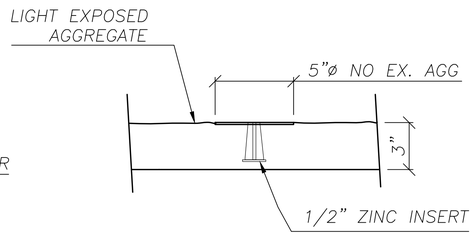
SECTION AT SPAN 9
PIER 8



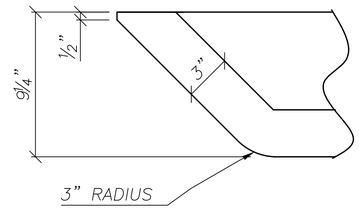
DETAIL B
BEARING NOTCH



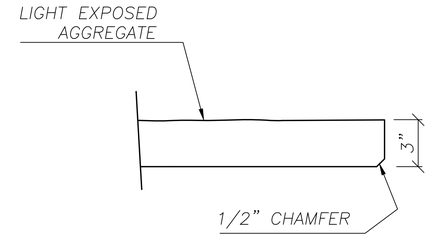
DETAIL A
DRIP NOTCH



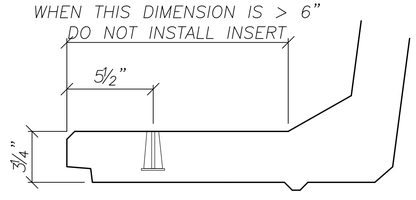
DETAIL C
INSERT DETAIL



DETAIL D
CORNER DETAIL

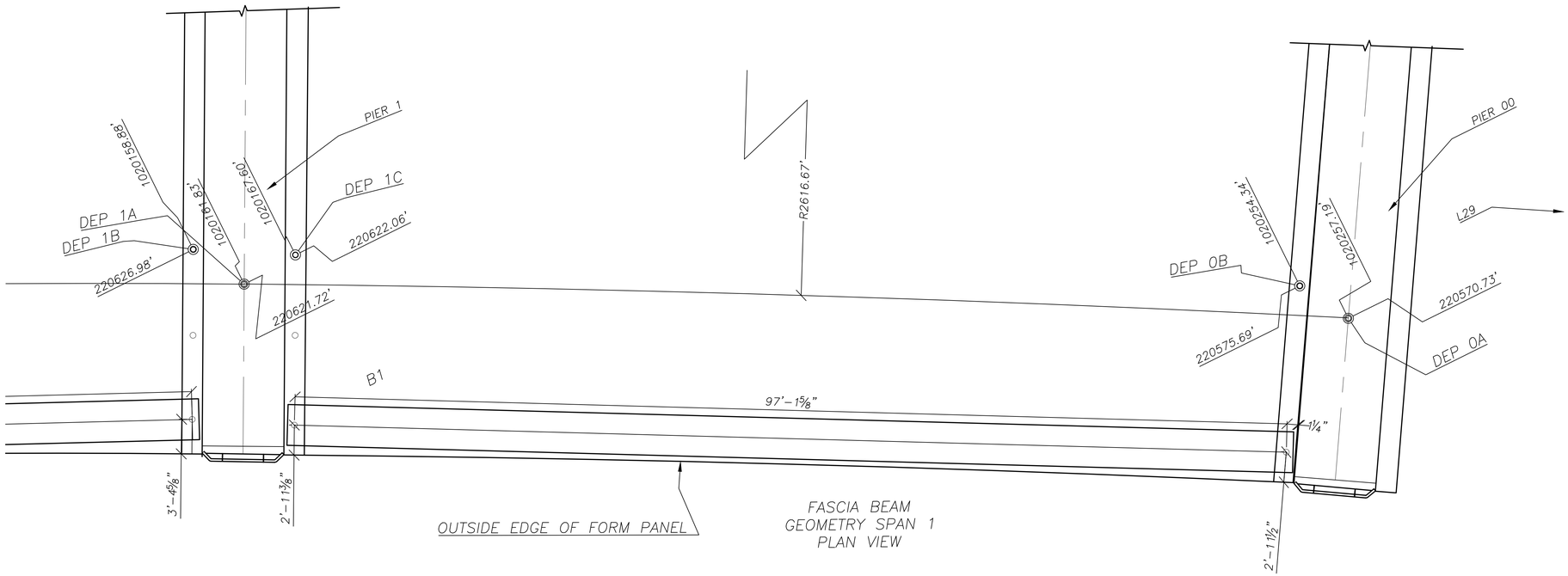


DETAIL E
SECTION

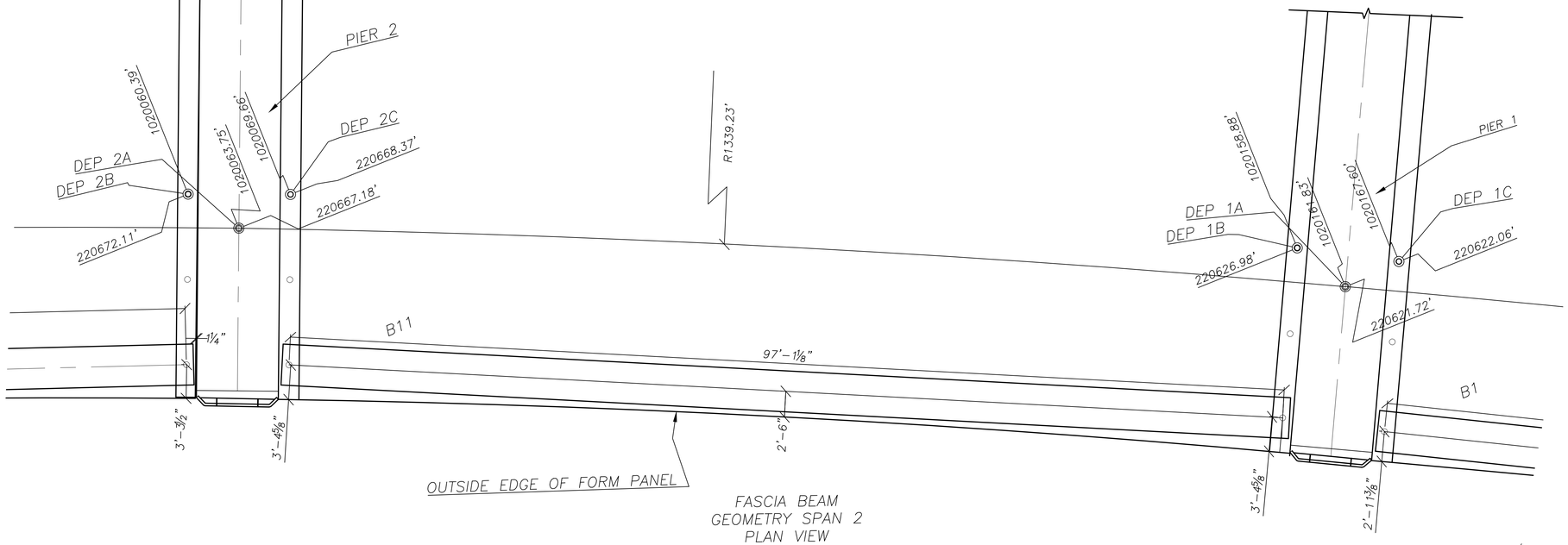


DETAIL F
INSERT IN SOFFET

J & R SLAW INC. 438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852-2020 FAX (610) 852-2098		CONTRACTOR: SKANSKA/WALSH JV.	
PROJECT: LaGUARDIA FRONTAGE RD	DESIGNED BY:	SCALE: xxx	REV. :
DRAWING TITLE: DETAILS	DRAWN BY:	DATE:	SHEET NO.: D-1

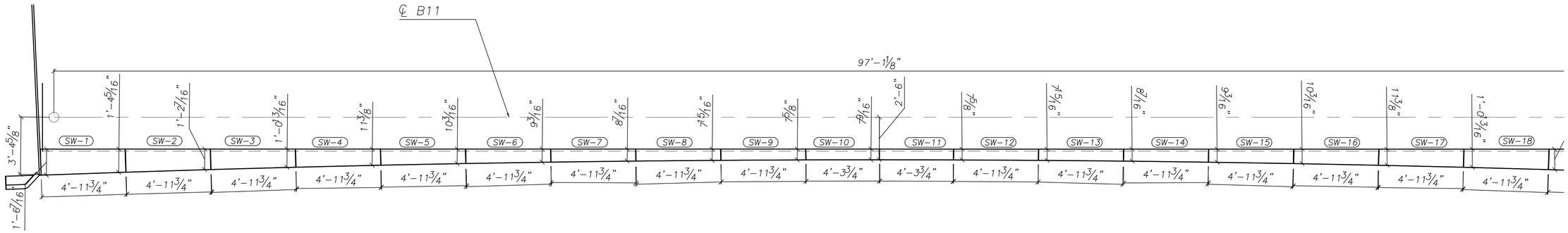


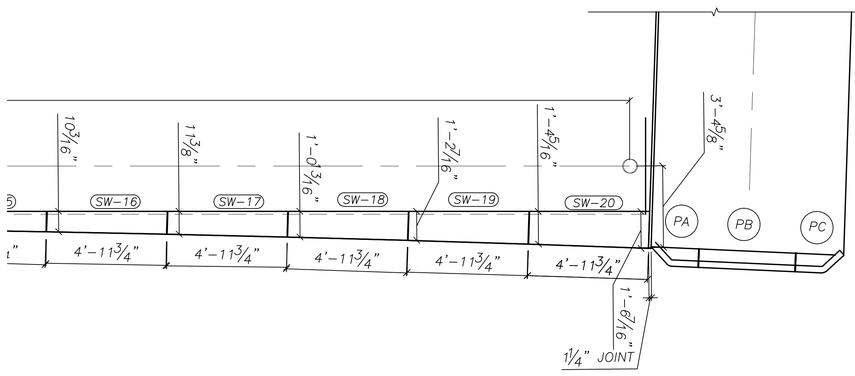
FASCIA BEAM
GEOMETRY SPAN 1
PLAN VIEW



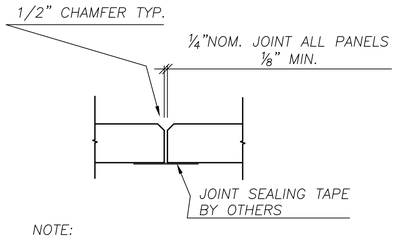
FASCIA BEAM
GEOMETRY SPAN 2
PLAN VIEW

J & R SLAW INC.	CONTRACTOR: SKANSKA/WALSH JV.		
438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852-2020 FAX (610) 852-2098			
PROJECT: LaGUARDIA FRONTAGE RD	DESIGNED BY:	SCALE: xxx	REV. :
DRAWING TITLE: LAYOUT 1 ND 2	DRAWN BY:	DATE:	SHEET NO.: 1





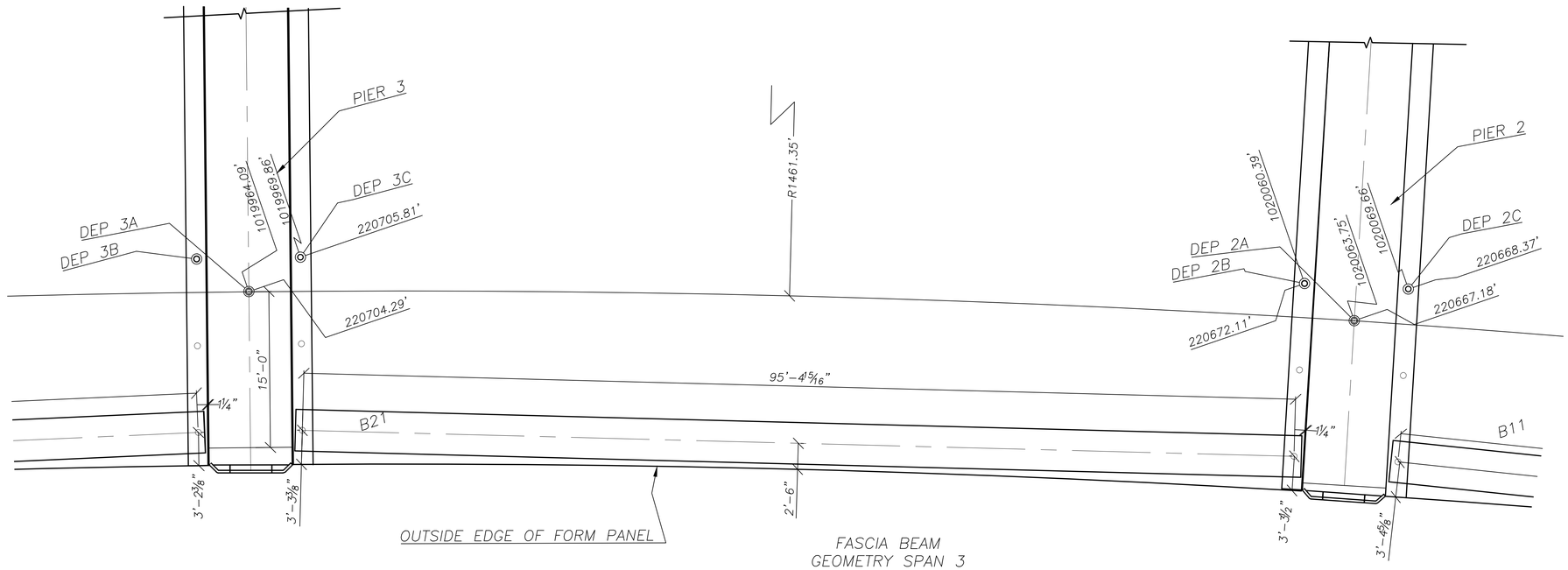
SPAN 1 AND 2 LAYOUT
PLAN VIEW



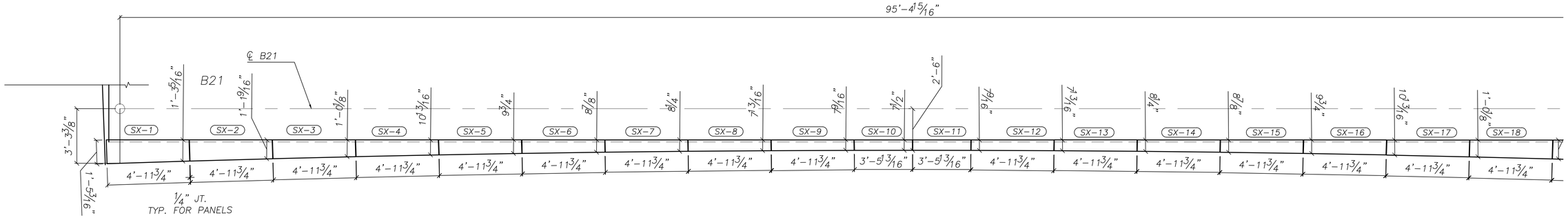
NOTE:
DUE TO BEAM CAMBER, JOINT WIDTH MAY
BE WIDER AT THE TOP OF THE PANEL

JOINT DETAIL

J & R SLAW INC. 438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852-2020 FAX (610) 852-2098	CONTRACTOR: SKANSKA/WALSH JV.		
PROJECT: LaGUARDIA FRONTAGE RD	DESIGNED BY:	SCALE: xxx	REV. :
DRAWING TITLE: PANEL LAYOUT 1 ND 2	DRAWN BY:	DATE:	SHEET NO.: 2

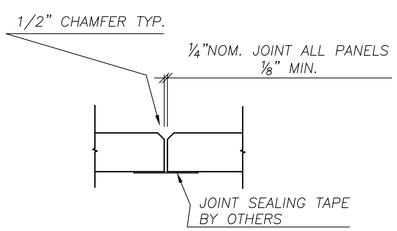


FASCIA BEAM
GEOMETRY SPAN 3
PLAN VIEW



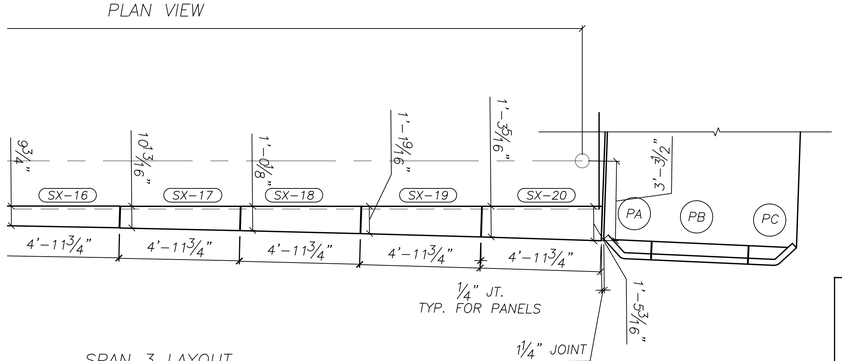
SPAN 3 LAYOUT
PLAN VIEW

SPAN 3 LAYOUT
PLAN VIEW



NOTE:
DUE TO BEAM CAMBER, JOINT WIDTH MAY
BE WIDER AT THE TOP OF THE PANEL

JOINT DETAIL



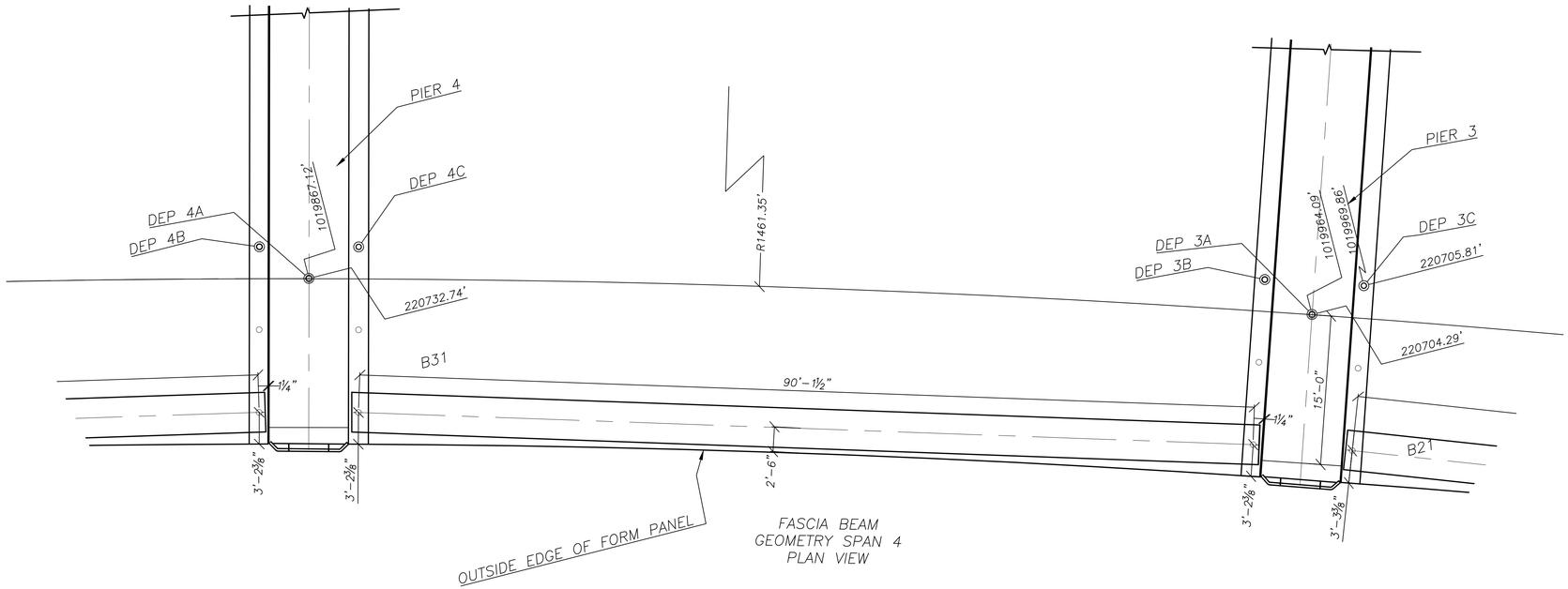
SPAN 3 LAYOUT
PLAN VIEW

J & R SLAW INC.

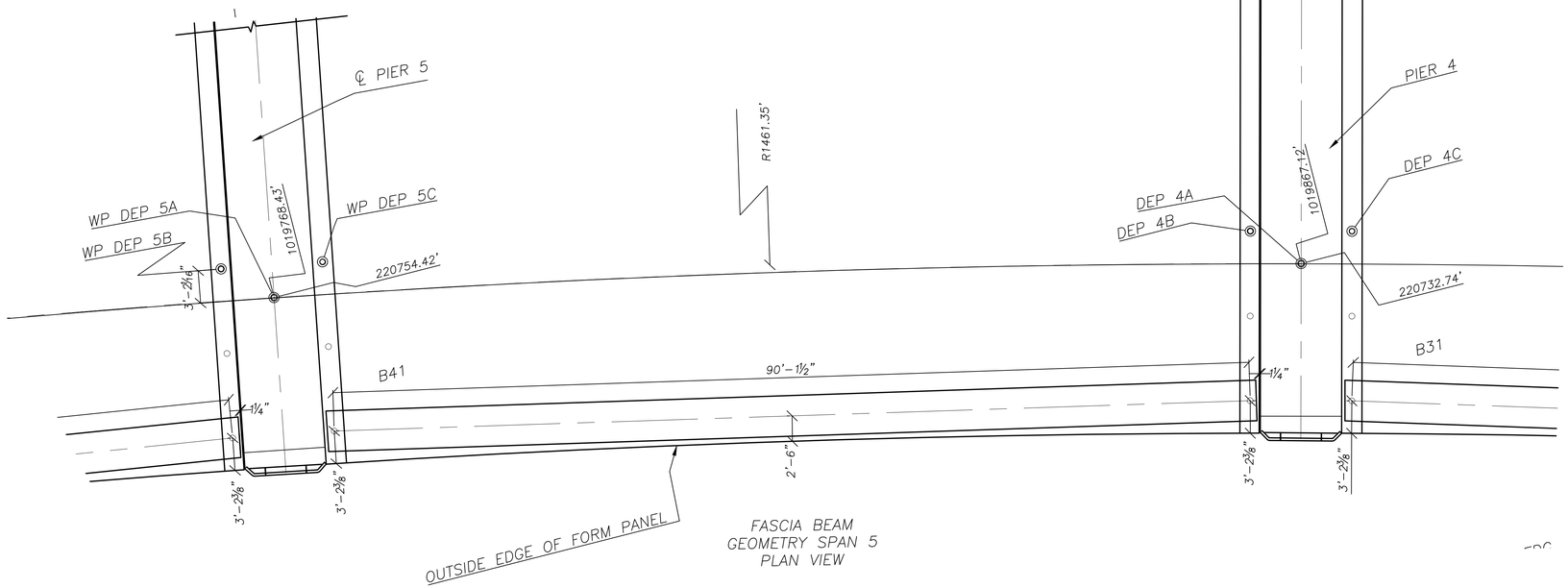
438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852-2020 FAX (610) 852-2098

CONTRACTOR: SKANSKA/WALSH JV.

PROJECT: LaGUARDIA FRONTAGE RD	DESIGNED BY:	SCALE: xxx	REV. :
DRAWING TITLE: LAYOUT 3	DRAWN BY:	DATE:	SHEET NO.: 3

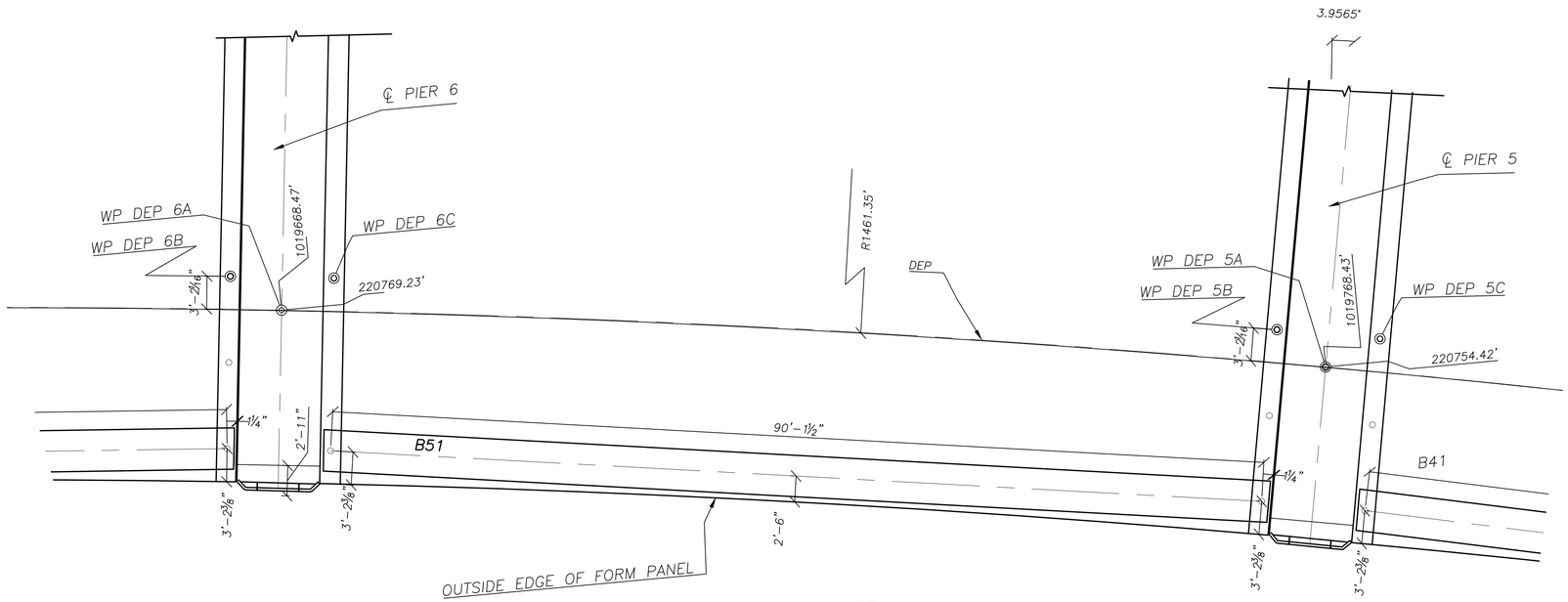


FASCIA BEAM
GEOMETRY SPAN 4
PLAN VIEW

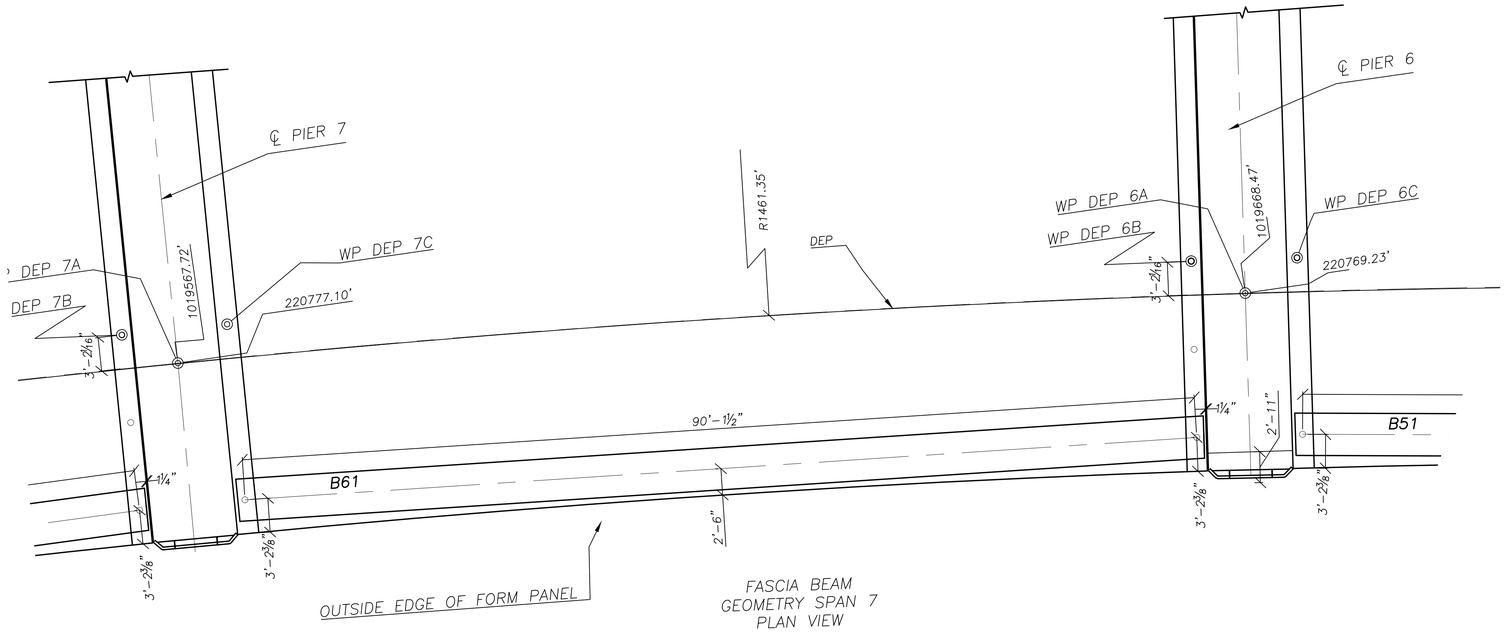


FASCIA BEAM
GEOMETRY SPAN 5
PLAN VIEW

J & R SLAW INC. 438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852-2020 FAX (610) 852-2098	CONTRACTOR: SKANSKA/WALSH JV.		
PROJECT: LaGUARDIA FRONTAGE RD	DESIGNED BY:	SCALE: xxx	REV. :
DRAWING TITLE: LAYOUT 4, 5	DRAWN BY:	DATE:	SHEET NO.: 4

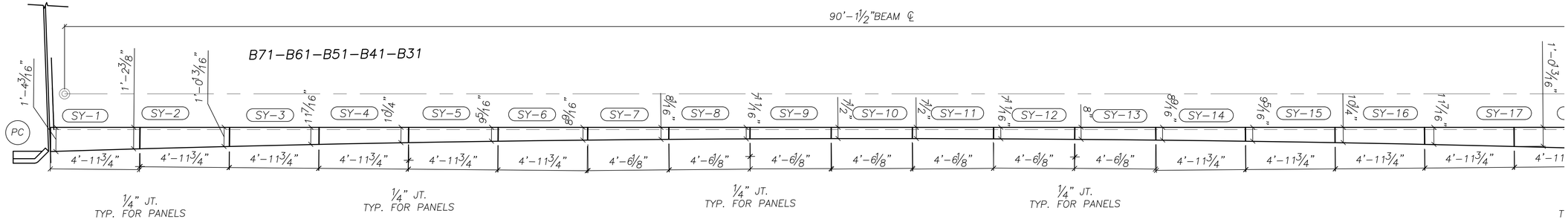


FASCIA BEAM
GEOMETRY SPAN 6
PLAN VIEW



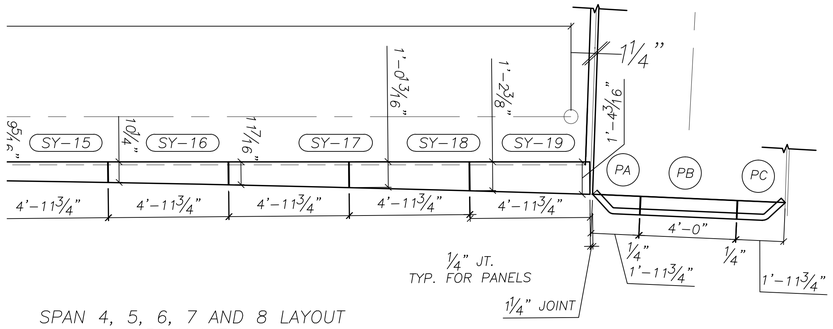
FASCIA BEAM
GEOMETRY SPAN 7
PLAN VIEW

J & R SLAW INC. 438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852-2020 FAX (610) 852-2098	CONTRACTOR: SKANSKA/WALSH JV.		
PROJECT: LaGUARDIA FRONTAGE RD	DESIGNED BY:	SCALE: xxx	REV. :
DRAWING TITLE: LAYOUT 6, 7	DRAWN BY:	DATE:	SHEET NO.: 5

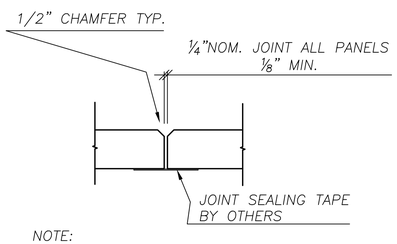


SPAN 4, 5, 6, 7 AND 8 LAYOUT
PLAN VIEW

SPAN 4, 5, 6, 7 AND 8 LAYOUT
PLAN VIEW

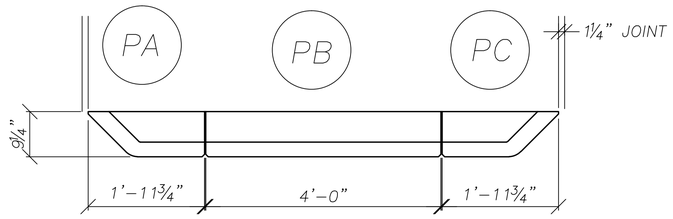


SPAN 4, 5, 6, 7 AND 8 LAYOUT
PLAN VIEW



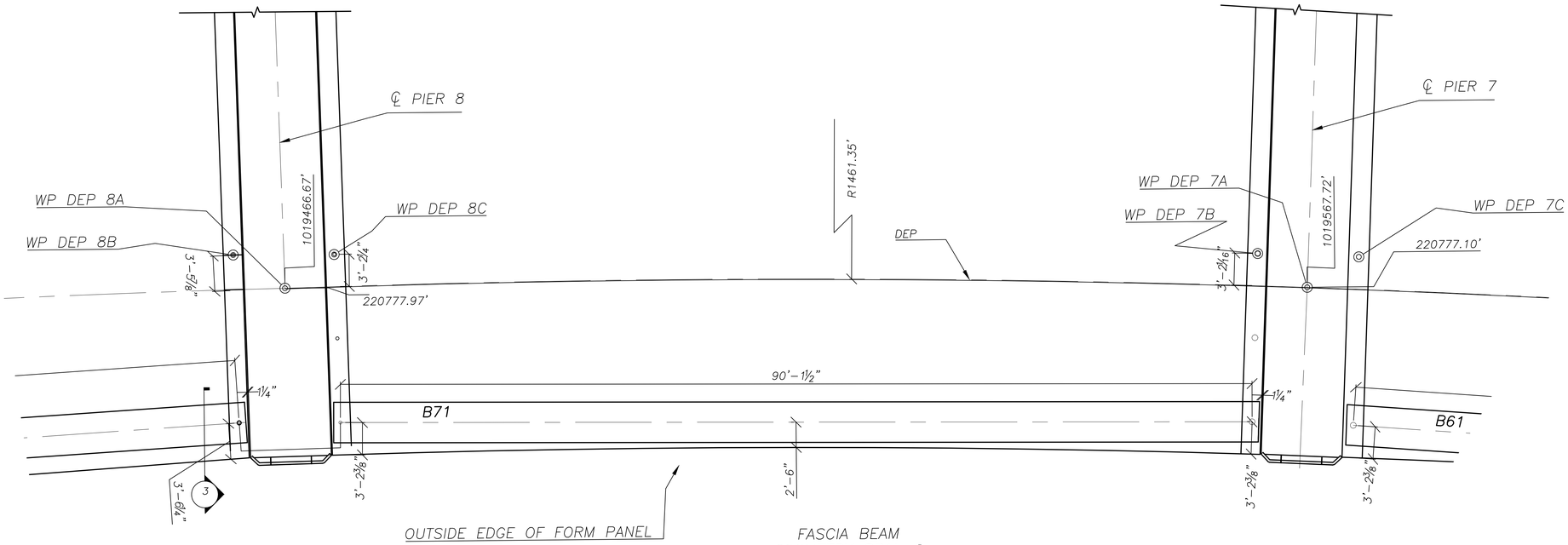
NOTE:
DUE TO BEAM CAMBER, JOINT WIDTH MAY
BE WIDER AT THE TOP OF THE PANEL

JOINT DETAIL

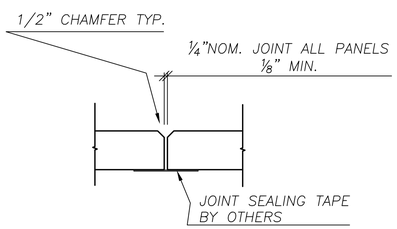


PIER BLISTER
PLAN VIEW
LOOKING ABOVE SOFFIT

J & R SLAW INC. 438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852-2020 FAX (610) 852-2098		CONTRACTOR: SKANSKA/WALSH JV.	
PROJECT: LaGUARDIA FRONTAGE RD		DESIGNED BY:	SCALE: xxx
DRAWING TITLE: PANEL LAYOUT 4, 5 6 and 7		DRAWN BY:	DATE:
REV. :	SHEET NO.: 6		



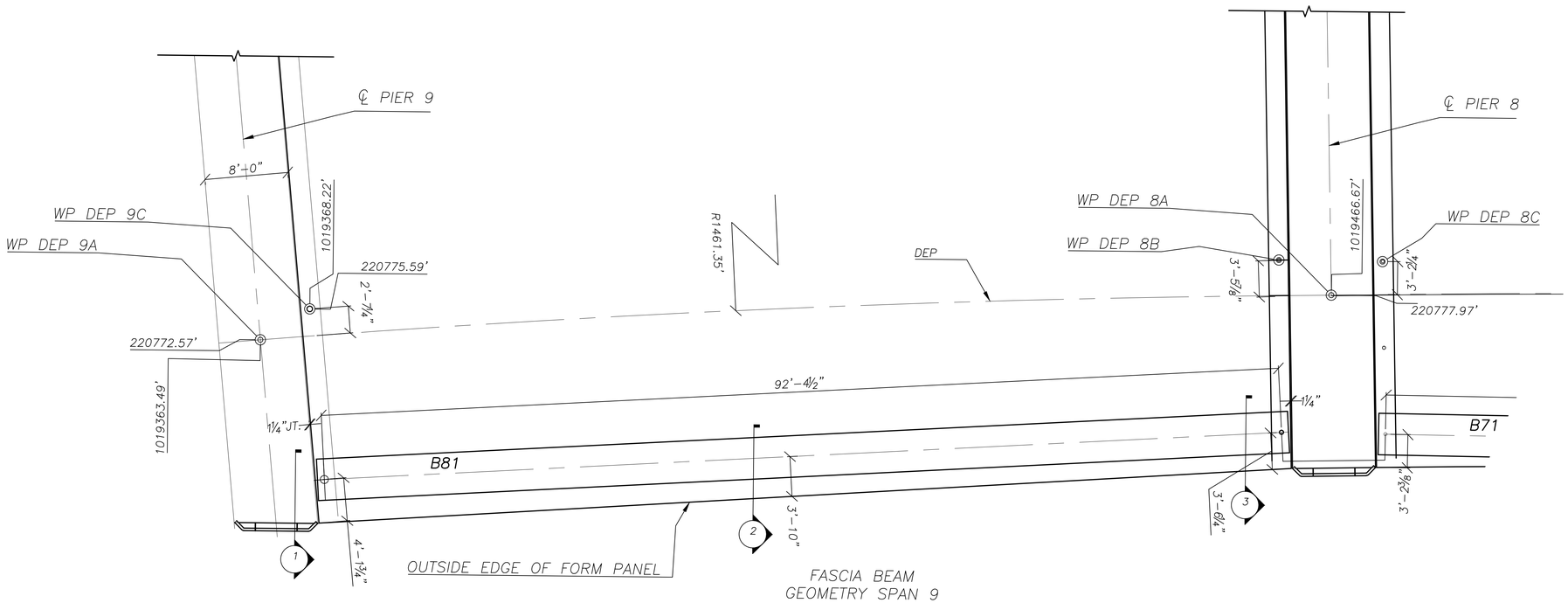
FASCIA BEAM
GEOMETRY SPAN 8
PLAN VIEW



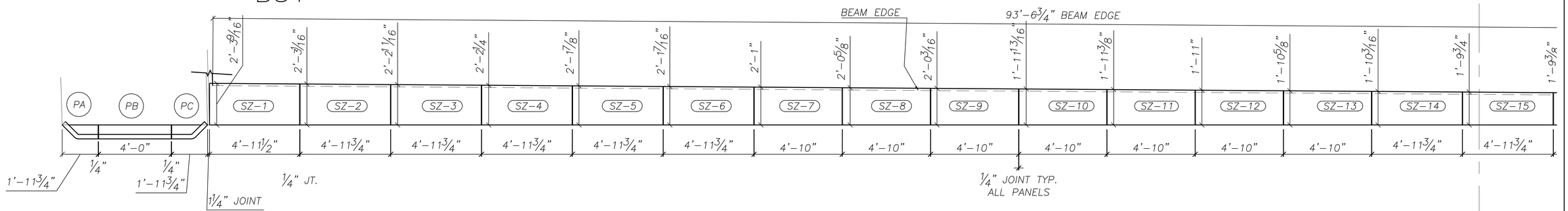
NOTE:
DUE TO BEAM CAMBER, JOINT WIDTH MAY
BE WIDER AT THE TOP OF THE PANEL

JOINT DETAIL

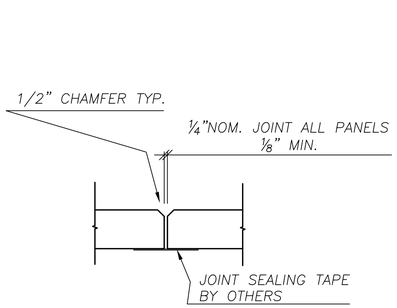
J & R SLAW INC. 438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852-2020 FAX (610) 852-2098		CONTRACTOR: SKANSKA/WALSH JV.	
PROJECT: LaGUARDIA FRONTAGE RD	DESIGNED BY:	SCALE: xxx	REV. :
DRAWING TITLE: LAYOUT span 8	DRAWN BY:	DATE:	SHEET NO.: 7



FASCIA BEAM
GEOMETRY SPAN 9
PLAN VIEW

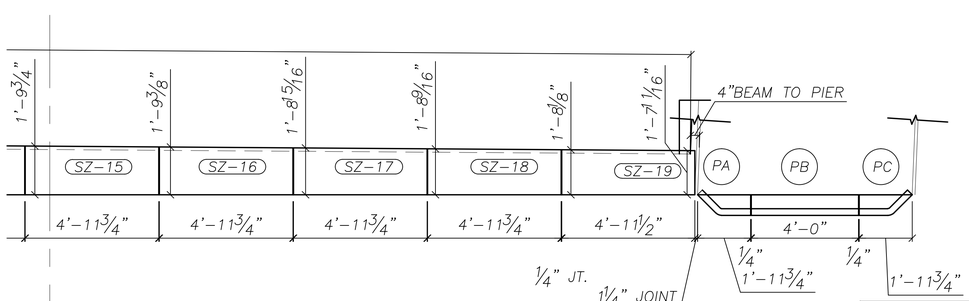


SPAN 9 LAYOUT
PLAN VIEW



NOTE:
DUE TO BEAM CAMBER, JOINT WIDTH MAY
BE WIDER AT THE TOP OF THE PANEL

JOINT DETAIL

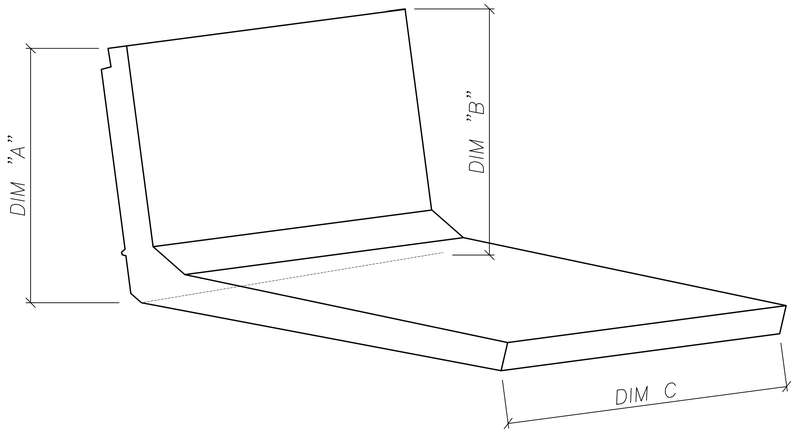


SPAN 9 LAYOUT
PLAN VIEW

J & R SLAW INC.
438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852-2020 FAX (610) 852-2098

CONTRACTOR: SKANSKA/WALSH JV.

PROJECT: LaGUARDIA FRONTAGE RD	DESIGNED BY:	SCALE: xxx	REV. :
DRAWING TITLE: LAYOUT 9	DRAWN BY:	DATE:	SHEET NO.: 9



SPAN 1 AND 2			
	DIM	DIM	DIM
PIECE W	A	B	C
1	1'–6 7/16"	1'–4 5/16"	4'–11 3/4"
2	1'–4 5/16"	1'–2 7/16"	4'–11 3/4"
3	1'–2 7/16"	1'–0 13/16"	4'–11 3/4"
4	1'–0 13/16"	0'–11 3/8'	4'–11 3/4"
5	0'–11 3/8'	0'–10 3/16"	4'–11 3/4"
6	0'–10 3/16"	0'–9 3/16"	4'–11 3/4"
7	0'–9 3/16"	0'–8 7/16"	4'–11 3/4"
8	0'–8 7/16"	0'–7 15/16"	4'–11 3/4"
9	0'–7 15/16"	0'–7 5/8"	4'–11 3/4"
10	0'–7 5/8"	0'–7 9/16"	4'–3 3/4"
11	0'–7 9/16"	0'–7 5/8"	4'–3 3/4"
12	0'–7 5/8"	0'–7 15/16"	4'–11 3/4"
13	0'–7 15/16"	0'–8 7/16"	4'–11 3/4"
14	0'–8 7/16"	0'–9 3/16"	4'–11 3/4"
15	0'–9 3/16"	0'–10 3/16"	4'–11 3/4"
16	0'–10 3/16"	0'–11 3/8'	4'–11 3/4"
17	0'–11 3/8'	1'–0 13/16"	4'–11 3/4"
18	1'–0 13/16"	1'–2 7/16"	4'–11 3/4"
19	1'–2 7/16"	1'–4 5/16"	4'–11 3/4"
20	1'–4 5/16"	1'–6 7/16"	4'–11 3/4"

SPAN 3			
	DIM	DIM	DIM
PIECE X	A	B	C
1	1'–5 3/16"	1'–3 5/16"	4'–11 3/4"
2	1'–3 5/16"	1'–1 9/16"	4'–11 3/4"
3	1'–1 9/16"	1'–0 1/8"	4'–11 3/4"
4	1'–0 1/8"	0'–10 13/16"	4'–11 3/4"
5	0'–10 13/16"	0'–9 3/4"	4'–11 3/4"
6	0'–9 3/4"	0'–8 7/8"	4'–11 3/4"
7	0'–8 7/8"	0'–8 1/4"	4'–11 3/4"
8	0'–8 1/4"	0'–7 13/16"	4'–11 3/4"
9	0'–7 13/16"	0'–7 9/16"	4'–11 3/4"
10	0'–7 9/16"	0'–7 1/2"	3'–5 13/16"
11	0'–7 1/2"	0'–7 9/16"	3'–5 13/16"
12	0'–7 9/16"	0'–7 13/16"	4'–11 3/4"
13	0'–7 13/16"	0'–8 1/4"	4'–11 3/4"
14	0'–8 1/4"	0'–8 7/8"	4'–11 3/4"
15	0'–8 7/8"	0'–9 3/4"	4'–11 3/4"
16	0'–9 3/4"	0'–10 13/16"	4'–11 3/4"
17	0'–10 13/16"	1'–0 1/8"	4'–11 3/4"
18	1'–0 1/8"	1'–1 9/16"	4'–11 3/4"
19	1'–1 9/16"	1'–3 5/16"	4'–11 3/4"
20	1'–3 5/16"	1'–5 3/16"	4'–11 3/4"

SPAN 4, 5, 6, 7, 8			
	DIM	DIM	DIM
PIECE Y	A	B	C
1	1'–4 3/16"	1'–2 3/8"	4'–11 3/4"
2	1'–2 3/8"	1'–0 13/16"	4'–11 3/4"
3	1'–0 13/16"	0'–11 7/16"	4'–11 3/4"
4	0'–11 7/16"	0'–10 1/4"	4'–11 3/4"
5	0'–10 1/4"	0'–9 5/16"	4'–11 3/4"
6	0'–9 5/16"	0'–8 9/16"	4'–11 3/4"
7	0'–8 9/16"	0'–8 1/16"	4'–6 1/8"
8	0'–8 1/16"	0'–7 11/16"	4'–6 1/8"
9	0'–7 11/16"	0'–7 1/2"	4'–6 1/8"
10	0'–7 1/2"	0'–7 1/2"	4'–6 1/8"
11	0'–7 1/2"	0'–7 11/16"	4'–6 1/8"
12	0'–7 11/16"	0'–8 1/16"	4'–6 1/8"
13	0'–8 1/16"	0'–8 9/16"	4'–6 1/8"
14	0'–8 9/16"	0'–9 5/16"	4'–11 3/4"
15	0'–9 5/16"	0'–10 1/4"	4'–11 3/4"
16	0'–10 1/4"	0'–11 7/16"	4'–11 3/4"
17	0'–11 7/16"	1'–0 13/16"	4'–11 3/4"
18	1'–0 13/16"	1'–2 3/8"	4'–11 3/4"
19	1'–2 3/8"	1'–4 3/16"	4'–11 3/4"

SPAN 9			
	DIM	DIM	DIM
PIECE Z	A	B	C
1	2'–3 9/16"	2'–3 1/16"	4'–11 1/2"
2	2'–3 1/16"	2'–2 11/16"	4'–11 3/4"
3	2'–2 11/16"	2'–2 1/4"	4'–11 3/4"
4	2'–2 1/4"	2'–1 7/8"	4'–11 3/4"
5	2'–1 7/8"	2'–1 7/16"	4'–11 3/4"
6	2'–1 7/16"	2'–1"	4'–11 3/4"
7	2'–1"	2'–0 5/8"	4'–10"
8	2'–0 5/8"	2'–0 3/16"	4'–10"
9	2'–0 3/16"	1'–11 13/16"	4'–10"
10	1'–11 13/16"	1'–11 3/8"	4'–10"
11	1'–11 3/8"	1'–11"	4'–10"
12	1'–11"	1'–10 5/8"	4'–10"
13	1'–10 5/8"	1'–10 3/16"	4'–10"
14	1'–10 3/16"	1'–9 3/4"	4'–11 3/4"
15	1'–9 3/4"	1'–9 3/8"	4'–11 3/4"
16	1'–9 3/8"	1'–8 15/16"	4'–11 3/4"
17	1'–8 15/16"	1'–8 9/16"	4'–11 3/4"
18	1'–8 9/16"	1'–8 1/8"	4'–11 3/4"
19	1'–8 1/8"	1'–7 11/16'	4'–11 1/2"

J & R SLAW INC.
438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852–2020 FAX (610) 852–2098

CONTRACTOR: SKANSKA/WALSH JV.

PROJECT: LaGUARDIA FRONTAGE RD

DESIGNED BY:

SCALE: xxx

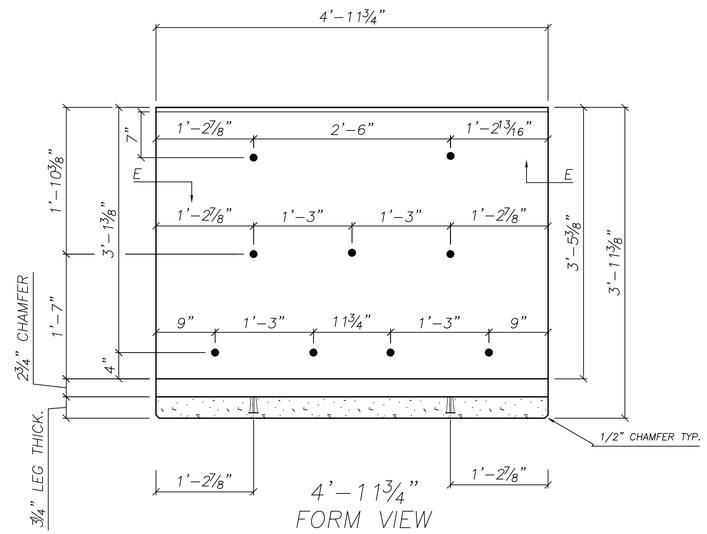
REV. :

DRAWING TITLE: PIECE DETAILS TABLE

DRAWN BY:

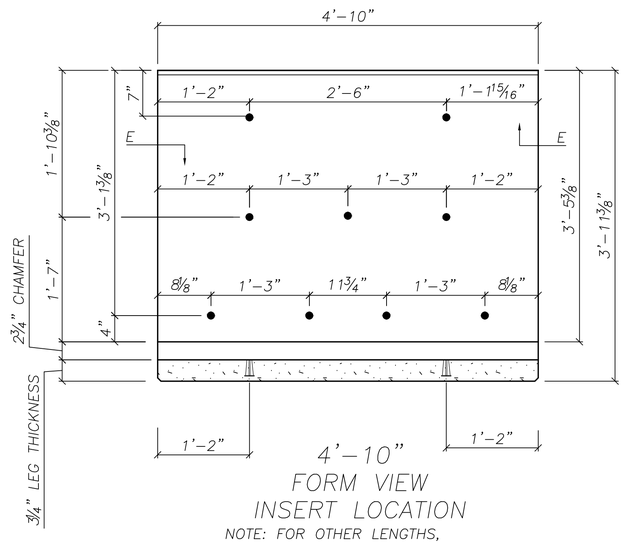
DATE:

SHEET NO.: T–1



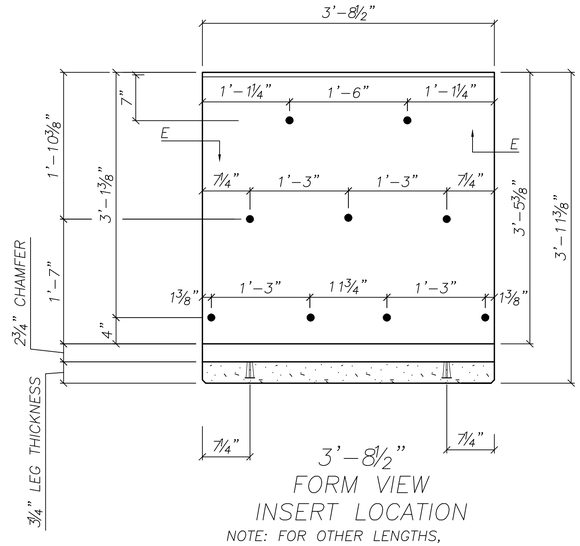
4'–11¾"
FORM VIEW
INSERT LOCATION

NOTE: FOR OTHER LENGTHS, BLOCK OUT EQUALLY ON BOTH SIDES OF CENTER, INSERTS ARE CENTERED ON PANEL CENTER.



4'–10"
FORM VIEW
INSERT LOCATION

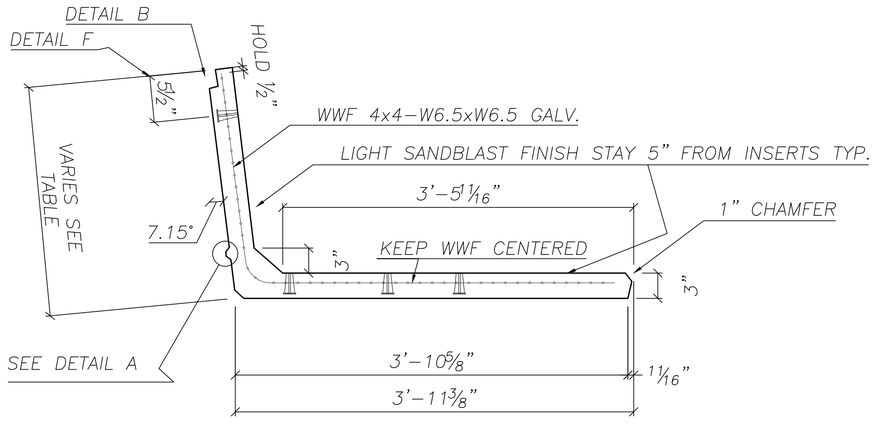
NOTE: FOR OTHER LENGTHS, BLOCK OUT EQUALLY ON BOTH SIDES OF CENTER, INSERTS ARE CENTERED ON PANEL CENTER.



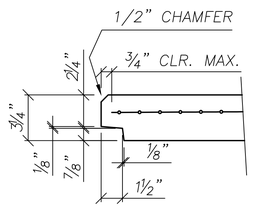
3'–8½"
FORM VIEW
INSERT LOCATION

NOTE: FOR OTHER LENGTHS, BLOCK OUT EQUALLY ON BOTH SIDES OF CENTER, INSERTS ARE CENTERED ON PANEL CENTER.

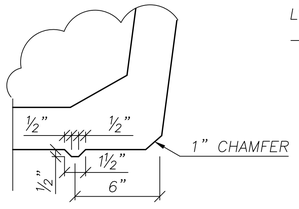
NOTES	T.I.F. – DENOTES TOP IN FORM B.I.F. – DENOTES BOTTOM IN FORM				
FINISH	B = LIGHT EXPOSED F = SMOOTH FORM				
CONC.	CONCRETE TYPE – MIX 62				
	28 DAY STRENGTH (PSI)				6500
	STRIPPING STRENGTH (PSI)				3500
SPECS.	VOLUME CY	0.3			
	WEIGHT LBS	1100			
HARDWARE	SURE BUILT 1/2"ø ZINC SB12NCx112	11			
WWF ASTM DESIGNATION A185 & A641	WWF 4x4–W6.5xW6.5 GALV.	1			
	QUANTITIES ARE PER PIECE				



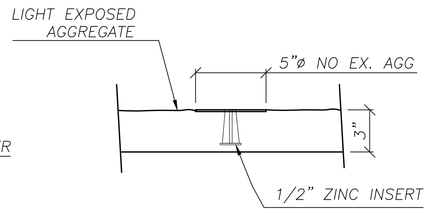
TYPICAL SECTION



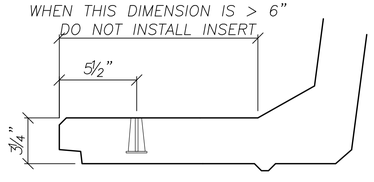
DETAIL B
BEARING NOTCH



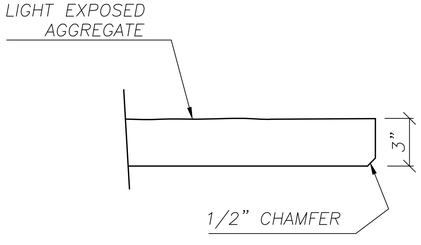
DETAIL A
DRIP NOTCH



DETAIL C
INSERT DETAIL



DETAIL F
INSERT IN SOFFET

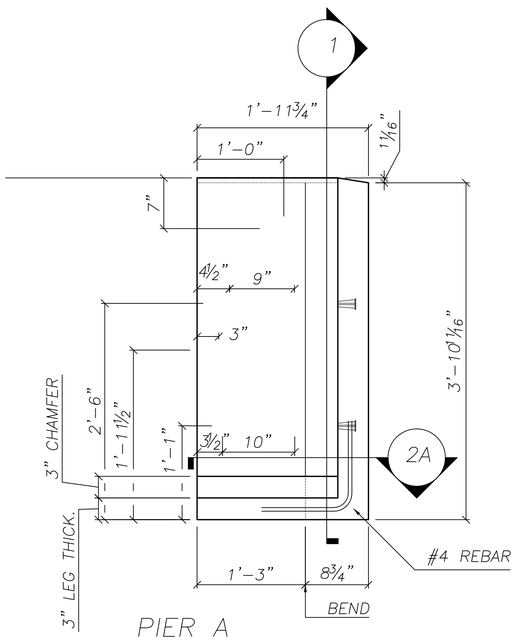


DETAIL E
SECTION

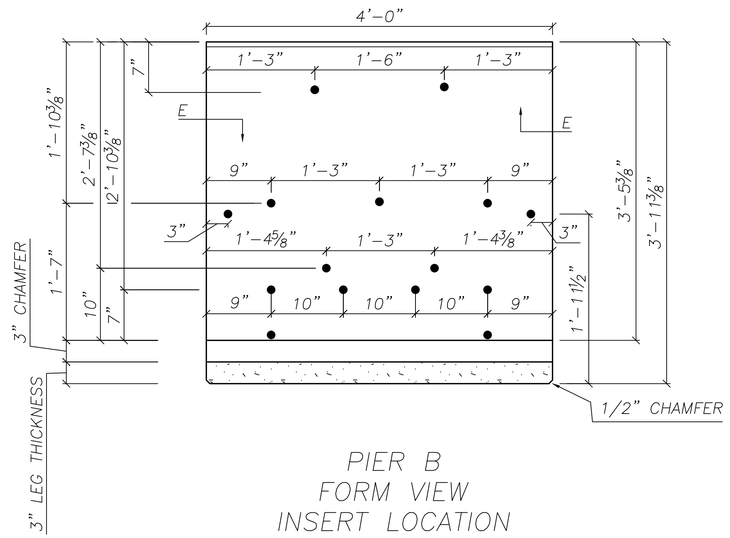
J & R SLAW INC.

438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852–2020 FAX (610) 852–2098

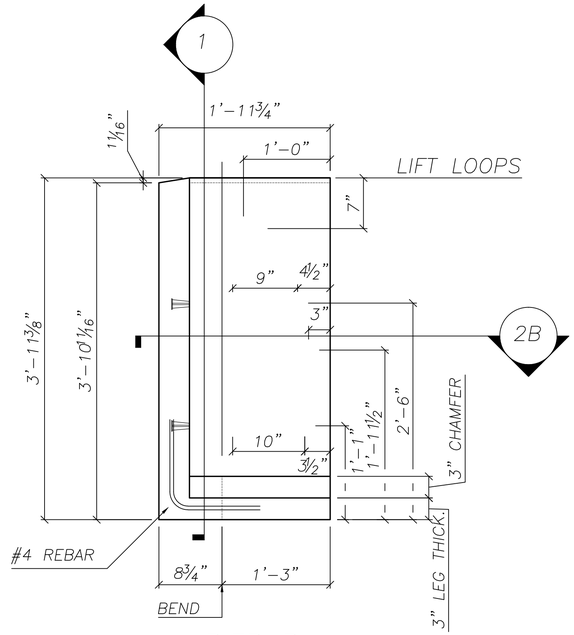
CONTRACTOR: SKANSKA/WALSH JV.			
PROJECT: LaGUARDIA FRONTAGE RD	DESIGNED BY:	SCALE: xxx	REV. :
DRAWING TITLE: PIECE DETAILS	DRAWN BY:	DATE:	SHEET NO.: S–1



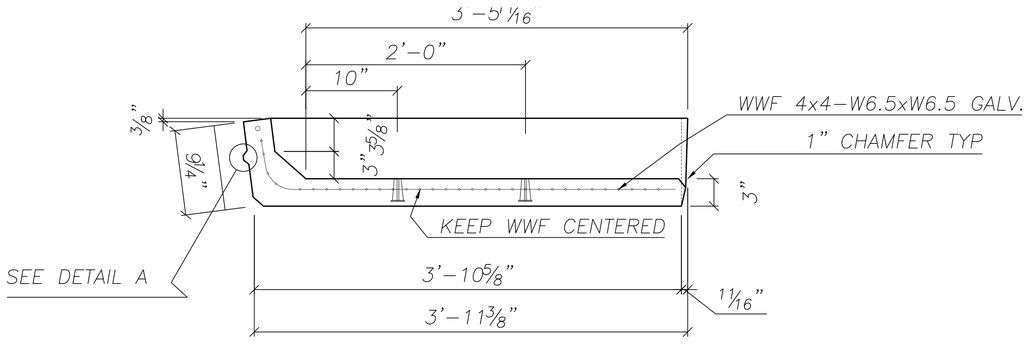
PIER A
FORM VIEW
INSERT LOCATION



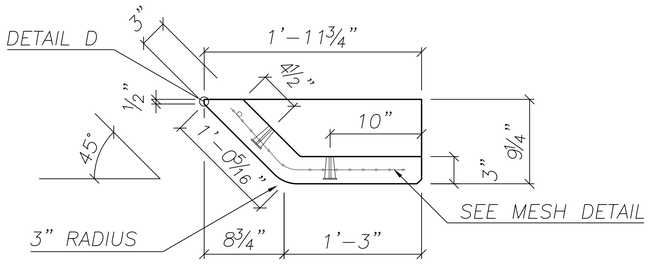
PIER B
FORM VIEW
INSERT LOCATION



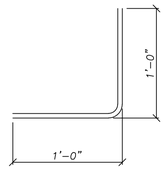
PIER B
FORM VIEW
INSERT LOCATION



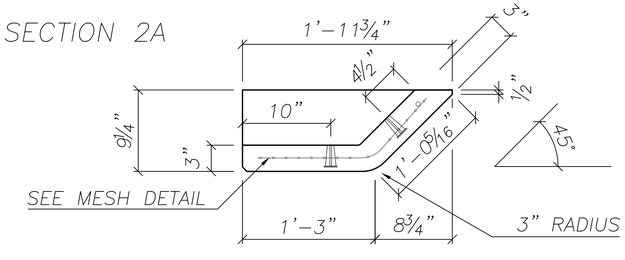
SECTION 1



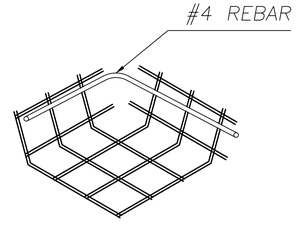
SECTION 2A



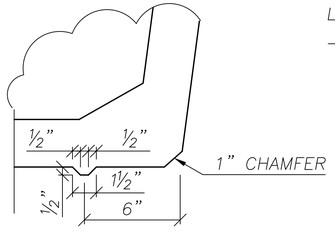
#4 MK401



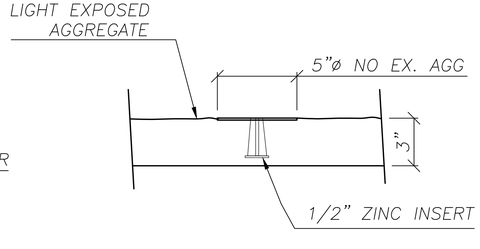
SECTION 2B



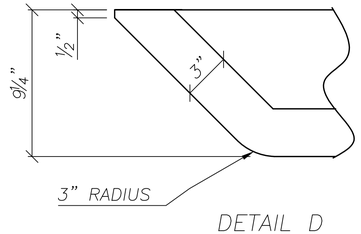
MESH DETAIL



DETAIL A
DRIP NOTCH



DETAIL C
INSERT DETAIL



DETAIL D
CORNER DETAIL

A	B	C	
10	10	10	

NOTES

T.I.F. – DENOTES TOP IN FORM
B.I.F. – DENOTES BOTTOM IN FORM

FINISH

B = LIGHT EXPOSED
F = SMOOTH FORM

CONC.

CONCRETE TYPE – MIX 62

28 DAY STRENGTH (PSI)		6500
STRIPPING STRENGTH (PSI)		3500

SPECS.

	A	B	C	
VOLUME CY	0.09	0.16	0.09	
WEIGHT LBS	360	640	360	

HARDWARE

SURE BUILT 1/2"ø ZINC SB12NCx112	10	15	7	

WWF ASTM DESIGNATION A185 & A641

WWF 4x4–W6.5xW6.5 GALV.	1	1	1	
MK401	1		1	

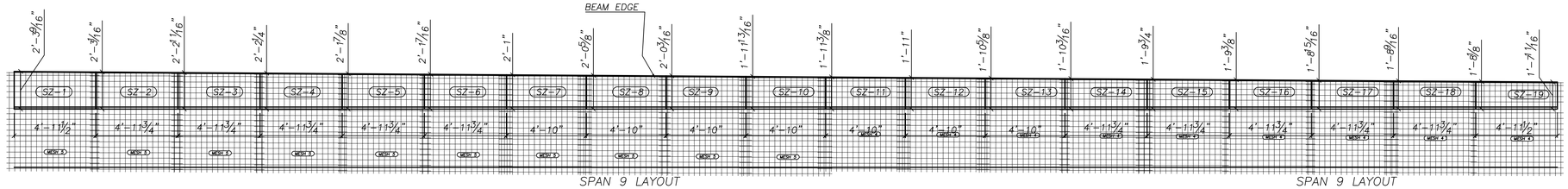
QUANTITIES ARE PER PIECE

J & R SLAW INC.

438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852–2020 FAX (610) 852–2098

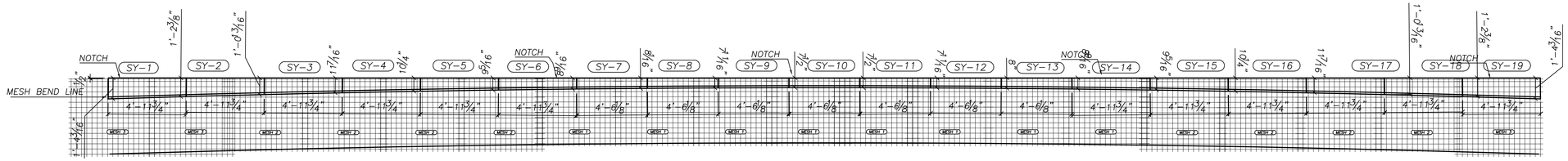
CONTRACTOR: SKANSKA/WALSH JV.

PROJECT:	DESIGNED BY:	SCALE:	REV. :
LaGUARDIA FRONTAGE RD		xxx	
DRAWING TITLE: PIECE DETAILS	DRAWN BY:	DATE:	SHEET NO.: S–2



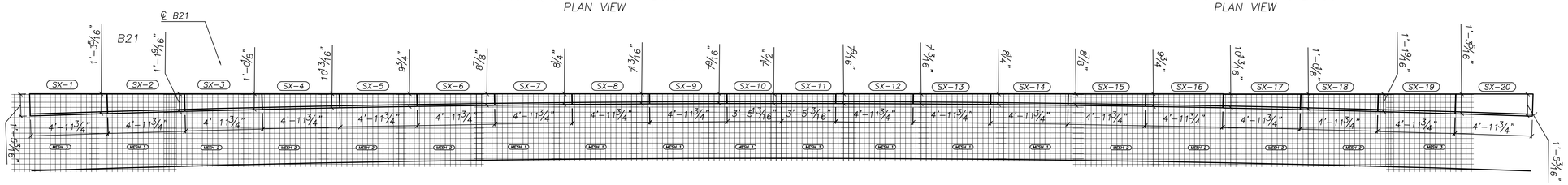
SPAN 9 LAYOUT
PLAN VIEW

SPAN 9 LAYOUT
PLAN VIEW



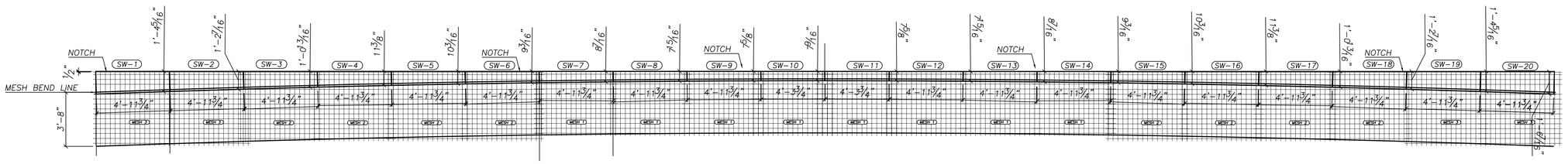
SPAN 4, 5, 6, 7 AND 8 LAYOUT
PLAN VIEW

SPAN 4, 5, 6, 7 AND 8 LAYOUT
PLAN VIEW



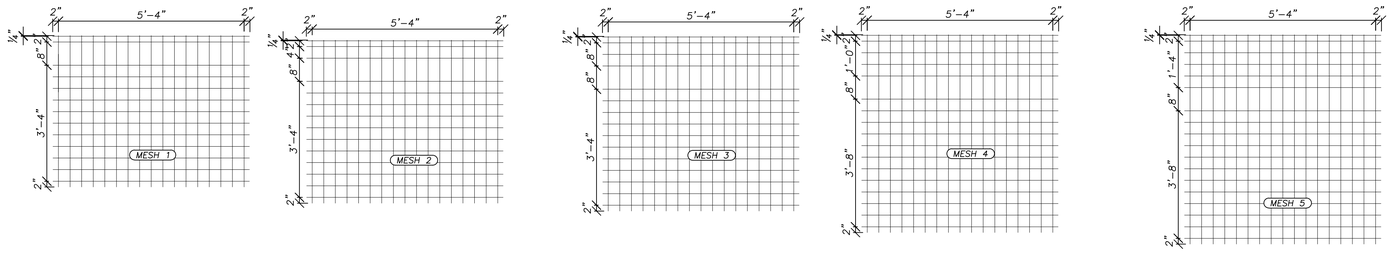
SPAN 3 LAYOUT
PLAN VIEW

SPAN 3 LAYOUT
PLAN VIEW



SPAN 1 AND 2 LAYOUT
PLAN VIEW

SPAN 1 AND 2 LAYOUT
PLAN VIEW



ALL WWF IS 4x4–W6.5xW6.5 AND GALVANIZED OR EPOXY COATED.
MISSING WIRE TO BE PLACED AND TIED AFTER BENDING.

J & R SLAW INC.
438 RIVERVIEW RD.,LEHIGHTON, PA 18235 PHONE (610) 852-2020 FAX (610) 852-2098

CONTRACTOR: SKANSKA/WALSH JV.

PROJECT:	DESIGNED BY:	SCALE:	REV. :
LaGUARDIA FRONTAGE RD		xxx	
DRAWING TITLE: MESH DETAILS	DRAWN BY:	DATE:	SHEET NO.: M–1