

J. A. JONES CONSTRUCTION COMPANY
SPECIAL PROCESS PROCEDURE
FOR
BACKFILL TEST FILL

WATERFORD SES UNIT NO.3
CONTRACT NO. W3-NY-4

REV.	DATE	ENGINEERING APPROVED BY	DATE	QUALITY ASSURANCE APPROVED BY	DATE	CONSTRUCTION APPROVED BY	DATE
0	5/27/76	<i>al Prince</i>	5/28/76	<i>W. E. H.</i>	5/31/76	<i>L. S. Terry</i>	5/31/76

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SPECIAL PROCESS PROCEDURE	PROCEDURE NO. W-SP-8
TITLE: BACKFILL TEST FILL	REV. NO. 0 & DATE 5/27/76
PROJECT TITLE: WATERFORD SES UNIT NO. 3 CONTRACT NO. W3-NY-4	
<p>1.0 <u>PURPOSE</u></p> <p>This procedure outlines a means to determine the optimum construction techniques for the compaction of the backfill material to be used around the Plant Island Structure.</p> <p>2.0 <u>SCOPE</u></p> <p>The scope of the procedure will cover the construction and compaction of a test fill including compaction field testing, data compilation, tabulation and analysis. The final analysis of the data will result in a recommendation as to the number of passes required to attain density requirements.</p> <p>3.0 <u>REFERENCES</u></p> <p>3.1 Ebasco Services, Inc., Ebasco Specification, Filter and Backfill, LOU-1564.482, latest revision.</p> <p>3.2 J. A. Jones' Work Procedure, W-WP-12, "Backfill and Compaction".</p> <p>4.0 <u>DEFINITIONS</u></p> <p>None.</p> <p>5.0 <u>RESPONSIBILITIES</u></p> <p>5.1 Ebasco Services, Inc. shall provide a witness to test procedure.</p> <p>5.2 J. A. Jones shall compile test data and records and make recommendations as to required number of passes to attain density requirements above. This information shall be forwarded to Ebasco Services, Inc. for their final approval review.</p> <p>5.3 All testing services will be provided by Ebasco Services, Inc.</p> <p>6.0 <u>PROCEDURE</u></p> <p>The optimum placement method for the Class A Backfill shall be established by a field testing program in accordance with the following procedure:</p>	

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6.1 Single Lift Compaction

6.1.1 During the initial stages of the backfilling operation a quantity of Class A material, sufficient to cover an area of about 100ft. by 20 ft., shall be placed in the condition in which it would normally be dumped from trucks. The thickness of the material which is put down shall be 15 inches before compaction. The detailed geometry of the test fill is shown in Appendix A.

6.1.2 Compaction shall be achieved using a self-propelled 12 ton dynamic force vibratory drum roller. Starting with four passes, and increasing compaction in sets of two passes, the test fill shall be compacted as shown in Appendix A. On each set of two passes, the following tests shall be performed:

6.1.2.1 ~~6.1.2~~ In-place density tests ~~shall~~ ^{shall} be run in the approximate locations shown in Appendix A. The in-place density tests ~~shall~~ ^{shall} be performed using either of the following techniques and results recorded.

a) Sand cone method ASTM D-1556-68.

b) Rubber balloon method ASTM D-2167-66

6.1.2.2 ~~6.1.2~~ Modified proctor compaction tests, ASTM D-1557-70 Method C, shall be run on samples in the approximate locations shown in Appendix A.

6.1.3 ~~6.1.2~~ The result of this test ~~shall~~ ^{fill shall} be plotted on graph (Appendix B) as the percentage (%) ^{compaction} versus number of passes and a specific number of passes selected as optimum. The laboratory standard used as a base for the determination of the percentage (%) compaction shall be the modified proctor density as determined from the ASTM-D-1557-70 Method C test. The percentage (%) compaction shall be defined as the in place density (#/ft³) divided by the base laboratory density (#/ft³) X 100.

6.2 Double Lift Compaction

6.2.1 After the completion of the Single Lift Compaction Test Fill, a second lift of material will be placed on top of the four, six and eight pass sections of the single lift test. The number of compaction passes will be the optimum number as determined in the previous single lift test.

6.2.2 Three Dig Down In Place Density Tests should be run in each of the four, six and eight pass sections. The location of these tests will be ~~selected by the Engineer but care should be taken~~ ^{selected} so that the location of these test holes does not coincide with the location of the single lift compaction test holes. Testing ~~shall~~ ^{shall} be run

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~~6.2.2~~ in accordance with section 6.1.3 and 6.1.4 of this procedure.

6.2.3 The results of this test ~~shall~~ ^{shall} be plotted in accordance with section 6.1.4 of this procedure.

6.3 All compacting shall be done in the presence of the Engineer and shall be subject to his direction and approval. An analysis of the test curves will be made by the Engineer and his interpretation of the results shall govern. The Engineer may also, at his discretion, require any modifications in the testing program as may seem necessary in order to accomplish the desired results.

6.3.1 After the Engineer has made his review of the results of the test program, all work associated with the installation and compaction of the Class A Backfill shall follow the procedures used during the testing program as closely as practicable.

6.3.2 The use of backfill material of a different type, or from a different source, or the use of a different type or model of compacting equipment, will require new tests to be made to determine the proper number of passes.

7.0 ATTACHMENTS

7.1 Test Fill Layout - Appendix A

7.2 Graph - Percentage (%) Compaction Versus Number of Passes

NUMBER OF
ROLLER PASSES

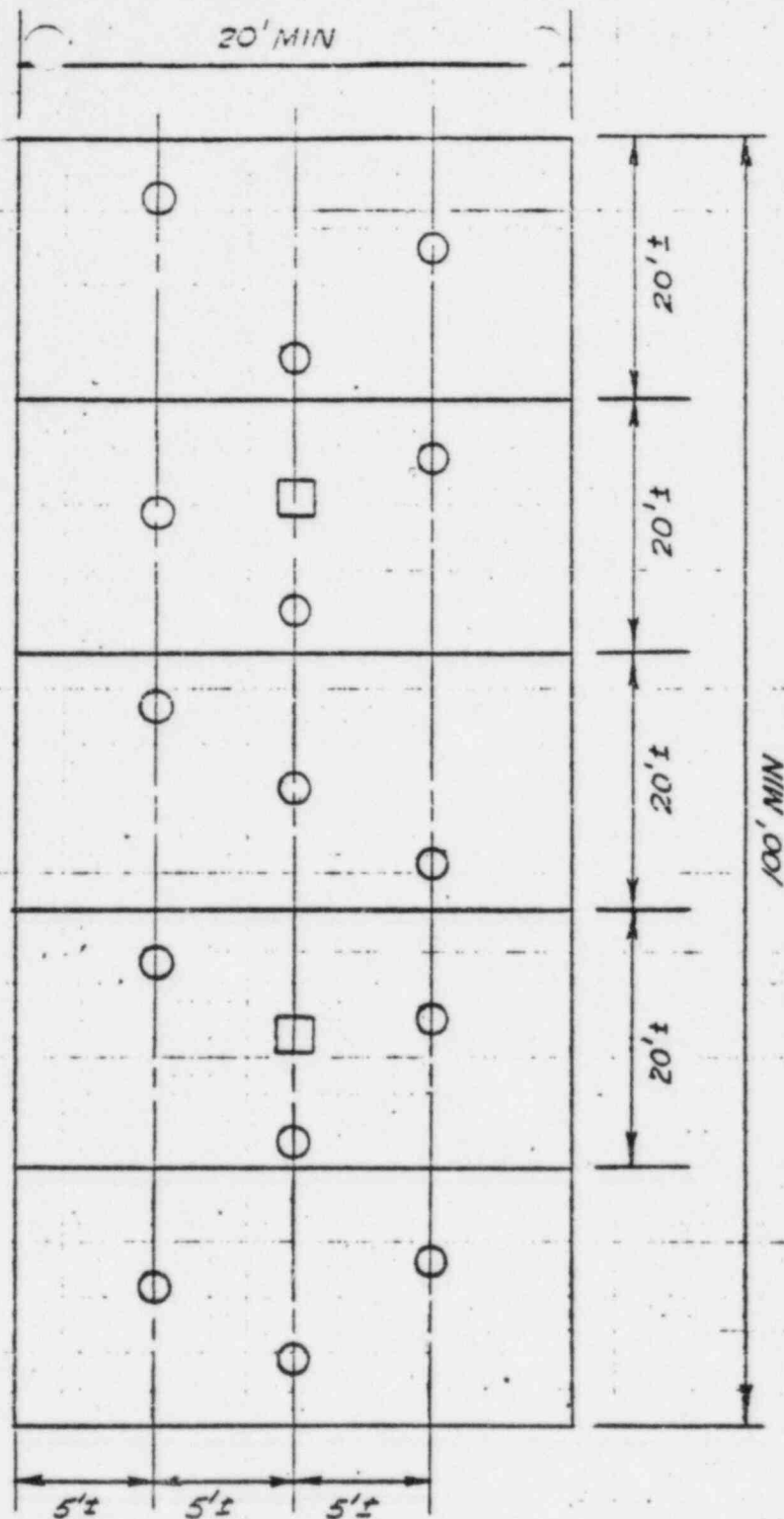
4 PASSES

6 PASSES

8 PASSES

10 PASSES

12 PASSES



SINGLE LIFT COMPACTION TEST FILL

- PLAN - (NTS)

○ - IN PLACE DENSITY TEST

□ - MODIFIED PROCTOR TEST

[illegible]

TEST RESULT	% Compaction
1	95
2	95
3	95
4	95
5	95
6	95
7	95
8	95
9	95
10	95
11	95
12	95
13	95
14	95
15	95
16	95
17	95
18	95
19	95
20	95
21	95
22	95
23	95
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78	95
79	95
80	95
81	95
82	95
83	95
84	95
85	95
86	95
87	95
88	95
89	95
90	95
91	95
92	95
93	95
94	95
95	95
96	95
97	95
98	95
99	95
100	95

NUMBER OF PASSES- (H)

ERASCO SERVICES INCORPORATED
 QUALITY ASSURANCE ENGINEERING
 REVIEW OF SITE QUALITY CONTROL
 ACTIVITY AND INSPECTION PROCEDURES

ATTACHMENT 1

PROJECT:

WATERFORD - SES Unit No. 3

Q.A. ENGINEER/REPRESENTATIVE

See Attached

PROCEDURE NUMBER AND TITLE W-SP-8

DATE

BACKFILL TEST FILL

6-8-76

Item	Procedure Reference	Description	A/C	A	R	N/A
1		Scope		✓		
2		Responsibilities		✓		
3		Reference		✓		
4		Manner of Performance		✓		
5		Authorized Signatures		✓		
6		Q.A. Program Requirements		✓		
7		Documentation Provision		✓		
8		ID. of Characteristics		✓		
9		ID. of Responsible Inspectors				✓
10		Accept and Reject Criteria		✓		
11		Method of Inspection				✓
12		Verification and Certification		✓		
13		Record of Results		✓		

Comments:

No Comments

Resolution of Comments:

Object Items

Date and Signature

Accept Items

Date and Signature