Procedure No. W-SITP-12

J. A. JONES CONSTRUCTION COMPANY

SITE INSPECTION AND TEST PROCEDURE

FOR

BACKFILL AND COMPACTION INSPECTION

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

| REV. | DATE | ENGINEERING REVIEWED BY | DATE | CONSTRUCTION REVIEWED BY | DATE | QUALITY ASSURANCE APPROVED BY | DATE |
|---|---|---|---|---|---|---|---|
| 0 | 12-15-75 | alPonce | 3/15/76 | L. Terry | 3/15/76 | William C. Eff | 12/16/75 |
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1.0 PURPOSE

To specify the inspection and surveillance activities that will be performed by J. A. Jones Quality Assurance/Quality Verification personnel to assure that backfill is placed and compacted in accordance with approved drawings, specifications and procedures.

2.0 SCOPE

This procedure governs the placing and compaction of backfill material for Waterford SES Unit No. 3, Phase I Concrete Construction.

3.0 DEFINITIONS

3.1 Class "A" fill shall be either sand containing no more than twelve (12) percent material passing a number 200 seive or Pleistocene clay.

3.2 Class "B" fill shall be selected sand, silt, clay, or a combination thereof, selected from the excavation.

3.3 Location of Class "A" and Class "B" fill shall be as shown on Ebasco Drawing No. LOU-1564.497 S01, "General Backfill Plan and Sections".

4.0 REFERENCES

4.1 J. A. Jones Construction Work Procedure, W-WP-12, "Backfilling and Compaction".

4.2 Ebasco Services, Inc. Specification No. LOU-1564.482, "Filter and Backfill".

4.3 Ebasco Drawing No. LOU-1564-G-490, "Nuclear Plant Island Structure - Construction Sequence."

5.0 RESPONSIBILITIES

5.1 Ebasco Services, Inc. is responsible for the furnishing of all backfill material and for all testing of backfill material and compacted backfill.

5.2 J. A. Jones is responsible for the proper placing and compaction of backfill in accordance with approved drawings, specifications and procedures.

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6.0 INSPECTION

The assigned Quality Verification Inspector(s) shall perform surveillance inspection as required to assure that the requirements listed below are fulfilled.

6.1 Backfilling is accomplished in the proper sequence in accordance with Ebasco Drawing No. LOU-1564-G-490.

6.2 Base to receive backfill has been properly compacted to ~~95% of maximum Modified Proctor Density~~ the required density required by Ebasco.

6.3 Sand for Class "A" fill is spread and leveled in layers not exceeding 15 inches prior to compaction.

6.4 Clay for Class "A" backfill and material selected from the excavation for Class "B" backfill is placed in layers not exceeding ~~eight~~ ten inches prior to compaction.

6.5 Fill material is deposited uniformly over entire area being filled to a particular stage or level.

6.6 When required, fill material shall be disc-harrowed after spreading and before compaction to blend and aerate the material into a texture that can be consolidated into a homogeneous mass by the compaction operations.

6.7 Layers of fill material are placed to essentially equalize effective pressure at the base of the mat.

6.8 Surface of each lift is kept reasonably smooth and free of ridges or grooves which would adversely affect proper compaction of subsequent lifts.

6.9 Hauling equipment uses paths different from each other in order to aid compaction of the entire area and to avoid overcompaction of any given area.

6.10 If area to receive fill is an original excavation, or compacted more than two days previously, surface shall be cleaned of all loose debris and improperly compacted material.

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6.11 When two sections of fill join, fill placed first must have its slope shaved a minimum of three feet to expose undisturbed compacted material.

6.12 Compaction is reasonably uniform within any one layer over entire area.

6.13 All layers are compacted to full width.

6.14 In restricted areas, fill does not contain material greater than three inches in size.

6.15 Reasonable care is taken to protect waterproofing membrane.

6.16 Backfill placed against waterproofing membrane does not contain any particle greater than ¼ inch in size.

6.17 No fill is placed during heavy rain or on top of or into a pool of water.

6.18 Material testing is properly performed and does not unduly affect progress of work.

7.0 DOCUMENTATION

The assigned Quality Verification Inspector(s) documents his surveillance activities by filling out the Daily Backfill Inspection Report (Attachment A). This report shall be filled out for each inspector for each shift when inspection is performed.

8.0 ATTACHMENTS

8.1 Daily Backfill Inspection Report

J. A. JONES CONSTRUCTION COMPANY
WATERFORD UNIT NO. 3

# DAILY BACKFILL INSPECTION REPORT

Q. V. Inspector _____ Date _____

1. Fill Placement Area/Location _____

_____

2. Engineer's written release for placement and compaction obtained: Yes_____ No_____
3. Materials released by Engineer: Yes_____ No_____
4. Spreading and compaction equipment satisfactory: Yes_____ No_____
5. Base to receive fill properly compacted: Yes_____ No_____
6. Backfilling done in proper sequence: Yes_____ No_____
7. Fill material properly placed and spread: Yes_____ No_____
8. Fill material disc-harrowed, if necessary: Yes_____ No_____
9. Surface of each lift reasonably smooth and free of ridges or grooves: Yes_____ No_____
10. Hauling equipment using different paths: Yes_____ No_____
11. Surface properly treated: Yes_____ No_____
12. Fill junctions properly treated: Yes_____ No_____
13. Layers compacted to full width: Yes_____ No_____
14. Fill material not greater than 3 inches in size in restricted areas: Yes_____ No_____
15. Waterproofing membrane protected during backfilling operation: Yes_____ No_____
16. Backfill placed against waterproofing membrane contains no particles larger than ½ inch: Yes_____ No_____
17. No fill placed during heavy rain or on top of or into standing water: Yes_____ No_____
18. Material testing is properly performed and does not unduly affect progress of work: Yes_____ No_____
19. Comments: _____

_____

_____

_____

## Instructions for Completing Daily Backfill Inspection Report

1. Area/Location shall be recorded as coordinates from centerline of Reactor Vessel.

2. Obtain copy of Engineer's Release and attach to this report.

3. Obtain copy of signed "Requisition on Warehouse", Ebasco Form No. 136(X)/2-75 and attach to this report.

4. Items 4-18 inclusive are self-explanatory and reflect requirements of this procedure, J. A. Jones Construction Work Procedure W-WP-12, and Ebasco Specification LOU-1564.482.

5. If comments are required or further explanation of an item is needed, the comments are to be entered in the space provided (Item 19). Any comment or explanation should be preceded by the item number, e.g. Item 17 - light rain during fill operations., Item 18 - testing operations slowing down compaction due to malfunction of test equipment. Additional sheets may be used, if required.

6. In the event that a "No" is checked for any one of Items 2-18 inclusive, a "Stop Work Order" will be issued and the following information recorded under Item 19:
   (1) Stop Work Order Number
   (2) Date Issued
   (3) Individual notified (Name and title)
   (4) Date deficiency corrected
   (5) Date Stop Work Order rescinded

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