

SECTION 03 48 21
PRECAST CONCRETE BURIAL CRYPTS
(Double Depth Lawn Crypt)

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work covered by this Section includes fabrication, handling, delivery to the site, unloading, storage and installation of precast concrete burial crypts; hereafter referred to as Units or Crypts, subbase foundation and drainage, placement of the units, backfilling crypt field gaps and cover over lids, grading, and other, all as shown on the plans or specified herein. In addition contractor to provide:
1. Three (3) OSHA-approved crypt lid lifting apparatus.
 2. Five (5) extra concrete crypt lids.
 3. A device to easily retrieve and lower the inside shelf by one man without entering the crypt.
- B. The design of the units shall be as described in this Section and their installation layout shall be as illustrated on the Drawings. All perimeter crypts shall be structurally designed for overhead and lateral soil pressure plus live loads specified hereafter. All designs will require that the manufacturer provide fabrication drawings stamped by a Professional Engineer indicating that the design meets or exceeds the structural requirements contained herein. The Contractor may propose alternative designs of the corresponding components if all the following requirements are met.
1. Any proposed alternative design shall comply with the design criteria and the functional tests of this specification.
 2. All provisions of this specification shall apply to any proposed alternative design.
 3. The Government may accept or reject part or all of any proposed alternative design. The Contractor will pay for all cost for alternate designs, submittals, and reviews.

1.2 RELATED WORK

- A. Excavation and Backfill: Division 31 "EARTHWORK."
- B. Materials Testing and Inspection during Fabrication and Construction: Division 1 Section TESTING LABORATORY SERVICES.

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: With submittal of bid documents, Contractor shall submit documentation regarding the manufacture of the units. Provide evidence that manufacturer has a minimum of three years' experience with pre-casting units of similar type, and provide evidence

that the manufacturer plant(s) used are certified by the National Precast Concrete Association (NPCA).

- B. Precast concrete manufacturer shall provide a licensed Structural Engineer to certify that the units conform to specified requirements.
- C. Installation Qualifications: Regularly engaged for at least three years in installation of pre-cast concrete similar to this project.
- D. Fabricate crypts to the interior dimensions described below. Replace or repair units that do not comply with the individual dimensions and tolerances.
- E. Prior to or in the initial stage of crypt production, furnish at the site two perimeter crypts, a single interior crypt, and the proposed shelf removal tool to demonstrate quality of construction of crypts and conduct on-site buried crypt load testing to include removal and replacement of the inside shelf. Commence production of crypts only after submittal approval and on-site load testing has been scheduled for witnessing by the NCA Crypt Specialist.
- F. Functional Load Test: A functional on-site load test will be made at the Contractor's expense to insure the units are capable of supporting loads stated. The functional test will consist of following loading conditions:
 - 1. Confined Loading: An interior unit between two perimeter units shall be placed in a hole dug in the ground on site and covered with 24 inches of soil or covered to the maximum depth as shown on the plans, whichever is greater. The soil will be compacted to Standard Proctor (AASHTO T-99) density along the sides of 95% and reduced density over the lid, both as shown on the plans. An axle load of 12,000 lbs. will then be passed over the covered crypts for a minimum of 10 times in repetition, in a manner that causes maximum lateral pressure due to wheel load on the sides of the crypts. The crypts shall then be fully excavated, exposed and the lids removed to allow careful examination inside and outside. The crypts must not show any signs of stress or cracking.
 - 2. Concurrent with Confined Loading, the inside shelf of the interior crypt shall be loaded with one worker with a minimum weight of 200 lbs. Worker shall walk on individual supports to confirm structural integrity and load bearing capability. Worker shall adhere to all safety regulations while performing test. Upon completion of shelf load testing, and without entering the crypt and by one man, the inside shelf shall be removed by the removal tool, inspected, and lowered back into the crypt in the 2nd interment position. The

inside shelf must not show any signs of stress, cracking or deflection.

1.4 DESIGN CRITERIA

A. Design Criteria (Double Depth Crypt):

1. The units shall be of the following type, style, and size:
 - a. Type: Precast concrete.
 - b. Style: One-piece box with separate outer lid, and a removable one-piece inside shelf, four casket risers, a minimum of two 4-inch diameter drain holes in floor bottom at opposite ends to allow complete water drainage with no standing water.
 - c. Crypt interior size:
 - d. Interior minimum dimensions are as follows: 30" minimum width at the inside bottom floor and for the full height of the crypt; 86" minimum length along the inside bottom floor and for the full height of the crypt; 25" minimum clear height from the highest part of the inside shelf to the underside of the lid and; 25" minimum clear height from the lowest part of the inside shelf to the top of the casket risers and; 3/4" minimum height casket risers from the crypt floor spaced 20" from crypt centerline to eliminate pinching of the lowering straps during removal. Four risers required.
 - e. Crypt height and wall thickness: Exterior maximum height dimension: 60" including the lid. Crypt wall thickness: 2-inches minus 1/2 inch for inside shelf bearing. Perimeter crypts may exceed wall thickness dimension. Crypt wall sections at support slots originated from the top for the inside shelf may be of lesser thickness.
 - f. Layout: Crypts shall fit in a 3-foot by 8-foot plot or a lesser plot size as noted on the plans. The lesser plot size shall govern. If the contractor's layout or crypt size dimensions differ, the Contractor at no cost to the Owner shall submit a Layout/Size Plan for approval by the Resident Engineer.
2. Units shall be designed for a burial depth with soil cover as indicated on the plans, and be capable of structurally withstanding a center point load of 6,000 lbs prior to burial, passage of a wheel axle load of 12,000 lbs after burial, and a 3-foot tall pile of excavated material on top of or adjacent to buried crypts.
3. The Contractor shall submit to the NCA inspector for approval five sets of design documentation showing structural design of the units.

Contractor to provide one set to NCA Crypt Specialist. This

documentation shall include dimensions, methods of construction, and calculations. All design calculations and drawings shall be signed and sealed by qualified licensed Structural Engineer.

4. The concrete lid shall be designed to be removable and replaceable. Lid lifting shall be from top positioned hot-dipped galvanized anchors (4-required per lid) with removable anchor covers to prevent dirt from entering the anchor bowl and installed in such a manner as to stay in-place when excavating equipment is scraping backfill off the top of the lid. The Contractor shall furnish the cemetery with three (3) OSHA approved and tag certified wire rope lifting devices for removing the lid. No chain lifting devices allowed.
5. Inside shelf will be one piece rigid construction, fully conceal the lower casket with a rigid barrier, weigh 40 lbs. or less, allow for easy casket lowering belt removal, and capable of holding 400 lbs indefinitely. The entire inside shelf should be rigid, non-brittle, non-deteriorating, and have a 1/4 inch gap from all shelf edges to the crypt wall. Provide tool(s) that one man can easily retrieve and install the shelf from ground level without entering the crypt and demonstrate said tool at the crypt buried load testing.
6. The concrete lid shall be beveled along the entire top perimeter. Chamfer top edge of lid with a 1:1 chamfer beginning ½ inch down from top.
7. The design of casket risers shall allow the casket to rest ¾ inch above the inside floor of the crypt and above the top of the inside shelf in order to aid in casket lowering straps removal. In addition, rests location shall not exceed 21 inches from crypt centerline.
8. The crypt outside lifting wire shall be designed for transport and installation along with provisions for removal/abandonment of crypt lifting wire once crypt has been installed.

B. Design Criteria (Quad Crypt):

1. An alternate concrete Quad unit (one piece) may be used as an approved equal in lieu of two (2) double depth lawn crypt units. The Quad units shall conform to all other specified herein including:
 - a. The shared interior concrete wall thickness may be increased to allow for a gap between lids as deemed appropriate to meet layout requirements.

C. Design Criteria (Oversized Crypt):

1. Oversized crypts shall conform to provisions and all other specified within with the exception that the Interior dimensions and Wall thickness are as follows: 42-inches by 92-inches inside clear span;

Oversized crypt wall thickness: 2-1/2 inches minus 1/2 inch for inside shelf bearing.

1.5 ALLOWABLE TOLERANCES

- A. Tolerances of individual units shall be as follows:
1. Variation in overall crypt outside dimensions of unit (height, length and width): 1/8" plus or minus. There is zero tolerance for any lesser crypt inside minimum clear dimensions.
 2. Variation in thickness of precast panels and elements: 1/16" plus or minus.
 3. Maximum height differential in final placement in the ground: 1/4" above or below design grade.
 4. Cracks greater than 0.030 inches in width are cause for crypt rejection. With evidence of fiber or steel reinforcement, any cracking 0.030 or lesser width that does **not** extend thru wall is acceptable. Any cracking 0.016 inch or lesser that extends thru wall is acceptable. All other cracks are cause for rejecting crypts that shall be repaired or removed and replaced at no cost to VA.

1.6 SUBMITTALS

- A. In accordance with Section 01 33 23, SAMPLES AND SHOP DRAWINGS, within 45 days of the approval of the shop drawings, Contractor shall furnish to the Owner and the NCA Crypt Specialist the following:
1. Samples: deliver to the site for testing and inspection:
 - a. Two perimeter crypts and one interior crypt.
- B. Submit a detailed concrete Mix Design of Self Consolidating Concrete (SCC) with a **15% minimum requirement** of a cement substitute of fly ash and/or other pozzalons.
- C. Submit Shop Drawings:
1. Erection Narrative:
 - a. Method of transportation.
 - b. Method of handling and placement.
 2. Production Drawings:
 - a. Elevation view of each unit.
 - b. Plan view of unit.
 - c. Sections and details to show quantities, sizes and position of reinforcing steel, inserts, and essential embedded hardware for fabrication, handling, transportation and installation.
 - d. Section, details and location of specialty lid lifting anchors, caps, and lid lifting system.
 - e. Dimensions and finishes.
- D. Submit Product Design Data:

1. Structural adequacy calculations of units (crypts), performed by a licensed Structural Engineer.
2. Loadings for Design Calculations:
 - a. Initial handling and erection stresses.
 - b. Dead and live loads specified.
 - c. Other loads specified for units as applicable.
 - d. Deflection of precast members.
 - e. Product test reports:
 - 1) the concrete shall be tested for the compressive strength and beam flexural strength as specified herein. An approved independent, commercial testing laboratory shall perform tests. Certified copies of test reports, including test data and results shall be submitted to the Resident Engineer (NCA inspector) immediately after the strength tests have been completed. The tests shall be as specified herein.
 - 2) Prior to backfilling over crypts and at contractor expense, the NCA inspector may pick a single crypt for coring another bottom slab drainage hole by an independent lab with said core being analyzed (petrography testing) and results submitted verifying evidence of fly ash or other pozzalons as specified.
 - 3) Based on failed testing, the NCA inspector may request more frequent testing to ensure quality of the product and pozzalons content is present, again at contractor expense.
3. Manufacturer's Literature and Data:
 - a. Each type of anchorage, angle, and fastener.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery and Handling: Units shall be transported, stored and handled so as to prevent damage to surfaces, edges and corners and to prevent development of stresses and cracks. The Contractor shall provide temporary bracing protection devices and measures as necessary to prevent damage to the units during handling, transportation and storage. Contractor is responsible for transportation, storage and handling of units such that any negligence on the Contractor's part shall be corrected at the Contractor's expense. Use the designed crypt lifting wire to transport crypts. On the job site, forklift handling of crypts may be approved by the VA upon demonstration that no crypt damage will be incurred.
- B. Storage:
 1. Units may be stored at designated locations(s) on site.
- C. Markings and Identifications:

1. Markings, including logos, trademarks and proprietary information are prohibited on surfaces of crypts.
2. Date of manufacture (month, day, and year) shall be written on the box and lid with permanent ink or an equivalent marking.

1.8 COORDINATION

- A. Coordinate the manufacture, delivery, storage and installation of the units with related work.

1.9 GUARANTEE

- A. After erection, completed work will be, subject to terms of Article, GUARANTEE in Division 01, GENERAL CONDITIONS, except guarantee period is extended to five years.

1.10 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this Specification to extent referenced. Publications are referenced in text by basic designation.
- B. American Association of State Highway and Transportation Officials
T99-01(2004).....Moisture-Density Relations of Soils Using a 2.5
kg (5.5 lb) Rammer and a 305 mm (12 inch) Drop.
T180-01(2004).....Moisture-Density Relations of Soils using a 4.54
kg (10 lb) Rammer and a 457 mm (18 inch) Drop.
- C. American Concrete Institute:
ACI Manual of Concrete Practice 2011 Edition.
ACI 318-05..... Building Code Requirements for Structural
Concrete
- D. American Society for Testing and Materials (ASTM):
A36/A36M-08.....Standard Specification for Carbon Structural
Steel.
A82/A82M-07.....Standard Specification for Steel Wire, Plain for
Concrete Reinforcement.
A153/A153M-09.....Standard Specification for Zinc Coating (Hot
Dip) on Iron and Steel Hardware.
A185/A185M-07.....Standard Specification for Steel Welded Wire
Reinforcement, Plain, for Concrete.
A615/A615M-09.....Standard Specification for Deformed and Plain
Carbon-Steel Bars for Concrete Reinforcement
C31/C31M-10.....Standard Practice for Making and Curing Concrete
Test Specimens in the Field.
C33/C33M-11.....Standard Specification for Concrete Aggregates
C39/C39M-10.....Standard Test Method for Compressive Strength of
Cylindrical Concrete Specimen

C78/C78M-10.....Standard Test Method for Flexural Strength for
Concrete (Using Simple Beam with Third-Point
Loading)
C150/C150M-09.....Standard Specification for Portland Cement.
C172/C172M-10.....Standard Practice for Sampling Freshly Mixed
Concrete.
C260/C260M-10.....Standard Specification for Air-Training
Admixtures for Concrete.
C494/C494M-10.....Standard Specification for Chemical Admixtures
for Concrete
C595/C595-10.....Standard Specification for Blended Hydraulic
Cement.
C1017/C1017M-07.....Standard Specification for Chemical Admixtures
for Use in Producing Flowing Concrete.
C1116/C1116M-10.....Standard Specification for Fiber-Reinforced
Concrete.
C1157/C1157M-10.....Standard Performance Specification for Hydraulic
Cement
C1602/C1602M-06.....Standard Specification for Mixing Water Used in
the Production of Hydraulic Cement Concrete.
C1399/C1399M-10.....Standard Test Methods for Obtaining Residual-
Strength of Fiber-Reinforced Concrete.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Precast Concrete: All crypts shall be of concrete with a minimum 28 days compressive strength of 5,000 psi, be Self-Consolidating Concrete (SCC) containing structural fiber with an inverted slump between 22" and 28"; and shall contain a minimum of 15% cement substitute of fly ash and/or other pozzalons. Fiber is not required for crypt lids. All to be in conformance to the following requirements:
1. Hydraulic Cement: ASTM C150 or ASTM C1157 or ASTM C595
 2. Normal weight Aggregates: ASTM C 33
 3. Water: ASTM C1602
 4. Chemical Admixtures:
 - a. Water reducers, accelerating and retarding: ASTM C 494
 - b. Air Entraining: ASTM C260
 - c. Admixtures for flowing concrete: ASTM C1017
 - d. Admixtures with no standard designation shall be used only with approval of VA.

5. Prohibited Admixtures: Calcium Chloride thyocyanates or admixtures containing more than 0.1 percent chloride ions.

B. Reinforcement:

1. Welded Steel Wire Fabric: ASTM A185.
2. Steel Wire Reinforcement: ASTM A82, cold drawn.
3. Steel Reinforcement: ASTM A615 Grade 60, deformed.
4. Inserts, Anchors, Dowels and Accessories: Steel, ASTM A36, zinc coated ASTM A153 hot-dipped galvanized finish G90.
5. Fiber: Macrofiber complying with ASTM C1116

C. Form Coatings:

1. Use commercial formulation form-coating compounds that will not bond with, stain, or adversely affect concrete surfaces.

D. Paint:

1. Use commercial Concrete & Garage Floor Epoxy Acrylic Paint for crypt concrete lid & inside wall surface numbering. Paint as manufactured by BEHR Deep Base #930 or approved equal.

2.2 FABRICATION

A. General:

1. Units shall be fabricated in accordance with the minimum interior dimensions and tolerances indicated herein, with concrete surfaces that are smooth and free of irregularities.

B. Finishes:

1. Surface holes (1/4" and smaller) caused by air bubbles, normal color variations, normal form joint marks, small chips (1/4" and smaller) and spalling (no more than one square foot total per unit) are permitted.
2. Exposed steel reinforcing, honeycomb, bugholes, and cracks not within tolerances are not permitted.
3. The lid lifting system shall be top mounted and consist of hot dip galvanized steel anchors (four per lid) each in a 2-1/2" diameter minimum recessed bowl of depth sufficient to easily connect lifting device as designated compatible by anchor manufacturer. Anchors to be installed at locations to ensure maximum lid lifting stability. A removable plastic cap secured to the anchor will prevent fill material from entering the anchor bowl. Cap to be flush mounted to ensure the entire assembly is not an obstruction for crypt excavating equipment.
4. Concrete shall have no evidence of segregation of materials.

C. Reinforcement:

1. Provide steel and fiber reinforcing as required for casting, handling, erection loads, lateral and overhead fill, and equipment live loads.
2. Reinforcing steel shall be free of dirt, mill scale, rust, oil, grease, ice, snow, water and placed within approved tolerances in accordance with ACI 318. Careful placement of reinforcing is required to avoid overlapping at thin points of the units.

D. Concrete Placement:

1. Porosity, strength, weight and gradation of coarse aggregate shall be as required to produce specified characteristics.
2. Units shall be cast in steel forms designed to suit shape and finish required. Each element of the unit shall be cast as an integral piece free of joints and seams.

E. Curing:

1. 75% of specified concrete compressive strength shall be attained before transportation of units to the cemetery or storage site.
2. Units shall be cured as required to develop specified structural characteristics and shall be stored in a manner that will permit all surfaces to cure equally.
3. Units shall be properly cured in accordance with the applicable provisions of the current ACI Manual of Concrete Practice.

F. Surface Treatment and Corrective Work:

1. Units that have minor chipping of edges and corners shall be repaired by a method approved by the NCA inspector.
2. Cracked/damaged units exceeding tolerances shall be removed by the contractor at no cost to the government.

2.3 TESTING AND INSPECTION

- A. Contractor's Responsibility for Inspection: The Contractor is responsible for the performance of all inspection requirements including the removal of lids, number painting inside crypts, and replacement of the lids for inspection by the NCA Inspector. The NCA inspector reserves the right to perform any of the inspections set forth in the specification when deemed necessary to assure that the units conform to prescribed requirements.

PART 3 - EXECUTION

3.1 CRYPT FIELD QUALITY ASSURANCE

- A. Testing: The contractor shall procure an independent qualified testing agency to perform concrete tests during crypt production and prepare test reports.

1. Concrete Cylinder testing for compressive strength: Three cylinders per day of crypt production to be taken in accordance to ASTM C172 as applicable to SCC. Strength to exceed 5000 psi after 28 days curing in accordance to ASTM C31 & C39. Test inverted slump when cylinders are made.
2. Beam testing to confirm design flexure strength: Once at the beginning of crypt production, a minimum of three beams with fiber shall be taken for testing of Flexural Performance of Fiber-Reinforced Concrete in accordance with ASTM C78 and C1399. All beams' flexural strength shall exceed the crypt design flexural strength requirements and residual strength of fiber reinforced concrete, and shall exceed capacity of conventionally reinforced concrete wall design as submitted by the Structural Engineer and approved by VA. Fiber Manufacturer shall verify type and dosage rate of the test beams are identical in crypt production.
3. A single verification test of fly ash in the crypt concrete mix required at the discretion of the NCA inspector.

3.2 GENERAL LAYOUT CONTROL

- A. A professional registered Land Surveyor shall establish and control horizontal and vertical alignment of units.

3.3 PREPARATION

- A. Before beginning installation, inspect work of other trades insofar as it affects the work of this section. Commencing installation of units will be construed as accepting as suitable the work of other trades.
- B. Verify by survey, grading of subgrade and aggregate base for proper installation of units. Provide survey to NCA inspector prior to setting.
- C. Verify by testing, compaction of prepared subgrade and subbase to meet Standard Proctor (AASHTO T-99).
- D. Verify by survey locations and elevations of units relative to control points indicated on plans. Submit new control point layout if a crypt size other than specified is used.

3.4 HANDLING, INSTALLATION AND PAINTING

- A. Handling:
 1. Units shall be handled in a vertical plane at all times and stacked vertically on wood supports of adequate strength, until erected. On the job site, use the designed lifting cable to transport crypts from the truck to storage to the final installation.
 2. Lift units with suitable lifting devices at points provided by manufacturer.

3. Provide temporary wood bracing to comply with manufacturer's recommendations to keep crypt bottom off ground during storage.
- B. Installation and Painting:
 1. Install units by competent erector crews trained and certified as competent by units manufacturer.
 2. Use all means necessary to protect units from being damaged in transport and during and after installation. Lids that show damage from bouncing during transport shall be replaced by the contractor at no cost to the Owner.
 3. Accurately install by aligning and leveling units in accordance with plans. Provide gridline survey control (Horizontal and Vertical) to check each row prior to placement of next. Assure that crypts are in straight horizontal alignment.
 4. After crypt installation and prior to backfill, the contractor shall remove lids with the specified lifting apparatus for crypt inspection by the NCA inspector and numbering. Numbers furnished by NCA shall be painted by the contractor on the outside of the crypt lids and on the upper inside crypt short wall, both at the headstone end. Numbers shall be permanent paint as specified and twelve inches high. Crypt lid number painting must be applied to a clean, dust-free surface requiring paint application within 10 seconds of surface cleaning. After completion of inspection and marking, the Contractor shall replace the lids. Any damage to lids or crypts will be the responsibility of the contractor.

3.5 PROTECTION OF WORK

- A. Use all means necessary to protect units from being damaged during and after installation.

3.6 REPLACEMENT AND REPAIR

- A. Remove and replace units that the NCA Inspector has determined are damaged, cracked beyond tolerances, broken, improperly fabricated, or otherwise defective and are structurally unsound and unacceptable.
- B. Units having minor defects not affecting serviceability or appearance may be repaired when approved by NCA Inspector.
- C. Proposed repair work shall be sound, permanent, and flush with adjacent surfaces and submitted for approval by NCA Crypt Specialist.
- D. Replacements and repairs shall be done at no additional cost to the Government.

3.7 BACKFILLING AND CRYPT FIELD PROTECTION

- A. Protect installed crypt units during backfill operations.

- B. Install approved backfill against outside walls of all units, insuring no voids are remaining. Approved backfill shall contain no material that will cause a concentrated point load. The perimeter wall backfill shall be compacted to Standard Proctor (AASHTO T-99) to 95% density to the level equal to the top of the crypts. No large vibratory equipment allowed near crypts.
- C. Install an approved pea gravel (rounded) fill per gradation into gaps between crypts leaving no voids. Use rodding to assure no bridging occurs and void areas are eliminated. No sand allowed. At NCA's discretion, a cut aggregate substitute of same gradation may be approved with demonstration that filling gaps between crypts leaves no voids.

Aggregate Size No	Grading Requirements - Amounts finer than Each Sieve (Square Openings), Mass Percent					
	1/2"	3/8"	No. 4	No. 8	No. 16	No. 50
8	100	85 to 100	10 to 30	0 to 10	0 to 5	
89	100	90 to 100	20 to 55	5 to 30	0 to 10	0 to 5

- D. Install select fill on top of units and compact. Select fill shall be as shown on plans and specified in Section 31 20 00 EARTH MOVING. The entire select fill material atop units shall be compacted to 85% density (Standard Proctor (AASHTO T-99)).
- E. Install drainage board for pea gravel flow containment located in perimeter crypt gaps in areas shown on Drawings.
1. Drainage board shall be installed at the perimeter of crypt field in locations where standard or oversize traditional gravesite burial spaces are identified on the drawings and other areas so designated.
 2. Drainage board shall be as appropriate to fill gap and stop pea gravel flow, and provide for drainage rates of 100 gal/hr/LF in any direction.
 3. The drainage board shall be made of "non-deteriorating" recycled materials and be able to be compressed and return to its original thickness.
 4. Drainage board shall contain pea gravel between Crypts. Attach board to Crypt wall exterior with fastening method approved during functional load testing. Ensure board material re-expands to original thickness if compressed. Drainage board shall be installed from bottom of Crypt to bottom of lid. Exterior edge of board shall be inset at least 2 inches from edge of crypt and extend 2 feet in between Crypts.

- F. No equipment over the crypts should exceed crypt design loads as specified herein (12,000 lbs axle), which includes compacting equipment. No vibratory compaction equipment over or along side crypts unless impact loads are shown not to exceed crypt design loads.
- G. Immediately during crypts install, contractor to mark the crypt field edges with temporary driven 5-foot tall lathes & signage for easy identification by vehicles carrying fill, topsoil, compost, sod, water or other. Signage shall state **"12,000-lb axle load maximum. Keep 10 yards away"** and placed minimum 50-ft apart.
- H. Lathes & signage to be maintained in-place during backfilling thru final acceptance of the crypt field.
- I. Finish grading and prepare topsoil as indicated on plans.
- J. The contractor shall not store or stockpile any stone, sand, backfill, crypts or any other material over 4-feet high within ten (10) yards of or on top of installed crypts. Affected crypts subject to said loading condition as determined by the Inspector shall be inspected for possible damages with all excavation, lid lifting, fill replacement and all other work as necessary, all at contractor's expense.
- K. The contractor shall not allow any vehicle that exceeds a 12,000-lb axle load, 6000-lb wheel load or equivalent pressure per square inch to traverse or park within ten (10) yards of or on top of installed crypts. Affected crypts subject to said loading condition as determined by the Inspector shall be inspected for possible damages with all excavation, lid lifting, fill replacement and all other work as necessary, all at contractor's expense.

3.8 INSPECTION AND ACCEPTANCE

- A. Final inspection and acceptance will be by NCA inspector.

- - E N D - - -