

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

SECTION 02000  
SITE GENERAL CONDITION

PART 1 - GENERAL

RELATED DOCUMENTS

The Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

DEFINITIONS

Form 816 refers to "State of Connecticut, Department of Transportation, State Highway Department, Standard Specifications for Roads, Bridges, and Incidental Construction - Form 816, 1988" and all supplements thereto. The word "Engineer" appearing in Form 816 shall be construed to mean Architect. Articles dealing with Method of Measurement and Basis of Payment are inapplicable to this Contract.

AASHTO means the latest standards and supplements thereto of the American Association of State Highway and Transportation Officials.

ASTM means the latest standards and supplements thereto of the American society of Testing and Materials.

ANSI means the latest standards and supplements thereto of the American National Standards Institute.

ENGINEER refers to the designated representative of the Owner.

ORDER OF CONSTRUCTION

Adapt all site work to the progress and order of construction of the work under this Contract. Carry out each section of work in such an order as the Engineer may direct.

Schedule work to install any sub-surface site work before beginning the sub-trades for Paved areas.

Submit schedule for review and acceptance by Engineer.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

SPECIAL REQUIREMENTS

Verify and confirm all existing conditions and location of underground utilities in the field. No claim for extra compensation or for an extension of time will be allowed due to conditions inconsistent with the drawings and specification.

Restore any and all areas outside the contract limit lines that are disturbed during the progress of work as directed by the Engineer at the Contractor's expense.

Maintain existing roads passable for vehicles at all times. Access into the site is required by the Owner and shall be maintained by the Contractor.

Construction Phasing Diagrams: The Contractor will provide construction phasing diagrams for proper execution of sitework for approval by the Engineer. Contractor shall strictly follow the phasing diagrams.

All erosion and sedimentation control shall conform to "Connecticut Guidelines for Soil Erosion and Sediment Control;" the Connecticut Council on Soil and Water Conservation, January 1985.

Maintain access for fire fighting equipment to all parts of the site at all times.

Protect all streets, roads and sidewalks and maintain reasonably clear of dirt or other debris that is due to construction. Apply water as necessary for dust control.

Warning: Call 48 hours before any digging 1-800-922-4455.

Coordinate work with the other Contractors for the building construction. Cooperate with such Contractor to ensure the steady progress of all work.

Contractor to layout locations, lines, and grades of all site work using established permanent benchmarks. Maintain and protect established bounds and benchmarks and replace any which are destroyed or disturbed.

In the event the Owner, or the Owner and the Contractor jointly are required to obtain any permits the Contractor shall familiarize himself with the conditions of said permits and shall be held to comply with all requirements of the permits and all specifications attached thereto, as if the permits were held solely by the Contractor.

Whenever inspection, flagmen or other costs are incurred as a condition to the obtaining of permits, the Contractor shall be responsible for payment of said expenses. These costs shall be assumed to be included in the Contract unit prices.

EXAMINATION OF SITE

Data contained in Contract Documents (site survey, elevations, etc.) represents the best information available. There is no guarantee, implied or otherwise, as to the accuracy or completeness of the information shown. Contractor shall be constantly on the alert for unknown, abandoned or mislocated utilities and for changing soil or subsurface water conditions.

Prior to start of any excavation, check with Owner and utility companies for location of underground facilities.

END OF SECTION

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

SECTION 02100  
SITE PREPARATION

PART 1 - GENERAL

RELATED DOCUMENTS

The Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

DESCRIPTION OF THE WORK

Site preparation shall include, but is not necessarily limited to the following:

Furnish and install siltation control.

Demolish existing improvements.

Clear and grub all areas on which construction will occur.

Dispose of demolished materials off site, in a legal manner.

RELATED WORK SPECIFIED ELSEWHERE

Section 02000: Site General Conditions

Section 02230: Utilities Excavation and Backfill

Section 02210: Site Earthwork

Section 02510: Paving, Walks and Curbs

Section 02730: Sanitary System

Section 02800: Site Improvements

PART 2 - PRODUCTS

2.01 GENERAL

Filter Barrier:

Fabric sedimentation barrier of "Silt Fence with Belt" manufactured by Mirafi, Inc., P.O. Box 240967, Charlotte, North Carolina or equal approved by Architect.

Hay bales of standard size, hay or straw, having no loose or decomposed baling twine. Stakes shall be 2 inches x 3 feet-0 inches long, pointed on one end.

Filter Fabric: M.08.01-26 of Form 816.

PART 3 - EXECUTION

SILTATION CONTROL

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Before construction begins, install fabric sedimentation barrier, where shown on the drawings, around drainage structures, and as required by field conditions, or Local Authorities.

Conform to "Connecticut Guidelines for Soil Erosion and Sediment Control," the Connecticut Council on Soil and Water Conservation.

Remove and dispose of materials legally, off-site after site stabilization and no further chance for any erosion.

Siltation control to be maintained until final landscaping has been established.

**DEMOLITION**

Demolish and remove from the site any existing site improvements, including, but not limited to concrete sidewalks, bituminous concrete pavement, curbing, steps, retaining walls, and railing in the areas where construction will occur. Leave bituminous concrete pavement and curb with a clean sawcut edge where it will abut new pavement.

See Section 02210 for "Definition of Rock" and rock excavation, and conform if applicable.

Prior to demolition, disconnect or notify appropriate utility companies to disconnect any active utility services. Cap any water lines. Plug any storm or sanitary lines. Work under the direction of the Architect.

Maintain barriers, fences, and lights as conditions require.

Dispose of material removed off-site in a legal manner.

**CLEARING AND GRUBBING**

Cut, grub, remove, and dispose of tree, roots, and rubbish as shown on the drawings.

Grub to a depth of 2 feet below any subgrade, and in all areas where Pavements or structures will be built.

Dispose of material removed off-site in a legal manner.

**STRIPPING AND STOCKPILING TOPSOIL AND SUBSOIL**

Before grading operations, grub out and strip any suitable topsoil, from disturbed areas within contract limit lines.

Stockpile on site only topsoil which conforms to Item M.13.01-1 of Form 816 and is free of subsoil. Screen topsoil prior to stockpiling to remove stones, earth clods, sticks, and roots over 1 inch, or other objectionable extereaneous matter or debris.

END OF SECTION

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

SECTION 02210  
SITE EARTHWORK

PART 1 - GENERAL

RELATED DOCUMENTS

The Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

DESCRIPTION OF THE WORK

Site earthwork shall include, but is not necessarily limited to, the following:

Lay out and stake proposed work and set required elevations.

Excavate earth and rock (if encountered) necessary to establish the grades shown on the plans. Furnish additional fill if required.

Excavate earth and rock necessary to construct structures.

Trench excavation, bedding, and backfill necessary to install site utilities, structures, septic system, and improvements.

Remove excavated material unsuitable for fill or backfill and any excess material with legal disposal off site.

Provide, test, and place topsoil to complete the work of this Contract.

Construct processed aggregate bases for pavement.

Provide gravel subbases for pavements and gravel necessary to complete the work of other parts of this Specification.

Furnish and install 4" screened topsoil on all disturbed areas.

RELATED WORK SPECIFIED ELSEWHERE

Section 02000: Site General Conditions

Section 02100: Site Preparation

Section 02510: Paving, Walks and Curbs

Section 02730: Sanitary System

Section 02800: Site Improvements

SUBMITTALS

Analysis from approved independent testing laboratory showing that bedding materials, processed aggregate, gravel and stone and aggregate materials comply with specified requirements.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Compaction test results.

**DEFINITIONS**

Excavation consists of removal of material encountered to subgrade elevations indicated and subsequent disposal of materials removed.

Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be at Contractor's expense.

Additional Excavation: When excavation has reached required subgrade elevations, notify Architect, who will make an inspection of conditions. If Architect determines that bearing materials at required subgrade elevations are unsuitable, continue excavation until suitable bearing materials are encountered and replace excavated material as directed by Architect. The Contract Sum may be adjusted by an appropriate Contract Modification.

Removal of unsuitable material and its replacement as directed will be paid on basis of Conditions of the Contract relative to changes in work.

Subgrade: The undisturbed earth or the compacted soil layer immediately below granular subbase, drainage fill, or topsoil materials.

Structure: Dog runs, foundations, slabs, tanks, ramps, curbs, or other man-made stationary features occurring above or below ground surface.

Earth excavation shall include removal of all materials other than "rock".

Rock is defined as a boulder of 2 cubic yards or more in volume and rock in definite ledge formation, the removal of which requires the use of mechanical equipment. Rock removed by scarification or ripping method is considered as a separate classification.

Original grade is defined as being the grade which exists at the time of the Contract award.

Rough grade is defined as being the completed surface of required excavations greater than 13' in width.

Mass excavation is to be considered as an open area whose minimum horizontal dimensions exceed 13'.

Trench excavation is defined as the removal of material from areas 13 feet or less in its minimal horizontal dimensions and below the elevation of rough grade or original grade, whichever is lower.

"State Specifications": Shall mean "State of Connecticut D.O.T. Standard Specifications for Roads, Bridges and Incidental Construction", Form 816, 1988, including all supplements and revisions.

**PROTECTION**

Protect excavations by shoring, bracing, sheet piling, underpinning, or other methods necessary to prevent cave-in or loose soil from falling into excavation. Shoring and bracing shall be entirely independent of footings and foundations and shall not thrust against any portion of the structure.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Underpin adjacent structures that may be damaged by excavation work, including service utilities and pipe chases.

Notify Architect of unexpected subsurface conditions and discontinue effected work in area until condition is resolved.

Protect bottom of excavations and soil adjacent to and beneath foundations against freezing when atmospheric temperature is less than 35 degrees F.

Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water.

**FIELD INSPECTION AND TESTING**

The Contractor will retain and pay for an independent soils laboratory to perform inspection and testing of fill and other soil products as deemed necessary.

The Contractor shall notify the Owner and Architect when each layer of fill is to be in place and ready for testing. The Contractor shall allow ample time for testing.

If fill is placed in excess of 16" without testing, it shall be subject to removal on direction of Architect.

Work required to correct faulty operation shall be at the Contractor's expense. Retesting will be by the Contractor, and the Contractor shall pay costs.

Topsoil tests will be paid for by the Contractor.

**PART 2 - PRODUCTS**

**PRODUCTS**

**FILL AND BORROW**

Excavated materials only if they conform to Section 2.02.03-5 of Form 816.

Complete filling with "Borrow". Conform to "Borrow" Section 2.07.01 and 2.07.02 of Form 816.

Do not include any organic or perishable materials in fill or "borrow" material.

Dispose of unusable materials legally off site.

**BACKFILL**

Provide material free of organic or perishable material and without stones larger than 3 1/2 inches, with less than 10% by weight passing a No. 200 sieve.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Do not backfill with material which does not meet the above requirements. Furnish and satisfactorily place material conforming to "Borrow" Section 2.07.01 and 2.07.02 of Form 816.

TOPSOIL: M13.01-1 of Form 816.

SAND BEDDING: Sand or sandy soil, all of which passes a 3/8 inch sieve, and not more than 10% of which passes a No. 200 sieve. Existing material may be used if it complies.

FILTER FABRIC: M.08.01-26 of Form 816.

PROCESSED AGGREGATE: Item M.05.01 of Form 816; except all stone where noted on the drawings.

GRAVEL: Item M.02.01 and requirements of material grading A as defined in M.02.06 of Form 816.

PART 3 - EXECUTION

ENGINEERING AND SURVEY WORK

Contractor to layout all work shown on drawings. Furnish all engineering services required. Provide a registered engineer or licensed surveyor to lay out the initial stakes. Maintain and protect or replace stakes as required. Stake the proposed entrance drives, parking areas, and set finish elevations. Tie in control points so as to permit any portion of the layout to be reestablished without a complete survey.

MASS EARTH EXCAVATION AND FILL

Provide excavation and filling, furnishing of additional fill if required, compaction, and the legal off-site disposal of all unsuitable sand, clay, unsuitable gravel, broken stone, limestone, soft shale, soft slate or sandstone, loose or decomposed rock boulders of less than 2 cubic yards in volume, and all other excavated material not otherwise classified under this Specification. Include rock or ledge of such consistency that is can be moved by bulldozer or other equipment.

Excavate and fill to the lines and grades indicated on the drawings and conduct the work so as to cause a minimum disturbance to adjacent areas. Do not fill when earth is frozen or in an extremely wet condition. Determine that areas to be filled are free of debris, refuse, and compressible or decomposable materials. Remove any topsoil and all organic material before placing fill.

Proof-roll all ground surfaces with a minimum of 2 passes of a compacting machine approved by the Architect. Remove any soft material unsuitable for supporting specified compacted fill and fill with specified fill material.

Notify the Architect when excavations are ready for inspection. Do not fill until conditions are approved.

Place in lifts 12 inches deep maximum after compaction and 8 inches deep maximum under pavements, structures, slabs, and footings.

Compact each lift to achieve the required percentage of Modified AASHTO laboratory density (ASTM D-1557, Method C.).

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Compact fill to subgrade under proposed grass areas to 90% of density.

Compact fill to subgrade under pavements, structures, slabs, and footings to 95% of density.

Determine subgrades from the sections on the drawings. Provide topsoil under grass areas 6 inches minimum. Maintain finish grades as shown on the plans.

Maintain adequate site drainage at all times during grading operations.

**TRENCH EARTH EXCAVATION AND BACKFILL**

Excavate pipes 2 feet beyond the inside diameter. Excavate structures to the widths and depths shown on drawings or as specified. Keep sides as vertical as practical. Comply with State, town and local Water Company specifications for water.

Furnish all shoring and bracing necessary for the completion of the work. Keep excavations dry. Do not excavate to full depth in freezing temperature unless pipes, structures, and footings are installed immediately. Where accidental excavations cause material removal below the required grade for proposed pipes and structures, backfill with concrete up to the required grade.

Provide storm drainage and sanitary trenches with continuous slope in direction of flow.

Bedding shall be sand or sandy soil unless otherwise shown on the drawings. Install all pipes in bedding material with a thickness directly under the pipe of minimum 4 inches and preshaped to a height of 10% of total height of pipe for pipes 12 inches or larger and to 6 inches over pipe for smaller sizes. After pipe is installed, trench shall be backfilled with bedding material to a height of 25% of the total height of the pipe for storm sewers and to 6 inches over pipe for sanitary sewers and water. Backfill to subgrade, above bedding material, may be existing material provided that no unsuitable material, as determined by Architect, nor material with stones 3 1/2 inches or greater, be used.

Backfill in layers not exceeding 12 inches in depth. Conform to Section 2.05.03 of Form 816. Do not backfill against any pipe, structure or footing until permission is given by the Architect.

Compact to 95% Modified AASHTO laboratory density (ASTM D-1557, Method C.)

If pipes or structures are over fill areas, fill 12 inches higher than the top and compact to density required. Trench to required elevation. Extend fill and compaction at least 2 feet laterally on both sides or proposed pipe or structure

**EXCAVATION PROTECTION AND MAINTENANCE**

Protect open excavations with fencing, warning lights, and/or other suitable safeguards.

Shore, sheet, or brace excavations and trenches as required to maintain them secure and to protect adjacent existing structures. Remove shoring as the backfilling progresses, but only when banks are safe against caving or collapse.

Provide, maintain, and operate pumps and related equipment, including stand-by equipment, of sufficient capacity to keep excavation free of water at all times, and under any and all contingencies that may arise until the structures attain their full strength. Notify the Architect and receive approval before discontinuance of pumping. Maintain ground water in bearing strata at a safe level at all times by methods which prevent loss of fines or other disturbances to the strata. If

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

methods employed have not been adequate and the bearing value of the soil has been reduced, carry out remedial measures as directed by the Architect. Keep trenches free of water until trenches have been backfilled.

Dispose of water through temporary pipe lines with outfall to natural drainage courses. Prevent erosion of surrounding areas. Build temporary culverts if required. At completion of dewatering, remove temporary facilities and restore subgrade and any damaged areas.

**MASS ROCK EXCAVATION**

Remove and legally dispose of, off site, rock if encountered as defined below, in areas of cut and fill.

Definition of "Rock": All boulders measuring 2 cubic yards or more that require breaking for removal and all rock or stone that require break-up, prior to removal, when encountered within the limits of excavation.

**Limits of Excavation:**

Lawn Areas: 2 feet below elevations shown on the plans.

Pavements: Bottom elevation of the specified subbase course.

Measure mass rock excavation in its original position by the cross section methods. Where such measurement is impractical, measure by such methods as the Architect directs. Payment will be only for excavation to the lines and grades indicated on the plans or as directed.

Mass rock will be paid for at the contract unit price per cubic yard of material.

**TRENCH ROCK EXCAVATION**

Remove and legally dispose of, off site, rock if encountered, as defined below when encountered.

All solid rock, pavements, or structures that require breaking by hand power tools (jack-hammers, etc.) prior to removal.

Boulders, pavements, or structures measuring 2 cubic yard or more that require breaking for removal.

Employ a satisfactory method in compliance with the general precautions described in 3.05(C).

Excavate rock within the following limits. No payment will be made for rock removal beyond these lines.

1 foot-0 inches beyond face of structures and footings, in a vertical a mane as is safe against collapse.

6 inches below bottom of structures and footings.

2 feet-0 inches beyond inside diameter of pipes in as vertical a plane as is safe against collapse.

1 foot-0 inches below bottom of inside barrel of pipes.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Method of Measurement and Payment: Same as Mass Rock Excavation, 3.05(E & F).

**TESTING AND SPREADING TOPSOIL**

Test, screen, and spread topsoil on all disturbed areas within the contract limit line upon which construction does not occur.

At Contractor's expense, test representative samples of stockpiled topsoil and any borrow topsoil employing the services of a commercial or government agency approved by the Architect. Provide mechanical analysis and ph value. Topsoil shall conform to the requirements of Article M.13.01-1 of DOT Form 816.

Provide subgrade 6 inches below finish grade elevation for lawns. Loosen subgrade by disking or scarifying to a depth of 2 inches minimum where compaction has occurred. Clear surface of all stumps, stones, or roots 2 inches in diameter or greater; cable, wire, grade stakes, and any other materials which might hinder proper tillage or spreading. Obtain approval of the subgrade from the Architect before applying topsoil.

Spread topsoil uniformly to finish grades. Do not spread or work when topsoil or subgrade are frozen, muddy, or excessively dry. Place only when seeding and sodding operations can follow within a reasonable time.

Remove weeds above 1 inch in height prior to seeding and sodding operations. Do not allow weeds to go to seed. Keep heavy equipment, trucks, etc., off of topsoiled areas. If compaction occurs, scarify to a depth of 4 inches. Maintain finish grades by adding topsoil in eroded or settled areas.

**PROCESSED AGGREGATE BASE**

Furnish and install processed aggregate base under pavements to the depths shown on the drawings. Obtain approval of subbase by the Architect before placement.

Place and compact uniformly with a roller, vibratory compactor, or hand tamper, to 95% of Modified AASHTO laboratory density (ASTM D-1557, Method C.) to a tolerance of 3/4 inches in 10 feet.

Test by an independent testing laboratory approved by the Architect, in accordance with Section 02210 (1.07).

**GRAVEL**

Furnish and install gravel subbase under pavements and stone surfaces to the depths shown on the drawings and where noted or required in other parts of this Specification.

Prepare subgrade by removing all soft or spongy material and backfilling with specified material. Compact subgrade uniformly to 95% of Modified AASHTO laboratory density (ASTM D-1557, Method C).

Place gravel in maximum 12 inch layers and compact uniformly to 95% of Modified AASHTO laboratory density (ASTM D-1557, Method C).

Test by an independent testing laboratory approved by the Architect, in accordance with Section 02210 (1.07).END OF SECTION

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

**SECTION 02220  
BUILDING EARTHWORK**

**PART ONE - GENERAL**

**1.01 RELATED DOCUMENTS**

- A. Contract forms, conditions of the contract, general conditions, and Division 1 General Requirements are hereby made a part of this section as fully as if repeated herein.

**1.02 DESCRIPTION OF THE WORK**

- A. This section includes all labor, materials and other services to complete all building earthwork as shown on the drawings and as specified within the building.

**1.04 SUBMITTALS**

- A. Submittals: A sieve analysis of proposed structural fill and crushed stone within the limits established above, performed by a Testing Laboratory at the Contractor's expense, shall be submitted for review at least one week before commencing operations. Any material on the job which does not reasonably conform to the approved sieve analysis shall be subject to removal.

**2.01 MATERIALS**

- A. Structural Fill: Structural fill shall be free of ice and snow, roots, stumps, and other deleterious materials, and shall consist of hard, durable, granular materials conforming to the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Passing</u>
3.5"	100%
3/4"	50-100%
No.4	25 - 75%
#200	0-10%

- B. Crushed Stone: The crushed stone (3/8") shall conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Passing</u>
1/2"	100%
3/8"	85-100%
No.4	0 - 20%
No. 8	0 - 5%
No.16	0 - 1.5%

**PART 3 - EXECUTION**

**3.1 LOCATION OF FILL MATERIAL**

- A. Compacted Structural Fill shall be used for any and all fill required within the following limits:

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

1. Compacted structural fill shall occur up to the poly vapor barrier beneath interior slabs on grade as noted on the Drawings.
2. Compacted structural fill blotting layer shall occur beneath interior slabs on grade, above the poly vapor barrier as noted on the Drawings.
2. Compacted structural fill shall occur below footings, if the grade level after stripping of deleterious materials and excavation falls below the bottom elevation of the footings plus crushed stone layer, as shown on the Drawings. If rock is over-blasted and excavated to achieve footing elevation, see crushed stone subsection below.
3. This fill will occur outside of the shallow foundation walls of the building, to a height of 8" below finished exterior grade, and to a minimum width of 2 feet beyond the edge of footing. It shall also occur adjacent to and above footings lying wholly outside of the building, (isolated from main structure) extending a minimum of 2 feet beyond the edge of footing, and up to 8" below finished exterior grade.

**B. Crushed Stone (3/8") shall be placed as follows:**

1. Where rock has been over-blasted and excavated to achieve the necessary underslab and bottom of footing elevation, place 3/8" crushed stone leveling course on the blasted rock surface.
2. Where ground water table is encountered, a minimum of 6" of 3/8" crushed stone shall be placed under footings.

**3.02 PLACEMENT OF STRUCTURAL FILL AND CRUSHED STONE MATERIALS WITHIN BUILDING. AND COMPACTION PROCEDURES**

- A. The excavation must be kept sufficiently dry to carry out placement of fill and compaction thereof as specified below. The method of dewatering shall be the choice of the Contractor.
- B. Placement of structural fill shall be in layers not exceeding 8" in thickness before compaction. Each layer shall be compacted to 95% of maximum dry density as achieved by ASTM D-1557, Method C.
- C. Structural fill shall be compacted at moisture contents which will allow proper compaction and shall not be placed where standing water, which may affect compaction, is present.
- D. Compaction equipment shall not be of a nature as to cause unstable conditions in the underlying natural soil. Compacting equipment shall be approved for use by the inspector from the independent testing laboratory. Special care must be taken in the final stages of excavation to minimize disturbance of the bearing soils. Disturbed subgrade soils shall be removed prior to construction of footings and replaced with structural fill as necessary. Stones larger than 12" encountered at the design footing level shall be removed and the resulting excavation backfilled with compacted structural fill.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

- E. Wherever possible, footings shall be excavated and concrete placed the same day, in order to avoid ponding of any surface runoff water in excavations. Disturbed, frozen, or loosened soils shall be removed prior to placement of footing concrete. The footing subgrade shall be free of water for final observation and during placement of concrete. Ground surface grades in the vicinity of the excavations shall be graded to promote positive drainage away from the open excavations.
- F. Structural fill shall be thoroughly compacted as required, using power rollers or other motorized vehicular equipment or by tamping with pneumatic or mechanical vibrators or rammers equivalent to Barco Rammer, and weighing not less than 150 pounds.
- G. Crushed Stone shall be compacted with at least three (3) passes of a 5 Ton vibratory roller. The stone can be placed in one lift with a minimum thickness of 6" and as thick as required to level the surface.
- H. If structural fill is excavated for underfloor utilities prior to the concreting of the floor slab on grade, the same or similar materials must be used for the backfill, and the same compaction given. Should such excavation extend into the natural soil, new structural fill shall be used to backfill the excavation, and compaction applied, unless the natural soil receives acceptance for use as structural fill, as described elsewhere in this Section.
- I. Except in the case of cantilever retaining walls, where fill occurs on both sides of a wall levels of fill on each side shall be kept approximately equal, at all times, if at all possible.
- J. Grade final surface of structural fill below building slabs on grade smooth and even, free of voids, depressions, or mounds, and compact to required elevation or slopes. Provide final grades within a tolerance of 1/2" (1/4" above and 1/4" below required elevation), when tested with a 10 foot straightedge.

**3.03 SOIL TESTING**

- A. An independent testing laboratory approved by the Engineer, hereinafter referred to as the Testing Laboratory, will perform inspection and testing in connection with the structural fill.
- B. Field testing and inspection will be paid by the Owner per Section 01410.
- C. After verification that the materials fall within the gradations given above, for each category of material, and upon being directed by the Engineer to proceed, the Testing Laboratory will secure samples of soil proposed for use by this Contractor.
  - 1. Laboratory will test for suitability.
  - 2. Laboratory will establish optimum moisture-density relationship in accordance with ASTM D1557.
  - 3. Should there be more than two different sieve analyses representing two different materials submitted for each category of material, as above outlined, and for all sampling in connection with the use of the onsite excavated material as structural fill, the testing for suitability, and establishing of moisture-density relationship (Proctor test) shall be paid for by the Contractor.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

- D. Field testing will consist of grain size analysis of gravel fill, Modified Optimum Density (AASHTO T-180) and field density tests at the rate of one (1) per 200 cubic yards of fill or at the discretion of the inspector. The latter tests will be made at maximum height differential of 2.0 feet throughout the fill.
  
- E. If field density tests indicate compaction of the structural fill to be less than 95% of optimum dry density, the Contractor shall improve compaction by applying more mechanical effort or adding water or both; or, if moisture content of material is too high, by allowing it to dry to optimum moisture content before applying more mechanical effort; or, if necessary, removing and recompacting until further tests indicate a dry density of 95% of optimum density. Additional field tests necessary because of failure of first tests to comply with 95% density requirements shall be made by Laboratory at the Contractor's expense.

**END OF SECTION 02220**

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

**SECTION 02230  
UTILITIES EXCAVATION AND BACKFILLING**

PART 1 - GENERAL

REFERENCES

This Section covers the specification of excavation and backfilling work associated with Mechanical and Electrical work; examine all Contract Drawings and all other Sections of the Specifications for additional work related to this work.

Refer to the GENERAL CONDITIONS AND SUPPLEMENTARY CONDITIONS for other general requirements.

SCOPE

Provide labor, material, services, equipment and transportation necessary for excavation, backfilling and associated landscaping as indicated on Contract Drawings and specified herein, including but not limited to following:

Cutting of lawn, replacement topsoil.

Removal of curbs and pavement, and replacement of same with like materials.

Removal, protection and replanting of shrubbery as necessary.

Protection of trees and replacement as necessary.

Excavation and backfill for sewer, electrical, and mechanical.

Exploration to find site obstructions.

While site plan shows items known to be on-site, other items without record may also exist. A careful location excavation process is required and will be enforced.

RELATED WORK UNDER OTHER SECTIONS

Related work specified in other Sections of the Specification includes, but is not limited to:

Concrete, concrete forms and reinforcing, except as specified herein.

Bituminous paving and concrete paving.

DEFINITIONS

The following terms are used in this Division and are defined as follows:

"Finished grades": required final grade elevations, matching adjacent existing -trades.

"Invert" or "invert elevation": elevation at the base of the pipe at its inner surface or flow lines.

"Bottom of the pipe": elevation at the base of the pipe is its outer surface.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

"Trench": excavation of any length in which the width is less than twice the depth. (Other excavation shall mean open excavation.)

**RECORD DRAWINGS**

Location, service, size and elevation of existing utilities uncovered shall be duly noted on record drawings, whether or not utilities are active, are part of construction, or are affected by construction.

Sufficient information shall be given so that invert elevations of all duct and pipe locations may be ascertained from these Records Drawings.

**EXAMINATION OF SITE**

Data contained in Contract Documents (site survey, elevations, etc.) represents the best information available. There is no guarantee, implied or otherwise, as to the accuracy or completeness of the information shown. Contractor shall be constantly on the alert for unknown, abandoned or mislocated utilities and for changing soil or sub-surface water conditions.

Prior to start of any excavation, check with Owner and utility companies for location of underground facilities.

**PART 2 - PRODUCTS**

**ORDINARY FILL**

Material indicated as "fill", "backfilling", or "rough grading" shall be a natural soil, well-graded; free from organic, weak, compressible, and frozen materials; containing no stone larger than 2" maximum dimension; free of expansive materials (such as high plastic clays) and of materials subject to decay, decomposition, or dissolution. Material shall be of nature and character such that it can be dried and compacted.

Fill shall be clean round aggregate with mix of particle sizes not less than 1/8" or more than 3/4" and shall not contain particles passing #8 sieve. Backfill materials shall meet ASTM C-33 paragraph 9.1 for quality and soundness.

If sufficient ordinary fill material is not available from excavations under the Contract, additional fill shall be brought to the site from other sources. Both material excavated from the site and material brought to the site, for use as ordinary fill, shall meet above requirements.

Ordinary fill shall be used for general grading; as backfill, except as otherwise specified herein; and as rough grading under gravel based for walks and paved areas.

**PART 3 - EXECUTION**

**SERVICES AND UTILITIES**

Inactive or abandoned utilities encountered during construction operations shall be removed, plugged or capped as required by the work.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Active utilities existing on the site shall be carefully protected from damage and relocated or removed as required by the work. Active utility lines damaged during construction shall be repaired or replaced as determined by Engineer, without additional cost to Owner.

COORDINATION

Coordinate work with that of other trades affecting, or affected by, work of this section. Cooperate with such trades to ensure the steady progress of all work.

Do NOT close or obstruct streets, sidewalks, alleys and passageways. Conduct operations so as to interfere as little as possible with normal use of roads, driveways, alleys, sidewalks, and other facilities adjacent to, or affected by, the work.

LAYOUT AND GRADES

Contractor to lay out lines and gradework on-site using established permanent benchmarks. Maintain and protect established bounds and benchmarks; as directed replace established bounds and benchmarks which are destroyed or disturbed.

DRAINAGE

Contractor shall assume responsibility for drainage of site and subsurface waters and shall maintain such drainage throughout Contract in a manner acceptable to Engineer, at all times protecting and maintaining existing conditions in adjacent areas.

Legally remove (by pumping, draining or bailing) water which may accumulate or be found on the site within the Contract limits, where excavation and grading area to be done.

Excavate and form pump wells, sumps, dams, flumes and other works necessary to keep trenches and excavations entirely clear of water.

Newly made and existing concrete and masonry shall be protected from injury resulting from dewatering work by the use of canvas or tar paper or by other sufficient method as accepted by Engineer.

Maintain sufficient and satisfactory pumping machinery. Provide pump wells, well points and underdrains as required to properly handle water.

Final trimming excavation shall NOT be done until Engineer has accepted the manner of dewatering.

Dispose of water from trenches and excavations properly: so as NOT to cause injury to public health, to public or private property, to existing work, to work completed or in progress, and to surface of roads, walks and streets; and so as NOT to cause any interference with use of roads, walks and streets. Effluents discharged into municipal sewers shall have acceptable ranges of temperature and pH.

Do NOT place concrete, pour fill, lay piping or install appurtenances in excavations containing free water. Keep utility trenches free from water until pipe joint material has hardened.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

FROST PROTECTION

Do NOT excavate when freezing temperatures may be expected, unless footings or Slabs can be poured immediately after the excavation has been completed. Protect excavation from frost if placing of concrete is delayed.

SHORING AND SHEETING

Provide shoring, sheeting and bracing required at excavations, to ensure complete safety against collapse of earth at side of excavations.

Comply with federal, state and local safety regulations; comply with Associated General Contractors of America (AGCA) Manual of Accident Prevention in Construction.

Remove sheeting, shoring, etc., as backfilling operations progress, taking precautions necessary to prevent collapse of excavation sides.

EXCAVATION

Excavate as necessary for pipes, electrical lines and appurtenances. Unless otherwise indicated, provide separate trench for each utility.

If material at or below elevation of the bottom of the pipe or related structure is much, peat, peaty sand or other material unsuitable to support pipe or related structures: notify Engineer immediately and do not further trench excavation in this area until Engineer's instructions are received.

Except as noted on Drawings, width of pipe trench shall be an acceptable width.

Excavate rock and other hard material to at least 6" below pipe at all points. Refill such space and other cuts below grade with sand or fine gravel, 1/2" maximum, firmly compacted. Cut holes as necessary for joints and joint making.

Exercise extreme care during excavation to prevent damage to roots of trees. Excavation and grading within branch spread of trees shall be done by hand, in manner which will cause minimum damage to root systems, as accepted by Engineer. Open such trenches only when the utility can be installed immediately. Prune injured roots cleanly, and backfill as soon as possible.

Electric, Telephone Service, Cable and Propane Sleeves: Trenches shall be minimum 18" deep below finish grade to top of cable or conduit, unless noted otherwise, with spacing between conduit as required by Owner, local utility companies, and authorities having jurisdiction.

PLACING AND COMPACTION OF FILL

Surface of natural soil before fill is placed shall be NOT less than same density required for superimposed layers of fill. Compact natural soil as necessary to fulfill this requirement.

Fill shall be placed in horizontal layers of required depth before compaction. Each layer shall be spread evenly at right angles to previous layer and shall be thoroughly blade-mixed during spreading to insure uniformity of material in each layer. Engineer shall observe each layer before next layer is placed.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Do NOT place fill over frozen material. Fill shall NOT be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by heavy rains, fill operations shall NOT be resumed until moisture content and density of previously placed fill are as specified.

**BACKFILLING UTILITIES AT BUILDING**

From spaces to be backfilled, remove unsuitable material including all rubbish, organic materials, sheeting, bracing, forms and debris. Do NOT commence backfilling operations until conditions have been inspected and accepted by Engineer.

Do NOT place fill material against foundation walls or structural members unless they are either shored and braced or of sufficient strength to withstand the pressures to be imposed by compaction. Do NOT place fill until subgrade waterproofing materials have been in place for at least 48 hours, have been inspected and accepted by Engineer, and are properly protected.

Except for these restrictions, commence backfilling operations at earliest practical date. Backfilling shall be done in Owner's presence.

**OTHER BACKFILLING**

Do NOT commence backfilling operations until piping, conduit, tanks, etc., has been installed, tested and accepted by Engineer and locations of pipe, etc., have been recorded. Backfilling shall be done in Owner's presence.

Backfill over fuel piping: Backfill carefully by hand around pipe to depth of one foot above top of pipe, tamping firmly, in layers NOT EXCEEDING SIX INCH DEEP, compacting by hand tampers or mechanical tampers.

Backfill over tanks, electric utility trenches, and manholes shall be placed in 12" layers. Minimum 12" backfill material shall be provided between bottom of tank and concrete pad. Provide minimum 48" backfill over top of tank.

If manufacturer of utility line material suggests specific backfill materials and methods other than these specified herein, such requirements shall govern providing finished work equals or exceeds results obtainable by materials and methods specified herein.

**GRADING**

Do required grading including shaping, trimming, rolling and finishing of the surface of the subgrades for topsoil and paved surfaces.

If water pipe, sewer, conduit, drain, or other construction is damaged during grading work due to construction, Contractor shall repair such damage at no additional cost to Owner and shall restore such construction to its original condition.

Grading shall be brought to bottom of base course under paved areas, and to within six inches of finish grade under areas to receive topsoil.

Complete grading operations after building work is finished, utilities are installed, site improvements are constructed, and materials, rubbish and debris are removed from site. Leave subgrade for lawns clean, at required grades. Provide sufficient grade staking to witness correct lines and grades, as determined by Engineer.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Wherever streets, lawns, or sidewalks have been excavated as part of this Contract, provide materials necessary to bring finish surfaces level with existing adjacent surfaces. Such work shall be installed to match existing conditions in accordance with regulations or authorities having jurisdiction. Notify proper authorities prior to restoring surfaces outside Contract Limits.

END OF SECTION

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

**SECTION 02510  
PAVING, WALKS, CURBS, PADS**

PART 1 - GENERAL

RELATED DOCUMENTS

The Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

DESCRIPTION OF THE WORK

Paving, walks and curbs shall include, but is not necessarily limited to, the following:

2-course bituminous concrete pavements.

Painted parking lines and symbols.

Concrete pavement, walks, slabs, pads, ramps and stoops.

Concrete curb.

Concrete Steps and handrails.

RELATED WORK SPECIFIED ELSEWHERE

Section 02000: Site General Conditions

Section 02210: Site earthwork including processed aggregate bases for pavements and curbs, and walks.

Section 02800: Site Improvements

SPECIAL REQUIREMENTS

Meet and match existing bituminous concrete pavement on existing pavement at the same finish grade.

Comply with City of Norwich regulations.

SUBMITTALS

Bituminous Concrete Paving: Material certificates signed by material producer and Contractor, certifying that material complies with specified requirements.

Paint: Manufacturer's printed specifications and instructions and recommendations for application.

Concrete: Manufacturer's product date, test reports, and materials certifications for Cast-In-Place Concrete.

Compaction test results.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Concrete Curb: Suppliers product test reports, and required material certifications for concrete curb.

PART 2 - PRODUCTS

GENERAL

Bituminous Concrete Course: M.04.01, Class 1 & 2 of Form 816.

Line and Symbol Paint: Shall conform to Section 12.09.02 of DOT Form 816.

Concrete: 4,000 psi (28-day compressive strength). If not indicated use Class "C" concrete for surface work and Class "A" concrete for underground.

Premolded Joint Filler: Non-extruding and resilient bituminous type; ASTM D-1751.

Concrete Curb: Shall conform to Section 8.11.02 of DOT Form 816.

Concrete Steps: Shall conform to Section 5.05.02 of Form 816.

Metal Handrails: Shall conform to Section 9.14.02 of Form 816.

PART 3 - EXECUTION

GENERAL

Bituminous Concrete Pavement

Install bituminous concrete pavement where and to thickness and courses as shown, on an approved processed aggregate base course provided under in Section 02210.

Conform to Section 4.06 of Form 816. Where tests are required by Architect, provide by an approved independent testing laboratory paid for by the Owner.

Compact to thickness indicated.

Sawcut and install bituminous concrete pavement over processed gravel base in repair areas as shown on the plans.

Line and Symbol Paint

Comply with manufacturer's instructions and recommendations for application.

Apply on a clean finish pavement minimum 3 weeks after completion of work. Use zone marking equipment; lines shall be carefully laid out. Edges even the true. Stripes shall be 4 inches wide for parking lines and conforming to State of Connecticut, Department of Transportation for stop bars. Conform to State code and local regulations in handicapped parking areas.

Concrete Pavement. Walks, Pads, Slabs, Ramps and Stoops

Install where shown on an approved processed aggregate base course provided in Section 02210.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Conform to applicable provisions of Article 9.21.03 of Form 81 4A

Compact base. Moist but no standing water. Do not place concrete on frozen base.

Do not place concrete when below freezing. When 40 degrees F within 24 hours after placing concrete, bring mix to minimum of 50 degrees F.

Clean forms. True to Line. Firmly staked in place. Strong enough to resist pressure of concrete without springing. Tight enough to prevent mortar leakage. Tops at exact finished grade. Steel or wood forms are acceptable.

Spade concrete thoroughly along forms and expansion joints. Vibrate, tamp, and screed to a dense mass. Lay with expansion joints coinciding with the pattern indicated on the drawings. Pour in alternate sections (400 square feet maximum) with expansion joints between pours.

Provide 3/8 inches wide expansion joints. Form with premolded joint filler. Cut back filler 1/4 inch below finish of pavement. Provide additional expansion joints around utility structures in concrete pavements and where concrete abuts other structures.

Score joints using scoring tool minimum 12 inches long. Cut between expansion joints to complete the pattern shown on the plans. Cut while concrete is workable.

Stiff broom finish walks, using new street broom. Bristle marks shall be perpendicular to direction of traffic unless otherwise noted. Finish after concrete is placed, screened, and steel troweled to a smooth even surface. Bring sufficient mortar to the surface for the finish

1/4 inches +/- in 10 feet in any direction tolerance.

Curing

Keep surfaces covered with burlap, polyethylene, or material approved by the Architect. Keep wet for a minimum of 72 hours, then completely remove covering.

If below 40 degrees F, maintain concrete at 50 degrees F for not less than 5 days after pouring.

Remove forms while concrete is "green". Protect from damage from construction operations. Replace and repair damaged work as directed by the Architect. No use for a minimum of 3 days after construction. Clean thoroughly all surfaces and keep clean until the completion of this Contract.

Handicap ramps to be installed as shown on the drawings and in conformance with Section 9.24.

Concrete Curb

Construct to the lines and grades and where shown on the plans and in accordance with Section 8.11.03 of DOT Form 816, except curb shall be poured monolithically with the sidewalk.

Concrete Steps: Shall conform to Section 5.05.03 of Form 816.

Metal Handrails: Shall conform to Section 9.14.03 of Form 816.

END OF SECTION

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

**SECTION 02730  
SANITARY SYSTEM**

PART 1 - GENERAL

RELATED DOCUMENTS

The Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

DESCRIPTION OF THE WORK

Sanitary sewers shall include, but are not necessarily limited to the following:

Piping, cleanout, and structures for sanitary sewer services and septic system outside the building.

RELATED WORK SPECIFIED ELSEWHERE

Section 02000: Site General Conditions

Section 02210: Site Earthwork

Section 02230: Utilities Excavation and Backfill

Section 02800: Site Improvements

SUBMITTALS

Shop drawings for PVC pipe and fittings and concrete structures.

As-Built Drawings: Record on a print, all deviations from contract requirements. Record final and actual sizes, locations and elevations of all components. At completion of work, transfer information to transparency to show "As-Built" conditions. Provide As-Built transparency to the owner before final acceptance.

PART 2 - PRODUCTS

GENERAL

All septic system materials listed below must conform to the Connecticut Public Health Code – Regulations and Technical Standards For Subsurface Sewage Disposal Systems.

**POLYVINYL CHLORIDE (PVC) SEWER PIPE:** 4" PVC distribution pipe shall be unplasticized polyvinyl chloride plastic gravity sewer pipe integral wall bell and spigot joints. Pipe and fittings shall meet and/or exceed all of the requirements of A.S.T.M. Specifications D 3034, latest revision, SDR 35, Type PSM. Provisions must be made for contraction and expansion at each joint with a rubber ring. The bell shall consist of an integral wall section stiffened with two PVC retainer rings which securely lock the solid cross section rubber ring into position. All fittings and accessories shall be as manufactured and furnished by the pipe supplier and have bell and/or spigot configurations identical to that of the pipe.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

**SEPTIC TANK:** The septic tank shall be precast concrete approved for use by the local health department and as shown on the plans

**LEACHING CHAMBERS:** Leaching chambers shall be 18" high x 4' wide x 8' long precast concrete with a design loading of AASHTO HS20-44 as shown on the plans.

**DISTRIBUTION BOXES:** D-boxes shall be precast concrete with a design loading of AASHTO HS20-44 and shall have inlets and openings as delineated on the plans

**LEACHING SYSTEM FILL MATERIAL:** A clean, granular sand and gravel fill is required in the area of leaching systems. The fill shall contain no more than 5% fines, and preferably no more than 2%. Fines are clay and silt sized particles which pass the #200 sieve. The fill material should not contain any material larger than three (3) inches. A sieve analysis should be performed on a representative sample of the fill. Up to 45% by weight of the fill sample may be retained on the #4 sieve. The material that passes the #4 sieve is then dried and reweighted and the sieve analysis started. The sieve analysis must demonstrate that the material meets each of the specifications of the CT Public Health Code. All material shall be approved by the local health department. The Contractor is required to provide to the owner a sieve analysis conforming to the above for every load of fill delivered to the site.

Septic Tank Covers: Cast iron manhole frame and cover raised to grade with well tile riser section over all septic tank openings as shown on contract drawings.

Crushed Stone: Crushed stone shall consist of hard, durable fragments of crushed rock and shall be free from clay, organic matter or other objectionable material. Crushed stone shall conform to the gradation table for 1" crushed stone as specified in Article M.0101 of the Standard specifications.

Manholes: Precast reinforced concrete manhole sections shall conform to the latest A.S.T.M. specification C-478, with additional requirements as detailed on the contract drawings and specified herein. All precast manhole units shall have rubber "O" ring joints. Cement shall be Type II. Additional manhole materials shall be as follows:

1. Brick shall conform to the requirements of A.S.T.M. Designation C-32 latest revision, grade MA.
2. Concrete masonry units shall conform to the requirements of A.S.T.M. Designation C-139, latest revision. Block shall be eight inch radial units. Corbel blocks shall be used for taper.
3. Mortar used for laying brick, blocks, bedding castings, parging the outside of manholes, and similar uses, and grout used for filling joints, voids, etc., shall, unless otherwise provided or ordered, be composed of one part Portland Cement and two parts sand of suitable fineness.
4. Concrete and reinforcing steel for bases, drop connections, watertight manholes, concrete fill, etc. shall be Class "A".
5. Manhole steps shall be copolymer polypropylene plastic coating 1/2" grade 60 steel reinforcement by Hydro Conduit Corporation or equal.
6. Manhole frames and covers shall be as shown on the plans.

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

7. Flexible watertight pipe connections shall be KOR-N-SEAL or equal.

**PART 3 - EXECUTION**

Septic tank, distribution pipe, leaching chambers and other structures and fill material shall be installed in accordance with the contract drawings and Connecticut Public Health Code – Regulations and Technical Standards For Subsurface Sewage Disposal Systems.

It is the intent of the design that the majority of the leaching system be installed into existing grades as shown on the plans. Some portions of the leaching system may require minimal fill and the contractor should meet with the engineer and sanitarian on the site to review procedures, and to agree on the fill materials to be used. Inspection and testing of the fill material may be necessary unless an approved commercial sand or gravel bank is to be used which can supply materials which will meet the above criteria. The location of the area to be filled should be marked by the Contractor and approved by the Owner.

The area should be cleared and rough graded. All stumps and large boulders should be removed. Topsoil should be stripped and the area plowed or scarified. Prior to placement of the fill, the bottom surface of the excavation should be scarified. Fill material should be stockpiled at the edge of the excavation until a suitable base of select material has been spread over the entire exposed area. Fill should not be placed during periods of heavy rains, snow storms or freezing temperatures. If water is present at the bottom of the excavation following a period of rain, the excavation shall be dewatered as necessary and rescarified. The excavation for and placement of fill shall extend a minimum of five (5) feet laterally in all directions beyond the outer perimeter of the leaching system and to a depth to make contact with naturally occurring pervious material.

END OF SECTION

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

**SECTION 02800  
SITE IMPROVEMENTS**

PART 1 - GENERAL

RELATED DOCUMENTS

The Drawings and general provisions of the Contract, including General Conditions, apply to this Section.

DESCRIPTION OF THE WORK

Site improvements shall include, but is not necessarily limited to the following:

Handicapped parking sign.

Versa Loc retaining wall.

Miscellaneous cast-in-place concrete.

Prepare and seed the topsoiled areas and establish a stand of grass to stabilize all disturbed areas, acceptable to the Engineer.

Maintain seeded areas until project completion.

RELATED WORK SPECIFIED ELSEWHERE

Section 02000: Site General Conditions

Section 02210: Site Earthwork

EXISTING CONDITIONS

Beginning work means acceptance of existing conditions.

SUBMITTALS

Traffic and Handicapped Signs: Shop drawings and sign samples for review. Material certifications for metals.

PART 2 – PRODUCTS

GENERAL

Cast-In-Place Concrete: 3,000 psi (Min. 28-day compressive strength) Item M.03.01 of Form 814 and Section 02510.

Steel Pipe: M.10.05.02 of Form 816.

Handicapped Parking Signs: Aluminum, blue and white painted finish. Include international handicapped symbol and statement "Handicapped Parking, State Permit Required," 10 inches x, 14 inches. Comply with all State and local regulations..

**Conversion of  
Mohegan Park Utility Building to  
New Dog Pound  
Park Center Road  
Mohegan Park, Norwich, CT**

Retaining Wall: to be Versa-Loc Retaining Wall System or approved equal.

PART 3 - EXECUTION

Versa-Loc Retaining wall:

1. Strip vegetation and organic soil from wall and geosynthetic alignment.
2. Bench cut all excavated slopes. Do not over excavate unless directed by site soil engineer to remove unsuitable soil. Verify foundation soils as being competent per the design standards and parameters.
3. Leveling pad shall consist of compacted coarse sand or crushed gravel, 6" thick min. Contractor may use a lean concrete pad. Concrete pad shall be unreinforced, 3" thick maximum.
4. Minimum embedment of wall below finish grade shall be 6" for wall heights under 4 ft. and 12" for walls over 4 ft. Unless shown differently. For units to be embedded, compact fill in front of units at the same time fill behind units is compacted.
5. Drainage aggregate shall be installed directly behind the wall within 12" of the top of the wall. Drainage aggregate shall not extend below final grade in front of wall.
6. Compaction shall be to 95% of maximum standard proctor density. (ASTM D-698). Compaction tests shall be taken as the wall is installed. The minimum number of tests shall be determined by the site soils engineer. Compaction within 3 ft. of wall shall be limited to hand operated equipment.
7. See elevation drawings for geosynthetic type, length and location required. Geosynthetic shall be placed with strongest direction perpendicular to wall. Follow geosynthetic manufacturer's installation instructions and written specifications.
8. Contractor shall direct surface runoff to avoid damaging wall while under construction.
9. Any surface drainage features, finish grading, pavement, or turf shall be installed immediately after wall is completed.
10. Follow applicable provisions of the manufacturer's installation instructions and written specifications.

END OF SECTION