Division 32

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SECTION 321210
ASPHALT CONCRETE PAVING

PART 1. GENERAL

1.01 Summary

A. The CONTRACTOR shall furnish all labor, materials, and equipment necessary to install asphalt concrete paving.
B. Codes and Standards: Comply with the **latest edition** of the NYSDOT standard specifications.
C. Weather Limitations: Apply prime and tack coats when ambient temperature is above 50°F (10°C), and when temperature has not been below 35°F (1°C) for 12 hrs immediately prior to application. Do not apply when base is wet or contains an excess of moisture.
D. Construct asphalt concrete surface course when atmospheric temperature is above 40°F (4°C), and when base is dry. Binder course may be placed when air temperature is above 30°F (-1°C) and rising.
E. Transport bituminous mixtures in covered trucks during rainy weather and when air temperature is less than 60°F.
F. Adjust weight, type, capacity, haul routes, and method of operation of hauling vehicles so no damage results to existing streets, subgrade or base course.
G. If directed by the Engineer, delay paving until the spring following completion of construction to allow for settling of subgrade.

1.02 Submittals

A. Contractor to submit source location and certification for Asphalt Mix.
B. Contractor shall submit Pavement Marking Paint information.

1.03 Testing Services.

A. Certified Test Reports for Pavement Compaction.

PART 2. PRODUCTS

2.01 ASPHALT CONCRETE PAVING

Course	Application	Product shall meet the requirements for **THE LATEST VERSION OF**:
Base Course	State Roads	NYSDOTSS Item 402.378901
Binder Course	State Roads	NYSDOTSS Item 402.198901
Binder Course	Municipal & County Roads	Type 3 Asphalt
Binder Course	Driveway	Type 3 Asphalt
Top Course	State Roads	NYSDOTSS Item 402.128301
Top Course	Municipal & County Roads	Type 6F Asphalt
Top Course	Driveway	Type 7 Asphalt
Temporary Paving	All	Type 3 Binder

2.02 COLD MIX BITUMINOUS PAVEMENT (OPEN GRADED)

A. The bituminous materials required for mixing and for sealing shall meet the requirements of NYSDOTSS Section 702, Bituminous Materials.

2.03 TACK COAT

A. The Tack Coat shall be an asphalt emulsion meeting the requirements of NYSDOT Material Designation 702-90.

2.04 PAVEMENT MARKING PAINT

A. CONTRACTOR shall submit for approval a description of the Pavement Marking Paint and the reflectorized glass beads that will be used to restore pavement marking destroyed or damaged during the work. The paint selected by the CONTRACTOR shall be specifically designed for use as a pavement marking paint and shall be approved by the ENGINEER before use.

PART 3. EXECUTION

3.01 GENERAL

A. CONTRACTOR shall install all paving material in accordance with the provision and procedures as specified in NYSDOT "Standards Specifications for Construction and Material" latest edition. All material shall be installed at the locations and at the thicknesses shown on the Contract Drawings.

3.02 PAVEMENT CUTS

A. All existing pavement edges, prior to placement of new paving, shall be saw cut to neat and smooth lines parallel with the existing street. Areas outside the pay limits shown on the Contract Drawings that are disturbed during construction shall be saw cut perpendicular to the street and squared off at 90 degree angles.

3.03 PAVEMENT PREPARATION

A. Remove loose material from compacted subbase immediately before applying prime coat.
B. If sufficient time as passed since placement of subbase that base course is rutted, loose or uneven, proof roll prepared surface to check for unstable areas and areas requiring additional compaction. Do not begin paving work until deficient areas have been re-graded and corrected and are ready to receive paving.
C. Prime Coat
    1. Apply at rate of 0.20 to 0.50 gal per sq yd, over compacted subgrade.
    2. Apply material to penetrate and seal, but not flood, surface.
    3. Cure and dry as long as necessary to attain penetration and evaporation of volatile.
D. Tack Coat:
    1. Apply to contact surfaces of previously constructed asphalt or portland cement concrete and surfaces abutting or projecting into asphalt concrete pavement.
    2. Distribute at rate of 0.05 to 0.15 gal per sq yd of surface.
    3. Allow to dry until at proper condition to receive paving.
    4. Exercise care in applying bituminous materials to avoid smearing of adjoining concrete surfaces. Remove and clean damaged surfaces.

3.04 PLACING MIX

A. General
    1. Place asphalt concrete mixture on prepared surface, spread, and strike-off. Spread mixture at minimum temperature of 225°F (107°C). Place inaccessible and small areas by hand. Place course to required grade, cross-section, and compacted thickness.
B. Placing
    1. Place in strips not less than 10-ft wide, unless otherwise acceptable to ENGINEER.
    2. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips.

3. Grade Control: Establish and maintain required lines and elevations to within 3/8-in.

C. Joints
1. Make joints between old and new pavements, or between successive days' work, to ensure continuous bond between adjoining work. Construct joints to have same texture, density, and smoothness as other sections of asphalt concrete course. Clean contact surfaces and apply tack coat.

D. Rolling
1. General - Begin rolling when mixture will bear roller weight without excessive displacement. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
2. Breakdown Rolling: Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling, if required, with hot material.
3. Second Rolling: Follow breakdown rolling as soon as possible, while mixture is hot. Continue second rolling until mixture has been thoroughly compacted.
4. Finish Rolling: Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained maximum density.
5. Patching: Remove and replace paving areas mixed with foreign materials and defective areas. Cut-out such areas and fill with fresh, hot asphalt concrete. Compact by rolling to maximum surface density and smoothness.

E. Protection
1. After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Protect paving from traffic until mixture has cooled.
2. Do not drive track equipment over finished paving. Where necessary protect with wood sheeting.

3.05 FIELD QUALITY CONTROL

A. Pavement Testing
1. General: Test in-place asphalt concrete courses for compliance with requirements for thickness and surface smoothness. Repair or remove and replace unacceptable paving.
2. Tolerances: In-place compacted thickness shall meet or exceed dimensions specified on the drawings.
3. Surface Smoothness Tolerances: Test finished surface of final asphalt concrete course for smoothness, using 10-ft straightedge applied parallel with, and at right angles to centerline of paved area. Surfaces will not be acceptable if exceeding 1/8-in. tolerance for smoothness.

END SECTION

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SECTION 329110
SITE RESTORATION AND LANDSCAPING

PART 1. GENERAL

1.01 SUMMARY

A. The CONTRACTOR shall be responsible for the complete restoration of all areas affected by the construction operations.

B. Work performed under this section shall include the furnishing of all labor, tools, equipment and materials necessary to completely restore all public and private property - in all areas disturbed by construction, and in other special areas of the project as may be designated by the ENGINEER or as shown on the plans - to a condition which is equal to or better than what existed prior to start of the contract. Incident restoration work includes, but is not limited to the following: signs-public or private, fencing poles, trees, shrubs and bushes, lawns and gardens, public and private utilities, drainage structures and ditches, retaining walls, foundation, slabs, dams and embankment ponds and similar water bodies.

1.02 QUALITY ASSURANCE

A. CONTRACTOR shall take a complete set of photographs of all work areas prior to commencing work as required by the Supplemental General Requirements. CONTRACTOR shall supply the ENGINEER with one set of these photographs for documentation purposes including but not limited to restoration work.

B. The contractor shall provide the ENGINEER with documentation that all material required under this item conforms to contract requirements. The contractor shall provide test results for the topsoil, tickets for seed mix, etc.

1.03 SUBMITTALS

A. Preconstruction photographs submitted per Supplemental General Requirements.

B. Documentation and test results for the topsoil, seed mix, lime, and fertilizer that demonstrate conformity with this specification section.

PART 2. PRODUCTS

2.01 MATERIALS

A. In general, all existing materials removed or disturbed during construction shall be replaced with new materials of the same quantity as those disturbed during construction.

B. Where existing materials or structures can be reused, such as signs, fencing, etc., the contractor shall carefully remove and replace the existing structures to the satisfaction of the individual owner, utility, and ENGINEER.

C. Where materials are encountered that are no longer made and cannot be replaced with materials of similar quality, the contractor shall make every effort to preserve and reuse the existing materials.

2.02 TOPSOIL, PLANTINGS AND SEEDINGS

A. Topsoil shall be of high quality containing approximately 1/3 humus, 1/3 sand and 1/3 loam. Topsoil shall be uniform and homogenous in composition and shall have a pH range of 6.0 to 7.6.

B. Lime shall be agricultural limestone containing at least 88% calcium and magnesium carbonates and shall be obtained from quality manufacturers.

C. Fertilizer shall be standard 10-10-10 fertilizer. Mulch shall be hay or straw free from noxious weeds.

D. Replacement shrubbery shall be vigorous stock obtained from a reputable nursery of a size and shape to match existing. All replacement shrubbery shall be balled in burlap.

E. Seed mix for lawns shall be as follows:
1. 60% Kentucky Blue Grass
2. 20% Redtop
3. 20% Perennial Ryegrass

F. Seed mix for open or wooded areas with slopes of less than one on three shall be as follows:
1. 60% Red Fescue
2. 15% Kentucky Bluegrass
3. 20% Perennial Ryegrass
4. 5% White Clover

G. Seed mix for open or wooded areas with slopes greater than one on three shall be as follows:
1. 30% Crown Vetch
2. 70% Perennial Ryegrass

H. Seed mix for stream banks and drainage swales shall be as follows
1. Tall Fescue (0.5 lbs/1000 square feet)
2. Creeping Red Fescue (0.5 lbs/1000 square feet)
3. Red Top (0.1 lbs per 1000 square feet)

I. Temporary Seeding Mixture IF: Spring or summer or early fall, then seed the area with ryegrass (annual or perennial) at 30 lbs. per acre (Approximately 0.7 lb./1000 sq. ft. or use 1 lb./1000 sq. ft.). IF: Late fall or early winter, then seed Certified 'Aroostook' winter rye (cereal rye) at 100 lbs. per acre (2.5lbs./1000 sq. ft.).

J. Hydroseeding of open or wooded areas shall be as approved by the ENGINEER.

PART 3. EXECUTION

3.01 INSTALLATION OF RESTORATION WORK

A. Structures and plantings to be restored after completion of final grading shall be done in conformance with generally accepted practices skilled in the specific trade, equipment which is properly sized and designed to accomplish the specific task and scheduled to cause the least inconvenience and disruption to the property owner.

B. CONTRACTOR shall be responsible for completing temporary stabilization to prevent erosion. Such temporary measures shall be included in the lump sum price for this item.

C. CONTRACTOR is responsible for establishing vegetation on disturbed areas. To accomplish this, CONTRACTOR shall re-seed or replant as necessary and provide fertilizers, lime, or additional soil amendments as may be needed to complete restoration.

D. All final graded areas shall be approved by the ENGINEER prior to the initiation of the restoration activities.

E. Seeding shall not be completed after October 15th without approval of the ENGINEER.

F. As work proceeds and prior to seeding, CONTRACTOR shall remove all exposed stones and debris greater than 2 inches from surface of area to be seeded.

G. Surface structures, which have been removed, shall be regraded with the appropriate backfill material, compacted and properly prepared for the new surface.

H. Ditch lines shall be regraded and shaped generally to match existing and to provide proper drainage.

I. Cleaning Up - After final restoration is complete, the contractor shall remove all excess excavated material, rubbish and debris all work areas and grass plots; and the whole shall be left in a neat and acceptable condition.

3.02 RESTORATION OF LAWN AREAS

A. Lawn areas shall be graded to a depth of 6 inches below existing; removing all rocks, stones or stumps and the subsoil shall be scarified. CONTRACTOR shall supply and place six inches of topsoil over the subsoil so that no ridges or depressions occur. Topsoil shall be hand raked as necessary to blend with existing grades. Fertilizer at a rate of 25 pounds per 1,000 square feet and, if required, limestone shall be worked into the top two inches of topsoil. Seed shall then be spread at a rate of five pounds per 1,000 square feet.

B. The surface shall then be raked and lightly rolled. Mulch shall then be placed to a depth of two to three inches. The contractor shall care for reseeded areas until final payment is made and until the lawn has reestablished itself.

C. For slopes greater than approximately 10%, contractor shall supply and place erosion control fabric to aid in establishing grass. Fabric shall be completely bio-degradable within 2-years and shall be placed according to supplier specifications. CONTRACTOR shall include up to 5000 square feet of such mat for placement on site AOBE.

3.03 RESTORATION OF OPEN AND WOODED AREAS

A. Open or wooded areas shall be graded to the grades existing prior to disturbance, fertilized at a rate of 1,500 pounds per acre, limed at a rate of 2,000 pounds per acre, seeded at 70 pounds per acre, and mulched in the same manner as lawn areas. Topsoil will only be required if exceptionally barren soil is encountered.

B. Sloped areas shall be prepared in the same manner as open or wooded areas using the seed specified for sloped areas.

C. Shrubbery shall be planted in a pit at least 1-1/2 times the size of the root ball. Backfill for shrubbery shall consist of topsoil, peat moss, and fertilizer in the ratio of 7:1:1/4. All shrubbery shall be watered at the time of planting.

3.04 PLANTING OF TREES SHRUBS AND VINES

A. Plant Protection:

Prior to delivery, the trunk, branches, and foliage of the plants shall be sprayed with non-toxic antidesicant, applied according to the manufacturer's recommendations. This does not apply to state nursery seedlings.

B. Planting Time:

Deciduous trees and shrubs: April 1 to June 1 and October 15 to December 15.
Evergreen trees and shrubs: April 1 to June 1 and September 1 to November 15.

C. Spacing:

Plant all trees and shrubs well back from buildings to allow for mature crown

size. The following are guides for planning:
Large trees: 50-60 feet apart.
Small trees: 20-30 feet apart Columnar species: 6-8 feet apart
Hedges: 1-4 feet apart
Shrubs: For clumps, plan spacing so mature shrubs will be touching or overlapping by only 1 or 2 feet.

D. Site Preparation:

1. Individual sites for planting seedlings can be prepared by scalping the sod away from a four foot square area where the seedling is to be planted.

2. All planting beds shall be cultivated to a depth of 8 inches, or chemically treated for weed control. Remove objectionable objects that will interfere with maintenance of site.

E. Planting:

1. Plants shall be located as shown on plans and/or drawings and, where necessary, located on the site by stakes, flags or other means.

2. The plants shall be set upright in holes.

3. All plants shall be thoroughly watered on the same day of planting. Plants that have settled shall be reset to grade.

F. Wrapping:

Immediately after planting, wrap deciduous tree trunks from the bottom to the first limb with a 4 inch wide bituminous impregnated, insect resistant tape or paper manufactured for that purpose. Tie with jute (bag strings) at top and bottom.

G. Mulching:

Mulch the disturbed area around individual trees and shrubs with a 4-inch layer of wood chips. Pull woodchips 1 inch away from the base of shrubs to avoid fungus development.

3.05 MOWING

CONTRACTOR shall perform one mowing of all areas restored under the project AOBE.

END OF SECTION