

DEMOLITION

1. The Contractor shall inspect all structures, facilities and areas slated for demolition to gain a full understanding of the work required. The Contractor shall take whatever measures necessary to protect the safety of the public, his employees and agents during the inspections and subsequent work. The Owner, Client, and Engineer of Record are not responsible for the condition of the buildings, facilities, or other areas slated for demolition.
2. All materials not slated for reuse must be disposed of off site in a legal manner. The Contractor may salvage any equipment or materials not designated by the Owner to be saved. All salvaged material or items shall be removed from the site immediately upon removal. No such materials shall be stored on the site. Absolutely no sales of salvaged materials will be allowed on the project site. All salvaged material must be removed, transported, and disposed of in a legal manner.
3. Upon approval by Owner, the Contractor shall be responsible to remove and store safely all materials slated to be saved or reused. The Contractor shall document existing conditions using photographs prior to start of work and notify Owner of any existing damage prior to construction start. The Contractor shall be responsible for all costs to repair or replace existing features to remain (including but not limited to fencing, lighting, curbing, pavement, utilities, storm structures, landscaping, etc.) that are damaged due to his work or failure to protect throughout the duration of his contract.
4. No burning, explosives, or other potentially dangerous methods of demotion will be allowed unless written permission is granted by the Owner and all appropriate permits are granted.
5. The Contractor will provide whatever safety equipment and devices are necessary to protect the adjacent properties, structures and other areas slated to remain. This will also include erosion control, dust control, and settlement.
6. All areas shall be brought back to their original grade or that of the surrounding area, which ever is closer to the final grades of the project for that area. All areas requiring fill shall be compacted to the requirements of the area but in no case less than 90% of modified proctor (ASTM D 1557).
7. All demolition within the proposed building footprint shall be coordinated with the building drawings.
8. Light pole removal shall include complete removal, backfill of concrete base, and capping of any conduit/wiring in to be abandoned in place.

EROSION CONTROL

1. Prior to construction equipment entering or exiting the site, a construction entrance shall be built unless existing conditions prevent any tracking of dirt, mud, or debris off the site. The contractor will be responsible to keep all roads, parking lots, sidewalks and adjacent properties free of dirt, mud or other debris. This will include building the construction entrance, sweeping, scraping and washing the pavement surfaces when ever needed. The construction entrance shall be constructed as shown on the plans. If a detail is not provided, construct the entrance with clean 2 to 3 inch stone, 6 inches thick, over stabilizing fabric to the dimensions of 12 feet wide and 50 long. The entrance should be located so that all vehicles leaving the site will utilize it.
2. All erosion control devices shall be placed as shown on the drawings and in accordance with federal, state, local and manufactures recommendations. The contractor shall place and maintain all erosion control devices as needed through out the project.
3. Silt fence shall have hard wood stakes 2x2 inch and 4 feet long woven into the fabric. The base of the silt fence shall be excavated so as to provide an area to bury the bottom of the fabric at least 6 inches into the ground. The stakes shall be driven to a depth that will place the bottom fabric at the bottom of the trench. Then backfill the bottom fabric on the upstream side with the material that was excavated.
4. Silt fence shall be placed where ever surface drainage can leave the site.
5. Stone filters shall be placed in all drainage ways but not in streams, creeks or rivers. Stone filters shall consist of a uniform mix of ¼ to ¾ inch clean stone wrapped in filter fabric and covered with 4 inch stone.
6. Sediment traps shall be placed and maintained as needed. They shall be sized to provide adequate storage to allow sediment to precipitate out prior discharging down stream.
7. Temporary seeding shall consist of lime @ ½ ton per acre, fertilizer 5-10-10 @ 600 pounds per acre, Ryegrass (annual or perennial) @ 40 pounds per acre and straw mulch @ 2 ton per acre. Jute mesh shall be placed over mulch and staked whenever winds or slope will cause the mulch and seed to become depleted or eroded. Areas shall be temporary seeded when they are subject to erosion and will lie dormant for a month or more.

GENERAL CONSTRUCTION CONDITIONS

1. The term of Owner as used in these specifications and notes shall include the owner of the property, the company or party that hired the Contractor, the company or party that signed the contract for this work, and the agents of each. The Owner's representative shall be the individual or party assigned by the Owner to be the Owner's representative. Owners of adjacent properties shall include the property owner, lessee, legal occupier, and operator of any business on that property.
2. All work and materials shall comply with all local, state, and federal regulations, codes, and O.S.H.A. standards and be constructed to meet or exceed those codes.
3. The Contractor shall be responsible for all temporary permits, connection permits, fees, inspections and record keeping required by all municipal, utility, health, environmental, state, or federal agencies that may have jurisdiction. Furthermore, the Contractor shall be responsible to meet or exceed all requirements of the agencies or authorities having jurisdiction over his work. All conflicts in requirements of different agencies, authorities, and/or the design shall be brought to the attention of the owner's representative before proceeding.
4. The Contractor shall be responsible to locate and maintain the property and project limits throughout the project. All conflicts between the design and the project/property limits shall be brought to the attention of the owner's representative before proceeding. Unless described in the contract documents or shown on the drawings the Owner has not secured any right of ways, easements or agreements with other property owners or property users. Therefore, it shall be the Contractor's responsibility to secure and maintain any temporary right of ways, easements, permits, or agreements he may need to perform his work. All such agreements shall hold the Owner, Engineer of Record, and his agents harmless and the responsibility of the Contractor to bear all costs. The Contractor shall copy the Owner on releases of all agreements prior to final payment by the Owner to the Contractor. The Contractor shall not interfere with operations of adjacent businesses and work shall be completed off-hours, as necessary. Coordinate with Municipality for any restrictions on allowable working hours.
5. Unless otherwise noted on the drawings or in the contract documents the Contractor shall be responsible for all construction survey, layout, and record drawings for this contract. Any conflicts in survey/layout and the design or agencies requirements shall be brought to the attention of the owner's representative prior to proceeding with the work. The Contractor shall protect and safeguard all existing survey corners, monuments, control and tie-downs. The Contractor shall pay all costs to repair or replace damaged survey monuments, control and tie-downs. Record drawings shall be

provided in accordance with any requirements of the authorities having jurisdiction including the required information to be provided, and signatures, seals, and certifications that may be required.

6. No changes to the design or materials specified may be made without written authorization by the Engineer of Record or in the case of utilities or road work to be dedicated, the authority receiving dedication. At the end of the contract, the Contractor shall provide to the Owner a record set of drawings reflecting all changes made by the Contractor during construction.
7. Erosion control is necessary whenever sediment, dust, erosion, or contaminated run-off may occur. The Contractor shall be responsible to place and maintain whatever erosion control or run-off protection is required to protect his work, the work of others, the project, adjacent properties and the health and well-being of the workers, public and surrounding natural resources. This shall include additional measures beyond the project SWPPP and ES plans, as necessary. They shall be familiar with all federal, state and local requirements regarding erosion and run-off control.
8. The Contractor shall be familiar with the project site and all adjacent pedestrian, traffic, and business uses. The Contractor shall take whatever precautions and steps necessary to maintain safety and operation of these uses in accordance with federal, state, county, and local requirements. The Contractor shall be responsible for costs and damages caused from his failure to take proper and adequate precautions. The Contractor shall be familiar with all federal, state, and local requirements regarding these uses.
9. The Contractor shall be responsible for costs and delays associated with weather, groundwater, and other occurrences that could be expected or are common with this type of work. The Contractor shall review all pertinent documents including soils reports, soils borings, and other soil or site data.
10. The Contractor shall be responsible to save and protect his work throughout the contract. Any damages requiring repairs or replacement shall be corrected by the Contractor at his expense.
11. When work is done within a road, utility or private easement, right of way, or other property agreement, the Contractor shall do all work within that area per the authority having jurisdiction.
12. When separate site and building contracts are performed, the site Contractor shall be responsible to bring utilities to within 5 feet of building face unless noted otherwise on drawings or contract documents.
13. All utilities are shown per surface surveys and/or record maps and may vary from actual in-field locations. The Contractor is responsible for all utility stake outs and locating

utilities prior to commencing work. Any damage to utilities due to improper stake out, lack of stake out or the failure to verify differences between drawings and actual field conditions will be the responsibility of the Contractor to repair, replace, or pay damages at no expense to the contract.

14. Contractor shall comply to the fullest extent with the latest standards of OSHA directives or any other agency having jurisdiction for excavation and trenching procedures. The Contractor shall use support systems, sloping, benching, and other means of protection. This includes, but is not limited to, access and egress from all excavation and trenching. Contractor is responsible to comply with performance criteria for OSHA. Trench excavation requiring sheeting, shoring or other stabilizing devices shall be designed by a Professional Engineer and meet all O.S.H.A. requirements. All excavations shall maintain safe side slopes in accordance with local, state and O. S. H. A. requirements. No stocking of material close to an open cut or steep slope will be permitted in an effort to prevent cave-ins.
15. The contractor shall select the means and methods for providing support of excavations in accordance with safety requirements, plans, and project specifications. The contractor must evaluate soil conditions during excavations since variations in the soil can occur across the site. The excavations should be monitored continuously for signs of deterioration such as seepage of water or sloughing of soil into the excavation. The contractor is ultimately responsible for excavation safety.
16. The Contractor shall notify the Owner immediately and stop all work in areas where hazardous materials are discovered. When required, the Contractor shall notify the appropriate environmental and health agencies.
17. The Contractor shall coordinate with the Authority having jurisdiction for all required inspections and be responsible to hire any required third party inspectors.
18. Any discrepancies between plans, details, and specifications shall be immediately brought to the attention of the Engineer of Record.
19. Stabilizing fabric (woven geotextiles), if required, shall meet the following requirements "modulus (load at 10% elongation) =115lb per ASTM D1682-64", "Grab tensile strength 200lb per ASTM D 1682-64", "mullen burst strength = 400psi per ASTM D 3786-87", "trapezoid tear strength when applicable = 115lb per ASTM D1117-80", "coefficient of permeability K CM/SEC = .015 per ASTM D 4491-85", "water flow rate GPM/SF= 60 per ASTM D 4491-85". When stabilization fabric is used it shall be pulled tight and all wrinkles removed. Overlaps shall be in accordance with manufacturer's recommendations. Refer to Geotechnical Engineers report, if available, for additional information.

20. Filter fabric (non-woven geotextile), if required, shall meet the following requirements "grab tensile elongation =50% per ASTM D1682-64", "Grab tensile strength 70lb per ASTM D 1682-64", "mullen burst strength = 200psi per ASTM D 3786-87", "trapezoid tear strength when applicable = 35lb per ASTM D1117- 80", "coefficient of permeability K CM/SEC = .2 per ASTM D 4491-85", "water flow rate GPM/SF= 180 per ASTM D 4491-85". When filter fabric is used it shall be pulled tight and all wrinkles removed. Overlaps shall be in accordance with manufacturer's recommendations.

PAVEMENT AND STRUCTURAL SUBBASE

1. The type of subbase required for each use shall be called out on the drawings. If no reference is made on the drawings or details to the type of subbase required the following shall be used:
 - a. The source of the material shall be one approved for use by the State Department of Transportation.
 - b. The material shall be a crushed stone conforming to AASHTO M 147-65 (1980 or latest revision), grade A.
 - c. Gravel or other materials can only be substituted for crushed stone when approved in writing by the Owner and Engineer of Record.
 - d. Material supplied for use as subbase shall have 100% passing the 2 inch sieve, 30% to 65% passing the 3/8 inch sieve, 25% to 55% passing the No. 4 sieve, 15% to 40% passing the No. 40 sieve and 2% to 10% passing the No. 200 sieve.
2. Subbase shall be placed in lifts not to exceed 8 inches and compacted to the requirements stated in the soils report. If not stated, the compaction requirement shall be 95% of maximum dry density per ASTM D1557 (modified proctor).
3. The Contractor will be responsible for all costs in preparing the subgrade to receive subbase. This shall include fine grading and compacting as necessary to meet the requirements stated here and under Earthwork.
4. The amount of testing required to verify the compaction shall be the same as stated under Earthwork.
5. Refer to General Construction Conditions for filter fabric requirements, if applicable.

SEEDING AND LANDSCAPING

1. Topsoil shall be removed from stockpiles and spread in the areas shown on the plans. The depth of topsoil shall be a minimum of 4 inches in lawn areas and a minimum of 12 inches in landscape planting areas. If enough topsoil is not available onsite, the Contractor is required to import as necessary. All disturbed lawn areas are to receive topsoil, seed, mulching, and water until a healthy stand of grass is established.
2. Topsoil shall consist of fertile, natural agricultural soil substantially free of subsoil, stumps, roots, brush, stone, clay lumps, or similar objects larger than 2 inches in the greatest diameter. Topsoil for reuse shall be screened if required to meet size and debris removal. Topsoil shall be approved by the owner at its source prior to transporting. The topsoil shall be fine graded to the lines and grades shown on the plans. The Contractor is responsible for keeping topsoil, seed, fertilizer, etc. off structures, pavements, and other site amenities; and will clean up unwanted deposits, at his expense.
3. Mow all areas to be cleared & seeded to 6" height maximum prior to beginning any new lawn work.
4. Loosen and till subgrade of lawn areas to a minimum depth of four inches. remove stones measuring 1.5 inches in any dimension. remove sticks, sod, rubbish, and other extraneous matter. Limit preparation to areas which will be planted promptly after preparation.
5. Preparation of unchanged grades: where lawns are to be planted in areas that have not been altered or disturbed by excavating, grading, or stripping operations, prepare soil for lawn planting as follows: till to a depth of six inches. apply soil amendments and initial fertilizers as specified. till soil to a homogenous mixture and fine texture and complete fine grading.
6. Clean all new lawn areas to be seeded of all debris, branches, stumps, brush, logs, metal, sticks, stones, etc. larger than two inches in diameter.
7. Roll, rake, and/or drag lawn areas to remove ridges and fill depressions to meet finish grades and to create a smooth, mowable lawn surface.
8. Lime: natural dolomitic limestone containing at least 85% of total carbonates, and 30% magnesium carbonates; ground so that at least 90% passes a ten mesh sieve, and at least 50% passes a 100 mesh sieve.
9. The topsoil shall have a pH of 6.0 to 6.8 and an organic content of 3 to 20%. The gradation of the topsoil shall be 100% passing 2 inch sieve, 85 to 100% passing the 1

inch sieve, 65 to 100% passing the 1/4 inch sieve and 20 to 80% passing the No. 200 sieve.

10. Lawn fertilizer shall be 55% nitrogen, 10% phosphorus and 10% potash where 50% of the nitrogen is derived from ureaform source. Work into soil at a rate of 1000 lbs per acre before seeding.
11. Lawn seed (when not given on the plans) shall be "50% by weight, 85% purity, 85% germination of Pennfine Perennial Rye", "30% by weight, 97% purity, 85% germination of Pennlawn Red Fescue", "20% by weight, 85% purity, 80% germination of Common Kentucky Bluegrass" at a rate of 200 lbs per acre. Mulch all seeded areas with approved straw at rate of 4000 lbs per acre. Maintain mulch as necessary and clean up upon satisfactory germination.
12. Steep slope mix (when not given on plans) Type B unmowed - 1V:3H or steeper apply at a rate of 100 lbs. per acre using the following proportions by weight: 15% Creeping Red Fescue, 35% Chemung Crownvetch, 25% Kentucky 31 Tall Fescue, and 25% Empire Birdsfoot Trefoil.
13. When placing by hydroseeding application, fertilizer shall be placed at 80 pounds per acre, hydromulch at 1,200 pounds per acre, water at 500 gallons per acre, and seed at a minimum of 220 pounds per acre. Inoculate at 4x manufacturer's rate. A non-harmful color additive which colors the hydroseed mixture green shall be added to the mixture to allow visual metering of its application. The hydroseed mixture shall be sprayed upgrade and uniformly on the surface of the soil to form an absorbent cover, allowing percolation of water to the underlying soil.
14. If placing by mechanical means fertilizer shall be placed at 25 pounds per 1,000 square feet, seed at 5 pounds per 1,000 square feet and straw mulch at 2 tons per acre. Place fertilizer and seed then lightly rake and roll with 200 pound roller. Mulch the area then water immediately. Straw may need to be secured to prevent it blowing away.
15. The Contractor will be responsible to water, reseed, or any other means necessary to ensure the growth of the lawn until a complete and uniform stand of grass has grown and been cut at least three times. Water by approved means immediately after mulching and thereafter a minimum of two times each week, or more when weather conditions require to a depth of one inch soil saturation. Mow all seeded areas to two inch height until final acceptance. In the event grass becomes too long, resulting in excessive clippings that could damage the lawn, the contractor shall remove all clippings at his expense. Lawn shall be presented to Owner in a condition that it may be maintained with standard mowing equipment.
16. Where substantial lawn remains (but is thin), mow, rake, aerate (if compacted), fill low spots, remove bumps, and scarify soil, fertilize, and seed. Remove weeds before

seeding, if extensive. Apply selective chemical weed killers as required. Apply mulch if required to maintain moist condition.

17. Plantings shall be supplied in accordance with the plans and ANSI 260.1 "American Standard for Nursery Stock" in good health, vigorous, and free of insects, larvae, eggs, defects and disease.
18. Plants shall be located per the plans. The holes shall be excavated per the details on the drawings with the center slightly higher to promote drainage. Use a topsoil backfill mix of 4 parts topsoil, 1 part peat moss, 1/2 part well rotted manure, 10 pounds 5-10-5 planting fertilizer properly mixed per cubic yard. Berm around plants to form a bowl shape.
19. Two layers of weed barrier made from fiberglass and ultraviolet light resistant shall be placed under all planting beds prior to mulching.
20. All trees and shrubs shall be staked as detailed on the drawings. Tree wrapping will be provided at the base of all trees as detailed.
21. Mulch shall be 50% shredded bark and 50% wood chips, 3/4 to 2 inch in size, uniformly mixed and free of elm wood. Mulch shall be placed uniformly over the planting bed allowing no weed barrier to be seen to a minimum depth of 3". Color to be chosen by Owner.
22. All landscaping shall be guaranteed for one year after final acceptance. Any plantings needing replacement will be guaranteed from the time of replacement if after final acceptance. Contractor shall maintain plants until completion and final acceptance of the entire project. Maintenance shall include pruning, cultivating, edging, remulching, fertilizing, weeding, watering as required for healthy growth, and application of appropriate insecticides and fungicides necessary to maintain plants free of insect and disease. Repair all washouts, gullies, and areas of unsatisfactory germination by replacing topsoil, restaking, and reseeding, as required. Reset settled plants to proper grade and position. Restore planting saucer and remove dead material. Tighten and repair guide wires and deficiencies within the first 24 hours of initial planting, and not less than twice per week until final acceptance. Contractor shall request an inspection by the Owner upon establishment of the uniformly germinated lawn. Following the final acceptance, the Owner shall be responsible for maintenance of all landscaping on the premises.
23. Antidesiccant: protective film emulsion, providing a protective film over plant surfaces, but permeable to permit transpiration. Mixed and applied in accordance with manufacturer's instructions. Apply to all broadleaf evergreen shrubs per manufacturer's recommendations.

SITE CONCRETE – INCLUDING CURB, SIDEWALKS AND GUTTERS

1. The dimensions shall be those shown on the drawings. The Concrete mix shall be 4000 psi at 28 days made with type I or type II cement per ASTM C 150 and aggregates meeting State Department of Transportation requirements, unless otherwise noted. Slump for slip forming shall be 1 inch +/- 1/2 inch and for formed concrete the slump shall be 3 inch +/- 1 inch. Air entraining mixture shall meet the requirements of ASTM C 260 4% +/- 1 1/2% for slip form work and 6% +/- 1 1/2% for formed and placed concrete. Water reducing agent shall conform to ASTM C 494, type A. Curing compounds shall conform with ASTM C309, type I, class A moisture loss of not more than .055 gr/sq cm when applied at 200 sq ft per gallon.
2. Sidewalks, gutters and curbs shall be placed on compacted subbase consistent with the pavement subbase as shown on the drawings. When subbase details are missing and no agency has jurisdiction use the following: sidewalks and gutters shall be placed on a minimum of 6 inches of compacted subbase and curbs shall be placed on a minimum of 4 inches of compacted subbase.
3. All forming, placement, materials and curing shall conform to the latest addition of ACI 318 "Building code requirements for reinforced concrete" and all similar State Department of Transportation requirements.
4. Reinforcing shall be in accordance with that specified on the drawings and the Concrete Reinforcing Steel Institute (CRSI) "manual of standard practices". Reinforcing steel shall be ASTM A 615, grade 60, deformed. Welded wire fabric shall be ASTM A 185, welded wire steel fabric.
5. Sidewalks, and gutters shall have a broom finish perpendicular to flow with a picture frame edge joint all the way around. Curbs shall have a smooth finish or light rub finish but consistent throughout the project.
6. Expansion joints shall be placed as per details and at adjoining structures such as walls, manholes and vaults. Expansion joint material shall be premolded, 1/2 inch material with 23/64 inch cap in accordance with ASTM D1751. After concrete has set the cap should be removed and void filled with waterproof joint filler. Curb and gutter shall be cut or tool jointed to 1/3 the depth every 10 feet. Sidewalks should have tooled or cut joints to 1/3 the depth in squares or as close to square as possible not exceeding 5ft x5ft.

STORM WATER SYSTEM

1. The storm water system shall be supplied and placed in accordance with all local, state and federal requirements. The local storm water authority for this project is the _____.
2. Storm design includes many variables, such as pipe roughness coefficient, that can affect the actual final run-off. If no alternative materials are listed on the utility drawings, no substitutions may be made by the Contractor unless first reviewed and accepted by the Engineer of Record.
3. Refer to Pipe Bedding Detail for pipe bedding and anti-seep collar requirements.
4. Storm pipe material shall be as follows:
 - a. 12 inches and up shall be corrugated polyethylene pipe (CPP) with smooth interior, in accordance with AASHTO M252 & M294 and ASTM F405 & F667, with a manning friction number (n) of 0.013 or less. Install in accordance with ASTM F449 and the manufacturer's recommendations.
 - b. Smaller than 12 inches shall be CPP, as per requirements above, or Polyvinyl Chloride (PVC) per ASTM D 3034, SDR 35 with gaskets per ASTM D 3212, elastomeric seal.
5. End sections shall be the same material as the preceding pipe and appropriate collar.
6. Increase size of manhole if in the same horizontal plane there is two areas where the area between two pipes is less than 8 inches or 1/2 of the circumference is supported by less than 1/2 of the diameter of the manhole. Inverts shall be smooth cast in place concrete. Gaskets between risers shall be rubber per ASTM C 443. Adjustment rings shall be precast concrete 4000 psi and 5 to 8% air entrainment.
7. Inlets shall meet the same requirements as those listed for manholes, except sumps shall be provided as per details, rather than a smooth invert.
8. Grates shall be galvanized per ASTM A123. Minimum grate opening size will be 24 inches x 24 inches and design for a minimum of H-20 loading. Refer to details for additional information.
9. Dry wells shall meet the same requirements as those listed for manholes with the addition of openings of approximately 15% of the rings interior surface. The openings shall be 1 x 3 inch slots or 1 inch diameter on the inside surface. Dry wells shall be backfilled with a minimum of 1 foot of clean stone sized between 3 and 4 inches.

Outside the stone, the entire structure shall be wrapped in filter fabric to prevent outside soils from entering the stone and dry well.

10. Unless otherwise noted, underdrains and trench drains shall be made with 4 inch perforated corrugated polyethylene pipe encased in clean stone sized between 2 inch and 1/4 inch and then wrapped in filter fabric. Outside dimensions of the trench drain will not be less than 1 foot.
11. All storm pipe entering structures shall be grouted to ensure connection at structure is watertight and structurally sound. All storm sewer pipes entering and exiting structures shall be flush with the inside of the structure wall.
12. All pipe shall be placed in accordance with the manufacturer's recommendation and to the lines and grades shown on the drawings. Care shall be given during backfill operations not to move or damage pipe or appurtenances while achieving the appropriate compaction requirements.
13. All systems shall be visually inspected for alignment and workmanship. All debris, dirt or other foreign objects shall be removed from system by a method of than flushing and material removed shall be disposed of properly.
14. Any pipes found with diameter deflections greater than 5% of the specified pipe diameter will be repaired or replaced. Any alignment differentials greater than 5% of the diameter of the pipe will be corrected or replaced.
15. Any cleaning, repairs, or replacement required due to failure of testing or poor workmanship shall be done by the Contractor at no additional expense to the contract.

ASPHALT PAVEMENT

1. Asphalt shall be the type or types specified on the drawings. If no type is indicated the Contractor shall use a mix specified by the State Department of Transportation for top and binder. All asphalt shall be produced in state approved plants with state approved products.
2. Asphalt will only be placed when the outside temperature is 45 degrees F and rising. Asphalt will never be placed on frozen material, during medium or heavy precipitation or when preceding precipitation has saturated the subbase and/or subgrade.
3. Surfaces that will abut the new asphalt shall be tack coated prior placement of asphalt including curbs, gutter, existing asphalt and structures. Tack coat shall be applied neatly to match the lines and grades of the proposed abutting asphalt at a rate of .05 to .15 gallons per square yard.
4. Asphalt shall be placed in layers equal to those specified on the plans. Thickness of each layer or the thickness of all layers combined shall not vary more than 1/4 inch for thickness of 0 to 4 inches and 1/2 inch for thickness of 4 inches or greater, from those specified on the drawings. The asphalt shall also be tested for smoothness by laying a 16 foot straight edge on the pavement and verifying that there are no gaps greater than 1/4" in any direction.
5. Placement and compaction requirements shall be the same as those specified by the State Department of Transportation of which the project is located. The rolling shall be done in such a manner that will match joints and leave a smooth uniform surface while providing the proper compaction which will be 95% of laboratory density.
6. When matching into existing pavement, all match joints shall be saw cut to provide a straight smooth joint. The asphalt depth at the match point shall be equal to that of the proposed or existing whichever is greater.
7. Paving equipment shall be of good condition and quality. Asphalt shall be placed by mechanical equipment except in small areas that are inaccessible to a paver. The binder joints and the top joints shall be offset. The top course shall be placed parallel to the direction of travel. Asphalt shall be transported in covered trucks and scheduled in such a manner that will maintain asphalt temperature. Asphalt shall be rejected when temperatures fall below 250 degrees F or the minimum temperatures specified by the State Department of Transportation.
8. All sub-base, asphalt, curb or other work performed in a State, County or Municipal right-of-way shall be furnished, installed, inspected and completed in accordance with their specifications, details and other requirements.

PAVEMENT AND STRUCTURAL SUBBASE

6. The type of subbase required for each use shall be called out on the drawings. If no reference is made on the drawings or details to the type of subbase required the following shall be used:
 - a. The source of the material shall be one approved for use by the State Department of Transportation.
 - b. The material shall be a crushed stone conforming to AASHTO M 147-65 (1980 or latest revision), grade A.
 - c. Gravel or other materials can only be substituted for crushed stone when approved in writing by the Owner and Engineer of Record.
 - d. Material supplied for use as subbase shall have 100% passing the 2 inch sieve, 30% to 65% passing the 3/8 inch sieve, 25% to 55% passing the No. 4 sieve, 15% to 40% passing the No. 40 sieve and 2% to 10% passing the No. 200 sieve.
7. Subbase shall be placed in lifts not to exceed 8 inches and compacted to the requirements stated in the soils report. If not stated, the compaction requirement shall be 95% of maximum dry density per ASTM D1557 (modified proctor).
8. The Contractor will be responsible for all costs in preparing the subgrade to receive subbase. This shall include fine grading and compacting as necessary to meet the requirements stated here and under Earthwork.
9. The amount of testing required to verify the compaction shall be the same as stated under Earthwork.
10. Refer to General Construction Conditions for filter fabric requirements, if applicable.

CLEAR AND GRUB

1. Clearing and grubbing shall not commence until erosion control plans, including applicable BMP's, are in place, in accordance with the project SWPPP.
2. The Contractor shall review plans and identify and safely mark all plants and trees to be saved. The Contractor shall protect all plants and trees to be saved throughout the contract. This shall include prohibiting any work within the drip line of the tree, except under the supervision of a licensed Landscape Architect.
3. All areas to be cleared and grubbed shall be surveyed in the field to establish the appropriate limits of work.
4. The Contractor shall take whatever measures necessary to locate and protect existing utilities, structures, wetlands, and other facilities to remain.
5. All trees, shrubs, stumps, roots, and other debris shall be removed from site and disposed of in a legal manner.
6. No burning will be allowed on site.

TRAFFIC SIGNAGE AND PAVEMENT MARKINGS

1. Pavement markings shall be the type, color, size, and locations shown on the plans. Contractor shall provide two (2) coats of paint for all pavement markings. If the information on the plans and details is not complete and the authority having jurisdiction does not have requirements regarding this, use the following:
 - a. Paint shall be supplied in accordance with AASHTO: M 248 latest addition.
 - b. Colors shall be as follows:
 - i. YELLOW- parking stalls, parking islands, and fire lanes
 - ii. WHITE - stop bars and lettering, pedestrian crossings, handicap parking symbol and characters, and traffic control lettering and characters
 - iii. BLUE - background of handicap parking symbol
2. The pavement shall be clean and free of dirt, dust, moisture, oils, and other foreign materials. Any old pavement markings shall be removed unless paints are compatible and overlay identically. The surface of the pavement prior to application shall be 45 degrees F and rising unless manufacturer's recommendations are greater. All painting shall be applied in appropriate weather conditions (e.g. temperature, wind, precipitation), and in accordance with manufacturer's recommendations.
3. The signage and pavement markings shall be the type and at the general location shown on the drawings. The signage and pavement markings shall be provided and located in accordance with the Local Highway, County Highway, and State Department of Transportation. If local, county or state codes do not exist use MUTCD.
4. Posts, brackets, and frames shall be steel per ASTM A-36, A-242, A-441, A-572, A588, Grade 50, and hot dip galvanized in accordance with ASTM A123. All cutting, drilling, or other pole modifications shall be painted with galvanizing paint. All bolts, nuts, and washers shall be stainless steel.
5. Post holes in pavement shall be a minimum of four feet deep and 12 inches in diameter unless poor soils or frost conditions require greater depth. Sign posts shall be kept plumb, 6 inches off bottom and centered as 4000 psi concrete is placed around the post. The overall sign and post system should be able to withstand 33 pounds per square foot.
6. Contractor can place signs on posts after concrete has cured for seven days or 3/4 strength is achieved.

7. All handicap striping and signage, including spaces, crosswalk, accessible path, and curb ramps, shall meet Americans with Disabilities Act (ADA) requirements. Fire lane striping and signage shall meet the requirements of the local building inspector and fire department.