

CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS

STANDARD SPECIFICATIONS

FOR
RIGHT-OF-WAY WORK

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City of Jamestown
Department of Public Works
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Jamestown, New York 14701
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SECTION 01040

SPECIAL CONDITIONS FOR RIGHT-OF WAY WORK

PART 1 - GENERAL

1.01 INTENT

The Special Conditions are in addition to the requirements set forth under the General Conditions, Item Specifications and other sections within a set of Contract Documents; where conflicts occur, the Special Conditions shall govern.

1.02 DEFINITIONS

- A. "Engineer": Shall mean the Department of Public Works' representative assigned to observe the Contractor.
- B. "Temporary Pavement Material": Shall mean material used for a temporary patch of the street surface. This material may be concrete or blacktop.
- C. "Utility Hole (Cut)": Shall mean an opening (cut) that has been made in an existing roadway surface or terrace for the installation or repair of a gas, water, electric, sanitary or storm sewer line, etc., which has not been permanently repaired.
- D. "AOBE": Shall mean As Ordered By the Engineer.
- E. "Mandatory Repairs": Shall mean those repairs that the Contractor shall be required to complete during this construction season.
- F. "Master List": The list of mandatory repairs which the Engineer is aware of at the time the contract is awarded which must be completed by the date set forth in the Repair Contract. If at the time the Contractor is working in a particular area and the Engineer becomes aware of an uncompleted repair, he may require that the Contractor complete this additional work.
- G. "Public Tree": Shall mean a tree or shrub located on a public parkway, public terrace or any other municipally owned property.
- H. "Repair Contractor": The Contractor who has entered into an Agreement with the City of Jamestown Department of Public Works for the Right-Of-Way Damage Repair, Concrete Work or Landscaping Contract.
- I. "ROW Contractor": A Contractor who has obtained a permit from the City of Jamestown Department of Public Works to perform work in the right-of-way (ex. privately hired contractors or utility company).

- J. "Contractor": A person, firm or corporation who is under contract with, or is issued a permit by, the City of Jamestown Department of Public Works; includes the "Repair Contractor" and the "ROW Contractor".

1.03 COMPLIANCE

Any violation of the Specifications herein may result in a fine or indefinite suspension of the Contractor's permit or contract.

PART 2 - SPECIAL CONDITIONS

2.01 PERMITS

- A. References: See Appendix B.
- B. Repair Contractor - is exempt from obtaining a Right-Of-Way Permit from the Department of Public Works for work performed under their Agreement.
- C. ROW Contractor - shall procure a Right-Of-Way Permit from the Department of Public Works prior to performing any work within the City's right-of-way and shall comply with all the conditions stated therein. The permit holder shall be liable for the work of additional ROW Contractors working under the same permit. It is the permit holder's responsibility to verify the need for additional permits.
- D. Compacted Backfill – is to mean a compaction of 95 percent standard proctor density for that material, and compacted in 12" lifts utilizing mechanical compaction equipment.

2.02 DISPOSAL OF MATERIALS

Disposal of materials from excavation and clean-up shall be the Contractor's responsibility.

2.03 TEMPORARY REPAIRS

The ROW Contractor making the original cut in the street shall maintain the excavation in a safe condition until a final repair can be made. Cold mix bituminous pavement or concrete shall be used as a permanent temporary repair to the satisfaction of the Engineer. A permanent temporary repair does not relieve the ROW Contractor of their liability to personal or property damage caused by such repair.

2.04 NOTIFICATION OF WORK

- A. Repair Contractor - before commencing any work, whether it be starting, continuing or finishing a specific job location, the Repair Contractor shall notify the Engineer of their daily work schedule. The schedule may be transmitted by means of a telephone, fax,

mail or delivered note. The method must be acceptable to the Engineer. The daily work schedule shall list the job location(s) and a brief description of the work to be performed.

- B. ROW Contractor - shall notify the Engineer of their work intentions as stated in their right-of-way permit.

2.05 SCHEDULE OF REPAIRS

- A. Reference: See Appendix C.
- B. Repair Contractor - will be furnished with a Master List for mandatory repairs to be completed by a date set forth in his Contract. All other repairs will be issued to the Repair Contractor on a Work Order/Notification form. The Repair Contractor shall be responsible for the scheduling and completion of the repairs within the specified time limits. Each work order will be located by street and house number. If there is no house number, it shall be referenced to some known permanent physical feature.
- C. ROW Contractor - shall submit a written Work Order/Notification form to the Department of Public Works within 14 days from the completion of the work, or as specified in their permit. The form must describe in detail all ROW damage, including any damage by borings and/or terrace landscaping. The notification must be in form acceptable to the Engineer.
- D. The ROW Contractor may become the Repair Contractor only with permission from the Department of Public Works. A Work Order/Notification shall be submitted and it must show that the ROW Contractor will perform the repair(s).

2.06 PROTECTION TO WORKERS & THE PUBLIC

- A. The Contractor shall furnish and maintain traffic signs warning the public of any construction in the right-of-way, and adequate barricades and lights shall be placed around the work area until it is completed and all safety hazards have been eliminated.
- B. The Contractor shall take all precautions necessary to ensure the safety of his workers. The Contractor shall abide by all Federal, State and Local requirements concerning work place safety.

2.07 CLOSING OF STREETS

The Contractor shall not close any street in the City without prior notification to the Department of Public Works. The Contractor shall also notify 911 Communications of his intentions. UNDER NO CIRCUMSTANCES SHALL THE STREET BE BLOCKED SO THAT EMERGENCY VEHICLES ARE UNABLE TO REACH THEIR DESTINATION.

2.08 UTILITY MARKINGS

- A. ROW Contractor who creates right-of-way damage shall notify or make known to the

Repair Contractor any/all utilities encountered during their operations which might affect the completion of the damage repair. The Repair Contractor will not be responsible for damage to the service owned by the ROW Contractor for whom they are performing a damage repair.

- B. For all other work and/or repairs in the right-of-way, which are not covered in Paragraph A above, the Contractor shall request for the locations of underground utilities as required by Code Rule 753 of the State General Business Law and Industrial Code.

2.09 PUBLIC TREES

- A. Reference: Appendix F.
- B. The guidelines listed in Appendix F shall be followed if a Contractor is performing work to a public tree or working within 15 feet of a public tree.

2.10 DAMAGE TO STORM SEWERS

- A. A Contractor who damages a City owned storm sewer, regardless of its location or markings, shall repair such damage to the satisfaction of the Engineer. The sewer pipe shall be replaced to the same diameter and slope of the existing pipe. The pipe material may be changed only with the approval of the Engineer.
- B. Connections between the existing pipe and the new pipe shall be leak-proof and shall securely join the two pipes. The joints shall be completely surrounded with concrete if required by the Engineer. The pipe shall be backfilled according to Section 2200 of these specifications.
- C. **The entire repaired pipe section must be inspected by the Engineer before it is backfilled.** Under no circumstances shall the pipe become covered before it has been inspected. The Contractor shall remove any material around the pipe, which in the opinion of the Engineer, hinders a thorough inspection.

2.11 DAMAGE TO TRAFFIC/PARKING SIGNS

- A. Reference: Appendix E.
- B. A Contractor who removes or damages any signs in the ROW shall follow the guidelines in Appendix E.

2.12 DAMAGE CAUSED BY SETTLEMENT

The Contractor who performs the backfilling operation of an excavation shall be responsible for any damage to the temporary or final repair placed above the excavation caused by settlement. The Contractor shall replace, at his own expense, the ENTIRE final repair (sidewalk block, curb section, street patch, etc.) where the settlement has occurred, regardless of the actual size of the affected area. Damage to adjacent ROW structures caused by the settlement of a Contractor's excavation/backfill shall also be

repaired/replaced at the Contractor's expense. The Engineer shall have the final determination as to the cause of the damage.

2.13 DAMAGE TO R.O.W. STRUCTURES

The Contractor shall be responsible for any damage to a ROW structure or substructure, regardless of its existing condition. If a ROW structure is damaged prior to starting work, the Contractor shall notify the Engineer of such conditions and shall take every precaution to protect the structure from further damage. Any new damage to a ROW structure or substructure caused by the Contractor's actions shall be repaired/replaced at the Contractor's expense.

2.14 HANDICAP REQUIREMENTS

- A. Any ROW structure which is built, modified, repaired or replaced shall comply with the requirements set forth in the American with Disabilities Act (ADA).
- B. When streets, roads or highways are newly constructed or altered in any way, they shall be built with ramps or sloped areas wherever there are curbs or other barriers to entry from a sidewalk or path. Likewise, when new sidewalks or paths are constructed or altered in any way, they shall contain curb ramps or sloped areas wherever they intersect with streets, roads or highways. The Construction of curb ramps located in areas other than intersections shall be determined by the Engineer on a case-by-case basis.
- C. Curb Ramps - The Contractor shall be responsible for the replacement or construction of the entire ramp, including effected curb/gutter and any additional sidewalk approach blocks, if their work damages any part thereof, or is in the boundaries of a new or existing handicap ramp.

2.15 PARKING LOTS

- A. Reference: Jamestown City Code, Section 300-16
- B. Surface storm water collected from a new or modified parking lot, including a newly resurfaced lot, shall not run off onto a sidewalk or street.

2.16 DRAIN TILE

- A. All drain tile placed in the right-of-way shall be rigid plastic pipe, four (4) inches in diameter and installed to a depth and location determined by the Engineer. No drain tile shall be installed without prior approval from the Engineer.
- B. The tile shall outfall to either a street gutter or a storm sewer pipe. Outfalling onto a sidewalk will not be allowed. The outfall connection to the curb or storm sewer shall be inspected and approved by the Engineer prior to backfilling the tile.

2.17 ASSIGNMENT OF WORK

- A. The City reserves the right to assign any repair or work to an additional Contractor, including their own work force, if in their opinion, the work was not completed within the specified time limits or to the specifications stated herein, or the work site contains a public health or safety hazard, or to provide the most cost-effective results for the City.
- B. If more than one Contractor is under contract with the City of Jamestown and is qualified to perform the work, the City shall decide which Contractor will be assigned the work in order to complete the work in the most timely, safe and cost effective manner.

END OF SECTION

SECTION 01200

RIGHT-OF-WAY DAMAGE REPAIRS

PART 1 - GENERAL

1.01 SCOPE

This specification covers the work within the street right-of-way (property line) for the repair of that area which is disturbed during the construction or repair of utility services, lines, conduits, sewers, etc. The Contractor shall provide all necessary labor, materials and equipment to complete the work as hereinafter specified or as directed by the Engineer.

PART 2 - MATERIALS AND METHODS

2.01 GENERAL

- A. Gravel Backfill - shall be as specified in Section 300 "Bases and Subbases" and as per Item 304.14 – Subbase Course, Type 4 of the New York State Department of Transportation Standard Specifications.
- B. Grading and Seeding - all disturbed lawn areas shall be replaced as per Section 02500 GRADING AND SEEDING of the City Specification.
- C. Workmanship - all work shall be done in a neat, efficient and professional manner and performed by competent workmen experienced in the trade.
- D. Line and Grade - the original line and grade for the street must be maintained. Parabolic crowns must be recreated to the satisfaction of the Engineer. If there is some question as to grade, the Contractor must consult with the Engineer before the repair is made.

2.02 LIMITS OF STREET REPAIR

- A. The Contractor will make a surface repair the size of the hole backfilled plus twelve (12) inches on all sides. If any adjacent pavement has settled or shows signs of undermining, the twelve (12) inch measurement will begin where the settled (damaged) pavement has stopped. The Engineer will determine the final surface repair size.
- B. The Contractor shall make every attempt to minimize the number of sides to a street repair. On any one side, the 12 inch repair limit shall be measured from the outer-most point of damaged or missing pavement and extend in a straight line in either direction until it is intersected by another limit line. Any repair shall not have more than six (6) sides without prior approval from the Engineer.

- C. All pavement material within the specified repair limits shall be removed and replaced as per the type of street surface unless otherwise directed by the Engineer.

2.03 PROGRESSION OF REPAIRS

- A. In the event a curb and street repair exist in the same location, the curb work shall be completed before the street is repaired, unless approved by the Engineer. A concrete curb shall be allowed to cure at least 24 hours before adjacent work can be performed. If the curb repair is scheduled by a different Contractor than the street repair, the street repair Contractor will be notified by the Engineer when he may start his repair work. He shall than have the street repair completed by the time set forth in his contract.
- B. Concrete Base - after the Contractor pours a concrete base , he shall wait at least 24 hours before installing the next layer of the repair. The repair shall not be subject to loads for a minimum of 72 hours after the concrete base was poured.

2.04 ASPHALT STREET REPAIR

- A. Concrete Base - The concrete base shall be a six (6) bag mix with a minimum compressive strength of 3500 psi and poured with not more than a four (4) inch slump. Extra 4000 psi concrete intended for sidewalk and/or curb repair, may be used for the concrete base. The concrete shall be poured on a compacted subbase and the excavation shall be free of standing water. The top of the concrete base will always be below the original street surface material, e.g., below the bottom of the brick sand cushion if street is originally brick or below blacktop if street was originally blacktop. The base will be a minimum of seven (7) inches below the surface for asphalt treatment of roads. The final decision shall be made by the Engineer.
- B. Concrete Surface - shall be as specified in Section 500, "Portland Cement Concrete," of New York State Department of Transportation Standard Specifications and as per item 502.RPCF "PPC Pavement Unreinforced", Cement Concrete Pavement Unreinforced, Class C., for Materials and Methods for Construction.
- C. Tack Coat - shall be equal to the New York State Department of Transportation Standard Specifications, 702-90 from Table 702-9 for Asphalt Emulsion Tack Coat. The tack coat will be sprayed or brushed on all edges and surfaces on which the asphalt concrete abuts the existing pavement. Contact surface between asphalt and concrete shall be painted with tack coat.
- D. Hot Mix Asphalt- shall be as specified in Section 400, "Hot Mix Asphalt," of the New York State Department of Transportation Standard Specifications and as per Item 403.138902, "Asphalt Concrete Type 3 Binder Course for Base," and Item 403.198202, "Hot Mix Asphalt, Type 7 Top Course," for Materials and Methods for Construction. Asphalt binder shall be placed in maximum three (3) inch lifts.
- E. Asphalt Crack Filler - shall be placed hot and will meet the New York State Department of Transportation Standard Specifications for asphalt filler meeting Specification #702-

0700 from Table 702-2 "Miscellaneous Asphalt Cements."

2.05 BRICK STREET REPAIR

- A. Concrete Base - The concrete base shall be a six (6) bag mix with a minimum compressive strength of 3500 psi and poured with not more than a four (4) inch slump. Extra 4000 psi concrete intended for sidewalk and/or curb repair, may be used for the concrete base. The concrete shall be poured on a stable subbase and the excavation shall be free of standing water. The top of the concrete base will always be below the original street surface material, e.g., below the bottom of the brick sand cushion if street is originally brick; below blacktop if street was originally blacktop. The base will be a minimum of six (6) inches below the surface for asphalt treatment of roads. The final decision shall be made by the Engineer.
- B. Street Brick - shall be equal in type and size to existing street brick. Brick may be acquired from the Jamestown Department of Public Works, free of charge, and obtained from their stock-pile. Brick must be cleaned and free from scale, etc., before they are laid. The brick will be laid on a cement and sand cushion. The spacing should be a maximum of 1/4 inch between brick and/or laid to the existing pattern with joints filled with approved joint filler.
- C. Cement and Sand Cushion - the mixture for the one (1) inch sand and cement cushion shall be a 5 sand to 1 Portland Cement ration MIXED THOROUGHLY. As a general rule, five (5) pounds of cement shall be used for each square yard of cushion placed (at a one (1) inch thickness). The setting bed shall be installed dry and no more than four (4) hours prior to installing the brick. This mixture is also to be used to fill the spacing between the bricks. The mixture shall be poured to the full depth of the brick (5 inches) and shall leave no voids or depressions between the bricks. Use vibratory plate tamper on bricks and fill cracks again. Repeat process until all voids are completely filled.
- D. Pattern for Bricklaying - shall be the same as line and grade as the surrounding brick with proper spacing. Brick joints will follow existing and bricks will be interlocked to match existing, or as directed by the Engineer.

2.06 CONCRETE REPAIR

- A. Sidewalk and Curbing - all sizes of sidewalk and/or curbing, disturbed, cracked or destroyed, regardless of its existing condition, shall be removed and replaced as per Section 2400 of the City Specifications for Sidewalk and Curbing.
- B. Repair Limits - if a sidewalk or curb is cut or damaged by the Contractor, the entire section(s) effected by the cut or damage shall be replaced. The limit of a curb repair shall be an even-spaced, existent joint in either direction of the damaged section(s). The limit of a sidewalk or apron repair shall be an existing joint or seam adjacent to the damaged section(s).

2.07 BORINGS, ≤4" DIAMETER

- A. Borings taken through brick or asphalt pavement shall be backfilled with sand up to a depth of five (5) inches below the existing top surface. The remaining five inches of the boring shall be filled with an approved asphalt cement filler up to and level with the top surface.
- B. Borings taken through concrete pavement, sidewalk or driveway apron will be subject to either of the following minimum requirements, as determined by the Engineer:
 - 1. Backfill the boring with sand to the bottom of the concrete slab. Place a high-strength epoxy mortar, as approved by the Engineer, in the remaining portion of the boring. The thickness of the grout shall be greater or equal to the thickness of the existing concrete.
 - 2. The entire section block affected or damaged by the boring shall be removed and replaced in kind, as per these specifications. Exceptions may be approved by the Engineer (ex: saw cut smaller area).
- C. No borings will be allowed through gutter sections.

2.08 MANHOLE FRAME REPLACEMENT

- A. The replacement or modification of any manhole frame, including handholes and pull boxes, shall be in accordance with Section 02260 of these specifications.
- B. Street Manholes - the repair area for a manhole frame replacement in any pavement shall be, as a minimum, the square of three (3) times the diameter of the manhole frame. The street repair shall match the existing street pavement and thickness, unless otherwise directed from the Engineer. The cost of the street repair shall be the responsibility of the manhole owner. Payment will include the surface area of the manhole frame and cover.
- C. Terrace Manholes - the repair limits for manholes located in a sidewalk or apron which have been modified shall be the replacement of the entire section or block affected by the work. The cost of the terrace repair shall be the responsibility of the manhole owner.

PART 3 - EXECUTION

3.01 STREET REPAIR

- A. Related Sections: Section 02200-Excavation & Backfill and Section 02330-Asphalt Pavement.
- B. Asphalt Pavement repair shall include:
 - 1. Gravel compacted to 95% standard proctor density, and compacted in 12" lifts utilizing mechanical compaction equipment.
 - 2. Concrete base - 6 inch minimum thickness (optional-as directed by the Engineer).

3. Existing edges shall be coated with an approved asphalt tack coat.
 4. Asphalt binder course - varies 5 1/2 inch minimum thickness but not less than existing blacktop minus 1 1/2 inches for top course.
 5. Asphalt top course - 1 1/2 inch minimum thickness.
 6. Joints shall be sealed with approved asphalt crack filler.
- C. Asphalt Overlay repair (over original brick street) shall include:
1. Gravel compacted to 95% standard proctor density, and compacted in 12" lifts utilizing mechanical compaction equipment.
 2. Concrete base - 6 inch minimum thickness.
 3. Existing edges shall be coated with an approved asphalt tack coat.
 4. Asphalt binder course - varies in thickness and shall be the total distance between bottom of sand cushion to top of existing asphalt overlay, less 1 1/2 inch minimum for top course.
 5. Asphalt top course - 1 1/2 inch minimum thickness.
 6. Joints shall be sealed with an approved asphalt crack filler.
- D. Surface Treated Street/Driveway repair (with Engineers approval) shall include:
1. Gravel compacted to 95% standard proctor density, and compacted in 12" lifts utilizing mechanical compaction equipment.
 2. Existing edges shall be coated with an approved asphalt tack coat.
 3. Asphalt binder course - 2 1/2 inch minimum thickness.
 4. Asphalt top course - 1 inch minimum thickness.
 5. Joints shall be sealed with approved asphalt crack filler.
- E. Concrete Pavement repair shall include:
1. Gravel compacted to 95% standard proctor density, and compacted in 12" lifts utilizing mechanical compaction equipment.
 2. Concrete surface course - existing thickness plus two (2) inch minimum, no less than eight (8) inches.

F. Brick Pavement repair shall include:

1. Gravel compacted to 95% standard proctor density, and compacted in 12" lifts utilizing mechanical compaction equipment.
2. Concrete base - six (6) inch minimum thickness.
3. Cement sand cushion - three-quarter (3/4) inch, plus or minus one-quarter (1/4) inch thickness. Cushion mix 1:5 (one part cement to five parts sand).
4. Street brick - from City stockpile or equal.
5. Cement sand mix – fill gaps between bricks to the full depth of bricks.

G. Brick Relay repair shall include:

1. Removal of existing bricks.
2. Create level surface using shim course (as needed).
3. Cement sand cushion - three-quarter (3/4) inch, plus or minus one-quarter (1/4) inch thickness. Cushion mix 1:5 (one part cement to five parts sand).
4. Replace street brick.
5. Cement sand mix – fill gaps between bricks to the full depth of bricks

H. Manhole Frame Replacement/Modification repair shall include:

1. Removal of material surrounding manhole.
2. Replace street pavement with asphalt, concrete or brick as described above in Part B, Part E or Part F, respectively.

3.02 CONCRETE REPAIR

A. Related Sections: Section 02400-Concrete Sidewalk & Curbing and Section 02500-Grading & Seeding.

B. Concrete Sidewalk repair shall include:

1. Gravel to within four (4) inches of slab bottom compacted to 95% standard proctor density, and compacted in 12" lifts utilizing mechanical compaction equipment.
2. Washed stone four (4) inch minimum.
3. Concrete sidewalk - four (4) to six (6) inch thickness depending on location.

4. Backfill and rough grade.

C. Concrete Apron repair shall include:

1. Gravel to within four (4) inches of slab bottom compacted to 95% standard proctor density, and compacted in 12" lifts utilizing mechanical compaction equipment.
2. Washed stone four (4) inch minimum.
3. Concrete surface six (6) inch minimum - same as for six (6) inch concrete sidewalk.
4. Concrete aprons are not to be poured monolithic with curb. They are to be separated by a full depth 1/4 inch expansion joint as specified.
5. Backfill and rough grade.

D. Concrete Curb and Gutter repair shall include:

1. Gravel to within four (4) inches of curb bottom compacted to 95% standard proctor density, and compacted in 12" lifts utilizing mechanical compaction equipment.
2. Washed stone four (4) inch minimum.
3. Replace underdrain if needed.
4. Concrete curb and gutter - section to be same as existing.
5. Concrete curb and gutter are not to be poured monolithic with aprons, sidewalk, etc. They are to be separated by a full depth 1/4 inch expansion joint as specified.
6. Backfill and rough grade.

3.03 LANDSCAPING

A. Related Section: Section 02500-Grading & Seeding.

B. Terrace Areas

1. Trench Backfill - Gravel shall be brought up to within three (3) inches of finished surfaces for all trenches within one foot of sidewalk, curbs or pavement and compacted.
2. Topsoil, Grade and Seed - Three (3) inches topsoil and as specified per Section 2500 of the City's Specifications.

SECTION 01350

LABORATORY TESTING SERVICES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work included:

1. Cooperate with the Owner's selected testing agency and all others responsible for testing and inspecting the Work.
2. Provide such other testing and inspecting as are specified to be furnished by the contractor in this Section and/or elsewhere in the Contract Documents.

B. Related work:

1. Documents affecting work of this Section include, but are not limited to, General Conditions, Supplementary Conditions, and Sections in Division 2 of these Specifications.
2. Requirements for testing may be described in various Sections of these Specifications.
3. Where no testing requirements are described, but the Engineer and/or Owner decides that testing is required, the Engineer may require such testing to be performed under current pertinent standards for testing. Payment for such testing will be made as described in this Section.

C. Work not included:

1. Selection of testing laboratory: The Owner will select a pre-qualified independent testing laboratory.
2. Payment for initial testing: The Owner will pay for all initial services of the testing laboratory as further described in Article 2.01 of this Section.

1.02 QUALITY ASSURANCE

- A. The testing laboratory will be qualified to the Engineer's approval in accordance with ASTM E 329.
- B. Testing, when required, will be in accordance with all pertinent codes and regulations, and with selected standards of the American Society for Testing and Materials.

1.03 PRODUCT HANDLING

Promptly process and distribute required copies of test reports and related instructions to assure necessary retesting and replacement of materials with the least possible delay in progress of the Work.

PART 2 - PRODUCTS

2.01 PAYMENT FOR TESTING

- A. Initial services: The Owner will pay for initial testing services requested by the Engineer.
- B. Re-testing: When initial tests indicate non-compliance with the Contract Documents, subsequent retesting occasioned by the non-compliance shall be performed by the same testing agency, and costs thereof will be deducted by the Engineer from a Progress Payment.

2.02 CODE COMPLIANCE TESTING

- A. Inspections and tests required by codes or ordinances, or by a plan approval authority shall be the responsibility of and shall be paid for by the Owner, unless otherwise provided in the Contract Documents.

2.03 CONTRACTOR'S CONVENIENCE TESTING

- A. Inspecting and testing performed exclusively for the contractor's convenience shall be the sole responsibility of the contractor.

PART 3 - EXECUTION

3.01 COOPERATION WITH TESTING LABORATORY

- A. Representatives of the testing laboratory shall have access to the Work at all times and at all locations where the Work is in progress. Provide facilities for such access to enable the laboratory to perform its functions properly.

3.02 TAKING SPECIMENS

- A. All specimens and samples for testing, unless otherwise provided in the Contract Documents, shall be taken by the testing personnel. All sampling equipment and personnel will be provided by the testing laboratory. All deliveries of specimens and samples to the testing laboratory will be performed by the testing laboratory.

3.03 SCHEDULES FOR TESTING

A. Establishing schedule:

1. By advance discussion with the testing laboratory selected by the Engineer, determine the time required for the laboratory to perform its tests and to issue each of its findings.
2. Provide all required time to the Owner.

B. Revising schedule: When changes of construction schedule are necessary during construction, coordinate all such changes with the testing laboratory as required.

C. Adherence to schedule: When the testing laboratory is ready to test according to the established schedule, but is prevented from testing or taking specimens due to incompleteness of the Work, all extra charges for testing attributable to the delay may be back charged to the contractor and shall not be borne by the Engineer.

END OF SECTION

SECTION 02200

EXCAVATION AND BACKFILL

PART 1 - EXCAVATION

1.01 GENERAL

- A. The Contractor shall keep the excavation as small as needed to complete the work, and shall avoid undermining pavement, curbs and sidewalk. If sidewalks, curbs or pavements are undermined, they shall be removed and replaced or backfilled with controlled low strength material, as per Part 2.02 of this Section.
- B. Excavated material may be stored on site until the work is completed, up to a maximum of seven (7) days. The stored material shall not block pedestrian or vehicle traffic and shall be protected with safety markers and barricades. If the material is stored on a permanent ROW structure, the Contractor shall provide adequate protection to such structures. For large excavations, the excavated material shall be hauled away as the material is excavated. All excess excavated material shall be the responsibility of the Contractor and properly disposed of at an offsite location.
- C. The Contractor may use an underground sleeve as long as the sleeve is left in place and the method is approved by the Engineer. If the sleeve is removed and it undermines a permanent ROW structure, the cavity must be backfilled with controlled low strength material, as per Part 2.02 of this Section.
- D. Excavations shall be adequately braced to prevent damage to the pipe or structure being constructed or to adjacent structures, utilities, pavements or injury to workmen or others through movement of the adjacent earth banks. The United States Department of Labor, Occupational Safety and Health Administration (OSHA), Construction Industry Code relating to excavation, shoring and bracing shall be made a part of this specification. Any damage resulting from lack of adequate bracing shall be the responsibility of the Contractor. The Contractor shall affect all necessary repairs or reconstruction at his own expense and shall bear all other expense resulting from such damage.

1.02 EXCAVATION FOR PIPE

- A. Excavation for pipe lines shall follow lines parallel to and equidistant from the location of the pipe centerline. Trenches shall be excavated to the depths and widths as shown on plan or as approved by the Engineer. Trenches must be of sufficient width to permit proper jointing of the pipe and inspection of the work.
- B. The bottom of the trench shall conform to the final grade of the pipe and shall be so shaped that the pipe will rest upon earth for its entire length. Where rock or water-saturated earth is encountered, mechanical excavation may extend to a depth of at least

six (6) inches below the bottom of the pipe. A bedding of No. 1 stone shall then be provided as per Article 2.01 - BACKFILL AT PIPE ZONE of this Section. Unauthorized excavation below grade shall be filled with compacted gravel or bedding stone at no additional cost to the Department of Public Works. A concrete cradle may be required as determined by the Engineer. Trenches shall be kept free of water and super-saturated soil.

- C. The length of trench that may be opened at any time in advance of the pipe laying shall be determined by the Engineer. All excess excavated material shall be the responsibility of the Contractor and properly disposed of at an offsite location.

1.03 EXCAVATION FOR STRUCTURES

- A. All manholes and other structures shall be constructed on and shall be in direct contact with undisturbed original subsoil. All unauthorized excavation below the specified structure subgrade shall be replaced with a bedding of No. 1 stone as per Article 2.01 - BACKFILL AT PIPE ZONE of this Section, at the Contractor's expense.
- B. All excavations shall be kept dry. No water shall be permitted to come in contact with any concrete within twelve (12) hours after placement. Subgrade soil for all structures shall be firm, dense and consolidated, shall be free from mud and muck and shall be sufficiently stable to remain firm and intact under the feet of the workmen engaged in subgrade surfacing. Where unsuitable subgrade soil is encountered, a layer of concrete, coarse gravel or crushed stone may be used for subsoil reinforcement. Shoring and bracing must be furnished when necessary.
- C. The excavation for all structures shall be made to the lines and grades as shown on the plan or as directed by the Engineer. All excess excavated material shall be the responsibility of the Contractor and properly disposed of at an offsite location.

1.04 UNCLASSIFIED EXCAVATION

The grading and preparation of subgrade for pavement foundations, curb, gutter and sidewalks, shall conform to these specifications. It shall consist of excavating all earth, old concrete and any other material encountered relative to the required construction. The extent of excavation shall be according to plan or as directed by the Engineer. Should the Contractor cut below true subgrade, he will be required to re-establish subgrade, in accordance with Part 2 of this Section at no additional cost to the City.

1.05 BLASTING

Blasting will not be allowed except by written permission from the Director of Public Works.

PART 2 - BACKFILL

2.01 BACKFILL AT PIPE ZONE

Washed stone, equal to NYSDOT Standard Specifications Table 703-4 "Sizes of Stone, Gravel and Slag", No. 1, with 100% passing 1 inch sieve, shall be deposited in the trench simultaneously on both sides of the pipe for the full width of the trench, in even layers and to a maximum elevation of one (1) foot above the top of the pipe.

2.02 BACKFILL UNDER SIDEWALKS, CURBS AND STREET PAVEMENT

- A. Gravel Backfill - Trenches or utility cuts shall be backfilled with an approved screened gravel. The screened gravel shall meet the requirements of Item 304.12 "Subbase Course, Type 2" of the New York State Department of Transportation Standard Specifications. The gravel shall be placed in layers of not more than one (1) foot and mechanically compacted by an approved method to 95% of standard proctor density.

Dumping of gravel directly from trucks into the trench without compaction will not be allowed. Trench flooding as an alternate means of tamping will not be permitted unless specifically approved by the Engineer.

- B. Controlled Low Strength Material (CLSM) - Trenches or utility cuts may be backfilled using controlled low strength material, Item 204.02 "Controlled Low Strength Material (CLSM) (No Fly Ash)" instead of gravel. CLMS must be used (1) when ROW structures or pavements were undermined during excavation, (2) to fill cavities beneath structures (3) when ordered by the Engineer.

The mortar mix shall flow easily and spread to all parts of the excavation (3" x 6" cylinder volume shall spread at least 8 inches in diameter on a flat, smooth surface.) It shall yield a compressive strength greater than 75 psi but less than 200 psi and shall be used within 2.5 hours from mixing. The mix shall not be placed on frozen ground and shall not be subject to loads for at least 24 hours after placement.

- C. Excavated material may be used as backfill material when, in the opinion of the Engineer, the material is suitable for such purpose. In cases where excavated material is not satisfactory for backfilling, the Contractor will be required to use imported gravel or controlled low strength material fill for backfilling as called for in Paragraphs A and B above.

2.03 BACKFILL IN TERRACE AREA

- A. Terrace Area (between curb and property line) - The Contractor may backfill with the material removed during excavation providing that the trench is not within one (1) foot in any direction of a sidewalk, drive approach or curb. No stone larger than eight (8) inches in its greatest dimension shall be used in the backfilling. The material shall not be allowed to slough under curb, sidewalk or pavement. If the utility trench is within one foot of the sidewalk or curb and/or is parallel to the sidewalk or curb, all excavated

material must be hauled away and the trench must be backfilled as per the requirements of Section 2.02 above.

2.03 BACKFILL DEFICIENCY

Any deficiency in the quantity of material for backfilling trenches or for filling a depression caused by backfill settlement shall be supplied and placed by the contractor responsible for the original excavation and backfilling operation. Material used shall meet the approval of the Engineer.

2.04 BACKFILL OF ABANDONED PIPES

- A. An abandoned underground, gravity-flow pipe which is left in-place shall be completely filled with controlled low strength material (CLSM), as specified in Paragraph 2.02B above. The down gradient end of the pipe shall be plugged with mortar and allowed to cure. The CLSM shall then be placed in the opposite end of the pipe in a manner which fills the entire diameter of pipe with the CLSM.
- B. Underground pressure-flow pipes which are abandoned shall be excavated and removed, as determined by the Engineer.

END OF SECTION

SECTION 02260

MANHOLES AND DROP INLETS

PART 1 - GENERAL

1.01 SCOPE

This specification covers the replacement, repair or adjustment of manholes, handholes and drainage units in the right-of-way.

1.02 REFERENCES

The requirements stated in the NYSDOT Standard Specifications Section 604 "Drainage Structures" and Section 655 "Frames, Grates, and Covers" shall be part of these specifications and incorporated below. Where a conflict occurs between the NYSDOT Specifications and the City's Specifications, the City's Specifications shall govern.

1.03 ADJUSTMENT RINGS AND FRAMES

The Utility shall furnish the prefabricated adjustment rings and frames for drainage units and manholes. The extensions shall elevate and support the manhole covers and drainage grates without the necessity of removing the original manhole casting or drainage unit frame, when the street is resurfaced or reconstructed.

PART 2 - MATERIALS

2.01 PREFABRICATED UNITS

All gratings, manhole covers, frames and adjustment rings shall meet the material requirements of NYSDOT Section 715. They shall be in new condition with no defects and approved by the Engineer prior to placement.

2.02 MORTAR

The material requirements for mortar used in laying block for manholes, drop inlets or other masonry products shall conform to NYSDOT Section 705-21 "Masonry Mortar". The mix ratio shall be one part Portland cement to three parts sand (1:3, Portland: sand).

2.03 ALTERING MANHOLES AND DROP INLETS

Unless otherwise directed by the Engineer, alterations shall be made with the same type of material used in the original construction. The Contractor may use Common Brick, Concrete Brick or Precast Concrete Pavers.

PART 3 - EXECUTION

3.01 MANHOLE CHAMBER REPAIR

- A. A manhole chamber or drainage structure shall be repaired prior to any frame work if the chamber is badly deteriorated or structural unstable. The area or extent of the repair shall be determined by the Engineer.
- B. Bricks - All bricks shall be laid in full mortar beds. Brick rows shall be set at a slight offset from the preceding brick row.
- C. Joints - All joints in masonry units shall be full mortar joints not greater than a half inch (0.5") wide on the inside and outside. The outside of each structure shall be plastered with a half inch (0.5") thick mortar coat.
- D. Backfill - No structure shall be backfilled until all the mortar has completely set. A low strength mortar backfill shall be used to backfill around the manhole chamber or drainage structures. The mixture for the back fill shall be 24 sand to 3 water to 1 Portland Cement (ratio in lbs).

3.02 FRAMES

- A. Frames, covers and grates shall be placed true to line and grade. Suitable measures shall be taken to ensure that the grates and covers shall have continuous, full and uniform bearing contact with their corresponding frames and shall be non-rocking when in place and under the influence of traffic or other loads. Frames shall not be leveled by use of any material object such as wooden wedges or stones.
- B. The frame shall be set on a mortar bedding between a half to two inches (0.5"-2") thick. The mortar shall adjoin the entire bottom surface of the frame flange. An additional one inch of mortar shall then be placed on top of the frame flange and connected with the mortar bedding. Excess mortar shall be pared and trolled, inside and outside the chamber, to create a water-tight seal. Pavement material shall not be placed until all the mortar has completely set.
- C. The frame mortar shall be placed on a stable, solid surface of equal or greater area than the frame flange. If the chamber surface is unsuitable for frame placement, the Contractor shall perform any repairs to the chamber, including removing and replacing a portion of the chamber wall, as determined by the Engineer.

3.03 ADJUSTMENT RINGS AND FRAMES

- A. Prior to the placement of the surface course and after the binder course, the Contractor shall install adjustment rings and frames for manholes and drainage units. The adjustment ring or frame shall be placed so the cover or grate will not protrude above the finished surface of the pavement. When adjustment rings or frames having incremental height adjustments are installed and the increment cannot produce a height which will

result in the cover being flush with the pavement surface, they shall be installed so the cover or grate is no more than one increment below the finish grade of the pavement.

- B. To assure a firm and secure fit with the adjustment ring or frame, the seat of the existing manhole casting or drainage unit frame shall be free of all foreign material at the time of installation. The entire assembly shall be set on the seat of the existing casting or frame and the locking devices shall be tightened evenly.
- C. All rings or grates shall be protected from displacement caused by traffic maintained on the roadway or equipment used in the paving operation.

END OF SECTION

SECTION 02310

PAVEMENT FOUNDATION

PART 1 - GENERAL

1.01 GENERAL

The Contractor shall construct pavement foundations in accordance with these specifications on a prepared subgrade and in conformity with the lines, grades, thickness and typical cross-section as shown on standard drawings and/or plan.

1.02 GRANULAR MATERIAL FOR FOUNDATION

- A. When in the opinion of the Engineer the field conditions are such that the subbase or sections of the subbase are not satisfactory for laying a pavement foundation, the Contractor shall furnish and place New York State approved gravel to depths as shown on plan or as determined by field conditions.
- B. Gravel shall be well-graded material conforming to the New York State Standard Specifications for Item 304.14 "Subbase Course, Type 4". The gravel is to be placed and compacted in lifts in accordance to State specification 203-3.12 and resulting with a compaction of not less than 95% of standard proctor density for this gravel. After compaction, the subbase shall be true to grade and cross-section. The subbase must be thoroughly compacted so that it will not weave under the roller.

1.03 PAVEMENT FINE GRADE

- A. Before any paving material is placed, the subbase shall be fine graded, and shaped to line and grade with an approved template so constructed for this work.
- B. The subbase shall be compacted with an approved self-propelled roller weighing not less than 5 tons. All hollows and depressions which develop under rolling shall be filled with New York State approved gravel acceptable to the Engineer and shall again be rolled. This process of shaping, rolling and filling shall be repeated until no depressions develop. The Contractor shall remove boulders, spongy material, roots, stumps and any other objectionable material as directed by the Engineer. New York State approved gravel fill shall be used as replacement material for any unsuitable material removed. Method of replacement shall conform to the requirements under Article 1.02 - GRANULAR MATERIAL FOR FOUNDATION.
- C. The sub-grade shall not be muddy or otherwise unsatisfactory when the pavement is placed upon it. If the fine grade becomes rutted or displaced due to any cause whatsoever, the Contractor shall re-grade same without additional payment.

1.04 CONCRETE FOUNDATION

The material and construction for this item shall be the same as specified in Section 2400
- CONCRETE.

END OF SECTION

SECTION 02330

ASPHALT PAVEMENT

PART 1 - GENERAL

1.01 SCOPE

This specification covers hot-mixed, hot-laid asphaltic concrete for surface courses of pavement. The asphaltic concrete surface shall be paid to a uniform compacted depth as shown on plan or as directed by the Engineer.

1.02 REFERENCES

The requirements stated in the NYSDOT Standard Specifications Section 400 "Hot Mix Asphalt", Section 633 "Conditioning Existing Pavement Prior to Hot Mix Asphalt (HMA) Overlay" and Section 702 "Bituminous Materials" shall be part of these specifications and incorporated below. Where a conflict occurs between the NYSDOT Specifications and the City's Specifications, the City's Specifications shall govern.

PART 2 - MATERIALS

2.01 BINDER COURSE

The course aggregate, fine aggregate, asphaltic cement and the grading of same shall meet every detail of NYSDOT Standard Specifications for Bituminous Concrete, Item 403.138902 "Hot Mix Asphalt, Type 3 Binder Course".

2.02 SHIM COURSE

The mixture of aggregate, filler and bituminous material shall conform to the NYSDOT Standard Specifications, Item 403.138902 "Hot Mix Asphalt, Type 5 Shim Course".

2.03 TOP COURSE

The Bituminous wearing surface shall be of hot-mix, hot-laid, asphaltic concrete, NYSDOT Standard Specifications for Bituminous Concrete, Item 403.198902 "Hot Mix Asphalt, Type 7 Top Course".

PART 3 - EXECUTION

3.01 WEATHER AND SEASONAL LIMITATIONS

- A. No mixture shall be spread when the subbase is wet or when other conditions prevent proper spreading, finishing or compaction.
- B. Bituminous plant mix shall not be placed when the surface temperature falls below 40 degrees Fahrenheit, unless approved by the Engineer.
- C. As a general rule, paving shall be discontinued during the period of November 15 through May 1 of the following year. The Contractor shall consult with the Engineer before paving during this restricted time period.
- D. Any binder course, placed by the Contractor, which shall be permanently incorporated into the final repair and left open to traffic over the winter, shall be cleaned in accordance with Article 3.02 - CONDITIONING OF EXISTING SURFACE and tack coated in accordance with Section 01200, Article 2.03.D - Tack Coat. Cleaning and tack coating shall be done immediately prior to overlaying.
- E. Discontinue paving as soon as the surface temperature falls below the requirements which are show in the NYSDOT Standard Specifications Table 402-2 "Temperature and Seasonal Requirements".

3.02 CONDITIONING OF EXISTING SURFACE

- A. Existing surfaces to be overlaid or sealed shall be cleaned by the use of mechanical sweepers, hand brooms, or other effective means until the surfaces are free of all material which might interfere with the bond between the overlay material and the existing surface. The surface shall be left clean until the overlay operations are completed.
- B. All unsealed and inadequately sealed joints and cracks, as determined by the Engineer, shall be subjected to a compressed air stream for cleaning. All dirt and loose material shall be cleaned using an approved method and shall be left clean until sealing, filling or paving operations are completed.

3.03 HAULING ASPHALT MATERIAL

Mixtures shall be transported to the work site in trucks having tight, clean, smooth metal beds. No load shall leave the mixing plant that is not thoroughly protected by a waterproof canvas cover. Truck covers shall be so fastened as to exclude all wind. Any trucks causing undue delays shall not be used on the job.

3.04 SPREADING AND FINISHING

- A. The placing of the mixture shall be accomplished by mechanical spreading and finishing equipment. The equipment shall consist of self-powered pavers, capable of spreading and finishing the mixture true to line and grade. The mixture shall be spread and finished by hand methods acceptable to the Engineer in areas such as intersections where it is impractical to follow the spreading and finishing procedure specified above.
- B. If the areas to be paved are small and scattered, a paver may be dispensed with and the

course spread by hand methods as directed by the Engineer. For such areas, the mixture shall be dumped, spread and screeded to give the required section and compacted thickness.

- C. All types of asphalt course shall be placed in maximum lifts of three (3) inch compacted thickness.

3.05 COMPACTION

- A. After the mixture is spread, it shall be thoroughly and uniformly compacted by a self-propelled roller weighing not less than ten (10) tons. The required rolling shall be completed while the materials are at a temperature at which proper compaction can be secured. Rolling shall precede as per NYSDOT Standard Specification Article 401-3.12. Rollers shall be kept moist the full width of the rolls to prevent adhesion of bituminous material.
- B. Along forms, curbs headers, walls, and other areas not accessible to the rollers, or for small patch areas, the mixture shall be thoroughly compacted with mechanical tampers as directed by the Engineer.
- C. Suitable means shall be provided to keep compaction equipment and other tools free from bituminous accumulations. The surface of the pavement shall be protected from drippings of oil, kerosene, or other materials used in paving and cleaning operations.
- D. Any mixture that becomes loose or broken, mixed with dirt, or is in any defective shall be removed and replaced with fresh hot mixture which shall be compacted to conform with the surrounding area. Any areas showing an excess or deficiency of bituminous material shall be corrected to the satisfaction of the Engineer.

3.06 JOINTS

- A. In the formation of all joints, the exposed edge of the existing layer that will become part of the joint shall be the full thickness of the layer and straight. If the existing edge is unacceptable as determined by the Engineer, the edge shall be corrected by using a power saw or other approved tools to cut a neat, straight line.
- B. The pavement of successive courses shall be such that all joints are offset at least six (6) inches from the joint of the lower pavement course.

END OF SECTION

SECTION 02350

CONCRETE BLOCK PAVING - TERRACE AREAS

PART 1 - GENERAL

1.01 DESCRIPTION

This work consists of furnishing and installing concrete block paving when required by the Contractor.

1.02 QUALITY ASSURANCE

A. Installer Qualifications - Minimum of 2 years experience in comparable paving work.

B. Allowable Tolerances:

1. Block dimensions: Plus tolerance 1/16 inc, minus tolerance 1/16 inch.
2. Completed base course: within 1/2 inch of grade indicated on drawings measured with a 10-foot straightedge.

1.03 SUBMITTALS

Submit manufactures literature on the requested paving block(s).

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Avoid damage to paving blocks.
- B. Avoid contamination of sand with water or foreign materials.

1.06 PROTECTION

- A. Provide and maintain barricades and warning devices as required to prevent vehicular and pedestrian traffic on newly-installed paving blocks or setting bed.
- B. Protect prepared subgrade, base course and setting bed from inundation from any source, until completion of paving block pavement.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Sand - ASTM C-33, except containing maximum of 2% by weight of any combination of shale, schist, alkali, earth, mica, coated grains, and soft or flaky particles. Gradation:

<u>SIEVE SIZE</u>	<u>BEDDING SAND</u>		<u>JOINT SAND</u>	
	<u>PERCENT PASSING</u>	<u>PERCENT PASSING</u>	<u>PERCENT PASSING</u>	<u>PERCENT PASSING</u>
	<u>MINIMUM</u>	<u>MAXIMUM</u>	<u>MINIMUM</u>	<u>MAXIMUM</u>
3/8"	100		100	
No. 4	95	100	100	
No. 8	80	100	95	100
No. 16	50	85	70	100
No. 30	25	60	40	75
No. 50	20	30	10	35
No. 100	5	15	2	15
No. 200		10		0

2.02 BASE COURSE

- A. The base course shall conform to requirements of the New York State Department of Transportation Standard Specifications, Section 304, Item 304.14 "Subbase Course, Type 4".

PART 3 - EXECUTION

3.01 EQUIPMENT

A. Control Bars

1. Wood or metal, rectangular or circular cross-sections.
2. Smallest dimension sufficient to produce setting bed of finished depth indicated on drawings.
3. Sufficient strength and stability to support required manipulation of screed bar without deflection or displacement.

B. Screed Bar

1. Wood or metal, rectangular in cross-section.
2. Smallest external dimension: 2 inches.
3. Sufficient strength to withstand required manipulation without deflection.

C. Compaction Equipment

1. Plate compactor capable of 5000-pound compaction force.

3.02 INSTALLATION

A. Subgrade

1. Bring to smooth even surface parallel with finished grades indicated on drawings.
2. Remove stones, clay lumps and other objects over 1 inch in greatest diameter from subgrade surface.
3. Adjust elevation of valve boxes, curb boxes, hand holes and other access facilities for underground utilities to meet finished pavement grade.

B. Subbase Course

1. Place and compact to depth indicated on drawings in conformance with requirements of Article 2.02 - BASE COURSE of this section.
2. Compact to 100% dry density as determined by ASTM D-698.
3. Do not proceed with construction until completed subbase course has been approved by Engineer.

C. Setting Bed

1. Place control bars on base course, parallel to each other.
2. Place bedding sand between control bars, strike off even with top of control bars, using screed bar.
3. Fill low or porous areas with additional material and re-screed, repeat until uniform, smooth setting bed, of depth indicated on drawings, is established.
4. Reset control bars to next area to receive setting bed.
5. Fill and level depressions left by control bars.
6. Repeat process described above until entire setting bed is completed.
7. Do not compact bedding sand. Loosen and re-screed sand that has become compacted.
8. Do not allow exposed setting bed to stand overnight.

D. Laying Block

1. Do not lay paving block until setting bed has been approved by Engineer.
2. Place pavers in straight courses, with approximately 1/8 inch wide joints and uniform top surface.
3. Use string lines to hold pattern straight and true.
4. Cut paving blocks as required to maintain pattern along pavement edges with approved mechanical cutting equipment.
5. Sweep surface of paving blocks clean of all debris.
6. Compact surface with minimum of three passes with compactor.

E. Joint Treatment

1. Sweep surface with joint sand until joints are filled.
2. Compact surface with minimum 2 passes with compactor.
3. Continue above process until joints are completely filled with sand.

3.03 CLEANUP

Upon completion of paving operations, remove excess and spilled material from completed surfaces to approval of Engineer.

END OF SECTION

SECTION 02400

CONCRETE SIDEWALK AND CURBING

PART 1 - GENERAL

1.01 SCOPE

This specification covers the material, method and installation required by the Contractor to repair damaged concrete streets, curbs, gutters and sidewalks. The Contractor shall provide all necessary labor materials and equipment to complete the work as hereinafter specified or as directed by the Engineer.

1.02 DEFINITIONS

- A. "Apron": Shall mean that portion of a driveway approach between the back side of the curb and the street side of the sidewalk.
- B. "Step Block": Shall mean a series of one (1) tread and one (1) riser.
- C. "Steps": Shall mean a minimum series of two (2) treads and two (2) risers.
- D. "Terrace Blocks": Shall mean a walkway between the main sidewalk and the back side of the curb.

PART 2 - MATERIALS

2.01 CEMENT

- A. The cement to be used shall be Portland Cement Type II conforming to the current ASTM C150 Specification.
- B. Test Reports: Proposed cement manufacturer and Mill Test Reports must be submitted to the Engineer for approval thirty (30) days prior to anticipated use.

2.02 FINE AGGREGATE

- A. Fine aggregate shall consist of hard, strong, durable, uncoated grains, free from organic impurities, and shall conform to the NYSDOT Standard Specifications Item 703-07 "Concrete Sand".
- B. Test Reports: Proposed source of supply of fine aggregate, and report of all tests required by this section made by an independent testing laboratory, current within six (6) months must be submitted to the Engineer for approval thirty (30) days prior to anticipated use.

2.03 COURSE AGGREGATE

- A. Coarse aggregates shall consist of hard, durable, crushed gravel or crushed stone free from clay, silt, shale or other soft or laminated stone. The stone shall be clean and uncoated. The standard of quality for the coarse aggregate shall be the New York State Department of Transportation Specification 703-02 "Coarse Aggregate" for crushed stone or crushed gravel.
- B. Test Reports: Proposed source of supply of coarse aggregates and reports required for standard of quality made by an independent testing laboratory current within the past six (6) months must be submitted to the Engineer for approval thirty (30) days prior to anticipated use.

2.04 WATER

Water shall be clean and free from oils, acids, alkalis, organic matter or other deleterious substances.

2.05 AIR ENTRAINMENT

Air entrainment admixtures shall comply with current specification for air entraining admixtures for concrete ASTM Standard Specification C-260. Manufacturer is to be approved by the Engineer.

2.06 WATER REDUCING AGENT

Water reducing agent shall comply with current specification for water reducing agents ASTM C-494, Type A. Manufacturer is to be approved by the Engineer.

2.07 CONCRETE MIX DESIGN

- A. Mix design shall be established by an independent testing laboratory conforming to ACI 211 using approved materials and submitted to the Engineer for approval. The concrete shall consist of a design mixture of Portland Cement, fine and coarse aggregates, water, and admixtures (Air Entrainment and Water Reducing Agent). The concrete mixture shall have a minimum cement content of not less than six (6) bags of cement per cubic yard. The proportions of fine aggregate to coarse aggregate shall be quantities of these materials which will produce a workable and plastic concrete having a compressive strength of not less than four thousand (4000) pounds per square inch at twenty-eight (28) days when tests are made in accordance with ASTM C-31 and ASTM C-39 Specifications. The design shall be made for workability equal to slump of four (4) inches as measured according to ASTM C-143 Specification with the smallest quantity of mixing water. The coarse aggregate shall consist of No. 1 and No. 2 sizes with not more than 50 percent nor less than 30 percent No. 1 aggregate size.
- B. Air entrainment is to be in accordance with ASTM C-260 and designed for amounts not less than five (5) percent and not more than seven (7) percent. Water reducing agents

shall be in accordance with ASTM C-494 and shall reduce the total water required by at least ten (10) percent without any loss of workability and produce an increased strength proportional to the water/cement ratio.

PART 3 - GENERAL INSTALLATION

3.01 CONCRETE MIXING

Ready-mixed concrete shall be measured, mixed and delivered in accordance with the requirements set forth in the New York State Department of Transportation Standard Specifications for Ready-mixed Concrete and ASTM Standard Specifications, Designation C94. Discharge of the concrete from the truck mixer shall be complete within one hour after the introduction of mixing water to the cement and aggregates. The retempering of concrete which has partially hardened with or without additional materials or water is prohibited.

3.02 COLD WEATHER CONSTRUCTION

Concrete shall not be placed on frozen subgrade or where the subgrade under adjacent pavement is frozen. Concrete may be placed when the air temperature in the shade, and away from artificial heat, is not less than 40 degrees Fahrenheit and rising. Concrete shall not be placed when the temperature is 40 degrees Fahrenheit or less and falling, and shall conform to ACI 306-66 Specifications, "Recommended Practice for Cold Weather Concreting."

3.03 HOT WEATHER CONSTRUCTION

All concreting operations during hot weather shall conform to the requirements of ACI 605-59 "Recommended Practice for Hot Weather Concreting". Care shall be taken to protect the concrete. The operations shall be scheduled to avoid problems that occur with flash set or too rapid drying conditions. Increasing the water cement ratio is not an acceptable method for retarding the set of concrete. Consideration shall be given to maintaining the temperature of the cement, aggregates, and mixing water. The temperature of the concrete at the time of delivery to the job site shall not exceed 90 degrees Fahrenheit. When the ambient air temperature exceeds 75 degrees Fahrenheit, an approved retarder shall be incorporated into the design mix.

3.04 CURING

- A. As soon as the concrete has hardened sufficiently to prevent damage, the finished surface shall be protected by waterproof paper blankets. A standard of quality for paper blankets shall conform to ASTM C-171 "Waterproof Paper for Curing Concrete." The Contractor shall take necessary steps to keep cover material moist and in proper position, firmly anchored down at all times during the curing period of seven (7) days. The concrete surface must not be damaged or pitted by rain.

- B. The Contractor may use a liquid membrane if a letter requesting permission is submitted to the Director of Public Works and the following criteria is adhered to:
1. Liquid membrane shall conform to ASTM C-309 or latest revision.
 2. Liquid membrane is to be an approved material for curing by the New York State Department of Transportation.
 3. The curing compound is to be applied in accordance with the manufacturer's specifications.
 4. The concrete is to be covered as soon as the liquid membrane has dried with an approved material such as canvas, white paper, etc. The cover will be maintained for a minimum of seven (7) days

3.05 PROTECTION OF WORK

- A. The Contractor shall furnish, erect and maintain suitable safety barriers to protect the finished surface until the concrete is cured. Acceptable forms of protection are traffic cones and/or safety barricades with brightly colored flagging. Wooden or steel stakes with flagging shall not be used under any circumstances.
- B. Any concrete section damaged or vandalized prior to final acceptance shall be repaired or replaced by the Contractor at his own expense, to the satisfaction of the Engineer.

PART 4 - CONCRETE SIDEWALK INSTALLATION

4.01 Reference: Drawing No. DPW 11 - DPW 13

4.02 SUBGRADE

Subgrade shall be placed on a compacted subbase and graded to the proper elevation by using washed stone or AOB.

4.03 FORMS AND FORMING

Forms to contain concrete may be of wood or metal. Forms shall be required to form the full depth of the section required: e.g., four (4) inch forms for four (4) inch slabs, six (6) inch forms for six (6) inch slabs, etc. Forms shall be properly staked and braced to provide straight alignment. Forms are to be set so that finished sidewalk will have a slope equal to 1/4 inch to the foot of width pitched toward the roadway.

4.04 CONCRETE THICKNESS

- A. Concrete sidewalks shall be a minimum of four (4) inches thick in all areas, except that sidewalks spanning driveways and downtown areas shall have a minimum depth of six

(6) inches.

- B. Drive aprons at drive approaches shall have a minimum thickness of six (6) inches.

4.05 CONSTRUCTION JOINTS

- A. The sidewalk shall have straight traverse joints every five (5) feet by one of the following methods:

1. The use of a one-eighth inch thick by four inch wide (1/8"x4") metal plate. All joints and outer edges shall be neatly rounded and finished with edger tools.
2. Saw cut to a depth of 25% of the slab thickness, up to a maximum depth of three (3) inches. All cuts shall be completed within 24 hours from initial placement of concrete.

4.06 EXPANSION JOINT

- A. Material - The expansion joint shall be 1/4 inch thick premolded bituminous material the full depth of the section.
- B. Expansion joints shall be installed in the new sidewalk at the start of, and every 25 to 30 feet thereafter AOB, and also in those areas where the sidewalk abuts the curb, pavement, telephone poles, water hydrants, and other structures.

4.07 PRE-FORMED EXPANSION AND ISOLATION JOINT

Expansion joint material, conforming to ASTM D-994; pre-formed expansion joint filler, shall be approved. The material shall be 1/4 inch in thickness and must extend the full depth of the slab. It shall be installed every twenty (20) to twenty-five (25) feet and also, where the sidewalk abuts the curb, pavement, buildings and other structures.

4.08 PLACING OF CONCRETE

Prior to placing of concrete, the subbase and forms shall be wetted. The concrete is to be poured with no more than a three (3) inch slump. If the concrete is supplied from a ready-mix plant, the concrete must be in place within sixty (60) minutes after initial mixing water is added. The total mixing water shall not exceed five (5) gallons per ninety-four (94) pound sack of cement. When the ambient air temperature exceeds 75 degrees Fahrenheit, the concrete must be in place within thirty (30) minutes from the addition of the initial mixing water unless a retarder is used. Retempering of concrete will not be permitted.

4.09 FINISHING

- A. Once concrete has been deposited, it shall be immediately screeded to correct elevation and then the dividers shall be put in place. When the concrete has set enough, the surface may be floated with a wood hand float, metal ball float or any other acceptable method.

Final finish shall be done with a fine hair push broom or swirl wood float finish. All edges and joints shall be edged with a rounded tool of 1/4 inch radius and transverse joints shall be the width of the walk every five (5) lineal feet.

- B. The procedures for finishing shall include the following operations in the proper sequences to the satisfaction of the Engineer:
1. Screed to proper grade.
 2. Float exposed surfaces.
 3. Edge.
 4. Let set.
 5. Cut full depth of joints by removing face forms and/or divider plates (See No. 11).
 6. Magnesium float.
 7. Edge.
 8. Broom.
 9. Re-edge.
 10. Cure.
 11. Saw cut joints - optional

4.10 CURING

See Article 3.04 - CURING of this Section

4.11 BACKFILL

After the forms are removed, exposed sides of the sidewalk shall be backfilled with gravel and rough graded to eliminate potential safety hazards. The backfill material shall compacted gravel or soil and free of large stones. When stated in the Contractor's Agreement or Permit, the top two (2) inches of backfill material shall be feathered and graded with topsoil, meeting the existing ground at a maximum distance of three (3) feet from the sidewalk edge(s).

4.12 DRIVE APRONS

- A. Drive aprons shall be constructed as shown on the work order and drawings. Payment shall be the same as six (6) inch sidewalk. There shall not be any dummy joints constructed without prior approval of the Engineer.

- B. The Contractor may make an agreement with the property owner to increase the specified quantities provided the property owner agrees in writing, to pay the additional costs. The City will not participate in any work done on private property.

PART 5 - CONCRETE CURB AND GUTTER INSTALLATION

5.01 Reference: Drawing No. DPW 6 - DPW 9

5.02 SUBGRADE

Subgrade shall be placed on a compacted subbase and graded to the proper elevation by using washed stone or AOE.

5.03 FORMS AND FORMING

- A. Forms shall be free from warp and of sufficient strength to resist springing out of shape. All wood forms shall be thoroughly wetted and metal forms oiled before depositing any material against them. All mortar and dirt shall be removed from forms that have been previously used. Forms shall be required to form the full depth of the section required. Forms shall be properly staked and braced to provide straight alignments and conform to the shape of the appropriate section. Dividers shall conform to shape of section desired.
- B. A front form may be eliminated when the existing street pavement creates a smooth, uniform edge for placing concrete. The vertical pavement edge shall be of matching curb thickness and grade and may only be used with the Engineer's approval.
- C. The forms in a sectional curb repair shall be set to match the same grade and dimensions as the existing curb of the same line. The new curb shall not follow the grade of the adjacent pavement surface if the pavement is damaged or uneven. For this case, a small area, less than six (6) inches wide, shall remain between the new curb and pavement. After the forms are removed, the open area shall be filled with concrete or asphalt at the Contractor's expense.

5.04 CONSTRUCTION JOINTS

The curb shall have straight traverse joints every ten (10) feet (or less as dictated by the existing curb sections) by one of the following methods:

1. The use of a one-eighth inch thick by four inch wide (1/8"x4") metal plate. All joints and outer edges shall be neatly rounded and finished with edger tools.
2. Saw cut to a depth of 25% of the slab thickness, up to a maximum depth of three (3) inches. All cuts shall be completed within 24 hours from initial placement of concrete.

5.05 PREMOLDED BITUMINOUS EXPANSION JOINT

- A. The expansion joint shall be 1/4 inch thick premolded bituminous material the full depth of the section. Expansion joint shall be installed in the new curb at the start of, and every 40 to 50 feet thereafter. Expansion joint shall be installed at each side of the catch basins.
- B. Expansion joints shall be installed in the new curb at the start of, and every 40 to 50 feet thereafter. If the expansion joint is omitted, 20 feet of curbing will be deducted from payment for each expansion joint that is missing. Payment will be made when one block is removed and repoured with the proper expansion material in place for each omission.

5.06 PLACING OF CONCRETE

Prior to placing of concrete, the subways and forms shall be wetted. The concrete is to be poured with no more than a three (3) inch slump. If the concrete is supplied from a ready-mix plant, the concrete must be in place within sixty (60) minutes after initial mixing water is added. The total mixing water shall not exceed five (5) gallons per ninety-four (94) pound sack of cement. When the ambient air temperature exceeds 75 degrees Fahrenheit, the concrete must be in place within thirty (30) minutes from the addition of the initial mixing water unless a retarder is used. Retempering of concrete will not be permitted. After concrete is poured into the forms, it shall be puddled and spaded or vibrated by mechanical means so as to insure a dense and thorough mixture free from honeycombs and excessive pockets.

5.07 FINISHING

- A. Before the concrete has thoroughly set and while the concrete is still green but firm enough to stand up, the form covering the exposed face of curb shall be removed and the front and top of the exposed surfaces shall be finished with a float or steel trowel to make a uniform finished surface. Special tools and methods may be used to work the concrete to the shapes conforming to the sections as specified. Joints left by dividers at equal intervals must be left clean and unplugged to the full depth of the section. All edges are to be tooled with a 1/4 inch edger unless specified otherwise.
- B. The procedures for finishing shall include the following operations in the proper sequences to the satisfaction of the Engineer:
 - 1. Screed to proper grade.
 - 2. Float exposed surfaces.
 - 3. Edge.
 - 4. Let set.
 - 5. Cut full depth of joints by removing face forms and/or divider plates (See No. 11).
 - 6. Magnesium float.

7. Edge.
8. Broom.
9. Re-edge.
10. Cure.
11. Saw cut joints - optional

5.08 CURING

See Article 3.04 - CURING of this Section

5.09 BACKFILL

After the forms are removed, the back side of the curb shall be backfilled with gravel and rough graded to eliminate potential safety hazards. The backfill material shall be compacted gravel or soil and free of large stones. When stated in the Contractor's Agreement or Permit, the top two (2) inches of backfill material shall be feathered and graded with topsoil, meeting the existing ground at a maximum distance of three (3) feet from the sidewalk edge(s).

5.10 CURB CUTS & OPENINGS

Only with prior approval from the Engineer, the Contractor may cut the curb to create an opening (for a driveway or ramp) instead of removing and constructing a new curb. The curb shall be cut using a mechanical saw with a properly designed blade and left with a smooth, uniform finish. The curb shall not be broken or cracked using alternate means. The length and flare of the cut shall be determined by the Engineer with reference to Drawing No. DPW 13.

END OF SECTION

SECTION 02420

STONE AND ASPHALT CURBING

PART 1 - GENERAL

1.01 SCOPE

This specification covers the materials and installation procedures required by the Contractor to repair damage to stone and asphalt curbs. The Contractor shall furnish and place curb of the type shown on the standard drawings, where shown on plan or as ordered by the Engineer.

PART 2 - MATERIALS

2.02 GRANITE STONE CURB

- A. The stone curb shall be of a hard and durable granite of a light color satisfactory to the Engineer, free from seams which impair its structural integrity and of a good smooth splitting appearance. The granite shall come from approved quarries and when tested, shall have a "Dorry Hardness Value" of not less than seventeen (17). The curb shall conform to the shape and size shown on the standard drawings with the following allowable tolerances:

<u>Item</u>	<u>Required Dimensions</u>
Depth	16" \pm 1"
Face Batter	3/4" in 10"
Min. Length of Section	3'

- B. All curb shall have top surface sawed to an approximate true plane with no projection or depression of over 1/4 inch. The front and back arris lines shall be pitched straight and true. The back surface shall have no projection to exceed four (4) inches in twelve (12) inches, three (3) inches down from the top. The front face shall be at right angles to the plane at the top and shall be smooth quarry split free from drill holes in the exposed face with no projections or depressions exceeding 1/2 inch in eight (8) inches down from the top arris line. For the remaining distances there shall be no projection or depression greater than one (1) inch measured in the same manner. The arris lines at the ends shall be pitched with no variation from the plane of the face greater than 1/8 inch. The ends of all curb sections shall be square with the planes of the top and the face and so finished that when the sections are placed end to end as closely as possible, no space more than 1/2 inch shall show in the joint for the full width of the top or down on the face for eight (8) inches. The remainder of the end may break back not over twelve (12) inches from

the plane of the joint. The curb shall be thoroughly cleaned and free from any iron rust or iron particles. The joints of all radius curb shall be cut on radial lines. All radius curb shall be cut to conform to the radius lengths as shown on plan.

2.02 MORTAR

Mortar for filling joints shall consist of one part of Portland Cement with one part of mortar sand mixed as stiff as practicable and of such consistency that it will require rodding when placed in joints.

2.03 ASPHALT CONCRETE CURB

The New York State Public Works Specification shall apply except the fiber shall be added to the curb mix in the amount of two to three percent (2% to 3%).

2.04 CONCRETE CURB AND GUTTER

Specifications for concrete curb, concrete gutter, and concrete curb and gutter are included in Section 02400- CONCRETE.

PART 3 - EXECUTION

3.01 Reference: Drawing No. DPW 10

3.02 GRANITE CURB INSTALLATION

- A. The curb shall be set true to line and grade on an approved foundation course providing a firm and uniform bearing. The foundation course shall consist of porous material as specified under its respective item. All spaces under the curb shall be carefully and thoroughly rammed so that it shall be completely supported throughout its entire length. The trench for the curb shall be excavated for a width equal to the curb plus twelve (12) inches and to a depth indicated on the standard drawings or as ordered by the Engineer. Curb sections shall be fitted together as closely as possible but not closer than 1/8 of an inch to form a joint. The joints in the curb shall be carefully filled with cement mortar, rodded in place and applied in the manner as indicated on the standard drawings. The top and exposed front shall be neatly pointed flush with the curb surfaces and satisfactorily cleaned of all excess mortar. The exposed face of all curb shall be set a minimum distance of 1 1/2 inches away from the edge of the pavement foundation in order to provide suitable working clearance. The 1 1/2 inch space shall be filled with cement mortar after curb is set. After the curb has been set, the trenches shall be backfilled and thoroughly tamped with an approved material. All granite curb stub ends shall be finished off by installing a tapered driveway transition piece. The Contractor shall protect the curb and keep it in alignment and first class condition until the completion of the contract. Any curb which is damaged at any time previous to the final acceptance of

the work shall be removed and satisfactorily replaced at the Contractor's expense. Driveway openings and catch basins are to be provided as shown on the standard drawings and the attention of the Contractor is hereby directed to those specifications which entail straight granite curb twelve (12) inches in depth and transition sections of the dimensions shown thereon.

- B. The NYSDOT Standard Specifications shall apply except driveway cuts may be formed by means of a blade (square point shovel is acceptable) and a template to give a uniform appearance with the driveway. The template shall produce a 45 degree angle from top to bottom and a 90 degree angle from side to side.

3.03 CURB CUTS & OPENINGS

Only with prior approval from the Engineer, the Contractor may cut the curb to create an opening (for a driveway or ramp) instead of removing and constructing a new curb. The curb shall be cut using a mechanical saw with a properly designed blade and left with a smooth, uniform finish. The curb shall not be broken or cracked using alternate means. The length and flare of the cut shall be determined by the Engineer with reference to Drawing No. DPW 13.

END OF SECTION

SECTION 02500

GRADING AND SEEDING

PART 1 – GENERAL

1.01 SCOPE

This specification covers the material, method and inspection required by the Contractor to restore both public and private lawn areas (including City-owned terrace areas and lawn areas that are situated at the back edges of sidewalks, curb and gutters and along driveway approaches. The contractor shall provide all necessary labor, materials and equipment to complete the work as hereinafter specified or as directed by the Engineer.

1.02 DEFINITIONS

- A. Rough Grading – is to mean the work necessary to prepare the subgrade for topsoil application and shall be compatible with the surrounding landscape while making a smooth transition to existing undisturbed conditions.
- B. Subgrade – is to mean that level of earth below the topsoil layer.
- C. Compacted backfill – is to mean a compaction of 95 percent standard proctor density for that material.
- D. Tolerance – is to mean that amount above or below a given line.

PART 2 – MATERIALS

2.01 SELECT BORROW

- A. The Contractor will be required to supply backfill material to bring the work areas within three (3) inches of finished grade. The backfill shall be free of refuse and/or materials detrimental to plant growth. The maximum size of the material shall be one-half (½) inch in the greatest diameter.
- B. Rate of Application: as needed, compacted.

2.02 TOP SOIL MATERIAL

- A. The top soil shall be screened and shall conform to the New York State Department of Transportation Specification Section 713-01 “Top Soil”. The top soil shall be the surface layer of soil with no admixtures, free of refuse and/or any material detrimental to plant

growth. It shall be free of stumps, roots, brush, stones, clay lumps or similar objects no larger than one-half (1/2) inch in the greatest diameter.

- B. Rate of Application: Three (3) inch minimum, compacted.

2.03 SEEDS

- A. The standard of quality shall be as specified in the New York State Department of Transportation Specification 713-04 "Seeds," or as **HEREIN MODIFIED BY CITY ENGINEER. ALL SEED MIX SHALL BE APPROVED BY CITY ENGINEER PRIOR TO PROJECT START-UP. (SEE BELOW).**

Lakeside Sun & Shade Mix:

30% Uno Perennial Rye
20% Treasure II Chewings Fescue
20% Wendy Jean Creeping Red Fescue
20% Berkshire Hard Fescue
10% Raven Kentucky Blue Grass

Distributed by: Lakeside Sod, Clarence Center, NY

Reliable Mix:

50% Blend of Kokomo II, Paragon GLR & Pizzazz Perennial Ryegrass
25% Kenblue Kentucky Bluegrass
25% Boreal Creeping Red Fescue

Distributed by: Preferred Seed, Buffalo, NY

Kwik Green Mix:

50% Blend of Evening Shade, Patriot 4 & Paragon Perennial Ryegrass
20% Annual Ryegrass
15% Boreal Creeping Red Fescue
15% Kenblue Kentucky Bluegrass

Distributed by: Preferred Seed, Buffalo, NY

- B. Seed mix equals to be approved by City Engineer five (5) days prior to bid awarding.
- C. Rate of Application – 7 lbs. per 1000 square feet.

2.04 MULCH

Mulch material shall be straw: stalks of wheat, rye, oats or other approved crops, free from noxious weeds.

Hydro Seeding Mulch:

High grade 70% / 30% paper-wood mulch

Hydro Seeding Tackifier: shall be organic in composition: A non-asphaltic emulsion, psilium-based.

2.05 FERTILIZER

- A. Commercial 21-14-7 complete plant food, part of the elements of which are derived from organic sources. (18-24-12 shall be acceptable when approved by City engineer.)
- B. Rate of Application – 5 to 6 lbs per 1000 square feet.

PART 3 – EXECUTION

3.01 ROUGH GRADING

The Contractor shall grade the subbase, by knocking down high spots and/or by backfilling with approved select borrow material. Any backfill shall be compacted and placed to a grade able to receive top soil as specified. Compaction shall be equal to a 95 percent standard proctor density of material.

3.02 FINAL GRADING

After completion of rough grading, spread and rake approved top soil over the areas designated by the Engineer in charge to a uniform compacted depth of at least three (3) inches to bring to finish grade. All stones and debris in excess of one-half (1/2) inch in diameter shall be removed from area.

3.03 FERTILIZER

Work soil until well pulverized; apply approved fertilizer with a mechanical spreader approved by the Engineer in charge at the rate of 5 to 6 pounds per 1000 square feet, and work into soil.

3.04 METHOD OF SOWING: Hand-held mechanical broadcasting / sowing equipment:

- A. Grass seed shall be sown at the rate specified above and not less than three days after the fertilizer has been applied to the top soil. The seed shall be broadcast by approved sowing equipment in two applications; one-half seed shall be sown while the seeder is traveling at right angles to the first direction.
- B. After sowing has been completed, straw mulch shall be evenly applied over the entire surface of the seeded areas. The straw shall be in a moist condition at the time of placement or shall be sprinkled immediately after placing.
- C. The Contractor shall seed each area as soon as practicable after work thereon has been completed. The Contractor shall maintain the area sown with grass seed until all work under the contract has been completed and accepted by the Owner. The maintenance shall consist of refilling rain washed gullies, reseeding, re-mulching and watering to keep the soil moist and removal of large noxious weeds. The Contractor shall be responsible for maintaining the areas until a stand of grass, free of barren spots and large noxious weeds, is provided and approved by the Engineer.

3.04 METHOF OF SOWING: Hydro Seeding:

- A. Hydro seeding equipment shall be supplied by the contractor. Equipment used for application of slurry shall be commercial-type hydro-seeder and have a built-in agitation system with an operation capacity sufficient to agitate, suspend and homogenously mix the slurry.
- B. Water supply and acquisition thereof shall be the responsibility of the Contractor.
- C. Areas to receive hydro seeding treatments shall include all areas as shown on site plans (City Street maps/project plans) and may include supplemental areas as determined by Owner (City) prior to bid.
- D. The Contractor shall hydro seed each area as soon as practicable after work thereon has been completed. The Contractor shall maintain the hydro seeded area until all work under the contract has been completed and accepted by the Owner. The maintenance shall consist of refilling rain washed gullies, reseeding, re-mulching and watering to keep the soil moist and removal of large noxious weeds. The Contractor shall be responsible for maintaining the areas until a stand of grass, free of barren spots and large noxious weeds, is provided and approved by the Engineer.
- E. All hydro-seeded areas shall be inspected for failures and rescheduled for hydro seeding within the planting season as per recommendations made by City Engineer.
- F. A healthy, actively growing hydro seeded area shall provide at least a 95% coverage with no bare areas greater than 18 inches in diameter.
- G. Hydro Seeding Preparation:
 - 1. The Contractor, unless directed otherwise, shall be responsible for all site work preparation before hydro seeding is approved by City Engineer. All site work preparation shall include but not be limited to the following: Removal of project

construction debris such as large rocks, stones, concrete spoil and asphalt spoil; yolk raking; rough grading (cuts and fills); raking and leveling area to make smooth transition from restored areas to existing lawn areas; and application of screened topsoil. Topsoil shall be compacted and free of clumps.

2. All slurry preparation at the job site. Water, mulch, fertilizer, binder and other ingredients shall be added to the tank simultaneously so that the finished load is a homogenous mix of the specified ingredients.
 3. Seed shall be added last and shall be discharged within 2 hours. Loads held over 2 hours will be recharged with ½ the seed rate before application.
 4. Once fully loaded, the complete slurry shall be agitated for 3-5 minutes to allow for uniform mixing.
- H. All hydro seed applications are to be applied in a sweeping motion to form a uniform application and form a mat at the specific rates.
- I. Hydro Seeding Overspray: Installing Contractor is responsible for washing or otherwise cleaning excess material off all areas not intended to receive treatment. Therefore, avoid overspray onto sidewalks, driveways, streets, lined drainage channels, existing vegetation, fences, landscape yard ornaments/amenities and parked vehicles.
- J. All turf areas and staging areas shall be maintained in a neat and orderly condition. Keep paved area free of soil.

3.05 CLEANUP

A project will not be considered completed until all debris is hauled away and the sidewalk, curb and street are swept clean of dirt to the satisfaction of the engineer.

3.06 INSPECTION

Prior to the application of mulch to the landscaped area, the Contractor's designated superintendent shall notify the Engineer for final inspection. All stones shall be raked, all debris shall have been removed from the site before requesting an inspection. The engineer shall be notified a minimum of four (4) working hours before the mulch is applied. The Contractor's superintendent is to be present during inspection.

END OF SECTION

JAMESTOWN STANDARD SPECIFICATIONS

MAY 2011

APPENDICES

JAMESTOWN STANDARD SPECIFICATIONS

MAY 2011

APPENDICES A

INSURANCE REQUIREMENTS

CITY OF JAMESTOWN STANDARD INSURANCE REQUIREMENTS

Insurance shall be procured and certificates of insurance delivered to the Corporation Counsel, and the City department responsible for the agreement, prior to commencement of work, delivery of material or equipment. The Certificates of Insurance shall be made to the "City of Jamestown, Corporation Counsel, Jamestown, New York 14701," must comply with all coverage specification of the contract, and must be executed by an insurance company and/or agency or broker who is licensed by the Insurance Department of the State of New York. The "ACORD" form certificate may be used, providing the following two additional conditions are added to the form verbatim:

A. **ACKNOWLEDGMENT:** The insurance companies providing these coverages acknowledge that the named insured is entering into a contract with the City of Jamestown in which the named insured agrees to defend, hold harmless, and indemnify the City, its officials, employees and agents against all claims resulting from work performed, material handled and services rendered. The contractual liability coverage evidenced above covers the liability assumed under the City-contractor agreement.

B. Prior to non-renewal or cancellation of these policies, at least thirty (30) days advance written notice shall be given to the City's Corporation Counsel, and the City department requesting this Certificate before such change shall be effective.

Minimum coverage limits are as follows:

	<u>CONSTRUCTION & MAINTENANCE</u>	<u>PROFESSIONAL SERVICES</u>
1) COMP. GEN. LIAB.* -PREM & OPS -PRODS. & COMPL. OPS -INDEPEND. CONTRACT -CONTARCTUAL -BROAD FORM P.D. -X.C.U. -PERSONAL INJURY	\$1,000,000 CSL	\$1,000,000 CSL
2) AUTO LIABILITY -OWNED -HIRED -NON-OWNED	\$1,000,000 CSL	\$1,000,000 CSL
3) EXCESS UMBRELLA LIAB.*	\$1,000,000	\$1,000,000
4) WORKER'S COMPENSATION & EMPLOYERS LIABILITY	STATUTORY	STATUTORY
5) DISABILITY BENEFITS	STATUTORY	STATUTORY
6) PROFESSIONAL LIAB.	NOT APPLIC.	\$1,000,000

All coverage above shall provide for a minimum of \$3,000,000 coverage for multiple occurrences.

City of Jamestown shall be named as additional insured on all policies for purpose of coverage but not by payment of premium.

*The comprehensive general liability can be met by one or more policies or in combination with an excess umbrella liability policy. No umbrella policy is required if underlying coverage is at least \$1,000,000.

Bid specifications or particular contracts, leases, or agreements may require alternative coverage or limits, which may be evidenced on the certificate in lieu of the coverage specified.

The expiration date for any claims-made policy must be at least ninety (90) days after the expiration of the contract for services or final delivery of any products.

The City reserves the right to modify, reduce or expand the coverage required herein on a case by case basis, where the scope of the project, or the potential exposure of the City so warrants.

JAMESTOWN STANDARD SPECIFICATIONS

MAY 2011

APPENDICES B

RIGHT-OF-WAY PERMITS



CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
145 Steele Street, Jamestown, NY 14701
716-483-7545

RIGHT-OF-WAY PERMIT

Start Date: _____ Expires: _____

ADDRESS/LOCATION: _____

Nearest cross street: _____

Building Desc. _____

☐ State ROW ☐ County ROW Permit# _____

Contractor: _____

☐ Insured ☐ Bonded

Subcontractor: _____

☐ Insured ☐ Bonded

Subcontractor: _____

☐ Insured ☐ Bonded

WORK DESCRIPTION

☐ Utility: ☐ sanitary sewer ☐ water ☐ electric ☐ phone/cable ☐ fire service ☐ gas

☐ Storm Drain: ☐ residential ☐ commercial (as-builts required)

Discharge to: ☐ curb outlet ☐ open ditch ☐ waterway ☐ City storm sewer - CB DI MH Pipe

New Construction in ROW: ☐ DI ☐ MH ☐ CB ☐ Pipe ☐ Other _____

Pipe size: _____ Pipe material: _____ Frame size: _____

☐ Parking Lot: must have approved site plan - attached ☐ yes ☐ no ☐ approved by _____

☐ Encroachment: ☐ dumpster ☐ vehicle ☐ scaffold/lift ☐ crane ☐ other _____

☐ street ☐ metered parking ☐ parking lane ☐ terrace/sidewalk

☐ Driveway: ☐ curb ☐ sidewalk ☐ apron - concrete blacktop

☐ Sidewalk/Curb: ☐ new ☐ replacement

☐ Demolition: all work performed on private property: ☐ yes ☐ no

Eligible for s/w reimbursement:

☐ yes ☐ no / unknown

EXISTING CONDITIONS: prior inspection report completed: ☐ yes ☐ no (if yes, have Contractor sign report)

EXCAVATION BY: ☐ Contractor ☐ Subcontractor ☐ City _____ ☐ none

☐ open cut - compaction method: ☐ wacker/jumping jack ☐ roller ☐ hydraulic ☐ other _____

☐ bore - under: ☐ sidewalk ☐ curb ☐ street ☐ other _____

ANTICIPATED DAMAGE: ☐ sidewalk ☐ curb ☐ street ☐ none ☐ other _____

REPAIR WORK (if required): ☐ Contractor ☐ Subcontractor ☐ City ☐ other _____

WORK IS WITHIN 15 FEET OF A PUBLIC TREE: ☐ yes ☐ no (if yes, Contractor shall notify Parks Dept.)

HIRED BY: ☐ Property Owner ☐ City _____ ☐ other _____

CONTRACTOR'S AGREEMENT

1. The Contractor acknowledges their understanding of the City of Jamestown Standard Specifications and shall perform all work according thereto.
2. Excavations shall be inspected by a Jamestown Department of Public Works representative prior to backfilling. Inspections must be scheduled in advance through the Jamestown DPW Office.
3. All excavations shall be backfilled using select granular fill or flowable mortar and properly compacted to eliminate settlement.
4. The Contractor shall be responsible for any damage caused by settlement to a temporary or permanent repair for five (5) years after the work has been completed.
5. Contractor shall provide a temporary repair to damaged structures/pavement and maintain it in a safe condition until a permanent repair is completed.
6. Contractor will be responsible for all costs associated with repair of damaged right-of-way structures, regardless of prior condition, unless the Property Owner completes the Property Owner Agreement in the Permit Application.
7. The Contractor agrees that the information contained within this permit is accurate and complete. Any false information given by the contractor will be punishable by fine or suspension from obtaining future permits.

By signing below, the Contractor accepts and agrees to the conditions and terms of this permit.

Signature _____

Company _____

Print Name _____

Address _____

Office Phone _____ Cell Phone _____

Issued by: _____ Date: _____
City of Jamestown DPW

FEE: \$ _____ cash
\$ _____ check # _____
\$ _____ invoice



**CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS**

RIGHT-OF-WAY WORK PERMIT FOR UTILITY COMPANIES

JANUARY 1, 20XX - DECEMBER 31, 20XX

The issuance of this permit is contingent upon the Utility Company's agreement and expressed acceptance to the following conditions:

1. The permit is for work within the City's Right-Of-Way (ROW). It is not a permit to perform work on private property. All ROW work must comply with the most recent version of the City of Jamestown Department of Public Works Standard Specifications.
2. The Utility Company (UC) shall save and hold harmless the City of Jamestown and its agents, servants, officers and employees from any and all damage and liability by reason of bodily injury, death and/or property damage arising from, either directly or indirectly, the work performed under the terms of this permit, irrespective of the cause of such injury or damage.
3. The UC and their contractors shall supply all required insurance certificates, including, but not limited to, a public liability insurance certificate of one million (\$1,000,000) / three million (\$3,000,000) minimum liability limits which names the City of Jamestown as additional insured.
4. The UC and/or their hired contractors shall give the Department of Public Works (DPW) at least 24 hours advanced notice of their intent to work within the ROW, including permanent repair work. Notification of emergency ROW work shall be given within 24 hours from the start of the work. The method and time of the notifications shall be acceptable to the DPW.
5. The UC shall submit a Repair Order/Notification form (or similar) to the DPW within 14 days from the completion of the utility work.
6. The UC shall have 35 days to permanently repair any ROW damage from utility service work completed between May 1 and October 15 of the current year. ROW damage occurring outside this time period shall be permanently repaired by the end of the forthcoming month of June.
7. The UC shall be responsible for the permanent repair costs associated with their work. If the repairs are not completed according to the DPW Standard Specifications, the DPW will perform the permanent repair(s) at their cost and bill the UC accordingly, plus a 15% administration fee. The UC agrees to pay said bill within 30 days of date thereof.
8. Beginning on the date which a permanent ROW repair is completed, the UC shall guarantee the permanent ROW repair from poor and/or defective construction materials for a period of one (1) year and from damage caused by settlement and/or heave for a period of five (5) years thereafter.

It is the Utility Company's responsibility to inform their employees and hired contractors of the conditions stated above. Failure to comply with these conditions will result in the assessment of liquidated damages by the City of Jamestown against the UC in the amount of one hundred dollars (\$100) for each violation. Damages shall be paid by the UC to the City of Jamestown within ten (10) days of the assessment. This permit may be canceled at any time, without refund, because of multiple or unpaid liquidated damages. Final determination of liquidated damages and/or permit cancellation shall vest solely with the Director of Public Works.

The DPW may, upon written request from a UC, grant a variance for one or more of the provisions above. In granting a variance, the DPW reserves the right to impose additional conditions which must be followed by the applicant.

I have read and fully understand the above conditions and terms of this permit.

(signature of authorized representative)

(date)

(print name)

(title)

Utility Company _____

Address _____

Accepted by: _____, Director of Public Works

Date: _____

JAMESTOWN STANDARD SPECIFICATIONS

MAY 2011

APPENDICES C

RIGHT-OF-WAY REPAIR FORMS

Questions? Call DPW @ 483-7545

JAMESTOWN STANDARD SPECIFICATIONS

MAY 2011

APPENDICES D

PAYMENT APPLICATION & CHANGE ORDER

CITY OF JAMESTOWN STANDARD APPLICATION AND CERTIFICATE FOR PAYMENT

TO (OWNER):	City of Jamestown Department of Public Works 145 Steele Street Jamestown, New York 14701	PROJECT:		APPLICATION NO:		Distribution to: <input type="checkbox"/> OWNER <input type="checkbox"/> ENGINEER/ARCHITECT <input type="checkbox"/> CONTRACTOR
FROM (CONTRACTOR):		VIA:		PERIOD TO:		<input type="checkbox"/> <input type="checkbox"/>
				ENGINEER/ARCHITECT'S PROJECT NO:		

CONTRACT FOR:	CONTRACT DATE:
---------------	----------------

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for Payment, as shown below, in connection with the Contract.

CHANGE ORDER SUMMARY				
Change Orders approved in Previous months by Owner		TOTAL	ADDITIONS	DEDUCTIONS
Approved this Month				
Number	Date Approved			
TOTALS				
Net Change by Change Orders <u>Forthcoming</u>				

Continuation Sheet is attached.

1. ORIGINAL CONTRACT SUM	\$ _____
2. Net Change by Change Orders	\$ _____
3. CONTRACT SUM TO DATE (LINE 1 + OR - 2)	\$ _____
4. TOTAL COMPLETED & STORED TO DATE (Column G on Continuation Sheet)	\$ _____
5. RETAINAGE:	
a. _____ of Completed Work (Column D + E on Continuation Sheet)	\$ _____
b. _____ of Stored Material (Column F on Continuation Sheet)	\$ _____
Total Retainage (Line 5a + 5b or (Total in Column 1 of Continuation Sheet)	\$ _____
6. TOTAL EARNED LESS RETAINAGE (Line 4 less Line 5 Total)	\$ _____
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)	\$ _____
8. CURRENT PAYMENT DUE	\$ _____
9. BALANCE TO FINISH, PLUS RETAINAGE (Line 3 less Line 6)	\$ _____

The undersigned Contractor certifies that to the best of the Contractor's knowledge, Information and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates of Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

State of _____ : County of _____

Subscribed and sworn to before me this _____ day of _____, 20 _____

Notary Public _____

My Commission Expires: _____

CONTRACTOR:

By: _____ Date _____

ENGINEER/ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the above application, the Engineer/Architect certified to the Owner that to the best of the Engineer/Architect's knowledge, information and belief the Work has progressed and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ _____

Attached explanation if amount certified differs from amount applied for)

ENGINEER/ARCHITECT:

By _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CONTINUATION SHEET PAGE __ OF __ PAGES

CONTINUATION SHEET PAGE __ OF __ PAGES

APPLICATION AND CERTIFICATE FOR PAYMENT, containing Contractor's signed Certification is attached.
In tabulations below, amounts are stated to the nearest dollar.
Use Column 1 on Contracts where variable retainage for line items may apply.

APPLICATION AND CERTIFICATE FOR PAYMENT, containing Contractor's signed Certification is attached.
In tabulations below, amounts are stated to the nearest dollar.
Use Column 1 on Contracts where variable retainage for line items may apply.

[illegible]

CHANGE
ORDER

OWNER
ARCHITECT
CONTRACTORS
OWNER'S REP

PROJECT:

CHANGE ORDER NO:

DATE:

TO CONTRACTOR:

PROJECT NO:

CONTRACT DATE:

CONTRACTOR FOR:

The Contract is changed as follows:

The original Contract Sum was..... \$
Net changed by previously authorized Change Orders..... \$
The Contract Sum prior to this Change Order was..... \$
The Contract Sum will be by this Change Order in the amount of..... \$
The new Contract Sum including this Change Order will be..... \$
The Contract Time will be unchanged by..... days
The Date of Substantial Completion as of the date of this Change Order therefore is

NOTE: This summary does not reflect changes in the Contract Sum, Contract Time or
Guaranteed Maximum Price which have been authorized by Construction Change Directive.

ARCHITECT	CONTRACTOR	OWNER
ADDRESS	ADDRESS	ADDRESS

BY	BY	BY
DATE	DATE	DATE

JAMESTOWN STANDARD SPECIFICATIONS

MAY 2011

APPENDICES E

TRAFFIC/PARKING SIGN GUIDELINES

**CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
TRAFFIC DIVISION**

**ATTENTION
CONTRACTORS**

**THE REMOVAL OF TRAFFIC / PARKING
SIGNS IN CONSTRUCTION AREAS WILL
BE THOROUGHLY INVESTIGATED...**

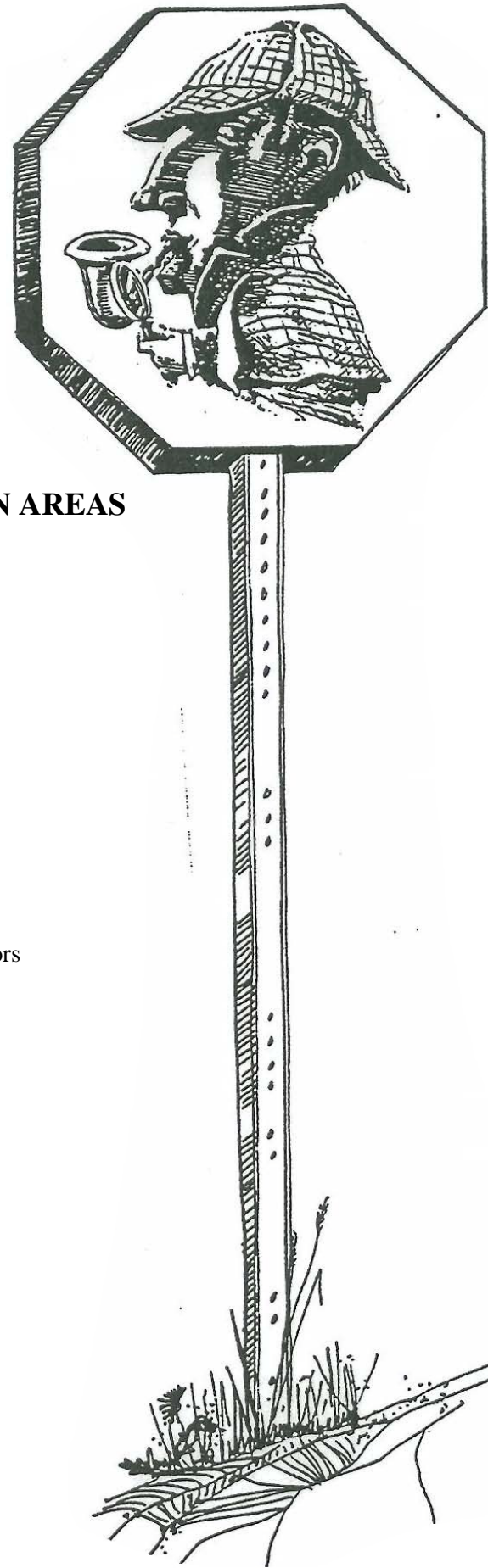
**PLEASE READ BELOW AND
GIVE BOB JOHNSTON A CALL ...**

TRAFFIC / PARKING SIGNS IN CONSTRUCTION AREAS

**Contractors requiring temporary removal of City of
Jamestown signs in construction areas must be aware
of the following options/guidelines:**

1. Contact the Department of Public Works Traffic Division before work begins so sign adjustments can be scheduled by City crews
2. STOP signs must be maintained in a visible location unless the roadway is closed. Portable assemblies may be used.
3. The Department of Public Works is responsible for the proper installation of traffic of traffic control devices. Contractors must notify the DPW Traffic Division when signs no longer present an obstacle to the project and can be reinstalled.
4. The Contractor will be billed for removal/reinstallation of the signs by the City unless other arrangements have been made.
5. Failure to comply with these guidelines may result in a court appearance.

Any questions can be directed to Bob Johnston, DPW Traffic Division at 483-7560 or 450-8152.



JAMESTOWN STANDARD SPECIFICATIONS

MAY 2011

APPENDICES F

PUBLIC TREE GUIDELINES

GUIDELINES FOR EXCAVATING WITHIN 15 FEET OF A CITY STREET TREE

WHY WORRY ABOUT TREES?

Chapter 280-12 of the Code of the City of Jamestown, NY states that, "No person shall make any excavation ... within 15 feet of a public tree without first obtaining a permit." Permission is given by the Department of Parks, Recreation & Conservation.

Permission is required because cutting tree roots can kill or injure the tree and seriously endanger the tree's stability, resulting in damage to persons or property.

The same level of care should be taken when working around trees as around other property such as fire hydrants, traffic signals and utility transmission lines. This includes avoiding physical damage to the above and below ground parts. Replacing or compensating the City for a damaged tree can be very expensive if it is damaged by your work.

ROOTS

The roots of trees are concentrated in the top layers of soil. Almost all roots are within 24 inches of the surface and can reach further than the trees height. Several large anchor roots also spread outward and support the tree.

Cutting roots over 4 inches in diameter should not be done without permission. Digging confined to the paved portion of a street will have minimal effect on the tree but digging or piling fill in the tree lawn can be very harmful. Boring underneath is better than trenching right up to the tree, when possible.

WHAT TO DO

If you must excavate within 15 feet of a City tree, contact the Parks Department with the address and every effort will be made to respond that day. Emergency work should be reported within three days. Non-emergency work is subject to the permit process, so please plan ahead.

FINALLY, when excavating, you can protect the life of our trees.

DO NOT:

- Pile fill on terrace or lawn
- Leave excavation open longer than necessary
- Rip, tear or chop roots
- Allow equipment to park on grass
- Crush roots with outriggers
- Bang trunk or benches with equipment
- Cut roots over 4 inches in diameter

DO:

- Consult with Parks Department/notify before digging
- Cut roots cleanly with pruners and saws
- Backfill with top soil at least 12 inches deep in lawn area
- Remember: Trees are valuable

DEPARTMENT OF PARKS, RECREATION & CONSERVATION

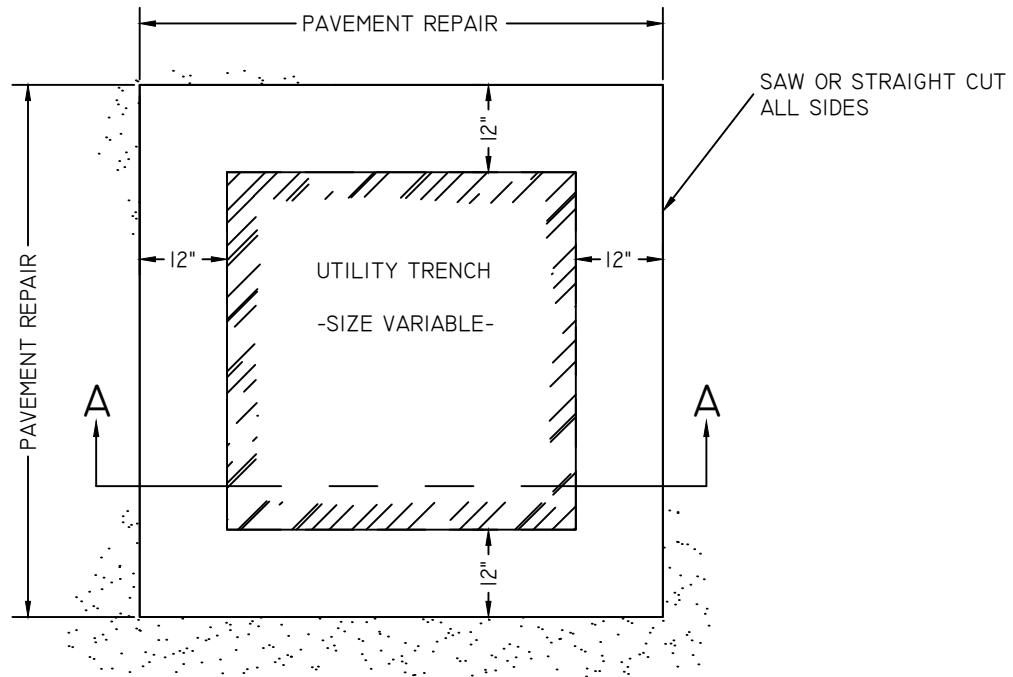
Jamestown, NY
Telephone (716) 483-7525

JAMESTOWN STANDARD SPECIFICATIONS

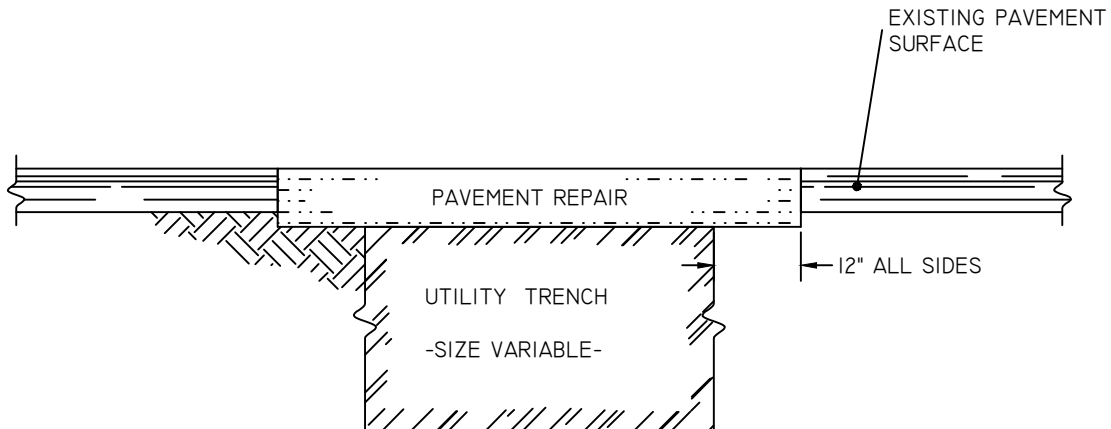
MAY 2011

DRAWINGS

DETAILS & SECTIONS



PLAN VIEW



SECTION A-A

TYPICAL PAVEMENT REPAIR DETAIL

*SEE PAGES DPW 2-5 FOR SPECIFIC PAVEMENT REPAIR DETAILS

DPW 1

SHEET
SCALE
NTS
DATE
MAY '11

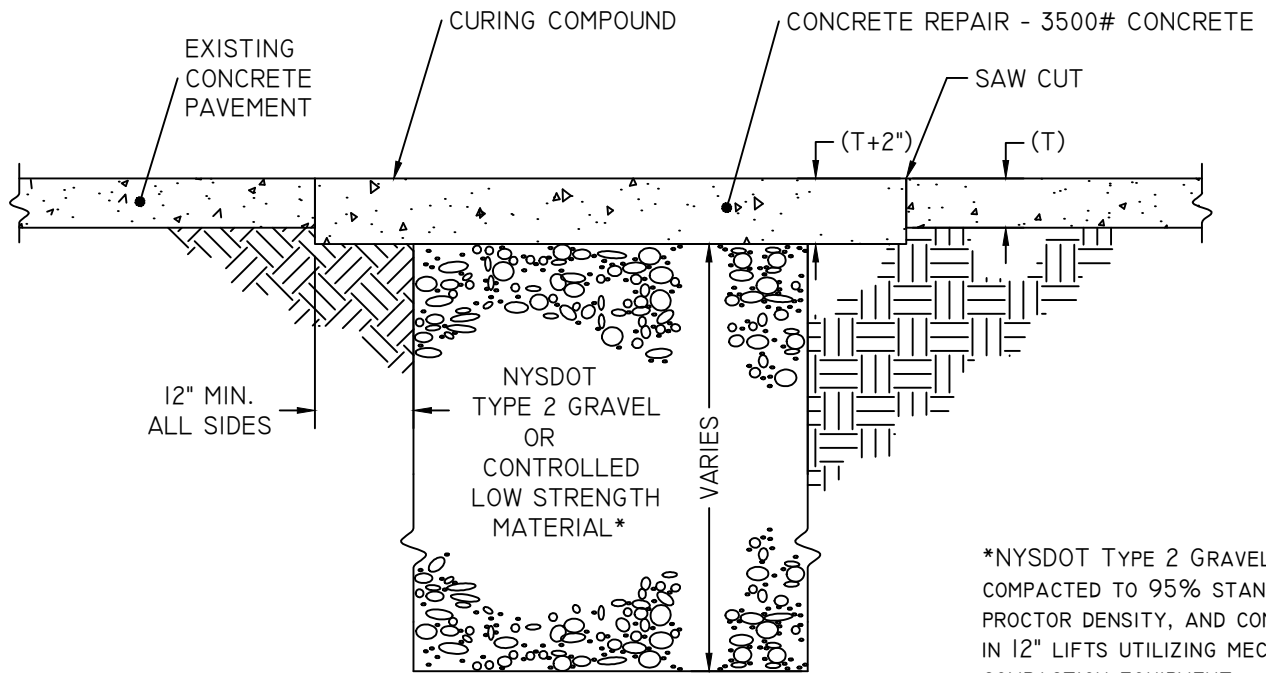
TITLE
TYPICAL PAVEMENT REPAIR

DRAWN		APPROVED	
MDR		JAL	
DATE	BY	REV	



CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
145 STEELE ST, JAMESTOWN, NY 14701
716-483-7545(OFFICE) 716-483-7544(FAX)

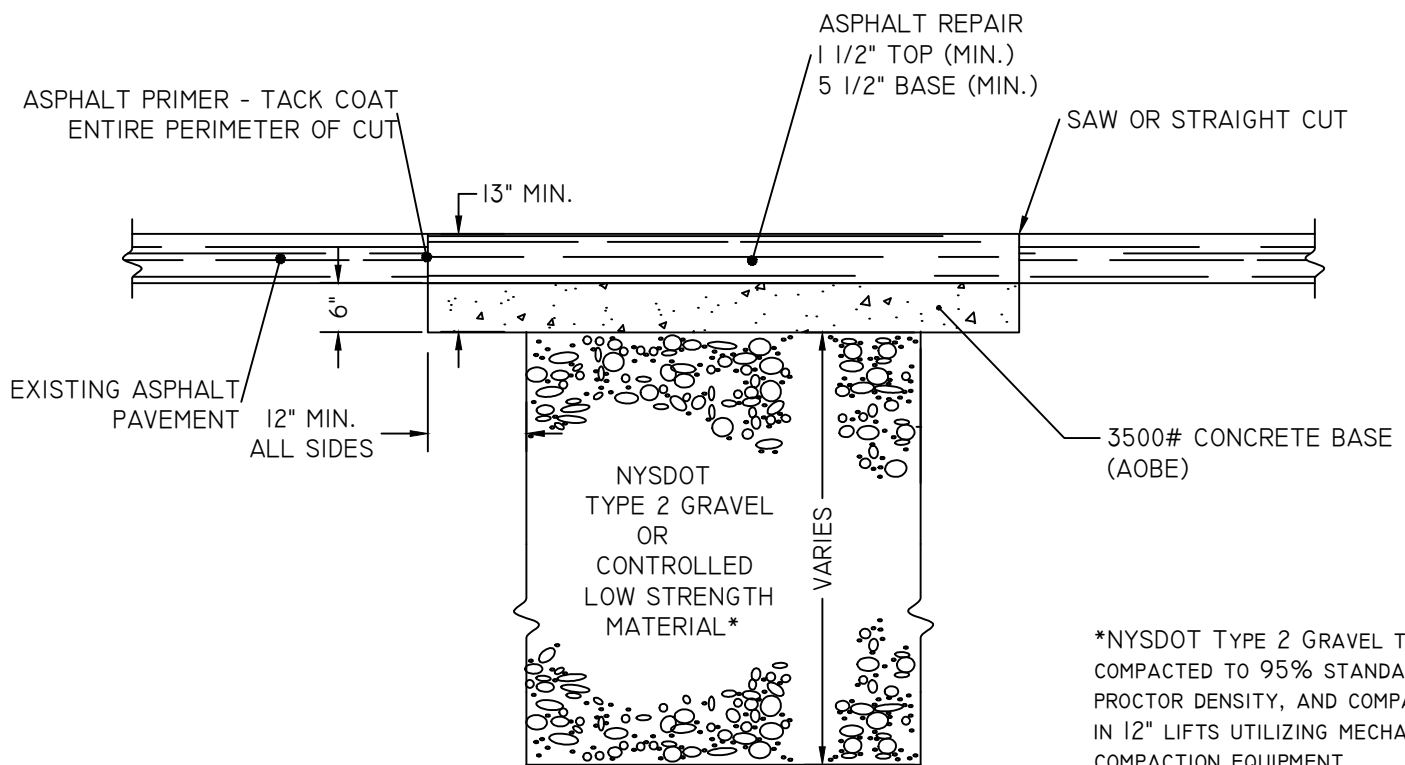
DIRECTOR OF PUBLIC WORKS: _____
JEFFREY A. LEHMAN, PE



*NYS DOT TYPE 2 GRAVEL TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY, AND COMPACTED IN 12" LIFTS UTILIZING MECHANICAL COMPACTION EQUIPMENT

*CONTROLLED LOW STRENGTH MATERIAL (CLSM) FILL (NON-FLYASH) AS PER SECTION 2.02

CONCRETE PAVEMENT REPAIR



*NYS DOT TYPE 2 GRAVEL TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY, AND COMPACTED IN 12" LIFTS UTILIZING MECHANICAL COMPACTION EQUIPMENT

*CONTROLLED LOW STRENGTH MATERIAL (CLSM) FILL (NON-FLYASH) AS PER SECTION 2.02

ASPHALT PAVEMENT REPAIR

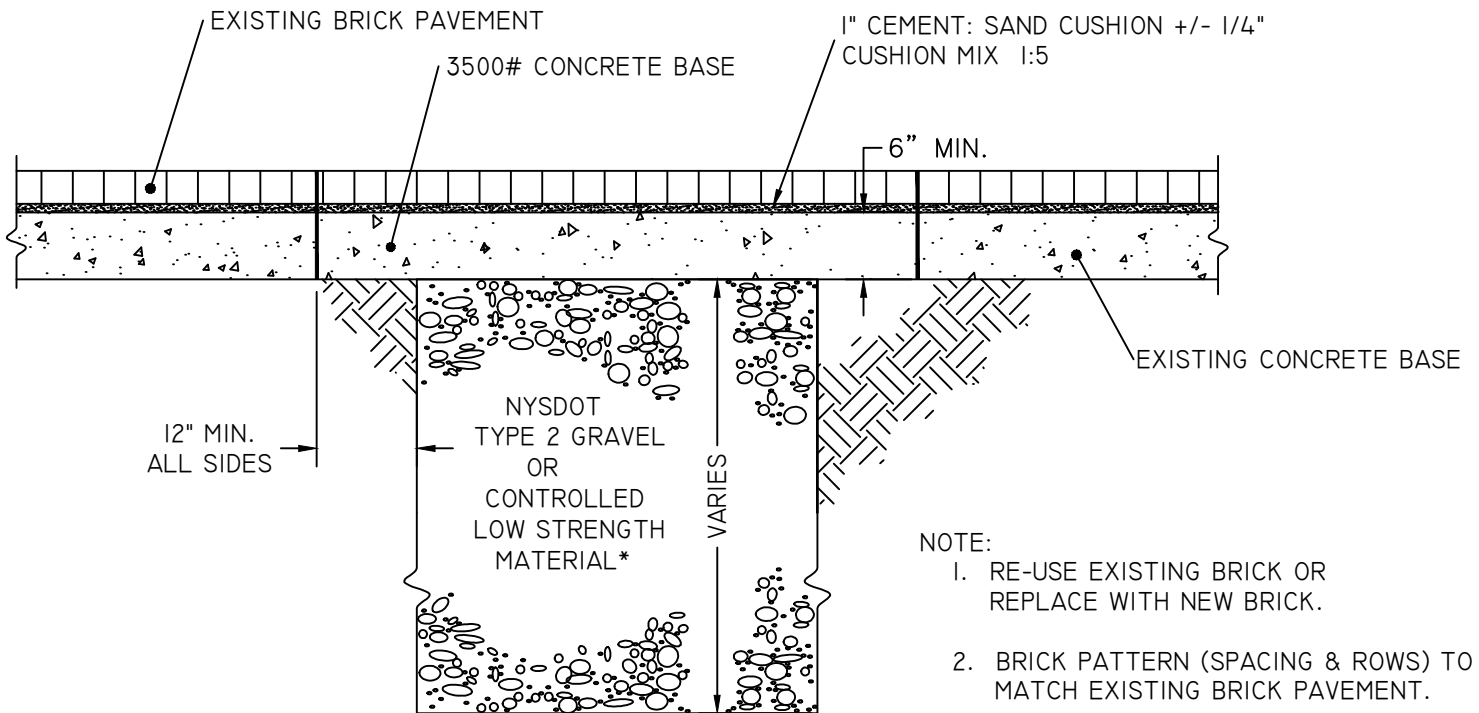
DPW 2	SHEET	SCALE	NTS	TITLE	
				PAVEMENT REPAIR	
				DATE	
				MAY '11	

DRAWN		APPROVED	
MDR		JAL	
DATE	BY	DATE	REV



CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
145 STEELE ST, JAMESTOWN, NY 14701
716-483-7545(OFFICE) 716-483-7544(FAX)

DIRECTOR OF PUBLIC WORKS: _____
JEFFREY A. LEHMAN, PE



NOTE:

1. RE-USE EXISTING BRICK OR REPLACE WITH NEW BRICK.
2. BRICK PATTERN (SPACING & ROWS) TO MATCH EXISTING BRICK PAVEMENT.
3. FILL JOINTS WITH CEMENT/SAND MIX. JOINT MIX 1:3

BRICK PAVEMENT REPAIR

*NYS DOT TYPE 2 GRAVEL TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY, AND COMPACTED IN 12" LIFTS UTILIZING MECHANICAL COMPACTION EQUIPMENT

*CONTROLLED LOW STRENGTH MATERIAL (CLSM) FILL (NON-FLYASH) AS PER SECTION 2.02

DPW 3

SHEET

SCALE
NTS

DATE
MAY '11

TITLE

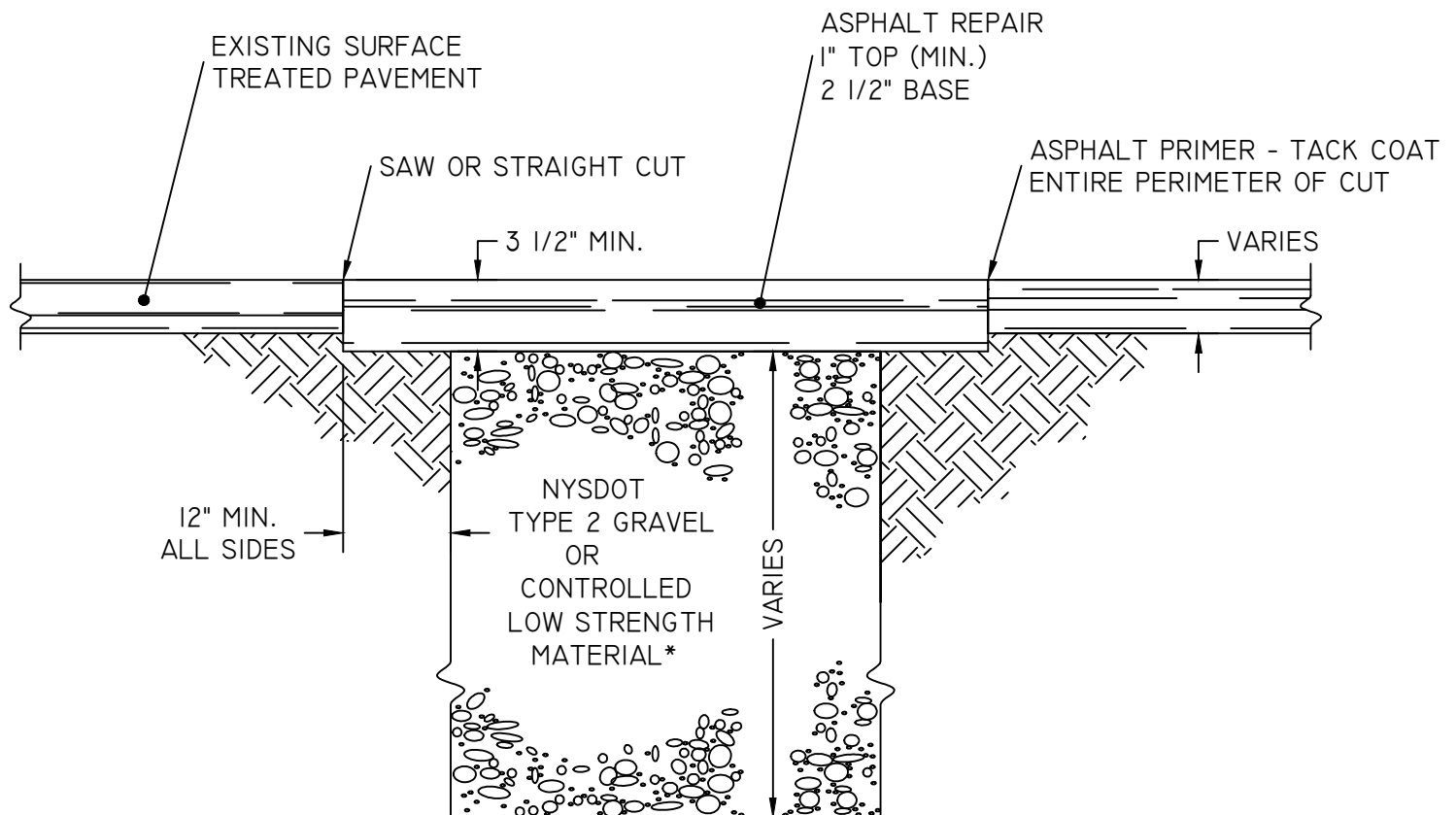
PAVEMENT REPAIR

DRAWN		APPROVED	
MDR		JAL	
DATE	BY	REV	



CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
145 STEELE ST, JAMESTOWN, NY 14701
716-483-7545(OFFICE) 716-483-7544(FAX)

DIRECTOR OF PUBLIC WORKS: _____
JEFFREY A. LEHMAN, PE



SURFACE TREATED STREET AND DRIVEWAY REPAIR

*NYS DOT TYPE 2 GRAVEL TO BE
COMPACTED TO 95% STANDARD
PROCTOR DENSITY, AND COMPACTED
IN 12" LIFTS UTILIZING MECHANICAL
COMPACTION EQUIPMENT

*CONTROLLED LOW STRENGTH
MATERIAL (CLSM) FILL
(NON-FLYASH) AS PER SECTION 2.02

DPW 4

SHEET

SCALE
NTS

DATE
MAY '11

TITLE
PAVEMENT REPAIR

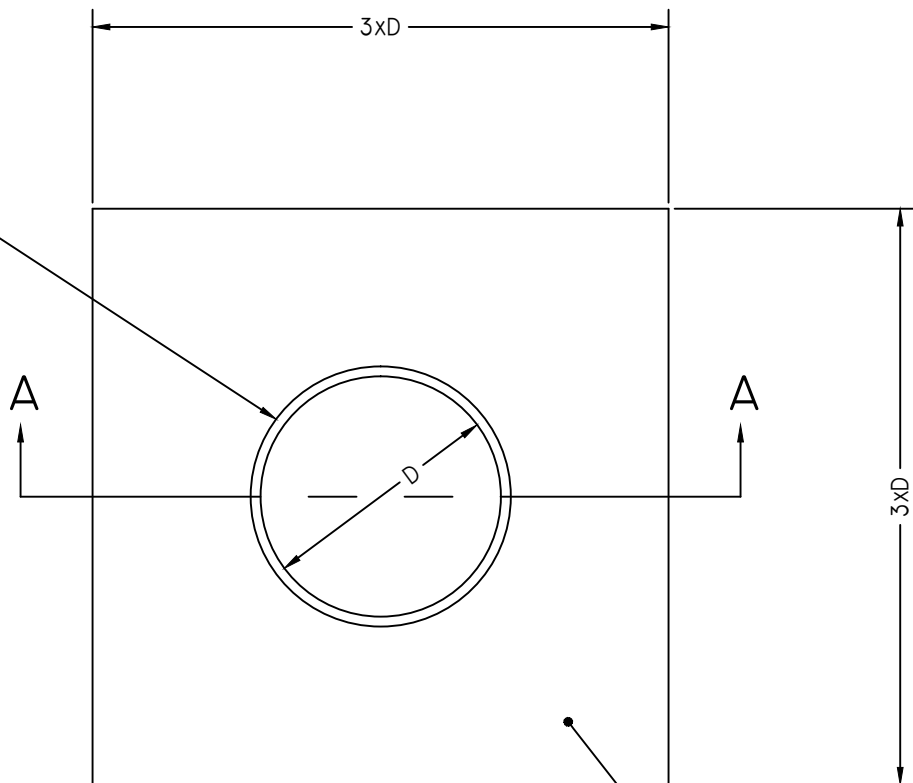
DRAWN		APPROVED	
MDR		JAL	
DATE	BY	DATE	REV



CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
145 STEELE ST, JAMESTOWN, NY 14701
716-483-7545(OFFICE) 716-483-7544(FAX)

DIRECTOR OF PUBLIC WORKS: _____
JEFFREY A. LEHMAN, PE

MANHOLE FRAME
& COVER



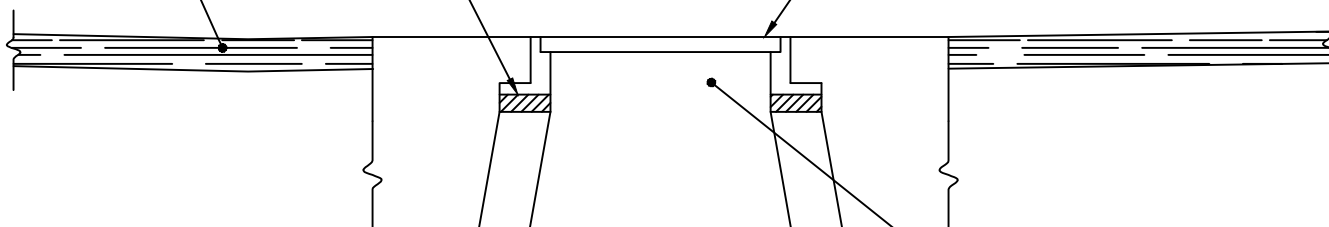
PLAN VIEW

PAVEMENT TYPE TO
MATCH EXISTING

EXISTING STREET
PAVEMENT

MORTOR BEDDING
MIN 1/2"
MAX 2"

SET FRAME 1/4" BELOW
EXISTING STREET GRADE



SECTION A-A

RAISE OR LOWER
CHAMBER AS REQUIRED

STREET MANHOLE REPAIR

DPW 5

SHEET

SCALE

NTS

DATE

MAY '11

TITLE

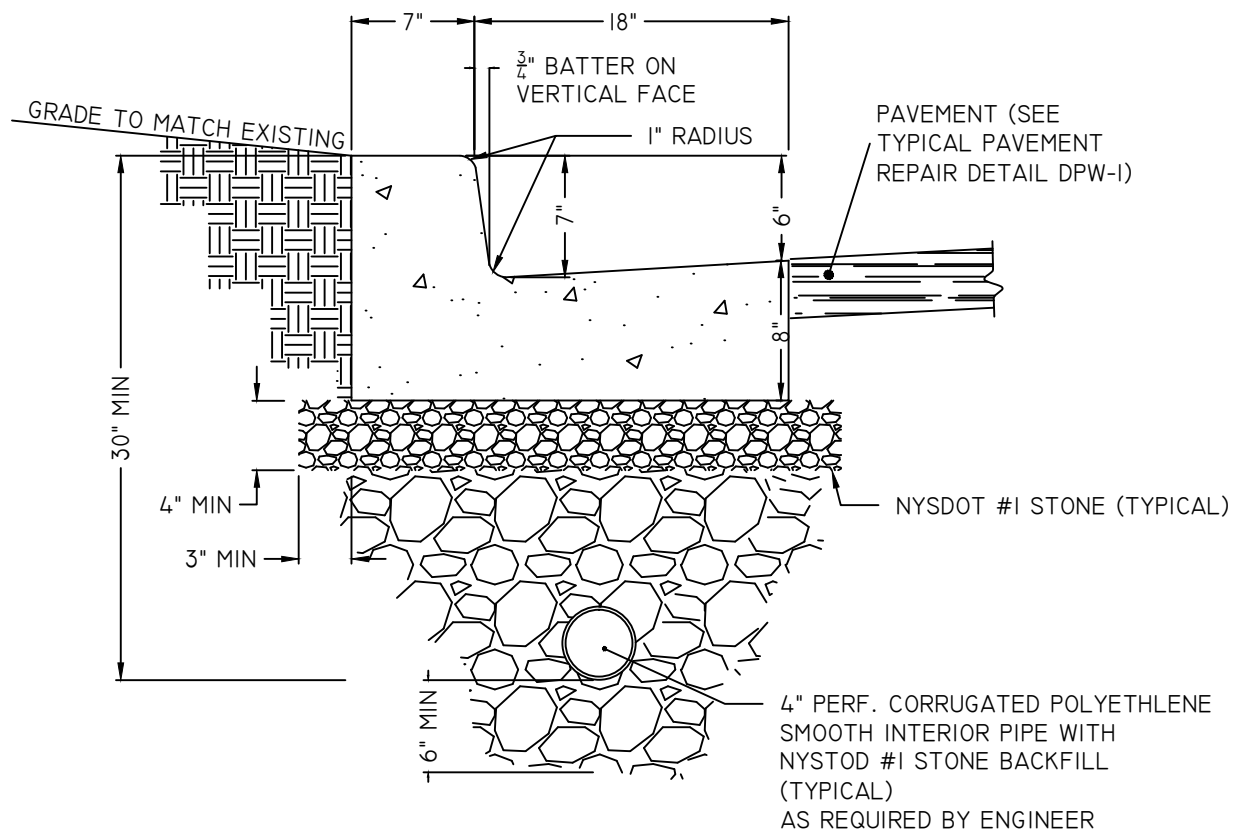
STREET MANHOLE REPAIR

DRAWN		APPROVED	
MDR		JAL	
DATE	BY	REV	



CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
145 STEELE ST, JAMESTOWN, NY 14701
716-483-7545(OFFICE) 716-483-7544(FAX)

DIRECTOR OF PUBLIC WORKS: _____
JEFFREY A. LEHMAN, PE



18" CURB AND GUTTER SECTION

DPW 7

SHEET

SCALE

NTS

DATE

MAY '11

TITLE

18" CURB AND GUTTER SECTION

DRAWN

MDR

APPROVED

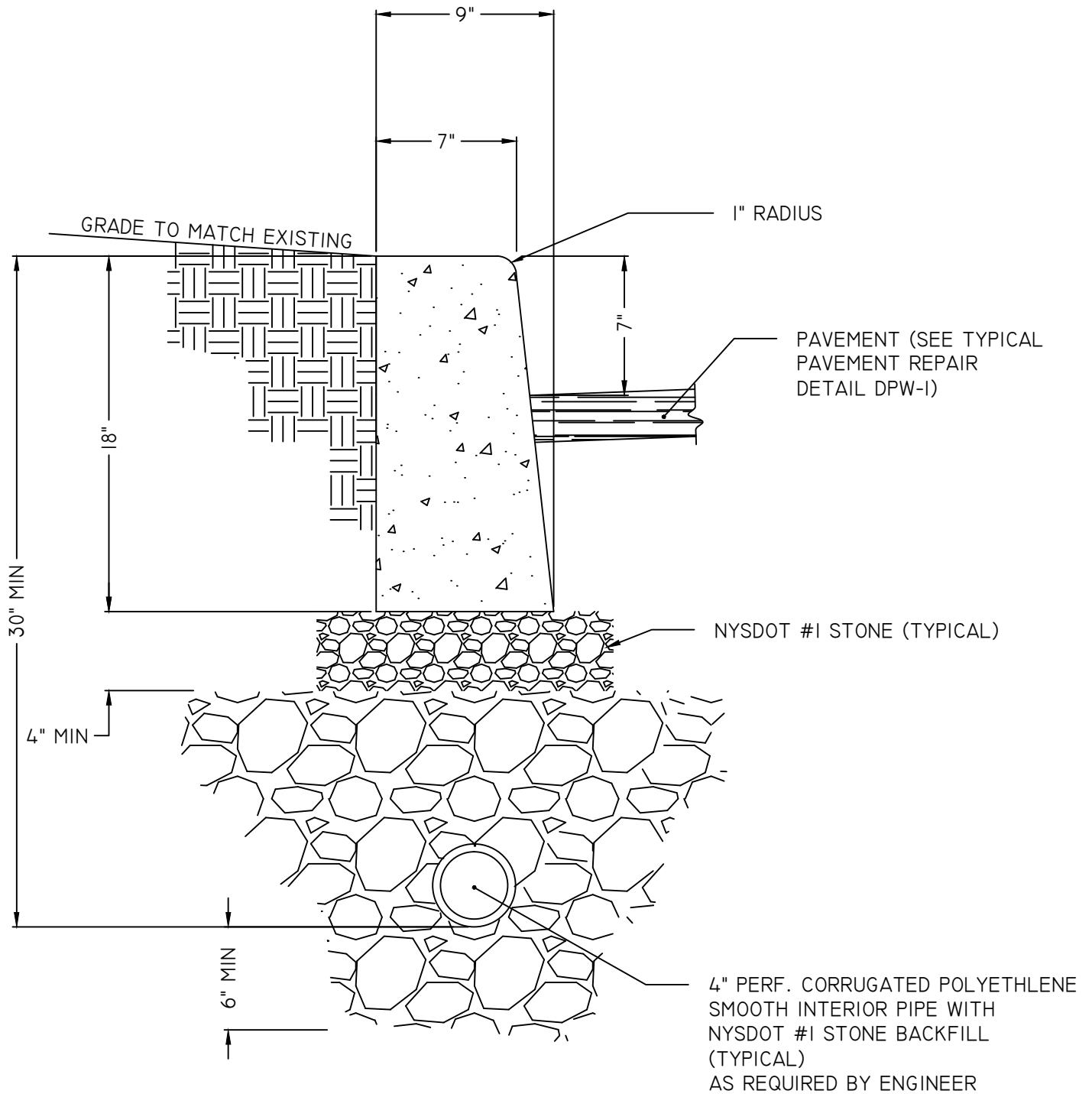
JAL

DATE	BY	REV



CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
145 STEELE ST, JAMESTOWN, NY 14701
716-483-7545(OFFICE) 716-483-7544(FAX)

DIRECTOR OF PUBLIC WORKS: _____
JEFFREY A. LEHMAN, PE



VERTICAL CURB SECTION

DPW 9

SHEET

SCALE

NTS

DATE MAY '11

TITLE

VERTICAL CURB SECTION

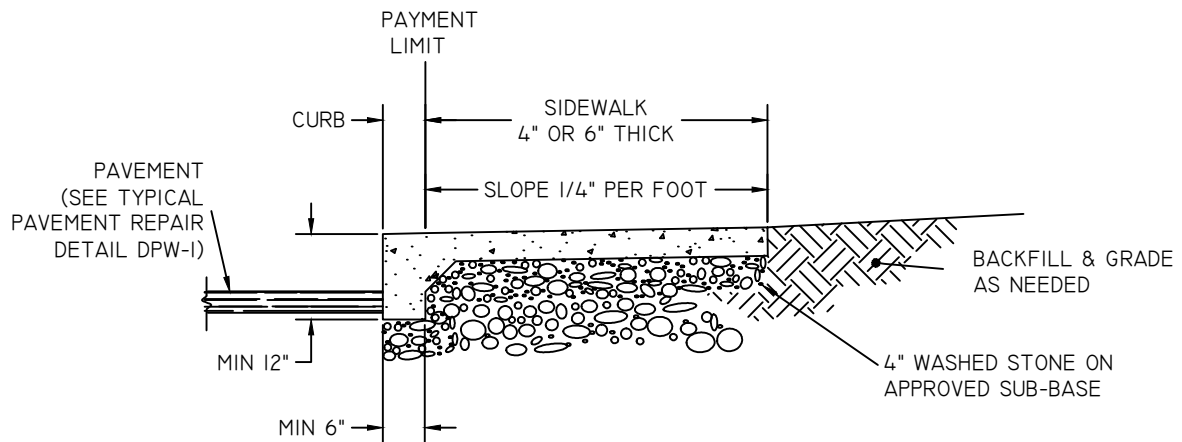
DRAWN MDR APPROVED JAL

DATE	BY	REV

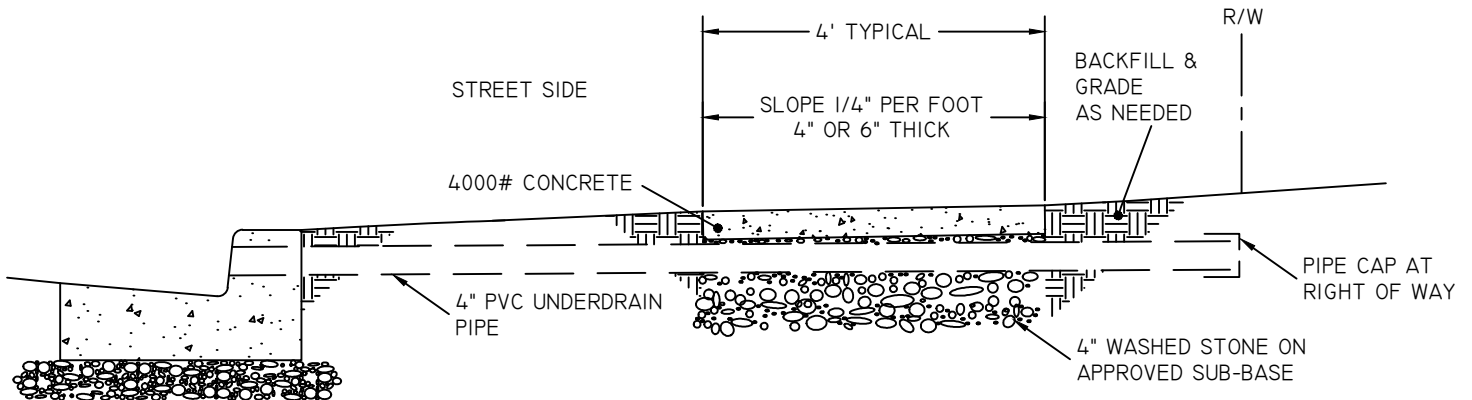


CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
145 STEELE ST, JAMESTOWN, NY 14701
716-483-7545(OFFICE) 716-483-7544(FAX)

DIRECTOR OF PUBLIC WORKS: _____
JEFFREY A. LEHMAN, PE



INTEGRAL CURB & SIDEWALK SECTION



TYPICAL SIDEWALK SECTION

NOTE:

1. DRIVEWAYS AND DOWNTOWN AREA SIDEWALKS SHALL BE 6" THICK.
2. ALL OTHER SIDEWALKS SHALL BE 4" THICK.
3. FULL DEPTH JOINTS EVERY 5'.
EXPANSION JOINTS EVERY 30'.

DPW II

SHEET

SCALE

NTS

DATE

MAY '11

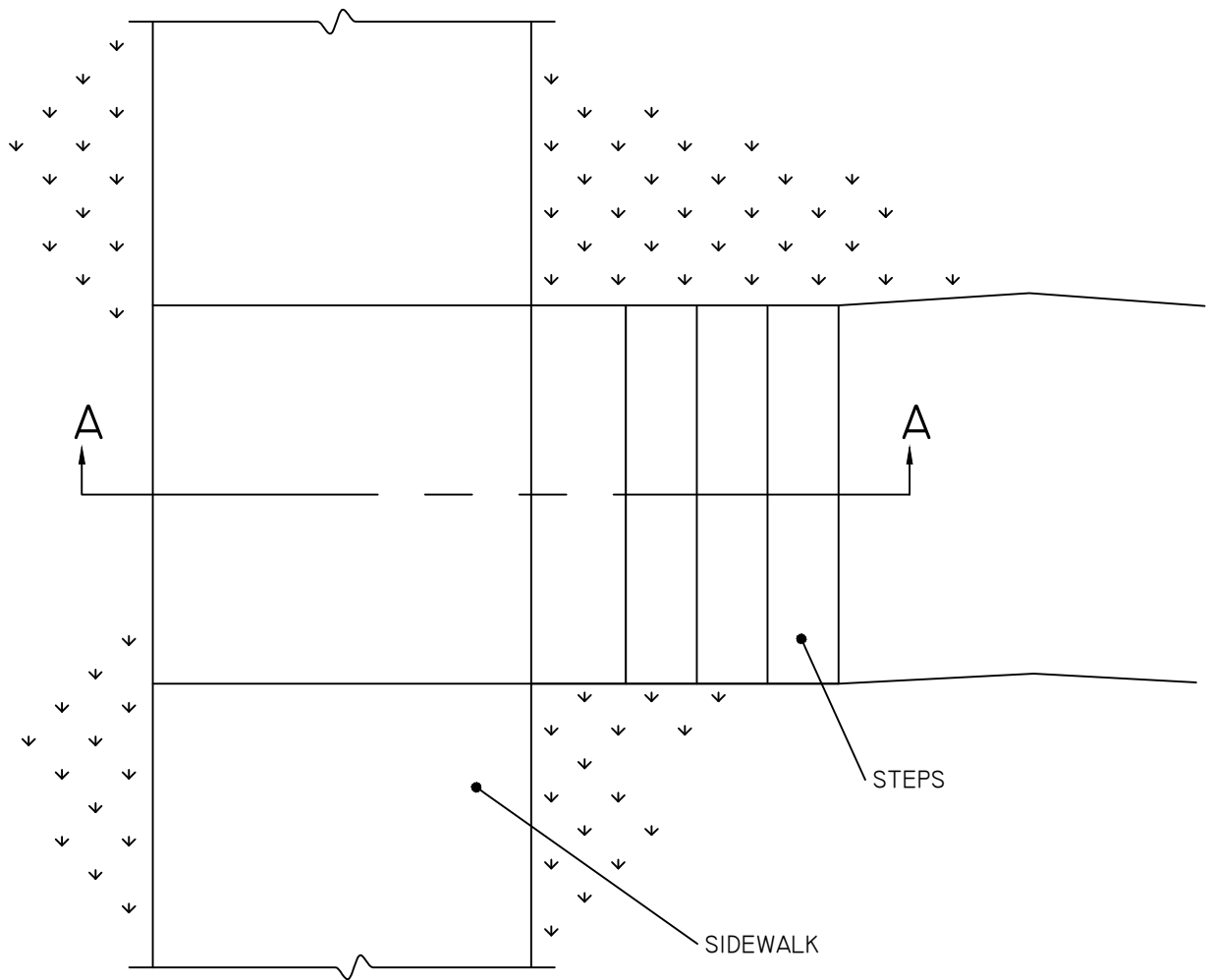
TITLE
SIDEWALK SECTION

DRAWN		APPROVED	
MDR		JAL	
DATE	BY	REV	

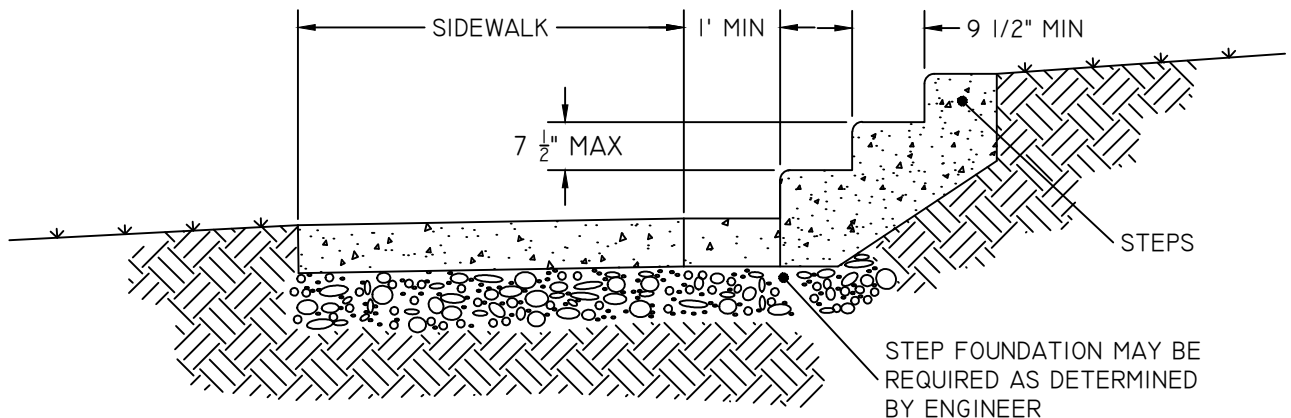


CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
145 STEELE ST, JAMESTOWN, NY 14701
716-483-7545(OFFICE) 716-483-7544(FAX)

DIRECTOR OF PUBLIC WORKS: _____
JEFFREY A. LEHMAN, PE



PLAN VIEW



SECTION A-A

SIDEWALK STEP

DPW 12

SHEET

SCALE
NTS

DATE
MAY '11

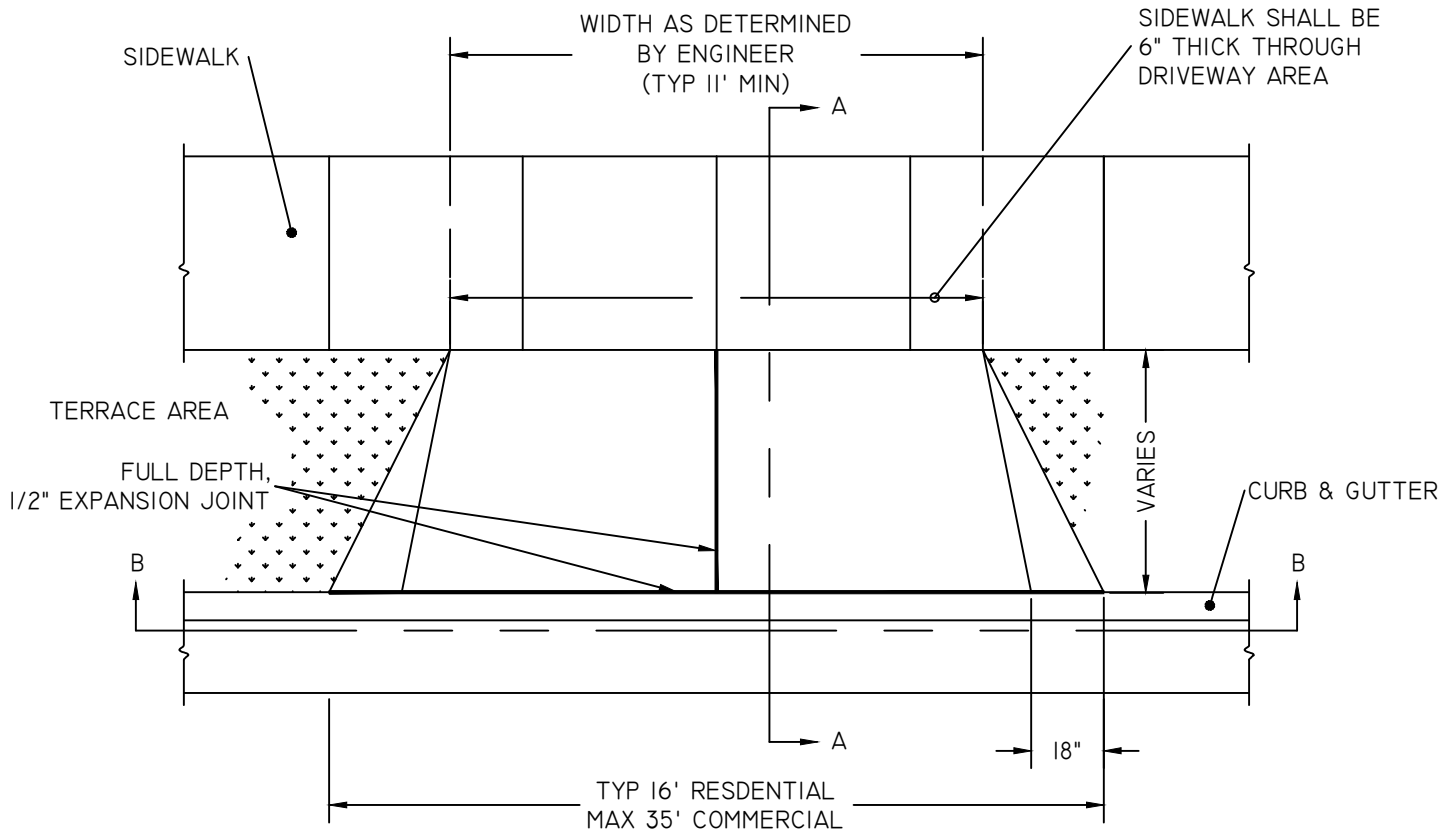
TITLE
SIDEWALK STEPS

DRAWN		APPROVED	
MDR		JAL	
DATE	BY	REV	

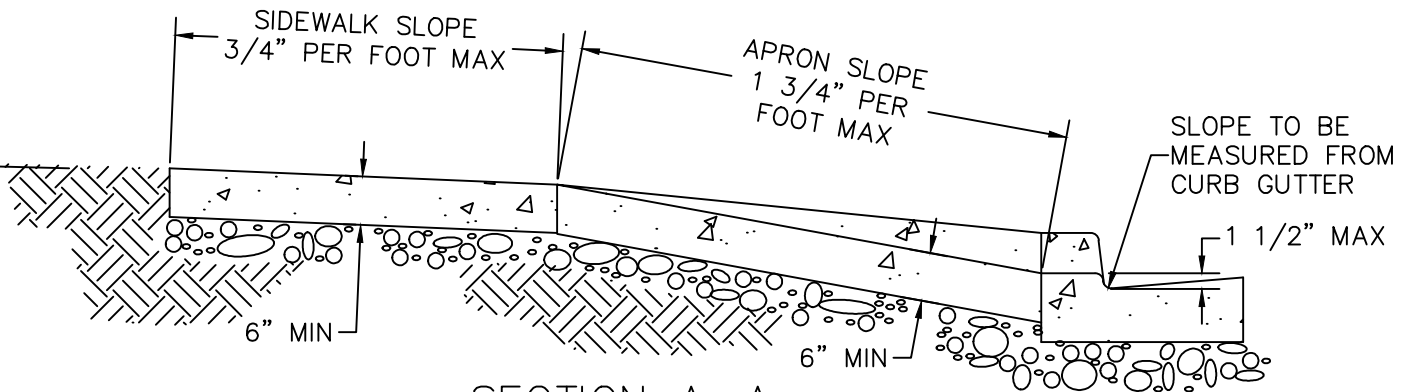


CITY OF JAMESTOWN
DEPARTMENT OF PUBLIC WORKS
145 STEELE ST, JAMESTOWN, NY 14701
716-483-7545(OFFICE) 716-483-7544(FAX)

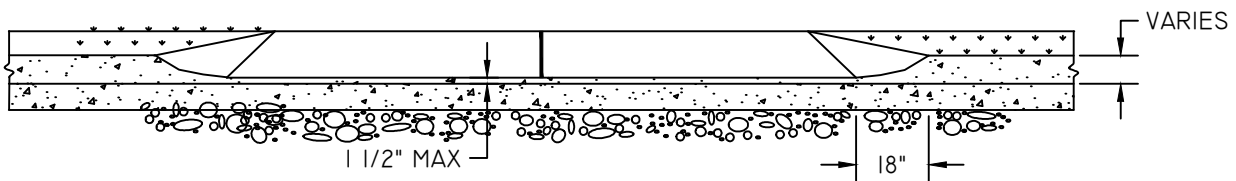
DIRECTOR OF PUBLIC WORKS: _____
JEFFREY A. LEHMAN, PE



DRIVEWAY PLAN



SECTION A-A



SECTION B-B

STANDARD DRIVEWAY OPENING

DPW 13

SHEET

SCALE

NTS

DATE

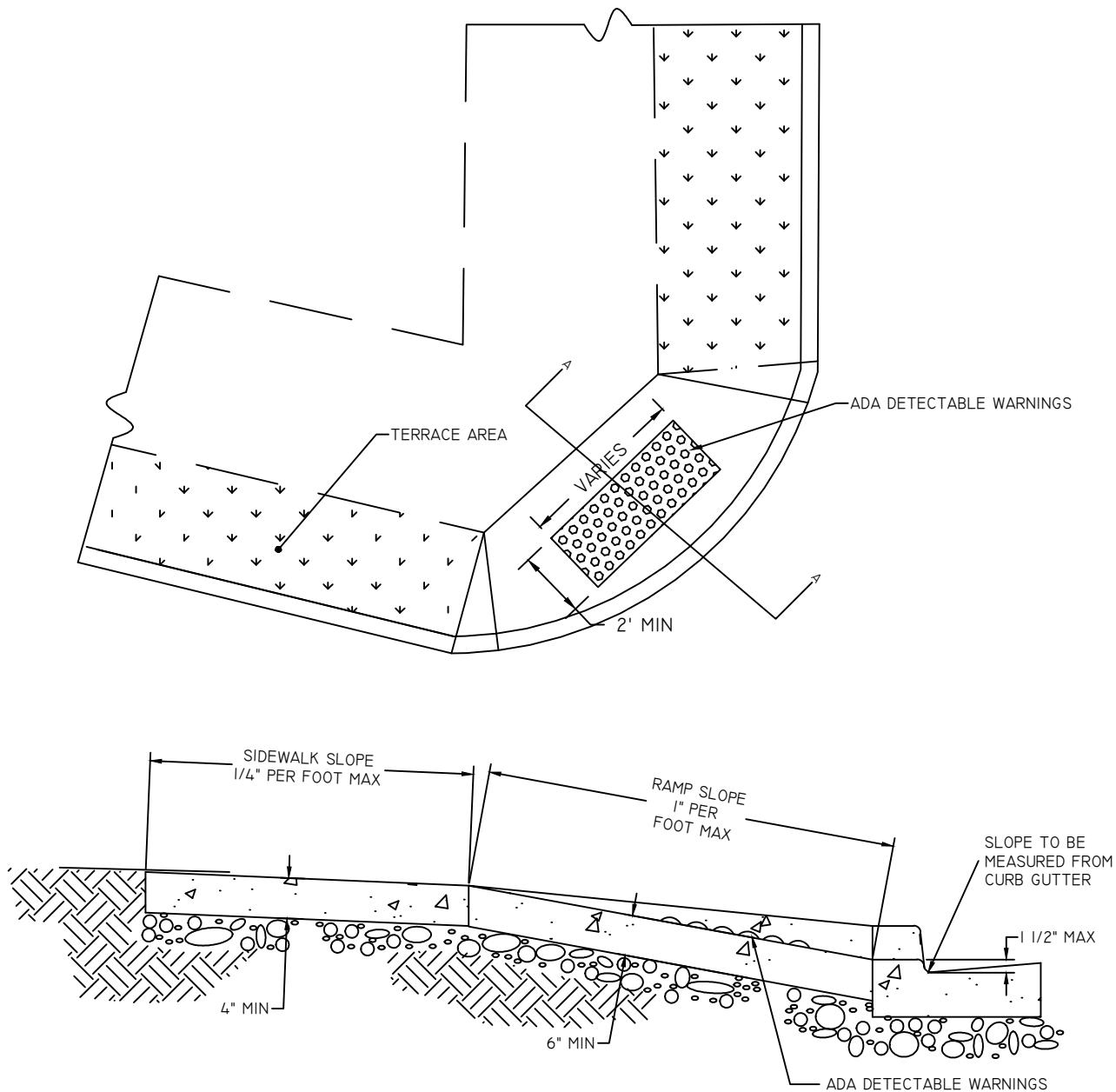
TITLE
STANDARD DRIVEWAY OPENING

DRAWN		APPROVED	
MDR		JAL	
DATE	BY	REV	

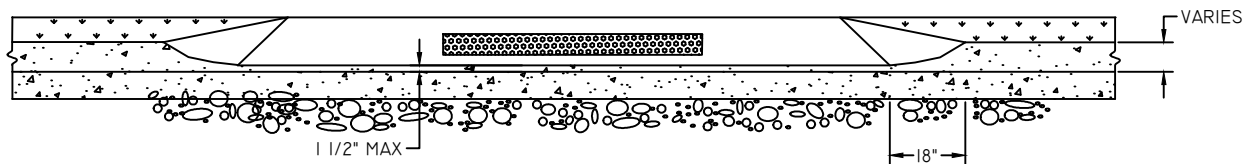


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JEFFREY A. LEHMAN, PE



SECTION A-A



CURB HANDICAPPED RAMP

DPW 15

SHEET
SCALE
NTS
DATE
MAY '11

TITLE
CURB HANDICAPPED RAMP

DRAWN		APPROVED	
MDR		JAL	
DATE	BY	DATE	REV



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DEPARTMENT OF PUBLIC WORKS
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