

SPECIFICATIONS-
GENERAL PROVISIONS

SPECIFICATIONS - GENERAL PROVISIONS

Section 1 - Definitions

The term "City" wherever used in these specifications shall mean the City of Massillon, OH, acting through its Director of Public Service and Safety or his properly authorized agent. The term "Director" wherever used shall mean the Director of Public Service and Safety of the City of Massillon, OH, duly appointed and holding office at the time the contract was executed or during the fulfillment thereof. The term "Engineer" wherever used shall mean the City Engineer of the City of Massillon, OH, or his properly authorized agent.

The term "Contractor" wherever used shall mean the party of the second part entering into contract with the City for the performance of this work. The term "workday" wherever used shall mean any time the Contractor is on the work site.

Wherever reference is made to the Specifications of the Ohio Department of Transportation (ODOT), the definitions shall be construed as follows:

"State" shall mean the City of Massillon, OH.

"Director" shall mean the Director of Public Service and Safety of the City of Massillon, OH, or his duly authorized representative, subject to the conditions contained herein.

"Laboratory" shall mean the City's own laboratory facilities or person or company engaged to make material or other tests for the City.

"ASTM" shall mean the American Society of Testing Materials.

Section 2 - Work Embraced

The Contractor shall do all the work and furnish all materials except as otherwise specified herein, necessary for the completion of the contract in accordance with the Legal Advertisement, Instructions to Bidders, Proposal, Specifications, Contract Plans, Special Provisions, Affidavits, Schedule of Minimum Wages and Addenda, if any; all of which are in full effect as part of the contract between the City and Contractor. Any special provisions in the proposal or shown on the plans shall take precedence over any section of the specifications which may be in conflict.

Section 3 - Decisions

All the work under this contract shall be done to the satisfaction of the Engineer, who shall in all cases determine the amount, quality, fitness, and acceptability of work and materials which are to be paid for hereunder and shall decide all questions which may arise as to the fulfillment of this contract by the Contractor, provided, however, that the Director may reverse or modify the decision, and the Director's determination and decision shall be final; and such determinations and decisions in case any question shall arise, shall be a condition precedent to the right of the Contractor to receive any money hereunder.

SPECIFICATIONS - GENERAL PROVISIONS (Continued.)

The Contractor/ Bidder shall upon the request of the City prior to during, or after the awarding of said contract, perform the following at no extra cost to the City:

- A daily sign in and sign out sheet or a copy of the Contractor's daily work sheet.
- A signed affidavit from all companies performing work on the job site.
- If and only if requested the Contractor shall provide the City copies of all canceled checks of the workers.

Section 4 - Orders

The Contractor must have on the work site at all times a foreman, superintendent, or other competent representative, to whom orders or instructions may be given. In the case of subcontractors being used, the party in contract with the City will supply a single foreman to relay such orders or requests made by the City. Such orders shall have the same force and effect as if given directly to the Contractor.

All orders in relation to the work given by the Engineer or directly may be given orally or written as he may elect.

Section 5 - Workmen

Incompetent, careless, disorderly, or any workmen or foreman showing signs of alcohol or drug abuse during the workday will not be permitted on the work site, and any such shall be immediately discharged from the project by the Contractor upon complaint by the Engineer or his agents.

Section 6 - Responsibility

The Contractor shall take all responsibility for the work and take all precautions for preventing injuries to persons and damage to property on or about the work; shall bear all losses resulting to him/her on account of the amount or character of work, or because the nature of the ground on which the work is done is different from that which was estimated or expected, or on account of weather, floods, the elements, or other causes, and he/she shall assume the defense of, indemnify and save harmless, the City and its individual officers or agents from all claims relating to the labor and material furnished for the work; to inventions, patents, and patent rights used in doing the work; to injuries to any person or damage to any corporation received or sustained by or from the Contractor or his/her employees in doing the work, or in consequence of any improper materials, methods, implements, or labor used therein.

SPECIFICATIONS - GENERAL PROVISIONS (Continued.)

The Contractor shall provide lights, barricades, and watchmen necessary to protect the public or the work and maintain traffic when called for in the proposal, along the project, and also along the detour at the intersecting side streets. The City at the Contractor's written request will supply paper "NO PARKING" signs for which the Contractor will be responsible for posting in plain sight. Signs must be posted no later than 24 hours in advance on each street where work will be performed and City Police Department Traffic officer (330)830-1750 be notified by the Contractor that signs are in place. Signs must be removed and replaced after each phase of performed work. Contractor is responsible for reusing signs. Contractor will notify the City Police Department Traffic officer for removal of vehicles in violation of the "NO PARKING" signs.

The Contractor shall keep himself/herself fully informed of and shall carefully observe and comply with all Federal and State laws and City of Massillon ordinances, permits, and regulations which in any manner affect the conduct of the work, and shall indemnify and save harmless the City and all of its officers, agents, and servants against any claim or liability arising from or based upon the violation of such law, ordinance, permit, requirement, or regulation, whether by himself/herself or his/her employees.

Section 7 - Insurance

The Contractor shall at all times during the progress of the work comply with the provisions of the laws of Ohio relating to workmen's compensation and State insurance fund for the benefit of injured employees and the dependents of killed employees, and shall at all times during the progress of the work carry accident liability and property damage liability insurance in an amount sufficient to reasonably indemnify himself/herself and his/her subcontractors and also the City against loss from claims for personal injuries and accidents to employees of the Contractor, persons engaged on the work under another Contractor, employees of any subcontractor or others engaged on or about the work or the public, and also for damages to public or private property in or along the work and to utilities in the street and to the improvement itself. The City reserves the right to annul this contract at anytime upon receiving evidence of the Contractor's failure to comply with the statutes as described above. In order to perform any work in the City the Contractor will provide a copy of his/her company's liability insurance certificate with a minimum coverage of one million dollars (\$1,000,000.00) when bids are submitted for the Bid Opening.

Section 8 - Subcontractors

Contractor may not assign or sublet the whole or any part of the contract without first requesting permission in writing and receive approval in writing from the Director. Such assigning or subletting shall not release the Contractor or his/her bondsmen from any of the contract obligations hereunder. At the time the bid is submitted he/she shall list the proposed Subcontractor(s) with the bid.

SPECIFICATIONS - GENERAL PROVISIONS (Continued.)

Section 9 - Sanitation

The necessary sanitary conveniences for the use of employees on the work properly secluded from public observation shall be constructed and maintained by the Contractor in such manner and at such points as shall be approved, and their use shall be strictly enforced.

Section 10 - Stakes

All work to be done under this contract must be in accordance with lines and grades set by the Engineer or set by his/her own surveyors when specified in the specifications. If and only if the Item Construction Staking or Layout does not appear on the spec sheet, the City will stake out the project, if the City deems it necessary. The Contractor must notify the Engineer 48 hours in advance of needing services or laying out the work. The Contractor shall carefully preserve such stakes. When he/she fails to comply with this requirement, the amount of any reasonable expense incurred in resetting stakes shall be paid by the Contractor before the final estimate will be allowed.

Section 11 - Extension of Time

When Contractor's bid is submitted for the Bid Opening the Contractor will state when work will begin and be completed. The Contractor shall supply to the City Engineer a written schedule for approval prior to commencing work. If Contractor fails to complete the work within the time stated on his/her bid, the actual expenses for the time subsequent to the completion date for inspection or other expenses incurred by the City shall be collected from the Contractor as actual expenses and not as a penalty. This does not preclude extension of time for completion if the Board of Control grants extension after appeal by the Contractor in writing.

The work will be commenced at such points as the Engineer may direct. If the work under this contract conflicts with other work in the same territory for or by the City or a public service corporation, the Engineer shall determine when and how the work shall proceed.

The Engineer on account of public necessity, adverse weather conditions, or other reasons may order all work suspended, and thereupon the Contractor must pile up all material neatly, fill depressions, provide temporary boardwalks, crossings, fix up other means as are necessary to protect the public, the work, and facilitate traffic. Time allowed for the completion of the work shall be extended in an amount equal to that lost in this manner.

If legal obstructions to the work arise, the delay shall operate to extend the time for the completion of the part(s) to be constructed, but no damages shall be claimed or allowed the Contractor for such delay.

SPECIFICATIONS - GENERAL PROVISIONS (Continued.)

The following schedule of monthly anticipated adverse weather delays is based on the National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

Monthly Anticipated Adverse Weather Delay (Work days based on a 5-day work week)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
15	12	7	6	6	5	4	4	4	4	6	10

Any request for additional adverse weather days from the above list, shall be formally requested in writing and included with monthly invoices. Adequate proof of adverse weather days must be verified by use of local newspaper weather data, and /or National Weather data and/or appropriate information as applicable.

Section 12 - Inspection

No material of any kind shall be used in the work until it has been inspected and accepted by the City. The Contractor must furnish all the labor necessary in handling such material for inspection. All materials rejected must be immediately removed from the vicinity of the work. Materials or workmanship found at anytime to be defective shall be immediately remedied by the Contractor, regardless of previous inspection.

The Engineer, his assistants, inspectors, and agents, together with other parties who may enter into contracts with the City for doing work within the territory covered by this contract, shall, for all purposes which may be required by their contracts, have access to the work and premises used by the Contractor; and Contractor shall provide safe and proper facilities therefore.

The Engineer, his assistants, and agents shall at all times have immediate access to all places of manufacture where materials are being made for use under this contract and shall have full facilities for inspecting the same.

No work shall be done except in the presence of the Engineer, his assistants, agents, or inspectors. It shall be the duty of such agents or inspectors to see that all materials used and all work done shall be strictly in accordance with these specifications, and such agents or inspectors shall have the authority whatsoever to order any change in the materials, manner of doing the work, or quantity of work to be done.

The Contractor shall furnish a suitable building, heat, and light for a testing laboratory if requested to do so by the Director.

SPECIFICATIONS - GENERAL PROVISIONS (Continued.)

To provide for and facilitate inspection, the Contractor shall immediately notify the Engineer of the arrival of all materials and of the time or beginning of various portions of the work at least 48 hours in advance thereof.

Section 13 - Samples

Before commencing the work the Contractor must submit samples for testing or otherwise present satisfactory evidence that the material he/she proposes to furnish may be reasonably expected to meet the requirements. The object of requiring this information is to prevent delay insofar as possible after the work is started.

Section 14 - Reservations by City for Underground Work

The City reserves the right to lay, relay, or allow to be laid or re-laid any sewers, drains, gas pipes, water pipes, conduit, or any structure or necessary appurtenances thereto which in the opinion of the Engineer are necessary; however, it is the intention of the City insofar as possible to require all property owners to have all water, gas, and sewer connections made before laying pavement.

Section 15 – Utilities

It is the sole responsibility of the Contractor to notify all utility companies at least 48 hours in advance of starting the project and to have all utility companies mark said locations of utilities thereof. Any damage to the utility lines will be the responsibility of the Contractor. Call Ohio Utilities Protection Service two (2) working days before you dig. The toll free number (1-800-302-2764) Non-Members must be called directly.

Section 16 - Extra Work

The Director, when deemed necessary, may make alternates or modifications in the work or may omit from the work covered in this contract any portion thereof, or may order extra work done; the price to be paid for such extra work will be agreed upon and signed by both parties to this contract and then approved by the Board of Control as a supplementary contract before being undertaken. Such extra work must not increase the contract beyond the Engineer's estimate unless hereto agreed. Any extra work requested from the contractor must be a formal request in writing. Any extra work performed without written approval from the "Director" or "Engineer" will not be considered for payment.

Section 17 - Monthly Invoices & Retainers

As the work progresses the Contractor shall each month submit pay invoices for labor performed and material furnished by him to the Engineer for payment and Labor Standards compliance form.

SPECIFICATIONS - GENERAL PROVISIONS (Continued.)

The Engineer checks and approves all material and labor furnished and submits the pay invoices to the City Auditor for payment. On the basis of these said pay invoices, less previous payments, the City shall pay contracts as follows:

- 1) 92% of estimate until that job is more than 50% complete, and thereafter 100% of the estimate less the amount already retained; all funds retained pursuant to Sections 153.12 and 153.14 of the Revised Code for the faithful performance of work shall be deposited in an escrow account designated by Section 153.63 of the Revised Code.
- 2) 92% of the estimate as shown by invoices for material furnished, delivered, and accepted by the Engineer, but which has not actually entered into and become part of the improvement.
- 3) After the job is 50% complete, no further fund shall be retained.

This retainer is withheld until thirty (30) days after 100% of estimate as shown by invoices for material furnished, delivered, and actually entered into and becomes part of the improvement or the improvement is accepted by the Engineer unless the Contractor is advised differently by the City.

Section 18 - Forfeiture of Contract

If in the opinion of the Director the work is being unnecessarily delayed and if in his opinion the Contractor will not be able to complete it within the specified time, then in such case, upon ten (10) days written notice to the Contractor, the City shall have the right to annul the contract, and enter upon and take possession of the work. In such case all work completed satisfactorily by the Contractor shall be measured, and he/she shall be paid for the same under the condition of payment specified.

Section 19 - Cleanup of Project

Before final approval can be made, the entire construction area must be cleared of excess excavation, salvaged materials, rubbish, stones, construction waste, and other debris so as to leave the project in a neat, finished appearance to the satisfaction of the Engineer.

Section 20 - Release of City

The acceptance by the Contractor of the last payment made as aforesaid shall operate as and be a release to the City and agents thereof from all claim and liability to the Contractor for anything done or furnished for, or relating to the work, or for any act or neglect of the City or of any person related to or affecting the work, except a claim against the City of the remainder, if any, of the amount kept or retained as above provided.

SPECIFICATIONS - GENERAL PROVISIONS (Continued.)

Section 21 - Guarantee

The Contractor hereby agrees that all repairs made by necessary defects in roadway paving, sidewalk, curb, or curb and gutter, sewers, or other work done under this contract arising out of the use of defective material, settlement of foundation, or improper workmanship in the construction thereof and which from such cases may become necessary during the period of one (1) year after the date of approval by the Engineer or payment of the final invoice, shall be made by him/her without expense to the City; and the Contractor agrees to make such repairs when and as directed by the Director by written notice served upon him/her, and if after receipt of such notice the Contractor fails to make such repairs within five (5) days, the City shall cause such repair to be made and charge the expense thereof to the Contractor or his/her surety. Particular attention of the Contractor is called to the fact that the maintenance of sewer trench backfill to adjacent ground level is included in this guarantee.

Section 22 - Clearing & Grubbing

This work shall consist of clearing, grubbing, scalping, removal of trees and stumps, and removing and disposing of all vegetation and debris within the limits of the right-of-way and easement area, except such objects as are to remain or are to be removed in accordance with other sections of the specifications. When the bid schedule contains a lump sum of 201 Clearing and Grubbing, the lump sum price bid will be paid and shall be full compensation for all the work described in this section, including removal of all trees and stumps marked for removal. When the bid schedule contains 201 Removal of Trees and Stumps on an individual basis (each), the balance of the work described in this section shall be performed but will not be paid for directly, but shall be considered as a subsidiary obligation of the Contractor under other contract items.

Section 23 - Trees

The diameter of trees will be measured at a height of 54 inches (54") above ground. Trees twelve inches (12") and less in diameter will be classed as brush. Stumps will be measured by taking the average diameter at the cutoff. When the bid schedule indicates measurement by individual unit basis (each), trees or stumps will be designated and measured in accordance with the following schedule of sizes:

Diameter

Over 12 inches to 24 inches
Over 24 inches to 36 inches
Over 36 inches to 60 inches
Over 60 inches

Pay Item Designation

18-inch size each
30-inch size each
48-inch size each
60-inch size each

SPECIFICATIONS - GENERAL PROVISIONS (Continued.)

Section 24- Working Hours

Work on the project may take place from Monday through Friday between the hours of 7:00a.m. and 5:00 p.m. No work shall be permitted on Saturdays, Sundays, or Holidays unless prior written permission is requested from and obtained from the City Engineer. Contractor shall reimburse the City for all overtime incurred by the City employees and/or Consultants/Engineer during those hours requested.

Section 25- Pre-Construction Meeting

The successful bidder will be required to attend a pre-construction meeting.

Section 26- Shop Drawing Submittals

The Contractor shall provide the Engineer with four (4) copies of shop drawings and/or catalog cuts that comply with the plans and specifications of all materials to be used on the project. Shop drawings are to be approved by the Engineer prior to any materials being ordered or delivered. It is the Contractor's responsibility to note on his submittal any items that do not meet the specifications.

Section 27- As-Built Plans

The Contractor shall provide a set of as-built plans to the City once the project is completed. The submitted plans shall be red-lined mylars. To be paid for under item 623 Construction Staking

SPECIFICATIONS – ASPHALT PAVING CONSTRUCTION

SPECIFICATIONS - PAVING CONSTRUCTION

The current specifications from the Ohio Department of Transportation (ODOT) are to be used as specifications on all paving projects of the City of Massillon by reference. The items in the proposal will be listed with State Item numbers. By reference to these all the work, kind, and quality of materials and types of equipment specified in detail under each Item Number shall be required just as fully as if the entire text of the ODOT specifications were used herein.

Where alternate methods, classes, or materials are permitted the particular alternate intended to be used will be shown on the plans or in the proposal. If there are matters not properly covered by the General Specifications or which are peculiar to the specific project and in conflict with the General Specifications, these will be covered by special provisions shown on the Plans or in the proposal; and such special provisions will take precedence over anything to the contrary.

A copy of the current ODOT specifications may be consulted by the prospective Bidders at anytime in the Engineer's office. Also the inspector on every paving project will have a copy which will be available to the Contractor for reference.

Where the manhole or catch basin adjustments are called for, the Contractor may adjust with the method as set forth in the plans and specifications only. In the case where adjustments must be made, they will be made **prior** to laying the asphalt.

All edges of the paving process will be sharp clean and sealed by the Contractor in accordance with ODOT specifications to the Engineer's satisfaction.

Upon request of the Engineer the Contractor will supply testing results, at the expense of the Contractor for the asphalt placed on the job. This test will be used to ensure the proper mix and consistency of the asphalt.

The ODOT specification for Asphalt Price Adjustment (Item 401.20) shall not be relevant to any project in the City of Massillon. The City shall not pay an increase nor accept a decrease for asphalt binder price adjustment.

The City reserves the right to retain any or all pavement grindings removed by the Contractor. The Contractor shall notify the City of Massillon Operations Superintendent at (330) 833-5746 with a minimum of 24 -hours advanced notice before milling the roadway, for a site where the grindings may be used, dumped or placed.

SPECIFICATIONS-PAVING CONSTRUCTION (Continued.)

Section 1-Description

This item shall consist of surface (448), base (301) and /or intermediate leveling (448) course composed of mineral aggregate and bituminous material mixed in a central mixing plant.

Section-2 Aggregate

Aggregates shall consist of crushed gravel, or crushed stone and sand or other inert finely divided mineral aggregate.

- A) *Coarse Aggregate* - Shall conform to the Ohio Department of Transportation Construction and Material Specifications book (latest version), section 703.05, except as follows. All asphalt mixes, designated by ODOT as 301, 448, shall conform to the following revised specifications. The percentage of wear, Los Angeles test maximum shall be 35% (stone or gravel). For #8 material the percent by weight of mechanically crushed pieces, minimum 65%. For #57 or #6 material, the percent by weight of fractured pieces, minimum 65%. The loss, sodium sulfate soundness test:
- a) 13.0 percent for all surface courses and any asphalt concrete course directly below an open graded friction course.
 - b) 13.0 percent for No. 8 aggregate fractions used in intermediate courses that will be exposed to traffic over the winter months.
 - c) 15.0 percent for all other coarse aggregate used in intermediate courses that will be exposed to traffic over the winter months.
- B) *Fine Aggregate* - Shall conform to the Ohio Department of Transportation Construction and Material Specifications book (latest version), section 703.05, except as follows. All asphalt mixes, designated by ODOT as 301, 402, 404, shall conform to following revised specification. The maximum loss for the sodium sulfate soundness test shall not exceed 13%.
- C) Sampling. ASTM D75 shall be used when sampling coarse and fine aggregate.

Section 3-Bituminous Material

Bituminous material shall be P.G. 64-22. The requirements of ODOT 702.01 shall be replaced with AASHTO provisional standard. MPI-93 or any superseding AASHTO specification for P.G. binders.

SPECIFICATIONS-PAVING CONSTRUCTION (Continued.)

Section 4-Preliminary Material Acceptance

Prior to commencing construction, the contractor shall submit certified test reports to the City of Massillon (the City) for the following materials:

- A. Coarse Aggregate.
 - 1. Gradation
 - 2. Percent of wear
 - 3. Soundness
 - 4. Fracture count
 - 5. Dry bulk gravity and absorption

- B. Fine Aggregate.
 - 1. Gradation
 - 2. Soundness
 - 3. Dry bulk gravity and absorption

The City also may require samples of each aggregate be submitted along with the above test report data. One 50lb bag for each material, to verify aggregate compliance.

Section 5-Composition of Mixture

The bituminous plant mix shall be composed of a mixture of well-graded aggregate and bituminous material.

Section 6-Job Mix Formula

No bituminous mixture for payment shall be produced until a job mix formula has been approved by the City. The bituminous mixture shall be designed using procedures contained in Chapter V, MARSHALL METHOD OF MIX DESIGN, of the Asphalt Institutes Manual Series No. 2 (MS-2 Sixth Edition), Mix Design Methods of Asphalt Concrete, and shall meet the requirements of Tables 1 and 2.

The job mix formula shall be submitted in writing by the contractor to the City at least 15 days prior to the start of paving operations and shall include as a minimum:

- A. Percent passing each sieve size.
- B. Percent of asphalt cement.
- C. Number of blows of hammer compaction per side of molded specimen.
- D. Compaction temperature.
- E. Plot of the combined gradation of the FHWA 45 power gradation curve.
- F. Graphical plots of stability, flow, air voids, voids in mineral aggregate, and unit weight verses asphalt content.

SPECIFICATIONS-PAVING CONSTRUCTION (Continued.)

Table 1

TEST PROPERTY	VALUE
Number of Blows *	50
Stability, pounds minimum	1500
Flow, 0.01 in.	8-16
Mean Air Void Target (percent)	3.5

Table 1 - *This value indicates Medium Traffic values.

Table 2

MIX TYPE	MINIMUM VOIDS IN MINERAL AGGREGATE
301	13
402	13
404	16

The gradation of the mixture will be designated in the Ohio Department of Transportation Construction and Material Specifications book (latest version), under 301, 446, 448. Minimum Asphalt percent, (percent of total mix) for 301 shall be 4.7%, for 448 intermediate shall be 5.0%, for 448 surface shall be 6.0%.

The contractor shall submit samples, upon written request of the City, at the contractor's expense, for job mix formula verification testing. The City may require three compacted specimens, and an un-compacted specimen at the proposed optimum AC content as determined by the JMF. At least 2000 grams of un-compacted mix is required. The job mix formula for each mixture shall be in effect until modified in writing by the City. Should a change in sources of materials be made, a new job mix formula must be approved by the City, before the new material is used.

Section 7-Recycled Asphalt Concrete

Reclaimed asphalt pavement (RAP) will not be permitted to be used in any surface courses. RAP may be used with the following guidelines. The stockpile of RAP to be used in the production of the mixture must be sampled and staked prior to use. The City will obtain a sample of the RAP for approval before the pile can be used. No other RAP may be used until it has been tested and staked, and approved by the City. The contractor shall submit a report indicating the gradation of the RAP, the A/C content, and the Abson Viscosity, along with the proposed mix design data. Reclaimed asphalt pavement (RAP) will not be permitted to be used in any surface courses. On intermediate mixes and base mixes, the amount of RAP is limited to no more than 10%.

SPECIFICATIONS-PAVING CONSTRUCTION (Continued.)

Section 8-Field Testing

Job mix control testing shall be performed by the contractor for each day of production. The testing laboratory shall conform to the Ohio Department of Transportation Supplemental Specification 1041. A level II lab is required. At the minimum, two random samples will be taken from trucks at the plant per day. All the required tests shall be performed with material from each sample. A set of laboratory compacted specimens will be prepared using the number of blows as required by Table 1. Each set of lab specimens will consist of three specimens compacted at between 270 and 280 degrees F. The sample specimens shall be tested for the bulk specific gravity of each test specimens and for stability and flow. A theoretical maximum specific gravity test will be performed. The Gradation and Bitumen content shall be tested using and ODOT approved Ignition Oven, following ODOT's Ignition Oven Calibration and testing method.

A sample of each aggregate being used in the production of the mix, may be taken each day from the cold feed bins at the plant and turned over to the City for verification testing. A minimum sample of 4000 grams is required.

A report of all daily test results shall be delivered to the City within 24 hours, following a production day.

Section 9-Asphalt Plant Requirements

The plant shall be an Ohio Department of Transportation approved plant. Thus for each ticket delivered from a batch plant, the requirements of 750.03 shall be printed. For a drum mix plant, the requirements in 750.03 shall be printed and turned in to the City with the above Field testing report.

The mix arriving at the job site shall be at a minimum 290 degrees F, and a maximum of 325 degrees F. Any loads deviating from this temperature range will not be accepted and sent back to the contractor for disposal.

SPECIFICATIONS-PAVING CONSTRUCTION (Continued.)

Section 10-Basis of Payment

The City may instruct the contractor to take random samples at the plant, and the job site, and have an independent laboratory analyze the mixture for gradation and asphalt content using the Ignition method per ODOT. The contractor shall be responsible for the sample type, and delivering the samples to the City. The City will require at least two samples from the job site, and one from the plant, each day. The samples from the job site shall be at least 2000 grams, and the sample from the plant shall be at least 3000 grams. The results will be averaged per day and the basis of payment will be determined by:

ITEM 301 and 448 intermediate....

Sieve	Deviation from the JMF
1 inch	+/-10%
#4 Sieve	+/- 8%
#8 Sieve	+/- 6%
A/C	NO LESS THAN OPTIMUM

ITEM 448 surface....

Sieve	Deviation from the JMF
1 inch	0%
#4 Sieve	+/- 8%
#8 Sieve	+/- 6%
A/C	NO LESS THAN OPTIMUM

Payment for the daily production not meeting the mix design specification requirement listed above may be penalized ten percent (10%), of that day's production, based on the unit price bid for material in place. The results of the independent laboratory are final.

The City may halt production at any time if from testing the mixture or the aggregate, the test results do not conform to the mix design or the aggregate requirements. The contractor will have to redesign the mix or address the aggregate deficiencies.

Section 11 - ITEM 614 MAINTAINING TRAFFIC

The Contractor shall maintain traffic at all times on the project in accordance with Item 614 as described below.

In addition to the general requirements of Item 614, all traffic control devices necessary to maintain and protect traffic and the work zone shall be furnished, erected, maintained, and removed by the Contractor in conformance with the current revision of the Ohio Manual of Uniform Traffic Control Devices.

All signs required to be installed by the Contractor shall be erected on their own posts. The contractor shall not use any existing signpost to mount a traffic control sign. The Contractor shall take notice of the requirement of 614.03. Devices using other than Type "G" or Type "H" sheeting are not acceptable.

The Contractor shall maintain the required traffic control devices for a maximum of ten (10) days following the completion of the paving of the wearing surface. The Contractor

shall complete the Type 2 pavement markings during this period. The Contractor shall not remove any traffic control devices prior to the completion of this work.

The Contractor shall install temporary yellow centerline markings and temporary white lane line markings where needed to all pavement courses exposed to traffic at the end of each day's operation. Temporary yellow centerlines and temporary white lane lines shall consist of 48" x 4" segments spaced at a maximum forty feet center to center. The markings are to be accurately located in a true line for centerline markings and lane lines.

Temporary pavement markings may be either 642 paint or 740.06 Type I or Type II preformed material, except that no preformed material containing metal shall be placed on any surface.

Payment for all labor, equipment, and materials shall be included in the lump sum contract price for 614, maintaining traffic, unless separately itemized.

Section 12 - ITEM 642 TRAFFIC PAINT, TYPE 2

The equivalent solid line quantities are provided for the convenience of the Contractor to estimate the approximate quantity of pavement marking materials needed. These equivalent solid line quantities are not to be utilized for pay quantities or as a basis of payment for delivered materials.

The following quantities for equivalent solid line have been calculated by the Engineer:

Solid Yellow Center Line: _____ **L.F.**

These quantities have been tabulated and carried to the Bid Sheet.

The contractor's attention is directed to CMS Section 642.04 to increase the first application of paint to new asphalt pavement surfaces by twenty-five (25%) percent over the specified rate.

**SPECIFICATIONS – SANITARY, STORM MANHOLES, CATCH BASINS,
CURB AND GUTTER**

SPECIFICATIONS - SANITARY & STORM MANHOLES & CATCH BASINS

Section 1 - Materials

All materials shall be of the size and type specified on the plans and/or proposals (as noted on the latest State of Ohio Department of Transportation (ODOT) construction and materials specifications). Concrete for foundation slabs for manholes and catch basins shall be ODOT Type Class C concrete, 4000# psi @ 28 days, 6 bags minimum to cubic yard and 4" maximum slump Ohio Department of Highways #46 coarse aggregate. Manhole frames and covers, catch basin grates, and wrought iron steps shall be City standard and are furnished by the Contractor.

Section 2 - Construction Methods; General

Manholes and catch basins shall be built according to plans, specifications, and special provisions to line and grade. Adjustment of manholes and catch basins to grade according to the plans shall include all the necessary materials and labor. All connections for lateral sewers, including drops (except as noted in sewer specs under Section 4 -bedding and laying) shall be included under this item. All Manhole and catch basin structures shall be precast concrete structures on 6" of granular bedding. No brick and mortar construction shall be permitted for structures. The invert channel through the manhole shall be either a half pipe or formed in concrete to the cross section of half pipe. Space between the wall and the invert shall be filled with Class C concrete and shall slope to invert. Adequate precautions shall be taken to prevent concrete and mortar from freezing. Manhole castings, catch basin castings, and wrought iron steps shall be City standard as shown on plans. Care must be taken by the Contractor to keep dirt and debris from getting into the sewer lines while structures are being built.

Section 3 - Excavation and Backfill

All the applicable methods, materials, and provisions for excavation and backfill for main line sewers shall apply for manholes and catch basins.

Section 4 - Massillon Manhole Rehabilitation – below the spring line

All materials shall be as specified. Brick shall be laid radially into an 8" wall with a full bed of mortar so that all joint space is filled. Mortar shall be composed of two parts of clean sharp sand to one part of standard Portland Cement to which may be added lime to the extent of 10% of the cement by weight. After five courses laid as headers, the sixth course shall be laid as a stretcher course. Whole brick only shall be used except to affect closures or to chink exterior radical joints. Interior joints must not be more than a quarter of an inch (1/4") wide. Interior and exterior joints shall be pointed on storm manholes and sanitary manholes. Both inside and outside walls shall be plastered with a half inch (1/2") of mortar with a smooth trowel finish. Special care shall be taken to see that the manhole wall is bonded to the barrel of the sewer. The outside surface of the manhole shall be cured with wet burlap for 48 hours. The upper part of the manhole shall be drawn in uniformly with a precast concrete structure as specified in the plans and specifications.

SPECIFICATIONS - SANITARY & STORM MANHOLES & CATCH BASINS **(Continued.)**

Section 5 - Precast Concrete Ring Manholes

The concrete in this type of manhole shall conform to the applicable provisions of ODOT #706.13. Joints shall be "O" ring, water tight. Openings for inlet and outlet pipes shall be cast in the rings. Openings 18" or smaller entering the manhole above the outlet may be cut in the field. Openings over 18" entering the manhole above the outlet shall be connected by a tee connection precast with the barrel. Additional details not covered here will be shown on the plans.

Section 6 - Catch Basins and Inlets

Catch basins and inlets shall be constructed in accordance with the design and dimensions and to line and grade as shown on the plans. All materials are to conform to as stated. No Brick shall be laid. The catch basin grade shall be set in accordance to the Massillon Casting Set specification as shown on the plans.

Section 7 - Adjusting Manholes and Catch Basins to Grade

This item shall include excavation, backfill, masonry, concrete, resetting of castings and/or steps, and any other labor and material incidental to the proper adjustment to the new grade as specified with the City of Massillon specifications. Solid Cast iron ring risers may be considered only with written permission by the Engineer. If a solid cast iron riser ring is used to adjust a manhole to a new grade then a new manhole lid conforming to the casting size shall be supplied by the Contractor. See Sanitary/Storm Manhole Casting Set and Catch Basin Rehabilitation Details as specified in the bid tab.

Section 8 - Manholes

Manholes shall be bid per each unless otherwise stated. This unit price is full compensation for all labor and materials incidental to the construction of the completed manhole in accordance with the plans including excavation, backfill, construction of masonry, and furnishing and placing of the casting, unless otherwise noted. Payment for manholes shall be per vertical foot measured from the invert to the top of the casting for all manholes without sumps; those with sumps shall be measured from top of floor of sump to top of casting. Drop manholes shall be paid the same method used in measuring standard manholes. Payment for manholes shall be full compensation for all the labor and materials incidental to the completed manhole with the same exceptions covered by separate pay items as noted in main line sewer. This item shall include all excavation, backfill, masonry, concrete, placing of all connections, furnishing and setting of castings and conforming of City standards as shown on the plans, protecting against cave-ins, and dewatering, and any other labor incidental to completion of the manhole according to the plans.

Section 9 - Catch Basins

The price bid per catch basins is a unit price for each catch basin and is full compensation for all labor and materials incidental to the construction of the completed catch basin in accordance with the plans including excavation, backfill, masonry, concrete, furnishing and placing of the casting, and restoration of the gutter and street surface in accordance with Massillon Casting Set specification.

SPECIFICATIONS - SANITARY & STORM MANHOLES & CATCH BASINS **(Continued.)**

Section 10 - Drop Attachments

Drop attachments shall be built of the same type of material as the pipe it is to receive encased in concrete as shown on the plans. The size of all drops shall be as shown. The tee at the upper end of the drop pipe shall have the same diameter as the incoming sewer unless shown otherwise. The tee, drop pipe, 90° elbow, and encasing concrete are considered the drop attachment, and payment shall be included to the unit price bid for manholes. A channel for the drop inlet pipe shall be formed to a depth below the top of the bench equal to one-half the inlet pipe diameter, and a width equal to the inlet pipe diameter. Bench height to be determined as Engineer deems. The drop is to be on the outside of the manhole only. Any inside drop must be approved in writing by the Engineer.

Section 11 –Massillon Catch Basin Rehabilitation

This work will consist of removing the existing casting, reconstructing per the Engineer, Plans and Specifications, and placing at the proper grade a new casting. The reconstruction work will consist of tearing the existing brick structure down to a suitable level and rebuilt per the specifications catch basins. If the structure is of a precast material all cracks and joints shall be cleaned and plastered with proper material as to adhere, increase the structural stability, and seal the existing structure from any water infiltration. See Detail.

Section 12 – Sanitary/Storm Sewer Manhole Casting Set

This work will consist of removing the existing casting, reconstructing per the Engineer, Plans and Specifications, and placing at the proper grade a new casting. The reconstruction work will consist of tearing the existing brick structure down to a suitable level and rebuilt per the specifications for sanitary & storm manholes. If the structure is of a precast material all cracks and joints shall be cleaned and plastered with proper material as to adhere, increase the structural stability, and seal the existing structure from any water infiltration. See Detail.

Section 13 - Castings

Sanitary sewer castings shall have a watertight seal. The new castings will be of the following or other approved castings by the Engineer in writing, or designated by the plans:

	<u>East Jordon</u>	<u>Neenah</u>
Manhole-High	2015 or 1661	R-1924-1
Manhole-Short	1850 or 1660	1654
Catch basin Type "B" Single	V-5630	
Catch basin Type "A" Single	7030	R-3246
Catch basin Type "A" Double	7031	R-3295-2
Catch basin Type "A" Triple	7032	R-3295-3
Catch basin Type "A" Grate	M2	L
Catch basin Type "A" Back	T4	–

SPECIFICATIONS – SIDEWALK CURB, COMBINED CURB & GUTTER CONSTRUCTION

Section 1 – Grading

The quantity of the grading item includes all the excavating incidentals to the construction of the job in accordance with the plans except the excavating for the curb or combined curb and gutter to the extra width needed for the forms and to the extra depth for the subbase. This excavating for sidewalk, curb or combined curb and gutter is part of the work to be done under the price bid per lineal foot or square foot as delineated. The bid price for this item shall include clearing and grubbing of brush and removal of trees and stumps under 12". Trees over 12" are covered in Section 11. Suitable topsoil, if any, shall be salvaged to be used as a backfill behind curb.

Section 2 - Excavation

The excavation for the sidewalk, curb or combined curb and gutter including subbase is part of the work to be done under the price bid per lineal foot of sidewalk, curb or combined curb and gutter. As noted in Section 1 suitable topsoil, if any, shall be used for backfill behind the curb. Where in the opinion of the Engineer the subgrade is unsuitable for foundation, it shall be removed as directed by the Engineer and replaced with suitable material as required in Section 3 for subbase.

Section 3 – Subbase

Four inches of subbase shall be placed on the subgrade which has been excavated 4" below the bottom of the sidewalk, curb or combined curb and gutter. This subbase shall be composed of ODOT Item 304. The sub base shall be compacted by wetting and rolling or tamping. Where existing soil is of suitable granular quality in the opinion of the Engineer it may be used for subbase. Payment for subbase is to be included in the price bid per lineal foot of curb or combined curb and gutter or square foot for sidewalk.

Section 4 – Concrete

Concrete shall be ODOT Type Class C concrete mix with air entrained Portland Cement, clean sharp sand, and Ohio Department of Highways #46 course aggregate to give a maximum compressive strength of 4000# psi @ 28 days, 4" maximum slump and with a maximum of 6 bags of cement to the cubic yard.

Section 5 - Forms and Templates

Forms shall be of heavy enough gauge steel to resist deformation and displacement. They shall be of the full depth of the curb or combined curb and gutter. They shall be firmly supported so that they will remain true to line and grade during the placing and finishing of the concrete. Flexible steel or plywood strips may be used for curves or radii. Templates for dividing the curb into sections shall be of 3/16" steel plate for the full depth of the curb or combined curb and gutter. Forms and templates must be thoroughly cleaned and oiled after each time used.

SPECIFICATIONS - CURB, COMBINED CURB & GUTTER CONSTRUCTION **(Continued.)**

Section 6 - Joints

The curb shall be cut by templates into uniform blocks of 10' except when closures make it necessary to slightly increase or decrease this length. Templates shall be set at right angles to line and normal to grade. These joints may also be saw cut as described above within 24 hours after the curb is poured.

Section 7 - Downspouts

The Contractor shall provide circular-openings through the curb wherever needed for the 3" downspout drain. The Contractor shall determine with the Engineer placement of downspout drains.

Section 8 - Placing and Finishing Concrete, Protecting, Curing

The concrete for the curb or combined curb and gutter shall comply with Section 4. No concrete shall be placed which has had its initial set. Concrete shall not be placed during freezing weather, and if frost is apt to occur the Contractor must protect the concrete against damage. As the concrete is being placed in the-forms it shall be tamped or spaded to close up the voids and bring the mortar to the face of the forms and make a dense impervious surface. As soon as the concrete has sufficiently set to avoid damage the templates and forms shall be removed and the joints cut clean. The top of the curb, the face of the curb 12" down and the back of the curb 6" down shall immediately be worked with a wood or magnesium float to a smooth finished surface true to profile and cross section. If the construction is combined curb and gutter then the apron will be worked and finished in the same manner as described above. The top front edge of the curb shall be finished with a 1-1/4" radius, the back of the curb, and also the front of the apron with a 1/4" radius. Where the curb meets the apron a cove of 2" radius shall be formed. The Contractor shall so arrange his work that the pouring of the concrete, removal of the forms, and the finishing of the curb will be completed on the same day. The Contractor shall provide sufficient forms so that the rotation of trenching, setting forms, pouring of concrete, removal of the forms, and finishing can be carried on without delay. In rainy weather the concrete must be protected as soon as it is finished. Concrete must be cured by keeping it moist for three days or by the waterproof membrane method or any other method approved by the Engineer.

SPECIFICATIONS - CURB, COMBINED CURB & GUTTER CONSTRUCTION **(Continued.)**

Section 9 - Finish Grading and Cleanup

As soon as the forms have been removed and the curb finished, the space behind the curb shall be backfilled with bank run gravel and tamped to within 4" of finished grade. The remaining 4" shall be filled with topsoil salvaged from the grading operation (Section 1) or excavation (Section 2) after it has been raked free of stones over 3/4" in size, lumps of subsoil, roots, grass, and other debris. This topsoil shall then be lightly rolled and smoothed off and finished neatly to cross section and seeded with grass comparable to original. The entire construction area shall be cleaned up, and all excess excavation and construction waste shall be disposed of off the project. If insufficient topsoil is salvaged from grading and excavation, then topsoil meeting the approval of the Engineer shall be furnished by the Contractor as a separate pay item (see Section 14 - Topsoil).

Section 10 - Grading

This item shall include the excavation incidentals to the construction of the project in accordance with the plans except that for the curb or combined curb and gutter together with subbase which is a part of the work to be done under the price bid per lineal foot of curb or combined curb and gutter.

Section 11 - Trees 12" and Over

This item shall include only trees 12" and over in diameter, either as a lump sum or per each as shown on the proposal. All trees below this size, along with clearing and grubbing of brush, are included in the price bid per cubic yard for grading (Section 1).

Section 12 - Replacing Unsatisfactory Subgrade

This item includes the removal of unsatisfactory material and replacing with bank run gravel, tamped, as specified for subbase. (Section 3)

Section 13 - Curb or Combined Curb and Gutter

The price bid per lineal foot of curb or combined curb and gutter shall be full compensation for all labor and materials incidental to the construction of completed walk in accordance with the plans, specifications, and special provisions, including the excavation plus the extra depth for the subbase, furnishing and placing the subbase, setting the forms, furnishing, placing, finishing, protection and curing of the concrete, furnishing and placing of roof drain extensions, backfilling along the curb or combined curb and gutter with gravel and topsoil, and cleanup and disposal of all excess excavation and construction debris leaving the project in a neat and orderly condition.

Section 14 - Topsoil

This item shall consist of furnishing topsoil meeting the approval of the Engineer and placing and seeding the same as specified in Section 9.

SPECIFICATIONS - CURB, COMBINED CURB & GUTTER CONSTRUCTION **(Continued.)**

Section 15 – ADA Curb Ramp

This Item 608, CURB RAMP, EACH, shall include the cost of furnishing and installing all materials (including truncated domes,) grading, forming and finishing of the curb (6 L.F.) and walk (30 S.F.) of the curb ramp and removal of any existing material. Additional walk and curb shall be included in their own specific pay items.

TRUNCATED DOMES: Install detectable warnings (truncated domes) for a distance of 24" from the back of curb for the entire width of the ramp opening.

Pavers will meet ASTM C 902 Class SX, Type 1, or C 936, or C 1272 Type R.

ACCEPTABLE MANUFACTURERS AND PRODUCTS ARE AS FOLLOWS:

- 1.) Whitacre-Greer Fireproofing Company
- 2.) Hanover Architectural Products
- 3.) Endicott Clay Products

An appropriate ODOT approved Truncated dome system may be acceptable with prior authorization from the City with a written request to the City Engineer no later than 7 days prior to the bid opening.

Pavers will be laid on top of a 4" unreinforced concrete base. Setting bed and joints to be mortared in accordance with manufacturer's instruction, or with a maximum 1/2" thick bed of latex modified cement mortar. Mortar joints to a width not greater than 5/32" and not less than 1/16". Pavers shall not be directly touching each other unless they have spacing bars.

Mortared joints are to be flush with top surface and struck so as to give a smooth surface. Pavers shall be laid such that joints are level with adjoining joints so as to provide a smooth transition from brick to brick and brick to concrete surface.

The surface of any two adjacent units should not differ by more than 1/8" in height. Bricks shall be placed in a running bond pattern. Face of all brick shall be clean of cement and protected so as to avoid chipping during construction.

RELIEF JOINTS: must be provided at all points of continuous slope changes in Curb Type A and Type C.

EXPANSION JOINTS: shall be provided in the curb ramp as extensions of walk joints and consistent with item 608.03 requirements for a new concrete walk.

A 1/2" Item 705.03 expansion joint filler shall be provided around the edge of ramps built in existing concrete walk. Lines shown on this drawing indicate the ramp edge and slope changes and are not necessarily joint lines.

SURFACE TEXTURE: Texture of concrete surfaces shall be obtained by coarse brooming transverse to the ramp slopes and shall be rougher than the adjacent walk