
SPECIFICATIONS

FOR

MAIN STREET OVERLAY

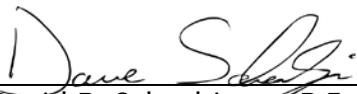
WEST BRANCH, IOWA

SPECIFICATIONS
FOR
MAIN STREET OVERLAY
WEST BRANCH, IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signed:

Date:



David R. Schechinger, P.E.

7/2/2012



Iowa License No. 16538

My license renewal date is December 31, 2012

Detailed parts covered by this seal:

ALL

Prepared by
VEENSTRA & KIMM, INC.
West Des Moines,
Iowa

INDEX

MAIN STREET OVERLAY
WEST BRANCH, IOWA

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IOWA DOT STANDARD ROAD PLANS

SOLICITATION FOR QUOTATION

SOLICITATION FOR QUOTATION FOR THE MAIN STREET OVERLAY, WEST BRANCH, IOWA.

Quotations will be received by the City of West Branch, Iowa, hereinafter referred to as "Owner" or "City", at the Council Chambers in the West Branch City Hall, 110 North Poplar Street, West Branch, Iowa, until 2:00 P.M. on the 12th day of July 2012. Quotations may be mailed or faxed (319-643-2305) to City Hall. It is expected the City will accept a quotation or reject all quotations July 16, 2012 at the City Council meeting and issue a Notice to Proceed by July 23, 2012.

The work to be done at the locations shown on the plans includes construction of Main Street Overlay including all labor, materials and equipment necessary to mill approximately 327 SY of HMA paving, construct a leveling course and 2" surface course adjacent to the existing curb line, and miscellaneous associated work.

The person, firm or corporation submitting the successful quotation, hereinafter referred to as the "Contractor", will be notified on or before the 17th day of July, 2012 that his quotation has been accepted. The work shall be completed on or before August 17, 2012.

The Contractor submitting the successful quotation will be required to furnish bond in an amount equal to one hundred percent (100%) of the contract price, said bond to be issued by a responsible surety approved by the City Council and shall guarantee the faithful performance of the contract and the terms and conditions therein contained and shall guarantee the prompt payment for all materials and labor and protect and save harmless the City from claims and damages of any kind caused by the operations of the Contractor, and shall guarantee the work against faulty workmanship and materials for a period of two (2) years after its completion and acceptance by the City Council.

The Contractor will be paid ninety-five percent (95%) of the Owner's final estimate of the value of acceptable work completed. Final payment will be made no earlier than thirty-one (31) days after completion of the work and acceptance by the Owner. No such final payment will be due until the Contractor has certified to the Owner that the materials, labor and services involved in the final estimate have been paid for in full.

QUOTATION

MAIN STREET OVERLAY
WEST BRANCH, IOWA

Name of Firm: _____

Address of Firm: _____

To: Honorable Mayor and City Council
City of West Branch
110 Poplar Street
P.O. Box 218
West Branch, IA 52358

The undersigned, having examined the plans and having familiarized himself with the nature and location of the work to be done and the conditions under which the work will be performed, hereby proposes to provide the required labor, services and materials and to perform the work described on the plans, within the time and for the sums stated hereinafter on attached Quotation Schedule; which Quotation Schedule is hereby made a part of this Quotation.

The undersigned certifies that this Quotation is offered in good faith, without collusion or connection with any other persons quoting on the work.

The undersigned states that this Quotation is offered in conformity with the plans and scope of work and agrees that in the event of any discrepancies or differences between any conditions of his quotation and the scope of work prepared by VEENSTRA & KIMM, INC. that the provisions of the latter shall prevail.

Name of Firm _____

By _____

Title _____

QUOTATION SCHEDULE

1. Construct Main Street Overlay for the following unit and lump sum prices:

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Extended Price</u>
1.1	Mobilization	LS	xxxxx	xxxxx	\$ _____
1.2	Traffic Control	LS	xxxxx	xxxxx	_____
1.3	Removal of HMA Surfacing (Milling), 2" Depth	SY	327	\$ _____	_____
1.4	HMA Pavement	Tons	74	_____	_____
1.5	Fixture Adjustment	Ea.	1	_____	_____
Total Quotation (Items 1.1 - 1.5)				\$	_____

- 2. The work will be started on the date set forth in written Notice to Proceed and will be completed as set out in the Solicitation for Quotations.
- 3. Liquidated damages in the amount of Two Hundred Dollars (\$200.00) per calendar day will be assessed for each day the work shall remain uncompleted after the end of the contract period with due allowance for extensions of the contract period due to conditions beyond the control of the Contractor.

CONTRACT

THIS AGREEMENT, made and entered into this _____ day of _____, 2012, by and between the City of West Branch, Iowa, party of the first part, hereinafter referred to as the "Owner", and _____, party of the second part, hereinafter referred to as the "Contractor".

WITNESSETH: THAT WHEREAS, the Owner has heretofore caused to be prepared certain specifications and proposal blanks, dated the _____ day of _____, 2012, for Main Street Overlay, under the terms and conditions therein fully stated and set forth, and,

WHEREAS, said specifications and proposal blanks accurately and fully describe the terms and conditions upon which the Contractor is willing to perform the work specified:

NOW, THEREFORE, IT IS AGREED:

1. That the Owner hereby accepts the proposal of the Contractor for the work, as follows:

2. That this contract consists of the following component parts which are made a part of this agreement and contract as fully and absolutely as if they were set out in detail in this contract:

A. Contract Documents, including:

1. Solicitation for Quotation
2. Quotation
3. Bond
4. Plans List
5. Detailed Specifications
6. Plans listed in the specifications
7. Numbered addenda issued to the foregoing.

B. This Instrument.

C. The above components are complementary and what is called for by one shall be as binding as if called for by all.

3. That payments are to be made to the Contractor in accordance with and subject to the provisions embodied in the documents made a part of this contract.

4. That this contract is executed in triplicate.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hand and seal the date first written above.

CONTRACTOR

CITY OF WEST BRANCH, IOWA

By _____

Mayor

Title _____

ATTEST:

ATTEST:

City Administrator

Title _____

BOND

KNOW ALL MEN: That we, _____,
of _____, hereinafter called the Principal, and
_____,
hereinafter called the surety, are held and firmly bound unto the City of West Branch,
Iowa, hereinafter called the Owner in the sum of _____
Dollars (\$ _____), for the payment whereof the Principal and Surety bind
themselves, their heirs, executors, administrators, successors and assigns, jointly and
severally, firmly, by these presents.

WHEREAS, the principal has, by means of a written Agreement dated _____,
2012, entered into a Contract with the Owner for Main Street Overlay Project, which
Agreement includes a guarantee of all work against defective workmanship and materials
for a period of two (2) years from the date of final acceptance of the work by the Owner, a
copy of which Agreement is by reference made a part hereof;

NOW, THEREFORE, the condition of this Obligation is such that, if the Principal shall
faithfully perform the Contract on his part and shall fully indemnify and save harmless the
Owner from all costs and damage which he may suffer by reason of failure so to do and
shall fully reimburse and repay the Owner all outlay and expense which the Owner may
incur in making good any such default,

And Further, that if the Principal shall pay all persons who have contracts directly with the
Principal for labor or materials, failing which such persons shall have a direct right of
action against the Principal and Surety under this Obligation, subject to the Owner's
priority,

Then this Obligation shall be null and void, otherwise it shall remain in full force and
effect.

Provided, however, that no suit, action or proceeding by reason of any default whatever
shall be brought on this Bond after three (3) years from the date of final acceptance of the
work.

And Provided, that any alterations which may be made in the terms of the Contract, or in
the work to be done under it, or the giving by the Owner of any extension of time for the
performance of the Contract, or any other forbearance on the part of either the Owner or
the Principal to the other shall not in any way release the Principal and the Surety, or
either of them, their heirs, executors, administrators, successors or assigns from their
liability hereunder, notice to the Surety of any such alteration, extension or forbearance
being hereby waived.

And Further Provided, the Principal and Surety on this Bond hereby agree to pay all
persons, firms, or corporations having contracts directly with the Principal or with
subcontractors all just claims due them for labor performed or material furnished, in the
performance of the Contract on account of which this Bond is given, when the same are
not satisfied out of the portion of the contract price which the Owner shall retain until
completion of the improvements, but the Principal and Surety shall not be liable to said
persons, firms, or corporations unless the claims of said complaints against said portions of
the contract price shall have been established as provided by law.

The Surety on this Bond shall be deemed and held, any contract to the contrary notwithstanding, to consent without notice:

- a. To the extension of time to the Principal in which to perform the Contract.
- b. To changes in the plans, specifications, or Contract, when such changes do not involve an increase of more than twenty percent (20%) of the total contract price, and shall then be released only as to such excess increase.
- c. That no provision of this Bond or of any other contract shall be valid which limits to less than three (3) years from the date of final acceptance of the work the right to sue on this Bond for defects in workmanship or materials not discovered or known to the Owner at the time such work was accepted.

The Bond is executed in triplicate.

Signed and Sealed this ____ day of _____, 2012.

PRINCIPAL:

Contractor

Signature

Title

SURETY:

Surety Company

Signature, Attorney-in-Fact

Name of Attorney-in-Fact

Company Name

Company Address (Including Zip Code)

Company Telephone Number

PLANS LIST

MAIN STREET OVERLAY
WEST BRANCH, IOWA

1. PLANS

A. The work shall conform to the following drawings (attached at the end of specifications) which constitute the "plans" and are an integral part of the Contract Documents.

<u>Title</u>	<u>Drawing Number</u>	<u>Revision Number</u>
Index and Title Sheet	1	
Plan and Profile	2	
Plan and Profile	3	
Cross Sections	4	
 <u>IDOT Standard Road Plans</u>		
Lane Closure on Low Volume Roadway	TC-211	2

DETAILED SPECIFICATIONS

MAIN STREET OVERLAY
WEST BRANCH, IOWA

PART 1 - GENERAL REQUIREMENTS

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1. FORM

- A. Detailed specifications are in outline form and include incomplete sentences. Omission of words or phrases is intentional. Supply omitted words or phrases by inference.

2. INTENT

- A. To set forth requirements of performance, type of equipment or structure desired, and standards of materials and construction.
- B. To require Contractor to furnish and install materials and perform all work and services described in Contract Documents, unless otherwise specifically indicated.
- C. To require Contractor to perform complete work in spite of omission of specific reference to any minor component parts.
- D. To provide for new materials and equipment, unless otherwise indicated.

3. INTERPRETATION

- A. Report errors or ambiguities in specifications to Engineer as soon as detected; Engineer will answer questions regarding and interpret intended meaning of specifications; Engineer's interpretation shall be accepted as final.

4. WORK INCLUDED

- A. Furnish all materials, labor and equipment to construct the Main Street Overlay, as set out in Solicitation for Quotation.

5. STARTING AND COMPLETION DATES

- A. Commence work within 10 calendar days after date set forth in written Notice to Proceed. Complete work within the time set out in Solicitation for Quotation.

6. INFORMATION FOR ENGINEER

- A. After award of contract submit five copies of following information and drawings for Engineer's review: manufacturer's specifications and catalog data for pipe, castings and such other data as requested by Engineer.
- B. Within 15 days after award of contract, provide construction schedule showing dates of starting and completing various portions of work.
- C. Provide 2 copies of following information:
 - 1. All materials test reports.
 - 2. Portland cement concrete and hot mix asphalt mix design; submit 8 days before proposed mix is to be used.

7. SHOP DRAWINGS

- A. Intent of Engineer's review: to assist Contractor in interpreting plans and specifications.
- B. Contractor's responsibility: to check drawings prior to submission of coordination and conformance with contract; do not submit without checking.
- C. Engineer's review is only for general conformance with design concept of project and general compliance with information given in contract documents; any action shown is subject to requirements of plans and specifications; Contractor responsible for dimensions which must be confirmed and correlated at job site; fabrication processes and techniques of construction; coordination of work with that of all other trades and satisfactory performance of work.
- D. Prior to submission of shop drawings and catalog data to Engineer: affix Contractor's stamp with signature of responsible person to show material

submitted has been checked and approved by Contractor; shop drawings submitted without appropriate stamp and signature will be returned without Engineer's review.

8. PLANS AND SPECIFICATIONS

- A. Engineer will furnish up to 5 sets of plans and specifications after award of contract. Contractor shall compensate Engineer for printing costs for additional copies required.
- B. Subcontractors will be furnished copies only at request of Contractor. Engineer will be compensated for printing costs.
- C. Provide 1 set of plans and specifications for each foreman or superintendent in charge of each crew on job.

9. STANDARDS AND CODES

- A. Do work in accordance with best present-day installation and construction practices.
- B. Conform to and test materials in accordance with applicable sections of latest revisions or tentative revisions of following codes and standards unless specifically noted to contrary.
 - 1. American Association of State Highway and Transportation Officials (AASHTO).
 - 2. American Concrete Institute (ACI).
 - 3. American Institute of Steel Construction (AISC).
 - 4. American National Standards Institute (ANSI).
 - 5. American Society for Testing and Materials (ASTM).
 - 6. American Standards Association (ASA).
 - 7. American Water Works Association (AWWA).
 - 8. American Welding Society (AWS).
 - 9. Current Iowa Manual on Uniform Traffic Control Devices (MUTCD).
 - 10. Federal Specifications (FS).
 - 11. Iowa Department of Transportation (IDOT); latest edition of standard specifications and addenda.
 - 12. Iowa Occupational Safety and Health Act of 1972 (Chapter 88, Code of Iowa 2011) (IOSHA).
 - 13. Manual of Accident Prevention in Construction by Associated General Contractors of America, Inc. (AGC).
 - 14. National Institute for Occupational Safety and Health (NIOSH).
 - 15. National Safety Council (NSC).

General Requirements

16. Occupational Safety and Health Act of 1970 (Public Law 91-596) (OSHA).
17. Standards and codes of the State of Iowa, Cedar County and applicable local standards and codes of the City of West Branch.
18. Other standards and codes which may be applicable to acceptable standards of the industry for equipment, materials and installation under the contract.

10. MATERIAL TESTS

- A. Submit to Engineer duplicate copies of reports by an independent testing laboratory showing compliance of construction materials with specifications. Selection of testing laboratory subject to approval by Engineer.
- B. Pay cost of all tests including transportation charges on samples.
- C. Provide samples of materials and forms for preparing concrete compression cylinders required for laboratory tests; sampling of materials at site and preparation of concrete compression cylinders shall be performed by Engineer.
- D. Ship no materials to the job until laboratory tests have been furnished which show compliance of materials with the specifications.
- E. All materials subject to sampling, testing, inspection and rejection at site by Engineer.
- F. Laboratory tests include the following:
 1. Asphalt surfacing: minimum of 1 lab stability and density test consisting of at least 2 briquettes; minimum of 4 in place density tests and 1 asphaltic extraction; see HOT MIX ASPHALT PAVEMENT for additional requirements.

11. RESPONSIBILITY OF CONTRACTOR

- A. Protection of his work.
- B. Protection of all property from injury or loss resulting from his operations.
- C. Replace or repair objects sustaining any such damage, injury or loss to satisfaction of Owner and Engineer.
- D. Cooperation with Owner, Engineer and representatives of utilities in locating underground utility lines and structures. Incorrect, inaccurate or inadequate

General Requirements

information concerning location of utilities or structures shall not relieve Contractor of responsibility for damage thereto caused by his operation.

- E. Keep cleanup current with construction operations.
- F. Without limiting GENERAL REQUIREMENTS of Contract Documents, protect flag poles, sidewalks, streets, pavements, alleys, pipe, conduit, utilities, trees and shrubs and structures not shown for removal.
- G. Maintain set of record drawings of any changes made as work progresses which may vary from contract drawings.
- H. Comply with all Federal, State of Iowa and City of West Branch, Iowa laws and ordinances.

12. TEMPORARY WORK

- A. Make all temporary connections necessary for maintaining utility service during course of work.
- B. Construct temporary drains or bulkheads to keep work in the dry.

13. BARRICADES AND LIGHTS

- A. Erect and maintain barricades and lights in conformance with current Manual of Uniform Traffic Control Devices (MUTCD) for protection and warning of pedestrians and vehicles. All barricades, lights and/or watchmen at expense of Contractor.
- B. Engineer will not allow work to proceed until all signs, barricades and lights are in place; requirements for type of signs and number of signs will be strictly enforced; improper signing during construction will constitute "improper work" and Engineer will cause Contractor to suspend work.
- C. All signs, barricades, and other traffic control devices used on the project shall be furnished, installed and maintained by Contractor; all traffic control devices shall be maintained in a state of good repair and shall be cleaned and washed periodically as needed.
- D. Notify City 48 hours prior to street closing.

- E. At the end of each working day place barricades and lights as required; maintain barricades and lights at all times including non-working hours; maintain lights in operable condition at all times.

14. FINAL REVIEW AND ACCEPTANCE

- A. Notify Engineer when installation is considered complete and ready for final review.
- B. Owner will accept work and make final payment to Contractor:
 - 1. When Engineer has certified that he has reviewed the work of the Contractor and stated that the work is complete and in conformance with the plans and specifications.
 - 2. When Contractor has filed with Owner or Engineer documents called for in specifications.
 - 3. When all government agencies involved have indicated, in writing, work is complete and acceptable.

PART 2 – SPECIAL CONSTRUCTION

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1. GENERAL

- A. Procedures outlined below are not intended to fully cover all special procedures or emergencies which may arise during construction but are offered as an aid to Contractor in planning work; Contractor will cooperate with City and Engineer to minimize inconvenience, construction delays and interruptions to continuous operation of existing sewer system.
- B. Determine location of underground utilities and piping before starting work; locations of underground appurtenances are approximate and not guaranteed by City or Engineer.
- C. Remove and replace all signs, mail boxes and other appurtenances which interfere with construction operations; replace damaged signs at no cost to Owner.
- D. Remove and replace culverts as required for construction; if damaged, replace in kind with new culvert.
- E. Limit construction operations to property, rights-of-way and easements provided by City; provide flagmen, barricades, lights, signs and detours as necessary to reroute traffic around construction areas.
- F. Dispose of materials removed during construction at location secured by Contractor as approved by Engineer.
 - 1. Stockpile millings on the north side of south water tower. Coordinate with owner.
- G. Notify businesses and residents two days in advance, when construction will disrupt or block access to property.
- H. Submit complete detailed construction procedure schedule after award of contract for planning, scheduling and controlling construction of project.
- I. Contractor will be expected to provide adequate personnel and equipment to

perform work within specified time of construction.

- J. Extensions of contract period will be given consideration upon written request of Contractor; request must include valid supporting data and bona fide reasons for requesting extension; City expects work to be complete and ready for final acceptance within completion time specified.
- K. Protect survey markers of lot corners.

2. COOPERATION WITH OTHERS

- A. Advise all utilities prior to excavating in area where construction might affect underground gas, electrical, telephone or water service.
 - 1. Advise Owner of proposed construction schedule as it relates to storm and sanitary sewer services and water mains.
 - 2. Advise telephone company of proposed construction schedule as it relates to telephone service.
 - 3. Advise power company of proposed construction schedule as it relates to electrical power.
 - 4. Advise gas company of proposed construction schedule as it relates to gas service.
 - 5. Advise City Water Superintendent of proposed construction schedule as it relates to water service.
 - 6. Advise cable television company of proposed construction schedule as it relates to cable television service.
- B. Cooperate with State and Federal regulatory agencies in matters under their jurisdiction over construction operations.
- C. Cooperate with local governmental agencies; secure necessary building permits and arrange for inspections at proper time.

3. CONTAMINATED SOIL FINDS

- A. If during course of construction evidence of deposits of contaminated soils are found, cease operations affecting find and notify owner who will notify Iowa Department Of Natural Resources; no further disturbance of deposits will ensue until notification by owner that work may proceed. Owner will issue notice to proceed only after contaminated soils have been identified and procedures for remedial contaminated soils have been determined and approved by Iowa Department of Natural Resources and Owner; compensation to Contractor, if any, for lost time or changes in construction due to changed conditions will be

in accordance with change order provisions of specifications.

4. TRAFFIC CONTROL

- A. Provide barricades, signs and lights to protect vehicular and pedestrian traffic during construction; comply with GENERAL REQUIREMENTS.
- B. Maintain one-way traffic during milling, overlay, shouldering, pavement markings, replacement and installation of curb. See Iowa DOT Standard Road Plans TC-211 for traffic control.

5. MOBILIZATION

- A. Preparatory work and operations for all items under the contract, including, but not limited to those necessary for:
 - 1. The movement of personnel, equipment, supplies, and incidentals to the project site,
 - 2. The establishment of all offices, buildings, and other facilities necessary for work on the project, and
 - 3. All other work or operations which shall be performed or costs incurred prior to beginning work in the various items in the project site.
- B. Mobilization may include bonding, permit, and demobilization costs.
- C. Nothing herein is to be construed to limit or preclude partial payments otherwise provided for by the contract.
- D. A contract item for Mobilization will not be included for maintenance aggregate, materials, granular surfacing, or for any other minor projects.
- E. When the proposal includes a lump sum item for Mobilization, the bidder shall indicate the bid price in dollars, and this is the contract price for this item. When the proposal does not include a lump sum item for Mobilization, all costs incurred by the Contractor for Mobilization are incidental to other work.

6. WEATHER LIMITATIONS

- A. Owner expects paving of improvements during suitable weather within contract time period; contract time period includes calendar days for inclement weather; contract time period will not be extended for claims of wet weather or freezing weather.

7. PAYMENT

- A. No separate payment will be made for work covered under this part of the specifications except as set forth below. Include all costs in appropriate unit prices.
- B. Traffic Control, LS: Lump sum price includes furnishing signs, flagmen, barricades, flashers, channelizing devices and other miscellaneous traffic control items specified or required by City of West Branch during construction; includes set up, removal and miscellaneous associated work.
- C. Mobilization, LS: Lump sum price includes:
 - 1. Partial Payment
 - a. For projects exceeding \$500,000, a partial payment of mobilization will be made after receipt of a signed contract. This partial payment will be either 10% of the contract price for this item or 1% of the original project sum, whichever is less.
 - b. When 5% of the original project sum is earned, either 25% of the contract price for this item or 2.5% of the original project sum, whichever is less, will be paid.
 - c. When 10% of the original project sum is earned, either 50% of the contract price for this item or 5% of the original project sum, whichever is less, will be paid.
 - d. When 25% of the original project sum is earned, either 100% of the contract price for this item or 10% of the original project sum, whichever is less, will be paid.
 - 2. Full Payment
 - a. Upon completion of all work on the project required by the contract, full payment will be made for this contract item, including any amount not paid as a partial payment.

PART 3 – EARTHWORK AND INCIDENTALS FOR PAVEMENT

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1. GENERAL

- A. This part of the specifications includes earthwork, milling and incidentals to complete resurfacing and shoulder work.
- B. Reference to percent maximum density shall mean a soil density not less than the stated percent of maximum density of optimum moisture content for soils as determined by ASTM D698 Moisture-Density Relations of Soils using 5.5-lb. Rammer and 12-in. Drop. (Standard Proctor Method).
- C. Do work in accordance with best present-day installation and construction practices.

2. REMOVAL OF HMA SURFACING (MILLING)

- A. Mill pavement surface to depth specified on plans to sound surface.
- B. Mill existing surface to provide uniform cross section.
- C. Equipment for milling asphaltic concrete: in accordance with IDOT 2531.03, A.
- D. Mill surfacing according to IDOT 2531.03, B.
- E. Surface cleaning: clean pavement prior to resurfacing with power broom to a clean hard surface.
 - 1. Clean milled areas which become dirty prior to surface placement at no additional cost to Owner.
 - 2. Thoroughly dry surface prior to application of tack coat and asphaltic concrete paving mixture.
- F. It is anticipated that Contractor will mill surfaces shown for removal around manholes as a part of the overall milling process. Quantities milled in pavement removal areas will be paid for as pavement removal or as a part of manhole reconstruction or modification and shall be excluded from the milling areas. Milling through pavement removal areas is incidental to construction.

3. EXISTING UTILITIES

- A. Locations of utility lines, mains, cables and appurtenances are in accordance with information provided by utility companies and from records of City; confirm locations of underground utilities by excavating ahead of work; Contractor fully responsible for damage to utilities during construction.
- B. Conflicting utilities not shown on plans, except services: notify Engineer immediately.
- C. Utility services are not generally shown on plans; protect services during construction.
 - 1. If gas services are in direct conflict with line and/or grade of new pipe, allow gas company to remove and replace service at no cost to Contractor; if Contractor wants other gas services removed, make own arrangements with gas company.
 - 2. Cut water services only if they conflict with line and grade of new work; if services are cut, use hose or other flexible connector to maintain service while new work is installed; reinstall permanent service; handling of services is incidental to construction.
- D. Water main conflicts: notify City and Engineer immediately; provide all necessary shut-down, repair and relocation where conflicts occur; furnish labor, equipment, pipe and fittings; repair and relocation will be paid for as Extra Work; when broken due to carelessness, repair is incidental to construction.
- E. Utility lines, poles and appurtenances, except water mains and sewer lines, in direct conflict with line and grade of work will be relocated by utility company before or during construction at no expense to Contractor; City will advise utility companies of lines, poles and appurtenances to be moved after award of contract; cooperate with utility companies in relocation of lines, poles and appurtenances.
- F. Support and protect, by timbers or other means, all utility pipes, conduits, poles, wires and other apparatus not to be moved; protective measures subject to approval of Engineer.
- G. No utility or utility service will be moved to accommodate equipment, method of operation or for convenience of Contractor when utility or utility services does not conflict directly with line and grade of work; arrange with utility company for relocation with approval of new location by Owner and Engineer;

- relocation is incidental to construction.
4. FIXTURE ADJUSTMENT
- A. Set grade of manhole tops to finished pavement grade.
 - B. Salvage and reuse existing fixture castings.
 - C. Use or remove manhole adjusting rings to bring casting to required elevation; maximum: 12"; make joints with bituminous jointing material to prevent entry of water.
 - D. Fixture adjustment of curb stops on water service is incidental to construction.
5. PAYMENT
- A. No separate payment will be made for work covered in this part of the specifications except as set forth below.
 - B. Removal of HMA Surfacing (Milling), 2" Depth, SY: Unit price includes furnishing all labor, equipment and incidentals necessary for milling existing asphaltic concrete surfacing as specified and shown on plan drawings. Includes milling, loading, hauling and removal of excess milling material from job site and delivery to city facility as directed by Owner.
 - C. Fixture Adjustment, Ea.: Unit price includes furnishing all labor, materials, and equipment for adjusting fixtures to finished pavement grade including adding or removing adjusting rings, waterproofing joints and reinstalling or providing new casting.

PART 4 – HOT MIX ASPHALT PAVEMENT

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1. WORK INCLUDED

- A. Hot asphalt mix base, intermediate and surface mixtures of aggregate, mineral filler and asphalt binder; heated, mixed, spread and compacted to dimensions shown on plans.
- B. Construction of hot mix asphalt pavement overlaid over pavement that has been milled.

2. MATERIALS

- A. Asphalt binder:
 - 1. Petroleum asphalt binder, IDOT 4137.
 - 2. Performance grade asphalt PG 64-22.
- B. Other materials: meet requirements of IDOT Section 2303.02.

3. PAVING PLANT AND EQUIPMENT

- A. Meet requirements of IDOT Section 2303.02.F.

4. JOB MIXING FORMULA

- A. Certify that sources of aggregates and binder are IDOT approved. Provide analyses of samples of materials to be used.
- B. Base course: Type A 3/4" mixture size, 300K ESAL, min. 60% crushed particles.
- C. Intermediate course: Type A 1/2" mixture size, 300K ESAL, min. 60% crushed particles.

D. Surface course: Type A 1/2" mixture size, 300K ESAL, min. 60% crushed particles.

5. SURFACE PREPARATION

A. Remove all loose and foreign material from pavement surface; provide clean surface for placement of asphaltic concrete paving mixture.

B. Surface must be dry prior to application of tack coat and asphaltic concrete paving mixtures.

C. Set grade of fixtures to finished pavement grade or side slope grade.

6. INTERMEDIATE AND SURFACE COURSES

A. Spread with finishing machine in areas of uniform width.

B. Adjust forward speed of finishing machine as necessary to provide least amount of stopping.

C. Place in thicknesses as shown on plans.

D. Use string line to maintain edge alignment.

E. At exposed edges, slope base and surface courses at 45° from vertical; smooth and compress with finishing machine.

F. Make provisions for clean, sharp edges by sawing or other means.

G. Do not rake or disturb layer spread by machine; do all hand raking in area before placement with finishing machine.

H. Allow all courses to cool to air temperature before placing additional course

I. Surfaces requiring three or more adjacent passes of finishing machine:

1. Outer lanes laid first.
2. Closure of surface made by interior lanes near centerline.

J. Surfaces requiring two adjacent passes of finishing machine; complete to full width within 24 hours.

K. Spread no more hot mix asphalt than can be finished in daylight hours.

- L. If surface of layer becomes dirty, clean and reapply tack coat, at no expense to Owner.
- M. Provide approved weight tickets for hot mix asphalt incorporated into pavement.

7. HANDLING AND DELIVERY

- A. Control handling and manipulation of hot mix asphalt paving mixture from mixer to final spread to maintain uniform composition; prevent segregation of course particles.
- B. Maintain continuous and uniform delivery rate to provide least amount of stopping of spreading unit.
- C. Keep all trucks covered when delivering asphalt mixture to job site.
- D. Do not use cleaning solutions such as kerosene, distillate or petroleum fractions over pavement surfaces.
 - 1. Do not carry such cleaning solutions on spreading unit.
 - 2. Wait 5 hours before using spreader unit after cleaning with above materials.
- E. Keep hand tools clean by heating and scraping.

8. HAND SPREADING

- A. Use hand method of spreading only in areas not accessible to finishing machine.
- B. Do not dump truckloads of hot mix asphalt paving mixture on area to be hand spread.
- C. Spread uniformly with hot rakes and shovels; smooth with lute.
- D. Use hand rakes designated for use with asphalt mixture s.
- E. Do not stand on loose mixture while raking.

9. ROLLING

- A. Roll each layer to proper density.
- B. Use power or driving roll for initial contact.

- C. Begin at edge and work toward centerline; reverse trip lapping 2/3 to 3/4 of previous track.
- D. Stagger ends of roller tracks not less than 3' in a manner that tracks will not hold water on surface.
- E. Do not pass roller over end of course unless laying has been discontinued.
- F. Following initial rolling, start intermediate rolling to close surface tears and voids.
 - 1. Roll entire area not less than four times.
 - 2. Roll until pavement has a density not less than 94% of density obtained in laboratory on mixture.
 - 3. Meet requirements of Class IC Compaction, IDOT Section 2303.03.D.

10. JOINTS

- A. Separate longitudinal construction joints between courses at least 3".
- B. Separate transverse construction joints at least 6'.
- C. Pave along longitudinal joints to secure closure of joint and full compression of mixture with smooth surface after compaction.
- D. Saw transverse joints at right angles to centerline of pavement.
- E. Provide paper or burlap under ramp at end of day's run.

11. SMOOTHNESS

- A. After second rolling, check base course and surface course with 10' straight edge in direction of rolling.
- B. For variations greater than 1/4" in base and binder courses and 1/8" in surface course: heat bumps to soften mixture; smooth with rakes; roll to obtain proper density.
- C. For depressions 1/2" and smaller: heat and loosen surface; add mixture free of coarse particles; lute to proper elevation and roll to obtain proper density.
- D. For depressions greater than 1/2": remove asphaltic concrete paving mixture; replace with fresh mixture; compact and roll to proper density.

- E. Pavement smoothness testing in accordance with IDOT Section 2316 is not required.

12. LIMITATIONS ON OPERATIONS

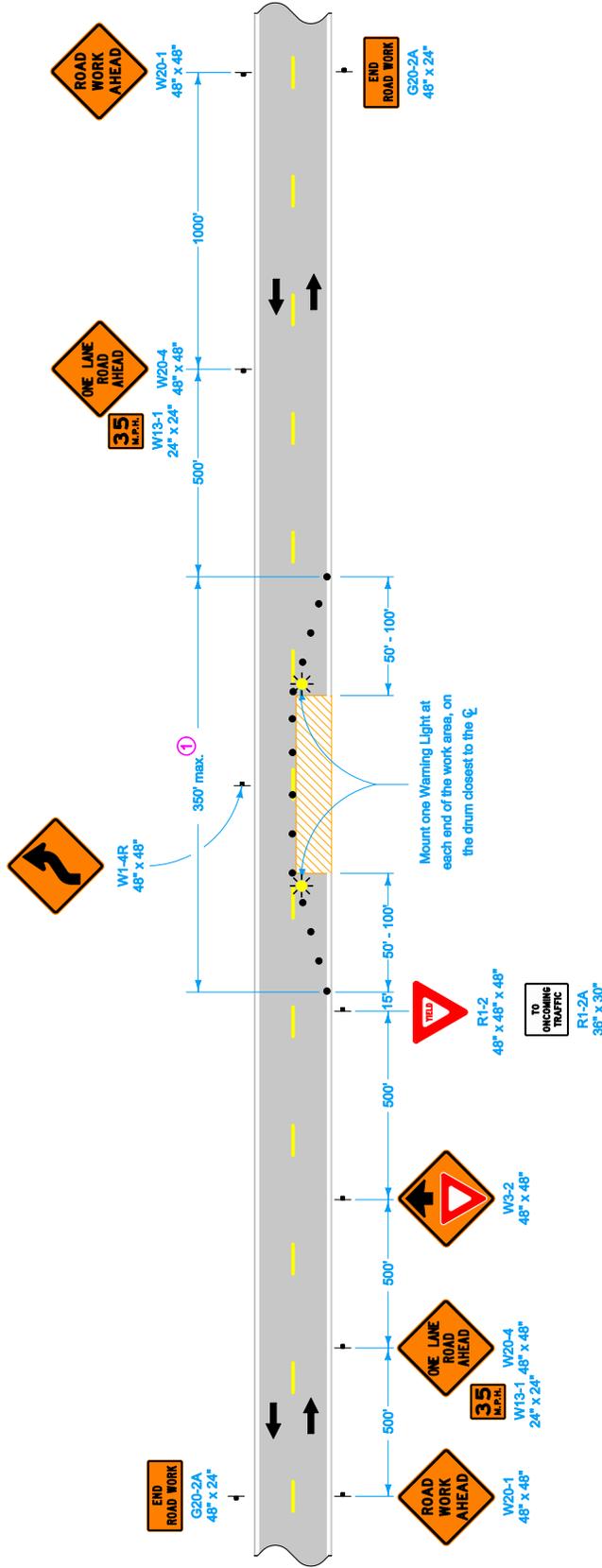
- A. Do not apply asphaltic concrete paving mixtures at pavement temperatures of less than 40°F.; do not apply to wet or damp surface.
- B. Place no asphaltic concrete paving mixtures between November 15 and April 15 of following year without written approval of Owner and Engineer.

13. SAMPLES

- A. Provide and test uncompacted samples of each mixture at location designated by Engineer in accordance with IDOT Section 2303.04.D.; split sample with Owner not required.
- B. Cut samples and test from any course or from finished pavement in accordance with IDOT Section 2303.04; cut additional samples as directed by Engineer if deficiencies occur in pavement thickness, density or stability.
 - 1. If cores taken are less than the specified thickness or density, adjustments in payment will be made in accordance with IDOT section 2303.06.
- C. Engineer will require changes in mix design, or placement and compaction procedures if asphalt mixture or pavement density fail to meet requirements specified.

14. PAYMENT

- A. No separate payment will be made for work covered under this part of the specifications, except as set forth below.
- B. If items, for which no unit prices are shown on Proposal, are required during construction, contract price shall be adjusted on basis of unit price negotiated with contractor.
- C. Hot Mix Asphalt Pavement, Tons: Unit price includes furnishing labor, materials and equipment for pavement cleaning, tack coat, pavement, consolidation, testing, sampling and incidentals for constructing paving as shown on plans; measurement based on delivery tickets at job site.



Possible Contract Item:
Traffic Control

 Iowa Department of Transportation	REVISION 2	04-17-12
	TC-211 SHEET 1 of 1	
STANDARD ROAD PLAN		
<small>REVISIONS: Removed "or Vertical Panel" from 42" Channelizer in Legend. Removed Drum information already in the specifications.</small>		
<small>APPROVED BY DESIGN METHODS ENGINEER</small> <i>Deanna M. Smith</i>		
LANE CLOSURE ON LOW VOLUME ROADWAY		

Do not use this layout when ADT exceeds 2000 vehicles.
Locate this layout at least 2,500 feet from any other work site layout.

Full-depth openings during non-working hours will not be allowed. Temporary plating, planing or filling may be necessary. Vehicles, unattended equipment, materials or stock-piled waste are not permitted between the shoulder lines during non-working hours.

For bridge deck overlay projects: The night before overlay operations begin, a bridge deck finishing machine and necessary materials may be placed on the roadway.

① Do not use this layout if a No Passing Zone for the closed lane is located within this area.

LEGEND	
	Type 'A' Warning Light
	Traffic Sign
	Work Area
	Direction of Traffic
	42" Channelizer