BID DOCUMENTS

FOR

WESTTOWN PARKING LOT



CITY OF OWOSSO 301 W. MAIN STREET OWOSSO, MICHIGAN 48867

June 29, 2015

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NOTICE TO BIDDERS

WESTTOWN PARKING LOT FOR THE CITY OF OWOSSO, MICHIGAN

Sealed bid proposals will be received by the city of Owosso for the Westtown Parking Lot and should be addressed to: Bid Coordinator, City of Owosso, 301 W. Main, Owosso, Michigan 48867. Sealed bids will be accepted until 3:00 p.m. Thursday, July 23, 2015 for the Westtown Parking Lot at which time bids will be publicly opened and read aloud.

All bids must be in writing and must contain an <u>original</u> signature by an authorized officer of the firm. Electronic bids (i.e., telephonic, FAX, etc.) are **NOT** acceptable. All bids shall clearly contain on the outside of the **sealed** envelope in which they are submitted: **Westtown Parking Lot.**

Bid proposal is for consideration of two alternatives. Bidder is allowed to submit pricing for one or both alternatives. The city will consider all bids and alternatives in making their final decision.

Major items include: 380 CYD Earth Excavation, 385 LFT of curb and gutter, 604 SYD Aggregate Base, 148 Ton HMA or 604 SYD Concrete Pavement (as Alternative bid).

All bids must be accompanied by a certified **Cashiers Check or Bid Bond** for a sum of not less than five percent (5%) of the total bid and shall be made payable to the city of Owosso. This amount shall be forfeited in case of failure on the part of the successful bidder to sign a contract and furnish satisfactory bonds as required within ten (10) consecutive calendar days after the acceptance of the bid by the city of Owosso.

The proposal, contract forms, plans and specifications are on file and may be obtained at the office of the Bid Coordinator, City Hall, 301 W. Main Street, Owosso, Michigan by making a \$30.00 nonrefundable payment to the city of Owosso for each set of plans and contract documents, from our website at www.ci.owosso.mi.us, or from the MITN website at www.mitn.info. Please call (989) 725-0550 with questions.

The city reserves the right to accept any proposal; or to reject any proposal; to waive irregularities in a proposal; or to negotiate if it appears to be in the best interest of the city of Owosso.

It is anticipated that the bid will be awarded on Monday, August 3, 2015. The contractor will have complete access to all project areas.

INQUIRIES/ADDENDUMS

Addendums will be available on the city's website at www.mitn.info. and on the MITN website at www.mitn.info.

All inquiries regarding this bid request must be received at least five (5) calendar days prior to the submission and shall be addressed to:

Bid Coordinator City of Owosso 301 W. Main St. Owosso, Michigan 48867

Inquiries will be received in and responded to in writing or via FAX (989) 723-8854 or by email to jane.hunt@ci.owosso.mi.us. Please contact Jane Hunt at (989) 725-0550 to arrange a field inspection.

INSTRUCTIONS TO BIDDERS

- 1. Each proposal must be signed by the bidder with his usual signature. Bids by partnerships should be signed with the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and title of the person signing. Proposals by corporations must be signed with the name of the corporation, followed by the signature and designation of the president, vice-president or person authorized to bind it in the matter. Any paperwork not filled out properly or signed will cause the bid to be considered non-responsive and shall be rejected by the city.
- 2. Proposals, to receive consideration, must be received prior to the specified time of opening and reading as designated in the invitation.
- 3. Bidders are requested to use the proposal form furnished by the city when submitting their proposals. Envelopes must be **sealed** when submitted and clearly marked on the outside indicating the name of the bid.
- 4. Proposals having and erasures or corrections thereon may be rejected unless explained or noted over the signature of the bidder.
- 5. References in the specifications or description of materials, supplies, equipment, or services to a particular trade name, manufacturer's catalog, or model number are made for descriptive purposes to guide the bidder in interpreting the type of materials or supplies, equipment, or nature of the work desired. They should not be construed as excluding proposals on equivalent types of materials, supplies, and equipment or for performing the work in a manner other than specified. However, the bidders' attention is called to General Condition six (6).
- 6. Proposals should be mailed or delivered to the Bid Coordinator's Office, City Hall, 301 W. Main Street, Owosso, MI 48867.
- 7. Special conditions included in this inquiry shall take precedence over any conditions listed under General Conditions or Instructions to Bidders.
- 8. Bodily injury, property damage and worker's compensation The contractor, prior to execution of the contract, shall file with the city copies of completed certificates of insurance naming the city of Owosso as an additional insured party, as evidence that the contractor carries adequate insurance satisfactory to the city.
- 9. The city of Owosso has a local preference policy for the purchase of goods and services. The policy in part states: A business located within the city limits and paying real or personal property taxes to the city of Owosso will be granted a six percent (6%) bid advantage or \$2,500, whichever is less, over a business located outside Shiawassee County. A business located outside the city limits but within Shiawassee County and paying property taxes to the county will be granted a three percent (3%) bid advantage or \$2,500, whichever is less, over a business located outside Shiawassee County. The preference also applies to subcontractors performing twenty-five percent (25%) or more of the work of a general contract.

BID Proposal

WESTTOWN PARKING LOT

To: City of Owosso, hereinafter called the "city".

The undersigned, having examined the proposal forms, plans and specifications, and the site of the propose work as shown on the drawings, proposes to furnish all materials and equipment and do all work shown in the said drawings and specifications at and for the following unit prices:

PART 1: WESTTOWN PARKING LOT-BASE BID

UNIT NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1.	Erosion Control, Inlet Protection, Fabric Drop	2	EA		
2.	Excavation, Earth	380	CYD		
3.	Sawcutting	80	LFT		
4.	Pavt, Rem, Modified	10	SYD		
5.	Sidewalk, Rem	282	SFT		
6.	Curb and Gutter, Rem	72	LFT		
7.	Subgrade Undercutting, Type II	20	CYD		
8.	Trimming and Finishing Earth Grade	1.08	STA		
9.	Drainage Structure, 24 Inch Catchbasin	1	EA		
10.	Dr Structure Cover, Type EJ 1060, 2M Cover	1	EA		
11.	Sewer, Storm, 6 Inch, SDR-26, Special Trench Detail	67	LFT		
12.	Driveway, Nonreinf Conc, 6 Inch	30	SYD		
13.	Sidewalk, Conc, 4 Inch	176	SFT		
14.	Sidewalk, Conc, 6 Inch	112	SFT		
15.	Sidewalk Ramp, Conc, 7 Inch	32	SFT		
16.	Granular Material, Class II, LM	25	CYD		
17.	Curb and Gutter, Det F-2, Mod	315	LFT		
18.	Curb and Gutter, Det F-4, Mod	70	LFT		
19.	Conc Pavt, Nonreinf, 7 Inch	55	SFT		
20.	Geotextile Separator	604	SYD		
21.	Aggregate Base, 6 Inch, Mod	604	SYD		
22.	HMA, 13A	90	TON		
23.	HMA, 36A	55	TON		
24.	Hand Patching	3	TON		
25.	Lawn Restoration	142	SYD		
26.	Traffic Control	1	LSUM		
			ТОТ	AL BASE BID	

	 	Initial·	

PART 2: CONCRETE PAVEMENT ALTERNATIVE: ADJUSTMENT TO BASE BID

Bidder may submit alternative bid for consideration of Concrete Pavement in place of HMA Pavement as follows:

UNIT NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTA PRICI	
DEDUCT	Aggregate Base, 6 Inch, Modified	604	SYD		()
ADD	Aggregate Base, 4 Inch, Modified	604	SYD			
DEDUCT	HMA, 13A	90	TON		()
DEDUCT	HMA, 36A	55	TON		()
ADD	Conc Pavt, Nonreinf, 6 Inch	604	SYD			
TOTAL AL	TERNATIVE BID: NO BID or DEDUCT	or ADD (circle	one) to	Base Bid		

Bidder's Initial i	Submitting	Alternative Bid:	
Diddel 3 Illitial I	Oublinding	Alternative Dia.	

VARIANCE FROM SPECIFICATIONS: If the bidder is unable to comply with the specifications as outlined, the bidder shall clearly note these variations from the specifications. The bidder may also propose additions to these specifications for the city to consider, but the costs associated with these additions shall be stated separately.

If the work is not complete on or before the date set for completion or any extension, the Contractor shall pay the city liquidated damages of *Five Hundred Dollars* (\$500.00) a calendar day until the work is satisfactorily completed. Liquidated damages for delay may be deducted from payments due the Contractor or may be collected from the Contractor or the Contractor's surety.

The undersigned agrees that if the city accepts this proposal, Contractor will, within 10 consecutive calendar days after receiving notice of the acceptance, enter into a contract to furnish labor, equipment, and tools necessary to execute the work at the unit prices named in the bid proposal. Contractor will furnish the required surety for performance for 100% of this bid which shall be accepted and approved by the city.

The undersigned agrees that if the city accepts this proposal, Contractor will start this project no sooner

than September 8, 2015 and will substantially complete the entire work under this contract by October 30, 2015. This schedule may be extended for rain days or cold weather for calendar days after October 30, 2015 only as approved by the city of Owosso. _____, I hereby submit this proposal for your consideration. The On behalf of undersigned acknowledges that this proposal is subject to the General Conditions and the General Specifications included in the contract documents. In submitting this proposal, it is understood that the right is reserved by the CITY to reject any and all proposals, and waive any irregularities in the bidding process. The CITY may award this contract based on any combination of the total bid and/or alternates. Dated and signed at _____ State of _____ This ______, 20____. Bidder Witness: By/s/ **Business Address** Signature Title

Bid Proposal Page 3 of 3

Telephone Number

GENERAL CONDITIONS

The contractor shall direct all phases of the work. A representative of the contractor, authorized to make decisions, shall be on the job when work is in progress. Contractor shall build this work according to the **2012 M.D.O.T. Standard Specifications Construction**.

The Project listed is as follows: WESTTOWN PARKING LOT

Unless otherwise stated otherwise all materials, procedures and testing shall follow the M.D.O.T. 2012 Standard Specifications for Construction.

The streets under construction shall be closed to through traffic during the project, with access for local traffic to their driveways.

The contractor, before execution of the contract, shall file with the city copies of completed certificates of insurance naming the city of Owosso as an insured party, as evidence that the contractor carries adequate insurance, satisfactory to the city.

1. LOCAL PREFERENCE POLICY

The city of Owosso has a local preference policy for the purchase of goods and services. The policy in part states:

A business located within the city limits and paying real or personal property taxes to the city of Owosso will be granted a 6% bid advantage or \$2,500, whichever is less, over a business located outside the city limits of Owosso. A business located outside the city limits but within Shiawassee County and paying property taxes to the county will be granted a 3% bid advantage or \$2,500, whichever is less, over a business located outside Shiawassee County. The preference also applies to subcontractors performing 25% or more of the work of a general contract.

2. BID ACCEPTANCE

The city reserves the right to reject any or all proposals. Unless otherwise specified, the city reserves the right to accept any item in the proposal. In case of error in extending the total amount of the bid, the unit prices shall govern.

3. PAYMENT

Unless otherwise stated by the bidder, time, concerning discount offered, will be computed from date of delivery and acceptance at destination or from date correct bill or claim voucher properly certified by the contractor is received. When so stated herein, partial payments, based on a certified approved estimate by the city of materials, supplies or equipment delivered or work done, may be made upon presentation of a properly-executed claim voucher. The final payment will be made by the city when materials, supplies, equipment or the work done have been fully delivered or completed to the full satisfaction of the city.

4. BID DEFAULT

In case of default by the bidder or contractor, the city of Owosso may procure the articles or services from other sources and hold the bidder or contractor responsible for any excess cost occasioned thereby.

5. UNIT PRICES

Prices should be stated in units of quantity specified.

6. QUOTED PRICES

Unless otherwise stated by the bidder, prices quoted will be considered as being based on delivery to a designated destination and to include all charges for packing, crating, containers, shipping, etc., and being in strict accordance with specifications and standards as shown.

7. SUBSTITUTIONS

Wherever a reference is made in the specifications or description of the materials, supplies, equipment, or services required, to a particular trade name, manufacturer's catalog, or model number, the bidder, if awarded a contract or order, will be required to furnish the particular item referred to in strict accordance with the specifications or description unless a departure or substitution is clearly noted and described in the proposal.

8. HOLD CITY HARMLESS

The bidder, if awarded an order or contract, agrees to protect, defend, and save the city harmless against any demand for payment for the use of any patented material, process, article, or device that may enter into the manufacture, construction, or form a part of the work covered by either order or contract. Bidder further agrees to indemnify and save the city harmless from suits or action of every nature and description brought against it, for or on account of any injuries or damages received or sustained by any party or parties, by or from any of the acts of the contractor, his employees, subcontractors, or agents.

9. COMPETITIVE BIDDING STATUTES

The laws of the state of Michigan, the charter and ordinances of the city of Owosso, as far as they apply to the laws of competitive bidding, contracts and purchases, are made a part hereof.

10. SAMPLES

Samples, when requested, must be furnished free of expense to the city and, if not destroyed, will upon request be returned at the bidder' expense.

11. BONDS

A certified check or bid bond must accompany all proposals, payable to the City of Owosso. If so required in the bid documents, a performance bond and labor and material bond in the amounts stated in the bid documents, shall be on file with the city before work commences. The city will determine the amount and sufficiency of the sureties.

12. PROPOSAL GUARANTY

All checks or bid bonds except those of the three lowest bidders will be returned when the bids have been opened and tabulated. The certified checks or bid bonds of the three lowest bidders will be held until the contract documents have been signed, after which remaining certified checks or bid bonds will be returned to the respective bidders.

13. BIDDERS

The city may demand that the contractor file a sworn experience and financial statement setting forth the financial resources, adequacy of plant and equipment, organization, experience and other pertinent and material facts as may be desirable.

14. DAMAGE LIABILITY AND INSURANCE

The contractor shall save harmless and indemnify the city and its employees against all claims for damages to public or private property and for injuries to persons arising during the progress and because of the work.

- a. Workers' compensation insurance The contractor, before the execution of the contract, shall file a certification that the contractor carries workers' compensation insurance.
- b. Bodily injury and property damage The contractor, before execution of the contract, shall file with the city copies of completed certificates, of insurance acceptable to the city naming the city as an insured party. The coverage shall afford protection against damage claims to public or private property, and injuries to persons, arising out of and during the progress of the work, and to its completion and, where specified in the proposal, similar insurance to protect the owners of premises on or near which construction operations take place.
- c. Bodily injury and property damages other than automobile Unless otherwise specifically required by special provisions in the proposal, the minimum limits of property damage and bodily injury liability covering each contract shall be:

Bodily injury and property damage liability:

Each occurrence: \$1,000,000

Aggregate: \$2,000,000

Such insurance shall include, but not be limited to, coverage for: a) underground damage to facilities due to drilling and excavating with mechanical equipment and b) collapse or structural injury to structures due to blasting or explosion, excavation, tunneling, pile driving, cofferdam work, or building moving or demolition.

- d. Owners' protective liability Bodily injury and property damage protection shall be extended to the city.
- e. Bodily injury liability and property damage liability automobiles Unless otherwise specifically required by special provisions in the proposal, the minimum limits of bodily injury liability and property damage liability shall be:

Bodily injury liability:

Each person: \$500,000 Each occurrence: \$1,000,000

Property damage liability:

Each occurrence: \$1,000,000

Combined single limit for bodily injury and property damage liability:

Each occurrence: \$2,000,000

- f. Notice The contractor shall not cancel or reduce the coverage of any insurance required by this section without providing 30-day prior written notice to the city. All such insurance must include an endorsement under which the insurer shall agree to notify the city immediately of any reduction by the contractor. The contractor shall cease operations on the occurrence of any such cancellation or reduction, and shall not resume operations until new insurance is in force.
- g. Reports At the request of the city, the contractor or the contractor's insurance carrier shall report claims received, inspections made, and disposition of claims.

15. PROTECTION OF LAND MONUMENTS AND PROPERTY STAKES

Land monuments or stakes marking property corners shall not be moved or otherwise disturbed except as directed by the city. If any land monuments or lot stakes are moved or disturbed by the contractor, the cost of replacing each land monument or lot stake so moved or disturbed shall be deducted from any money due the contractor, as payment to the city for the cost of replacing said land monument or lot stakes.

16. CONTRACTOR'S RESPONSIBILITY FOR WORK

The contractor shall be responsible for any damages that the work may sustain before its acceptance, and shall rebuild, repair, restore and make good, at its own expense, all injuries and damages to any portion of the work by the action of the elements or from any cause whatsoever before its acceptance. Neither the final payment nor any provision in the contract documents shall relieve the contractor of the responsibility for negligence or faulty materials or workmanship within the extent and period provided by law, and, upon written notice, the contractor shall remove any defects due therefrom and pay for any damaged due to other work resulting therefrom, which shall appear within one year after the date of completion and acceptance.

17. PAYMENT

At monthly intervals commencing after construction has been started, the city will make partial payment to the contractor based on a duly-certified estimate prepared by the city of the work done by the contractor during the preceding four-week period. Each estimate will be submitted to the city council for approval on either the first or third Monday of each month. The city will retain ten percent (10%) of the amount of each such estimate until final completion and acceptance of all work covered by this contract.

Before the contractor shall demand final estimates or payment, contractor will furnish to the city, supported by sworn statements, satisfactory evidence that all persons that have supplied labor, materials, or equipment for the work embraced under this contract have been fully paid for the same; and that, in case such evidence be not furnished as aforesaid, such sums as the city may deem necessary to meet the lawful claims of such persons may be retained by the city from any monies that may be due or become due to the contractor under this contract until such liabilities shall be fully discharged and the evidence thereof be furnished to the city.

18. CITY'S RIGHT TO WITHHOLD CERTAIN AMOUNTS AND MAKE APPLICATION THEREOF

Besides the payment to be retained by the city under the preceding provisions of these general conditions, the city may withhold a sufficient amount of any payment otherwise due to the contractor to cover a) payments earned or due for just claims for furnish labor or materials on the project under this contract, b) for defective work not remedied and c) for failure of the contractor to make proper payments to subcontractors. The city shall disburse and shall have the right to act as agent for the contractor in disbursing such funds as have been previously withheld pursuant to this paragraph to the party or parties who are entitled to payment from it. The city will pay to the contractor a proper accounting of all such funds disbursed for the contractor.

19. OWNER'S RIGHT TO DO WORK

If the contractor should neglect to prosecute the work properly or fail to perform any provisions of this contract, the city, after three (3) days' written notice to the contractor and contractor's surety, may without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost of it from the payment due the contractor.

20. DEFINITION OF NOTICE

Where in any of the contract documents there is any provision in respect to the giving of notice, such notice shall be deemed given to the owner, when written notice is delivered to the city manager, or placed in the United States mail addressed to the city clerk; as to the contractor, when a written notice shall be delivered to contractor's representative at the project site or by mailing such written notice in the United States mail addressed to the contractor at the place stated in the bid proposal as the business address; as to the surety on the performance bond, when a written notice is placed in the United States mail addressed to the surety at the surety's home office or to its agent or agents who executed such performance bond on behalf of the surety.

21. SUBCONTRACTS

The contractor shall not subcontract any work in the execution of this contract without the written consent of the city. The contractor shall be responsible for the acts or omissions of any subcontractor and of anyone employed directly or indirectly by such subcontractor.

22. ASSIGNMENT OF CONTRACT

The contractor shall not assign this contract or any part hereof without the written consent of the city. No assignment shall be valid unless it shall contain a provision that any funds to be paid to the assignee under this agreement are subject to a prior lien for services rendered or materials or supplies for the performance of the work specified in the contract in favor of all persons, firms, or corporations rendering such services or supplying such materials.

23. MAINTAINING TRAFFIC

The contractor shall provide flares, signs, barricades, traffic regulators, etc., to conform to the current *Michigan Manual of Uniform Traffic Control Devices* or as directed by the city. The contractor shall not close any road or street without the permission of the city. If any street or road is to be closed by the contractor, it shall be the responsibility of the contractor to notify the Owosso fire department when the street will be closed and again when the street is open to traffic. Traffic control devices for any detours deemed necessary by the city shall be provided by the contractor. Cost of maintaining shall be incidental to the cost of the project unless otherwise provided.

24. ORDER OF COMPLETION

The contractor shall submit, whenever requested by the city, a schedule of the work showing completion dates. The city may request that certain portions of the work be done before other portions. If so requested, the contractor shall arrange to schedule to meet the request by the owner.

25. USE OF COMPLETED PORTIONS

The city shall have the right to take possession and use any completed or partially completed portions of the work; but such taking possession and use shall not be deemed acceptance. Pending final completion and acceptance of the work, all necessary repairs and adjustments on any section of the work due to defective material, workmanship, natural causes, or other operations of the contractor, other than normal wear and tear, shall be done by and at the expense of the contractor.

26. WATER SUPPLY

The contractor shall arrange for securing an adequate water supply for use in construction and for drinking water for his employees. If the city's water is used on the work, the contractor shall make the necessary application and shall pay all costs involved. Connections, piping and the contractor shall furnish and maintain fittings for conveying water. Contractor shall pay for water according to the city's established rates.

27. CLEANUP

The contractor shall keep the project free from waste materials or rubbish caused by its employees or work. This includes as a minimum excess excavation or backfill material, broken or rejected materials, empty containers or general debris. The owner may require complete cleanup of certain areas as construction is completed.

28. SUPERVISION

The contractor shall have a superintendent on the job site to coordinate and expedite the various construction activities for the duration of this contract.

29. EQUAL EMPLOYMENT OPPORTUNITY AND OTHER CLAUSES

The contractor shall agree not to discriminate against any employee or applicant for employment because of age, race, religion, color, handicap, sex, physical condition, developmental disability as defined by Michigan Complied Statutes, or national origin. This provision shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rate of pay or other forms of compensation, and selection for training including apprenticeship. The contractor further agrees to take affirmative action to ensure equal employment opportunities for persons with disabilities. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provision of the non-discrimination clause.

LOCAL PREFERENCE POLICY

The following affidavit should be completed if a bidder is located within Shiawassee County or intends to sub-contract more than twenty-five percent (25%) to a Shiawassee County based business: The city of Owosso has a local preference policy for the purchase of goods and services as recorded in the city ordinance in section 2-348. "Lowest qualified bidder" defined.

- 1. The term "lowest qualified bidder," as used in this division, shall mean the lowest bidder having qualifications to perform the work which are satisfactory to the council. The lowest bidder shall be determined based on an adjusted bid tabulation which shall be prepared in the following manner: To the bid of any bidder which is neither a city-based business nor a county-based business shall be added an amount equal to six (6) percent of the bid or two thousand five hundred dollars (\$2,500.00), whichever is less.
- 2. To the bid of any bidder which is a county-based business shall be added an amount equal to three (3) percent of the bid or two thousand five hundred dollars (\$2,500.00), whichever is less; provided, however, that if no bid is received from a city-based business, no additional amount shall be added to the bid of a county-based business.
- 3. "Owosso-based business" shall be interpreted to mean a business registered with the county clerk or a corporation registered with the state having a business address within the city limits which pays real and/or personal property taxes levied by the city.
 The term "county-based business" shall be interpreted to mean a business other than a city-based business registered with the county clerk or a corporation registered with the state having a business address within the county which pays real and/or personal property taxes levied by the county.
- 4. If twenty-five (25) percent or more of a contract for construction or other services is to be subcontracted by a city-based business bidder to a non-city-based business or businesses, or by a county-based business bidder to a non-county-based business or businesses, the adjusted bid shall be calculated by applying the provisions of this section separately to each portion of the contract based on the status of the contractor or subcontractor performing that portion of the contract as a city-based or county-based business.

AFFIDAVIT

In accordance with Section 2-348 of the Owosso city code, the bid from a business located in Shiawassee County shall be adjusted to reflect a preference. In order for the city to calculate the adjustment, the bidder hereby deposes and states that their business address is registered, and is currently paying real and/or personal property taxes in Shiawassee County at the following address:

Register	ed business address
	o-contract with a business registered, and paying real and/or be executed for a percentage equal to or greater than twenty-
Subcontractor(s) name and business address	Percentage of contract
Subcontractor(s) name and business address	Percentage of contract
Subcontractor(s) name and business address	Percentage of contract
Date	Authorized signature Title
	Company name

SIGNATURE PAGE AND LEGAL STATUS

The undersigned certifies that he is an official legally authorized to bind his firm and to enter into a contract should the city accept this proposal.

Bid proposal by				
		(Name o	f Firm)	
Legal status of bi	dder. Please check the	appropriate box	and USE CORRECT	LEGAL NAME.
A. Corporat	ion; State of Incor	poration		
B. Partnersl	nip; List of names			
C. DBA	; State full name			
D. Other	; Explain			
Signature of Bidd	ler(Authorized Sig			
Signature of Bidd	ler(Authorized Sig	gnature)	Title	
Address		City	Zip	
Telephone ()			
Signed this		day of	20	
Bidder acknowled	dges receipt of the follow	ing Addenda:		
	ADDENDUM NO.	BIDDER'	S INITIALS	
-				
-				
_				

W-9 INFORMATION FOR LEGAL STATUS

Sole proprietor. Enter your individual name as shown on your income tax return on the "Name" line. You may enter your business, trade, or "doing business as (DBA)" name on the "Business name/disregarded entity name" line.

Partnership, C Corporation, or S Corporation. Enter the entity's name on the "Name" line and any business, trade, or "doing business as (DBA) name" on the "Business name/disregarded entity name" line.

Disregarded entity. Enter the owner's name on the "Name" line. The name of the entity entered on the "Name" line should never be a disregarded entity. The name on the "Name" line must be the name shown on the income tax return on which the income will be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a domestic owner, the domestic owner's name is required to be provided on the "Name" line. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on the "Business name/disregarded entity name" line. If the owner of the disregarded entity is a foreign person, you must complete an appropriate Form W-8.

Note. Check the appropriate box for the federal tax classification of the person whose name is entered on the "Name" line (Individual/sole proprietor, Partnership, C Corporation, S Corporation, Trust/estate).

Limited Liability Company (LLC). If the person identified on the "Name" line is an LLC, check the "Limited liability company" box only and enter the appropriate code for the tax classification in the space provided. If you are an LLC that is treated as a partnership for federal tax purposes, enter "P" for partnership. If you are an LLC that has filed a Form 8832 or a Form 2553 to be taxed as a corporation, enter "C" for C corporation or "S" for S corporation. If you are an LLC that is disregarded as an entity separate from its owner under Regulation section 301.7701-3 (except for employment and excise tax), do not check the LLC box unless the owner of the LLC (required to be identified on the "Name" line) is another LLC that is not disregarded for federal tax purposes. If the LLC is disregarded as an entity separate from its owner, enter the appropriate tax classification of the owner identified on the "Name" line.

Other entities. Enter your business name as shown on required federal tax documents on the "Name" line. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on the "Business name/disregarded entity name" line.

Please see attached W-9 Request for Taxpayer Identification Number and Certification form for a detailed explanation on filling out the W-9 form.

Form W-9 (Rev. December 2011) Department of the Treasury

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

***************************************	oronia da vida				
	Name (as shown on your income tax return)				
ge 2.	Business name/disregarded entity name, if different from above				
Print or type See Specific Instructions on page	Check appropriate box for federal tax classification: Individual/sole proprietor C Corporation S Corporation Partnership Trust/estate				
Limited liability company. Enter the tax classification (C=C corporation, P=partnership) Other (see instructions) Exemp					
투드	☐ Other (see instructions) ►				
pecific	Address (number, street, and apt. or suite no.)	Requester's name and address (optional)			
See S	City, state, and ZIP code				
ĺ	List account number(s) here (optional)				
Par	Taxpayer Identification Number (TIN)				
Enter y	our TIN in the appropriate box. The TIN provided must match the name given on the "Nam	e" line Social security number			
	backup withholding. For individuals, this is your social security number (SSN). However,				
	alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For oth it is your employer identification number (EIN). If you do not have a number, see <i>How to</i>				
	page 3.	yo. u			
Note.	the account is in more than one name, see the chart on page 4 for guidelines on whose	Employer identification number			
numbe	to enter.				
Part	I Certification				
Under	enalties of perjury, I certify that:				
1. The	number shown on this form is my correct taxpayer identification number (or I am waiting f	or a number to be issued to me), and			
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and					
3. I an	a U.S. citizen or other U.S. person (defined below).				
becaus interes genera instruc	ation instructions. You must cross out item 2 above if you have been notified by the IRS a you have failed to report all interest and dividends on your tax return. For real estate train paid, acquisition or abandonment of secured property, cancellation of debt, contributions y, payments other than interest and dividends, you are not required to sign the certifications on page 4.	sactions, item 2 does not apply. For mortgage to an individual retirement arrangement (IRA), and			
Sign Here	Signature of U.S. person ▶	Date►			

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- 1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- 2. Certify that you are not subject to backup withholding, or
- 3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

Form W-9 (Rev. 12-2011)

PROOF OF INSURANCE

This is to certify that the following endorsement is part of the policy(ies) described below:

NAMED INSURED (CONTRACTOR)

COMPANIES AFFORDING COVERAGE

А. В.

ADDRESS C.

It is hereby understood and agreed that the city of Owosso, its city council and each member thereof and every officer and employee of the city shall be named as joint and several assureds with respect to claims arising out of the following project:

WESTTOWN PARKING LOT

It is further agreed that the following indemnity agreement between the city of Owosso and the named insured is covered under this policy: Contractor agrees to indemnify, hold harmless and defend city, its city council and each member thereof and every officer and employee of city from any and all liability or financial loss resulting from any suits, claims, losses or actions brought against and from all costs and expenses of litigation brought against city, its city council and each member thereof and any officer or employee of city which results directly or indirectly from the wrongful or negligent actions of contractor's officers, employees, agents or others employed by Contractor while engaged by contractor in the (performance of this agreement) construction of this project.

It is further agreed that the inclusion of more than one assured shall not operate to increase the limit of the company's liability and that insurer waives any right on contribution with insurance which may be available to the city of Owosso.

The contractor, or any of their subcontractors, shall not commence work under this contract until they have attained the insurance required below, and shall keep such insurance in force during the entire life of this contract. All coverage shall be with insurance companies licensed and admitted to do business in the State of Michigan and acceptable to the city of Owosso. The requirements below should not be interpreted to limit the liability of the Contractor. All deductibles and SIR's are the responsibility of the Contractor.

The Contractor shall procure and maintain the following insurance coverage:

- **1. Worker's Compensation Insurance** including Employers' Liability Coverage, in accordance with all applicable statutes of the State of Michigan.
- 2. Commercial General Liability Insurance on an "Occurrence Basis" with limits of liability not less than \$1,000,000 per occurrence and aggregate. Coverage shall include the following extensions: (A) Contractual Liability; (B) Products and Completed Operations; (C) Independent Contractors Coverage; (D) Broad Form General Liability Extensions or equivalent, if not already included.
- **3. Automobile Liability** including Michigan No-Fault Coverages, with limits of liability not less than \$1,000,000 per occurrence, combined single limit for Bodily Injury, and Property Damage. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.
- **4. Additional Insured:** Commercial General Liability and Automobile Liability, as described above, shall include an endorsement stating the following shall be **Additional Insureds:** City of Owosso, all elected and appointed officials, all employees and volunteers, all boards, commissions, and/or authorities and board members, including employees and volunteers thereof. It is understood and agreed by naming City of Owosso as additional insured, coverage afforded is considered to be primary and any other insurance the city of Owosso may have in effect shall be considered secondary and/or excess.

- **5.** Cancellation Notice: All policies, as described above, shall include an endorsement stating that it is understood and agreed that a Ten (10) days notice for non-payment of premium is required and a Thirty (30) days notice is required for Non-Renewal, Reduction, and/or Material Change, shall be sent to: City of Owosso, Bid Coordinator, 301 W. Main Street, Owosso, Michigan 48867.
- **6. Proof of Insurance Coverage**: The Contractor shall provide the city of Owosso, at the time that the contracts are returned by him/her for execution, a Certificate of Insurance as well as the required endorsements. In lieu of required endorsements, if applicable, a copy of the policy sections where coverage is provided for additional insured and cancellation notice would be acceptable. Copies or certified copies of all policies mentioned above shall be furnished, if so requested.

If any of the above coverages expire during the term of this contract, the Contractor shall deliver renewal certificates and endorsements to the city of Owosso at least ten (10) days prior to the expiration date.

Please include a copy of insurance declaration verifying amounts of coverage. The verification of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

DATE	ВҮ
	Authorized Insurance Agent
AGENCY	TITLE
ADDRESS	_
	_

PROJECT CLAUSE

RC/City of Owosso/ 1 Of 1 June, 2015

Start work after receiving the Notice to Proceed. No work shall commence until the Notice to Proceed is issued. The completion and open for traffic date for all work is October 16, 2015.

The Contractor is required to coordinate work with the following criteria:

- 1. No work shall begin before August 10, 2015.
- 2. The work site will be closed to vehicular traffic.
- 3. Traffic on S. Lansing Street and adjacent alleys shall be maintained.
- 4. For concrete pavement alternative only: The open to traffic date shall be October 30, 2015.

The contractor must build sufficient work days into the schedule to ensure all necessary work is completed on or before the critical dates.

The approved low bidder for the work covered by this proposal is required to participate in a preconstruction meeting with the city to review and work out a detailed progress schedule. The meeting will occur soon after the successful bidder is determined. Any named sub-contractors should also attend the scheduled meeting. The Progress Schedule shall include, as a minimum, the controlling work items for the completion of the project and the planned dates that these work items will be controlling operations. The work schedule shall incorporate the following criteria:

- 1. The parking lot shall be opened to use no later than the project completion date.
- 2. The Contractor shall cooperate and coordinate construction activities with owners of utilities.
- 3. The Contractor shall cooperate and coordinate construction activities with rubbish collection done by private contractors between 7:00 am and 7:00 pm, Tuesdays.
- 4. The Contractor shall schedule work between the hours of 7:00 am and 7:00 pm, Monday through Saturday. No work is allowed outside these time periods. The Contractor shall coordinate work so that any necessary preliminary or closing operations are also done within these time periods.
- 5. Line and grades will be provided by the city for one-time installation. Contractor shall protect all survey stakes at his sole cost. Any re-staking due to contractor damage will be at contractor's expense.
- 6. The city will be performing necessary storm sewer improvements prior to construction that includes work in the parkway area of S. Lansing Street. The contractor is required to perform lawn restoration, as directed by the Engineer, in the parkway area.

Access to alleys and/or driveways for local residents, schools, and businesses shall be maintained and not unnecessarily blocked.

All work will be done in accordance with the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction and the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), except as modified by Special Provision.

SPECIAL PROVISION FOR AGGREGATE BASE, ____ INCH, MODIFIED

1 of 1 RC/City of Owosso June, 2015 **DESCRIPTION:** The work of Aggregate Base, Inch, Modified shall consist of furnishing and placing crushed limestone compacted-in-place at the specified depth, in accordance with Sections 302 and 902 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as modified herein: **MATERIALS:** Aggregate Base, ____ Inch, Modified shall be 100% crushed limestone conforming to 21AA gradation in accordance with Section 902 of the Michigan Department of Transportation 2012 Standard Specifications for Construction. **CONSTRUCTION:** Inch, Modified shall be placed at the specified depth, in accordance with Section Aggregate Base, 302 of the Michigan Department of Transportation 2012 Standard Specifications for Construction. **MEASUREMENT AND PAYMENT** The completed work as measured for Aggregate Base, ____ Inch, Modified will be paid for at the contract unit price for the following contract item (Pay Item): **PAY ITEM PAY UNIT** Aggregate Base, 4 Inch, Modified Square Yard Aggregate Base, 6 Inch, Modified Square Yard Aggregate Base, ____ Inch, Modified will be measured in place, at the specified depth, by area in square yards. Aggregate Base, ____ Inch, Modified will be paid for at the contract unit price per square yard for the specified depth; which price shall be payment in full for all labor, material and equipment necessary to accomplish this work.

SPECIAL PROVISION FOR CURB AND GUTTER, CONC, DET F-2, MODIFIED

RC/City of Owosso 1 of 1 June, 2015

DESCRIPTION:

The work of Curb and Gutter, Conc, Det F-2 Modified shall be done in accordance with section 802 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as modified herein:

MATERIALS:

Materials for Curb and Gutter, Conc, Det F-2 Modified shall be Concrete, Grade S2, with a cement content of 564 pounds per cubic yard (6-full sack), in accordance with Section 701 of the Michigan Department of Transportation 2012 Standard Specifications for Construction. Also that reinforcing steel shall be eliminated, and the gutter slope is reversed per plan details.

CONSTRUCTION:

Curb and Gutter, Conc, Det F-2 Modified shall be constructed in accordance with Section 802 of the Michigan Department of Transportation 2012 Standard Specifications for Construction.

MEASUREMENT AND PAYMENT

The completed work as measured for Curb and Gutter, Conc, Det F-2 Modified will be paid for at the contract unit price for the following contract item (Pay Item):

PAY ITEM PAY UNIT

Curb and Gutter, Conc, Det F-2, Modified Linear Foot

Curb and Gutter, Conc, Det F-2, Modified will be measured in place per foot and will be paid for at the contract unit price per linear foot; which price shall be payment in full for all labor, material and equipment necessary to accomplish this work.

SPECIAL PROVISION FOR CURB AND GUTTER, CONC, DET F-4, MODIFIED

RC/City of Owosso 1 of 1 June, 2015

DESCRIPTION:

The work of Curb and Gutter, Conc, Det F-4 Modified shall be done in accordance with section 802 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as modified herein:

MATERIALS:

Material for Curb and Gutter, Conc, Det F-4 Modified shall be Concrete, Grade S2, with a cement content of 564 pounds per cubic yard (6-full sack), in accordance with Section 701 of the Michigan Department of Transportation 2012 Standard Specifications for Construction. Also that reinforcing steel shall be eliminated.

CONSTRUCTION:

Curb and Gutter, Conc, Det F-4 Modified shall be constructed in accordance with Section 802 of the Michigan Department of Transportation 2012 Standard Specifications for Construction.

MEASUREMENT AND PAYMENT

The completed work as measured for Curb and Gutter, Conc, Det F-2 Modified will be paid for at the contract unit price for the following contract item (Pay Item):

PAY ITEM PAY UNIT

Curb and Gutter, Conc, Det F-4, Modified Linear Foot

Curb and Gutter, Conc, Det F-4, Modified will be measured in place per foot and will be paid for at the contract unit price per linear foot; which price shall be payment in full for all labor, material and equipment necessary to accomplish this work.

SPECIAL PROVISION FOR CONCRETE PAVEMENT ALTERNATIVE

RC/City of Owosso 1 of 1 June, 2015

DESCRIPTION:

The work shall be done in accordance with Division 601 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as modified herein.

MATERIALS:

Material shall be Concrete, Grade P1 with cement content of 564 pounds per cubic yard (six-full sack), all in accordance with Division 601 of the Michigan Department of Transportation 2012 Standard Specifications for Construction. Fly ash is prohibited. Mid-range water reducing agents <u>may</u> be allowed to increase slump to a maximum of five-inches (5") provided the water-to-cement ratio does not exceed 0.45. Mix designs must be approved by the Engineer before water reducing agents are allowed.

Curing compound shall conform to ASTM 309 or ASTM 1315. Application rate shall be determined by the Engineer.

The concrete mix shall include micro-fiber mesh at a rate of one pound per cubic yard.

CONSTRUCTION:

Construction shall be done in accordance with Division 6 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as modified herein:

- A keyway shall be formed at all construction joints, as directed by the Engineer. A steel keyway
 form shall be properly attached to base forms in such a manner as it will be easily pulled away
 from the finished concrete, without damaging the finished work. The keyway form must be
 approved by the Engineer in advance of any work.
- 2. Concrete surfaces shall be protected from vandalism, inclement weather, frost and freeze. The Contractor is required to protect the concrete during cure procedure. Any damaged concrete as result of improper protection shall be removed and replaced by the Contractor at his sole expense.
- 3. Joints shall be <u>mechanically sawed</u> as soon as possible in accordance with the American Concrete Institute recommendations, but shall not exceed 24-hours after concrete placement. Joint spacing shall not exceed ten feet (10') in any direction. Joint layout will be determined by the Engineer, closely following recommendations of the Michigan Concrete Paving Association.
- 4. At the project site, truck turning movements shall be kept at a minimum. Aggregate base damaged from equipment turning movements shall be repaired before application of the concrete material. Repair of damaged aggregate base will be done at Contractor's expense.

MEASUREMENT AND PAYMENT

The completed work as measured for Conc Pavt, Nonreinf, 6-Inch will be paid for at the contract unit price for the following contract item (Pay Item):

PAY ITEM PAY UNIT

Conc Pavt, Nonreinf, 6-Inch Square Yard

Conc Pavt, Nonreinf, 6-Inch will be measured in place, by area in square yards, and will be paid for at the contract unit price per square yard; which price shall be payment in full for all labor, material and equipment necessary to accomplish this work.

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SPECIAL PROVISION FOR CONCRETE PAY ITEMS

RC/City of Owosso 1 of 1 June, 2015

DESCRIPTION:

The work shall be done in accordance with Divisions 601 and 701 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as modified herein. This special provision indicates the type of concrete mixture to be used for pay items related to concrete.

MATERIALS:

Materials for all concrete items shall be Concrete, Grade P1 (pavements) or S2 (sidewalks), with cement content of 564 pounds per cubic yard (six-full sack), all in accordance with Divisions 601 and 701 of the Michigan Department of Transportation 2012 Standard Specifications for Construction. Fly ash is prohibited. Mid-range water reducing agents <u>may</u> be allowed to increase slump to a maximum of five-inches (5") provided the water-to-cement ratio does not exceed 0.45. Mix designs must be approved by the Engineer before water reducing agents are allowed.

Curing compound shall conform to ASTM 309 or ASTM 1315. Application rate shall be determined by the Engineer.

For the alternative pay item 'Conc Pavt, Nonreinf, 6-Inch', the concrete mix shall include micro-fiber mesh at a rate of one pound per cubic yard.

CONSTRUCTION:

Construction of concrete related pay items included but not limited to curb and gutter, driveways, sidewalks, and pavements shall be done in accordance with Division 6 and Division 7 of the Michigan Department of Transportation 2012 Standard Specifications for Construction.

MEASUREMENT AND PAYMENT

Payment for the completed work for various concrete pay items shall be at their individual contract unit prices. Payment for each item shall include all material, labor and equipment necessary to construct each individual item according to plans, specifications, this and other special provisions, that are part of the Contract.

SPECIAL PROVISION FOR GEOTEXTILE SEPARATOR

RC/City of Owosso 1 of 1 June, 2015

DESCRIPTION OF WORK

The work of Geotextile Separator shall consist of furnishing and placing geotextile in accordance with section 910 of the Michigan Department of Transportation 2012 Standard Specifications for Construction except as noted herein:

MATERIALS

Geotextile Separator shall be mechanically bonded non-woven fabric, meeting or exceeding products manufactured as Mirafi 180N, US Fabrics 205NW, or Synthetic Industries 801 non-woven product, or approved equal.

CONSTRUCTION

Spread geotextiles smoothly on prepared grade and anchor firmly prior to placing backfill or other cover materials. Construction equipment shall not operate directly onto the geotextile. Wrinkles and waves shall be smoothed by hand before placing cover material. Concurrent transverse and longitudinal edges between blankets shall be either shingle-lapped (minimum 24 inches) or seamed. Seamed edges may be either factory sewn or made by overlapping in the field. Factory sewn seams must meet specified grab tensile strength requirements of the manufacturer. Finished seams must lie upward after installation. Any cutting and fitting of the geotextile must be done to requirements of the manufacturer.

MEASUREMENT AND PAYMENT

The completed work as measured for Geotextile Separator will be paid for at the contract unit price for the following contract item (Pay Item):

PAY ITEM PAY UNIT

Geotextile Separator Square Yard

Geotextile Separator will be measured in place by area in square yards and will be paid for at the contract unit price per square yard which price shall be payment in full for all labor, material and equipment necessary to accomplish this work. Overlaps, cutting and fitting of Geotextile Separator will not be measured and paid for separately, but are considered included as part of the in-place area measure of the Geotextile Separator.

SPECIAL PROVISION FOR HOT MIX ASPHALT (HMA) APPLICATION ESTIMATE

RC/City of Owosso 1 of 1 June, 2015

DESCRIPTION OF WORK

The work of HMA application shall consist of proper preparation and lay down of HMA products in accordance with Division 5 of the Michigan Department of Transportation 2012 Standard Specifications for Construction except as noted herein:

CONSTRUCTION METHODS

The Contractor is responsible for meeting compaction requirements for HMA application. The City may monitor compaction effort with its nuclear gauge operator. The Contractor shall coordinate with the City's representative to attain proper compaction of the HMA material.

HMA shall be delivered in trucks not exceeding tri-axle design with a Gross Vehicle Weight not exceeding 50 Tons. No 'flow-boy' or trailer pups are allowed. At the project site, truck turning movements shall be kept at a minimum. Aggregate base damaged from equipment turning movements shall be repaired before application of the HMA material. HMA leveling damaged from equipment turning movements shall be repaired before application of the next lift of HMA material. Repair of damaged aggregate base and/or HMA leveling course will be done at Contractor's expense.

MATERIALS

All HMA material shall meet design criteria of Section 501 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as noted herein:

- 1. Asphalt binder for HMA mixtures shall be 58-28 performance grade..
- 2. The Aggregate Wear Index (AWI) shall be 260.
- 3. MDOT SS-1h bond coat shall be applied at a uniform rate of 0.05 gallons/square yard, on all exposed, existing HMA and concrete surfaces that will come in contact with the new HMA material. The Contractor shall take extra care to avoid covering surfaces that are not to be paved. After September 15, SS-1h bond coat shall not be diluted by more than 25 percent.
- 4. Bond coat shall be placed with the following requirements:
 - a. All vertical surfaces that are to come in contact with the new HMA material.
 - b. Bond coat shall be applied to all cold joints, as directed by the Engineer.
 - c. Bond coating will not be paid for separately, but shall be considered included as part of the HMA pay item.
- 5. Rates of HMA Application shall be in accordance with the following averages:
 - a. HMA, 13A @ 265 pounds per square yard.
 - b. HMA, 36A @ 165 pounds per square yard.

MEASUREMENT AND PAYMENT

_ _ _ . .

The completed work as measured for HMA, ___ will be paid for at the contract unit price for the following contract item (Pay Item):

<u>PAY ITEM</u>	PAY UNIT
HMA, 13A	TON
HMA, 36A	TON

HMA, ____ will be measured by weight in tons and paid for at the contract unit price per ton for the specified mix type, which price shall be payment in full for all labor, material and equipment necessary to accomplish this work.

No additional payment will be made for HMA bond coat mixture and application.

SPECIAL PROVISION FOR LAWN RESTORATION

RC/City of Owosso 1 of 2 June, 2015

DESCRIPTION:

The work of Lawn Restoration shall be done in accordance with Section 816 and 917 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as modified herein. This item shall consist of preparing the ground surface, furnishing and applying topsoil, fertilizer, seed and mulch.

MATERIALS:

- A. Topsoil shall be <u>imported</u> screened material meeting material requirements of Section 917 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, and placed in accordance with Section 816 of the Michigan Department of Transportation 2012 Standard Specifications for Construction,
- B. The fertilizer shall consist of the mixture designated as 12-12-12 or approved equal, and shall be applied at the rate of 15 to 20 pounds per 1,000 square feet of area to be seeded. The fertilizer shall conform to the applicable Michigan fertilizer laws. The fertilizer shall be uniform in composition, dry and free flowing material in condition for application by suitable equipment.
- C. Seed mixture shall be THM in accordance with Section 917 of the Michigan Department of Transportation 2012 Standard Specifications for Construction.
- D. All prepared areas shall be covered with excelsior mulch blanket. The material shall consist of wood fibers cut from sound green timber. The average length of fibers shall be 4-6 inches (4-6").

CONSTRUCTION:

- A. Harrow the upper two inches of the earth bed into a friable condition. Spread topsoil over the prepared area and tamp such that the areas to be seeded are finished to the required grade with the top 3" being approved topsoil. Tamping shall be sufficient to prevent settling. Rake out rocks over 1" in diameter, roots, and other debris. All lumps and clods shall be thoroughly broken. Dispose of raked out material.
- B. The fertilizer shall be delivered in unopened bags or other convenient standard containers, each fully labeled with the manufacturers guaranteed analysis. The labels with the guaranteed analysis shall be picked up by the city. Any fertilizer which becomes caked or otherwise damaged, making it unsuitable for use, will not be accepted.
- C. All seed shall be labeled according to the United States Department of Agriculture rules and regulations under the Federal Seed Act in effect on the date of invitations for bids. All seed shall be furnished in standard containers, unless the city grants exception. Seed which has become wet, moldy or otherwise damaged in transit or storage will not be acceptable. Duplicate signed copies of a statement from the vendor, certifying that each container of seed delivered is at least equal to the specification requirements, shall be submitted to the city.

Seed shall be sown at the rate of seven pounds of pure live seed per 1,000 square feet. The seed shall be sown in the presence of the city by a method which will insure uniform distribution. Seeding during high winds will not be permitted, unless done by means of grain-drill type equipment. Seed shall be sown during the following seasonal periods: April 15 to June 1, September 1 to October 15, and any approved days beyond October 15 for as long as weather conditions will permit seedbed preparation. When sowing is by means other than drilling, the seed shall be covered by lightly raking with a steel garden rake or equivalent and rolling with a light lawn roller.

D. Mulch

Unless otherwise specified, the Contractor shall place mulch onto all seeded areas. Place the excelsior mulch blanket onto the prepared surface. Cut and place blanket such that it covers the finished area. The blanket shall be anchored with wooden stakes of sufficient spacing to firmly hold down the blanket. Excelsior Mulch Blanket shall be removed by the Contractor once adequate growth has been attained, as determined by the Director of Public Services.

E. Established Growth

The contractor shall be responsible for the seeded areas during the period when the seed is germinating and until growth is established. Approximately 45 days after seeding, an inspection shall be made by all parties to determine whether any unsettled areas are apparent and whether adequate growth is established. All unsettled areas and areas of inadequate growth, as determined by the Director of Public Services, shall be corrected by the Contractor, at Contractor's expense.

MEASUREMENT AND PAYMENT

The completed work as measured for Lawn Restoration will be paid for at the contract unit price for the following contract item (Pay Item):

PAY ITEM PAY UNIT

Lawn Restoration Square Yard

Lawn Restoration will be measured in place by area in square yards; and will be paid for at the contract unit price per square yard, which price shall be payment in full for all labor, material (topsoil, fertilizer, seed, and mulch) and equipment necessary to accomplish this work.

Topsoil surface will not be paid for separately. Any areas where settlement or lack of growth occurs, will be corrected by the Contractor at no additional cost to the City. The excelsior mulch blanket shall be removed by the Contractor after sufficient growth is attained, as part of the pay item Lawn Restoration.

SPECIAL PROVISION FOR PAVT, REM, MODIFIED

RC/City of Owosso 1 of 1 June, 2015

GENERAL REQUIREMENT

The work of Pavement, Remove (Pavt, Rem), Modified shall be done in accordance with section 204 of the Michigan Department of Transportation 2012 Standard Specifications for Construction except as modified herein:

DESCRIPTION OF WORK

Pavt, Rem, Modified consists of the removal and disposal of existing pavement sections and underlying material to plan grade; as specified on the plans, in the proposal, or as directed by the Engineer. Pavt, Rem, Modified shall be performed in accordance with the Standard Specifications, except that additional payment will not be made for multiple layers of pavement, or status or depth of underlying material, to plan grade.

MEASUREMENT AND PAYMENT

The completed work as measured for Pavt, Rem, Modified will be paid for at the contract unit price for the following contract item (Pay Item):

PAY ITEM PAY UNIT

Pavt, Rem, Modified Square Yard

Pavt, Rem, Modified will be measured by area in square yards of surface removed-regardless of depth of material being removed, and regardless of status or type of the underlying material-and will be paid for at the contract unit price per square yard which price shall be payment in full for all labor, material and equipment necessary to accomplish this work.

Curb and gutter removal will be measured and paid for separately.

SPECIAL PROVISION FOR SAWCUTTING

RC/City of Owosso 1 of 1 June, 2015

DESCRIPTION OF WORK

The work of Sawcutting shall consist of sawing all hard-surface pavements and sidewalks, full-depth, in accordance with section 204 of the Michigan Department of Transportation 2012 Standard Specifications for Construction except as noted herein:

CONSTRUCTION

Sawcutting shall be for isolating sections of pavement and sidewalk that are to be removed for the proposed work. The sawcut shall be full-depth of the section to be removed.

MEASUREMENT AND PAYMENT

The completed work as measured for Sawcutting will be paid for at the contract unit price for the following contract item (Pay Item):

PAY ITEM PAY UNIT

Sawcutting Linear Foot

Sawcutting will be measured by length in feet; and will be paid for at the contract unit price per linear foot, which price shall be payment in full for all labor, material and equipment necessary to accomplish this work

SPECIAL PROVISION FOR TECHNICAL SPECIFICATIONS

RC/City of Owosso 1 of 1 June, 2015

GENERAL REQUIREMENT

The 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION shall govern all technical specifications for this project. The following parts of the Contract will prevail over all other parts in the following order:

- A. Special Provisions.
- B. Supplemental Specifications.
- C. Project Plans and Drawings.
- D. MDOT Standard Plans.
- E. 2012 MDOT Standard Specifications.
- F. City of Owosso Standard Specifications for Construction.

The Contractor shall not take advantage of any apparent error or omission in the contract documents. If any uncertainty, inconsistency, omission, or conflict is discovered in the contract documents, the Engineer will solely decide as to the true intent of the language.

SPECIAL PROVISION FOR TRAFFIC CONTROL

RC/City of Owosso 1 of 1 June, 2015

DESCRIPTION OF WORK

All work shall be done in accordance with requirements of Section 812 of the Michigan Department of Transportation Standard Specifications for Construction, except as modified herein. The Contractor is advised that the 2009 Michigan Manual of Uniform Traffic Control Devices, as amended, is hereby established as governing all work in connection with Traffic Control. This item shall include all work necessary to furnish, erect, maintain, and upon completion of work remove all traffic control devices within the project limits and around the perimeter of the project. The City shall approve initial installations, before the starting of any construction operations and periodically inspect said signing, but the responsibility shall rest solely with the Contractor for its placement, lighting, and general maintenance.

Walks, driveways and entrances to buildings shall not be unnecessarily blocked. Vehicular access shall be maintained to all properties, as directed by the Director of Public Services. Street name signs, stop signs and other traffic control signs in the way of construction will be removed and reset by the City of Owosso. The Contractor shall inform the City a minimum of 24-hours in advance of the need for sign removal and replacement. Protection for and of pedestrian traffic shall be maintained at all times.

Gas-powered motors are prohibited for powering lighted arrow boards. Solar powered lighted arrow boards are allowed.

MEASUREMENT AND PAYMENT

The completed work as measured for Traffic Control will be paid for at the contract unit price for the following contract item (Pay Item):

PAY ITEM PAY UNIT

Traffic Control LSum

Traffic Control will be measured in place by the unit Lump Sum and paid for at the contract unit price per Lump Sum which price shall be payment in full for all labor, material and equipment necessary to accomplish this work.

SPECIAL PROVISION FOR TRIMMING AND FINISHING EARTH GRADE

RC/City of Owosso 1 of 1 June, 2015

DESCRIPTION:

This work shall be done in accordance with requirements of Section 205 of the Michigan Department of Transportation 2012 Standard Specifications for Construction for trimming and finish grading, except as modified herein. This item shall include all work necessary to grade the existing earth and slopes, bringing them into conformance with the proposed cross-section shown on the plans. The grading tolerances are 0.5 inches at the curb and at the centerline.

The subgrade shall be compacted to 95% of its' maximum unit weight. Immediately following the completion of the grading and compaction of the subgrade, the Contractor shall "proof-roll" the grade or other surfaces as directed by the Director of Public Services. Equipment for proof-rolling shall be a pneumatic-tired roller and shall have suitable body for ballast loading with such capacity that the gross load may be varied between 25 and 40 tons. The Contractor may use an appropriately-loaded single axle or tandem axle dump truck in lieu of the specified roller to achieve the loads specified above. The proof-rolling vehicle shall be operated at a speed between 2-I/2 and 5 miles per hour. The proof-roller shall make one complete pass of the completed subgrade. The Director of Public Services will determine whether the subgrade is finished.

MEASUREMENT AND PAYMENT

The completed work as measured for Trimming and Finishing Earth Grade will be paid for at the contract unit price for the following contract item (Pay Item):

PAY ITEM PAY UNIT

Trimming and Finishing Earth Grade Station

Trimming and Finishing Earth Grade will be measured in place by station and will be paid for at the contract unit price per station; which price shall be payment in full for all labor, material and equipment necessary to accomplish this work. Station measure shall be along the center line of the parking lot, from the west property line to the east property line. Centerline measure shall account for full width of the work area.

CITY OF OWOSSO TECHNICAL SPECIFICATIONS STORM SEWER SYSTEM

A. Description

This work consists of excavation, furnishing and placing storm sewer pipe, drainage structures, their appurtenances and trench backfill; in accordance with sections 402 and 403 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction; MDOT Standard Plan R1 and R83 as amended; special details as shown on the plans; except as herein modified.

B. Materials

The Contractor shall furnish all pipe, manhole pieces and appurtenances. All material shall be certified by the manufacturer and meet requirements of MDOT, City of Owosso, and other standards herein identified:

1. Plastic Sewer Pipe:

Plastic sewer pipe shall meet or exceed ASTM D-3034 SDR-26 or ASTM D-2241 SDR-26 specifications for PVC integral gasket sewer pipe, for applicable pipe diameters.

2. Concrete Sewer Pipe:

Reinforced concrete pipe shall be ANSI/ASTM C-76 premium joint rubber O-ring gasket pipe. The class of reinforced concrete pipe shall be Roman numeral Class III, in accordance with AASHTO M 170, with depth of cover up to 16 feet. The class of reinforced concrete pipe shall be Roman Numeral Class IV, in accordance with AASHTO M 170, with depth of cover exceeding 16 feet.

3. Pipe Accessories:

Fittings and branch connections shall be same material as pipe, molded or formed to meet pipe size and end design; in required tee, bends, elbows, reducers and other configurations as required to complete connections of pipe.

4. Drainage Structures:

- a) Structure material shall be reinforced, circular precast concrete pipe section, conforming to ASTM C-478. Cone section shall be eccentric type, tapered except for shallow conditions when the cone shall be 'flat-top' style with minimum depth of 12 inches.
- b) O-ring rubber gasket premium pipe joints shall be used at all connections.
- c) Connect branches to drainage structures with a flexible neoprene gasket with stainless steel band, as manufactured by either:
 - 1. Kor-N-Seal, by National Pollution Control Systems, Inc.
 - 2. Model PSX, by Press Seal Gasket Corp.
 - 3. Or equal, as approved by the engineer.
- d) All drainage structure sections shall be constructed such that the top of the precast cone section shall have a minimum 3" high vertical sealing surface that is smooth and free of any form offsets or excessive honeycomb.
- e) External chimney seals shall be installed on all drainage structures. External seals shall be the "X-85 Seal" as manufactured by Cretex Specialty Products. Internal seals, if required, shall be as recommended and manufactured by Cretex Specialty Products, or equal, as approved by the Engineer.
- f) Manhole steps shall be plastic coated steel. The steps shall begin 1'-6" below top of casting, then spaced sixteen inches (16") apart, unless otherwise shown on the plans, and shall be pre-cast into the manhole wall. Plastic-coated steel steps shall consist of a 3/8-inch diameter deformed steel reinforcing rod covered with a co-polymer polypropylene plastic coating. The steel rod shall be grade 60 and conform to ASTM A-615. The plastic coating shall conform to ASTM 2146-68, Type II, Grade 49108. Steps shall also conform to the following standards:
 - Michigan Department of Labor Occupational Safety Standards, Part 3, Rule 341.
 - ASTM C-478.
 - OSHA 1910.27G.

5. Drainage Structure Chimney and Cover

- a) The chimney (adjustment) portion of the drainage structure shall be constructed of brick, or block, and mortar in the area between top of cone and drainage structure cover. Brick shall be concrete conforming to requirements of ASTM C-55, Grade-N. Block shall be concrete conforming to requirements of ASTM C-139. All drainage structures shall be constructed to receive a chimney section, between three inches (3") and twelve inches (12") in vertical height. All masonry items shall be clean and thoroughly wetted by immersion, when practical to do so, prior to laying. If immersion is impractical, masonry items shall be thoroughly sprinkled before laying them. Each layer of brick shall be laid onto a full bed of mortar. Interior mortared joints shall be more than 1/4-inch in depth. All brick, or block, shall be whole, except when cutting is necessary to complete closures.
- b) Adjusting rings may be used if approved prior to construction. Adjustment rings shall be pre-cast grade rings conforming to ASTM C-478 with an inner-diameter that is acceptable to the City of Owosso.
- c) After construction, the chimney shall be thoroughly coated inside and outside with non-shrinking mortar. After curing, the chimney shall then be externally sealed with "X-85 Seal" as manufactured by Cretex Specialty Products, or approved equal chimney seal product.
- d) The drainage structure cover, of type specified, shall be set upon a full bed of mortar. Nothing other than the chimney and mortar bed will be allowed to support the cover.

C. Construction

Contractor shall furnish all labor and equipment necessary to install all pipe, drainage structures and appurtenances, and fill material, in accordance with sections 402 and 403 of the 2012 MDOT Standard Specifications for Construction; as shown on the plans and as specified herein:

1. Execution by Contractor:

- a) Existing pavements shall be cut back so that the opening is minimum 1 foot wider than the top edge of the trench, each side.
- b) Unless otherwise permitted by the Engineer, not more than 200 feet of trench shall be open at one time in advance of the sewer construction.
- c) Shall verify that the trench cut is ready to receive work; and that necessary excavation, dimensions, and elevations are as indicated on construction drawings.
- d) Shall hand-trim excavations to required elevations wherever necessary. Correct over excavation areas with specified bedding material.
- e) Remove large stones or other hard matter, as directed by the Engineer; that in his sole judgment could cause damage to pipe or impede consistent backfilling methods and compaction.
- f) Perform necessary excavation to receive pipe bells.
- g) Place bedding material at trench bottom in accordance with trench details in continuous layer fashion, not exceeding 6 inch compacted depth, and compacted to 95 percent of maximum unit weight.
- h) Maintain optimum moisture content of bedding material to attain required density.

2. General Installation of Pipe:

- a) Install pipe, fittings and accessories in accordance with ASTM C12 or ASTM C1479 for rigid pipe, or ASTM D2321 for plastic pipe, whichever specification applies for given material, in accordance to manufacturer's instructions. Joints are to be sealed and watertight.
- b) Use laser-beam alignment method by competent staff to lay pipe to proper line and grade.

3. Pipe bedding and trench fill requirements for SDR-26 Plastic Pipe:

- a) Install bedding material, MDOT 6A compacted crushed limestone, to a depth of 1/4 outside pipe diameter, or 4 inches minimum, under the pipe.
- b) Place and compact first lift of same material, as used in bedding, to haunch of pipe.
- c) Place and compact second lift of same material, as used in bedding, to top of pipe.
- d) Place and compact third lift of same material as used in bedding, to a height 1 foot above pipe.

- e) Place geotextile blanket over full width of third lift. Geotextile blanket shall conform to material requirements of Section 910.03(A) of the MDOT Standard Specifications for Construction. Approved material products for geotextile blanket for this work are:
 - 1. Mirafi 180N
 - 2. US Fabrics 205NW
 - 3. Synthetic Industries 801 Non-Woven
 - 4. Approved equal by Engineer
- f) Place and compact Granular Material, Class-II, in lifts (12 inches maximum) to plan grade. Granular Material, Class-III may be used in areas outside the roadway.
- 4. Pipe bedding and trench fill requirements for Reinforced Concrete Pipe:
 - a) Install Granular Material, Class-II, bedding material to a depth of 1/4 outside pipe diameter, or 4 inches minimum, under the pipe.
 - b) Place and compact first lift of same material, as used in bedding, to haunch of pipe.
 - c) Place and compact second lift of same material, as used in bedding, to top of pipe.
 - d) Place and compact third lift of same material as used in bedding, to a height 1 foot above pipe.
 - e) Place and compact remaining lifts of Granular Material, Class II (12 inches maximum) to plan grade. Granular Material, Class-III may be used in areas outside the roadway.

5. Drainage Structures:

- a) Install according to manufacturer's instructions.
- b) Trim bottom of excavation clean and smooth to correct elevation for receiving bedding.
- c) Place 6 inches (minimum) MDOT 6A compacted crushed limestone bedding to grade for receiving precast bases. Should conditions warrant a field modification, a concrete footing shall be placed in lieu of the crushed limestone, as directed by the Engineer.
- d) Place reinforced concrete precast base to correct elevation.
- e) Connect all sewer connections in accordance with the construction plans. All stubs and sewer laterals shall be installed in accordance with respective bedding and trench fill requirements of these specifications.
- f) Install barrel section(s), cone section, chimney, frame and cover to required grade. Maximum chimney height is 12 inches. Frame to be set onto a full bed of mortar.
- g) Mortar chimney and area under frame with non-shrinking mortar mixture that meets or exceeds ASTM C 1107, R-3, and ASTM C 1107.
- h) Construct flow channels through manhole with 3000 psi (minimum) concrete. The flow channel shall be constructed with a minimum depth of 80% of the pipe diameter and sloped to prevent accumulation of debris and shall have a brushed finish.

D. Testing and Acceptance

- 1. The specified pipe, manholes and appurtenances will be visually inspected. The Contractor shall furnish the city with reports of material certification from the manufacturer upon its delivery. Material certification shall include information that includes; date and location of manufacture, ASTM designation, including class and testing of lot number corresponding to certification report. The Contractor must receive visual acceptance of all materials before covering with backfill material. Failure to receive visual acceptance before backfilling will require exposing pipe and/or structures at contractor's expense.
- 2. All joints, connections, pipe, manholes and catch basins shall be water tight from infiltration as applicable to industry standards.
- 3. All joints in reinforced concrete pipe shall be driven home within a tolerance of ¼ inch. Any joints left open beyond this tolerance shall be properly sealed, as directed by the Engineer.
- 4. All joints in SDR-26 plastic pipe shall be properly seated.
- 5. Bedding and back filling operations will be tested for density in accordance with the MDOT 2012 Standard Specifications for Construction.

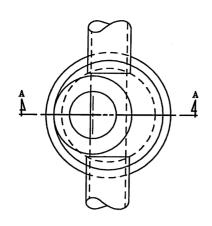
E. Measurement and Payment

The completed work as herein described will be measured and paid for at the contract unit price using the following contract items (pay items):

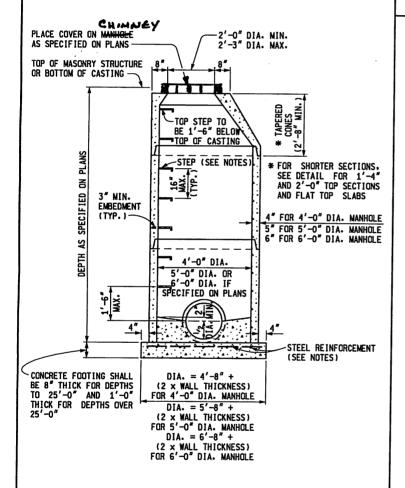
Contract Item (Pay Item)	Pay Unit
Sewer, Storm, inch, SDR-26 Sewer, Storm, inch, C-76, Cl Drainage Structure, inch, Manhole Drainage Structure, inch, Catch basin Drainage Structure, inch, Additional Depth	Linear Foot Linear Foot Each Each Vertical Feet
Sewer, Storm, inch, SDR-26: Sewer, Storm, C-76, Cl: Storm sewer of various types, classes and diameters, shall be and will be paid for at the contract unit price per foot which sheeting or shoring trench walls as required, bedding, backfill, ilter fabric, support of existing utilities, bypass pumping, connect o existing or proposed sewer; and all labor, material and equipments will be from center of structures, or terminating end, we	all be payment in full for any excavation, fittings, couplers, mechanical fasteners, cting to existing building leads, connecting ment necessary to accomplish this work.
Drainage Structure, inch, Manhole: Drainage Structure, Drainage structure of various types and diameters, shall be mean a maximum depth of eight feet; by the unit Each and will be payhich shall be payment in full for any excavation, sheeting or spackfill, concrete foundation and barrel sections, rubber seals, support of existing utilities, bypass pumping, cone, connecting existing or proposed sewer, adjusting blocks or rings, mortar, flewand; and all labor, material and equipment necessary to a Drainage Structures of the various types and diameters in necessary) for depths no greater than 8 feet.	asured to bottom of foundation, in place to aid for at the contract unit price per Each shoring trench walls as required, bedding, fittings, mechanical fasteners, filter fabric, to existing building leads, connecting to exible neoprene gasket and stainless steel accomplish this work. The unit price for
Orginago Structuro inch additional Donth:	

Drainage Structure, ___ inch, additional Depth: This contract item shall be measured in place by

This contract item shall be measured in place by depth of vertical feet from eight-foot depth (8') to bottom of foundation and paid for at the contract unit price per vertical feet, in full, for any excavation, sheeting or shoring trench walls as required, bedding, backfill, concrete foundation and barrel sections, rubber seals, fittings, mechanical fasteners, filter fabric, support of existing utilities, bypass pumping, connecting to existing building leads, connecting to existing or proposed sewer, flexible neoprene gasket, stainless steel band; and all labor, material and equipment necessary to accomplish this work. The measure shall extend to bottom of concrete footing if constructed.

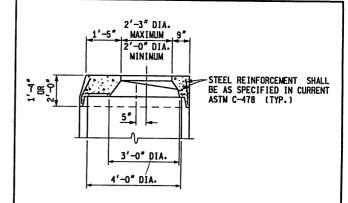


PLAN VIEW



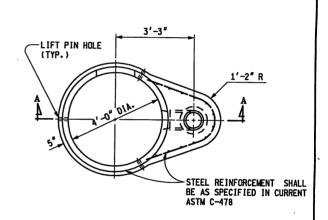
SECTION A - A TYPICAL MANHOLE

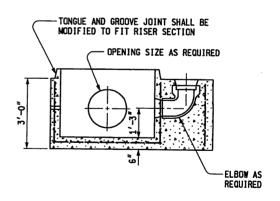
PRECAST REINFORCED CONCRETE SHOWN OTHER OPTIONS INCLUDE CONCRETE BLOCK, BRICK, OR CAST-IN-PLACE WALL SECTIONS
SEE TYPICAL WALL SECTIONS FOR WALL THICKNESS



DETAIL FOR 1'-4" & 2'-0" TOP SECTIONS

SHAPE MAY VARY FROM DETAIL SHOWN BUT MUST COMPLY WITH ASTM C-478 AND JOINTS SHALL BE COMPATIBLE





SECTION A - A

TYPICAL PRECAST REINFORCED BOTTOM SECTION FOR DROP MANHOLE

PREPARED DESIGN DIVISION DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR Kirk T. Steudle

APPROVED BY: ENGINEER OF DELIVERY

APPROVED BY: Man a Van Part Flew ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

DRAINAGE STRUCTURES 15 MODIFIED

PLAN DATE

9-16-2009 4-16-2009

F.H.W.A. APPROVAL

R-1-E

SHEET 1 OF 5

