SECTION 100 – GENERAL PROVISIONS

SECTION 101 – DEFINITIONS AND TERMS

Wherever in these specifications or in other contract documents the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

101.01 Abbreviations

Wherever the following abbreviations are used in these specifications, the Proposal book, or on the plans, they are to be construed the same as the respective expressions represented.

AAN	American Association of Nurserymen
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACBF	air cooled blast furnace slag
AE	asphalt emulsion
AIA	American Institute of Architects
AMRL	AASHTO Materials Reference Laboratory
ANSI	American Nations Standards Institute
AP	class A aggregate for concrete slabs
ARA	American Railway Association
AREA	American Railway Engineering Association
ARS	asphalt roofing shingles
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASNS	American Standards for Nursery Stock
ASTM	American Society for Testing and Materials
ATSSA	American Traffic Safety Service Association
AWPA	American Wood Preservers' Association
AWS	American Welding Society
AWWA	American Water Works Association
BBR	bending beam rheometer
BF	blast furnace slag
CCRL	Cement and Concrete Reference Laboratory of the National Institute of Standards and Technology
CFR	Code of Federal Regulations
CMA	cold mix asphalt
CMD	concrete mix design
DBE	disadvantaged business enterprise
DMF	design mix formula
DMTE	District Materials and Tests Engineer
DSR	dynamic shear rheometer
EPA	United States Environmental Protection Agency
ESAL	equivalent single-axle loads
FHWA	Federal Highway Administration, Department of Transportation

FSS	Federal Specifications and Standards, General Services Administration
GBF	granulated blast furnace slag
GGBFS	ground granulated blast furnace slag
HDB	hydrostatic design basis
HFRS	high float seal coat asphalt emulsion
HMA	hot mix asphalt
HRWR	high range water reducing
HRWRR	high range water reducing and retarding
IAC	Indiana Administrative Code
IC	Indiana Code
IDEM	Indiana Department of Environmental Management
IDNR	Indiana Department of Natural Resources
IMSA	International Municipal Signal Association
IOSHA	Indiana Occupation Safety and Health Administration
ITM	Indiana Test Method or Procedure
JMF	job mix formula
MAF	mixture adjustment factor
MC	medium curing asphalt
MCA	medium curing asphalt with additive
MSG	maximum specific gravity
MUTCD	Indiana Manual on Uniform Traffic Control Devices, in accordance with 107.12
NACE	National Association of Corrosion Engineers
NCHRP	National Cooperative Highway Research Program
NEMA	National Electrical Manufacturers Association
NEPCOAT	Northeast Protective Coating Committee
NIST	National Institute of Standards and Technology
OSHA	U.S. Occupational Safety and Health Agency
PAV	pressurized aging vessel
PCC	portland cement concrete
PCCP	portland cement concrete pavement
PG	performance grade asphalt
QC	quality control
QC/QA	quality control/quality assurance
QCP	quality control plan
RAP	recycled asphalt pavement
RCRA	Resource and Conservation Recovery Act
RS	seal coat asphalt emulsion
RTFO	rolling thin film oven
SAE	Society of Automotive Engineers
SC	slow curing asphalt
SCA	slow curing asphalt with additive
SF	steel furnace slag
SHRP	Strategic Highway Research Program
SSD	saturated surface dry
SSPC	The Society for Protective Coatings
TCLP	Toxicity Characteristic Leaching Procedure
TSR	tensile strength ratio

UA	utility asphalt
UL	Underwriter Laboratory
UST	underground storage tank
VFA	voids filled with asphalt
VMA	voids in mineral aggregate
VOC	volatile organic compounds

101.02 Above Normal Inclement Weather Days

The specific number of days over and above the normal inclement weather days shown below which work on the controlling operation is delayed by rain or other inclement weather. The above normal days include the days following a weather event on which the controlling operation is still delayed.

The following chart shows the estimated number of normal inclement weather days in each month, the Department considers when setting completion dates.

Month	Estimated Number of Days	
	R, RS, and M Contracts	T and B Contracts
April	18	8
May	8	5
June	5	3
July	5	3
August	4	3
September	5	3
October	6	4
November	12	5

101.03 Blank

101.04 Bid Bond

The approved form of security furnished with a bid to guarantee that the bidder will enter into the contract if its bid is accepted.

101.05 Bidder

An individual, partnership, firm, corporation, or combination of same submitting a bid for the advertised work.

101.06 Bridge

A structure, including supports, erected over a depression or an obstruction such as water, highway, or a railway having a track or passageway for carrying traffic or other moving loads, and having a length measured along the center of the roadway of more than 20 ft (6.1 m) between undercopings of abutments or extreme ends of openings for multiple boxes.

(a) Length

The length of a bridge structure is the overall length measured along the line of survey stationing back to back of backwalls of abutments, if present, otherwise end to end of the bridge floor, but in no case less than the total clear opening of the structure.

(b) Roadway Width

The clear width measured at right angles to the longitudinal centerline of the bridge between the bottom of curbs or guard timbers or, in the case of multiple height of curbs, between the bottoms of the lower risers.

101.06.1 Business Day

Monday through Friday except for holidays in accordance with 101.26.

101.07 Calendar Day

Every day shown on the calendar.

101.08 Blank

101.09 Change Order

A written order issued to the Contractor covering changes in the contract and establishing payment for the work affected by the changes.

101.10 Construction Limits

The line shown on the plans beyond which no work is intended to be performed and that which no disturbance of existing terrain will be permitted unless otherwise authorized by the Engineer.

101.11 Contract

The written agreement between the Department and the Contractor setting forth the obligations of the parties thereto including, but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment.

The contract may include, but is not limited to, the Proposal book, Schedule of Pay Items, contract form, bid bond, performance bond, specifications, supplemental specifications, special provisions, information to bidders, instructions to bidders, general and detailed plans, notice to proceed, and any change orders and agreements that are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.

101.12 Contract Information Book

A document which includes a contract information sheet, an estimate of quantities, special provisions, and additional contract requirements. Such document may include the plans.

101.13 Contract Item (Pay Item)

A specifically described unit of work for which a price is provided in the contract.

101.14 Contract Time

The number of work days or calendar days allowed for completion of the contract or phase of the contract, including authorized time extensions.

If a calendar date of contract completion or contract phase completion is shown in the Proposal book in lieu of the number of work or calendar days, the contract shall be completed by that date.

101.15 Contractor

The individual, partnership, firm, corporation, or combination of same contracting with or desiring to contract with the Department for performance of prescribed work.

101.16 Culvert

A structure not classified as a bridge which provides an opening under the roadway.

101.17 Department

The Indiana Department of Transportation as constituted under the laws of Indiana for the administration of highway work.

(a) Materials and Tests Division

A division within the Department which has a mailing address of 120 South Shortridge Road, Indianapolis, IN 46219-0389.

(b) Contract Services Section

A section within the Department which has a mailing address of Room N855, 100 North Senate Avenue, Indianapolis, IN 46204-2218.

(c) Procurement and Distribution Division

A division within the Department which has a mailing address of 6400 East 30th Street, Indianapolis, IN 46219-1082.

101.18 Commissioner

The chief executive officer of the Department who is responsible for organizing and administering the Department.

101.19 Embankment Foundation

The existing materials upon which an embankment is to be constructed.

101.20 Engineer

The Chief Engineer of the Department acting directly or through the duly authorized representatives.

101.21 Equipment

All machinery and equipment together with the necessary supplies for upkeep and maintenance, and all tools and apparatus necessary for the proper construction and acceptable completion of the work.

101.22 Extra Work

An item of work not provided for in the contract as awarded but found essential to the satisfactory completion of the contract.

101.23 Failed Material

Material or a finished product determined not to be in accordance with applicable specifications or tolerances and that has been adjudicated by the Department's Failed Materials Committee or other Department representatives in accordance with 105.03.

101.24 Force Account Work

Extra work in the contract for which the Contractor and the Department cannot reach agreement on the unit price or lump sum price prior to performing the work. Settlement will be made upon receipt and approval of documents substantiating and truly representing the allowable costs incurred by the Contractor for performing such extra work.

101.25 Frequency Manual

A document issued by the Department which is titled Manual for Frequency of Sampling and Testing and Basis for Use of Materials. The number of samples and tests, the basis for approval, the basis for use, and similar requirements for furnished materials are specified in the document.

101.26 Holidays

Holidays are considered to be:

All Sundays
New Year's Day
Martin Luther King Day
Lincoln's Birthday
Washington's Birthday
Good Friday
Primary Election Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Friday after Thanksgiving Day
Christmas Day

If a holiday listed above, except Sunday, falls on a Sunday, the following Monday shall be considered a holiday. If a holiday listed above falls on a Saturday, the preceding Friday shall be considered a holiday.

101.26.1 Indianapolis Traffic Management Center

The location of the Department's ITS Section which has a mailing address of 8620 East 21st Street, Indianapolis, IN 46219.

101.27 Invitation for Bids

The advertisement for proposals for all work or materials on which bids are required. Such advertisement will indicate with reasonable accuracy the quantity and location of the work to be done or the character and quantity of the material to be furnished and the time and place of the opening of proposals.

101.28 Itemized Proposal

The Schedule of Pay Items shown in the Proposal book.

101.29 Laboratory

The testing laboratory of the Department or any other testing laboratory which may be designated by the Engineer.

101.30 Major and Minor Contract Items

All contract items having an original contract value in excess of 5% of the original contract amount shall be considered as major items. Minor contract items shall be all items shown in the Schedule of Pay Items which constitutes 5% or less of the original contract amount.

101.31 Materials

All substances specified for use in the construction of the project and its appurtenances.

101.32 Notice to Proceed

Written notice to the Contractor to proceed with the contract work including, when applicable, the date of beginning of contract time.

101.33 Open to Unrestricted Traffic

The condition that exists when all pavement work is completed, including surface courses, and shoulders. All safety features including guardrail and signs are in place, and pavement markings are in the final marking pattern.

101.34 Pavement Structure

The combination of subbase, base course, and surface course placed on a subgrade to support the traffic load and distribute it to the roadbed.

101.35 Performance Bond

The approved form of security, furnished and executed by the bidder and its surety or sureties, guaranteeing complete execution of the contract, as defined herein, and for the payment of all legal debts pertaining to the construction of the project. The performance bond will be in effect after both parties have signed the contract and the contract has been approved by the Attorney General of the State.

101.36 Plans

The approved plans, profiles, typical cross sections, standard drawings, working drawings, and supplemental drawings or exact reproductions thereof which show the location, character, dimensions, and details of the work to be done.

101.37 Professional Engineer

A person who is duly licensed by the Indiana Professional Licensing Agency to practice engineering in the State.

101.38 Profile Grade

The trace of a vertical plane intersecting the top surface of the proposed wearing surface, usually along the longitudinal centerline of the roadbed. Profile grade means either elevation or gradient of such trace according to the context.

101.39 Project

The specific section of the highway where work is to be performed under the contract.

101.40 Proposal

The Schedule of Pay Items shown in the Proposal book.

101.41 Proposal Book

A document which includes the Proposal Sheet, Schedule of Pay Items, and contract forms which shall be completed or signed by the bidder.

101.42 Quality Assurances Adjustments

Monetary credits either to the Contractor or to the Department for material used that are outside specified tolerances but within allowable tolerances as indicated for QC/QA pay items or others that may apply.

101.43 Reasonably Close Conformance

Reasonably close conformance means conformance with reasonable and customary manufacturing and construction tolerances where working tolerances are not specified. Where working tolerances are specified, reasonably close conformance means conformance with such working tolerances. Without detracting from the complete and absolute discretion of the Engineer to insist on such tolerances as establishing reasonably close conformance, variations beyond such tolerances may be accepted as reasonably close conformance where they will not materially affect the value or utility of the work and the interest of the State.

Reasonably close conformance also means, for materials manufactured according to the English system of measures, that the materials are about the same size as nearly equivalent metric-sized materials. For materials manufactured according to the metric system of measures, reasonably close conformance means the materials are about the same size as nearly equivalent English-sized materials. Nearly equivalent sized materials will be accepted unless the nearly equivalent material is outside specified working tolerances in the contract documents.

101.44 Right-of-Way

A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to a highway.

101.45 Road

A general term denoting a public way for purposes of vehicular travel, including the entire area within the right-of-way.

101.46 Roadbed

The graded portion of a highway within top and side slopes, prepared as a foundation for the pavement structure and shoulders.

101.47 Roadside

A general term denoting the area adjoining the outer edge of the roadway. Extensive areas between the roadways of a divided highway may also be considered roadside.

101.48 Roadside Development

That work necessary to the complete highway which provides for the preservation of landscape materials and features; the rehabilitation and protection against erosion of all areas disturbed by construction through seeding, sodding, mulching, and the placing of other ground covers; and such suitable planting and other improvements as may increase the effectiveness and enhance the appearance of the highway.

101.49 Roadway

The portion of a highway within limits of construction.

101.50 Schedule of Pay Items

A part of the Proposal book which shows pay items, quantities, and pay units for the contract. The bidder shall complete the document by filling in the unit prices and the bid amounts.

101.51 Shoulder

The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of base and surface courses.

101.52 Sidewalk

The portion of the roadway primarily constructed for the use of pedestrians.

101.53 Special Provisions

Additions and revisions to the standard and supplemental specifications covering conditions peculiar to an individual project.

101.54 Specifications

A general term applied to all directions, provisions, and requirements pertaining to performance of the work.

101.55 Specified Completion Date

The date on which the contract work is specified to be complete.

101.56 State

The State of Indiana acting through its authorized representative.

101.57 Street

A general term denoting a public way for purposes of vehicular travel, including the entire area within the right-of-way.

101.58 Structures

Bridges, culverts, catch basins, drop inlets, retaining walls, cribbing, manholes, end walls, buildings, sewers, service pipes, underdrains, foundation drains, and other features which may be encountered in the work and not otherwise classified herein.

101.59 Substantial Completion

The date, as determined by the Department, when the construction of a project is sufficiently completed in accordance with the plans and specifications, as modified by any approved change orders, so that it can be used for its intended purpose. In order for a project to be used for its intended purpose, as a minimum, all of the following criteria must be met: All lanes of the road or bridge may be opened to traffic using its final roadway surface, including shoulders, with all the markings, permanent safety appurtenances, permanent erosion control features, lighting, traffic signals, and signing as shown in the contract documents.

101.60 Blank

101.61 Subcontractor

An individual, partnership, firm, corporation, or combination of same to whom the Contractor sublets part of the contract.

101.62 Subgrade

The upper portion of a roadbed upon which the pavement structure and shoulders are constructed.

101.63 Substructure

All of that part of the structure below the bearings of simple and continuous spans, skewbacks or arches, and tops of footings of rigid frames together with backwalls, wingwalls, and wing protection railings.

101.64 Superintendent

The authorized representative of the Contractor in responsible charge of the work.

101.65 Superstructure

The entire structure except the substructure.

101.66 Supplemental Specifications

Additions and revisions to the standard specifications that are adopted subsequent to issuance of the Standard Specifications Book.

101.67 Surety

The corporate body bound with and for the Contractor for the full and complete performance of the contract and for the payment of all debts pertaining to the work. When applied to the Bid Bond, it refers to the corporate body which engages to be responsible in the execution of the contract by the bidder, within the specified time.

101.68 Technician or Inspector

The authorized representative of the Engineer assigned to make detailed inspections of contract performances.

101.69 Titles (Headings)

The titles or headings of the sections and subsections herein are intended for convenience of reference and shall not be considered as having any bearing on their interpretation.

101.70 Township, Town, City

A subdivision of a county used to designate or identify the location of the proposed work.

101.71 Traveled Way

The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

101.72 Work

The furnishing of labor, materials, equipment, and incidentals necessary or convenient to the successful completion of the project and the carrying out of the duties and obligations imposed by the contract.

101.73 Work Day

A calendar day, exclusive of Saturdays and State recognized holidays, on which weather and other conditions not under the control of the Contractor will permit work on the controlling operations for at least 50% of the day with the normal working force. However, if weather is unsuitable for work on the controlling operation at the normal starting time, and remains unsuitable for 2 h, a work day will not be charged if the Contractor does not work. No work days will be charged during the months of December, January, February, or March, unless otherwise specified.

101.74 Working Drawings

Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data which the Contractor is required to submit for approval.

SECTION 102 – BIDDING REQUIREMENTS AND CONDITIONS

102.01 Prequalification and Bidding

The bidder will be required to prequalify and follow the bidding procedures as set out in the rules for Prequalification of Contractors and Bidding, 105 IAC 11, now on file with the Indiana Secretary of State, copies of which are available upon request in the Contract Services Section.

If apparent errors, discrepancies, or unclear statements are found in the contract documents prior to letting, the District Construction Engineer for the district shown on the Proposal sheet shall be contacted by telephone or fax.

102.02 Certification Regarding Lobbying for Contracts, Grants, Loans, and Cooperative Agreements

This requirement will apply only to a federal aid contract. The bidder certifies to the best of its knowledge and belief, that it has complied with the requirements of FHWA-1273 Part XII, included in the Contract Information book.

If required, the bidder shall complete and submit Standard Form LLL, Disclosure Form to Report Lobbying, in accordance with its instructions. Such form and its instructions are available from the Department.

SECTION 103 – AWARD AND EXECUTION OF CONTRACT

103.01 Disadvantaged Business Enterprise Program

This requirement will apply only to a federal aid contract.

(a) General Requirements

Failure to carry out the requirements set forth in 49 CFR 23.43(a) shall constitute a breach of contract and, after notification, may result in termination of the contract or such remedy as the State deems appropriate.

The above referenced CFR section requires the following policy and disadvantaged business enterprise obligation to be included in all subsequent agreements between the Contractor and all subcontractors as follows:

1. It will be the policy of the Department that disadvantaged business enterprises, as defined in 49 CFR Part 23, shall have the maximum opportunity to participate in the performance of contract work financed in whole or in part with Federal funds provided under this contract. Consequently, the disadvantaged business enterprise requirements of 49 CFR Part 23 apply to this contract.

2. The Contractor agrees to ensure that disadvantaged business enterprises certified by the State shall have the maximum opportunity to participate in the performance of contract work or subcontract work financed in whole or in part with Federal funds provided under this contract. In this regard, the Contractor shall take all necessary and reasonable steps, in accordance with 49 CFR Part 23, to ensure that disadvantaged business enterprises have the maximum opportunity to compete for and perform work in this contract. The Contractor shall not discriminate on the basis of race, color national origin, or sex in the award and performance of this contract.

(b) Definitions

The following definitions will apply.

1. DBE

A small business concern which is at least 51% owned by one or more socially and economically disadvantaged individuals, or, in the case of a publicly owned business, at least 51% of the stock of which is owned by one or more socially and economically

disadvantaged individuals; and whose managements and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

2. Small Business Concern

A small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto, except that a small business concern shall not include a concern or group of concerns controlled by the same socially and economically disadvantaged individual or individuals which has annual average gross receipts in excess of $16.6 million over the previous three fiscal years.

3. Socially and Economically Disadvantaged Individuals

Those individuals who are citizens of the United States or lawfully admitted permanent residents and who are women, black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Asian-Indian Americans, or other minorities or individuals found to be disadvantaged by the Small Business Administration pursuant to Section 8(a) of the Small Business Act.

4. Certified DBE

A business enterprise which has completed and filed a request for certification with the Indiana Department of Administration, and that the business enterprise has been reviewed and determined to comply with the guidelines established in 49 CFR Part 23. Business enterprises which are determined to be eligible will be certified as DBEs.

(c) Goal

A contract provision goal may be shown on the Proposal sheet. Such goal, if required, has been established as the amount to be contracted to DBEs. The Contractor shall meet or exceed the goal, or demonstrate that it could not be met despite best efforts. Achievement of the contract provision goal does not relieve the Contractor of the requirement for affirmative action on subsequent subcontracting on this contract. Only work with listed DBEs which are certified prior to the date of the letting will count toward the goal.

Contracting may be in the form of subcontract, lease agreement, or material supply. Full credit will be given for subcontracts and lease agreements. Credit for utilization of a DBE material supplier will be limited to those DBEs certified as suppliers prior to the letting at the rate of 60% of the expenditure to the supplier unless the supplier is also the manufacturer. Suppliers that do not manufacture the items shall also perform a commercially useful function in order for credit to be received.

If a non-DBE contractor joint ventures with a DBE contractor, the portion of the joint venture which is performed by a DBE may be utilized to achieve the DBE goal. Two types of DBE joint ventures are permitted and are defined as follows:

1. DBE Joint Venture Type A

A DBE contractor and a non-DBE contractor bidding on specific pay items to be performed by each company.

2. DBE Joint Venture Type B

A DBE contractor and a non-DBE contractor combining resources and agreeing upon a percentage of the total work to be performed by each contractor.

DBE joint ventures type A do not require DBE joint venture certification. DBE joint venture type B do require DBE joint venture certification. A request for DBE joint ventures type B certification shall be submitted not later then 9:00 a.m. local time the last business day before the letting and shall be approved prior to bidding in order to receive credit toward the DBE goal. The DBE shall be certified with the Department prior to requesting DBE joint venture certification. The work for the DBE shall be identified, performed, managed, and supervised by its forces.

If the Contractor is a certified DBE contractor, the DBE contract goal will be deemed met for the contract. The Affirmative Action Certification, included in the Proposal book, shall not be required. All other requirements pertaining to the DBE utilization will apply.

A written request for changes in utilization of DBEs listed in the Affirmative Action Certification shall be approved prior to start of listed services or purchase of listed materials. Request to reduce or eliminate the services or material provided by a listed DBE that include written approval by the DBE will be considered sufficient justification if the committed DBE utilization after the requested change will meet or exceed the contract goal or a lesser percentage approved prior to execution of the contract. If the committed DBE utilization after the change does not meet or exceed the contact goal or a lesser percentage approved prior to execution of the contract, or the listed DBE does not approve the change, the Contractor shall submit documented evidence that the DBE is unable to perform successfully. Disposition of the request for change will be determined on the basis of the affirmative actions taken as required herein.

(d) Affirmative Actions

The Contractor shall develop an affirmative action plan for a Disadvantaged Business Enterprise Program which shall include the minimum requirements as follows:

1. Appointment of a representative with authority to administer the Contractor's Disadvantaged Business Enterprise Program.

2. Documents of affirmative action methods and procedures intended to be used in seeking out and considering certified DBEs as subcontractors or suppliers.

3. A list of certified DBEs to be contacted prior to the selection of a potential subcontractor for the particular pay items within the capabilities of the DBEs. This list shall include but shall not be limited to the requirements as follows:

    a. The name of each subcontractor or supplier and a notation as to their DBE certification status.

b. The potential type of work or services to be performed by each subcontractor or supplier.

(e) Guidelines for Determining Good Faith Efforts

Appendix A of 49 CFR Part 23 has been used as the guideline in preparing the Department procedures to determine the adequacy of good faith efforts. Additional factors consistent with 49 CFR Part 23, and the Department's policies and procedures have also been utilized.

The following factors will be considered in determining good faith efforts. The Contractor shall submit evidence of the factors.

1. The Contractor shall contact a reasonable number of specific DBEs interested in bidding on pay items selected by the Contractor for subcontracting. To effectively participate, the DBE shall have the opportunity to be able to analyze the contract and submit quotations prior to letting. Contacts shall be either by telephone or written notice. Telephone contacts shall be followed up with written confirmation.

2. All other active certified DBEs which perform the type of work to be subcontracted and which perform in the geographic location of the contract shall be notified if efforts taken described above do not result in the Contractor meeting the DBE goal.

3. Information provided by the Contractor to the DBE shall include, at a minimum, the contract number, pay items and quantities for those pay items to be subcontracted, and the date the subcontract bid is desired.

4. The DBE shall be notified at the earliest possible time and at least seven calendar days prior to date the Contractor desires quotes in hand. The efforts as described above shall be accomplished simultaneously, if necessary.

5. The Contractor shall follow up initial written solicitation with telephone contacts to determine if interested DBEs which have not responded had received written notice. Telephone contact shall also be made with DBEs who had indicated through the initial contact that they would submit a bid, but had not by the desired time. These telephone contacts will not be necessary if the Contractor has received satisfactory bids from other DBEs on the pay items in question.

6. Contractor shall select the portions of the work to be performed by DBEs in order to increase the likelihood of DBE participation. This shall include, where appropriate, an attempt to break down the contract into economically feasible units to facilitate DBE participation. The Contractor shall ascertain the prequalification status, including classified limits, from prospective DBE subcontractors.

7. The Contractor shall provide the interested DBEs with complete information about the plans, specifications, and requirements of the contract, noting potential problem areas. Attempts shall be made to have plans available or to notify the DBE of the location of available plans. The Contractor shall notify the DBE of revisions to the contract.

8. The Contractor shall apply affirmative action to its review and award of subcontracts.

   Bids received from DBEs which are within 10% above the low bid of a majority subcontractor shall be utilized by the Contractor in awarding subcontracts in order to meet the goal. The only exception shall be those bids rejected as described below.

   It will be considered unacceptable to avoid subcontracting to DBEs if subcontracting to a DBE results in having to further subcontract remaining work.

9. The Contractor shall negotiate in good faith with interested DBEs, and not reject such DBEs as unqualified without sound reasons based on thorough investigation of their capabilities. Confirmed documentation that a DBE has not been able to perform previous work through no fault of others will be considered to be sound reason. Unacceptable criteria includes, but is not limited to, hearsay and unsigned documentation.

10. The Contractor shall make efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance required by the State of the Contractor. However, the Contractor shall affirmatively consider waiving requirements it may have in order to assist the DBE.

11. In addition to Department assistance, the Contractor shall effectively use, when feasible, the services of available minority community organizations, minority contractor groups, local State, and Federal minority business assistance offices, and other organizations that provide assistance in the recruitment and placement of DBEs. The Department's certified DBE list is the only accepted list for the Department's DBE Program.

12. If the Contractor has achieved less than the DBE goal but has taken good faith efforts prior to the letting, the Contractor shall take good faith efforts to achieve the DBE goal during the seven calendar days after notification. As a minimum, the Contractor shall re-contact all DBEs including those DBEs listed on the Contractor's Affirmative Action Certificate which submitted quotes or previously expressed interest in quoting to the Contractor. The Contractor shall document, in writing, the contacts that were made.

(f) Affirmative Action Certification

The Affirmative Action Certification, included in the Proposal book, shall be completed when the Proposal book is submitted to the Department. The certification shall list DBEs or shall state the reasons DBEs are not listed. Blank certifications shall cause the bid to be rejected. If a portion of a pay item is to be performed by a DBE, an explanation shall be included stating exactly what the DBE is performing or supplying. Failure to do so may affect the award of the contract.

(g) Subcontracts

If the Contractor intends to subcontract a portion of the work, affirmative action shall be taken to seek out and consider DBEs as potential subcontractors prior to the subcontractual commitment.

The contacts made with potential DBE subcontractors and the results thereof shall be documented and made available to the Department and the FHWA upon request.

If the Contractor originally did not intend to subcontract a portion of the work and later circumstances dictate subcontracting a portion of the work, the affirmative action contacts described herein shall be performed.

Requests to subcontract a portion of the work to a firm that is not a DBE shall include Form MBE-2. Documentation shall be submitted evidencing contacts and the results thereof with potential DBEs for the specific work to be subcontracted.

Upon receipt of notification from the Department, a Disadvantaged Business Enterprise Utilization Affidavit, Form MBE-3, shall be completed by the Contractor and returned to the Department. The Contractor and the subcontractor/lessor/supplier shall certify on Form MBE-3 that specific amounts have been paid and received.

(h) Leases and Rentals

Hauling leases made with DBEs shall be submitted to the Department for approval before beginning work. Leases for hauling, when used, shall be submitted when borrow, subbase, compacted aggregate, HMA mix, cement concrete mix, or a combination of the above is to be hauled by a DBE. The lease shall show the dollar amount of anticipated work before the work is started. The actual dollar amount shall be reported to the Department after the work has been completed.

In order to perform a commercially useful function, the dollar volume of hauling by a DBE trucking firm that is counted toward the DBE goal is limited to that dollar volume of hauling attributable to a maximum of twice the number of vehicles owned by the DBE, or leased from another DBE, that are utilized on the project. DBE hauling lessors who sublease a portion of their hauling shall take positive affirmative actions to sublease to DBEs and shall provide Form MBE-2 to the Department, evidencing those efforts prior to commencing work.

The Contractor shall notify the Department when purchases or rental of equipment, other than leases for hauling, are made with DBEs. The information submitted shall include the name of the business, the dollar amount of the transaction, and the type of purchase made or type of equipment rented.

If a subcontract agreement between the Contractor and a majority subcontractor requires that the majority subcontractor sublease a portion of its hauling to a DBE, the Contractor may receive credit toward the contract goal. The Contractor shall notify the Department when sublease agreements exist, the name of the DBE, the dollar amount of anticipated hauling before the work is started, and the actual dollar amount after the work is completed. The subcontractor shall certify actual utilization of the DBE at the end of the work and provide such certification to the Contractor for submission to the Department.

(i) Records and Reports

The Contractor shall keep such records as necessary to determine compliance with its DBE utilization obligations and compliance with the Guidelines for Good Faith Efforts for Goal Contracts. The records kept by the Contractor shall indicate the minimum requirements as follows:

1. The number of disadvantaged, non-minority, and women subcontractors and suppliers and type and dollar value of work or materials services being performed on or incorporated into this contract.

2. The progress and efforts being made in seeking out disadvantaged contractor organizations and individual disadvantaged contractors for work on this contract.

3. Documentation of all correspondence, contacts, or telephone calls to obtain the services of DBEs on this contract.

Reports shall be submitted as required by the Department for those contracts and other business agreements executed with DBEs with respect to the records referred to above.

All such records shall be maintained for a period of three years following acceptance of final payment and shall be available for inspection by the Department and the FHWA and their authorized representatives.

103.02 Specific Equal Employment Opportunity Responsibilities

This requirement will apply only to a federal aid contract.

The Contractor and all subcontractors not including material suppliers, holding subcontracts of $10,000.00 or more, shall comply with the following minimum specific requirement activities of equal employment opportunity. The equal employment opportunity requirements of Executive Order 11246, included in the Contract Information book, will be applicable to material suppliers as well as contractors and subcontractors. The Contractor shall include these requirements in each subcontract of $10,000.00 or more with such modification of language as is necessary to make them binding on the subcontractor.

103.03 Blank

103.04 Insurance

Prior to commencing the work, the Contractor shall obtain and thereafter keep in force, the following insurance coverages provided by insurance companies acceptable to the Department and authorized to transact business under the laws of the State of Indiana. Certificates of insurance shall be filed with the Department. The Department may temporarily accept an insurance binder pending receipt of the certificate of insurance. When Railroad's Protective Liability insurance in accordance with 103.04(d) is required, the original policy shall be submitted to the railroad company with a copy transmitted to the Department. In addition, certificates of insurance shall be provided to the railroad, on forms satisfactory to the railroad, covering the Contractor's Commercial General Liability and Business Automobile Liability insurance.

The Contractor may purchase insurance for the full limits required by 103.04(b), or 103.04(c) or by a combination of primary policies for lesser limits and remaining limits provided by a Commercial Umbrella Liability policy.

Proof of renewal shall be furnished 15 days or more in advance of the policy expiration. If subject to cancellation, the insurance company shall provide at least 30 days prior notice, and the insurer shall immediately notify the Department in writing at Room N855, 100 N. Senate Avenue, Indianapolis, IN 46204-2218 of such impending cancellation.

In the event of cancellation or expiration, all work on the contract shall be suspended except that necessary for traffic maintenance and the protection of life and property. No extension in the contract completion time or additional payment will be allowed on account of this requirement and contract time charges will continue.

Nothing contained herein shall modify the Contractor's obligation of indemnification and exculpation of the State and its representatives in accordance with 107.17.

(a) Worker's Compensation and Employer's Liability

1. Worker's compensation shall be provided according to the provisions of the Indiana Worker's Compensation and Occupation Diseases Act as amended.

2. A certificate from the Worker's Compensation Board of Indiana shall be furnished as evidence of compliance with the provisions of the Indiana Worker's Compensation and Occupational Diseases Act.

(b) Commercial General Liability

Required liability insurance coverage shall provide coverage for operations of the Contractor and operations of subcontractors. Coverages shall include premises-operations; independent contractors; products; completed operations; broad form property damage; hazards of explosion, collapse, and underground damage; and

contractual liability. The general aggregate limit shall be endorsed so as to provide coverage for each contract as follows:

1. General Aggregate Limit $2,000,000

2. Products-Completed Operations
   Aggregate Limit.....$2,000,000

3. Each Occurrence Limit $1,000,000

(c) Business Automobile Liability

This policy shall cover owned, non-owned, and hired vehicles. The combined single limit of liability for bodily injury and property damage liability per each accident shall be $1,000,000.

(d) Railroad's Protective Liability

When required, the Contractor shall carry, with respect to the operations performed and those performed by others, for and in behalf of each railroad company, Railroad Protective Liability insurance providing for a limit of not less than a combined single limit of $2,000,000 per occurrence for damages arising out of bodily injury, death, and property damage with an aggregate limit of $6,000,000 for the term of the policy.

In addition, the limits specified in 103.04(b)3 shall be increased to $2,000,000.

(e) Owner's and Contractor's Protective Liability Insurance Coverage for Operations of Designated Contractor

The named insured in this policy shall be the State of Indiana, c/o Indiana Department of Transportation, 100 N. Senate Avenue, Room N855, Indianapolis, IN 46204-2218. If specified elsewhere in the contract, the named insured shall also include a local governmental agency.

The limits of coverage shall be not less than $1,000,000 for all damages arising out of bodily injury or death in one occurrence, and for all damages arising out of injury to or destruction of property in any one occurrence. Subject to the limit per occurrence, an aggregate limit for the contract of not less than $3,000,000 shall be provided during the policy period.

In addition to the limits specified herein, the policy and the binder shall also include the endorsements to the Owner's and Contractor's Protective Liability Insurance as follows:

1. Wherever used in this policy, the term "named insured" shall include the Indiana Department of Transportation, its officers, and employees. If so specified in the contract, the term "named insured" shall also include a local governmental agency, its officers, and employees.

2. Wherever used in this policy, the term "general supervision" shall include on-site inspection, field engineering, field testing, and activities incidental thereto.

3. Exclusion (c) is amended to read as follows:
(c) To bodily injury or property damage occurring after all work on the project to be performed by or on behalf of the State at the site of the covered operation has been completed, and the Contractor designated herein has been relieved of further maintenance, as set out in the final acceptance letter of the Indiana Department of Transportation.

4. Not withstanding other terms or conditions, this policy provides the minimum insurance coverages as of the latest filing with the Indiana Department of Insurance by the Insurance Services Office with the endorsements and amendments specified by 103.04(e) of the Indiana Department of Transportation Standard Specifications. The policy is identified as the latest edition of form CG 00 09 as copyrighted by the Insurance Services Office, Inc.

(f) Basis of Payment

No direct payment will be made for insurance. The cost thereof shall be included in the cost of the pay items.

103.05 Waiver of Damages

At the time the contract is ready for final execution, all of the necessary right-of-way may not have been secured. In order to expedite prompt execution of the contract, the Contractor may sign a waiver of damages. This will waive all damages that might accrue to the Contractor for delay, expense, inconvenience, loss of profits, or for all other causes occasioned to the Contractor by the failure of the Department to secure such right-of-way. The waiver shall be binding upon each subcontractor of the principal Contractor. This waiver provision will not apply on Federal Aid projects.

103.06 Wage and Labor Requirements

These requirements will apply only to a 100% State funded contract. These requirements will apply to all work performed by the Contractor with its own organization and with the assistance of workers under its immediate superintendence, and to all work performed by piecework, station work, or subcontract.

(a) Non-discrimination of Employees

The Contractor and its subcontractors shall not discriminate against an employee or applicant for employment, to be employed in the performance of the contract work, with respect to hire, tenure, terms, conditions, or privileges of employment or matters directly or indirectly related to employment, because of race, religion, color, sex, disability, national origin, or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

(b) Affidavits and Payrolls

All labor shall be paid weekly. The payroll and related records of the Contractor and all subcontractors shall be preserved for a period of three years after completion of the project work, and be open to the inspection of the Department.

The wages of labor shall be paid in legal tender of the United States. However, this condition will be considered satisfied if payment is made by means of a negotiable check, on a solvent bank, which may be cashed readily by the employees in the local community for the full amount, without discount or collection charges. If checks are used for payment, the Contractor shall make all necessary arrangements for them to be cashed and shall give information regarding such arrangements.

No fee shall be asked or accepted by the Contractor or its agents from a person as a condition of the contract.

No laborers shall be charged for tools used in performing their respective duties except for reasonable avoidable loss or damage thereto.

Each employee on the work covered by the contract shall be permitted to lodge, board, or trade where or with whom he or she elects. Neither the Contractor nor its agents, nor its employees shall directly or indirectly require as a condition of employment that an employee shall lodge, board, or trade at a particular place or with a particular person.

No charge shall be made for transportation furnished by the Contractor or its agents to a person employed on the work.

No individual shall be employed as a laborer on the contract except on a wage basis. This shall not be construed to prohibit the rental of trucks or other equipment from individuals. No such rental agreement, or charges for fuel, supplies, or repairs on account of such agreement shall cause deduction from the wages accruing to an employee except as authorized by the regulation cited herein.

(c) Wage Stipulations

No person employed on the contract shall be paid at a rate of less than $8.40/h, as required by IC 8-23-9-22.

1. General Decision Included in Contract Information Book

The Contractor shall pay the workers who are employed in performance of the contract work, rates of wages which are not less than the rates set forth for labor classifications listed in the General Decision.

The computations used in arriving at the contract unit prices shall be based on the hourly rates shown in the General Decision and as shown above. The wages herein stipulated shall become and be a part of the contract as provided by law.

The following statement, shown in the General Decision, will not apply.

> "Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses [29 CFR 5.5(a)(1)(ii)]."

2. General Decision Not Included in Contract Information Book

If the General Decision is not included in the Contract Information book, the requirements of 103.06(c)1 will not apply.

103.07 Accident Prevention and Safety

In the performance of the contract work, the Contractor shall comply with all applicable federal, State, and local laws governing safety, health, and sanitation. The Contractor shall provide all safeguards, safety devices, and protective equipment. The Contractor shall take all reasonably necessary actions to protect the life and health of employees on the project site and the safety of the public, and to protect property in connection with the performance of the contract work.

It is a condition of the contract, and shall be made a condition of each subcontract entered into pursuant to the contract, that the Contractor and all subcontractors shall not require a laborer or mechanic employed in performance of the contract work to work in surroundings or in working conditions which are unsanitary, hazardous, or dangerous to his or her health or safety, as determined under construction safety and health standards 29 CFR 1926, as amended at the time the work is performed.

SECTION 104 – SCOPE OF WORK

104.01 Intent of Contract

The intent of the contract is to provide for the construction and completion in every detail of the work described. The Contractor shall furnish all labor, materials, equipment, tools, safety equipment, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

It is understood by all concerned that the apparent silence of the specifications as to a detail or the apparent omission of a detailed description concerning a point shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the first quality is to be used. All interpretations of these specifications shall be made on this basis.

In order to avoid cumbersome and confusing repetition of expressions in these specifications, it is provided that whenever any thing is, or is to be done, if, as, when, or where contemplated, required, determined, directed, specified, authorized, ordered, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approved, disapproved, acceptable, unacceptable, suitable, accepted, satisfactory, unsatisfactory, sufficient, rejected, or condemned, it shall be understood as if the expression were followed by the words “by the Engineer” or “to the Engineer”.

It is further provided that all work including the furnishing of materials, equipment, tools, labor, and incidentals required to carry out the terms of the contract shall be done by the Contractor, its employees, or subcontractors unless specifically set out otherwise in the Proposal book. The words “by the Contractor” will not necessarily be used to so indicate. All work shall be carried out in a thorough, careful, effective, and satisfactory manner without specifically using these words to describe the action.

Reports and other documents that are determined to be pertinent and necessary to the effective monitoring of the contract shall be submitted by all applicable contractors and subcontractors in accordance with appropriately issued instructions.

104.02 Differing Site Conditions, Suspension of Work, and Significant Changes in the Character of Work

Code of Federal Regulations 23 CFR 635.109 reads as follows:

(a) Differing Site Conditions

During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected work is performed.

Upon written notification, the Engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding anticipated profits, will be made and the contract modified in writing accordingly. The Engineer will notify the Contractor of the determination whether or not an adjustment of the contract is warranted.

No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.

No contract adjustment will be allowed under this clause for any effects caused on unchanged work.

(b) Suspensions of Work Ordered by the Engineer

If the performance of all or any portion of the work is suspended or delayed by the Engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the Contractor believes that additional compensation, and/or contract time is due as a result of such suspension or delay, the Contractor shall submit to the Engineer in writing a request for adjustment within seven calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

Upon receipt, the Engineer will evaluate the Contractor's request. If the Engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the Contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the Engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The Contractor will be notified of the Engineer's determination whether or not an adjustment of the contract is warranted.

No contract adjustment will be allowed unless the Contractor has submitted the request for adjustment within the time prescribed.

No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

(c) Significant Changes in the Character of Work

The Engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the Contractor agrees to perform the work as altered.

If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the Engineer may determine to be fair and equitable.

If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.

The term "significant change" shall be construed to apply only to the following circumstances:

1. When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or

2. When a major item of work, as defined elsewhere in the contract, is increased in excess of 125% or decreased below 75% of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125% of the original contract item quantity, or in case of a decrease, below 75% of the actual amount of work performed.

(d) Pre-established Remedies to Changed Conditions

The remedy to the changed condition either eliminates the claim by means of calculations involving existing pay items in the contract or limits the amount to be paid. These requirements will be used in reaching a settlement between the Contractor and the Department, except when either party may demonstrate that this does not result in a just and fair resolution. The Engineer will notify the Contractor of the determination.

104.03 Extra Work

Unforeseen work, for which there is no price included in the contract, shall be performed whenever it is deemed necessary to fully complete the contract within its intended scope, or it is in the best interest of the State to complete the unforeseen work under the contract. Such work shall be performed in accordance with the specifications and as directed, and will be paid for in accordance with 109.05.

104.04 Maintenance of Traffic

Unless otherwise provided, the road shall be kept open to all traffic while undergoing improvements. Where so provided on the plans, the traffic may be bypassed over an approved detour route. The detour route markings shall be erected, maintained, and removed by the Contractor. Maintenance of traffic shall be in accordance with the details as shown on the plans or as directed. If an alternate plan for maintaining traffic is requested, it shall be submitted in writing as soon as possible for consideration. Such submittal shall include the complete details of the alternate maintenance of traffic scheme including all traffic control devices to be incorporated. If approved, the alternate plan shall not increase the cost of maintaining traffic to the Department. The portion of the roadway being used by public traffic shall be kept in such condition that such traffic will be adequately accommodated. Drums in accordance with 801.09 shall be placed at 200 ft (60 m) intervals where drop-offs of greater than 3 in. (75 mm) are adjacent to the shoulder until the aggregate or earth wedge is placed. Temporary approaches to businesses, parking lots, residences, garages, farms, and crossings and intersections with trails, roads, and streets shall be provided in a safe condition. All traffic control devices shall be maintained with no additional payment, except as set out in 107.18. Regulatory controls shall not be changed by the Contractor without prior approval. Regulatory control devices may be relocated in order to permit necessary construction, provided these control devices remain effective and convey the intended meaning after relocation to a position which complies with the requirements of the MUTCD. After completion of the construction, regulatory control devices which were relocated to facilitate construction shall be permanently installed with no additional payment, in accordance with the plans, or as otherwise directed. All traffic control devices damaged, while being moved or handled, shall be replaced with no additional payment. All other traffic control devices necessary to maintain safe traffic operation and routings shall not be removed, changed, or relocated, except as authorized. Traffic control devices removed without authorization shall be replaced with no additional payment. The cost of maintaining traffic over the section of road undergoing improvement and the cost of the construction and maintenance of such necessary features as approaches, crossings, and intersections shall be included in the contract unit price bid for maintenance of traffic pay items as set out in the Schedule of Pay Items, except as provided in 104.04(a), 104.04(b), and 107.18.

(a) Special Detours

When the Schedule of Pay Items contains a pay item for maintenance of detours or removing existing structures and maintaining traffic, the payment for such pay item shall cover all cost of constructing and maintaining such detour or detours, including the construction of temporary bridges and accessory features and the removal of the same in accordance with 713.07.

(b) Maintenance Directed by the Engineer

If special maintenance is directed for the benefit of the traveling public, payment will be made on the basis of unit prices or in accordance with 104.03 or 105.13. The Engineer will be the sole judge of whether special maintenance shall be performed.

Except as otherwise expressly provided in the contract, existing Department maintained roads and other public roads and streets within the limits of the contract shall be kept open to two-way traffic between the dates of December 1 and April 1.

Where the surface on an existing road or street is disturbed by the Contractor and the entire depth of the new surface is not completed prior to December 1, two-way traffic shall be maintained between the above dates on the partially completed new surface or on a temporary surface satisfactory for two-way traffic. Such surfaces shall be maintained between the above dates with no additional payment. Precautions shall be taken to prevent unnecessary damage to partially completed surfaces. All portions which become damaged shall be repaired with no additional payment.

Public roads, commercial and private drives, and mailbox approaches which are disturbed, and on which the surfacing has not been competed, shall be maintained in a condition satisfactory for use during the time work is suspended.

Where such approaches have been constructed to grade and drainage structures installed, the approaches shall be surfaced with compacted aggregate, No. 53, to a depth as directed. Such surfacing material, which is incorporated in the finished work, will be paid for at the contract unit price. The following season, the surfacing on the approaches shall be completed to the compacted depth shown on the plans by the addition of the surfacing material specified in the contract. During suspension of the work where such approaches have not been constructed to grade, a satisfactory temporary surface shall be provided with no additional payment.

(c) Blank

(d) Traffic Control for Patching on a Two-Lane Roadway

The work specified shall be arranged and prosecuted in accordance with the applicable requirements of 107 and 801, and as shown below.

Only one lane may be closed at a time.

A minimum of two drums shall be placed on the traffic approach side of each concrete patch or opened hole.

Patching on a two-lane roadway shall be in accordance with 305 and the details shown on the plans. Traffic restrictions will be permitted during daylight hours only. If the Contractor is unable to fill an area to be patched with concrete during daylight hours, the patch shall be filled with No. 53 aggregate for the times other than daylight hours. Drums in accordance with 801.09 shall be placed at the side of the roadway at the patch locations. If an opened hole cannot be patched for two or more calendar days, a 6 in. (150 mm) HMA cap shall be placed in the hole if concrete cannot be obtained. A watcher will be required while the roadway is temporarily patched.

104.05 Removal and Disposal of Structures and Obstructions

Unless otherwise provided, any existing structure or parts thereof, fence, building, or other encumbrance or obstruction upon or within the limits of the right-of-way which interferes in any way with the new construction shall be removed with no additional payment.

All removal of structures and obstructions the Contractor is directed to perform outside the construction limits for the benefit of the Department, including work needed for utility relocation, and not simply for the Contractor's convenience, will be paid for in accordance with 104.03 or 109.03.

Materials belonging to abutting property owners shown to be retained for the property owner shall be stockpiled in an acceptable manner at a designated area off the right-of-way. Materials not shown to be retained, except those materials mentioned in 104.06 or 805.03, shall become the property of the Contractor and shall be removed or disposed of according to the contract.

Materials to be salvaged for Department use shall be removed without damage in sections that can be readily transported. These materials shall be stockpiled neatly at locations identified on the plans or identified by the Engineer.

104.06 Removal and Disposal of Regulated Materials

The removal, testing, transportation, or disposal of regulated materials, except for paint removal and disposal operations described in 619, shall be in accordance with the requirements included herein and the applicable Federal, State, and local laws, regulations, and rules. These include, but will not be limited to, the requirements of the Federal Toxic Substances Control Act, the Federal Resource Conservation Recovery Act, the Federal Comprehensive Environmental Response Compensation Liability Act, OSHA, IDEM, and State rules requiring certification of underground storage tank removal firms.

Regulated materials will consist of those as follows:

(a) materials which are classified as a hazardous waste, hazardous substance, or hazardous material under the regulations of the EPA or the United States Department of Transportation; and

(b) materials which contain more than 1% asbestos and are friable, or have high probability of becoming friable as per 326 IAC 14-10.

The Contractor shall be responsible for proper handling, storage, transportation, and disposal of all regulated materials which are brought onto the site by the Contractor. This shall include those materials which are required under the contract. The Contractor shall comply with all applicable laws, regulations, and rules regarding such materials. All spills of regulated materials, caused by the negligence of the Contractor shall be cleaned up in accordance with the applicable laws, regulations, and rules.

Except as provided herein, the Department will be responsible for proper handling, storage, cleanup, removal, testing, transportation, and disposal of all regulated materials, which are located within the project limits including materials that have spread beyond the project limits except for those materials brought onto the site by the Contractor. The following procedure shall be used for regulated materials under 42 U.S.C. 6921 et seq, 42 U.S.C. 9601 et seq, 40 CFR 260, 49 CFR 171-179, IC 13-7, 329 IAC 2-21, or other applicable environmental laws, regulations, or rules:

(a) For Such Materials which are Identified in the Proposal Book as Being Present on the Project Site

1. The Department will provide in the Proposal book all known information of all such materials known or suspected to exist within or adjacent to the project limits.

2. The Contractor shall act only under the written direction of the Department regarding the removal, testing, transportation, or disposal of all such materials. Such written instructions may be provided in the Proposal book or in accordance with 104.03.

3. Except as provided herein, the Contractor shall follow the construction requirements shown in 200.

4. The Department will be listed as the owner/generator on all regulated material manifests. If disposal is required for such materials, the Department will approve, in writing, the appropriate licensed disposal site. The Department will retain title to all such regulated materials which are being disposed.

Payment for all work relating to removal, testing, transportation, or disposal of all regulated materials will be made in accordance with 202.14.

(b) For Such Materials which are not Identified in the Proposal Book as Being Present on the Project Site

Materials suspected of being regulated and discovered by either the Contractor or the Department shall be subject to the procedure described below.

1. If such materials are discovered by the Contractor, the Contractor shall cease all operations in the immediate vicinity and shall promptly notify the Engineer. If the material discovered is being released to the surrounding environment or if there is a perceived health threat, the Contractor shall immediately notify the State Police, IDEM's Office of Environmental Response, the local fire department, the county emergency management coordinator, and the Engineer.

2. If the Contractor determines that a tank now contains, or previously contained, a listed hazardous waste as defined by the Resource Conservation and Recovery Act, the Engineer shall be notified. No further work shall be done with such tank until directed.

3. If such materials are discovered by the Department, the Engineer will promptly notify the Contractor. The Contractor shall immediately cease all operations in the immediate vicinity.

4. If the substance is unknown, the Contractor shall take no action to identify the substance until receiving written instructions from the Department to conduct tests necessary to identify the material.

5. The Contractor shall have tested those areas so directed by the Department, and shall test for the materials and products so directed by the Department.

6. All required sampling and testing shall be performed by an environmental engineer or hazardous materials manager, environmental specialist, qualified laboratory, or other person experienced in such work.

7. Once an unknown material has been identified and emergency response is concluded, the Contractor shall follow written instructions from the Department regarding removal, additional testing, transportation, or disposal of the regulated material, subject to the requirements as follows:

   a. Except for testing which the Contractor has been directed to perform, the Contractor shall not resume work in the vicinity of the hazardous condition or in such affected area until after the Department has obtained all required permits, approvals, notices of intent, or other submittals including, but not limited to, the following, as applicable:

      (1) Air emissions registration or permit.

      (2) Stormwater NPDES permit.

      (3) Sewer discharge permit/local POTW approval.

      (4) Regulated material characterization.

      (5) Treatment/disposal facility profiles and approvals.

      (6) Notification of hazardous waste activity as a generator and EPA identification number.

      (7) Submittal of a waste analysis plan to the EPA for treatment on-site in tanks and containers.

      (8) Hazardous waste permit for on-site treatment or storage of hazardous waste.

(9) Advanced notification to IDEM for asbestos removal.

b. The Department will have provided written notice to the Contractor which specifies that such hazardous condition and such affected area is, or has been, rendered safe for the resumption of work, or which specifies conditions under which work may be safely resumed.

Payment for all work relating to removal, testing, transportation, or disposal of such materials will be in accordance with 104.03 utilizing pay items in 202.14.

c. Adjustments, as warranted by the specific circumstances, will be made to the contract price, contract time, or both as a result of such work stoppage or such special conditions under which the Contractor agrees to resume work. Contract time will not be adjusted on completion date contracts.

d. The Department will be listed as the owner/generator on all regulated material manifests or documents.

e. If disposal is required for such materials, the Department will approve, in writing, the appropriate licensed disposal site.

f. The Department will retain title to all such regulated materials, which are being disposed.

8. Except as provided herein, the Contractor shall follow the construction requirements shown in 202.

104.07 Rights in and Use of Materials Found in the Project Site

Except for hazardous wastes, hazardous substances, hazardous materials, and asbestos which are subject to 104.06, and lead and zinc bridge painting debris which is subject to 619, all materials designated to be removed from the project and not used in the work shall become the property of the Contractor, unless otherwise set out in the Proposal book. The value of these materials shall be taken into account when the bid is being prepared.

Construction materials such as gravel, stone, or sand found in the excavation shall not be used for purposes other than indicated on the plans without written approval. When such approval is given, it shall state explicitly the provisions under which it is granted.

On all contracts involving construction within the corporate limits of cities and towns in which items such as drainage structure castings, or other items having a salvage value, are to be removed, the removed items shall remain the property of the governmental bodies involved if so specified in the Proposal book or on the plans. Otherwise, these items shall be disposed of in accordance with these Standard

Specifications. The cost of such disposal shall be included in the contract unit prices of the various pay items of the contract, unless otherwise provided.

If archaeological artifacts are encountered during excavation operations, these operations shall be ceased in the immediate vicinity and the Engineer shall be notified. An archaeologist will be provided by the Department and a determination will be made as to the significance and the disposition of such findings. In no event shall an employee of the Contractor or the State of Indiana share in such ownership, or profit from salvaged archaeological findings. Unless otherwise agreed to in writing, compliance with this requirement will not be paid for directly. The cost thereof shall be included in the cost of the pay items.

104.08 Final Clean-Up

Before acceptance and final payment, the right-of-way, borrow and disposal areas, and all ground occupied in connection with the work shall be cleaned of rubbish, excess materials, temporary buildings, structures, and equipment. Waterways shall be left unobstructed.

All property which may have been damaged in the prosecution of the work shall be restored in an acceptable manner. All parts of the work shall be left in a neat and presentable condition. All equipment shall be removed from the right-of-way.

Unless otherwise provided, all falsework, piling, concrete or timber mudsills, or similar material placed during construction and not required in the completed work, shall be removed entirely or cut off at least 2 ft (0.6 m) below the finished ground. Within a low water channel they may be removed or cut off even with the stream bed.

SECTION 105 – CONTROL OF WORK

105.01 Authority of the Engineer

The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work; which may arise as to the interpretation of the plans and specifications; and as to the acceptable fulfillment of the contract on the part of the Contractor.

The Engineer will have the authority to suspend the work wholly or in part for failure to carry out provisions of the contract; for failure to carry out orders; for such periods as may be deemed necessary due to unsuitable weather; for conditions considered unsuitable for prosecution of the work; or for any other condition or reason deemed to be in the public interest. In the case of such a suspension no additional payment will be made. Work shall not be suspended without written authority from the Engineer.

105.02 Plans and Working Drawings

Road plans shall show in detail structures of up to and including 20 ft (6.1 m) spans, lines, grades, typical cross sections of the improvement, and general cross sections. They may also show general features of bridges.

Bridge plans will show general plans and details of bridges. Supplementary bridge plans, shop details, erection and working drawings, falsework and centering plans,

cofferdam plans, or other detailed drawings as may be required and as in accordance with 711.05, shall be furnished. The approval of such drawings will relate only to the requirements for strength and detail. Such approval will not relieve the Contractor from responsibility for errors, adequacy or safety of falsework, cofferdams, or other temporary work.

Authorized alterations will be endorsed on approved plans or shown on supplementary sheets. All work done or material ordered prior to the approval of such plans and drawings shall be at the risk of the Contractor.

Plans required for approval and for construction purposes shall be submitted as soon as practicable after contract award, and shall be drawn on vellum or similar material suitable for reproducing copies of working drawings by the white print process. No direct payment will be made for such tracings. When detailed plans for falsework, cofferdams, or other detailed drawings are submitted for approval, they shall be signed by and bear the seal of a registered professional engineer.

105.03 Conformance with Plans and Specifications

All work performed, and all materials furnished shall be in reasonably close conformance with the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown on the plans or indicated in the specifications. Any deviation from the plans or specifications that may be required by the exigencies of construction will be determined by the Engineer and authorized in writing.

Plan dimensions and contract specifications values are to be considered as the target value to be strived for and complied with as the design value from which any deviations are allowed. It is the intent of the specifications that the materials and workmanship shall be uniform in character and shall conform as nearly as realistically possible to the prescribed target value or to the middle portion of the tolerance range. The purpose of the tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons. When a maximum or minimum value is specified, the production and processing of the material and the performance of the work shall not be preponderately of borderline quality or dimension.

When construction equipment, office equipment, production equipment, or testing equipment are specified in metric sizes, any such equipment that has been built to nearly equivalent English system dimensions will be accepted. When such equipment is specified in English system sizes, any such equipment that has been built to nearly equivalent metric sizes will be accepted.

If the Engineer finds the materials or the finished product in which the materials are used are not within reasonably close conformance with the plans and specifications but that reasonably acceptable work has been produced, the Engineer will determine if the work will be accepted and remain in place. In this event, the basis of acceptance will be documented by contract modification which will provide for an appropriate adjustment in the contract price for such work or materials as deemed necessary to conform to the determination based on engineering judgement.

If the Engineer finds the materials or the finished product in which the materials are used or the work performed are not in reasonably close conformance with the plans and specifications and have resulted in an inferior or unsatisfactory product, the work or materials shall be removed and replaced or otherwise corrected with no additional payment.

105.04 Coordination of Plans, Standard Specifications, Supplemental Specifications, and Special Provisions

These specifications, the supplemental specifications, the plans, special provisions, and all supplementary documents are essential parts of the contract. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; and the following relationships apply:

Instruction to Bidders and description of pay items listed in the Schedule of Pay Items	hold over:	Special Provisions Plans Supplemental Specifications Standard Specifications
Special Provisions	hold over:	Plans Supplemental Specifications Standard Specifications
Plans	hold over:	Supplemental Specifications Standard Specifications
Supplemental Specifications	hold over:	Standard Specifications

In case of discrepancy relative to other contract documents, the list of approved or Prequalified Materials will be regarded the same as supplemental specifications. Notes on the plans which are not also included in either the special provisions or among the general notes portion of the plans, and refer to payment, non-payment, or cost to be included in that of other pay items, will not govern over specifications. The precedence outlined herein shall not absolve the Contractor of its responsibility in accordance with 107.17.

Advantage shall not be taken of any apparent error or omission in the plans or specifications. In the event such an error or omission is discovered, the Engineer shall be notified immediately. Such corrections and interpretations as may be deemed necessary for fulfilling the intent of the plans and specifications will then be made.

105.05 Cooperation by Contractor

Four sets of approved plans and Proposal books will be furnished without charge. Two sets shall be available on the worksite at all times.

The work shall be given the constant attention necessary to facilitate the progress thereof. The Contractor shall cooperate with the Engineer, technicians, inspectors, and other contractors in every way possible.

Where new work is to be fitted to old work, the Contractor shall check all dimensions and conditions in the field prior to ordering material and assume responsibility for fit of new work to old.

The Contractor shall have available at all times, and on the work site when work is in progress, as its agent, a competent superintendent capable of reading and understanding the plans and specifications and experienced in the type of work being performed. The superintendent shall receive instructions from the Engineer or its authorized representatives and shall have full authority to execute orders or directions without delay. They shall promptly supply such materials, equipment, tools, labor, and incidentals as may be required. Such superintendence shall be furnished irrespective of the amount of work sublet.

105.06 Cooperation with Utilities

Prior to letting the contract, the Department will notify all known utility companies, all pipe line owners, or other parties affected. The Department will endeavor to have all necessary adjustments of the public or private utility fixtures, pipe lines, and other appurtenances within or adjacent to the limits of construction completed.

Water lines, gas lines, wire lines, service connections, water and gas meter boxes, water and gas valve boxes, light standards, cableways, signals, and all other utility appurtenances within the limits of the proposed construction which are to be relocated or adjusted are to be moved by the owners at their expense, except as otherwise provided for in the special provisions or as noted on the plans.

The plans show all known utilities located within the limits of the contract according to information obtained from the various utility companies. The accuracy of the plans in this respect is not guaranteed by the Department. All of the permanent and temporary utility appurtenances in their present or relocated positions shall have been considered in the bid.

If work by one or more utilities is contingent on work by the Contractor or another utility, the Contractor shall keep all parties informed of the status and estimated completion date for the advance work in order to give each utility as much notice as possible to schedule crews and material for their relocation work.

The contract documents in 107.25 identify each known utility and describe all known necessary work and an anticipated schedule for completion. However, if a utility fails to relocate or adjust their facilities as provided for in the contract documents and the Contractor sustains delays and/or losses that could not have been avoided by the Contractor’s judicious handling of forces, equipment, and plant or by reasonable revisions to the schedule of operations, and the Contractor has documented its utility coordination efforts and sustained delays and losses, and if the sustained delays and losses were not caused by the negligence of the Contractor, the Contractor may pursue

appropriate compensation from the documented offending party in accordance with Public Law 35-2005.

105.07 Cooperation Between Contractors

The Department may at any time contract for and perform other or additional work on or near the work covered by the contract.

When separate contracts are let within the limits of one project, each contractor shall conduct its work so as to not to unnecessarily interfere with or hinder the progress or completion of the work being performed by other contractors. Contractors working on the same project shall cooperate with each other as directed.

Each contractor involved shall assume all liability, financial or otherwise, in connection with its contract and shall protect and save harmless the Department from all damages or claims that may arise because of inconvenience, delay, or loss experienced by such contractor because of the presence and operations of other contractors working within the limits of the same project.

Work shall be arranged and the materials being used shall be placed and disposed of so as to not to interfere with the operations of the other contractors within the limits of the same project. Work shall be joined with that of the others in an acceptable manner. It shall be performed in proper sequence to that of the others.

105.08 Construction Stakes, Lines, and Grades

(a) Construction Engineering by the State

Unless otherwise provided, the Engineer will set construction stakes establishing lines, slopes, continuous profile-grade, centerline of roadway, centerline of piers and abutments, a bench mark adjacent to the work, and vertical control elevations for flow lines, footings, caps, bridge seats, screed elevations, etc. In addition, all necessary information will be furnished relating to lines, slopes, and grades. Using the control lines and grades as established, the Contractor shall be responsible for completing the layout and performing the work.

The Contractor shall be responsible for the accuracy of transfer from the control lines and grades and layout of the work. The Contractor shall notify the Engineer and the District Traffic Section to locate all existing underground traffic signal and lighting wiring. The District Traffic Section will only perform this locate service once per construction season per contract. The Contractor shall also be responsible for the preservation of all stakes and marks. If the construction stakes or marks are carelessly or willfully destroyed or disturbed by the Contractor or its employees, the cost to the Department for replacing them will be charged against the Contractor. Such costs will be deducted from payment for the work.

All stakes, templates, straight-edges, and other devices necessary for checking, marking, and maintaining points, lines, and grades shall be furnished with no additional payment.

The Department will be responsible for the accuracy of control lines and grades established by the Engineer. If there is an error in the establishment of the original construction or survey stakes set, and discovered after the work has been fully or partially completed in compliance with the erroneous stakes, payment for such additional work as may be required because of such error will be made at the contract unit price for the class of work involved.

(b) Construction Engineering by the Contractor

If set out as a pay item, the construction engineering, including all staking and layout usually done by the Department, shall be performed by the Contractor. Construction engineering shall include re-establishing the survey points and survey centerlines; referencing the necessary control points; running a level circuit to check or re-establish plan bench marks; running a level circuit to establish elevations on new bench mark tablets; setting stakes for right-of-way, culverts, slopes, subbase, underdrains, paving, subgrade, bridge piers, abutments, and all other stakes required for control lines and grades; and setting vertical control elevations, such as footings, caps, bridge seats, and screed elevations. Construction engineering shall also include documenting the underground wiring as located by the District Traffic Section.

The Contractor shall notify the District Traffic Section to locate all existing underground traffic signal and lighting wiring. The District Traffic Section will only perform this locate service once per construction season per contract. The required documentation shall be performed and a copy provided to the Engineer as soon as practical after the locations have been marked. Documentation which is not provided to the Engineer in a timely manner shall not be considered valid for the purpose of resolving conflicts related to the accuracy of the location markings. The documentation may be digital pictures, regular photos, or sketches of the areas marked. The documentation shall be such that the underground wiring can be easily and accurately re-established in the field by the Contractor, if needed.

The Contractor shall schedule its construction engineering operation, including staking, in a timely fashion so as to assist the utilities in the relocation/adjustment of their facilities as early as possible in the contract. All staking the Contractor is directed to perform to assist the utilities' relocation and which is considered to be in addition to the normal staking required, will be paid for in accordance with 104.03 or 109.03.

A complete cross section shall be taken at each 500 ft (150 m) interval. Horizontal control shall be checked at the beginning and ending of the mainline and all "S" lines. This information shall be used to verify that the planned alignment and elevations will match existing conditions. Required alignments and elevations will be shown on the plans. Prior to incorporating established grades, the Contractor will be required to determine that all other planned elevations are in accordance with field conditions. The profiling of existing pavements beyond tie-in points for proper ride, profiling of existing ditches for proper flow, and visual observations that driveways or sidewalks may be constructed satisfactorily, will be required. Interstate routes and other divided lane pavements shall be checked for the vertical clearance under structures to ensure that a minimum of 16 ft (4.9 m) is maintained over the traffic lanes and paved shoulder. Ramps which connect to the above type pavements shall provide the same clearance. All other pavements shall be checked for the vertical clearance under a structure to ensure that a

minimum of 14 ft (4.3 m) is maintained over the traffic lanes and paved shoulders. Grade transitions shall be tapered to meet the grade of the pavement under a structure a minimum of 100 ft (30 m) away from the structure and at a rate not to exceed 0.14%. All discrepancies shall be brought to the immediate attention of the Engineer. All changes in the design will be provided by the Department. Field adjustments that do not affect the design shall be made by the Contractor and the Engineer shall be notified. Adequate control stationing shall be maintained throughout the length of the project. At the end of the contract all survey control points that fall within the right-of-way shall be established. At the end of the contract, the Contractor shall provide the necessary centerline layout so that the final sections may be taken by the Department. The re-establishment of the centerline control points shown on the plans, right-of-way points used for fence or markers, and section corners shall be performed by a land surveyor who is registered in the State or by people under the direct supervision of said land surveyor, per the requirements of IAC Title 865 of the State Board of Registration for Land Surveyors Statutes and Rules.

Bench marks and elevations shall be established on new or rehabilitated bridges. The elevations shall be tied to the United States Geodetic Survey system providing there is an existing monument within a radius of 3 mi (5 km) of the bridge site. If a monument is not within this distance, the elevation of the new bench mark shall be established from the bench marks shown on the plans. Tablets will be furnished by the Department and shall be set in the new concrete at the locations directed. The Contractor shall document the elevation on the proper forms furnished by the Department. The forms shall be signed, sealed, and dated by a land surveyor or engineer who is registered in the State. The work shall be performed in accordance with Part 3 of the Department's Design Manual. Copies of the forms shall be provided to the Engineer for distribution.

All stakes, templates, straight-edges, and other devices necessary for checking, marking, and maintaining points, lines, and grades shall be furnished.

On a road contract, the level circuit to check the plan bench marks shall be run for the full length of the project. Intermediate bench marks shall be established approximately every 500 ft (150 m) through the project. On a bridge contract, the circuit shall include four plan bench marks, if available, two on each side of the structure.

Field notes shall be kept in hard covered bound field note books in a clear, orderly, and neat manner consistent with standard engineering practices and in accordance with the Department's prescribed note book procedure, including titles, number, and indexes. Such note books shall be furnished by the Contractor and shall adequately document all survey information. Copies of field notes shall be furnished to the Engineer upon request during the life of the contract. The original field notes shall become the property of the Department upon completion of the work. Such field notes shall be bound. All pages shall be numbered before submission to the Department.

After the grade stakes have been set for earthwork, an elevation on the top of each stake shall be taken. Such elevation shall be tied in to a permanent plan bench mark. Using this information in conjunction with the plans, a grade sheet shall be prepared. Grade sheets shall also be prepared for special ditches.

When staking culverts, the Contractor shall perform the necessary checking to establish the proper location, length, skew, and grade. Prior to culvert installation the Engineer will approve adjustments in the location, length, skew, and grade to fit best the conditions on the site. The Contractor will not be responsible to verify that the culvert is of adequate opening.

The Engineer will make all measurements and surveys that involve the determination of final pay quantities, including original and final cross sections for all earthwork. The accuracy of the construction engineering may be checked as necessary, but responsibility for the accuracy of engineering layout or the final result of construction accuracy will not be assumed. The staking by the Contractor shall be done similar to the standard procedure for Department engineering personnel. All inspection and testing will be performed by the Department personnel.

The supervision of the Contractor's construction engineering personnel shall be the responsibility of the Contractor. All errors resulting from the operations of such personnel shall be corrected with no additional payment.

The Contractor shall not engage, on full-time, part-time, or other basis during the contract time, professional or technical personnel who are or have been, during the contract time, in the employment of the Department, except regularly retired employees, without the written consent of the Commissioner.

Construction engineering as specified herein will be paid for at a contract lump sum price. The cost of furnishing all necessary personnel, equipment, and supplies to accomplish the work shall be included in the cost of this work. A change in plans or scope of work which causes the Contractor's construction engineering cost to increase or decrease by $500.00 or more per occurrence will be paid for or deducted from the original lump sum price bid for construction engineering. An amount of less than $500.00 per occurrence will not be considered for price adjustments.

(c) Production Staking by the Contractor

When specified, production staking shall be performed by the Contractor. Production staking shall include staking for finishing subgrade and placing subsurface drains, subbase, adjacent curbs or curbs and gutters, and all types of pavement, including base and surface. It shall also include the furnishing of all labor, equipment, and supplies except field books required to complete the work and the staking and re-staking involved in any authorized alteration of the plans or added work in the specified items. It does not include staking right-or-way, setting slope stakes, referencing points, and preparing grade sheets for rough grading. Rough grade staking will be performed by the Department.

Notes for production staking shall be prepared in standard field note books in a clear, orderly, and neat manner consistent with good engineering practices and in accordance with the Department's prescribed note book procedure. Notes shall be kept in a manner which can be checked readily and shall be available upon request. Grades and other information, which are obtainable from the plans, shall be computed and transcribed to the books. The Contractor shall be responsible for the accuracy of the transferral of the information to the finished work. Errors caused by inaccurate staking of grades and lines shall be corrected with no additional payment. The method of staking

will be subject to approval. Stakes shall be set and marked in a manner that will permit checking. Completed staking shall be preserved as long as required for inspection and checking of the work.

Standard field books will be furnished which will remain the property of the Department and shall be returned at the completion of the work. Point references, required bench mark data, and information which is not obtainable from a complete set of contract documents will be furnished. The Department will be responsible for errors in the plans or other information furnished for layout purposes. If an error is discovered after the work is fully or partially completed and the error is the result of erroneous information, payment will be made for additional required work at the contract unit price for the work involved.

Production staking will not be paid for directly. The cost thereof shall be included in the cost of the pay items involved.

105.09 Duties of Technician and Inspector

The technicians and inspectors employed by the Department are stationed on the work to:

(a) keep the Engineer informed as to the progress of the work and the manner in which it is being done;

(b) report whenever it appears that the materials furnished and the work performed fail to fulfill the requirements of the specifications and contract; and

(c) call to the attention of the Contractor, as the work progresses, all known deviations from, or infringement upon, the plans and specifications with respect to materials and workmanship.

Technicians and inspectors will be authorized to inspect all work done and materials furnished and to exercise such additional authority as may be delegated to them in writing. Such inspection may extend to all of the work done and material furnished. They shall have authority to reject defective materials and to suspend any work that is being improperly done, subject to the final decision of the Engineer.

Such inspection will not relieve the Contractor from any obligation to furnish acceptable materials or to perform all work strictly in accordance with the requirements of the plans and specifications.

Technicians and inspectors will not be authorized to revoke, alter, enlarge, relax, or release any requirements of the specifications; not to approve or accept any portion of the work; not to issue instructions contrary to the plans and specifications.

Technicians and inspectors will, in no case, act as foremen or perform other duties for the Contractor, nor interfere with the management of the work. Any advice which technicians and inspectors may give the Contractor will not be construed as binding the

Engineer or the Department in any way or as releasing the Contractor from the fulfillment of the terms of the contract.

105.10 Inspection of Work

All materials and each part or detail of the work will be subject to inspection. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance as is required to make a complete and detailed inspection. Such inspection may include preparation and manufacture of the materials at the plant.

At any time before acceptance of the work, such portions of the finished work shall be removed or uncovered as may be directed. After examination, said portions of the work shall be restored to the standard required by the specifications. If the work thus exposed or examined proves to be acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for in accordance with 109.05. If the work so exposed or examined proves to be unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be with no additional payment.

All work done or materials used without supervision or inspection by an authorized Department representative may be ordered removed and replaced with no additional payment unless the Department representative failed to inspect after having been given reasonable notice in writing that the work was to be performed.

When work covered by the contract is being done under an agreement with a unit of government or political subdivision, or a railroad corporation, its respective representatives shall have the right to inspect the work. Such inspection shall in no sense make such unit of government or political subdivision or such railroad corporation a party to the contract, and shall in no way interfere with the rights of either party hereunder.

105.11 Removal of Unacceptable and Unauthorized Work

All work which is not in accordance with the contract will be considered as unacceptable work, subject to conditions set out in 105.03.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner.

No work shall be done unless lines and grades have been given or approved. Work done contrary to instructions, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without authority will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced with no additional payment.

If the Contractor fails to comply forthwith with any order made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced; to cause unauthorized work to be removed; and to deduct the costs from any monies due or to become due.

105.12 Load Restrictions

Legal load restrictions shall be complied with on public roads beyond the limits of the project. A special permit will not relieve the Contractor of liability for damage which may result from the moving of equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or the roadway or to any other type of construction will not be permitted. No loads will be permitted on concrete pavement, concrete bases, or structures before the expiration of the curing period. The Contractor shall be responsible for all damage done by the Contractor, its employees, agents, or subcontractors.

This requirement will serve as written notice that hauling or handling of materials on completed or partially completed structures, pavement structures, or paved shoulders in excess of legal weight limits will not be permitted unless approved in advance of the operation. Approval shall be obtained from the authority having jurisdiction over the structures, pavement structures, or paved shoulders.

105.13 Maintenance During Construction

The work shall be maintained during construction and until the contract is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day with adequate equipment and forces to the end that the roadway, structures, barricades, and construction signs are kept in satisfactory condition at all times.

Once construction operations have begun within the project limits, and through traffic is required to be maintained, the Contractor shall repair areas as directed which require special maintenance. If the repair work is determined to be required during construction and is due to the Contractor's operations, the cost of such work shall be included in the cost of other pay items. If the areas of the roadway which require repair are due to use by the traveling public or the elements of nature, and are not the fault of the Contractor, the Contractor will be paid to repair those areas of the roadway. Such work will be paid for under the appropriate pay items or in accordance with 104.03.

If the contract includes work for the placing of a course upon a course or subgrade which the Contractor has constructed previously, such previous course or subgrade shall be maintained during all construction operations. The cost of maintaining this work shall be included in the cost of other pay items.

105.14 Failure to Maintain Roadway, Structures, Barricades, and Construction Signs

If the Contractor at any time fails to comply with the requirements of 105.13 and 107.12, it will immediately be notified of such non-compliance. If satisfactory maintenance is not furnished or unsatisfactory maintenance is not remedied within 24 h after receipt of such notice, the Engineer may order suspension of work and proceed to maintain the project, and all progress estimates will be withheld until the Contractor complies. The entire cost of this maintenance will be deducted from the money due or to become due on the contract. No additional contract time will be permitted.

The Contractor may be assessed damages for failure to maintain the required traffic control devices, except for construction warning lights, in accordance with 801.03. For each day, or portion thereof, during which a type of traffic control device is in non-compliance, damages will be assessed at a rate of $40.00 for each day, per non-compliant unit within a device. If the pay unit for a traffic control device is per day, the damage assessment will equal twice the unit price.

Non-compliance caused by events beyond the control of the Contractor may not be assessed damages. Immediate repairs shall be made to protect the traveling public.

Assessment of damages for non-compliance of construction warning lights will be in accordance with 801.14.

105.15 Acceptance and Final Inspection

(a) Partial Acceptance

The Contractor may request a final inspection and partial acceptance if:

1. a usable portion of the contract one mile or more in length is completed;

2. a portion of the contract designated therein as a project is completed; or

3. a portion of the contract physically and functionally separate from other work areas is completed.

If the inspection shows the completed portion to be satisfactory and in accordance with the contract, that portion may be accepted and the Contractor may be relieved of further responsibility. Such partial acceptance shall in no way void or alter any of the terms of the contract.

(b) Final Acceptance

When the Contractor gives notice of presumptive completion of the entire contract, an inspection will be made. If all construction provided for and contemplated by the contract is found completed satisfactorily, that inspection shall constitute the final inspection and the Contractor will be notified in writing of final acceptance. The date of final acceptance shall be the date the Contractor is relieved of further maintenance in accordance with 107.18 and as set out in the final acceptance letter. This date shall not be prior to the date of the final inspection or the date of last work. The date of last work will normally be the date the Contractor removes the last construction traffic control device.

If the work is not acceptable at the time of such inspection, the Contractor will be advised in writing as to the particular defects to be remedied before final acceptance. If, within a period of 10 days after such notice, steps have not been taken to complete the work speedily as outlined, the Department, acting through the Commissioner, may, without further notice and without in any way impairing the contract, make such other arrangements as may be necessary to have the work completed in a satisfactory manner.

The cost of so completing the work may be deducted from money due or which may become due the Contractor on the contract.

105.16 Claims for Adjustment and Disputes

If the Contractor deems that additional compensation will be due for work or material not clearly covered in the contract or not ordered as extra work, as defined herein, notification shall be made in writing of the intention to make claim for such additional compensation before the work is begun on which the Contractor bases the claim. If such notification is not given and the Engineer is not afforded proper facilities for keeping strict account of actual cost as required, no claim shall be made for such additional compensation. Such notice, and the fact that the cost as aforesaid has been accounted for, shall not be construed as proving or substantiating the validity to the claim. If the claim, after consideration, is found to be just, it will be paid as provided herein for force account work. Nothing in this subsection shall be construed as establishing a claim contrary to the terms as set out in 104.02.

105.17 Field Office

If a pay item for such is included in the contract, a field office, to be located as mutually agreed, shall be provided for the Department's exclusive use. If there is a building within the limits of the right-of-way that is suitable for a field office, is acceptable, and is scheduled to be removed under the terms of the contract, such building may be equipped and furnished as the field office. If the building is large enough to provide adequate space for a field laboratory, no additional payment will be allowed for a field laboratory as a separate pay item. A building within the right-of-way that is furnished under this specification shall be removed by the time all other pay items have been completed and prior to the date of the last work. Other facilities for the field office shall then be provided.

The field office shall be complete with all utility connections and equipment requirements in place by the start of work unless the Contractor notifies the Engineer in writing that this is not possible. If the Contractor is unable to provide the permanent field office prior to the start of the work, the Contractor and the Engineer shall agree on temporary field office arrangements including which furnishings are necessary, prior to the start of work. A temporary field office shall not be used for more than two months unless otherwise approved.

The office shall be of the type shown on the Schedule of Pay Items. The office shall have a solid level floor with no holes, weatherproof roof, be dust-proof, and wind-tight. It shall be provided with satisfactory lighting, heating, and air-conditioning equipment. It shall be able to sustain a uniform temperature between 68°F and 80°F (20°C and 26°C).

The trailer shall be securely supported by adequate blocking. The blocking shall provide a foundation to prevent settlement.

Each trailer shall be furnished with steps meeting IOSHA/OSHA requirements at each doorway.

The building or trailer furnished for a field office shall be in accordance with all applicable state and local codes and applicable IOSHA/OSHA requirements. The field office shall also contain the following equipment and be in accordance with the following requirements.

	Office Type		
	A	**B**	**C**
Minimum Area	400 sft (37 m^2)	550 sft (51 m^2)	650 sft (60 m^2)
Pencil Sharpener	Yes	Yes	Yes
Broom/Dust Pan	Yes	Yes	Yes
Six-hook Coat Rack	Yes	Yes	Yes
Toilet Facilities	Yes	Yes	Yes
Drinking Water	Yes	Yes	Yes
Fire Extinguishers	1	2	2
First-Aid Kit	1	1	1
Bloodborne Pathogen Kit	1	1	1
Smoke Detector	1	1	2
CO Detector (if applicable)	1	1	1
Doors	2	2	2
Windows	6	8	8
Lockable Storage Area	1	1	1
Shelving	16 lft (4.9 m)	20 lft (6.1 m)	24 lft (7.3 m)
Telephones	2	2	3
Answering Machine/voice mail	1	1	1
Telephones Lines	3	3	4
File Drawers	4	8	12
Desks	2	4	4
Office Folding Tables	1	2	2
Chairs	4	8	12
Drafting Tables	1	1	1
Drafting Stools	1	1	1
Trailer Tie-Down System	Yes	Yes	Yes
Electrical Outlets	Yes	Yes	Yes
Trash Disposal	Yes	Yes	Yes
Waste Paper Baskets	2	4	4
Supplies	Yes	Yes	Yes
Calculators	1	2	2
Copier	1	1	1
Fax Machine	1	1	1
Computers	1	1	2
Electrical Service	100 amp	100 amp	100 amp
Parking Spaces	Yes	Yes	Yes
Microwave Oven/Refrigerator	Yes	Yes	Yes

The office and the equipment shall be furnished in a condition satisfactory to the Department. All mechanical and electrical equipment shall be maintained in good working condition.

The minimum dimensions shall be 8 ft (2.4 m) wide, 7 ft (2.1 m) in height (from floor to ceiling), and have a floor area as specified in the Schedule of Pay Items. For a trailer, the calculation of minimum area will be based on the exterior box dimensions. The Contractor may request to furnish a field office with less than the specified area. If approved, a change order will be executed.

Hand-washing and toilet supplies shall be provided.

Potable drinking water with both hot and cold water capabilities shall be furnished. Drinking cups and paper towels shall be provided.

The fire extinguishers shall be a five-pound, Class ABC or higher rated and shall be maintained in a fully charged and operable condition. They shall be conspicuously located where they will be readily accessible and immediately available. They shall not be obstructed or obscured from view. They shall contain operating instructions and placed in such a manner that the extinguisher operating instructions face outward. Fire extinguishers shall meet all IOSHA/OSHA requirements.

The first-aid kit shall meet the requirements of ANSI Z308.1-1978.

If the field office is heated with fossil fuel, a carbon monoxide detector, in working condition, shall be furnished.

There shall be at least two doors and the appropriate number of windows as previously listed, not including windows that are part of the doors, on office trailers. Each door shall have a satisfactory lock. When the trailer is locked, one door must always be able to be opened from inside the trailer. If a padlock is used to secure the door, it shall be a high security type which is invulnerable to bolt cutters, hacksaws, hammers, or prybars. The padlock shall be mounted in such a manner that locking and unlocking the door is determined to be fast and convenient. Installation of additional hardware to protect the lock or multiple padlocks on the door will not be permitted. However, additional hardware to receive this type lock will be acceptable. The Contractor shall furnish the number of office keys as directed. The Department will maintain a list of all personnel who are given keys.

The windows shall be hinged or sliding and have a minimum area of 5 sft (0.45 m^2) each. Windows shall be provided with locks and satisfactory screens. All windows in the field office, including windows that are part of the doors, shall be covered. This covering may be shades, blinds, or other approved devices.

The office shall contain one lockable storage area suitable to store a nuclear gauge and shall have a minimum storage volume of 48 cu ft (1.3 m^3).

The shelving shall have a minimum width of 10 in. (250 mm).

At least one telephone shall be a cordless phone having a frequency of at least 900 MHz.

The automatic telephone answering machine/voice mail shall be capable of providing both a minimum one minute outgoing message and 30 minute total recording time for incoming calls. It shall have a remote operation feature, which may be used from push-button telephones to retrieve, replay, erase, and save messages.

All filing cabinet drawers shall have a filing depth of 25 in. (635 mm). At a minimum, the files shall be fire resistant steel filing cabinets with a class D or higher classification established by UL or Safe Manufacturers National Association. All files shall have a lock. At least four drawers shall be fire proof.

The desktops shall be at least 48 in. (1220 mm) wide and 25 in. (635 mm) deep. All desks shall contain at least two drawers, one of which shall be provided with a lock.

Each folding table shall be a minimum size of 30 in. x 60 in. (760 mm x 1520 mm).

There shall be a height adjustable chair with castors for each desk. The remaining chairs may be stackable or folding chairs.

The drafting table shall contain a tilt top work table for drafting purposes. Dimensions shall be at least 30 in. x 60 in. (760 mm x 1520 mm). The drafting stool shall be proportional to each drafting table.

The office shall have a minimum of one electrical outlet for each work station (desks, drafting tables, computer stations, etc.).

The Contractor shall be responsible to provide a place or container for trash to be deposited for removal by the Contractor.

Supplies to be furnished shall include all items required for proper operation of the required equipment. This includes, but is not limited to, operating manuals and paper supplies.

Calculators shall be electric powered and have a printer with a minimum 12-digit capacity.

All field offices shall be equipped with a table top dry ink copier machine using plain paper and capable of making full size copies of 11 in. x 17 in. (279 mm x 432 mm) originals. The copier shall be capable of reducing and increasing copy sizes. The copier shall have a self-feeding tray and be capable of producing at least 12 copies per minute.

The fax machine shall be kept in good working condition at all times. If the machine becomes inoperable, requires repair, or is stolen, it shall be repaired or replaced within three business days. The machine shall be provided with a telephone service line dedicated for its use. The machine shall be capable of the following:

a. load a minimum of 10 pages of documents into an automatic document feeder,

b. automatically dial a minimum of 25 preprogrammed fax numbers,

c. handle a document size of 8.5 in (216 mm) in width and 11 in. (279 mm) in length,

d. have the ability to page number,

e. have a standard resolution of 200 x 100, and detail resolution of 200 x 200 (the numbers may vary by ± 5),

f. have a transmission speed of 15 s at 9600 bps, on a 8.5 x 11 in. (216 x 279 mm) document with standard resolution,

g. have automatic reception,

h. have 16 shades of halftones,

i. have a transmit terminal identification and shall automatically add transmit terminal identification to all documents,

j. have the ability to produce reports as follows:

(1) error report,

(2) transaction confirmation report,

(3) transfer result report,

(4) transmission report, and

(5) program list

k. have a transmit and receive counter, a clock, and a monitor speaker,

l. be built in accordance with the international group standards CCITT G3, and

m. be equipped with a handset.

The fully operational multimedia microcomputer system shall include a microcomputer, keyboard, color monitor, and printer. The computer equipment shall be placed on a separate computer work station.

The computer shall be in accordance with the requirements shown below:

1. Desktop System.
   a. Microprocessor: Intel Pentium compatible, 166 MHz, or faster
   b. 32 MB RAM, or larger

c. At least one 1.44 MB 3.5 in. diskette drive. If more than one diskette drive is furnished, the A: drive shall be 1.44 MB 3.5 in.
d. One fixed disk (hard drive), minimum 1.2 GB
e. 6X CD ROM drive, or faster
f. Multimedia sound system with amplified audio speakers
g. An SVGA display adapter, 1Mb video ram minimum
h. MPEG-1 full motion, full screen video
i. A minimum of one serial port
j. One parallel port
k. One mouse port with a 2-button mouse and mouse pad
l. A 101 key enhanced keyboard
m. A 56k V.34 fax/modem board. Port COM2 shall be designated
n. Operating system shall be Windows 95 or Windows 98

2. SVGA Display.
   a. A 15 in. (380 mm) color display, or larger
   b. Graphics 1024 X 768
   c. Dot pitch 0.28 mm
   d. Non-interlaced
   e. A swivel stand

3. An inkjet printer shall be provided meeting or exceeding the following.
   a. HP compatible print codes
   b. Fully compatible with DOS programs. HP Deskjet 600 or 900 series. Other brand printers are acceptable if they are equal to the HP 600 or 900 series.
   c. If settings are required, the printer shall be set for letter quality 10 pitch, IBM extended graphic character set (ASCII 128 thru 255.)
   d. Parallel port interface and connecting cable supplied

4. Software.
   a. Paradox, VER 4.5 for DOS
   b. MS Excel for Windows 95 or newer
   c. MS Word for Windows 95 or newer
   d. McAfee antivirus software for Windows 95. This shall be the latest version and shall be fully installed, with Vshield option activated. The Department will provide periodic updates for the DT and associated files containing new virus names, etc. The Contractor may provide this service if it so desires.

5. Miscellaneous Requirements.
   a. Uninterruptible Power Supply (UPS) minimum 280VA/175W (15 minutes) with full time surge suppression and noise isolation, including RJ-11 connections for modem phone line surge protection. American Power Conversion (APC) model Back-UPS Pro 280 (APC part #BP280), or equivalent
   b. Glare Screen for 15 in. (380 mm) monitor
   c. Printer stand for supplied printer
   d. Dust covers for all equipment

e. Black ink cartridges and 8 1/2 in. by 11 in. sheet paper for inkjet printers shall be supplied and replenished as needed

f. A supplemental phone line in addition to the standard telephone line shall be installed and connected to the PC modem through the UPS surge protection described above. If a supplemental phone line is being installed to accommodate a fax machine, this same line may be used for joint fax and PC communications using a line splitter or other appropriate device.

The requirements shown herein shall be considered as minimum requirements. Equipment or software which exceeds these requirements may be furnished, except where DOS or Windows is specified.

All manuals necessary for operation of the system shall be provided. These shall include manuals for microcomputer operations, DOS and Windows operating system, monitor operation, printer operation and code references, and all other manuals or documentation normally furnished with the equipment or software when purchased.

The microcomputer system in the field office shall be installed, and maintained in good working order. If a portion of the system becomes defective, inoperative, damaged, or stolen, that portion shall be repaired or replaced within five business days, Mondays through Fridays, after the Contractor is notified of such situation.

The Department will be utilizing the hardware and software specified herein to run Construction Management System software applications. These applications are known to run on IBM and fully IBM compatible equipment. If the Department experiences problems running these applications due to requirement compatibility, the Contractor shall, within five business days, Mondays through Fridays, replace and set up appropriate equipment to ensure compatibility to the satisfaction of the Department.

The office shall have 120/240 voltage service with the minimum specified service and breaker amperage.

The office shall have a mutually agreed upon number of all-weather parking spaces. Such parking spaces shall be either paved or surfaced with compacted aggregate, size No. 53, or other acceptable materials.

The microwave oven shall have a minimum 1.0 cu ft capacity with a minimum 1100 watts and shall have digital controls.

The combination refrigerator/freezer shall have a minimum combined capacity of 12 cu ft.

105.18 Method of Measurement

Field office will be measured by the month for the specified type. Partial months will be rounded up to the next half or whole month. The Department will provide two weeks advanced notice of when the office will be vacated.

105.19 Basis of Payment

Field office will be paid for at the contract unit price per month, complete in place until released.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Field Office, _____ type	MOS

The cost of all heating, electrical, telephone, and other miscellaneous utility bills shall be included in the cost of the field office.

If a field office smaller that the specified type is approved, the change order unit price for the smaller field office will be equal to the contract unit price multiplied by the smaller floor area and divided by the specified floor area.

If a temporary field office is provided in accordance with 105.17, payment will be 65% of the unit price.

The cost of materials necessary for the all-weather parking surface shall be included in the cost of the field office.

SECTION 106 – CONTROL OF MATERIAL

106.01 Source of Supply and Quality Requirements

The Contractor shall furnish the Engineer a complete statement of the origin, composition, and manufacture of any or all materials to be used in the construction of the work at the Preconstruction Conference. If, during the course of the contract, changes or additions to the statement are required, the Contractor shall provide the information five calendar days prior to the source supplying materials to the project.

(a) Approved or Prequalified Materials

Certain materials and equipment require pre-approval by brand name or source of manufacture. The lists of approved materials, equipment and sources are maintained by the Department as provided in the specifications and may be obtained from the Contract Services Section. The Department will review all approved materials lists prior to January 1 of even numbered years. Unless otherwise provided, any item listed for three years prior to the review without being supplied to a contract will be removed from the list.

The materials used shall be those prescribed for the several items which constitute the finished work and shall comply with all the requirements for such materials in

accordance with this specification and 900. In any combination of materials, even though the individual components meet the specifications, such combination shall also meet the specifications and produce the required results. Failure to do so will be cause for rejection.

Approval of a material at its source will not necessarily constitute acceptance of materials from that source. All materials tested at the source may be subjected to further testing from production to after incorporation into the work. Approval will be based on the results of tests made nearest to incorporation into the work. Material tested prior to incorporation into the work and not in accordance with the requirements will be rejected. Material tested after incorporation into the work and not in accordance with the requirements will be governed by 105.03.

If a material from a source has a continued approval as shown by five or more consecutive tests, it may, if permitted, be put on an immediate usage basis and while on that basis may be incorporated into the work prior to the receipt of test results. If any subsequent test reveals non-conformance with the specifications, material from that source shall be removed at once from the immediate usage basis and shall not be used until tests indicate conformance. If, after any test showing non-conformance, five or more consecutive tests show conformance, the material may be restored to an immediate usage basis.

If a material on an immediate usage basis has been incorporated into the work and later is found as not being in accordance with the specifications, the Engineer may, in accordance with 105.03, require its removal from the work or permit it to remain. If permitted to remain, the appropriate contract unit price will be reduced.

All packaged materials shall be marked plainly showing the amount and nature of contents and shall be delivered intact.

(b) Material Records

The Engineer will prepare the material record from the documentation provided by the Contractor. The Engineer will submit the completed forms to the Contractor by the end of the fifth business day of each month for the preceding month. The Contractor shall distribute this information to the appropriate subcontractors as required. The Contractor shall review, sign, and return the material record to the Engineer by the 28th day of each month, along with documentation to support the Contractor's recommended adjustments to the record.

1. Documentation of Material Delivery

The Contractor shall provide a copy of each delivery ticket and certifications, if required, to the Engineer not later than the next business day. If providing this information on the next business day is not possible, the Contractor and the Engineer will agree upon other arrangements for the receipt of the necessary documentation prior to the event.

2. Delivery Ticket Information

The material delivery ticket shall include an itemized quantity of all materials delivered, the date of delivery, and the contract number. The material delivery ticket shall

document the source of supply and source code if known, and shall contain information necessary to obtain a basis for use as required by Department specifications. All required certifications shall be in accordance with 916 or as directed.

3. Payment Procedures

If the Contractor does not provide the necessary documentation for the materials, such materials will not be paid for. The Engineer will notify the Contractor of those materials held from the estimate with the justification for withholding payment. If corrective action has not been taken within six weeks of the materials delivery to the project site, the entire estimate payment may be withheld.

(c) Buy American Requirement

All contracts, whether financed entirely or partially with State or Federal funds, shall comply with IC 5-16-8 and the 23CFR 635.410.

Except for pig iron and processed, pelletized, and reduced iron ore, steel shall be made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer, or other steel making process. Except for pig iron and processed, pelletized, and reduced iron ore, all steel materials and products permanently incorporated in the contract shall be manufactured in the United States. Manufactured products include those which are rolled, formed, shaped, drawn extruded, forged, cast, or fabricated. The United States includes all territories, continental and insular, subject to the jurisdiction of the United States of America.

Except for pig iron and processed, pelletized, and reduced iron ore, no steel products produced in the United States may be modified in a foreign country and still comply with the Buy American Requirement.

A Buy American Certification shall be submitted in accordance with 916.02(g) and 916.03(a).

106.02 Samples, Tests, Cited Specifications

Such facilities as may be required for collecting and forwarding samples shall be provided and the materials represented by the samples shall be held until tests have been made and such materials found to have the qualities required in the specifications. All samples required and additional material required to replace samples shall be furnished without charge.

To facilitate the sampling and testing of materials, the Engineer shall promptly be advised when orders for materials are placed and when such materials are received. The quantity, source of supply, and the locations where the materials have been stored shall be included in the notice.

All tests of materials will be made in accordance with the methods described or designated in these specifications. When tests are made at places other than the laboratory, every needed facility shall be furnished for the verification of all scales, measures, and other devices which are used.

If the Contractor elects to supply materials other than structural steel and prestressed structural members which require on-site sampling or testing as they are manufactured in out-of-state manufacturing plants located more than 60 mi (100 km) outside a State line, the Contractor shall provide the sampling or testing services required. No additional payment will be made for such services. Such services shall be conducted by a Department-approved testing laboratory.

The standards for materials and methods of tests of AASHTO and ASTM or other specification referred to herein or elsewhere shall be the standard, interim, or tentative specifications included in the latest published edition which is on file on January 1, unless otherwise specified. Indiana Test Methods and Procedures will be designated as a test method by inserting a T in the ITM number or as a procedure by inserting a P in the ITM number. A test method will become effective immediately upon approval by the ITM Committee. A procedure will become effective on the next September 1, unless approved otherwise by the ITM Committee. In case of discrepancy, the following relationships apply:

Special Provisions	hold over:	ITM, AASHTO and ASTM or other specification for materials and methods of tests
ITM	hold over:	AASHTO and ASTM or other specification for materials and methods of tests
AASHTO	hold over:	ASTM or other specification for materials and methods of tests

An ITM is available on request at the Materials and Tests Division. Tests will be made by and at the expense of the Department unless otherwise specified. The minimum required number of samples and tests will be as set out in the Frequency Manual. Samples will be taken by or under the supervision of a representative of the Department. All materials being used are subject to inspection, test, or rejection at any time.

106.03 Plant Inspection

The Engineer may undertake the inspection of materials at the source.

If plant inspection is undertaken, the following conditions shall be met:

(a) The Engineer shall have the cooperation and assistance of the Contractor and the material supplier. All reasonable facilities to assist in determining whether the materials meet the requirements of the specifications shall be furnished without additional payment.

(b) The Engineer shall have entry at all times to such parts of the plant as may concern the manufacture or production of the materials being furnished.

(c) Adequate safety measures shall be provided and maintained.

106.04 Field Laboratory

If required for the contract work, a shelter or field laboratory consisting of a suitable building or trailer in which to house and use equipment necessary to carry on the required tests shall be provided. It shall be in accordance with 105.17, except for the telephone, adding machine, calculator, telephone answering machine, dry ink copier, and typewriter, and will be paid for as set out therein.

106.05 Storage of Materials

Storage of materials shall be such that will assure the preservation of their quality and fitness for the work. When considered necessary, materials shall be placed on raised, clean platforms, constructed of wood or other hard surfaced material and under cover. Stored materials shall be located to facilitate proper inspection. Materials to be used for all contracts shall be stored separately and intact and, after being tested for such work, shall not be used for other purposes except with permission unless otherwise approved.

The portion of the right-of-way not required for public travel may be used for storage purposes and for placing the Contractor's plant and equipment, subject to requirements set out in 107.08 and only by written request. Approval will be based on compliance with 107.08 and the Contractor's proposed procedure for re-establishing vegetation in the affected area to its original condition or better. Except as provided in 105.07 and except where necessary for drainage, if storage limits are shown on the plans, the right-of-way within such storage limits will be available for construction operations and storage of materials. Private property shall not be used for storage purposes without written permission of the owner or lessee. If requested, copies of such written permission shall be furnished. All storage sites shall be restored to their original condition with no additional payment. This shall not apply to the stripping and storing of topsoil, or to other materials salvaged from the work.

106.06 Handling of Materials

All materials shall be handled in such manner as to preserve their quality and fitness for the work.

106.07 Unacceptable Materials

All materials not in accordance with the specifications shall be considered as unacceptable and all such materials will be rejected and shall be removed immediately from the site of the work unless otherwise instructed. No rejected material, the defects of which have been corrected, shall be used until approval has been given.

If rejected materials are not removed within the time specified, the Department may order their removal with no additional payment, or complete the contract in accordance with 108.09.

106.08 Hazard Communication Program

The Contractor and all subcontractors will be required to furnish the Engineer with Material Safety Data Sheets for each hazardous material which each firm uses or stores on the project site for Department maintained roadways. Such sheets shall be generated by each hazardous material manufacturer and shall be in accordance with Indiana OSHA requirements.

106.09 Department Furnished Materials

The Contractor shall furnish all materials required to complete the work except those specified to be furnished by the Department. Materials furnished by the Department will be delivered or made available at the locations specified. The cost of handling and placing materials after they are delivered to the locations specified shall be included in the contract price for the item in connection with which they are used. The Contractor will be held responsible for all materials delivered. Deductions will be made from any monies due to the Contractor to make good all shortages or deficiencies and for all damage which might occur after delivery or for demurrage charges.

106.10 Proportioning Materials

All materials used shall be proportioned as specified for each type of work, kind of unit, or item of work required by the contract. No change in the source or kind of materials or blending of asphalt materials will be permitted during construction without written consent. Application for such permission shall be in writing, a material which is not in accordance with the quality requirements set out in these specifications shall not be blended with a better quality material to upgrade the end product.

Where not explicitly set out, the size and amount of aggregate as well as the grade and amount of asphalt material to be used shall be as ordered.

106.11 Sample Asbestos Exclusion Letter

Asbestos-containing materials shall not be used in the construction or reconstruction of buildings or bridges. A letter of exclusion for each building or bridge shall be submitted by the Contractor to the Engineer prior to acceptance of work and final payment. Such letter shall indicate that no asbestos-containing material was used as a building material during the project using the exclusion form in 916.03(f).

SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

107.01 Laws to be Observed

The Contractor shall keep fully informed of Federal and State laws; local laws; ordinances; and rules, regulations, orders, and decrees of bodies or tribunals having any jurisdiction or authority which in any manner affect those engaged or employed on the work or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, rules, regulations, orders, and decrees. The Contractor shall protect, indemnify, and exculpate the State and its representatives, in accordance with 107.17, against civil claim or civil liabilities arising from or based on the violation of such law, ordinance, rule, regulation, order, or decree, whether by itself or its employees, even if such violation is due wholly or in part to violation of said law, ordinance, rule, regulation, order, or decree by the State or its representatives.

Certain counties in the State are considered by the United States Department of Agriculture to be generally infested with various harmful pest such as, but not limited to, various types of beetles. In an effort to prevent these pests from being spread by shipments of infested materials, quarantines have been imposed. Under the regulations, materials and equipment that may be infested must be treated before they are moved from an infested area. Such items as hay, straw, fodder, small grains, corn, sod, earth moving

equipment, and other articles that might be infested are subject to these regulations. All State, Federal, and local regulations and quarantines pertaining thereto shall be observed. No additional allowance or compensation will be made for any delay or inconvenience incurred conforming to such requirements, but the cost thereof shall be included in the various pay items.

It shall be a condition of each contract let for the construction of a State maintained highway or bridge, financed entirely with state funds that all unskilled laborers employed on such work shall be residents of the county or counties in which such highway or bridge is being constructed, if such labor is available. The Department will designate the class of labor which is unskilled. This provision will not apply to any contract on which federal funds are to be used.

The Contractor and its subcontractors shall not discriminate against an employee or applicant for employment to be employed in the performance of any contract with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, sex, disability, religion, national origin, or ancestry. Breach of this covenant may be registered as a material breach of the contract.

Water wells or test wells to be drilled shall be in strict accordance with the Indiana Code. Such wells shall be drilled only by a water well driller licensed in the State. A copy of the driller's license shall be furnished prior to commencement of work.

The Contractor may hire only citizens and nationals of the United States, and aliens authorized to work in the United States. The Contractor shall verify the identity and employment eligibility of all employees, in accordance with the Immigration and Nationality Act.

Maintaining a drug-free workplace will be required in accordance with Executive Order 90-5, as follows:

(a) The Contractor shall agree to make a good faith effort to provide and maintain a drug-free workplace during the contract time. It shall give written notice to the Department within 10 days after receiving actual notice that an employee of the Contractor has been convicted of a criminal drug violation occurring on the project site.

(b) If the total bid amount shown in the Schedule of Pay Items is in excess of $25,000.00, the Contractor shall further agree that the contract is expressly subject to the terms, conditions, and representations contained in the Drug-Free Workplace certification executed by the Contractor in conjunction with the contract, and which is included in the Proposal book.

(c) The failure of the Contractor to comply in good faith with the terms of (a) above, or falsifying or otherwise violating the terms of the certification referenced in (b) above, shall constitute a material breach of the contract. Such failure shall entitle the Department to impose sanctions against the Contractor including, but not limited to, suspension of contract payments,

termination of the contact, or debarment of the Contractor from doing further work for the Department for up to three years.

107.02 Permits, Licenses, and Taxes

All permits and licenses which may be required due to construction methods such as, but not limited to, borrow or disposal pits, stream crossings, causeways, work bridges, cofferdams, etc., but which are not part of the contract documents shall be procured by the Contractor prior to beginning the work which requires the permit. All charges, fees, and taxes shall be paid. All notices necessary and incidental to the due and lawful prosecution of the work shall be given.

The Department is exempt from State, Federal, and local taxes and will not be responsible for any taxes levied on the Contractor as a result of the contract.

The Department may have acquired environmental permits, including, but not limited to, U.S. Army Corps of Engineers Permit, IDNR Certificate of Approval of Construction in a Floodway, IDEM Section 401 Water Quality Certification, or a permit for construction of temporary pavement across a state line. If the Department has acquired one or more of such permits, the restrictions or conditions which were issued with such permits will be included in the Contract Information book. The Contractor shall prosecute the work in accordance with all such restrictions or conditions.

107.03 Patented Devices, Materials, and Processes

If a design, device, material, or process covered by letters of patent or copyright is employed by the Contractor, such use by suitable legal agreement with the patentee or owner shall be provided. The Contractor and the surety shall indemnify and save harmless the State, affected third party, or political subdivision from all claims for infringement by reason of the use of such patented design, device, material, process, trademark, or copyright. The State shall be indemnified for costs, expenses, and damages which it may be obliged to pay by reason of infringement during the prosecution or after the completion of the work.

107.04 Restoration of Surfaces Opened by Permit

The right to construct or reconstruct utility service in the highway or street or to grant permits for same is hereby expressly reserved by the Department for the proper authorities of the municipality in which the work is done.

An individual, firm, or corporation wishing to make an opening in the highway shall obtain a permit from the Department. Parties bearing such permits, and only those parties, will be allowed to perform work on the right-of-way.

107.05 Federal Aid Provisions

When the United States Government pays all or a portion of the cost of a project, the Federal laws and the rules and regulations made pursuant to such laws shall be observed. The work shall be subject to inspection by the appropriate Federal agency. Such inspection will in no sense make the Federal Government a party to the contract and will in no way interfere with the rights of any party.

The U.S. Department of Labor has designated the Administrator of the Wage and Hour and Public Contracts Division to conduct investigations with the compliance and enforcement of labor standards. However, the administration and enforcement of labor standards remain the responsibility of the U.S. Department of Transportation.

107.06 Equal Employment Opportunity Trainees

Equal Employment Opportunity trainees will be required if the Equal Employment Opportunity Trainees hours are shown in the Proposal book. The number of trainees required will be one trainee for each 1,000 h shown.

As part of the Contractor's equal opportunity affirmative action program, training shall be provided as on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

If the Contractor subcontracts a portion of the work, it shall determine as to how many, if any, of the trainees are to be trained by the subcontractors, provided, however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed herein. The Contractor shall also ensure that these requirements are made applicable to such subcontract. Where feasible, 25% of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the Department for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee employed on the contract work who is currently enrolled or becomes enrolled in an approved program.

Training and upgrading of minorities and women toward journeymen status is the primary objective. Accordingly, the Contractor shall make every effort to enroll minority and women trainees, for example, by conducting systematic and direct recruitment through public and private sources likely to yield such minority and women trainees to the extent that such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this provision. This training commitment is not intended, and shall not be used, to discriminate against an applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in a classification in which he or she has successfully completed a training course leading to journeyman status or in which he or she has been employed as a journeyman. The Contractor shall satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records shall document its findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the

Department. The Department and the FHWA will approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the requirement for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by such Bureau, and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided they are being administered in a manner consistent with the equal employment obligations of the contract. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. Training shall be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training programs for other than traditional training programs may be submitted for consideration where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Department. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

It is normally expected that a trainee shall begin his or her training on the project as soon as feasible after start of work utilizing the skill involved and shall remain on the project as long as training opportunities exist in his or her work classification or until he or she has completed the training program. It is not required that all trainees be on board for the entire contract time. The Contractor shall have fulfilled its responsibilities if it has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60% of the appropriate minimum journeyman's rate paid by the Contractor for the first half of the training period, 75% for the third quarter of the training period, and 90% for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on the project. In that case, the appropriate rates approved by the United States Department of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this specification. However, the salary shall never be less than specified in IC 8-23-9-22.

The trainee shall be furnished a copy of the program to be followed in providing the training. Each trainee shall be provided with a certification showing the type and length of training satisfactorily completed.

The maintenance of records and the furnishing of periodic reports documenting its performance shall be in accordance with these requirements.

107.07 Sanitary Conditions Requirements

Accommodations for the use of employees shall be provided and maintained in a neat sanitary condition as may be necessary to comply with the requirements of the Federal, State, and local Boards of Health, or of other bodies or tribunals having jurisdiction.

107.08 Public Convenience and Safety

All safeguards, safety devices, and protective equipment shall be provided. Responsibility reasonably necessary to protect the lives of employees on the job, the safety of the public, and property in connection with the performance of the work, shall be taken.

(a) Employee Safety

If a trench, 5 ft (1.5 m) or more in depth, is constructed on a project, the requirements for trench safety systems as specified in OSHA regulations 29 CFR 1926, Subpart P, shall be performed. Unless otherwise specified, trench safety systems work will not be paid for separately, but the cost thereof shall be included in the cost of the pay item covering the trench excavation work.

(b) Dust and Air Pollution

Provision shall be made for prompt removal from traveled roadways of all dirt and other materials that have been deposited thereon by operations concerned with the project whenever the accumulation is sufficient to cause the formation of dust or mud, interfere with drainage, damage pavements, or create a traffic hazard. Construction methods and means shall be employed to keep flying dust and air pollution to a minimum. Provision shall be made for the control of dust on the project and on roads, streets, and other areas affected by the project wherever traffic or buildings, or construction materials are affected by such dust. The materials and methods used for dust control shall be subject to approval. The cost of controlling dust and air pollution shall be included in the cost of other pay items and no additional payment will be made.

(c) Protection to Traffic

The work shall be arranged so that all operations on the pavement will be held to a minimum by using the new grade insofar as possible. The work shall be conducted in a manner that will ensure the least obstruction to traffic. Materials stored on the right-of-way shall be placed so as to cause only such inconvenience to the traveling public and residents as is considered unavoidable. Non-operating construction equipment, worker's vehicles, materials, field offices, field laboratories, and temporary offices may be stored on the right-of-way no less than 30 ft (9 m) from the edge of pavement lanes open to traffic except, storage may be permitted closer to such lanes if traffic is protected by guardrail in good condition or other suitable barrier. However, if the area has a posted speed limit of 40 mph or less prior to the start of construction, this distance may be reduced to 10 ft (3 m), if approved.

Temporary crossings and approaches in passable condition shall be provided and maintained as shown on the plans and in accordance with 104.04, with no additional payment.

(d) Notice to Local Public Officials

On construction work, the chief administrative officer of the local governmental unit shall be given 24 h notice, in writing, before it becomes necessary to blockade a cross street.

If it is desired to use water from public hydrants, application shall be made to the proper authorities and in accordance with the city ordinances, rules, and regulations concerning their use. Fire hydrants shall be accessible at all times to the fire department. No material or other obstruction shall be placed closer to a fire hydrant than permitted by ordinances, rules, or regulations, or within 5 ft (1.5 m) of a fire hydrant in the absence of such ordinances, rules, or regulations.

The local governmental agencies for each jurisdiction in the State have the legal authority to establish load limits on their roads. Prior to submitting a bid, each bidder shall contact the local governmental agency in which the use of roads is contemplated and confirm allowable routing of bidder's equipment.

(e) Convenience to Traffic and Property Owners

Frontage roads, public roads, and private and mailbox approaches which are disturbed shall be reconstructed as soon as possible to avoid unreasonable inconvenience to traffic and adjacent property owners.

The grading of all approaches and frontage roads shall be completed and the drainage structures shall be placed concurrently with the roadway excavation and embankment construction except as directed or permitted. It is the general intent to construct frontage roads, public roads, and private drive approaches, including at least the grading, structures, and base course, as soon as possible to minimize inconvenience to the abutting property owners when their access to existing outlets is being cut off by the construction.

If postponement of the above construction causes unreasonable inconvenience to traffic and adjacent property owners, the Contractor shall construct an adequate, approved, temporary surface on all such frontage roads, public roads, and private approaches with no additional payment. All cost thereof shall be considered as included in the various pay items of the contract.

If the contract involves widening, one-lane traffic shall be maintained across all public, private, and commercial approaches either by leaving gaps in the widening or by use of temporary crossing bridges.

107.09 Railroad-Highway Requirements

Whenever it is necessary or required for personnel or construction equipment to be on operating railroad right-of-way, all necessary arrangements shall be made with the railroad company regarding a temporary or existing railroad grade crossing for this purpose. Such railroad grade crossing shall be in accordance with these specifications and shall meet all requirements of the railroad company. All cost involved in establishing the crossing shall be included in the contract price for various pay items and will not be paid for directly.

All work on the railroad right-of-way shall be performed at such times and so as not to interfere unnecessarily with the movement of trains or traffic upon the tracks of the railroad company. All care and precautions shall be used in order to avoid accidents, damage, or unnecessary delay or interference with the trains or other property of the railroad company.

When necessary, adjacent structures, embankments, and tracks of the railroad company shall be protected and shored adequately. The Contractor shall assume all risks and liability for damage done to such property as a result of its operations or negligence. No method of work which affects the tracks, movement of trains, or other operations of the railroad shall be used without the approval of the railroad company.

When bridge deck work is being performed over railroad property, including tracks and wires, and the bridge floor slab is penetrated, the work shall be stopped in the area of the penetration. Both the Engineer and the railroad company shall be notified. The railroad property shall be protected as approved before resuming work.

(a) Protection of Track Ballast

Operations shall be conducted both on and off railroad right-of-way so that earth, mud, silt, or other foreign matter shall not be allowed to foul railroad track ballast. Temporary earth dikes, sheeting, tie cribbing, silt fences, or other precautions to prevent the fouling of railroad track ballast shall be installed as directed.

Where demolition work, concreting, or hauling along or across tracks, in the opinion of the railroad company, will result in ballast becoming fouled, preventive measures shall be taken to protect the entire ballast section. This may be accomplished by nailing canvas, plywood, or similar material to the ties in the entire area likely to be affected. This protective material shall remain in place until there is no further possibility of fouling the ballast. At that time it shall be removed.

These protective measures shall be performed with no additional payment under the supervision and to the satisfaction of the chief engineer of the railroad company or its authorized representative. The railroad company will assume no responsibility for the adequacy of the protective measures. However, in addition to the aforementioned protective measures, if the railroad track ballast does become fouled, the railroad company, with its own forces, will remove the fouled ballast and replace it with clean ballast. The charges for this work will be billed by the railroad company against the Contractor.

(b) Hold Harmless Clause

The Contractor shall indemnify and save harmless the Railroad Company and the State from all suits, actions, or claims of any character brought for or on account of any injuries or damages received or sustained by any person, persons or property from the acts of the Contractor or its forces, or in consequence of any neglect in safeguarding the work, or on account of any claims or amounts recovered for any material furnished or labor performed, or for any infringement of patent, trademark or copyright, or any claims arising or amount recovered under the Worker's Compensation Laws, Federal Employer's Liability Act, or under any other laws, by-laws, ordinances, orders or decrees.

107.10 Blank

107.11 Bridges over Navigable Waters

All work on navigable waters shall be so conducted as not to interfere with free navigation of the waterways nor to impair the existing navigable depths. Exceptions may be allowed by permit issued by the authority having jurisdiction over the navigable waters.

107.12 Traffic Control Devices

All necessary barricades, suitable and sufficient lights, danger signals, signs, and other traffic control devices shall be provided, erected, and maintained. All necessary precautions shall be taken for the protection of the work and safety of the public. Highways closed to traffic shall be protected by effective barricades. Obstructions shall be illuminated during hours of darkness. Suitable warning signs shall be provided to control and direct traffic. All construction vehicles and equipment shall have amber lights in accordance with 801.14(d) when in the work area and located on the pavement, sidewalk, or shoulder with the road open to traffic. Vehicles delivering materials to the job site, if displaying headlights, clearance lights and hazard warning lights which are in compliance with Indiana statutes, shall be exempt from this requirement.

Warning signs shall be erected in advance of any location on the project where operations may interfere with the use of the road by traffic and at all intermediate points where the new work crosses or coincides with an existing road. Such warning signs shall be constructed and erected in accordance with the plans. Temporary pavement markings, when required, shall be placed in accordance with 801.12 or as directed.

Barricades, warning signs, lights, signals, markings, and other protective devices shall be in accordance with the plans and the MUTCD current on the date of advertisement for bids.

All signs, barricades, and other protective devices shall be maintained in good condition and in accordance with 105.14, 801, and 802. Barricades and the backgrounds and messages of all signs shall be kept clean and bright. They shall be renewed or replaced as often as necessary to keep them effective. Failure to maintain these devices may result in the assessment of damages in accordance with 105.14 and 801.14.

Pavements and shoulders having an edge drop of more than 3 in. (75 mm) shall be delineated with drums in accordance with 801.09. Delineation shall be at a maximum spacing of 200 ft (60 m). The use of cones in accordance with 801.08 will be permitted during daylight hours in lieu of drums.

At least seven days before a road is to be closed to traffic, notification shall be given of such intention. Detour route marker assemblies shall be erected and maintained along the detour route designated by the Department. Barricades shall not be erected nor the traffic interfered with until the posted detour or the temporary runaround is approved.

If it is necessary to close a road for the purpose of replacing a drainage structure, the road shall not be closed until the pipe structure is at the project site.

Sufficient barricades, supplemented by watchers or flaggers when necessary, shall be provided continuously to protect any and all parts of the work and to promote safe and

orderly movement of traffic. When a road is closed or posted for official detour but is still usable by local traffic, barricades and road closure sign assemblies, in addition to the closure barricades, required at the beginning and end of the portion of such road being detoured, shall be erected at the site of bridge removals, pipe removals, or other high hazard locations. Such barricades shall be located within 150 ft (50 m) of the removal location. These barricades shall be of the type shown on the plans, and in accordance with 801.07. Such barricades shall extend from shoulder to shoulder, or to the limit of area that is readily traversable by a motor vehicle, as directed. During non-working hours, no opening shall exist in the barricades. The road closure sign assembly shall be placed at or near the center of the roadway. If these requirements are violated, operations shall be suspended until adequate measures are taken for full compliance. Flaggers or watchers shall wear a flagger's vest while directing traffic. Official law enforcement officers in uniform will not be required to wear a vest. The vest shall be furnished and be made of a durable fluorescent material, flame orange color, with two vertical reflective stripes on both the front and back. It shall be kept clean and provide maximum visibility at all times. The use of hand signaling flags will not be permitted except for emergency and single flagger situations. The "Stop"/"Slow" paddle shall be required as a primary hand signaling device to control traffic through work areas. The "Stop"/"Slow" paddle shall be in accordance with section 6E.03 of the MUTCD, except it shall be at least 24 in. (610 mm) wide.

Unless otherwise specified, sufficient watchers shall be furnished and be on duty 24 h a day during the time widening or patching is in progress. These workers shall have adequate transportation facilities to patrol the entire portion under construction. They shall maintain the signs, barricades, and lights at all times for the safety of pedestrian and vehicular traffic.

107.13 Use of Explosives

When the use of explosives is necessary for the prosecution of the work, the utmost care shall be exercised not to endanger life or property, including new work. The Contractor shall be responsible for all damage resulting from the use explosives.

All explosives shall be stored in a secure manner in accordance with all laws and ordinances. All such storage places shall be clearly marked in large black letters on a red background "Dangerous Explosives". Where no local laws or ordinances apply, satisfactory storage shall be provided no closer than 1,000 ft (305 m) from the road or from a building or camping area or place of human occupancy. Detonators shall not be stored with explosives.

Each public utility company having structures in proximity to the site of the work shall be notified of intentions to use explosives. Such notice shall be given sufficiently in advance to enable the companies to take such steps necessary to protect their property from injury. The notification shall in no way relieve responsibility for damage to the structures.

107.14 Protection and Restoration of Property and Landscape

Private property shall not be entered for any purpose in connection with the work, without first obtaining proper permission. The Contractor shall be responsible for the preservation of all public and private property. All land monuments and property marks

shall carefully be protected from disturbance or damage until the Engineer has witnessed or otherwise referenced their location and approved their removal. All areas on the right-of-way that are used for storage of any kind shall be restored to their original condition, or to that set out in the Proposal book, when no longer required for that purpose.

The Contractor shall be responsible for damage or injury to property resulting from defective work or materials and from any act, omission, or misconduct in its manner or method of executing the work. When direct or indirect damage or injury is done, such property shall be restored with no additional payment to a condition similar or equal to that existing before such damage or injury, or such damage or injury shall be made good in an acceptable manner.

Construction equipment shall not be stored in wetland replacement sites shown on the plans. Such sites shall not be used for purposes other than for the creation of wetlands.

On those portions of the project where fence is required on the right-of-way, the required permanent fence shall be erected and maintained at locations where the property owner desires to use the adjacent area for pasturage or livestock. If the permanent fence has not been erected by the time the adjacent property owner desires to use such pasturage, a temporary fence shall be erected and maintained. The fence shall be sufficient to prevent encroachment of livestock onto the right-of-way until the permanent fence is erected.

At locations involving temporary right-of-way where it is necessary to remove existing fence, unless otherwise directed, a temporary fence shall be erected and maintained along the temporary right-of-way. The fence shall be sufficient to prevent encroachment of livestock on the right-of-way. Except when included as a bid item in the contract, temporary fence will not be measured and paid for directly, but will be included in the cost of various pay items.

On those portions of the project where a fence is not required, but the removal of an existing fence from the right-of-way is required, the property owner, and tenant, if any, must be notified at least 10 days before the fence is removed from the right-of-way.

107.15 Erosion Control Plan and Proof of Publication

The Department will prepare the necessary information to initiate the submittal requirement of 327 IAC 15-5. The Contractor shall supply all remaining requirements of 327 IAC 15-5 in accordance with 108.03.

The Department will prepare a preliminary Erosion Control Plan as required by 327 IAC 15-5 and will submit it to the appropriate Soil and Water Conservation District.

No construction activity shall begin until the Notice of Intent is filed by the Department. The Engineer will notify the Contractor of such filing.

107.16 Forest Protection

In carrying out work within or adjacent to State or National Forests and other wooded areas, the Contractor shall comply with all regulations or the State Fire Marshal, Natural Resources Commission, Forestry Department, or other authority having jurisdiction, governing the protection of forests and the carrying out of work within forests. The Contractor shall observe all sanitary laws and regulations with respect to the performance of work in forest areas. The Contractor shall keep the areas in an orderly condition, dispose of all refuse, and obtain permits for the construction and maintenance of all construction camps, stores, warehouses, residences, latrines, cesspools, septic tanks, and other structures in accordance with the requirements of the forest supervisor.

Reasonable precautions shall be taken to prevent and suppress forest fires. The Contractor's employees and subcontractors shall be required, both independently and at the request of forest officials, to do all reasonably within their power to prevent and suppress and to assist in preventing and suppressing forest fires and to make every possible effort to notify a forest official at the earliest possible moment of the location and extent of all fires seen by them.

107.17 Responsibility for Damage Claims

The Contractor shall indemnify, defend, exculpate, and hold harmless the State of Indiana, its officials and employees from all liability due to loss, damage, injuries, or other casualties of whatsoever kind, or by whomsoever caused, to the person or property of anyone on or off the right-of-way arising out of or resulting from the performance of the contract or from the installation, existence, use, maintenance, condition, repairs, alteration, or removal of any equipment or material, whether due in whole or in part to the negligent acts or omissions.

(a) of the State, its officials, agents, or employees;

(b) of the Contractor, its agents or employees, or other persons engaged in the performance of the contract;

(c) the joint negligence of any of them, including any claim arising out of the Worker's Compensation law or any other law, ordinance, order, or decree.

The Contractor also agrees to pay all reasonable expenses and attorney's fees incurred by or imposed on the State in connection herewith in the event that the Contractor shall default under the provisions of this section. As much of the money due the Contractor under and by virtue of its contract as the Department may consider necessary for such purpose may be retained for the use of the State. If no money is due, the Contractor's surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Department. Money due will not be withheld when the Contractor produces satisfactory evidence that it is protected adequately by public liability and property damage insurance. The obligation of the Contractor under this section and 107.01 shall not extend to the indemnification or exculpation against claims arising out of the preparation or approval of plans, specifications, or special provisions unless furnished by the Contractor.

It is specifically agreed between the parties executing the contract that it is not intended by the provisions of any part of the contract to create the public or any member thereof a third party beneficiary hereunder, or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

107.18 Opening Sections of Project to Traffic

Shoulders shall be graded and shaped to assure reasonable safety to traffic before opening any completed pavement to traffic.

Work which is in suitable condition for travel, or any portion thereof, shall be opened to traffic as directed. Such opening shall not be construed as acceptance of the work or any part thereof, or as a waiver of any of the provisions of the contract.

When it is desirable to open a structure or portion of a highway to traffic, such opening shall be delayed until traffic will cause no injury to completed portions of the work. When opening to traffic is required or permitted, the Contractor shall make provisions for the safety of the public as specified or directed. Opening to traffic will not relieve the Contractor of its liability and responsibility during the period the work is so opened prior to final acceptance.

When a contract time has expired, the Contractor shall be responsible for all damage resulting from traffic and any other cause occurring on the incomplete portions of the project, whether these portions have been opened to traffic by order of the Department or not.

On those portions of an incomplete contract that have been ordered opened to traffic or are constructed under traffic and the contract time has not yet expired, the Department will assume the responsibility for repairs of damages resulting directly from traffic, except as set out in 402.12 and 801.18, provided that such damage is not the direct or indirect result of the operations of the Contractor and provided the Contractor is unable to collect damages from the responsible party or parties.

Ordered repairs for damage for which the Department assumes responsibility will be paid for at the contract unit price for the item involved in making the repairs, where such items are applicable.

Opening a portion of a project to traffic does not preclude the responsibility of the Contractor for providing necessary safety measures, as required in these Standard Specifications, to protect persons using the highway.

107.19 Contractor's Responsibility for Work

Until the date the Contractor is relieved of further maintenance as stated in the final written acceptance of the project, or portion thereof in accordance with 105.15, the Contractor shall have the charge and care thereof. The Contractor shall be responsible for injury or damage to any part thereof, by the action of the elements or from any other cause except as set out in 107.18, whether arising from the execution or from the non-execution of the work. All portions of the work occasioned by the above causes shall be rebuilt, repaired, and restored. All injuries or damages shall be made good before final

acceptance. The Contractor shall bear the expense thereof except as otherwise provided in these specifications or otherwise determined.

In case of suspension of work, the Contractor shall be responsible for the contract work and shall take such precautions as may be necessary to prevent damage to the contract work. Normal drainage shall be provided, and all necessary temporary structures, signs, or other facilities shall be erected with no additional payment. During such period of suspension of work, newly established plantings, seedlings, and soddings furnished under the contract shall be properly and continuously maintained in an acceptable growing condition.

107.20 Contractor's Responsibility for Utility Property and Services

At points where the Contractor's operations are adjacent to properties of railroad, telegraph, telephone, and power companies or are adjacent to other property, damage to which might result in considerable expenses, loss, or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

The Contractor shall coordinate and cooperate with the owners of all underground or overhead utility lines in their removal and relocation operations in order that this work may progress in a reasonable manner, that duplication of relocation work may be reduced to a minimum, and that services rendered by those parties are not unnecessarily interrupted.

If it is necessary to place pipes or conduits through structures, sheet metal sleeves shall be provided around the pipe or conduit to make a sliding joint or provide suitable openings as required, with no additional payment.

If there is an interruption to water or utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority, and shall cooperate with the said authority in the restoration of service. If water service is interrupted, repair work shall be continuous until the service is restored. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

The Contractor shall establish and maintain open communication with each utility affected by the construction and document and report all communication to the Engineer. The Contractor shall prepare its construction schedule to accommodate all of the utility work plans included in the contract documents including some allowance for unexpected minor variation in the anticipated utility work plan and schedule.

Regardless of previous notification by the Department, the Contractor shall give notice to the owners of each utility located within the contract limits, or which might be affected by the work, in sufficient time before beginning work for the owners to relocate or protect their property. No work shall be done which injures or damages such property until satisfactory arrangements have been completed with the owner for its protection, relocation, or reconstruction.

Prior to any work which penetrates any existing soil or pavement surface, the Contractor shall notify both the Indiana Underground Plant Protection Service, IUPPS, in

accordance with IC 8-1-26 requirements and the Engineer in accordance with 105.08 prior to commencing construction operations in an area that may affect underground utilities.

If abandoned underground utilities are encountered during construction, sections of which are to be removed, ends of pipes that remain in place shall be sealed with class A concrete as directed. Concrete used for this purpose will be paid for at the contract unit price per cubic yard (cubic meter) for concrete, A, in structures. Cutting of abandoned gas lines shall be by mechanical methods. A cutting torch shall not be used.

If a permit is issued to a city or other governmental unit for the installation of conduits, poles, or other appurtenances for artificial lighting of the structure, it may be necessary or desirable to revise the plans or make structural changes as needed to accommodate such installation. In this event, the provisions of 104.02 shall apply to all changes in quantities of work.

107.21 Furnishing Right-of-Way

The Department will be responsible for securing necessary right-of-way in advance of construction. Exceptions will be indicated in the contract.

107.22 Personal Liability of Public Officials

In carrying out any of the provisions of these specifications, or in exercising any power or authority granted to them by or within the scope of the contract, there shall be no liability upon the Department, Commissioner, Engineer, or their authorized representatives, either personally or as officials of the State, it being understood that in all such matters they act solely as agents and representatives of the State.

107.23 Waiver of Legal Rights

Upon completion of the work, the Department will expeditiously make final inspection and notification of acceptance. Such final acceptance, however, shall not preclude or estop the Department from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Department be precluded or estopped from recovering from the Contractor or its surety, or both, such overpayment as it may sustain by failure on the part of the Contractor to fulfill its obligations under the contract. A waiver on the part of the Department of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Department for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the rights of the Department under any warranty or guaranty.

107.24 Governing Law

This contract shall be construed by the laws of the State of Indiana. Suit, if any, shall be brought in the State of Indiana.

107.25 Severability

The invalidity in whole or in part of a provision of the contract shall not void or affect the validity of all other provisions.

SECTION 108 – PROSECUTION AND PROGRESS

108.01 Subletting of Contract

The contract, contracts, or portions thereof; or the right, title, or interest therein shall not be sublet, sold, transferred, assigned, or otherwise disposed of without written consent. In case such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with its own organization, work amounting to not less that 50% of the original or revised contract amount, whichever is less. All items designated in the contract as specialty items may be performed by subcontract. The cost of such specialty items so performed by subcontracts may be deduced from the total cost before computing the amount of work required to be performed by the Contractor with its own organization. No subcontracts or transfer of contracts will release the Contractor of liability under the contract and bonds. Approved subcontractors will not be permitted to further subcontract their work.

The minimum wage for labor as stated in the Proposal book shall apply to all labor performed on all work sublet, assigned, or otherwise disposed of in any way.

The Contractor or subcontractor may enter into leases or rental agreements for equipment with operators or trucks with drivers. When certified payrolls are required, they shall be submitted for all such equipment operators and truck drivers who perform work. This payroll shall verify that these employees have been paid not less than the predetermined wage rate set out elsewhere in the contract for the classification of work performed.

The subcontractor shall be in accordance with the requirements of 105 IAC 11-2-10, Subcontractors.

108.02 Release of Retainage to Subcontractors

If the Contractor is withholding portions of payments due subcontractors as retainage, the Contractor shall release such retainage to the subcontractor within 30 calendar days after satisfactory completion of the work performed by the subcontractor.

For the purposes of this section, satisfactory completion will be interpreted as when the subcontractor has completed all physical work and completed other contract requirements, including the submission of all submittals required by the specifications and the Department.

108.03 Notice to Proceed

Unless otherwise provided, the Contractor will be expected to start active and continuous work on the contract within 15 calendar days after the date of the notice to proceed. Work shall not begin prior to the date of the notice to proceed.

If a delayed starting date is indicated in the proposal, the 15 calendar day limitation will be waived. Work day charges will then begin on a date mutually agreed upon, but not later than the delayed starting date specified. If the contract is canceled after an award has been made but prior to the issuing of the notice to proceed, no

reimbursement will be made for any expenses accrued relative to this contract during that period.

If the contract involves demolition work, the Contractor shall not enter the parcel or proceed with the demolition without written authority from the Engineer. The Contractor will be compensated only for those houses and buildings which are actually removed from the right-of-way. Time of commencing demolition work and time of completion shall be in accordance with 108.08.

108.04 Prosecution of the Work

A pre-construction conference will be held at the earliest possible date, at which time it will be determined at what point the Contractor's operations will start.

The Contractor shall furnish the Engineer with a bar graph type schedule which shows the estimated times required to prosecute the major or critical items of work for acceptance unless the contract has less than 60 calendar days completion time, less than 35 work days, or less than 60 days between the date of the notice to proceed and the calendar completion date. This schedule shall incorporate all contract requirements regarding the order of performance of work and each activity. The schedule shall graphically show the calendar time for which each activity is scheduled for work. The schedule may be used as the basis for establishing major construction operations and as a check on the progress of the work. Sufficient materials, equipment, and labor shall be provided to guarantee the completion of the project in accordance with the plans and specifications within the specified completion time. The Engineer shall be notified at least three days in advance of the date on which the work is expected to begin. The schedule shall be submitted at the pre-construction conference.

The Department and the Contractor shall meet at least once each month to review actual and proposed schedules. The Contractor shall submit the correspondence to the district after each monthly meeting addressing each item of work that is behind schedule and as to what action will be taken to get the work back on schedule.

If, in the opinion of the Engineer, construction progress has been or will be materially affected by changes in the plans or in the quantities of work, or if performance has failed to conform to the accepted schedule, a revised schedule shall be submitted when requested. Acceptance of the schedules will in no way justify them, but will simply indicate concurrence in their reasonableness and feasibility on the assumption that every effort shall be made to meet them. Existence of a current and accepted schedule will be a condition precedent to the processing and payment of a partial pay estimate.

If the prosecution of the work is discontinued, the Engineer shall be notified at least 24 h in advance of resuming operations.

During the progress of the work, the Engineer shall be notified at least 24 h in advance of undertaking construction operations.

If the plans for a road contract provide for the construction of an interchange, interchanges, or approaches at bridge locations, regardless of the actual date of completion on the bridge contract or contracts, the road contractor will be required,

unless otherwise directed, to complete the planned pavement, including approaches and interchanges, as planned and set out in the road contract. The road contract may be modified to allow additional compensation or time if the bridge contract has delays which affect the work of the road contractor and was not under the control of, or caused by, the road contractor.

An amended Erosion Control Plan shall be submitted in accordance with 327 IAC 15-5 for those areas not included in the Department submittal or as necessary for changes initiated by the Contractor. Items to include consist of sequencing of operations, borrow and disposal areas, and haul roads as well as any revision to the Department's submittal. All appropriate erosion control items shall be in place prior to disturbing the project site. A copy of the amended plan shall be provided to the Engineer.

The Contractor shall designate one or more of its employees to be responsible for the preparation, submittal, and ensuring receipt of the approval of the amended erosion control plan. Such individual(s) shall also be responsible for obtaining all other necessary permits including the wetland inspection and archaeological record check and field survey in accordance with 203.08, and for all environmental inspections. Such individual(s) shall oversee the installation of all erosion control measures and shall conduct regular inspections and completion of all reports in accordance with 205. The name(s) of the designated individual(s) shall be furnished the Engineer at, or prior to, the preconstruction meeting. Should the designated individual(s) need to be replaced during the contract, replacements shall be designated within seven calendar days and notification shall be furnished the Engineer.

Permanent erosion control measures shall be incorporated into the work at the earliest practicable time as the construction progresses to stabilize the site.

In order to minimize pollution to bodies of water, the practices and controls set out below shall be followed.

(a) When work areas are located in or adjacent to bodies of water, such areas shall be separated by a dike or other barrier to keep contained. Sediment disturbance of these bodies of waters shall be minimized during the construction and removal of such barriers.

(b) All waterways shall be cleared as soon as practicable of false-work, temporary piling, debris, or other obstructions placed during construction operations.

(c) Water from aggregate washing or other operations containing sediment shall be treated by filtration, a settling basin, or other means sufficient to reduce the sediment content.

(d) Pollutants such a fuels, lubricants, asphalt, sewage, wash water, or waste from concrete mixing operations, and other harmful materials shall not be discharged into existing bodies of water.

(e) All applicable regulations and statutes relating to the prevention and abatement of pollution shall be complied with in the performance of the contract.

When temporary construction materials are no longer required or used for maintenance of traffic or for other temporary purposes, such materials shall be removed and disposed of as provided herein. If temporary roadbed or asphalt pavement materials are used for embankment construction, such materials will be classified as excavation and paid for at the contract unit price per cubic yard (cubic meter) for the type of excavation shown in the Schedule of Pay Items. No allowance will be made for overhaul or added haul. If temporary HMA pavement materials are used in the work for subbase, base, approaches, or for new shoulder construction, such materials will be paid for as salvaged road material in accordance with 613.

Temporary concrete pavement, temporary concrete base, or temporary concrete widening, when no longer required for maintenance of traffic, shall be removed and disposed of in accordance with 202.05. Such removal and disposal will be paid for in accordance with 202.14.

Temporary drainage structures, temporary concrete median barriers, and other temporary devices required and used for the maintenance of traffic shall remain the property of the Contractor. All costs for furnishing, placing, maintaining, removal, and disposal of temporary drainage structures shall be included in the contract lump sum price for maintaining traffic. If there is no pay item for maintaining traffic, these costs shall be included in the various pay items listed in the proposal, unless otherwise provided.

108.05 Pre-phase Site Construction Meetings

A pre-phase site construction meeting shall be scheduled and conducted by the Contractor prior to the beginning of work on each major work phase. These meetings are intended to help improve the quality of construction, personnel safety on the project site, and safety of the traveling public. These meetings shall include all subcontractors connected with the particular phase. When the conditions described in 105.07 are possible during a particular phase, the other Contractors shall be invited to attend. The Department's project staff and the Area Engineer shall be invited to attend.

At each meeting, the Contractor shall indicate its current schedule for the phase, discuss maintenance of traffic control, project site personnel safety, compliance with the plans and specifications including quality construction, and all other pertinent subjects.

The number of pre-phase site construction meetings will be determined at the pre-construction conference. No additional payment will be made for these meetings.

108.06 Limitation of Operations

The work shall be conducted in such a manner and in such sequence as ensures the least interference with traffic. Due regard shall be given to the location of detours and to the provisions for handling traffic. Work shall not be started to the prejudice or detriment of work already begun. The completion of a section on which work is in

progress may be required before work is started on additional sections, if opening such section is essential to public convenience.

Except as hereinafter specified, no load of material for any construction shall be dispatched so late in the day that it cannot be placed, finished, and protected within the specification's limits and provisions during daylight of that same day. Daylight will be defined as the period between sunrise and sunset as established by the National Weather Service. When it is important that construction shall be completed at an early date, work may be permitted at times other than daylight hours provided sufficient illumination is available and that work performed under these conditions complies in every respect with the terms and conditions of the contract.

108.07 Character of Workers, Methods, and Equipment

Sufficient labor and equipment for prosecuting the several classes of work shall be employed at all times to full completion in the manner and time required by these specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform all work properly and satisfactorily.

Each person employed by the Contractor or by each subcontractor who does not perform in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith by the employer of such person. The person shall not be employed again in any portion of the work without approval. If the person is not removed as required herein, or if suitable and sufficient personnel for proper prosecution of the work are not furnished, all estimates may be withheld or the work suspended by written notice until these requirements have been met.

All equipment which is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment which was originally developed to be used in performing work in International System measurements may be used in performing work in English System measurements. Where possible, such equipment shall be adjusted to the English System measurements. Where equipment cannot be adjusted, it shall then be made compatible, as required, to satisfactorily be used for performing work in English System measurements in accordance with 101.41, 105.03, 109.01(a), and 109.01(i). Equipment used on the project shall be such that no injury to the roadway, adjacent property, or other highways will result from its use.

When the methods and equipment to be used in accomplishing the construction are not prescribed in the contract, any methods or equipment that will accomplish the work in accordance with the contract may be used.

When the contract specifies that the construction be performed by the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized. If the use of a method or type of equipment other than those specified in the contract is desired, authority to do so may be requested. The request shall be in

writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing construction work in accordance with contract requirements. If, after trial use of the substituted methods or equipment, it is determined that the work produced does not meet contract requirements, the use of the substitute methods or equipment shall be discontinued and the remaining construction shall be completed with the specified methods and equipment. The deficient work shall be removed and replaced with work of specified quality or other corrective action shall be taken as directed. No change will be made in basis of payment for the construction items involved nor in contract time as a result of authorizing a change in methods or equipment under these provisions.

108.08 Determination and Extension of Contract Time

The number of days allowed for the completion of the work included in the contract will be stated in the Proposal book and will be known as the contract time.

If the contract time is on a work day basis, as defined in 101.71, a weekly statement showing the number of days charged to the contract to date and for the preceding week, the number of days specified for completion of the contract, and the days remaining and the controlling operation will be furnished. The Contractor will be allowed one week from the date it receives the statement in which to file a written protest setting forth in what respect said weekly statement is incorrect. Otherwise, the statement will be deemed to have been accepted by the Contractor as correct. For the purpose of computation, work days will be considered as beginning on the fifteenth calendar day after the date of the notice to proceed. All calendar days elapsing between the effective dates of orders to suspend work and to resume work for suspensions which are not the fault of the Contractor will be excluded.

If the contract time is on a calendar day basis, it shall consist of the number of calendar days stated in the contract including all Sundays, holidays, and non-work days counting from the date of the notice to proceed. All calendar days elapsing between the effective dates of any orders to suspend work and to resume work for suspensions not the fault of the Contractor will be excluded. A weekly statement showing the controlling operation will be furnished.

If the contract time is a fixed calendar date, it shall be the date on which all work on the contract shall be completed. For such contracts, an extended date of completion will be considered for delay in the issuance of the notice to proceed if the notice to proceed is not issued within 30 days of the letting, except if the delay is due to the failure of the Contractor to furnish requested forms or information. Unless otherwise determined, an extension to the contract completion date and intermediate completion date will be allowed for each calendar day from 30 days after the date of the letting to and including the date of the notice to proceed. A weekly statement showing the controlling operation will be furnished.

The number of days for performance permitted in the contract as awarded will be based on the original quantities as defined in 104.02.

(a) For a completion date contract, unless otherwise determined, an increase in quantities will not increase the time permitted for the performance of the contract.

(b) If intermediate completion times are specified, unless otherwise determined, an increase in quantities will not increase the time permitted.

If an intermediate completion time is specified for road closure or restriction, the first day or portion thereof of the closure or restriction will constitute the first chargeable day. The date the road is opened to unrestricted traffic will not be counted as a chargeable day, regardless of the time of day when the roadway is opened. Open to unrestricted traffic shall be as defined in 101.32. Temporary pavement marking materials in accordance with 801.12 shall be placed if the final marking materials cannot be placed in accordance with 808.07(b).

If the Contractor finds it impossible for reasons beyond its control to complete the work within the contract time as specified prior to the expiration of the contract time, a written request may be made for an extension of time setting forth therein the reasons which will justify the granting of the request. A plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the contract controlling operation was delayed because of conditions beyond the control and without the fault of the Contractor, such as acts of the public enemy, acts of Government, fires, floods, above normal rainfall, lightning, tornadoes, earthquakes, epidemics, or strikes, it may extend time for completion in such amount as the conditions justify. The extended time for completion shall then be in full force and effect the same as though it were the original time for completion.

The Department may order the suspension of work, either wholly or in part, for a period of time for certain holidays. For such orders, the contract completion time will be adjusted as follows:

(a) If the contract completion time is on a work day basis, no work days will be charged on those days that work on the controlling operation is suspended.

(b) If the contract completion time is on a calendar day basis, all calendar days on which work on the controlling operation is suspended will be excluded.

(c) If the contract completion time is a fixed calendar date, the contract will not be extended.

(d) If the contract contains an intermediate completion time, said time will be adjusted in accordance with the requirements of (a) or (b), above as appropriate, provided that the suspension occurs within the time period while the intermediate completion time is in effect.

If the Department does not order the suspension of work for certain holidays, work may be performed on those holidays. On a work day contract, a work day will be charged for each holiday worked. On a completion date contract, the contract completion time will not be shortened by the number of holidays worked.

Contract time will not be charged during the required cure period for concrete surfaces requiring a sealer, provided all other contract work is completed and all lanes are open to traffic. Charging of contract time will resume after the required cure period. The contract time will be adjusted as follows:

(a) If the contract completion time is on a work day basis, work days will not be charged for those days on which work is suspended.

(b) If the contract completion time is on a calendar day basis, all calendar days on which work is suspended will be excluded.

(c) If the contract completion time is a fixed calendar date, the contract will not be extended.

If an extension of time on a calendar day contract or a calendar completion date contract extends the completion date past November 30, the days remaining after November 30 will be added to April 1, of the following year for the contract completion date, providing the project could be suitably opened to traffic in accordance with 107.18.

Completion of the removal of houses and buildings on time, if specified, shall be in accordance with the requirements herein.

Not all of the parcels shown in the Schedule of Pay Items will be available for demolition at the time of the letting. Houses and buildings shall be removed as soon as they are vacated in accordance with the procedure as follows:

(a) The 15 calendar days limitation after the date of notice to proceed as specified in 108.03 will not apply.

(b) The contract time extension consideration for 30 days delay in issuing the notice to proceed as specified in 108.08 will not apply to a contract for which demolition is the majority of the contract work.

(c) When parcels become available for demolition, the Engineer will notify the Contractor of the availability of such parcels. The Contractor shall commence work within five calendar days from the date of receipt of such notification. Inspection and testing for asbestos presence, or filing a notification of demolition with the IDEM will be considered as part of the work.

(d) If the Contractor fails to commence work within five calendar days of the date of receipt of notification, $100.00 will be assessed as liquidated damages, not as a penalty, but as damages sustained for each calendar day after five on which work has not commenced.

(e) Once work has commenced, in accordance with (c) and (d) above, the work shall progress continuously and shall be completed within 60 calendar days. If such work is not completed within 60 calendar days, $100.00 will be assessed as liquidated damages, not as a penalty, but as damages sustained for each calendar day after 60 on which work is not completed.

(f) Each notification received by the Contractor shall establish a separate five calendar day starting period and 60 calendar day completion time, regardless of the number of parcels which are shown in each notification.

Adjustments to the contract payment with respect to liquidated damages will be included in a liquidated damages pay item. The unit price for this pay item will be $1.00 and the quantity will be in units of dollars. The quantity is the total calculated in accordance with the above schedule.

108.09 Failure to Complete on Time

For each calendar day or work day, as specified, that work shall remain incomplete during the months of April through November inclusive, after the control time specified for the completion of the work provided for in the contract, the sum specified in the schedule below will be deducted, as liquidated damages, from any money due the Contractor. Account will be taken of adjustment of the contract time for completion of the work granted in accordance with 108.08. Work days or calendar days will not be charged while waiting for final inspection as defined in 105.15 provided all contract work has been satisfactorily competed. However, five work days will be permitted after notification from the Department to complete all corrective or clean up work necessary for final inspection. Thereafter, time will be charged for each day the work remains uncompleted. Further, five calendar days will be permitted after notification by the Department to remove all construction signs and temporary traffic control devices. Thereafter, time will be charged for each day the signs and devices remain.

For each calendar day or work day, as specified, that any work shall remain incomplete during the months of December through March inclusive, liquidated damages will be deducted. However, when the project is open to traffic, or safely modified to accommodate traffic, liquidated damages will not be deducted, and payment for the field office and field laboratory, if set out as a pay item in the itemized proposal, will not be made. For these purposes, open to traffic will be considered as all pavement lanes open to unrestricted and safe travel. The Contractor may be required to make temporary repairs to the pavement or structures. Liquidated damages will be assessed until temporary repairs are made. No payment will be made for such temporary repairs.

If the contract is not completed, or the pavement or structure is not opened to traffic within the stipulated time as set out in the Proposal book, the Department may reduce the qualified rating of the Contractor for bidding on future contacts.

Permitting the Contractor to continue and finish the work or a part of it after the time fixed for its completion, or after the date to which the time for completion may have

been extended, will in no way operate as a waiver on the part of the Department of any of its rights under the contract.

Schedule of Liquidated Damages for
Each Day of Overrun in Contract Time

Original Contract Amount		Daily Charge	
From More Than	To and Including	Calendar Day or Fixed Date	Work Day
$0	$500,000	$500.00	$700.00
500.00	1,000,000	1,000.00	800.00
1,000,000	5,000,000	1,500.00	1,100.00
5,000,000	10,000,000	2,000.00	2,000.00
10,000,000	and higher	2,500.00	3,000.00

When the contract time is on either the calendar day or fixed calendar date basis, the schedule for calendar days shall be used. When the contract time is on a work day basis, the schedule for work days shall be used.

108.10 Default and Termination of Contract

Notice in writing will be given to the Contractor and its surety of delay, neglect, or default if the Contractor:

(a) fails to begin work under the contract within the time specified;

(b) fails to perform the work with sufficient workmen and equipment or with sufficient materials to ensure the prompt completion of said work;

(c) performs the work unsuitably, neglects or refuses to remove materials or performs anew such work as may be rejected as unacceptable and unsuitable;

(d) discontinues the prosecution of the work;

(e) fails to resume work which has been discontinued within a reasonable time after notice to do so;

(f) becomes insolvent or is declared bankrupt, or commits an act of bankruptcy or insolvency;

(g) allows final judgement to stand against it unsatisfied for a period of 10 days;

(h) makes an assignment for the benefit of creditors; or

(i) for other causes whatsoever, fails to carry on the work in an acceptable manner.

If the Contractor or surety does not proceed in accordance therewith within a period of 10 days after such notice, then the Department will, upon written notification from the Engineer of the fact of delay, neglect, default, or the failure of the Contractor to comply with such notice, have full power and authority, without violating the contract, to take the prosecution of the work away from the Contractor. The Department may appropriate or use materials and equipment on the ground as may be suitable and acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof. Other methods required for the completion of the contract in an acceptable manner may be used.

All costs and charges incurred by the Department, together with the cost of completing the work under the contract, will be deducted from any monies due or which may become due. If such expense exceeds the sum which would have been payable under the contract, the Contractor and the surety shall be liable and shall pay to the Department the amount of such excess.

108.11 Termination of Contractor's Responsibility

The contract shall be considered as completed after all work provided for therein has been accepted. The Contractor shall then be released from all further obligations except as provided in 107.23 and 109.08.

The Department may, by written order, terminate the contract or a portion thereof only after a meeting with the Contractor, and after determining that termination would be in the public interest. Reasons for termination will include, but will not be limited to, the following:

(a) executive orders of the President relating to prosecution of war or national defense;

(b) national emergency which creates a serious shortage of materials;

(c) budgetary concerns of the Department;

(d) errors in the plans or Proposal book which make the project unbuildable;

(e) orders from duly constituted authorities relating to energy conservation;

(f) restraining orders or injunctions obtained by third-party citizen action resulting from national or local environmental protection laws, or where the issuance of such order or injunction is primarily caused by acts or omissions of persons or agencies other than the Contractor;

(g) when it is the finding of the Department that the Contractor is unable to complete the contract and the construction covered thereby within a reasonable length of time on account of inability to obtain materials or satisfactory substitutes therefor which do not change the general type of construction or labor.

In such cases, work performed, including partially completed items, will be paid for in full at the contract unit prices for the actual quantities of work done, which prices will not be subject to change if the quantity for a pay item or items is increased or decreased more than 20%. Should such relief from performance of a portion of the contract or such elimination of a portion of the contract directly cause the loss of work or material already furnished under the terms of the contract, the actual cost of such work or of salvaging such material will be reimbursed. All such material may, at the option of the Department, be purchased at its actual cost. Anticipated profit on work not performed will not be permitted. Final settlement will depend upon the merits of the individual case. All actual damages will be paid following a meeting with the Contractor to determine if payment of actual damages is appropriate and in accordance with applicable laws.

108.12 Contract Documentation

The Contractor shall furnish upon request, all documentation relating to its performing as a Contractor or subcontractor on a contract. The requested information may be, but is not limited to the following: payroll records, material invoices, subcontract agreements with pertinent attachments, lease agreements, and Equal Employment Opportunity documentation.

SECTION 109 – MEASUREMENT AND PAYMENT

109.01 Measurement of Quantities

(a) General Requirements

All measurements of work completed under the contract will be according to the English System unless otherwise specified.

The standard measures shown in this publication are mostly in the English System of Units such as feet and inches, pounds, gallons, and acres. In this text where the standard measure is given in the English System, metric equivalents are shown in parentheses. The measures shown in parentheses are intended only for those contracts in which they are specified. No guarantee is provided, explicit or implicit, that the units are accurate conversions. Work included in the contract will be accepted on the basis of measures shown in parentheses only when such measures are specified.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice. Results are to be determined using the standard “5” up procedures as defined in General Note 9 on Page vi herein. When the quantities to be measured are shown in English System units, and the Contractor uses equipment or materials that were originally developed to be used in performing work in the International System measure, there will be no allowance if the International System dimensions exceed the English System measurements. (When the quantities to be measured are shown in International System measure, and the Contractor uses equipment or materials that were originally developed to be used in performing work in the English System units, there will be no allowance if the International System dimensions exceed the English System measurements.)

Unless otherwise specified, longitudinal measurements for base, surface, and shoulder area computations will be made along the centerline of the actual surface of the roadway. No deduction will be made for individual fixtures having an area of 10 sq ft (1 m^2) or less. Unless otherwise specified, transverse measurements for area computations will be the neat line dimensions shown on the plans or ordered in writing.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

When a complete structure or structural unit, in effect lump sum work, is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

All work which is measured by the linear foot (meter) will be measured parallel to the base or foundation upon which such work is placed, unless otherwise specified.

A station when used as a definition or term of measurement in the English System will be 100 linear feet. (A station when used as a definition or term of measurement in the International System will be l km.)

When metric dimensioned materials are specified, the Contractor shall convert to metric all weigh tickets, delivery receipts, or other material documentation before submitting the documentation.

The term gage, when used in connection with the measurement of metal plates or sheets, will mean the U.S. Standard Gage except when the referenced AASHTO, ASTM, or other specification for a material specifies that it be ordered and measured in terms of thickness.

When the term gage refers to the measurement of wire, it will mean the U.S. Steel Wire Gage except when the reference AASHTO, ASTM, or other specification for the wire specifies that it be ordered and measured in terms of wire size number or diameter.

The term ton will mean the short ton consisting of 2000 pounds avoirdupois. (The term megagram will mean 1,000,000 g or 1000 kg.) All materials which are measured or proportioned by weight (mass) shall be weighed on accurate approved scales which are in accordance with all requirements and specifications adopted by the Indiana State Board of Health, Division of Weights and Measures. The weighing shall be accomplished by competent qualified personnel at designated locations. Materials specified according to metric unit weights may be weighed on a scale that uses English system units and then converted to the metric equivalent using the conversion factors shown elsewhere in the specifications.

(b) Scales and Measurement by Weight (Mass)

All materials for which measurements are obtained by weight (mass) shall be weighed on approved scales which, except as hereinafter provided for out-of-state scales, shall be tested and sealed by the Indiana State Board of Health, Division of Weight and Measures. This inspection shall have been made within a period of not more than one year prior to the date of use for weighing material. A scale which has been tested and

approved within this one year period and which has been repaired or dismantled or moved to another location, shall again be tested and approved before it is eligible for weighing. All interested parties, such as the Department, the Contractor, or the owner of the scales, may request an inspection of the scales in question. The latest inspection shall take precedence over all previous inspections. Automatic printer systems may be used with HMA plant scale systems under certain conditions in accordance with 409.02(a). If automatic printer systems are used, the same inspection, testing, and sealing requirement specified herein for scales shall apply to HMA plant batch scales and printer systems.

A motor-truck scale shall have a suitable undercarriage of such construction that shall safely carry and weigh an amount equal to 80% of the rated capacity of the scale on either end of the scale platform. When so loaded, the stresses in the lever system shall not exceed the stresses allowable under AREA specifications. The load carried per 1 in. (25 mm) of knife-edged bearing shall not exceed 5,000 lb (2270 kg).

The scale platform shall be of such length and width as to conveniently accommodate all trucks containing materials which need to be weighed. The entire truck load shall rest on the scale platform and shall be weighed as one draft.

If material is weighed on truck scales, weigh tickets showing the net weight (mass) of each load of material delivered shall be supplied for use in computing quantities. The tickets shall be prepared at the weighing site under the supervision of the State weighman, and shall contain the ticket serial number, date, contract number, source of supply, material designation such as size or type, DMF or JMF number for HMA, truck number, time weighed, gross weight (mass) direct reading if scale is of the direct reading type, tare, net weight (mass), and moisture content if applicable. Two spaces shall be provided on each ticket for signatures of representatives of the Engineer. One space shall be designated for the state weighman and the second space for the technician or inspector. A duplicate ticket may be furnished by the Contractor for its records. The original, and duplicate if furnished, tickets will be signed at the weighing site and at the point of incorporation into the work. No additional payment will be made for furnishing, maintaining, and operating scales.

The weight (mass) of materials weighed outside the State and intended for use on the contact may be determined on scales tested and approved by the proper governmental unit having authority where the scales are located. In such case, the Department shall be furnished with a certified copy of such inspection and approval which, to be acceptable, shall have been made within one year to the time of such weighing. Out-of-state truck scales used shall be in accordance with all pertinent provisions as they apply to truck scales accepted within the State of Indiana. They shall be subject to approval and inspection by the Department and to the requirements applicable to such scales located within the State.

If materials are shipped by rail, the car weight (mass) may be accepted provided payment is made for only the actual weight (mass) of the materials. Car weights (masses) will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight (mass) shall be weighed empty daily at such times as directed. Each truck shall bear a plainly legible identification mark.

(c) Measurement by Volume

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of the size or acceptable type provided the body is of such shape that the actual contents may be determined readily and accurately. All vehicles shall be loaded to at least their water level capacity. All loads shall be leveled when directed, after the vehicles arrive at the point of delivery.

When requested and approved in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed. Such weights (masses) will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight (mass) measurement to volume measurement will be determined and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

In computing volumes of excavation, the average end area method or other acceptable methods will be used.

If excavation is measured by cross sections, the following will apply:

1. Unless otherwise provided, where sodded areas are involved, the cross sections will be considered as located at the surface of the sod.

2. If the cost of excavation is specifically included in the payment for a pay item of work, the final sections will be taken at the finished surface of the work.

3. If the cost of excavation is not specifically included in the payment for a pay item of work, the final sections will be taken at the limits of the authorized excavation.

Unauthorized wastage of material will be deducted. Only such quantities as are actually incorporated into the completed work will be included in the final estimate.

(d) Measurement of Asphalt Materials

If an asphalt material is to be paid for directly, it will, except as hereinafter provided, be weighed and paid for by the ton (megagram). If the Engineer decides that weighing is not feasible, the asphalt material may be measured by volume and converted to tons (megagrams). The conversion will be based on the unit weight as determined in the laboratory.

If asphalt material is to be measured by volume, it will be measured by the gallon (liter) in tank cars, distributor tanks, tanks, or drums. Certified calibration of tank cars, distributor tanks, tanks, and certified quantities in drums in which asphalt materials are delivered or stored shall be furnished.

If asphalt material is furnished in drums, the amount in each drum shall be stenciled plainly on the drumhead by the producer. The amount so indicated will be accepted as the quantity furnished. However, the amount in each drum may be checked in accordance with the requirements set out herein.

Tank car deliveries will be measured by volume and converted to tons (megagrams).

Volumes will be measured at 60°F (15°C) or will be corrected to the volume at 60°F (15°C) in accordance with ASTM D 1250 for asphalts or ASTM D 633 for tars.

Net certified scale weights (masses) or weights (masses) based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, is wasted, or is otherwise not incorporated into the work.

(e) Measurement of PCC

For design and production, PCC will be measured by the cubic yard (cubic meter). The relative yield will be determined in accordance with 505.01. Payment for PCC will be in the unit designated for the specified use.

(f) Measurement of Aggregates

Unless otherwise provided, all aggregates for which measurements are obtained by the cubic yard (cubic meter) will be measured at the truck loading point in truck beds that have been measured, stenciled, and approved. They may be weighed and converted to cubic yards (cubic meters) by a conversion factor computed at sufficient intervals to ensure correct measurement.

Free water in all aggregates for which payment is made as a separate pay item on a weight (mass) basis shall be drained prior to weighing and selection of samples. Samples for determination of moisture content shall be taken immediately prior to the time the material is to be weighed. The number of moisture tests will be governed by moisture conditions. Moisture contents shall be determined on the basis of oven dry weight (mass) by drying samples to constant weight (mass) at 110°C ± 55°C. However, if ovens are not available for drying samples, other methods which give equivalent results may be used. Moisture content shall be computed to the nearest 0.5% in accordance with the formula as follows:

$$\text{Percent of Moisture (M)} = \frac{\text{Wet weight (mass) of sample} - \text{Dry weight (mass) of sample}}{\text{Dry weight (mass) of sample}} \times 100$$

The percent of moisture shall be noted on each weight ticket.

The wet weight (mass) will be used for the basis of payment, if the percent of moisture is determined to be less than 6% for B borrow; 9% of optimum moisture content, as determined in accordance with AASHTO T 99, whichever is greater, for size No. 53 or No. 73 aggregates or modifications thereof when specified; or 4% for aggregates of all other specified sizes including sand.

If the percent of moisture exceeds the limitations set out above, the weight (mass) to be paid for will be the gross weight (mass) of aggregate minus the weight (mass) of the excess moisture computed as follows:

$$\text{Weight (Mass) to be paid for} = G \times \frac{(100 + m)}{(100 + M)}$$

in which:

G = Gross weight (mass) of material,

M = Percent of moisture in the aggregate to the nearest 0.5% based on oven dry weight (mass),

m = Percent of moisture permitted in the wet aggregate to be paid for based on oven dry weight (mass).

(g) Measurement of Timber or Lumber

Timber or lumber will be measured by the thousand feet board measure or MFBM (cubic meter) actually incorporated into the work. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

(h) Rental of Equipment

Rental of equipment will be measured in hours of actual working time and necessary traveling time of the equipment within the project limits. If special equipment has been ordered in connection with force account work, travel time and transportation costs to the project site will be recorded. If equipment has been ordered and held on the project site on a standby basis, full time rates for such equipment will be paid.

(i) Manufactured Materials

If standard manufactured materials are specified such as fence, wire, plates, rolled shapes, pipe, or conduit, and such materials are identified by gage, unit weight (mass), or section dimensions, such identification will be considered to be nominal weights (masses) or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted. Nearly equivalent metric dimensioned manufactured items will be accepted in lieu of English dimensioned items, provided they are within the specified tolerances, when English sizes are specified. (Nearly equivalent English dimensioned manufactured items will be accepted in lieu of metric dimensioned items, provided they are within the specified tolerances, when metric sizes are specified.)

109.02 Scope of Payment

Compensation provided for in the contract shall be received and accepted as full payment for furnishing all materials and for performing all work specified in the contract in a complete and acceptable manner. This shall also be payment in full for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof, in accordance with 107.23.

If the basis of payment clause in the specifications relating to a unit price in the Schedule of Pay Items requires that said unit price cover and be considered compensation for certain work or material essential to the pay item, this same work or material will not also be measured or paid for under another pay item which may appear elsewhere in the specifications.

The term lump sum when used as an unit of payment will mean complete payment for the pay items of work described in the contract.

The payment of a current estimate before final acceptance of the work shall not affect the obligation of the Contractor to repair or renew any defective parts of the construction. The responsibility for all damages due to such defects will be determined in accordance with 107.19.

If it is agreed in writing that the quantities of certain items or portions of items of work, as set forth in the contract, are in substantial agreement with actual quantities of work performed, compensation therefor will be based on the quantities set forth in the contract without measurement thereof upon completion of the work. Compensation based on contract quantities as agreed shall be accepted as full payment for such items or portions of items.

If the Contractor has previously agreed in writing to accept photogrammetric methods of measurement for common excavation and borrow, the Department may utilize such methods of measurement as the basis of payment. Computation of volumes shall be in accordance with 203.

109.03 Compensation for Altered Quantities

If the accepted quantities of work vary from the quantities shown in the Schedule of Pay Items, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract unit prices for the accepted quantities of work done. No allowance, except as provided in 104.02, will be made for increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense on the part of the bidder and subsequent loss of expected reimbursement therefor, or from any other cause.

If an increase or decrease in a contract item is in accordance with 104.02, the contract unit price will be the rate of payment unless an adjusted price is agreed to by the parties to the contract. The contract unit price for a minor item may be adjusted if agreed to by parties for only that portion of the item which exceeds 6% of the total bid amount of the contract. A loss or gain of overhead costs will not be a consideration for adjusting the unit prices.

If such alteration directly causes the loss of any work or materials already furnished under the terms of the original contract, the actual cost of such work or of salvaging such materials will be reimbursed. All such materials may, at the option of the Department, be purchased at the actual cost including freight to the Contractor, plus 12%.

109.04 Cost Reduction Incentive

The Contractor may submit a written proposal for modifying plans, specifications, or other contract provisions for the purpose of reducing construction costs. The proposal shall produce a savings without impairing essential functions, characteristics, and timing of the project, including but not limited to, service life, economy of operations, ease of maintenance, desired appearance, design or safety standards, and construction schedules.

(a) Cost Reduction Incentive Proposal Requirements

The proposal shall be submitted with a statement identifying the proposal as Cost Reduction Incentive and shall contain, at a minimum, the following information.

1. A description of the difference between the planned work and the proposed change with a comparison of effects on service life, economy of operation, ease of maintenance, appearance, and safety.

2. Proposed changes in the design. Documents showing such changes shall be signed and bear the seal of a licensed professional engineer.

3. If the Contractor selects a licensed professional engineer other than the design consultant engineer who prepared the plans for the Department, the signed and sealed documents showing the proposed changes shall be submitted directly to the design consultant engineer. The design consultant engineer will review the proposed changes and provide a written recommendation to the Contractor. The design consultant engineer's recommendation shall be included in the cost reduction package submitted for the Department approval. Such recommendation will become an additional cost reduction incentive proposal requirement. Proposed changes to original plans prepared by the Department will be reviewed following submission of the cost reduction package to the Department.

4. The pay items and quantities affected by the change.

5. Complete, detailed cost estimates for performances of the work both as planned and as proposed. Such cost estimates shall be determined in the same manner as if the work were to be paid for on a force account basis in accordance with 109.05, except that lower bid unit prices will be used when applicable.

6. The calendar date required for acceptance and approval of the proposal in order to produce the savings indicated.

7. Locations and situations, including test results, in which similar measures have been successfully used.

8. A statement regarding the effect the proposal will have on the contract completion time.

9. A contract signed by the Contractor and the Contractor's redesign engineer, who prepared and sealed the plans for the cost reduction incentive proposal, shall be submitted to the Department for signature. The contract shall provide for the following:

    a. The Contractor's redesign engineer shall be responsible for all damage to life and property caused by its negligence and the negligence of its subcontractors, agents, or employees in connection

with the services rendered in connection with the plans for the cost reduction incentive proposal. The Contractor's redesign engineer shall indemnify, defend, and hold harmless the Department, its officials and employees, from all liability due to loss, damage, injuries, or other casualties of whatsoever kind, which directly and independently of all other causes, arise out of, or result from the negligence of the Contractor's redesign engineer, its agents or employees, in connection with the services rendered in connection with the plans for the cost reduction incentive proposal.

b. Neither the Department's review, approval, or acceptance of the plans for the cost reduction incentive proposal shall be construed to operate as a waiver of rights under the contract or cause of action arising out of the contract. The Contractor's redesign engineer shall be and shall remain liable to the Department for all damages caused by the negligence of the Contractor's redesign engineer.

c. The rights and remedies of the Department provided in the contract are in addition to all other rights and remedies provided by law.

d. The Contractor's redesign engineer shall have an affirmative duty to advise the Department of all known or obvious errors, omissions, or deficiencies in the designs, drawings, specifications, reports, or other service of the Department or consultants retained by the Department.

e. The Contractor and the redesign engineer may agree to additional terms, as long as such terms do not adversely affect the Department's liability protection.

Additional information shall be provided as required to properly evaluate the proposed change. Failure to do so may result in rejection of the cost reduction incentive proposal.

(b) Approval of Proposal

The Engineer will be the sole judge as to whether a cost reduction proposal qualifies for consideration, evaluation, and approval. A proposal which requires excessive time or cost for review, evaluation, or investigation, or which is not consistent with Department design policies, may be rejected. Proposed changes in pavement design including materials or pavement type, basic bridge design parameters including structural materials or structure type, or right-of-way will not be approved. Only proposals which result in the Department's portion of the net savings of $2,500.00 or more will be considered. The Department will not be liable for failure to accept or act upon a proposal submitted in accordance with the requirements herein or for delays to the work attributable to such proposal.

Contract prices shall not be based on the anticipated approval of a Cost Reduction Incentive proposal. If the proposal is rejected, the contract shall be completed at the original contract prices. If a cost reduction incentive proposal is not approved on or

before the calendar date shown on the proposal, such proposal will be deemed rejected. If a cost reduction incentive proposal is submitted which is subsequently rejected, the Contractor will be required to reimburse the Department for the costs to investigate the proposal as a condition of considering such proposal. In determining the estimated net savings, the contract unit prices bid may be disregarded if it is determined that such prices do not represent a fair measure of the value of the work to be performed or deleted.

The cost reduction incentive proposal will not be approved if equivalent options are already available within the contract, if the Department is already considering a change order to the contract which includes the proposed revisions, if certain changes in specifications or standards for general use have been approved and are subsequently used in the Contractor's proposal, or if the proposal substitutes one pay item for another pay item resulting in a decrease.

If the cost reduction incentive proposal is approved, it will be executed by means of a change order, along with the approved cost reduction incentive proposal. The change order will show the changes in the plans and specifications necessary to permit the proposal to be put into effect and the net savings will be set forth on the change order.

Upon approval, the Department will have the right to use, duplicate, and disclose in whole or in part, all data necessary for the subsequent adoption of the proposal for future projects.

The provision of this specification will apply only to contracts awarded to the lowest bidder in accordance with the Department's competitive bidding requirements.

(c) Method of Measurement

The work, as revised by the cost reduction incentive proposal, will be measured as accomplished, and in accordance with the change order.

(d) Basis of Payment

The work, as revised by the cost reduction incentive proposal, will be paid for as accomplished, and in accordance with the change order. In addition, 50% of the net savings of the cost reduction incentive proposal will be paid for separately upon completion of the revised work. The net savings will be determined by subtracting the cost of the approved change including all design and review cost from the cost of the planned work as bid.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Cost Reduction Incentive No. ____	LS

No additional payment will be made for cost of preparing documents showing the proposed changes by a licensed professional engineer. The Contractor shall directly pay the design consultant engineer for all costs of their review and recommendation. All cost to the Department, including costs for review of changes to plans originally prepared by the Department, will be deducted from the gross savings of the cost reduction incentive.

109.05 Extra Work and Force Account Work

Extra work performed in accordance with 104.03 will be paid for at the unit prices or lump sum prices as approved on the change order. However, the Department may require the Contractor to do such work on a force account basis to be compensated in the following manner:

(a) Labor Costs

For all labor and foremen in direct charge of the specific operations, the Contractor will receive the rate of wage, or scale, agreed upon in writing before beginning work for each hour that said labor and foremen are actually engaged in such work.

The Contractor will receive the actual costs paid to, or in behalf of, workmen by reasons of subsistence and travel allowances, worker's compensation insurance premiums, unemployment insurance contributions, social security taxes, health and welfare benefits, pension fund benefits, or other benefits when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work. The Contractor shall furnish satisfactory evidence of the rate or rates paid for insurance premiums and tax.

An amount equal to 20% of the sum of the above items will also be paid the Contractor.

(b) Bond and Insurance

For bond premium and property damage and liability insurance premiums, the Contractor will receive the actual cost, to which cost 10% will be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond premium and insurance premiums.

(c) Materials

For materials accepted and used, the Contractor will receive the actual cost of such materials delivered on the work, including transportation charges paid by the Contractor, exclusive of machinery rentals as hereinafter set forth, to which cost 12% will be added.

(d) Equipment

For Contractor owned machinery or special equipment other than small tools as defined herein, the rates shall be not more than those listed in the current Rental Rate Blue Book as published by Dataquest, Inc. Regardless of the time used, this rate shall be the hourly rate obtained by dividing the monthly Blue Book rate by 176 with appropriate adjustments made for region and age. Actual fuel, lubricant and transportation costs may be added to the rental cost. Small tools will be defined as tools costing less than $500 each, or an aggregate total of $1,000 or less.

For machinery or special equipment not owned by the Contractor, the rate shall be as shown on invoices. Actual fuel, lubricant and transportation costs may be added to the rental cost.

The Contractor will receive payment for the total costs agreed upon to which sum 12% will be added.

(e) Miscellaneous

No additional allowance will be made for general superintendence or other costs for which no specific allowance is herein provided.

(f) Subcontracting

For administration costs in connection with approved subcontract work, the Contractor shall receive an amount equal to 10% of the first $3,000 and 7% thereafter, or the total cost of such work computed as set forth above.

(g) Compensation

The Contractor and the Engineer shall compare records of the cost of work done as ordered on a force account basis at the end of each day. These records shall be made in duplicate and signed by both. Each shall retain one copy.

(h) Statements

No payment will be made for work performed on a force account basis until the Contractor has furnished triplicate itemized statements of the cost of such force account work detailed as follows:

1. name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman;

2. designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment;

3. quantities of materials, prices, and extensions;

4. transportation of materials;

5. cost of property damage, liability and worker's compensation insurance premiums, unemployment insurance contributions, and social security tax.

Statements shall be accompanied and supported by receipted invoices for all materials used and for transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials where taken from its stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

If the Contractor fails or refuses to prosecute extra or force account work as directed, the Department may withhold payment of all current estimates until the Contractor's failure or refusal is eliminated.

(i) Cost Breakdown

In case the work is performed as extra work, the Contractor shall, when directed, furnish a cost breakdown to substantiate a lump sum price or unit price.

109.05.1 Quality Adjustments

Quality adjustments are those adjustments in the payment for work done or materials furnished and incorporated into the work which either exceed or fall below the standards established by the contract.

A change order will be prepared to reflect these adjustments. The unit price for these adjustments will be one dollar and the quantities will be in units of dollars.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Quality Adjustments, _____ (type)	DOL

The dollars shown shall be the amount of the quality adjustments for the following types and may consist of plus or minus adjustments.

(a) HMA

Quality adjustments with respect to mixture, density, and smoothness for mixture produced will be computed in accordance with 401.19.

(b) PCCP

Quality adjustments will be calculated in accordance with 501.28.

(c) Superstructure Concrete, SC

Quality adjustments will be calculated in accordance with 730.19.

(d) Temporary Traffic Control Devices, TTCD

Quality adjustments with respect to non-compliance with the ATSSA brochure titled Quality Standards For Work Zone Traffic Control Devices will be assessed when the device is deemed to be in non-compliance in accordance with 801.03. Adjustments will be determined in accordance with 105.14.

Adjustments for non-compliance of construction warning lights will be determined in accordance with 801.14.

(e) Failed Materials, FM

Quality adjustments for materials which are deemed below the standards established, but which are allowed to remain in place by the Department's Failed Materials Committee in accordance with 105.03, will be as determined by that committee.

109.06 Eliminated Pay Items

If pay items contained in the Schedule of Pay Items are found unnecessary for the proper completion of the work, they may be eliminated from the contract as a change order. Such action shall not invalidate the contract. When notified of the elimination of pay items, the Contractor will be reimbursed for actual work done and all costs incurred, including mobilization of materials prior to said notification. This material may, at the option of the Department, be purchased at the actual cost including freight to the Contractor, plus 12%.

109.07 Partial Payments

The contract may contain more than one project. Partial payments may be made once each month as the work progresses or twice each month if it is determined that the amount of work performed is sufficient to warrant such payment. These payments will be based on estimates, prepared by the Engineer, of the value of the work performed and materials complete in place in accordance with the contract. No partial payment will be made or estimates will not be submitted when the total value of the work done since the last estimate amounts to less than $500.

Except as set out in 105 IAC 11-3-8 of the Rules For Prequalification of Contractors and Bidding, the balance, less all previous payments and less amounts claimed which are required to be held by the Department in accordance with Indiana Code 8-23-9-26 through 8-23-9-39, will be certified for payment.

No allowance will be made for materials received which have not been incorporated into the work except in accordance with 111.

109.08 Final Payment

When the work has been completed in accordance with the terms of the contract, a final estimate will be prepared for the work done and a copy will be furnished to the Contractor. Final payment will not be made to the Contractor until permitted by Indiana Code 8-23-9-26 through 8-23-9-39.

All prior partial estimates and payments will be subject to correction in the final estimate and payment.

Except as otherwise provided herein, final payment will be made within 180 days after acceptance of the project. Acceptance shall be considered as the date the Contractor is relieved of further maintenance as provided in 107.19 and as set out in the final acceptance letter. However, final payment shall not be made on an amount which is in dispute or the subject of a pending claim. However, final payment may be made on that portion of the contract or those amounts which are not in dispute or subject of a pending claim. Such partial payment shall not constitute a bar, admission, or estoppel or have any other effect as to those payments in dispute or the subject of a pending claim. For the purpose of this section, a dispute exists when the Contractor makes a claim for increase or decrease to any part of the contract, or seeks additional compensation for any reason.

SECTION 110 – MOBILIZATION AND DEMOBILIZATION

110.01 Description

This work shall consist of all work necessary for the movement of personnel and equipment to and from the project site, except for seeding, and for the establishment and removal of all field offices, buildings, and other facilities necessary to the performance of the work.

110.02 Limitations

For the purpose of payment, the mobilization portion of this work will be limited to 5% of the original total contract price. The remainder of the work will be considered demobilization. The first progress estimate will include a percentage payment of the pay item for mobilization and demobilization that is no more than 5% of the original total contract price. The exact amount will be a portion of the lump sum price which is an even percentage of the pay item. The balance of the lump sum price will be paid when the contract has been completed and accepted.

110.03 Method of Measurement

No measurement will be made.

110.04 Basis of Payment

This work will be paid for at the contract lump sum price for mobilization and demobilization.

Payment will be made under:

Pay Item	Pay Unit Symbol
Mobilization and Demobilization	LS

The cost of all materials, equipment, tools, labor, transportation, operations, and incidentals shall be included in the cost of this work.

If no pay item for mobilization and demobilization is shown in the Schedule of Pay Items, the cost of the work described above shall be included in the total cost of the contract, with no direct payment for the work.

SECTION 111 – STOCKPILED MATERIALS

111.01 Description

This work shall consist of the partial payment for certain stockpiled materials.

111.02 General Requirements

After certified copies of costs are presented, partial payments may be allowed for tested and accepted non-perishable materials purchased or produced expressly to be incorporated into the work and delivered in the vicinity of the project, or stored in approved storage facilities. Such materials shall be limited to structural steel, concrete structural members, pavement reinforcing steel, pavement contraction joints, granular

base and subbase materials, aggregates for HMA and concrete pavements, and structural supports for signals, signs, and luminaires.

111.03 Structural Steel and Concrete Structural Members

Partial payment for either of these pay items will be considered only when the total quantity for an entire structure, or designated unit of a structure as specified on the plans, has been completely fabricated.

(a) Delivered to the Job Site

Partial payment made under the requirements of this paragraph will be the delivered cost of the structural steel and concrete structural members, as verified by invoices, including freight, furnished by the Contractor. However, such partial payment will not exceed 75% of the contract unit price as set out in the Schedule of Pay Items for structural steel or concrete structural members. Prior to authorizing partial payment, verification will be obtained that all required inspection has been made and the members are acceptable.

(b) Acceptably Stored at the Fabricator's or Manufacturer's Storage Facilities

Partial payment made under the requirements of this paragraph will be the delivered cost of structural steel and concrete structural members, minus freight charges, as verified from invoices furnished by the Contractor. However, such partial payment will not exceed 70% of the contract unit price as set out in the Schedule of Pay Items for structural steel or concrete structural members. Under this requirement, all invoices shall show the location of where the material is being stored. Prior to authorizing partial payment, verification will be obtained that all required inspection has been made, and the members are acceptable and they are acceptably stored.

111.04 Dowel Bar Assemblies

Partial payment made under the requirements herein will be the delivered cost of the dowel bar assemblies stored within the project limits or at a storage facility adjacent to the project site. Basis of payment for the dowel bar assemblies shall be the paid invoices furnished by the Contractor. Prior to authorizing partial payment, verification will be obtained that the dowel bars have been tested and are acceptable.

111.05 Granular Base, Subbase Materials, and Aggregates for HMA and Concrete Pavements

Partial payment made under the requirement of this paragraph will be made upon presentation of paid invoices or certified copies of the cost for the production of such materials. The partial payment shall not exceed 30% of the unit price bid for the base or subbase material item as set out in the Schedule of Pay Items. The invoice or certified copies of the cost shall include an estimated quantity of the materials stored for partial payment. The estimated quantity of materials will be verified before payment.

The approved storage site shall be within the project limits, at the Contractor's adjacent storage facility, or at a production site where the designated materials are either assigned to, or owned by the Contractor.

Materials stored under this requirement shall be kept separate from other production and shall not be used except on the assigned contract, unless otherwise approved in writing.

Testing shall be provided as directed, during production. Prior to authorizing partial payment, verification will be obtained that the materials have been tested and are acceptable.

111.06 Bridge Expansion Joints

(a) Type SS

Partial payment will be the delivered cost of the expansion joint SS, as verified by invoices, except it will not exceed 75% of the contract unit price for expansion joint SS. Prior to authorizing partial payment, verification will be obtained that all required inspections have been made and the joint is acceptable.

(b) Type M

Partial payment will be the delivered cost of the expansion joint M, as verified by invoices, except it will not exceed 75% of the contract unit price for expansion joint M. Prior to authorizing partial payment, verification will be obtained that all required inspections have been made and the joint is acceptable.

111.07 Structural Supports for Signals, Signs, and Luminaires

Partial payment will be the delivered cost of the materials, as verified by the invoices, except it will not exceed 50% of the contract unit price for the structural support which is stored within the project limits or at an approved storage facility adjacent to the project site. Prior to authorizing partial payment, verification will be obtained that the material has been tested and is acceptable.

111.08 Precast Concrete Median Barrier

Partial payment for precast concrete median barrier as stockpiled material will be the delivered cost of the materials, including freight, as verified by invoices furnished by the Contractor. Such partial payment will not exceed 50% of the contract unit price for the median barrier. The concrete barrier shall be stored within the project limits or at an approved storage facility adjacent to the project in order for stockpiled payment to be favorably considered.

111.09 Additional Requirements

Partial payment will not be allowed on an estimate for materials of less than $10,000 in value.

The Department may consider partial payment for stockpiled materials having a value of over $25,000. Partial payment will be the delivered cost verified by invoices, except it will not exceed 50% of the contract unit price.

All materials when so paid for under this requirement will become the property of the Department in the event of default on the part of the Contractor. The Department may use, or cause to be used, such materials in the construction of the work provided for in the contract.

Although payment may have been made for materials, the Contractor shall be responsible for loss or damage to the materials. Such materials shall be replaced with no additional payment.

Approval of partial payment for stockpiled materials will not constitute final acceptance of such materials for use in completing the work. Structural steel members and pavement reinforcing steel may be subjected to additional inspection and testing prior to final acceptance and incorporation into the work. All other stockpiled pay items will be subjected to additional inspection and testing prior to final acceptance and incorporation into the work.

Partial payments for stockpiled materials that are a portion of the pay item will be deducted from estimates due the Contractor as the material is incorporated in the work.

111.10 Method of Measurement

No measurement will be made. However, the amount will be substantially verified before authorization for payment.

111.11 Basis of Payment

Stockpiled materials which are authorized for payment in accordance with the requirements herein will be paid for in accordance with 111.03, 111.04, 111.05, 111.06, 111.07, 111.08, and 111.09.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Stockpiled Material, _____ (type of material)	LFT (m)
	EACH
	CYS (m3)
	SYS (m2)
	TON (Mg)
	LBS (kg)
Structural Steel	LS
Structural Members, Concrete	LS
Structural Expansion Joint, _____ (type)	LFT (m)