CITY OF BELGRADE

MODIFICATIONS TO:

MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS

SIXTH EDITION

July 2017

FOREWORD-SPECIFICATION ADMINISTRATION

Division 2- Site work is applicable to all commercial projects.

Because the City of Belgrade has unique requirements which are not addressed in the *"Montana Public Works Standard Specifications"* (MPWSS), Sixth Edition, April, 2010, the *"City of Belgrade Modifications To Montana Public Works Standard Specifications"* was created. This document addresses those specific requirements which the City of Belgrade has pertaining to Public Utilities projects which are not addressed in the MPWSS. All Public Works projects for the City of Belgrade shall be done in accordance with MPWSS and City of Belgrade Modifications to MPWSS.

Where a City of Belgrade modification to MPWSS does not exist for a particular Section of MPWSS it shall be assumed the work is to be completed in accordance with the appropriate MPWSS Section. When a City of Belgrade modification to the MPWSS does exist the requirements of that modification supersede the related MPWSS requirement. The same holds true for City of Belgrade Standard Drawings. Please note, some City of Belgrade Standard Drawings do not replace or supersede an existing MPWSS Standard Drawing, but are additional drawings created specifically for the City of Belgrade.

Each Section of the MPWSS that has been modified is listed in the Table of Contents of the *"City of Belgrade Modifications To Montana Public Works Standard Specifications."* The entire Section from the MPWSS has not been rewritten for these modifications. Instead, modifications are indicated for a specific subsection, paragraph, sentence or drawing.

Appendix A of these modifications contains a list of MPWSS Standard Drawings followed by "Deleted", "Replaced", or "Active". "Deleted" indicates that the drawing is not to be used. "Replaced" indicates that the drawing has been replaced by a City of Belgrade Standard Drawing and "Active" means that the drawing is useable as shown in MPWSS. Appendix B contains a list of City of Belgrade Standard Drawings.

Appendix D of these modifications contains the list of approved copper connectors for use in the City of Belgrade. Other copper connectors may be approved by the City of Belgrade, on a case by case basis.

Appendix E of these modifications contains the agreement form for a Street Closure and Event Agreement for applicants to complete and submit to the City of Belgrade. A permit is required for the use of public streets for Special Events within the City Limits of Belgrade.

Appendix F of these modifications contains the Street Cut Permit Application. No street cuts or repairs may be made to any street within the City of Belgrade unless a permit is obtained from The City of Belgrade prior to starting the work. The terms and conditions of the Agreement between the applicant and The City of Belgrade are included in Appendix F.

It is the intent of the City of Belgrade to revise this document on an as-needed basis. Written comments on the *"City of Belgrade Modifications To Montana Public Works Standard Specifications"* may be submitted to the City of Belgrade Public Works Department. A form for submitting suggested changes can be found in Appendix E.

Additional copies of the City of Belgrade Modifications to Montana Public Works Standard Specifications may be obtained from the office of the City Clerk located at 91 East Central Street, Belgrade, Montana 59714. This document may also be viewed and printed from the City of Belgrade website at: www.ci.belgrade.mt.us

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List of Appendices:

INSTRUCTION TO BIDDERS

Any contract documents for which the City of Belgrade acts as the contracting agent, (i.e., signatory to the contract), shall include the following additions or changes to the Montana Public Works Standard Specifications.

BID QUANTITIES Bidders must satisfy themselves by personal examination of the locations of the proposed work and by such other means as they may prefer as to the correctness of any quantities.

The estimated unit quantities of the various classes of work to be done under this contract are approximate and are to be used only as a basis for estimating the probable cost of the work and for comparing the proposals offered for the work. The Contractor agrees that, during progress of the work, the Owner may find it advisable to omit portions of the work, to increase or decrease the quantities as may be deemed necessary or desirable, that the actual amount of work to be done and materials to be furnished may differ from the estimated quantities, and that the basis for payment under this contract shall be the actual amount of work done and the materials furnished.

The Contractor agrees that he will make no claim for damages, anticipated profits or otherwise on account of any difference which may be found between quantities of work actually done and the estimated quantities.

BID REQUIREMENTS The Bidder is expected to base his bid on materials and equipment complying fully with the plans and specifications and, in the event he names in his bid materials or equipment which do not conform, he will be responsible for furnishing materials and equipment which fully conform at no change in his bid price.

Before submitting a proposal, each Contractor should read the complete Contract Documents (including all addenda), specifications and plans, including all related documents contained herein, all of which contain provisions applicable not only to the successful Bidder, but also to his subcontractors.

EXAMINATION Examine documents and conditions at existing site carefully. No extra payments will be given for conditions which can be determined by examining documents and existing conditions.

QUESTIONS Submit to Engineer. Replies will be issued to Bidders of record as addenda. Engineer and Owner shall not provide nor be responsible for any oral clarification.

PROPOSAL

1. The Bidder shall submit his proposal on the forms bound in these Contract Documents. Neither the proposal nor any other pages bound herein or attached hereto shall be detached.

2. Proposals shall be in a sealed envelope and addressed to:

City Hall
91 East Central
Belgrade, Montana 59714

The envelope shall also contain the following information:

a. Name of Project
b. Name of Contractor
c. Montana Certificate of Contractor Registration Number
d. Acknowledge Receipt of Addendum No.: __,__,__,
e. In the lower left-hand corner of the envelope print of type: BID DOCUMENTS – DO NOT OPEN UNTIL _____ a.m./p.m. on _____, _____.

3. Proposals shall be made in accordance with the following instructions:

a. Submit one copy of the complete bound documents in an opaque sealed envelope. DO NOT REMOVE THE PROPOSAL NOR ANY OTHER PAGES FROM THE BOUND CONTRACT DOCUMENT.
b. Bids shall be made in ink upon the unaltered Bid Proposal Form supplied with these documents.
c. All blank spaces must be properly filled.
d. The total bid price must be stated in both writing and in figures. In case of a discrepancy between unit price and total bid price, the unit prices or lump sum prices shall be used in computing the total bid price.
e. The proposal form shall contain no addition, conditions, stipulations, erasures, or other irregularities. The proposal form shall be printed or typed.
f. The proposal must acknowledge receipt of all addenda issued.
g. The proposal must be signed in ink and display the Bidder's name, address, and correct Montana Contractor's Registration Number.

SIGNING OF BIDS

a. Bids which are not signed by individuals making them shall have attached thereto a Power of Attorney evidencing authority to sign the bid in the name of the person for whom it is signed.
b. Bids which are signed for a co-partnership shall be signed by all of the co-partners or by an attorney-in-fact. If signed by an attorney-in-fact, there shall be attached to the bid a Power of Attorney evidencing authority to sign the bid.

c. Bids which are signed for a corporation shall have the correct corporate name thereof signed in handwriting or in typewriting and the signature of the president or other authorized officer of the corporation shall be manually written below the written or typewritten corporate name following the work:

   By:

   Corporate Seal:

   Title:

d. If bids are signed for any other legal entity, the authority of the person signing for such legal entity should be attached to the bid.

TELEGRAPHIC MODIFICATION Any Bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt for bids. The telegraphic communication shall not reveal the bid price, but shall only provide the addition or subtraction from the original proposal. Telegraphic proposal modifications must be verified by letter. This written confirmation shall be received no later than three (3) working days following the bid opening or no consideration will be given to the telegraphic modification.

LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT The successful Bidder, upon his failure or refusal to execute and deliver the contract and bonds required within ten (10) days after he has received notice of the acceptance of his bid, shall forfeit to the Owner as liquidated damages for such failure or refusal, the security deposited with his bid, as provided in 18-1-204 Montana Code annotated.

GROSS RECEIPTS WITHHOLDING In accordance with Section 15-50-206, Montana Code Annotated, the City of Belgrade must withhold one percent (1%) of incremental payments due the Contractor for remittance to the Department of Revenue for any contracts greater than $5,000.00.

CITY OF BELGRADE BUSINESS LICENSE All Contractors conducting work within the City of Belgrade are required to have a current Business License. Applications for Business Licenses may be obtained at City Hall, 91 East Central, Belgrade, Montana, 59714.

END OF SECTION

SPECIAL PROVISIONS

Any contract documents for which the City of Belgrade acts as the contracting agent, (i.e., signatory to the contract), shall include the following additions or changes to the Montana Public Works Standard Specification.

GENERAL

All work shall be performed in accordance with these specifications. Applicable sections of the Montana Public Works Standard Specifications, Sixth Edition (MPWSS-6th), published April, 2010, which by this reference are herby included as part of this specifications as modified herein by the City of Belgrade.

Plans and specifications shall be submitted to the City of Belgrade for review and approval at least 60 days prior to advertising any project.

At the completion of a street or utility project the project engineer or the developer shall provide the City of Belgrade with one electronic set, one complete set of full size (24"x36") reproducible Mylar and two full size paper (blueprint) copies of the as-built drawings.

AWARD OF CONTRACT

The award of the contract, if awarded, will be made in the best interest of the City of Belgrade within the period specified in the Invitation to Bid. Award will be made to the lowest responsible Bidder whose bid complies with all the requirements prescribed herein. The successful Bidder will be notified by letter, mailed to the address shown on the bid, that his bid has been accepted and that he has been awarded a contract. The bid schedules may be awarded as a single total combined contract; may be awarded singly as separate contracts, or in any combination of schedules which result in the lowest project cost to the Owner.

TIME OF COMMENCEMENT AND COMPLETION DATE

The beginning of the contract time shall be stated in a written NOTICE TO PROCEED written by the Project Engineer to the Contractor. In establishing the date when contract time begins, the Project Engineer will consider that the contract time begins following delivery of the NOTICE TO PROCEED. The contract time will expire automatically at the end of the number of calendar days stated for contract time, except as the contract time may be extended by change order. A Notice to Proceed may be given at any time within thirty days after the Effective Date of the Agreement. In no event will the Contract Time commence to run later than the seventy-fifth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

LIQUIDATED AND OTHER DAMAGES

Subject to the provisions of the contract documents, the Owner shall be entitled to liquidated and other damages for failure of the Bidder to complete the work within the specified contract time.

The Bidder agrees to pay liquidated damages for compensation to the Owner for unspecified expenses incurred by the Owner during the contract time overrun. The Bidder also agrees to pay all costs the Owner incurs for additional construction administration, engineering, inspection, and legal costs that the City incurs due to the Contractor failing to complete the work within the specified contract time.

As compensation for expenses incurred, the Contractor shall be assessed a liquidated damage of $200.00 per calendar day plus all the costs the City incurs due to added construction administration, engineering, inspection and legal costs for each day that the work remains uncompleted beyond the contract period. Specific damages, liquidated damages, construction administration, engineering, inspection and legal costs shall be paid by deduction from monthly progress payments and the final payment.

COST LIMITATIONS

The Owner reserves the right to eliminate or reduce certain proposal items from the project following the bid opening to make the project financially feasible within the limitations of the funds allocated for this project. The determination of which items shall be eliminated shall be the responsibility of the Owner. If the overall contract price changes more than 15 percent, the Bidder may elect to withdraw his bid with no penalty.

NAMES, PRODUCTS AND SUBSTITUTIONS

Where products or materials are specified by manufacturer, trade name, or brand, such designations are intended to indicate the required quality, type, utility, and finish. Requests for proposed substitution shall include complete specifications and descriptive data for both the originally specified product or material and the proposed product or material. To be eligible for substitution a written narrative to prove the equality of proposed substitutions comparing the originally specified product or material to the proposed substitution shall be provided justifying that the products are equal. Substitutions shall not be made without the written approval of the Owner. No substitutions will be considered until after contract award.

APPROVAL OF EQUIPMENT AND MATERIAL

Upon request by the Owner, the Contractor shall furnish to the Owner or its Engineer for approval the name of the manufacturer of any equipment or material which he contemplates using in execution of the work, together with the performance capacities and such other information which may be pertinent or required by the Owner.

BIDDER'S QUALIFICATIONS

The Contractor shall show evidence that he has the finances, organization, and equipment to perform the work with a limited number of subcontractors. The Contractor will be required to have a full-time resident General Superintendent on the job at all times while the work is in progress. He shall be in a position to direct the work and make decisions either directly or through immediate contact with his superior. Absence or incompetence of the Superintendent shall be reason for the Owner to stop all work on the project.

WARRANTY

If, within one year after acceptance of the work by the Owner, any of the work is found to be defective or not in accordance with the Contract Documents, and upon written notice from the Owner, the Contractor shall correct any work beginning within seven (7) calendar days of said written notice. Should the Contractor fail to respond to the written notice within the designated time, the Owner may correct the work at the expense of the Contractor.

SCHEDULING

Prior to or at the PRECONSTRUCTION CONFERENCE, the Contractor shall provide the Owner the following schedules:

A. A practicable CONSTRUCTION PROGRESS SCHEDULE showing the order, timing and progress in which the Contractor proposes to prosecute the work. This schedule shall be in bar graph (Gantt, CPM (Critical Path Method) or PERT (Program Evaluation end Review Technique) format. The schedule shall be updated and re-submitted as necessary to reflect project changes.

B. A PAYMENT SCHEDULE showing the anticipated amount of each monthly payment that will become due the Contractor in accordance with the Construction Progress Schedule.

Any review by the Owner will not relieve the Contractor from responsibility for completing the work within the contract time. It is the Contractor's sole responsibility to submit the schedule. The Owner may request an updated schedule at any time. Failure of the Owner to request or review the schedule does not waive the schedule submission requirement.

PRECONSTRUCTION CONFERENCE

After the contract(s) have been awarded, but before the start of construction, a preconstruction conference will be held at the site of the project for the purpose of discussing requirements on such matters as project supervision, on-site inspection, coordination with city staff, progress schedules and reports, payrolls, payment to contractors, contract change orders, insurance, safety, and any other items pertinent to the project. The Contractor shall arrange to have all supervisory personnel and a representative from each of the affected utility companies connected with the project on hand to meet with a representative of the Owner to discuss the project and any problems anticipated.

SHOP AND FABRICATION DRAWINGS

The Contractor shall prepare and submit fabrication drawings, design mix information, material testing compliance data, and other data in accordance with the General Conditions. Shop drawings shall be submitted for all materials to be utilized in the work. Following review, the Contractor shall resubmit copies of any drawings which required revision or correction.

Any review by the Owner will not relieve the Contractor from responsibility for errors or omissions, inadequate design performance requirements, schedule requirements, and proper operations of any item required under the Contract. Not withstanding any such review, Contractor shall remain solely responsible for full and complete performance in accordance with the terms, conditions, provisions, drawings and specifications set forth in the Contract Documents.

PERMITS, LICENSES, AND FEES

The Contractor shall procure and pay for all fees, permits, licenses and bonds necessary for the prosecution of the work and/or required by Municipal, State and Federal regulations, laws, and ordinances including those that pertain to permits for transportation of materials and equipment or other operations which are not a specific requirement of these specifications. A City Business License and Safety Inspection Certificate must be obtained prior to contract execution. All costs related to fees, permits, licenses and bonds shall be merged and included in the Contractor's bid price for the related work.

INSPECTION BY PUBLIC OFFICIALS

Authorized representatives of the Owner and the Montana Department of Environmental Quality shall have access to the work wherever it is in preparation or progress. The Contractor shall provide proper facilities, equipment, and safety measures required for safe access and inspection by authorized representatives of these agencies.

UNDERGROUND UTILITIES

The Contractor shall be responsible for checking with the Owners of the underground utilities such as the City, County, power and telephone companies, etc., as to location of their underground installations in the project area. The Contractor shall be solely responsible for any damage done to these installations due to failure to locate them or to properly protect them when their location is known.

It shall be solely the responsibility of the Contractor to fully coordinate his work with the agencies and to keep them informed of his construction activities so that these vital installations are fully protected at all times.

A Montana One-Call system (1-800-424-5555) has been established to facilitate requests for underground facility location information. The Contractor is cautioned that all utilities may not be on this system.

EASEMENTS, RIGHT-OF-WAYS, ADJOINING PROPERTY

The Contractor shall contain all of his construction operations within the easements and right-of-way unless written approval is secured from the Owner of the adjoining property or written approval is given by the Owner to utilize the adjacent land area.

TRAFFIC CONTROL

A. GENERAL The Contractor shall at all times conduct his operations so that there is a minimum interruption in the use of City streets affected by the work. Exact procedures in this respect shall be established in advance of construction with Owner.

Barricade function, design and construction shall conform to the latest edition of the Manual on Uniform Traffic Control Devices and the Standard Specifications for Road and Bridge Construction of the State Highway Commission of Montana, latest edition.

Should construction of the project require the closure of any streets, roads or highways or require night-time or long-term traffic control, the Contractor shall be required to prepare a detailed TRAFFIC CONTROL PLAN to address the methods and means of controlling traffic under the specific conditions. In regards to closures, the plan shall include specific details on traffic detours and estimated duration of the closures. Details of signing, barricades, flagging and other traffic control devices shall be included, and the TRAFFIC CONTROL PLAN shall be approved by the Owner or his designated representative prior to construction.

B. TRAFFIC ACCESS Construction work shall be programmed by the Contractor so that local traffic will have continuous access within one block of any given property. It shall be the responsibility of the Contractor to notify all residents in the area of programmed work of street closures, parking requirements and restriction, and any other conditions, a minimum of twenty-four (24) hours prior to beginning work within the affected area. All signing, barricades, and other traffic control measures shall be provided by the Contractor. Emergency vehicle access shall be provided at all times.

C. WARNING SIGNALS All streets, roads, highways and other public thoroughfares which are closed to traffic shall be protected by means of effective barricades on which shall be placed, mounted or affixed acceptable warning signs. Barricades shall be located at the nearest intersecting public highway or street on each side of the blocked section.

All open trenches and other excavations within the construction area shall be provided with suitable barriers, signs and lights to the extent that adequate public protection is provided. All abrupt grade changes greater than one inch which traffic is required to pass over, and obstructions, including but not limited to material stockpiles and equipment, shall be similarly protected.

All barricades and obstructions not easily visible at night shall be illuminated by means of warning lights at night. All lights used for this purpose shall be kept burning from sundown to sunrise.

DISPOSAL, EROSION, WATER POLLUTION, AND SILTATION CONTROL

The Contractor is responsible for proper disposal of all waste soils and materials unless otherwise directed herein. Where waste materials are disposed on private property not owned by the Contractor, evidence of property owner's written permission shall be obtained and provided to the Owner. Contractor shall comply with all local, state, and federal laws and regulations pertaining to erosion control, fill in wet lands, and floodplains. The Contractor shall dispose of all refuse and discarded material in an approved location.

The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent pollution or siltation of rivers, streams or impoundments. Pollutants such as chemicals, fuels, lubricants, bitumen's, raw sewage, and other harmful wastes shall not be discharged into or alongside rivers, streams, impoundments or into natural or manmade channels leading thereto. In addition, the Contractor shall conduct and schedule his operations to avoid muddying or silting of rivers, streams or impoundments. The Contractor shall meet the requirements of the applicable regulations of the Department of Fish, Wildlife and Parks, Department of Environmental Quality, Environmental Protection Agency and other State or Federal regulations relating to the prevention or abatement of water pollution and siltation.

The Contractor's specific attention is directed to the Montana Water Pollution Control Act and the Montana Stream Preservation Act. The Contractor shall be responsible for obtaining any required discharge permits associated with erosion control and groundwater dewatering operations. Contractor's responsibility shall include all cleanup, restoration, ect., of any detention or discharge areas.

PROTECTION OF EXISTING PAVEMENT

All equipment shall be fitted with pads on the outriggers and other accessories as necessary to prevent damage to existing pavement during the course of the project. Any damages to pavement shall be corrected by the Contractor, at his expense, in a manner directed by the Engineer.

OPERATION OF EXISTING AND NEW VALVES

All existing City of Belgrade water main valves shall be operated by authorized personnel of the City of Belgrade only. The Contractor shall not operate any existing valves without the written consent of the City of Belgrade. When new or existing valves are used to take water from the City of Belgrade water distribution system, they shall be operated by City of Belgrade personnel only.

SALVAGEABLE ITEMS

Any items removed from the existing system under the terms of this contract shall remain the property of the City of Belgrade and shall be delivered to a site specified by the City of Belgrade. Should the City of Belgrade choose not to accept any salvageable items, then the Contractor shall

dispose of those items at his expense at a site or landfill acceptable to the Engineer. Any costs for the above work shall be at the Contractor's expense.

ACCESS TO RECORDS

The Contractor shall allow access to any books, documents, papers or records which are directly pertinent to this Contract by the Owner, State or Federal agencies, or any of their duly authorized representatives for the purpose of making an audit, examination, excerpts or transcriptions.

INSURANCE

Insurance coverages required under this contract shall extend, at a minimum, to the end of the contract time.

MATERIAL STORAGE SITES

The Contractor shall select and procure material storage sites. Permission to store materials on private property shall be secured in writing, with a copy provided to the Project Engineer.

SANITARY PROVISIONS

The Contractor shall provide and maintain such sanitary accommodations for the use of his employees and those of his subcontractors as may be necessary to comply with the requirements and regulations of the local and State Department of Health.

END OF SECTION

SECTION 01570

CONSTRUCTION TRAFFIC CONTROL

1.3 NOTIFICATIONS

Add the following:

D. Notify police department, fire department, public schools, hospitals, ambulance services, bus companies, and any other affected groups or organizations of any planned street closures, a **minimum of 24 hours** before closing any street.

Add the following:

1.4 STANDARD DRAWINGS

Refer to the following Standard Drawings in Appendix C:

City of Belgrade Standard Drawing No. 01570-01, Traffic Control, Minimum Standard, Urban Work Site, 4 Lane Road, Work Site Closing One Lane

City of Belgrade Standard Drawing No. 01570-02, Traffic Control, Minimum Standard, Urban Work Site, 2 Lane Road, Work Site On Centerline

City of Belgrade Standard Drawing No. 01570-03, Traffic control, Minimum Standard, Urban Work Site, 4 Lane Road, Work Site On Centerline Partially Blocking Inside Lanes

City of Belgrade Standard Drawing No. 01570-04, Traffic Control, Minimum Standard, Urban Work Site, 2 Lane Road, 1 Lane Partially or Fully Closed By Work Area

City of Belgrade Standard Drawing No. 01570-05, Traffic Control, Minimum Standard, Rural Work Site, Work Adjacent to the Present Traveled Way

City of Belgrade Standard Drawing No. 01570-06, Traffic Control, Minimum Standard, Rural Work Site, Utility Work On or Across the Present Traveled Way

City of Belgrade Standard Drawing No. 01570-07, Pedestrian Traffic Control for Temporary Sidewalk Closure

City of Belgrade Standard Drawing No. 01570-08, Sidewalk Closure with Detail

4.1 PAYMENT

Add the following:

D. Measurement and payment for Construction Traffic Control will be made only if listed as a separate item in the bid documents. If not listed in the contract as a bid item, Construction Traffic Control shall be considered an incidental cost to be included in other items in the contract requiring Traffic Control to complete that item.

SECTION 01500

CONSTRUCTION AND TEMPORARY FACILITIES

1.4

Revise this section as follows:

Be responsible for dust and vehicle off-tracking control, providing all equipment and personnel for the work. Furnish Engineer name(s) and telephone number(s) of the person(s) responsible for dust and vehicle off-tracking control during evenings and weekends. If the person cannot be contacted, Owner or City of Belgrade may, at the Contractor's expense, perform the work or contract it out.

Add the following:

1.6 STANDARD DRAWINGS

A. Standard drawings included in Appendix A of this specification book which are applicable to this section are as follows:

Standard Drawing No. 01500-01 Vehicle Tracking Control

CONSTRUCTION TRAFFIC CONTROL SUBMITTAL

WORK LOCATION: _____

PROJECT: _____

CITY OF BELGRADE

_____ Accepted

_____ Accepted with change/conditions: _____

_____

_____

_____ Denied _____

Comments: _____

_____

Signed By: _____ Date _____

CONSULTANT	CONTRACTOR
Firm Name_____ Address_____ _____ Phone ( ) City Task Director_____ Project Manager_____ Phone Home Field Inspector Mobile Total # Pages Attached Public Notification(s) will be let and/or disbursed: _____ (Date) **Reviewed and:** _____Approved _____Approved with changes/conditions: _____ _____ _____Denied Comments:_____ _____ _____ By_____ (Project Manager) Date_____	Firm Name_____ Address_____ _____ Phone ( ) Job Foreman_____ Mobile # ( ) Phone ( ) Subcontractor_____ Mobile # ( ) Phone ( ) Traffic Control Sub._____ Mobile # ( ) Phone ( ) Home ( ) Project Description/Construction Information: Exact R.O.W. requested for use_____ _____ _____ Specific work to be done_____ _____ _____ TCP Page #s_____(Attach Plans) Starting Date_____ Time_____ Ending Date_____ Time_____ Daily Work Hours_____ Extension_____ Extension_____ Notification provisions: (Attach a copy of flyers and/or new release)_____ _____ Private access provisions:_____ _____ _____ Submitted by:_____ Date:_____

CONSTRUCTION TRAFFIC CONTROL SPECIAL PROVISIONS

1. The Contractor **SHALL** comply with all OSHA and MUTCD standards.

2. The Contractor is required to carry liability insurance per Belgrade Municipal Code or the contract documents, whichever is applicable.

3. Notifications:

   a) The City of Belgrade will be notified of **ALL** alley, street/intersection, and complete direction of travel closures and openings.

   b) Bus Barn and School District No. 44 shall be notified of **ALL** street/intersection and complete direction of travel closures and openings.

   c) BFI will also be notified of all alley closures.

   d) News releases/handouts and contact requirements will be determined by the City of Belgrade.

4. New closures will not be implemented during adverse weather conditions, unless specific approval in writing is obtained.

5. All existing, non-conflicting traffic control devices will remain visible to the public, unless specific approval in writing is obtained. All damage to existing traffic control signs and signals will be immediately reported and then repaired to City standards within 7 days.

6. All traffic control devices shall comply with the MUTCD standards and shall be in good condition and monitored throughout their use.

7. Sign supports, barricades, and other devices placed in or near the roadway shall be crash worthy and meet the applicable requirements of the AASHTO Roadside Design Guide. If ballast is required to keep signs or barricades upright, use sandbags resting on the ground only.

8. High level signage is required on all heavily congested roadways, and where otherwise deemed necessary by the City of Belgrade.

9. Traffic control devices and equipment will be placed in such a way that they do not cause vision obstructions or hazards for drivers and/or pedestrians. Sign and barricade supports shall not block sidewalks or crosswalks that are open to pedestrian travel.

10. Work time allowed by City Noise Ordinance is 7:00 a.m. – 7:00 p.m. (Deviations must have prior written approval from the City of Belgrade).

11. High level signage: Signs that exceed 7 feet from the bottom of the sign to its base. Variations require prior written approval from the City of Belgrade.

12. Warning lights complying with MUTCD requirements are required on all construction zones from dusk to dawn or where poor visibility exists.

13. Advertising on barricades shall be done in one color and be **non-reflective** with letters not to exceed one (1) inch in height.

14. Pedestrian walkways shall not block existing traffic control devices.

15. The use of metered parking spaces will be shown on the TCP with the meter numbers indicated, (if applicable).

16. The general contractor shall provide parking provisions for all subcontractors at contractor expense and risk.

SECTION 01580

TEMPORARY WATER SUPPLY

1.2 STANDARD DRAWINGS

Add: City of Belgrade Standard Drawing No. 01580-01, Temporary Water Supply Hydrant Meter Assembly

PART 1 – GENERAL

1.1 DESCRIPTION

Revise the following:

A. Provide temporary water service to all residential, privately owned onsite and commercial service connections interrupted by water system replacement or extension projects. The Contractor shall verify with the Engineer and Owner at least 72 hours (excluding weekends and holidays) prior to the suspension of service to the areas where consumers will require temporary water supply. Temporary service shall include temporary service for commercial or residential fire protection unless otherwise approved by the City of Belgrade Fire Department.

B. The contractor shall not disrupt a City of Belgrade water system customer or privately owned on-site water system for more than 4 hours in any 24 hour period without providing temporary water. The contractor shall provide homes that are subject to two water shutdowns with temporary water. The Contractor also shall not disrupt service to commercial customers unless:

1. The Contractor obtains an authorization letter from the property owner and business owner (if different) at least 7 days prior to the interruption of service. The owners shall agree in the letter to the time and dates of the interruption of the water service and;

2. The Contractor sends a comprehensive work plan to the Engineer for approval that details the planned methodology to be used to ensure the commercial facility is not out of water for more than the time detailed in the above letter.

C. Fire Hydrants placed out of service during construction shall be so indicated by bagging with a secured black plastic bag until the hydrant is placed back into service.

D. Temporary water set up shall conform with the City of Belgrade Standard Drawing

02660-80.

1.3

***Add the following*:**

B. The City of Belgrade will review all temporary water plans. Deficiencies noted by the City shall be addressed prior to the temporary water system being constructed.

3.1 GENERAL

Revise the following:

B. The Contractor must have available all the necessary materials to complete the restoration of water to each of residential service within four (4) hours after the suspension begins or before 5:00 p.m., whichever comes first. House-to-house or building–to-building connections will not be allowed unless approved by the City.

C. The Contractor must have available all the necessary materials to complete the restoration of water to commercial service within four (4) hours after the suspension of service. If possible, four hour suspensions of service shall occur during times that shall create the least disturbances to the business during normal work hours as defined by the specifications. The Contractor shall supply all hoses, fittings, tec., for providing temporary water service at his expense. Copper piping or other "non-taste" inducing pipe shall be necessary if the commercial consumer serves food or water products as part of the business.

3.2 LOCATING CURB STOPS

Revise the following:

A. The Contractor shall be solely responsible for activities related to locating and exposing curb stop valves to the individual properties. City of Belgrade shall be the only party to operate curb stop valves to the individual properties.

3.3 LAWN WATERING CONNECTIONS

Revise the following:

A. Each house connection shall be equipped with a wye or splitter with a valve to allow for lawn watering. Plastic fittings are not permitted. The wye, splitter or tee shall be NSF approved and shall be equipped with an NSF approved vacuum breaker and shut off valve. The connection to each customer shall require a short section of high-pressure flexible rubber hose at the connection point. House-to-house connections are not permitted. All connections shall be from the approved temporary water system. Additionally, each service must have a backflow prevention fitting.

3.5 TEMPORARY WATER SYSTEM DISINFECTION

Revise the following:

A. All temporary water systems shall be assembled, flushed, and disinfected in place and approved by the Engineer and Owner before being placed into service. The disinfection procedures shall be equal to the procedures required for a new water main. After final flushing, the temporary water system must be refilled with water and allowed to sit a minimum of 24 hours before a bacteriological sample, or samples are collected from the main or service lines to test for organisms. Collect at least one sample for every 500 feet of main and one sample from each branch. A representative from the City of Belgrade must be present while the water samples are being taken.

3.7 CROSSING ROADS, ALLEYS AND DRIVEWAYS

Revise the following:

B. The Contractor will be required to install the temporary water supply at street crossings in a shallow trench or other methods acceptable to the City Engineer. The City Engineer may not allow new asphalt to be cut for temporary water trenches in which case the temporary water main is to relocated or or other crossing methods are to be used. Aerial crossings of the temporary water lines at street crossings will not be allowed. Temporary water supply pipes shall not be installed in storm drain pipes. Mounding milling, cold mix or gravel over a temporary water pipe that has been trenched into the existing asphalt pavement or laid across the pavement may be allowed with approval from the City Engineer under the following conditions:

1. The side slopes on the mounding shall be a maximum of 6:1 and the slopes.

2. Provisions are made to avoid impact loads on the temporary water pipe.

3. Sings are erected indicating a bump ahead at 500 feet and 100 feet from the bump and at the bump in both directions.

4. Pedestrian crossings are maintained and remain in compliance with ADA standards.

SECTION 01700

CONTRACT CLOSEOUT

1.1 CLEANUP

Add the following:

A. 11. Provide adequate personnel during pre-paving, final and warranty inspections to open all curb stops and valve boxes, sewer and storm drain manholes for inspection by the Engineer and the City of Belgrade.

1.4 WARRANTIES AND BONDS

Add the following:

B. Performance and payment bonds shall remain in effect until one year after the date of final completion and acceptance by the City of Belgrade.

1.5 CITY OF BELGRADE DESIGN STANDARDS

Add the following:

A. Comply with the following requirements in the City of Belgrade Design Standards.
C. Construction Coordination
Section 8. Project Close-out and Acceptance
Section 9. One-Year Warranty Inspection

SECTION 02112

REMOVAL OF EXISTING PAVEMENT, CONCRETE CURB, SIDEWALK, DRIVEWAY AND/OR STRUCTURES

3.1 GENERAL

Add the following:

D. Exercise care in removal of existing tree roots that conflict with the work. Tree roots shall be removed by saw-cutting the roots to a neat line at the extent of the excavation. Remove only the minimum amount of roots necessary in order to complete the work.

SECTION 02113

ADJUSTING EXISTING MANHOLES, LAMPHOLES, INLETS, WATER VALVE BOXES, WATER SERVICES AND FIRE HYDRANTS TO GRADE

1.2 STANDARD DRAWINGS

Delete: Standard Drawing No. 02113-1, Manhole Adjustment Detail

Delete: Standard Drawing No. 02113-1, Water Valve Adjustment Detail

Add: City of Belgrade Standard Drawing No. 02113-01, Manhole Adjustment Detail

Add: City of Belgrade Standard Drawing No. 02113-02, Water Valve Adjustment Detail

PART 2 – PRODUCTS

2.1 GENERAL

Revise the following:

A. Install adjusting rings on each manhole to bring the manhole rim elevation to match the existing or specified ground elevations. A maximum of 12" and minimum of 4" of adjusting rings are permitted. Furnish concrete adjustment rings reinforced with the same percentage of steel as the riser and top. In the event that an existing manhole casting is being adjusted and the adjustment is less than 2", East Jordan Works INFRA-RISER rubber adjustment rings or approved equal may be used. No more than 2" total of East Jordan Works INFRA-RISER rubber adjustment rings may be used to adjust any manhole. Concrete adjustment rings in excess of 2" are preferred where possible. To adjust the rim to match the slope of a street, use tapered adjusting rings. All joints between grade rings will be sealed with "Ram-Nek" manufactured by K.T. Snyder Company, CS-202 Butyl Resin ConsSeal or an approved equal joint sealant compound between the first adjusting ring and the manhole casting.

Add the following:

B. East Jordan Iron Works Model 69 screw type adjustable risers may be used to adjust existing valve boxes to grade. Do not use these adjustable risers on new valve boxes; add mid-section extensions to provide correct valve box adjustment.

3.1 GENERAL

Revise the following:

Bring to required grade all existing manholes, inlets, lamp poles and water valve boxes by either or raising in accordance with the details shown in the contract documents. Assure that all structures have minimum of one 2-inch concrete adjusting ring and a maximum of 12 inches (30cm) of rings under the casting.

SECTION 02221

TRENCH EXCAVATION AND BACKFILL FOR PIPELINES & APPURTENANT STRUCTURES

1.3 STANDARD DRAWINGS

Refer to the following Standard Drawings in Appendix C:

Delete: Standard Drawing No. 02221-1, Typical Utility Trench Detail

Add: City of Belgrade Standard Drawing No. 02221-01, Typical Utility Trench Detail

2.1 PIPE BEDDING MATERIALS

A. TYPE 1 PIPE BEDDING

Modify the following:

2. Provide Type 1 Bedding consisting of imported sand, sandy gravel, or fine gravel having a maximum ¾ size and a maximum plasticity index of 6, determined by AASHTO T89 and T90 or by ASTM D4318.

3.1 PROTECTION OF EXISTING PROPERTIES

A. General

Add the following:

1. Replace any tree, bush, hedge, planter or similar vegetation or landscaping damaged during the course of the work with a planting equal to that damaged in kind, size, and location. The contract warranty period for performance applies also the death of trees, bushes, hedges, planters or similar begations or landscaping that dies due to the construction activity.

Modify the following:

4. Do not cut and replace existing services from the mains to private property which interfere with trenching operations unless the work has been specifically approved in writing by the City of Belgrade. If approved, the cost for this work will be the responsibility of the CONTRACTOR. Do not interrupt water service for more than four hours. Install a temporary service connection approved by the City of Belgrade if service is interrupted for a longer period. Protect temporary services from freezing or interruptions of

use during the construction period.

Add the following:

6. There shall be no stock piling of gravel or any other material on the paved right-of-way. If mud or other debris is tracked onto the paved right-of-way due to construction activities, it will be the responsibility of the contractor/owner to clean the pavement within 24 hours notice.

3.4 DEWATERING

Add the following:

A. Contractor shall be responsible for suitable legal disposal of all ground water removed during dewatering operations. Dewatering water shall not be disposed of in the City storm drain system.

3.6 TRENCH FILLING AND BACKFILLING

C. Trench Backfill

4. Watering

Add the following:

c. Water from the City of Belgrade's municipal water system may only be obtained from a metered service. The Contractor shall reimburse the City of Belgrade for the water used at a rate determined by the City of Belgrade Finance Department.

D. Replacement of Unsuitable Backfill Material

Add the following:

4. Written permission will be obtained from affected property owners prior to disposing any excavated soils onto their property.

F. Detectable Buried Warning Tape and Tracer Wire

Delete First Sentence: "The use of warning tape is optional…….".

Add the following:

1. All non-metallic pipe and services shall be installed with continuous tracer tape installed eighteen (18) to twenty four (24) inches under the final ground surface. No breaks or splices will be allowed. The marker shall be plastic,

non-biodegradable, metal core or backing that can be detected by a standard metal detector. A #10 AWG insulated tracer wire shall be installed directly on all non-metallic pipe and services.

2. All tracer wire for new utility installations will be tested before acceptance. The test will take the following form:

    1. A standard 5 watt generator will be used to provide AC current on the wire.

    2. The frequency of the signal from the generator will be initially restricted to 33 kHz or less.

    3. A standard hand held detector will be used to trace the signal.

    The tracer wire will be deemed to pass the test if using this set up:

    1. The tracer wire is accessible to all access points.

    2. The tracer wire can be traced from access point to access point.

3. Warning tape and tracer wire shall be colored as follows:

    a. Orange – Telephone

    b. Yellow – Gas

    c. Blue - Water System

    d. Green - Sanitary and Storm Sewers and inlet runs

    e. Red – Electrical

4. Tape shall have utility name imprinted on it.

3.10 PAVEMENT REMOVAL AND STRIPPING

Add the following:

1. Street Cutting

A concrete saw shall be used to produce a straight, clean, pavement edge. Cut the pavement a minimum of one foot outside of each edge of the trench opening. (See City of Belgrade Standard Drawing No. 02221-01, Typical Utility Trench Detail).

SECTION 02230

STREET EXCAVATION, BACKFILL AND COMPACTION

PART 1 GENERAL

1.3 DENSITY CONTROL TESTING

B. Laboratory Maximum Density and Optimum Moisture

Modify the following:

1. Change AASHTO T99 to AASHTO T180 and change ASTM D698 to ASTM D1557.

Add the following:

2. Quality assurance tests for laboratory maximum density and optimum moisture shall be done in accordance with ASTM Standards. Laboratory testing results using ASTM D1557 or AASHTO T-180 procedures with material gradations exceeding the maximum percentage of oversized rock will not be accepted without City Engineering approval. Instead ASTM D4253-D4254 standards (relative density test) will be required.

C. Material Submittals

Add the following:

2. Contractor will provide representative samples for on-site material sufficient to conduct testing on the material. Sufficient time to conduct the soil testing shall be provided to the Engineer at no additional cost to the Owner or Engineer. Proceeding with compaction efforts prior to having the maximum density values shall be done solely at the Contractor's risk. All material not compacted to the required density shall be excavated and compacted to the required density.

PART 3: EXECUTION

3.7 SUBGRADE PREPARATION AND COMPACTION

Modify the following:

C. Compaction

1. Compact the upper 12-inches (30 cm) of the subgrade to at least 95% of the laboratory maximum, determined by AASHTO T180 or ASTM D 1557

SECTION 02502

ASPHALT PRIME AND/OR TACK COAT

PART 2 PRODUCTS

2.1 GENERAL

A. Unless otherwise specified in the contract documents, do not use type SS-1h emulsified asphalt.

SECTION 02504

ASPHALT SEAL COAT

1.2 STANDARD DRAWINGS

Refer to the following Standard Drawings in Appendix C:

Add: City of Belgrade Standard Drawing No. 02504-01, Typical Seal Coat Section

3.3 CONSTRUCTION METHODS

D. Application of Asphalt Material

Add the following requirements:

7. Building paper shall be applied to the surface of any street drain inlet, water valve box, manhole cover, monument box, or other similar item, prior to beginning asphalt application on the street. For any such item not adequately covered by paper, the Contractor must re-open or clean as necessary any asphalt or other material, to the satisfaction of the City of Belgrade, prior to final payment or final approval. It is the sole responsibility of the Contractor to properly dispose of all building paper or other material used for covering manholes, valve boxes, monument markers, etc.

Add the following:

5. Unless otherwise specified in the contract documents, all loose aggregate from the pavement after the work is completed for projects done under contract to the City of Belgrade shall be removed and placed at a location designated by the City of Belgrade Public Works Department.

3.4 PROTECTION OF SIDE STREET STRUCTURES AND TRAFFIC CONTROL

Add the following:

C. It is the sole responsibility of the Contractor to furnish and post "No Parking" signs along both sides of the street(s) intended for seal coating. The "No Parking" signs shall be posted at 100-foot intervals minimum, and shall be securely fastened to their support posts. (Note: wood laths may be used.) The Contractor shall remove and dispose of all "No Parking" signs and their supports immediately after the seal coating operations have been completed on each street. The "No Parking" signs shall

be posted a minimum of 36 hours in advance of seal coating operations.

The Contractor shall notify the public, (by newspaper, radio, and by posting), as to the proposed streets to be seal coated and the corresponding schedule of the proposed construction activities. The Contractor shall be responsible for notifying all vehicle owners of the requirement to remove their vehicle(s) from areas to be seal coated a minimum of 24 hours in advance.

Traffic will be allowed onto streets upon completion of the seal coat street improvements. For a period of 48 hours following completion of the seal coat operations, traffic will be required to operate at a maximum speed of 15 mph. The contractor shall post, maintain, and remove the temporary 15 mph speed limit signs.

SECTION 02510

ASPHALT CONCRETE PAVEMENT

1.3 STANDARD DRAWINGS

Refer to the following Standard Drawings in Appendix C:

Add: City of Belgrade Standard Drawing No. 02510-01, Pavement Replacement Detail

Add: City of Belgrade Standard Drawing No. 02510-03, Asphalt Header Detail

Add: City of Belgrade Standard Drawing No. 02510-04, Pavement Transition Detail

Add: City of Belgrade Standard Drawing No. 02510-05, Taper Transitions for Overlay Pavement

Add: City of Belgrade Standard Drawing No. 02510-06, Typical Overlay Section

2.3 ASPHALT BINDER MATERIAL:

Add the following:

A.

1. Grades: Unless otherwise specified in the Contract Documents, the type and grade of asphalt cement shall be performance grade 58-28 (AASHTO Performance Graded Binder Specification MP-1).

3.10 WEATHER LIMITATIONS:

Revise the following:

B. Asphalt hot mix base and surface courses shall be placed only when the ambient air temperature is +45 degrees F and rising. Do not place asphalt on a surface which is frozen. Place asphalt only when the ground temperature is +40 degrees F and rising. Do not place asphalt paving while it is raining, when there is any standing water, or when the threat of rain is imminent.

3.14 PATCHING:

Add the following:

B. Surface Preparations

3.

d. Tack coat all existing asphalt edges, inlet box edges, valve box edges, manhole edges, and curb faces, via spray application, prior to placing new asphalt concrete.

e. If hot plant mix asphalt is not available, temporarily patch the pavement using cold mix asphalt or a 2-sack flow-able fill mix. Saw cut and remove the temporary patches and replace with hot mix asphalt when it becomes available.

f. Thickness of the pavement patch shall be a minimum of 3 inch thickness, or greater than or equal to the existing pavement thickness, unless otherwise approved in writing by the City of Belgrade.

3.16 SPREADING AND FINISHING:

Revise the following:

A. Spread and finish meeting the following requirements:

1. The maximum lift thickness is 3 inches (compacted depth) for surface courses and 4 inches (compacted depth) for base courses.

SECTION 02528

CONCRETE CURB AND GUTTER

1.1 DESCRIPTION:

Revise the following:

B.

Delete: Standard Drawing No. 02528-1, Standard Curb and Gutter

Delete: Standard Drawing No. 02528-2, Drive-over Curb and Gutter

Add: City of Belgrade Standard Drawing 02528-01, Integral Concrete Curb and Gutter

Add: City of Belgrade Standard Drawing 02528-03, Typical Street Section – Curb and Gutter

Add: City of Belgrade Standard Drawing 02528-04, Typical Street Section – No Curb

3.2 FOUNDATION PREPARATION:

Revise the following:

D. For new street construction or street reconstruction, place gravel base course for the street 9" beyond the edge of the pavement or back of curb, whichever is greater.

3.6 STRIPPING FORMS AND FINISHING

B. Finishing

Add the following:

3. After finishing and broming, stamp a mark into the concrete to mark sewer and/or water service lines. The mark shall be either a "W" for water or an "S" for sewer. The mark shall be 3" tall and stamped a minimum of ¼" into the face of the curb. The markings shall locate the end of the stubbed service at a 90-degree angle to the curb.

SECTION 2529

CONCRETE SIDEWALKS, DRIVEWAYS, APPROACHES, CURB TURN FILLETS, VALLEY GUTTERS, AND MISCELLANEOUS NEW CONCRETE CONSTRUCTION

1.2 REFERENCES:

A. ***Revise the following:***

Delete: Standard Drawing No. 02529-8, Accessibility Ramp

Add: City of Belgrade Standard Drawings No. 02529-08, Pedestrian Ramp – Option I

Add: City of Belgrade Standard Drawings No. 02529-08A, Pedestrian Ramp – Option II and Option III

Add: City of Belgrade Standard Drawing No. 02529-09A, Driveway Swale Crossing Detail – Option II

Add: City of Belgrade Standard Drawing No. 02529-09B, Driveway Swale Crossing Detail – Option III

Add: City of Belgrade Standard Drawing No. 02529-11, Residential Driveway Approach

Add: City of Belgrade Standard Drawing No. 02529-12, Non-Residential Driveway Approach.

Add: City of Belgrade Standard Drawing No. 02529-13, Non-Residential Driveway Approach for Arterial Streets.

Add: City of Belgrade Standard Drawing No. 02529-16, Concrete Walks

2.4 GRAVEL BASE MATERIAL

Add the following:

B. Washed rock material meeting the following Table of Gradations may be used as base material.

Table of Gradations – Washed Rock Base Material

Percentage by Weight Passing Square Mesh Sieves

Sieve Size	%Passing
1”	100
¾”	90-100

3/8”	10-55
No.4	0-10

2.5 CURING AND PROTECTIVE COATING MATERIALS

Add the following:

C. The curing compound used on color concrete shall be high solid acrylic cure, Day/Chem Aggre-Gloss J-25 (manufactured by Dayton Superior) or approved equal.

3.8 JOINTS:

Revise the following:

C. Divide sidewalk into sections using contraction joints formed by a jointing tool or other approved methods. Extend the contraction joints into the concrete for at least one-fourth its depth and make the joints approximately 1/8 inch wide. Unless otherwise directed, space contraction joints at 10-foot intervals maximum, or a distance equal to the sidewalk width, whichever is less. In continuous sidewalk runs, install expansion joints at the location of a regular contraction joint, if the distance between expansion joints does not exceed 25 feet.

3.11 MISCELLANEOUS NEW CONCRETE CONSTRUCTION

Add the following:

B. Construct all curb ramps with detectable warning surfaces in conformance with the requirements of the American with Disabilities Act Accessibility Guidelines (ADAAG). Detectable warning surface shall be East Jordon Iron Works Duralast Detectable Warning Surface or approved equal. Detectable warning surfaces shall be uncoated. Detectable warning surfaces shall be considered deficient and subject to replacement by the Contractor if more than 5% of the truncated domes on a ramp surface are missing or damaged, if the detectable warning product has lost any adhesion to the concrete, or if the detectable warning product is cracked or shows other signs of distress, at the end of the one year warranty period.

SECTION 02581

PAVEMENT MARKINGS AND MARKERS
(PREFORMED PLASTIC, PAINTS AND ENAMELS)

1.2 STANDARD DRAWINGS:

Add the following:

Add: City of Belgrade Standard Drawing No. 02581-01, Typical Pavement Markings for Pedestrian Crossings

Add: City of Belgrade Standard Drawing No. 02581-02, Typical Pavement Markings for School Crossings

2.1 PREFORMED PLASTIC PAVEMENT MARKING MATERIAL:

Add the following:

A. Pre-formed plastic pavement marking material to be Premark Plus® manufactured by Flint Trading Inc. or approved equal.

Revise the following:

D. Assure plastic pavement markings for inlay into new asphaltic surfaces are capable of being applied just before the final rolling of the new surface and can be rolled into place with conventional pavement rollers. For inlay applications, assure the plastic and adhesive are not damaged by pavement temperatures exceeding 150° F or by water on roller drums. Ensure that the pavement markings are installed in accordance with manufacturer's installation recommendations.

2.3 EPOXY PAVEMENT MARKING PAINT

Add the following:

A. Furnish and install epoxy paint in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Montana Department of Transportation, latest edition including any supplements.

SECTION 02582

REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS

1.1 DESCRIPTION

Revise the following:

D. Furnish thermoplastic that is hydrocarbon based. Furnish thermoplastic material that, while on the roadway surface and at any natural ambient temperature, will exist in a hard solid state with cold ductility that permits normal movement with the road surface without chipping and or cracking.

3.4 APPLICATION

A. 2. Extruded (Inlaid)

Add the following:

d. Unless otherwise specified in the contract documents, all transverse pavement markings and words and symbols shall be 400 mils thick, and all longitudinal lines shall be 270 mils thick.

SECTION 02660

WATER DISTRIBUTION

All applicable portions of MPW Standard Specification Section 02660 shall apply with the following additions, deletions and/or modifications.

PART 1: GENERAL

1.1 DESCRIPTION

Add the following:

D. The Contractor or person performing the work shall provide the City of Belgrade proof of insurance prior to tapping or connecting to the City water lines.

E. Hydrostatic pressure, Leakage test and Bacteriological Results will be furnished to the City of Belgrade prior to final acceptance.

F. Thrustblocks for pipe, valves, fire hydrants and caps shall be formed and installed per Montana Public Works Standard Drawing No. 02660-1 and the City of Belgrade Standard Drawing No. 02660-03, Thrust Blocking for Water Main Valves.

1.4 STANDARD DRAWINGS:

Delete: MPWSS Standard Drawing No. 02660-3, Thrust Blocking for Water Main Valves

Delete: MPWSS Standard Drawing No. 02660-4, Fire Hydrant Setting

Delete: MPWSS Standard Drawing No. 02660-5, Hydrant Location Detail

Delete: MPWSS Standard Drawing No. 02660-7, Blow-off Valve

Add: City of Belgrade Standard Drawing No. 02660-03, Thrust Blocking for Water Main Valves

Add: City of Belgrade Standard Drawing No. 02660-04, Fire Hydrant & Valve Detail

Add: City of Belgrade Standard Drawing No. 02660-05, Fire Hydrant Location Detail

Add: City of Belgrade Standard Drawing No. 02660-06, Water Service Line Detail

Add: City of Belgrade Standard Drawing No. 02660-07, Typical Blowoff

Add: City of Belgrade Standard Drawing No. 02660-08, Fire Hydrant Barrier Posts (Bollard) Detail

Add: City of Belgrade Standard Drawing No. 02660-10, Gate Valve and Valve Box with Thrust Block Detail

Add: City of Belgrade Standard Drawing No. 02660-11, Water Main Crossing Below Existing Sewer Main

Add: City of Belgrade Standard Drawing No. 02660-12, Water Service Line for Sizes 4" and Larger

Add: City of Belgrade Standard Drawing No. 02660-13, Standard Fire Service Line Installation For Class I, II, and II Systems

Add: City of Belgrade Standard Drawing No. 02660-14, Standard Fire Service Line Installation Class IV and V Systems

Add: City of Belgrade Standard Drawing No. 02660-15, Water Service Line From Curb Stop to Building (Lines 2" and Smaller)

Add: City of Belgrade Standard Drawing No. 02660-16, Water and Sewer Main and Services Location Standards

Add: City of Belgrade Standard Drawing No. 02660-39A, Water and Sewer Line Crossing Detail - Sewer Line Installed Above Water Line

Add: City of Belgrade Standard Drawing No. 02660-39B, Water & Sewer Line Crossing Detail - Sewer Line Installed Below Water Line

Add: City of Belgrade Standard Drawing No. 02660-42, Utility Pipe Trench Insulation (Encased)

Add: City of Belgrade Standard Drawing No. 02660-43, Utility Pipe Trench Insulation (Top Only)

Add: City of Belgrade Standard Drawing No. 02660-47, Air Release Valve Inside Manhole

Add: City of Belgrade Standard Drawing No. 02660-58, Mobile Home Water Service Detail

Add: City of Belgrade Standard Drawing No. 02660-61, Water Service Meter and Meter Pit with Remote and Radio Readout

Add: City of Belgrade Standard Drawing No. 02660-61A, Water Service Meter and Vault

Add: City of Belgrade Standard Drawing No. 02660-80, Temporary Water Supply Hydrant Meter Assembly

PART 2: PRODUCTS

2.2 PIPE MATERIALS

B. Ductile Iron Pipe

Revise the following:

1. Furnish Class 51 wall thickness meeting AWWA C151, American National Standard for Ductile Iron Pipe for 12" diameter pipe and smaller, as specified in the contract documents**.**

Revise the following:

2. Use underground pipe having mechanical joints or **push-on joints** meeting AWWA C111. Use underground fittings having mechanical joints meeting AWWA C111. Use restrained joint pipe for all stream crossings and for pipe installed in casings. If restrained joints at fittings are required, use Megalug mechanical joint restraint or Megaflange restrained flange adapter, manufactured by EBBA Iron Sales, or Uni-flange Series 1400 retainer glands, manufactured by Ford Meter Box Company, MJ field Lock Series DI, manufactured by US Pipe, Field Lok 350 gaskets for push-on joints, manufactured by US Pipe, Sigma One-Lok series SLD manufactured by Sigma Corporation, or approved equal.

4. Fittings

Delete gray iron fitting references.

Add the following:

All fittings must be manufactured in accordance with applicable AWWA standards at ISO 9001-2000 approved manufacturing facilities. These manufacturing facilities must be covered under periodic audits by third party accreditation bodies for evaluations. These evaluations shall include manufacturing processes, quality control, corrective and preventative actions, and document control. In addition, distribution centers must be audited by Third Party approval Agencies for periodic confirmation tests and surveillance audits. These periodic confirmation tests and surveillance audits shall document continuation of product approvals by auditing the entire quality systems including design, infrastructure, system implementation distribution training quality control and assurance and document control. All fittings must be manufactured in accordance with NSF 61.

5. Joints

Delete as written:

Revise the following:

a. Assure the fitting interior is cement mortar lined meeting AWWA C104, or fusion-bonded epoxy lined meeting ANSI/AWWA C116/A2l.l6. Assure the fitting exterior is bituminous tar coated 1 mil thick or fusion-bonded epoxy lined meeting ANSI/AWWA C116/A21.16. Use compact fittings having a rated working pressure of 350 psi following manufacturer recommended laying lengths.

Delete the use of cast iron or gray iron sleeves. Add the following:

6. Couplings

a. 4) Furnish one of the following copper to copper compression connection couplings: Furnish a Mueller H15409, Ford C 45-43 compression couplings, or approved equivalent between the newly installed curb stop to the existing service line. No connection couplings are permitted from the corporation stop to the curb stop for ¾" and 1" services.

5) Hymax couplings shall not be used.

C. Polyvinyl Chloride (PVC) Pressure Pipe

Delete and replace with the following:

Water main or service piping from four (4) to twelve (12) inches in diameter shall be DR 14, Class 200 PVC Pipe conforming to AWWA C900 Standards. Each pipe shipment will be inspected by the Engineer to assure the pipe meets the manufacturer's specifications on handling and storage.

D. Concrete Cylinder Pipe

Delete concrete cylinder pipe

E. Water Service Pipe

Delete this section and replace with the following:

1. Use copper, polyethylene service pipe or ductile iron pipe in water service line construction as specified in the contract documents and meeting the following specifications.

a. Furnish service pipe of the size or sizes specified. A water line

is designated a service line or water main based on its use. Generally, a line serving a single building or facility is considered a service line; a line serving more than one building, or intended to serve more than one building or facility is generally designated a water main. The standard sizes of services are 3/4", 1", 1 ½", 2", 4", 6", or 8". The minimum size of a fire service line is 2".

b. Unless otherwise shown on the plans, furnish and install the service pipe with a curb stop and curb box on the property line. Install the water service lines in accordance with City of Belgrade's Standard Drawings 02660-6 and 02660-12. Where applicable, install fire service lines in accordance with the "City of Belgrade Fire Service Line Standard" and City of Belgrade Standard Drawings 02660-13 and 02660-14

c. Copper Service Pipe

1) Use copper, type K annealed, meeting AWWA Standard C800. Use straight lengths for 2" and larger services. Service lines that are in excess of 100' that would require a coupler must be polyethylene. See d.

d. Polyethylene Service Pipe

1) Use pipe meeting AWWA specification C901, "Polyethylene (PE) Pressure Pipe, Tubing and Fittings 3/4" through 2" for water services. Water service piping shall be polyethylene pipe and a minimum 1" diameter Class 200 with a DR of 7. Polyethylene pipe to be Phillips, Drisco, Ultraline 5100 or City of Belgrade approved equal. Polyethylene pipe shall all be CTS (Copper Tube Size).

All polyethylene service pipes will have tracing wire connected to the tracing wire for the main line pipe.

2.3 TAPPING SLEEVES AND VALVES

Delete this Section and replace with the following:

A. Tapping sleeves shall be ductile iron or stainless steel, split-sleeve, mechanical joint type with end side gaskets. They shall have a Class 125, ANSI B16.1 outlet flange. They shall be rated for a minimum of 200 psi working pressure and shall contain a threaded plug for testing purposes on the neck or body of the tapping sleeve. Gaskets shall be manufacturers' standard suitable for use in potable water systems. Bolts and nuts shall be Cor-Ten, Dura-Bolt, or stainless steel. The sleeve

shall be as manufactured by Mueller Company, ROMAC 306, unless otherwise approved in writing by the City of Belgrade. Tapping sleeves shall be installed a minimum of 24" from the nearest joint on the existing pipe to be tapped. The existing main must be at least 2" larger diameter than the new main to allow a live tapping sleeve and valve to be used.

B. Tapping valves shall be Mueller, with flanged inlets compatible with the flange of the tapping sleeve and mechanical joint outlet. Tapping valves shall be iron body, bronze mounted gate valves with non-rising stems with design, construction and pressure rating conforming to AWWA Specification C509. Stem seals shall be double "O" ring seals designed so that the seal above the stem collar can be replaced with the valve under pressure in fill open position.

C. The tapping sleeve and valve shall be furnished and installed by the Contractor and the wet tap made by the Contractor with all costs paid by the Contractor. A representative from the City of Belgrade must be present while the tap is being made. The Contractor shall excavate the existing main at the location to be tapped to confirm the appropriate pipe dimensions prior to ordering the fittings. The tapping sleeve shall be installed with the outlet set on the horizontal plane. A concrete thrust block shall be installed behind the tee. A representative from the City of Belgrade must witness all thrust blocks being poured.

2.4 CORPORATION STOPS

Revise the following:

1. Furnish 300 psig ball valve brass corporation stops with inlet end to suit tapping requirements and conductive compression connection outlet for type K copper tubing. Furnish Mueller B25008 or Ford FB l000-x-Q corporation stops.

2.5 SERVICE CLAMPS

Revise the following:

1. Furnish stainless steel, double belt, ROMAC 306 service saddles with Neoprene gaskets and corporation stop threads for PVC Pipe.

2. Furnish flat, double strap, bronze metal service clamps (service saddles) with neoprene gaskets, and corporation stop threads. Use Mueller BR2 B Series or Ford 202B for Ductile Iron Pipe.

2.6 CURB STOPS

Revise the following:

1. Furnish curb stops with ball type curb valves with Minneapolis pattern screw box mounts for ¾", 1", 1 ¼", 1 ½", and 2" services, with 90° open to close operation. Furnish curb stops that conform to the following:

Service Size	Approved Curb Valve and Curb Stop
¾"	Ford Ball Valve Curb Stop B44-333-M-Q (1½" Minneapolis Thread) or Mueller B-25155 (1½" Minneapolis Thread).
1"	Ford Ball Valve Curb Stop B44-444-M-Q 1½" Minneapolis Thread or Mueller B-25155 (1 1/2" Minneapolis Thread)
1½"	Ford Ball Valve Curb Stop B44-666-M-Q 2" Minneapolis Thread or Mueller B-25155 (2" Minneapolis Thread)
2"	Ford Ball Valve Curb Stop B44-777-M-Q 2" Minneapolis Thread or Mueller B-25155 (2" Minneapolis Thread)

2.7 CURB BOXES

Revise the following:

1. Furnish Minneapolis pattern base, extension type curb boxes having 7 foot extended lengths with stationary rods. Use the following curb boxes:

   Mueller H10300 for ¾" and 1" services

   Mueller H10300-99002 for 1 ½" and 2" services

   Ford EM2-70-57-60R for 1½" and 2" services

   Ford EM2-70-56-60R for ¾" and 1" services

2.8 VALVES

A. GATE VALVES

Revise the following:

1. Gate valves shall be used for all lines from 4" up to and including 24". Furnish gate valves for underground installation equipped with a 2-inch square operating nut for key operation. All valves shall open counterclockwise. Valves are to be equipped with mechanical joints for pipe connections. Furnish Mueller 2360 series valves, Kennedy C-515 series valves or Waterous 2500 Series RW valves for pipe sizes 12 inches

and smaller; and Mueller 2361 series valves, Kennedy C-515 series valves, or Waterous 2500 Series RW valves for pipe sizes 14 to 24 inches.

Add the following:

C. OS&Y Valves

1. For service lines 4" and larger, furnish a UL listed flanged Kennedy or Mueller OS&Y valve as the first fitting inside the building. For fire service lines 2" and smaller, furnish a NIBCO T-104-0 OS&Y valve as the first fitting inside the building.

2.9 VALVE BOXES

Add the following:

B. Valve boxes shall be 6860 DD series, 3 piece, cast-iron valve box, made by Tyler Union or East Jordan Iron Works 8560 series, or approved equivalent.

2.10 FIRE HYDRANTS

Revise the following:

D. Paint the hydrant portion above the ground line using Sherwin-Williams Metalatey Semi-Gloss Coating, Safety Red (B42 R38 620-4069). Furnish hydrants so that there is a minimum of 6½' of cover over the hydrant lead unless specified otherwise on the approved plans. Install hydrants such that the final surface elevation is at the hydrant bury line. Install hydrants such that the pumper nozzle is perpendicular to curb.

Add the following:

E. Furnish Mueller Super Centurion 250, Model A423, Guardian K-81D Kennedy, or Waterous Pacer Model WB-67-250 fire hydrants. Furnish Mueller Hydrant Defender Security Device and lock, (with plastic cap), for each Mueller, Kennedy, or Waterous hydrant installed.

Add the following sections:

2.13 RIGID FOAM INSULATION

A. Contractor install extruded polystyrene rigid foam insulation with a R4.5 or better rating, six inches (6") above and two feet (2') each side of centerline of all water main that has less than six and a half feet (6.5') of bury. The contractor shall only

install pipe with less than six and a half feet (6.5') cover when specified in the plans or when given authorization by City of Belgrade to do so.

2.14 METER PITS

A. Meter pit installations may be allowed for certain service lines but are generally discouraged. The use of meter pits must be specifically approved by the City of Belgrade Public Works Department. Justification to use a meter pit must be provided in writing to be eligible for consideration. If the use of a meter pit is allowed, the following Manufacturers are approved: Mueller and Ford. The Public Works Department shall approve specific models proposed for use on a case-by-case basis.

2.15 "NO-LEAD" BRASS

A. Brass components of water works materials in contact with potable water shall be of No-Lead Alloy (UNS/CDA No. C89833). Components that do not come in contact with potable water shall be UNS/CDA No. C836200-85-5-5-5 and shall conform to AWWA Standard C800 (ASTM B-62 and ASTM B-584).

PART 3: EXECUTION

3.2 PIPE INSTALLATION FOR WATER MAINS:

B. Dewatering of Trench

Add the following:

The Contractor is responsible for disposing of the all water removed from the trench during dewatering in conformance with Local and State regulations. No dewatering water will be allowed to be discharged into the City's storm drain system.

C. Laying of Pipe

Revise the following:

10. Construct reaction or thrust blocks at all tees, tapping tees, plugs, valves, reducers, caps, vertical bends, and at horizontal bends deflecting 22 ½ ° or more. Construct reaction blocks from concrete having a minimum compressive strength of 3,000 pounds per square inch at 28 days. Place blocking between undisturbed ground and the fitting to be anchored, as shown on MPWSS Standard Drawing 02660-1. The size of thrust (gravity) blocks for vertical bends will be as designed by the Engineer. Place the blocking so that pipe and fitting joints are accessible for repair.

    All thrust blocks shall be <u>formed</u> to assure proper dimensions are met.

Thrust block forms shall be inspected and approved by the City of Belgrade prior to pouring concrete.

Limit using metal rods or straps for thrust restraint to those specified on the plans, or where the use of concrete thrust blocks would be impractical. Do not use metal rods or straps unless specifically approved by the City of Belgrade.

In lieu of concrete thrust blocks, thrust restraint may be provided utilizing Megalug mechanical joint restraint or Field Lok 350 Gaskets for push-on joints or approved equal joint restraints for all fittings that require thrust restraint, except for cut-in or tapping tees. Install the mechanical restraints in accordance with the manufacturer's specifications and all joints as specified by the Engineer.

Add the following:

12. Existing water mains which will no longer be in service are to be either abandoned in-place or removed. Abandoning the existing water mains will consist of plugging all abandoned pipes with an approved plug or cap fittings at points of connection to the new system. The new water main on this project follows the alignment of existing water lines. All water main that is exposed or disturbed within the new water main trench shall be removed and disposed of by the contractor rather than abandoned in-place.

D. Pipe Jointing

3. Connections to Existing Mains

Add the following:

c. All wet taps (connections) to water mains that are currently in use shall be made by the Contractor, at the risk and expense of the Contractor. All dry taps (connections) shall be made by the Contractor, at the risk and expense of the Contractor. A representative from the City of Belgrade must be present while water main taps are being made. Solid sleeve or transition coupling locations shall be subject to approval by the City of Belgrade representative. Any new or existing water valve which controls water in the municipal system shall be operated by City of Belgrade personnel only. Main must be flushed or filings following a wet tap.

d. The Contractor is responsible for 24 hour advance notification, in writing, to the City of Belgrade and all affected customers of a water main shut-down. The written notification is to include the date, time and estimated duration of interrupted service. The written notification is also to include the name and phone number of the Contractor's representative who is coordinating the shut-down as well as the phone number of the City of

Belgrade. All commercial customers affected by the water main shut-down must sign a notification sheet acknowledging that they have been informed of the date and time of the shut-down. The City of Belgrade reserves the right to determine the likely duration of the main shut-down based on the proposed work and Contractor experience, and require the installation of temporary water services by the Contractor.

e. Clean and disinfect temporary water systems in accordance with the requirements for cleaning and disinfecting new water mains. Do not connect existing services to the temporary system until bacteriological tests show successful disinfection. Provide backflow protection at the point of connection of the temporary system to the municipal system.

f. Remove any existing blow-offs or temporary flushing hydrants upon completion of the connection to the existing main, and install a brass plug in the service clamp upon removal of the corporation stop.

3.4 TESTING, CLEANING & DISINFECTING WATER MAINS, VALVES & FITTINGS

Add the following:

A Hydrostatic and Leakage Testing

1. The required minimum hydrostatic pressure for water mains installed with thrust blocks is 150 psi or 1.5 times the operating pressure whichever is greater. The required minimum hydrostatic pressure for water mains installed with mechanical restraints is 200 psi.

2. Assure that the testing gauge is marked in increments not to exceed 5 psig.

Revise the following:

4. Conduct the leakage test concurrently with the hydrostatic pressure test for 2 hours. Leakage is defined as: (1) the quantity of water supplied into the pipe, or any valved section thereof; necessary to maintain pressure within 5 psi of the specified test pressure (after the pipe has been filled with water and purged of air) for the duration of the 2 hour test period; and (2) the quantity of water supplied into the pipe, or any valved section thereof, required to return the pressure to the specified test pressure at the end of the 2 hour test period. The contractor is required to hydrostatic pressure and leakage test the newly installed water main prior to making connections to the existing system.

No more than 1,200 lineal feet of water main may be installed without being tested and meeting test requirements before proceeding with additional construction unless approved by the Engineer. The Contractor

shall make the necessary taps at points of highest elevation before the test is made and install plugs after the test has been completed.

11. Chlorination, testing, and sampling shall comply with AWWA Standard C651-05. There shall be no allowable leakage for resilient seat gate valves At least 24 hours prior to beginning water main tests, a testing schedule shall be submitted by the Engineer of Record to the City of Belgrade for approval. The schedule shall specify, the proposed sequence of testing and the methods and procedures which will be used to complete the tests. Hydrostatic and leakage testing shall not be conducted concurrently with chlorination of water mains. All heavily chlorinated water must be flushed from the system and properly disposed of, in accordance with the requirements of AWWA C651-05, prior to pressurizing the new water mains. If the new water main is not placed into service within 6 months of the date of chlorination and testing are completed, the water main shall be re-chlorinated and retested for bacteriological organisms, per the above requirements, before the main will be allowed to be placed into service.

12. Allow 5 days after placement of concrete for thrust blocks before performing hydrostatic or leakage testing. If high-early strength concrete is used, allow two days after placement of concrete before performing hydrostatic or leakage testing. Provide adequate cold blocking as required for all thrust blocks that will not have the necessary curing time prior to testing with the approval of the City of Belgrade's Public Works Department.

13. For sections of mains that cannot be hydrostatically tested as determined by the City Engineer, assure that all joints are visually inspected for leakage under line working pressure, for a period of 1 hour minimum, by a City of Belgrade representative prior to backfilling. Adequate protection shall be provided to OSHA standards that allow the City of Belgrade representative direct access to the pipe being tested.

B. Cleaning Water Main.

Add the following:

5. Prior to any main flushing the City of Belgrade shall be notified and provided with a flushing schedule and plan a minimum of 24 hours in advance of any main flushing.

6. Any existing or new water main valves which are used to take water from the City of Belgrade distribution system for the purpose of filling, testing, chlorination or flushing, shall be operated by the City of Belgrade personnel only, with the Contractor requesting such operation at least 24 hours in advance. All existing water main valves are to be operated only by City of Belgrade personnel. Work needs to be scheduled during normal

working hours of the Public Works Department.

7. Install an adequately-sized blow-off hydrant on all dead-end main stubs 6 feet in length or longer, to allow for the flushing of the stubs. PVC Pipe: remove corporation stops from service clamp and install brass plug.

8. After the applicable retention period, heavily chlorinated water should not remain in prolonged contact with the pipe. In order to prevent damage to the pipe or corrosion damage to the pipe and fittings; the heavily chlorinated water shall be flushed from the main until chlorine measurements show that the concentration in the water leaving the main is no higher than that generally prevailing in the system or is acceptable for domestic use. Belgrade does not chlorinate the water. After flushing, a 0.0 ppm chlorine concentration must be obtained.

9. Heavily chlorinated water shall not be disposed of in sanitary sewers, storm drains or surface waters. The Contractor shall dispose of all heavily chlorinated water in an environmentally safe manner. The Contractor is required to meet all DEQ or local regulatory agency requirements for disposing of chlorinated water. If there is any question that the heavily chlorinated water will cause damage to the environment, a reducing agent may be applied to neutralize the chlorine residual.

C. Disinfecting Water Mains.

3. Methods of Chlorination

Revise the following:

a. 1. The Tablet Method.

a) The tablet method consists of placing calcium hypochlorite granules (tablets shall not be used) in the water main as it is being installed and then filling the main with potable water when installation is completed. This method may be used only if the pipes and appurtenances are kept clean and dry during construction.

b) When installation has been completed, fill the main with water a t a velocity not exceeding 1fps. Take precautions to assure that air pockets are eliminated. Leave this water in the pipe for at least 24 hours. If the water temperature is less than 41 degrees, leave the water in the pipe for at least 48 hours. Position valves so that the chlorine solution in the main being treated will not flow into water mains in active service.

TABLE #2
OUNCES OF CALCIUM HYPOCHLORITE GRANULES TO BE PLACED AT BEGINNING OF MAIN AND AT EACH 500-FT INTERVAL

Pipe Diameter (d) (in.)	Calcium Hypochlorite Granules (oz.)
4	1.7
6	3.8
8	6.7
10	10.5
12	15.1
14 and larger	D^2 x 15.1

Where D is the inside pipe diameter in feet D = d/12

D. Bacteriological Testing.

Revise the following:

1. After final flushing and before the water is placed in service, test a sample, or samples, collected from the main(s) for organisms. Collect at least one sample for every 1000 feet of new main and one sample from each branch. A representative from the City of Belgrade must be present while the water samples are being taken. A second set of samples shall be taken 24 hours later and sent for testing.

2. Redisinfection

Revise the following:

a. Once the new water main has been flushed following the successful completion of chlorination and pressure testing, the water line must be refilled with water and allowed to sit a minimum of 24 hours prior to the collection of samples for bacteriological tests. A second set of samples is to be taken a minimum of 24 hours after the first set of samples. Samples shall be taken in accordance with AWWA Standard C651-05. A representative from the City of Belgrade must witness the samples being taken. New water mains shall be placed in service by City of Belgrade personnel only.

b. Collect samples from new water mains, out of service lines, or temporary taps. Samples may be taken out of fire hydrants or flushing hydrants only if approved in advance by the City of Belgrade. Please note that due to weep holes, hydrants may provide a false positive Bac-t result and that contractors test out of

them at their own risk. If hydrants are approved as sample locations, operate hydrants using the auxiliary valves or curb stops to prevent groundwater from entering hydrant. Assure that hydrants are protected from freezing during testing.

c. Following the completion of bacteriological tests, assure that all temporary piping has been removed, and all temporary corporation stops have been capped and sealed with a brass plug. Assure plugs removed from service clamps do not leak after the main has been charged.

3.6 VALVES:

B. Valve Boxes

Add the following:

1. Center and plumb valve boxes over the valve operating nut. The valve box will need to be straightened if a plumb valve key touches the sides of the valve box. Set valve box tops ¼" below ground surface or street surfacing.

C. Valve Thrust Blocks

Revise the following:

1. Install valves with mechanical restraints or thrust blocks and anchor rods meeting City of Belgrade Standard Drawing 02660-3 requirements. Thrust blocks are needed on all valves size 6" and larger. In lieu of concrete thrust blocks, thrust restraint may be provided utilizing Megalug, or approved equal joint restraints. All valves installed with mechanical joint restraints will need to be set on a 4x8x16 solid concrete block.

3.7 FIRE HYDRANTS

Revise the following:

B. Provide drainage at the hydrant base by placing clean, washed gravel under and around the hydrant. Place gravel at least 1 foot on all sides from the base of the hydrant to at least 6 inches above the drain opening. Brace the hydrant against undisturbed earth at the trench end with concrete thrust block as detailed on the plans. Install a gate valve with each hydrant as shown on the Construction Standards. Install hydrants meeting City of Belgrade Standard Drawings 02660-04 and 02660-05. In lieu of concrete thrust blocks, thrust restraint may be provided utilizing Megalug, or approved equal joint restraints. Orient hydrant pumper nozzle as directed by the City of Belgrade Public Works Department. The upper section of

hydrant shall be removed and reinstalled as necessary for the proper orientation. Protect the hydrant from damage during installation and backfilling operations. If hydrant extensions are required, only one coupler will be allowed on the operating rod.

Where no curb exists or the minimum distance of two feet behind the curb cannot be met or there is not adequate protection, the Contractor shall install protective barrier posts in accordance with City of Belgrade Standard Drawing 02660-8, at the Contractor's expense. The concrete foundation shall have a minimum 14 inch and maximum 24 inch diameter for each barrier post. Excess concrete around the hydrant will not be tolerated and removal will be directed by the Engineer at no additional cost.

3.8 SERVICE LINE INSTALLATION

Revise the following:

A. Provide all work and materials for the complete service line installation, including trench excavation and backfill; making the water main tap; furnishing and installing the service clamp corporation stop, curb stop and box, and service line with fittings, including any coupling that may be required to make the connections to the existing service lines. Use compression fittings for all copper to copper service line connections. An approved pack joint coupling such as Ford C85-31 for 1/2" steel or Ford C85-33 for ¾" steel can be used for copper connections to existing steel service lines. **Do not use sweat or solder fittings.** Use a **continuous length of pipe with no couplings** between the corporation stop and the curb stop for service lines 1 ½ -inch and smaller unless approved by City Engineer or Public Works Director. Provide a minimum of 6 ½ feet and a maximum of 7½ feet of cover measured as noted on City of Belgrade Standard Drawing No. 02660-6.

B. Mark the water service line stub end using a 6.5 feet long steel fence post painted blue, buried 2.5 feet in the ground. Set the fence post 1 foot from the curb box.

Add the following:

C. Service line installation from the end of the stub into the building shall be as per City of Belgrade Standard Drawings 02660-12 or 02660-15. Service lines shall not be installed from the end of the stub into the building until the main line has been accepted by the City and placed into service. The water service line from the stub into the building may be reduced in size; however, the size reduction must be made within 18" of the main line curb stop. Connections to existing stubs for either domestic or fire service, that have remained dormant or unused for 6 months or

longer, shall require re-flushing prior to being placed into service. Bacteriological re-testing (one test at Contractor expense) is required to assure that the dormant line is not contaminated. Service line installations shall comply with the latest edition of the Uniform Plumbing Code.

3.9 TAPPING:

Revise the following:

A. Tap the newly installed water mains unless specified otherwise. Provide a minimum distance of 24" between service taps. All water taps shall be made at contractor's risk and expense. The Contractor is responsible for installing the required tapping saddle and corporation stops and the tapping of the new and existing water mains as directed in the plans. The Contractor is responsible for scheduling and coordinating with the City of Belgrade Water Department. A representative from the City of Belgrade must witness all taps made to existing water mains.

B. Perform tapping using an approved tapping machine using clean, sharp drill taps and/or shell cutters. ¾-inch and 1-inch taps may be made directly into the barrel of ductile iron pipe without using service saddles. All taps not into ductile iron require the use of a saddle clamp. All water main taps require the use of a tapping sleeve and valve.

SECTION 02720

STORM DRAIN SYSTEMS

1.4 STANDARD DRAWINGS:

Delete: Standard Drawing No. 02720-1, 30" Standard Storm Drain Inlet

Delete: Standard Drawing No. 02720-3, Sanitary Sewer and Storm Drain Manhole

Delete: Standard Drawing No. 02720-4, Standard Straight Manhole

Delete: Standard Drawing No. 02720-5, 48" Standard Manhole

Delete: Standard Drawing No. 02720-6, Pre-cast Manhole Base

Delete: Standard Drawing No. 02720-7, Typical Manhole Channel Details

Delete: Standard Drawing No. 02720-8, Standard Cast Iron Cover

Delete: Standard Drawing No. 02720-9, Standard 24" Cast Iron Ring

Delete: Standard Drawing No. 02720-10, Storm Drain Service Line

Add: City of Belgrade Standard Drawing No. 02720-01A, Standard Storm Sewer Inlet – No Curb

Add: City of Belgrade Standard Drawing No. 02720-01B, Standard Storm Sewer Inlet – With Curb

Add: City of Belgrade Standard Drawing No. 02720-03, Storm Sewer Manhole

Add: City of Belgrade Standard Drawing No. 02720-04, Standard Straight Storm Sewer Manhole

Add: City of Belgrade Standard Drawing No. 02720-11, Standard Debris Rack

Add: City of Belgrade Standard Drawing No. 02720-19, Full Curb Inlet Casting – Frame & Grate Inlet

2.1 GENERAL:

Add the following:

A. All culverts shall be reinforced concrete pipe (RCP) with flared-end sections and debris racks installed, unless otherwise approved by the City of Belgrade. All public storm drain systems shall be constructed with reinforced concrete pipe, or with solid wall or corrugated PVC pipe for pipe sizes 36" and less.

E. MANHOLES

Revise the following:

d. FRAMES AND COVERS

1. For paved areas furnish D&L Foundry A-1178 ring and cover, or East Jordan Iron Works 3771/3772 series ring and cover, or approved equal. Assure that all covers have two pick holes, 1" minimum, 1 ¼" maximum diameter. Cover lettering shall be "Storm Sewer". For gravel areas furnish D&L Foundry A-1172 with 1" cover, or East Jordan Iron Works 3772 series cover, O-ring frame, or approved equal, with recessed pick holes.

2.4 INLETS AND CATCH BASINS

Revise the following:

A. Unless otherwise approved, furnish either of the following frames and grates: Neenah R-3067-L, Deeter #2047L, D&L Foundry I-3517, or East Jordan Iron Works 7030 with T1 back and Type M6 Grate. Inland Foundry 772- per standard drawing 02720-01B.

3.1 PIPE AND SERVICE LINE INSTALLATION

Add the following:

F. Install detectable buried warning tape centered over all storm sewer mains and service lines. Install tape a minimum of 18" and a maximum of 24" below finish grade.

3.2 MANHOLES

A. Construction

Revise the following:

1. Construct manholes to the specified dimensions. Unless otherwise shown on the plans, do not form channels in storm drain manholes. Assure the lowest pipe invert is 9" higher than the base of the manhole.

SECTION 02730

SANITARY SEWER COLLECTION SYSTEMS

1.4 STANDARD DRAWINGS:

Delete: Standard Drawing No. 02730-2, Sanitary Sewer Service Line

Add: City of Belgrade Standard Drawing No. 02730-02, Sanitary Sewer Service Line

Add: City of Belgrade Standard Drawing No. 02730-05, Standard Drop Manhole Detail

Add: City of Belgrade Standard Drawing No. 02730-07, Standard Sanitary Sewer Manhole Detail

Add: City of Belgrade Standard Drawing No. 02730-08, Straight Sanitary Sewer Manhole Detail

Add: City of Belgrade Standard Drawing No. 02730-18, Standard Manhole Ring and Cover Detail

Add: City of Belgrade Standard Drawing No. 02730-20, Manhole Ring and Cover Detail – Frost Proof, Water Tight, with Lockable Lid

Add: City of Belgrade Standard Drawing No. 02730-25, Manhole Step Detail

Add: City of Belgrade Standard Drawing No. 02730-31, Sanitary Sewer Tapping Saddle - Installation Detail

Add: City of Belgrade Standard Drawing No. 02730-32, Cleanout (Traffic Areas)

Add: City of Belgrade Standard Drawing No. 02730-50, Thrust Blocking For Force Main Fittings

2.1 GENERAL:

Revise the following:

A. Furnish new sewer pipe and fittings as specified in the Contract Documents and meeting the materials and testing requirements of this Section. Furnish in-line wye branches of the same material and design as the sewer pipe unless specified otherwise. Saddle-type fittings are allowed only upon written approval by the City of Belgrade. Pipe strength classifications shall be shown on the plans and/or are listed in the Contract Documents. Tee branches are not allowed on new sewer main

installations unless specifically approved in writing by the City of Belgrade. Inserta Tee brand tees are allowed when connecting an new service to an existing main.

2.2 PIPE MATERIALS:

A. Polyvinyl Chloride (PVC) Pipe

2. Gravity Sewer Pipe

Revise the following:

a. Furnish gravity sewer pipe meeting one of the following requirements:

1.) ASTM-3034, "Standard Specifications for Polyvinyl Chloride Sewer Pipe and Fittings", with an SDR of 35 for pipe 8"-15".

2.) ASTM F679, T-1 wall thickness (SDR35), "Standard Specifications for PVC Large Diameter Plastic Gravity Sewer Pipe and Fittings" for pipe 18"-27".

3.) ASTM F949, "Standard Specification for PVC Corrugated (Open profile) Sewer Pipe with a Smooth Interior and Fittings" larger than 12" (10cm)

4.) SDR 26 PVC pipe for 4" and 6" service lines.

5.) Fittings

Revise the following:

a. Assure wye fittings for connecting service lines are of the same material, construction, and joint design as the main sewer pipe.

B. Concrete Pipe

Delete the use of Concrete Pipe.

C. High Density Polyethylene (HDPE) Pipe:

Delete the use of High Density Polyethylene (HDPE) Pipe.

Revise the following:

D. Other Pipe Materials:

1. Other pipe materials may be specified only with the prior written approval of the City of Belgrade.

2.3 MANHOLES:

A. General

Add the following:

1. Do not use flat-top (straight) manholes unless specifically called out on the plans or in the Contract Documents. Unless noted otherwise, flat-top manholes shall only to be used when the distance from the rim to the invert is 6 feet or less.

B. Precast concrete sections

Add the following:

1. Facilities constructing manholes shall at minimum be National Precast Concrete Association certified.

C. Steps

Add the following:

1. Do not install steps over inlets or outlets.

D. Frames and Covers

Revise the following:

1. For paved areas furnish D&L Foundry A-1178 ring and cover, or East Jordan Iron Works 3771/3772 series ring and cover, or approved equal. Assure that all covers have two pick holes, 1" minimum, 1 ¼" maximum diameter. Cover lettering shall be "Sanitary Sewer". For gravel areas furnish D&L Foundry A-1172 with 1" cover, or East Jordan Iron Works 3772 series cover, O-ring frame, or approved equal, with recessed pick holes. See requirements on City of Belgrade Standard Drawing No. 02730-18.

E. Concrete Base

Add the following:

1. Facilities constructing manholes at a minimum shall be National Precast Concrete Association certified.

3.1 PIPE AND SERVICE LINE INSTALLATION:

D. Laying Pipe ***Delete all reference to the use of tee fittings.***

Revise the following:

E. Tolerences

1. Install the pipe within ½" of the specified alignment and within ¼" of the specified grade, provided that such variation does not result in a level or reverse sloping invert.

Add the following:

F. Install detectable buried warning tape centered over all sanitary sewer mains and service lines. Install tape a minimum of 18" and maximum of 24" below finish grade.

3.2 MANHOLES:

A. Construction

Add the following:

2. Unless otherwise approved by the City of Belgrade, make all break-in connections to existing manholes by using a core drilling machine.

B. Steps

Add the following:

2. Do not install steps over inlets or outlets.

Revise the following:

3. Install adjusting rings on each manhole to bring the manhole rim elevation within 1/8 to 1/4 inch of the existing or specified ground elevations. A maximum of 12" and minimum of 4" of adjusting rings are permitted. Furnish concrete adjustment rings reinforced with the same percentage of steel as the riser and top. In the event that an existing manhole casting is being adjusted and the adjustment is less than 2", East Jordan Works INFRA-RISER rubber adjustment rings or approved equal may be used. No more than 2" total of East Jordan Works INFRA-RISER rubber adjustment rings may be used to adjust any manhole. Concrete adjustment rings in excess of 2" are preferred where possible. To adjust the rim to match the slope of a street, use tapered adjusting rings. All joints between grade rings will be sealed with "Ram-Nek" manufactured by K.T. Snyder Company, CS-202

may be used to adjust any manhole. Concrete adjustment rings in excess of 2" are preferred where possible. To adjust the rim to match the slope of a street, use tapered adjusting rings. All joints between grade rings will be sealed with "Ram-Nek" manufactured by K.T. Snyder Company, CS-202 Butyl Resin ConsSeal or an approved equal joint sealant compound between the first adjusting ring and the manhole casting.

3.3 SANITARY SEWER SERVICE LINES:

Revise the following:

A. Construct service lines in accordance with City of Belgrade Standard Drawing No. 02730-2. Install the service line to a point 15 feet upstream of the downstream property line, unless shown or specified otherwise on the plans. Extend the service line 8 feet into the property being served. Plug the end of the service line with a solvent welded cap stopper and gasket, using a gasket of the same type used for pipe jointing. Do not grout the plugs. For multiple service lines installed in the same trench, maintain a minimum of 2 feet clear between each service line and service tap. For service lines connecting to existing mains, use Schedule 40 PVC pipe with solvent welded joints or SDR 26 PVC pipe with gasketed joints, and provide all equipment, material, labor and incidentals necessary to install the service line from the main to the building. The City of Belgrade will witness all main taps for new sewer services connected to existing mains. Inserta Tees may be used for service lines connections to existing with prior approval from the Engineer and City of Belgrade.

3.4 TESTS:

Add the following:

A. At least 48 hours prior to beginning sewer main and manhole tests, provide a testing schedule to the City of Belgrade for approval. Provide a written plan of the proposed testing sequence and the methods and procedures which will be used to complete the tests.

D. Water Test

Add the following:

1. If the water test method is used, verify groundwater levels at the time of testing by installing piezo-meters or test pits in the immediate area of the sewer line that is being tested.

E. Air Test (Alternate)

Add the following:

10. If the air-test method is used to test the sewer mains, test manholes for leakage by filling each manhole with water to the top of the manhole. Measure the leakage by checking the water level drop in the manhole over a four hour period. Allow time to soak the manholes in advance of performing tests. The allowable leakage for manholes is 0.1 gal/hr/ft-dia/ft-head

G. T.V. Inspection

Revise the following:

1. All sewers are required to be inspected using a television camera before final acceptance. All television inspections of new sewers shall be done at Contractor expense. Contractors shall schedule inspections with the City of Belgrade a minimum of one week in advance. City of Belgrade personnel must be present while the T.V. inspection being conducted, or the inspection tape will not be accepted and the sewer line will have to be re-videoed at Contractor expense.

   Adequately flush the sewer lines prior to each television inspection. T.V. inspection of dry sewer lines is not acceptable. The camera must be capable to accurately measure observations inside each size of sewer pipe. A sewer line will be considered deficient and unacceptable if:

   1) the sewer line alignment is outside the specified limits;

   2) water ponds in any section of the pipe to a depth equal greater than 1/8 inch, or

   3) the sewer line pipe has visible defects such as open joints, pinched gaskets, cracked barrels or bells, or other similar defects.

   The Contractor shall correct any known deficiencies and schedule a re-inspection with the City of Belgrade.

   Please Note: T.V. Inspection shall be done **after** all other construction activities have been fully completed at the project site with the exception of paving. Any sections of sewer main that fail the TV inspection shall be fixed to comply with standards. The failed section of sewer main shall be re-T.V. inspected and approved by City of Belgrade. Property corner pins shall be staked at the time of final walk through and inspection to verify service locations.

Add the following:

J. Manhole Vacuum Testing

1. Vacuum testing of manholes may be done in lieu of water testing. Testing shall be done in accordance with "ASTM C1244-05a, Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill", with the exception that the testing shall be done after backfilling.

Add the following new section:

SECTION 2800

SECURITY FENCING

PART 1 - GENERAL

1.1 DESCRIPTION:

A. This section is the furnishing, fabrication, installation, removing, and resetting of fencing in accordance with; 1) these and other specifications, 2) the Standard Drawings, 3) as shown on the plans, or 4) as directed by the City of Belgrade.

1.2 STANDARD DRAWINGS:

Standard Drawings applicable to this section are as follows:

Add: City of Belgrade Standard Drawing No. 2800-01, Chain Link Security Fence and Post Detail

Add: City of Belgrade Standard Drawing No. 2800-02, Chain Link Gate – Detail

Add: City of Belgrade Standard Drawing No. 2800-03, Chain Link Sliding Gate – Detail

Add: City of Belgrade Standard Drawing No. 2800-04, Silt Fence Detail

1.3 DEFINITIONS:

A. The following definitions define the work to be done when the respective terms are used in the Contract.

1. NEW - Fencing designated as "New" shall be furnished new and erected at the locations specified.

2. REUSE - Fencing designated as "Reuse" shall be removed from the existing post or posts and remounted on a new post or posts at the locations specified.

3. REPLACE - Fencing designated as "Replace" shall be removed and replaced with "New" standard fencing, including new posts, at the existing or new specified locations.

4. REMOVE - Fencing designated "Remove" shall include the fence, posts, and

any backfill and compaction required.

PART 2 - PRODUCTS

2.1 POSTS:

A. GATE POSTS: Use 4" standard, 14 gauge, galvanized steel pipe, for all gate posts as shown on Standard Drawing 2800-1, unless otherwise specified on the plans.

B. LINE POSTS: Use 2 3/8" standard, 14 gauge, galvanized steel pipe, for all line posts as shown on Standard Drawing 2800-1, unless otherwise specified on the plans.

C. BRACE POSTS: Use 2 7/8" standard, 14 gauge, galvanized steel pipe, for all brace posts as shown on Standard Drawing 2800-1, unless otherwise specified on the plans.

D. BRACE RAIL: Use 1 5/8" standard, 14 gauge, galvanized steel pipe, for all brace rails as shown on Standard Drawing 2800-1, unless otherwise specified on the plans.

2.2 AUGER HOLE SIZE:

A. Auger hole size shall be 12 inches minimum for all corner posts and gate posts, and shall be 8 inches minimum for all line posts and brace posts. All posts shall be buried to a depth of 4 feet, minimum. All fence posts and footings shall be designed for wind loads.

2.3 WIRE MESH:

A. Wire mesh shall be 9 gauge, galvanized steel, woven wire fabric with a 2 inch mesh.

2.4 BARBED WIRE:

A. Barbed wire where allowed by municipal code shall be 2-strand, 12 ½ gauge barbed wire. Smooth, 2-strand, 12 ½ gauge wire shall be used in lieu of barbed wire where barbed wire is not permitted by municipal code.

PART 3 - EXECUTION

3.1 INSTALLATION:

A. Assure that all fencing is installed according to City of Belgrade Standards. Locate fencing where shown on the plans or as directed by the City of Belgrade. Assure that fencing, posts, and gates are installed plumb and at the correct height.

3.2 REMOVAL:

A. As directed by the City of Belgrade, remove existing fencing designated to be salvaged to the site specified by the City of Belgrade. Properly dispose of all fencing materials designated for removal, which have not been designated for salvage.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL:

A. The following are pay items for the work covered under this section. Payment for these items is full compensation for providing all materials, tools, labor and equipment necessary to complete the item and all incidental work related thereto, whether specifically mentioned herein or not.

1. NEW FENCING - Measurement of fencing is per linear foot of each new fence installed. Payment for fencing is made at the contract unit bid price per each fence installed, which includes furnishing and installing all posts, wire fabric mesh, barb wire, gates, and all other work necessary or incidental for completion of the item.

2. REUSE FENCING - Measurement of fencing is per linear foot of reused fence. Payment for fencing is at the contract unit price bid per linear foot of each fence reused. Such price or prices and payment will be full compensation for furnishing and erecting the new fence posts, remounting the wire fabric mesh, removing barb wire, gates, and disposing of any rock and debris, and backfilling and compaction of removal sites. Measurement of fencing is per linear foot of installed fence. Payment for fencing is made at the contract unit bid price per each fence installed, which includes furnishing and installing all posts, wire fabric mesh, barb wire, gates, and all other work necessary or incidental for completion of the item.

3. REPLACE FENCING - Measurement of fencing is per linear foot of fence replacement. Payment for fencing is at the contract unit price bid per linear foot of replaced fence. Such price or prices and payment will be full compensation for removing and disposing of the existing fencing materials, (not designated for salvage), and furnishing and erecting the new fence support posts, woven wire fabric, mesh, barb wire, gates, and all other work necessary or incidental for completion of the item.

4. REMOVE FENCING - Measurement of fencing is per lineal foot of fence removed. Payment will be made at the contract unit price bid per lineal foot of fence removed. Such price and payment will be full compensation for removing and disposing of existing fencing materials (not designated for salvage), breakdown of fence post foundation material, backfilling, and compaction of removal site, and salvage fence materials if specified.

Add the following new section:

SECTION 9810

STREET SIGNS

PART 1 - GENERAL

1.1 DESCRIPTION:

A. This section is the furnishing, fabrication, installation, removing, and resetting of street signs in accordance with; 1) these and other specifications, 2) the Standard Drawings, 3) as shown on the plans, or 4) as directed by the City of Belgrade.

1.2 REFERENCES:

MUTCD Manual of Uniform Traffic Control Devices

1.3 STANDARD DRAWINGS:

Standard Drawings applicable to this section are as follows:

Add: City of Belgrade Standard Drawing No. 09810-01, Street Sign Installation Standards

Add: City of Belgrade Standard Drawing No. 09810-02, Dead End Sign Detail

Add: City of Belgrade Standard Drawing No. 09810-03, Street Closure Barricade Gate

Add: City of Belgrade Standard Drawing No. 09810-04, Street Closure Barricade

Add: City of Belgrade Standard Drawing No. 09810-05, Standard Container Enclosure

1.4 DEFINITIONS:

A. The following definitions define the signing work to be done when the respective terms are used in the Contract.

1. NEW - Signs designated "New" shall be furnished new and erected at the locations specified.

2. REUSE - Signs designated "Reuse" shall be removed from the existing post or posts and remounted on a new post or posts at the locations specified.

3. REPLACE - Signs designated "Replace" shall be removed and replaced with the specified "New" standard signs, including new post or posts, at the existing or specified new locations.

4. REMOVE - Signs designated "Remove" are to be removed, to include the sign or sign assembly and sign supports, including backfill and compaction.

PART 2 - PRODUCTS

2.1 POSTS:

A. Use 2" perforated square tube, (7/16 inch holes on 1 inch centers), 14 gauge galvanized steel posts for all sign posts unless otherwise specified on the plans. Use Telspar or approved equal sign posts. Anchor posts as shown on Standard Drawing 09810-1.

2.2 STREET NAME MARKER SIGNS:

A. Provide two-sided street marker signs which meet all applicable MUTCD Standards. Furnish flat-blade aluminum sign blanks, 0.08 inches thick. For local streets, use 6 inch sign blanks; for collector or arterial streets, use 9 inch sign blanks. Use engineer grade green reflective sheeting on the sign blanks. Use white Series "C" letters for the street name. For local streets, assure that the prefix and suffix copy are made in 2 inch upper case letters, centered top to bottom, and that the primary copy is 4 inch letters all upper case. For collector and arterial streets, street names shall have 6 inch uppercase letters, and 3 inch letters for street abbreviations or city sections (e.g. Street, Avenue and Road). Attach signs on sign post with two 3/8" drive rivets.

2.3 REGULATORY, WARNING, CONSTRUCTION, AND GUIDE SIGNS:

A. Assure that all signs meet applicable MUTCD Standards. Furnish construction grade aluminum sign blanks, 0.08 inches thick. Minimum sign size shall be 30 inches by 30 inches for diamond shaped signs. All other sign sizes shall be in accordance with MUTCD Table 2C.2

2.4 SIGN POST FOUNDATION SLEEVES:

A. Furnish 2¼" perforated, (7/16 inch holes on 1 inch centers), 12 gauge galvanized steel square tube foundation sleeves for all sign posts. Use "Telspar Quik Punch" or approved equal. Install sleeves in concrete anchor as shown on Standard Drawing 09810-1

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2.5 REFLECTIVE SHEETING

A. Reflective Sheeting for signs shall be Type IV ("High Intensity Prismatic") or better. Attach signs to the posts with a minimum of two 3/8" drive rivets.

PART 3 - EXECUTION

3.1 SIGN INSTALLATION:

A. Assure that all signs are installed according to MUTCD Standards. Locate signs where shown on the plans or as directed by the City of Belgrade. Assure that signs are installed plumb, at the correct height, and with the edge of the sign two feet from the face of the curb.

3.2 SIGN REMOVAL OR REPLACEMENT:

A. Salvage existing signs designated to be removed or replaced to the site specified by the City of Belgrade. Properly dispose of all signs designated for removal or replacement which have not been designated for salvage.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL:

A. The following are pay items for the work covered under this section. Payment for these items is full compensation for providing all materials, tools, labor and equipment necessary to complete the item and all incidental work related thereto, whether specifically mentioned herein or not.

1. NEW SIGNS - Measurement of signs is per each sign installed. Payment for signs is made at the contract unit price bid per each sign installed, which includes furnishing and installing sign posts and sign faces and all other work necessary or incidental for completion of the item.

2. REUSE SIGNS - Measurement of signs is per each sign installed. Payment for signs is at the contract unit price bid per each sign reused. Such price or prices and payment will be full compensation for furnishing and erecting the new sign supports and remounting the sign, removing and disposing of the existing sign supports not designed for salvage, and backfilling of removal sites.

3. REPLACE SIGNS - Measurement of signs is per each sign replaced. Payment will be made at the contract unit price bid per each sign replaced. Such price and payment will be full compensation for all work and materials including dismantling and removal and disposal (not designed for salvage), resetting, furnishing and erecting the new sign posts and sign faces installing break away devices (if required), breakdown of foundation material and backfill of removal

sites, and all incidentals necessary to complete the work. When not provided for in the contract, signs will not be paid for directly but will be considered incidental to and included in payment for other items in the contract.

4. REMOVE SIGNS - Measurement of signs is per each sign removed. Payment will be made at the contract unit price bid per each sign removed. Such price and payment will be full compensation for removing each sign and supports, removal and disposal (not designed for salvage) from the project, breakdown of foundation material, and backfilling and compacting removal sites.

APPENDIX A

Montana Public Works Standard Specifications
Standard Drawings

Drawing	Description	Status
No. 02213-1	Manhole Adjustment	Active
No. 02213-2	Water Valve Adjustment	Active
No. 02221-1	Typical Utility Trench	Active
No. 02221-2	Pipe Bedding Alternate	Active
No. 02222-1	Trench Plug Excavation	Active
No. 02528-1	Standard Curb & Gutter	Deleted
No. 02528-2	Drive Over Curb & Gutter	Replaced
No. 02529-1	Double Gutter Detail for Street Intersections	Active
No. 02529-2	Standard Fillet	Active
No. 02529-3	Type 1 Street Monument	Active
No. 02529-4	Type 11 Street Monument	Active
No. 02529-5A	Boulevard Drive Approach	Active
No. 02529-5B	Curb Walk Drive Approach	Active
No. 02529-6	Retrofit Drive Approach	Active
No. 02529-7A	Boulevard Alley Approach	Active
No. 02529-7B	Curb Walk Alley Approach	Active
No. 02529-8	Accessibility Ramp	Replaced
No. 02529-9	Swale Crossing	Active
No. 02529-10	Mail Box Mounting for Curbline Delivery	Active
No. 02660-1	Thrust Blocking for Water Main Fittings	Active
No. 02660-2	Water and Sewer Main Separation	Replaced
No. 02660-3	Thrust Blocking for Water Main Valves	Replaced
No. 02660-4	Fire Hydrant Setting	Replaced
No. 02660-5	Hydrant Location Detail	Replaced
No. 02660-6	Water Service Line	Active
No. 02660-7	Blowoff Valve	Replaced
No. 02720-1	30” Standard Storm Drain Inlet	Replaced
No. 02720-2	24” Standard Riser Inlet	Replaced
No. 02720-3	Sanitary Sewer and Storm Drain Manhole	Replaced
No. 02720-4	Standard Straight Manhole	Replaced
No. 02720-5	48" Standard Manhole, 2 Types of Cone Sections	Deleted
No. 02720-6	Precast Manhole Bases	Deleted
No. 02720-7	Typical Manhole Channel Details	Deleted
No. 02720-8	Standard Cast Iron Cover	Deleted
No. 02720-9	Standard 24" Cast Iron Ring, Manhole Frame	Deleted
No. 02720-10	Storm Drain Service Line	Deleted
No. 02730-1	Nomograph for Air Testing Gravity Sewer Mains	Active
No. 02730-2	Sanitary Sewer Service Line	Replaced
No. 02730-3	Deep Sanitary Sewer Service Line	Active

APPENDIX B

CITY OF BELGRADE STANDARD DRAWINGS

Drawing	Description
01570-01	Traffic Control, Minimum Standard, Urban Work Site, 4 Lane Road, Work Site Closing One Lane
01570-02	Traffic Control, Minimum Standard, Urban Work Site, 2 Lane Road, Work Site on Centerline
01570-03	Traffic Control, Minimum Standard, Urban Work Site, 4 Lane Road, Work Site on Centerline Partially Blocking Inside Lanes
01570-04	Traffic Control, Minimum Standard, Urban Work Site, 2 Lane Road, 1 Lane Partially or Fully Closed By Work Area
01570-05	Traffic Control, Minimum Standard, Rural Work Site, Work Adjacent to the Present Traveled Way
01570-06	Traffic Control, Minimum Standard, Rural Work Site, Utility Work On or Across the Present Traveled Way
01570-07	Pedestrian Traffic Control For Temporary Sidewalk Closure
01570-08	Sidewalk Closure with Detail
01580-01	Temporary Water Supply Hydrant Meter Assembly
02113-01	Manhole Adjustment Detail
02113-02	Water Valve Adjustment Detail
02221-01	Typical Utility Trench Detail
02504-01	Typical Seal Coat Section
02510-01	Pavement Replacement Detail
02510-03	Asphalt Header Detail
02510-04	Pavement Transition Detail

Drawing	Description
02510-05	Taper Transitions for Overlay Pavement
02510-06	Typical Overlay Section
02528-01	Integral Concrete Curb and Gutter
02528-03	Typical Street Section - Curb and Gutter
02528-04	Typical Reconstruction Street Section – No Curb
02529-08	Boulevard Sidewalk Perpendicular Pedestrian Ramp
02529-09A	Driveway Swale Crossing Detail - Option II
02529-09B	Driveway Swale Crossing Detail - Option III
02529-11	Residential Driveway Approach
02529-12	Non-Residential Driveway Approach.
02529-13	Non-Residential Driveway Approach for Arterial Streets
02529-16	Concrete Walks
02581-01	Typical Pavement Markings for Pedestrian Crossings
02581-02	Typical Pavement Markings for School Crossings
02660-03	Thrust Blocking For Water Main Valves
02660-04	Fire Hydrant and Gate Valve Detail
02660-05	Fire Hydrant Location Detail
02660-06A	Water Service Line Detail with 10’ Utility Easement Detail
02660-06B	Water Service Line with No Easement Detail
02660-07	Blow-off Hydrant Detail
02660-08	Fire Hydrant Barrier Post (Bollard) Detail

Drawing	Description
02660-10	Gate Valve and Valve Box with Thrust block
02660-11	Water Main Crossing Below Existing Sewer Main
02660-12	Standard Domestic Service Line Installation for Sizes 4" and Larger
02660-13	Standard Fire Service Line Installation for Class I, II and III Systems
02660-14	Standard Fire Service Line Installation for Class IV and V Systems
02660-15	Water Service Line from Curb Stop to Building (Lines 2" and Smaller)
02660-16	Water and Sewer Main and Services Location Standards
2660-39A	Water & Sewer Line Crossing Detail – Sewer Line Installed Above Water Line
2660-39B	Water & Sewer Line Crossing Detail – Sewer Line Installed Below Water Line
02660-42	Utility Pipe Trench Insulation (Encased)
02660-43	Utility Pipe Trench Insulation (Top Only)
02660-47	Air Release Valve (In A Frost-Proof Manhole) Detail
02660-58	Mobile Home Water Service
02660-61	Water Service Meter and Meter Pit Detail with Remote Meter Readout
02660-61A	Water Service Meter & Vault
02660-80	Temporary Water Supply Hydrant Meter Assembly
02720-01A	Standard Storm Sewer Inlet – No Curb
02720-01B	Standard Storm Sewer Inlet – With Curb
02720-03	Storm Sewer Manhole
02720-04	Standard Straight Storm Sewer Manhole
02720-11	Debris Rack
02720-19	Full Curb – Frame and Grate Inlet

Drawing	Description
02730-02	Sanitary Sewer Service Line Detail
02730-05	Standard Drop Manhole Detail
02730-07	Standard Sanitary Sewer Manhole Detail
02730-08	Straight Sanitary Sewer Manhole Detail
02730-18	Standard Manhole Ring and Cover Detail
02730-20	Manhole Ring and Cover Detail – Frost Proof, Water Tight, with Lockable Lid
02730-25	Manhole Step Detail
02730-31	Sanitary Sewer Tapping Saddle - Installation Detail
02730-31B	Sanitary Sewer Tapping Saddle - Installation Detail
02730-32	Cleanout (Traffic Areas)
02730-50	Thrust Blocking For Force Main Fittings
02800-01	Chain Link Security Fence and Post Detail
02800-02	Chain Link Gate - Detail
02800-03	Chain Link Sliding Gate - Detail
02800-04	Silt Fence Detail
09810-01	Street Sign Installation Standards
09810-02	Dead End Sign Detail
09810-03	Street Closure Barricade Gate
09810-04	Street Closure Barricade
09810-05	Standard Container Enclosure

APPENDIX C

Complete list of Standard Drawings to be used with the City of Belgrade Modifications to Montana Public Works Standard Specifications, Sixth Edition, April, 2010:

Drawing	Description
COB 01570-01	Traffic Control, Minimum Standard, Urban Work Site, 4 Lane Road, Work Site Closing One Lane
COB 01570-02	Traffic Control, Minimum Standard, Urban Work Site, 2 Lane Road, Work Site on Centerline
COB 01570-03	Traffic Control, Minimum Standard, Urban Work Site, 4 Lane Road, Work Site on Centerline Partially Blocking Inside Lanes
COB 01570-04	Traffic Control, Minimum Standard, Urban Work Site, 2 Lane Road, 1 Lane Partially or Fully Closed By Work Area
COB 01570-05	Traffic Control, Minimum Standard, Rural Work Site, Work Adjacent To the Present Traveled Way
COB 01570-06	Traffic Control, Minimum Standard, Rural Work Site, Utility Work On or Across the Present Traveled Way
COB 01570-07	Pedestrian Traffic Control For Temporary Sidewalk Closure
COB 01570-08	Sidewalk Closure with Detail
COB 015800-1	Temporary Water Supply Hydrant Meter Assembly
COB 02113-01	Manhole Adjustment Detail
COB 02113-02	Water Valve Adjustment Detail
COB 02221-01	Typical Utility Trench Detail
MPW 02221-02	Pipe Bedding Alternate
MPW 02222-01	Trench Plug Excavation Detail
COB 02504-01	Typical Seal Coat Section
COB 02510-01	Pavement Replacement Detail

Drawing	Description
COB 02510-03	Asphalt Header Detail
COB 02510-04	Pavement Transition Detail
COB 02510-05	Taper Transitions for Overlay Pavement
COB 02510-06	Typical Overlay Section
COB 02528-01	Integral Concrete Curb and Gutter
COB 02528-03	Typical Street Section - Curb and Gutter
COB 02528-04	Typical Street Section – No Curb
MPW 2529-1	Double Gutter Detail For Street Intersection
MPW 02529-02	Standard Fillet
MPW 02529-03	Type I Street Monument
MPW 02529-05	Driveway Approach with Sidewalk Adjacent To Curb
MPW 02529-06	Retrofit Drive Approach
MPW 02529-07A	Boulevard Alley Approach Detail
MPW 02529-07B	Curb Walk Alley Approach
COB 02529-08	Boulevard Sidewalk Perpendicular Pedestrian Ramp
COB 02529-08A	Pedestrian Ramp – Option II and Option III
MPW 02529-09	Swale Crossing
COB 02529-09A	Driveway Swale Crossing Detail - Option II
COB 02529-09B	Driveway Swale Crossing Detail - Option III
MPW 02529-10	Mailbox Mounting for Curb Line Delivery
COB 02529-11	Residential Driveway Approach and Sidewalk Details

Drawing	Description
COB 02529-12	Non-residential Driveway Approach
COB 02529-13	Non-residential Driveway Approach for Arterial Streets
COB 02529-16	Concrete Walks
COB 02581-01	Typical Pavement Markings for Pedestrian Crossings
COB 02581-02	Typical Pavement Markings for School Crossings
MPW 02660-01	Thrust Blocking for Water Main Fittings
COB 02660-03	Thrust Blocking For Water Main Valves
COB 02660-04	Fire Hydrant and Gate Valve Detail
COB 02660-05	Fire Hydrant Location Detail
COB 02660-07	Blow-off Hydrant Detail
COB 02660-08	Fire Hydrant Barrier Post (Bollard) Detail
COB 02660-10	Gate Valve and Valve Box with Thrust block
COB 02660-11	Water Main Crossing Below Existing Sewer Main
COB 02660-12	Standard Domestic Service Line Installation for Sizes 4" and Larger
COB 02660-13	Standard Fire Service Line Installation for Class I, II and III Systems
COB 02660-14	Standard Fire Service Line Installation for Class IV and V Systems
COB 02660-15	Water Service Line from Curb Stop to Building (Lines 2" and Smaller)
COB 02660-16	Water and Sewer Main and Services Location Standards
COB 02660-39A	Water & Sewer Line Crossing Detail – Sewer Line Installed Above Water Line
COB 02660-39B	Water & Sewer Line Crossing Detail – Sewer Line Installed Below Water Line
COB 02660-42	Utility Pipe Trench Insulation (Encased)

Drawing	Description
COB 02660-43	Utility Pipe Trench Insulation (Top Only)
COB 02660-47	Air Release Valve (In A Frost-Proof Manhole) Detail
COB 02660-58	Mobile Home Water Service
COB 02660-61	Water Service Meter and Meter Pit Detail with Remote Meter Readout
COB 02660-61A	Water Service Meter & Vault
COB 02660-80	Temporary Water Supply Hydrant Meter Assembly
COB 02720-01A	Storm Drain Inlet Detail
COB 02720-01B	Storm Drain Inlet Casting Detail
COB 02720-03	Standard Storm Sewer Manhole
COB 02720-04	Standard Straight Storm Sewer Manhole
COB 02720-11	Standard Debris Rack
COB 02720-19	Full Curb Inlet Casting – Frame and Grate Inlet
MPW 02730-01	Nomograph for Air Testing Gravity Sewer Mains
COB 02730-02	Sanitary Sewer Service Line Detail
MPW 02730-03	Deep Sanitary Sewer Service Line Detail
COB 02730-05	Standard Drop Manhole Detail
COB 02730-07	Standard Sanitary Sewer Manhole Detail
COB 02730-08	Straight Sanitary Sewer Manhole Detail
COB 02730-18	Standard Manhole Ring and Cover Detail
COB 02730-20	Manhole Ring and Cover Detail – Frost Proof, Water Tight, with Lockable Lid
COB 02730-25	Manhole Step Detail
COB 02730-31	Sanitary Sewer Tapping Saddle - Installation Detail

Drawing	Description
COB 02730-32	Cleanout (Traffic Areas)
COB 02730-50	Thrust Blocking For Force Main Fittings
COB 02800-01	Chain Link Security Fence and Post Detail
COB 02800-02	Chain Link Gate - Detail
COB 02800-03	Chain Link Sliding Gate - Detail
COB 02800-04	Silt Fence Detail
COB 09810-01	Street Sign Installation Standards
COB 09810-02	Dead End Sign Detail
COB 09810-03	Street Closure Barricade Gate
COB 09810-04	Street Closure Barricade
COB 09810-05	Standard Container Enclosure

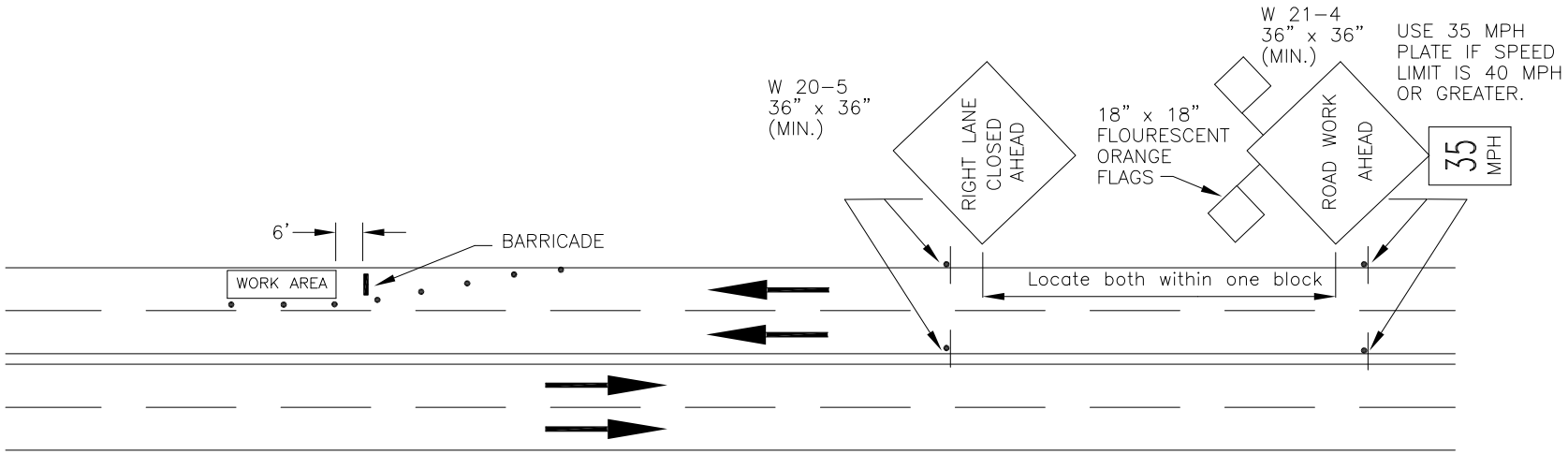
CITY OF BELGRADE

Date: 1/2005 | Revised: 10/2016 | By:

CONSTRUCTION STANDARD NO. 01570-01

TRAFFIC CONTROL MINIMUM STANDARD URBAN WORK SITE

4-LANE ROAD WORK SITE CLOSING ONE LANE



NOTES:

1. ROAD WORK AHEAD – Sign shall be in place at all times, except short term maintenance via manholes for underground utilities. Short term maintenance defined as up to 15 minutes long.
2. RIGHT LANE CLOSED SIGN – Shall be in place when work is being conducted on site; shall not be in use at unattended sites.
3. CONE TAPER LENGTH AND SPACING – See table below; adjustments may be necessary dependent upon side approaches, etc.
4. SPECIAL CONDITIONS – These standards are for short term daytime operations – if traffic control devices are needed during hours of darkness, a traffic control plan shall be submitted for approval.
5. ALL VEHICULAR EQUIPMENT – Working on the roadway or on or near the roadway shoulder shall be equipped with a rotating amber beacon mounted in a manner that assures visibility to approaching traffic at all times.
6. ALL SIGNS, DEVICES AND MOUNTS – Shall meet current Montana Dept. of Highways and MUTCD standards and specifications.
7. BARRICADE PLACEMENT – Barricades shall be a minimum of six (6) feet. Short term maintenance via manholes for underground utilities do not require barricades.
8. If the work area within or near an intersection affects traffic movement, additional traffic control devices may be required.

SPEED LIMIT	TAPER LENGTH	CONE SPACING
25	125'	25'
30	180'	30'
35	245'	35'
40	320'	40'

SPEED LIMIT	TAPER LENGTH	CONE SPACING
25	125'	25'
30	180'	30'
35	245'	35'
40	320'	40'

NOTES:
1. ROAD WORK AHEAD – Sign shall be in place at all times, except short term maintenance via manholes for underground utilities. Short term maintenance defined as up to 15 minutes.
2. KEEP RIGHT SIGN – Shall be in place when work is being conducted on site.
3. CONE TAPER LENGTH AND SPACING – See table below; adjustments may be necessary dependent upon side approaches, etc.
4. SPECIAL CONDITIONS – These standards are for short term daytime operations – if traffic control devices are needed during hours of darkness, a traffic control plan shall be submitted for approval.
5. ALL VEHICULAR EQUIPMENT – Working on the roadway or on or near the roadway shoulder shall be equipped with a rotating amber beacon mounted in a manner that assures visibility to approaching traffic at all times.
6. ALL SIGNS, DEVICES AND MOUNTS – Shall meet current Montana Dept. of Highways and MUTCD standards and specifications.
7. BARRICADE PLACEMENT – Barricades shall be a minimum of six (6) feet. Short term maintenance via manholes for underground utilities do not require barricades.
8. If the work area within or near an intersection affects traffic movement, additional traffic control devices may be required.

Date: 1/2005	Revised: 10/2016	By:	**CONSTRUCTION STANDARD NO. 01570-02**

CITY OF BELGRADE

TRAFFIC CONTROL MINIMUM STANDARD URBAN WORK SITE

2-LANE ROAD WORK SITE ON CENTERLINE

SPEED LIMIT	TAPER LENGTH	CONE SPACING
25	125'	25'
30	180'	30'
35	245'	35'
40	320'	40'

NOTES:

1. ROAD WORK AHEAD – Sign shall be in place at all times, except short term maintenance via manholes for underground utilities. Short term maintenance defined as up to 15 minutes long.
2. KEEP RIGHT SIGN – Shall be in place when work is being conducted on site.
3. CONE TAPER LENGTH AND SPACING – See table below; adjustments may be necessary dependent upon side approaches, etc.
4. SPECIAL CONDITIONS – These standards are for short term daytime operations – if traffic control devices are needed during hours of darkness, a traffic control plan shall be submitted for approval.
5. ALL VEHICULAR EQUIPMENT – Working on the roadway or on or near the roadway shoulder shall be equipped with a rotating amber beacon mounted in a manner that assures visibility to approaching traffic at all times.
6. ALL SIGNS, DEVICES AND MOUNTS – Shall meet current Montana Dept. of Highways and MUTCD standards and specifications.
7. BARRICADE PLACEMENT – Barricades shall be a minimum of six (6) feet. Short term maintenance via manholes for underground utilities do not require barricades.
8. If the work area within or near an intersection affects traffic movement, additional traffic control devices may be required.

Date: 1/2005	Revised: 10/2016	By:	**CONSTRUCTION STANDARD NO. 01570-03**

CITY OF BELGRADE

TRAFFIC CONTROL MINIMUM STANDARD URBAN WORK SITE

4-LANE ROAD WORK SITE ON CENTERLINE PARTIALLY BLOCKING INSIDE LANES

CITY OF BELGRADE

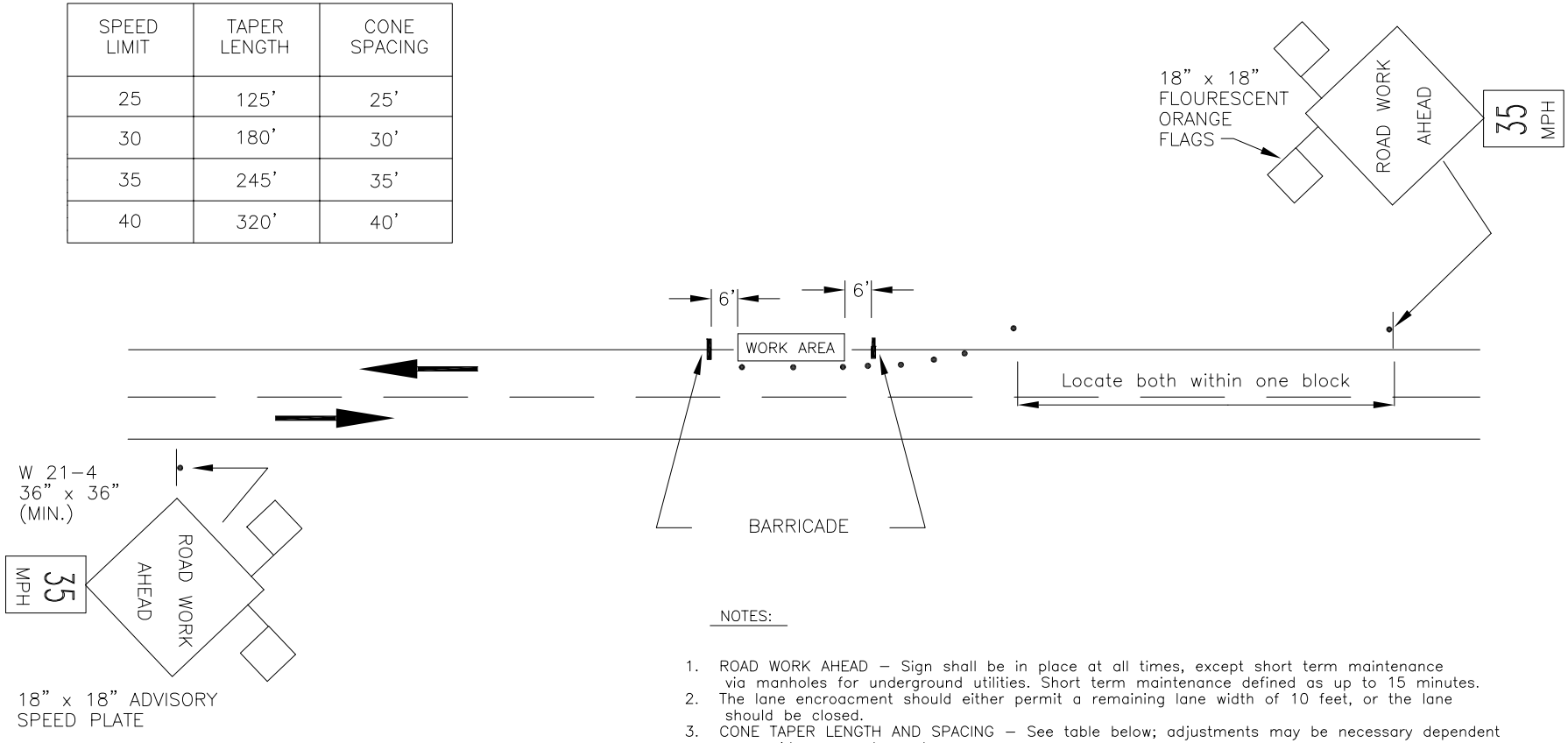
Date: 1/2005 | Revised: 10/2016 | By:

CONSTRUCTION STANDARD NO. 01570-04

TRAFFIC CONTROL MINIMUM STANDARD URBAN WORK SITE

2-LANE ROAD, ONE LANE PARTIALLY OR FULLY CLOSED BY WORK AREA

SPEED LIMIT	TAPER LENGTH	CONE SPACING
25	125'	25'
30	180'	30'
35	245'	35'
40	320'	40'



USE 35 MPH PLATE IF SPEED LIMIT IS 40 MPH OR GREATER.

NOTE: IF REMAINING ROADWAY WIDTH IS INADEQUATE TO ALLOW TWO-WAY TRAFFIC, USE FLAGPERSON (SEE DRAWING NO. 6)

NOTES:

1. ROAD WORK AHEAD – Sign shall be in place at all times, except short term maintenance via manholes for underground utilities. Short term maintenance defined as up to 15 minutes.
2. The lane encroacment should either permit a remaining lane width of 10 feet, or the lane should be closed.
3. CONE TAPER LENGTH AND SPACING – See table below; adjustments may be necessary dependent upon side approaches, etc.
4. SPECIAL CONDITIONS – These standards are for short term daytime operations – if traffic control devices are needed during hours of darkness, a traffic control plan shall be submitted for approval.
5. ALL VEHICULAR EQUIPMENT – Working on the roadway or on or near the roadway shoulder shall be equipped with a rotating amber beacon mounted in a manner that assures visibility to approaching traffic at all times.
6. ALL SIGNS, DEVICES AND MOUNTS – Shall meet current Montana Dept. of Highways and MUTCD standards and specifications.
7. BARRICADE PLACEMENT – Barricades shall be a minimum of six (6) feet. Short term maintenance via manholes for underground utilities do not require barricades.
8. If the work area within or near an intersection affects traffic movement, additional traffic control devices may be required.

NOTES:

1. Sign assembly shall be displayed at a distance of not more than 1000 feet nor less than 750 feet from end of work site.
2. SPECIAL CONDITIONS – These standards are for short term daytime operations – if traffic control devices are needed during hours of darkness, a traffic control plan shall be submitted for approval.
3. ALL VEHICULAR EQUIPMENT – Working on the roadway or on or near the roadway shoulder shall be equipped with a rotating amber beacon mounted in a manner that assures visibility to approaching traffic at all times.
4. ALL SIGNS, DEVICES AND MOUNTS – Shall meet current Montana Dept. of Highways and MUTCD standards and specifications.

Date: 1/2005	Revised: 10/2016	By:	**CONSTRUCTION STANDARD NO. 01570-05**

CITY OF BELGRADE

TRAFFIC CONTROL MINIMUM STANDARD RURAL WORK SITE

WORK ADJACENT TO THE PRESENT TRAVELED WAY (PTW)

NOTES:

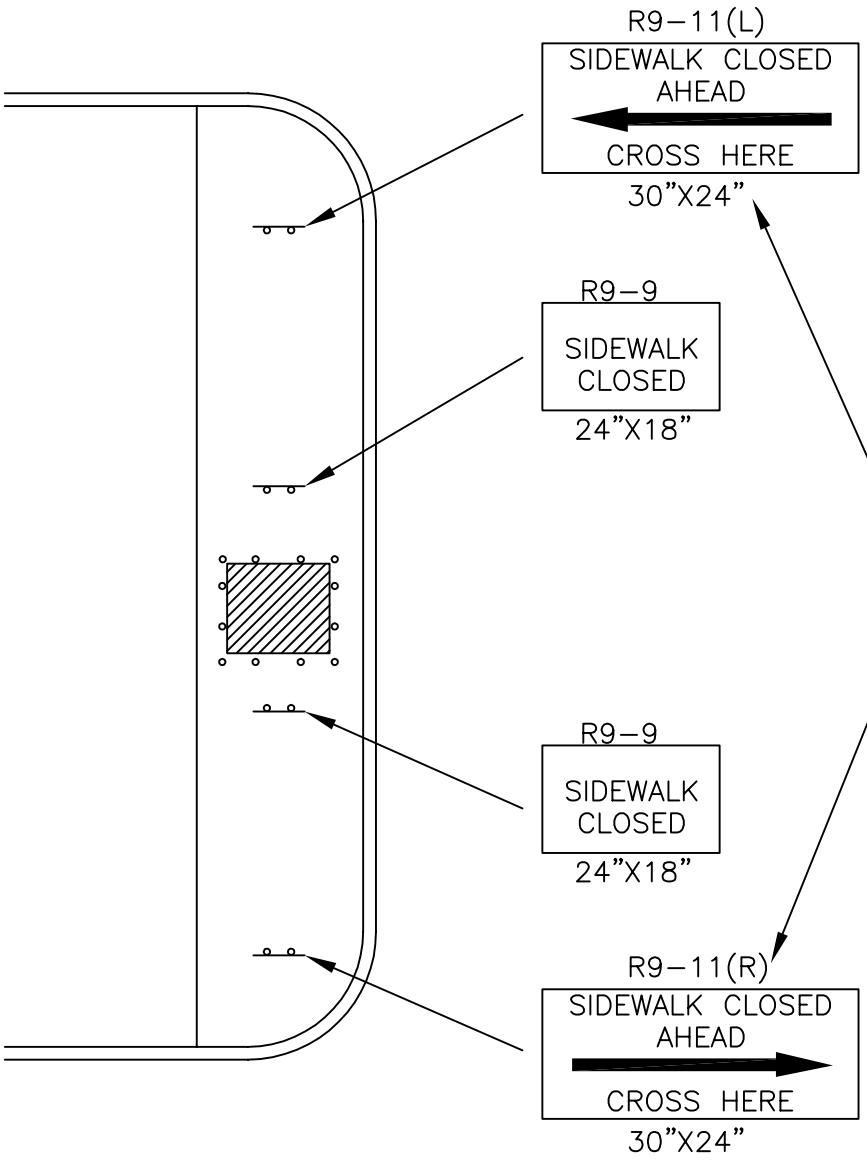
1. When it is necessary for equipment to block the roadway to the extent that two vehicles cannot pass on the roadway at the work site, flagmen, with appropriate warning signs shall be used.
2. FLAGGING – Any person engaged in flagging shall conform to the criteria set forth in the pamphlet "INSTRUCTIONS TO FLAGPERSONS" prepared by the Montana Dept. of Highways.
3. SPECIAL CONDITIONS – These standards are for short term daytime operations – if traffic control devices are needed during hours of darkness, a traffic control plan shall be submitted for approval.
4. ALL VEHICULAR EQUIPMENT – Working on the roadway or on or near the roadway shoulder shall be equipped with a rotating amber beacon mounted in a manner that assures visibility to approaching traffic at all times.
5. ALL SIGNS, DEVICES AND MOUNTS – Shall meet current Montana Dept. of Highways and MUTCD standards and specifications.

Date: 1/2005	Revised: 10/2016	By:	**CONSTRUCTION STANDARD NO. 01570-06**

CITY OF BELGRADE

TRAFFIC CONTROL MINIMUM STANDARD RURAL WORK SITE

UTILITY WORK ON OR ACROSS THE PRESENT TRAVELED WAY (PTW)



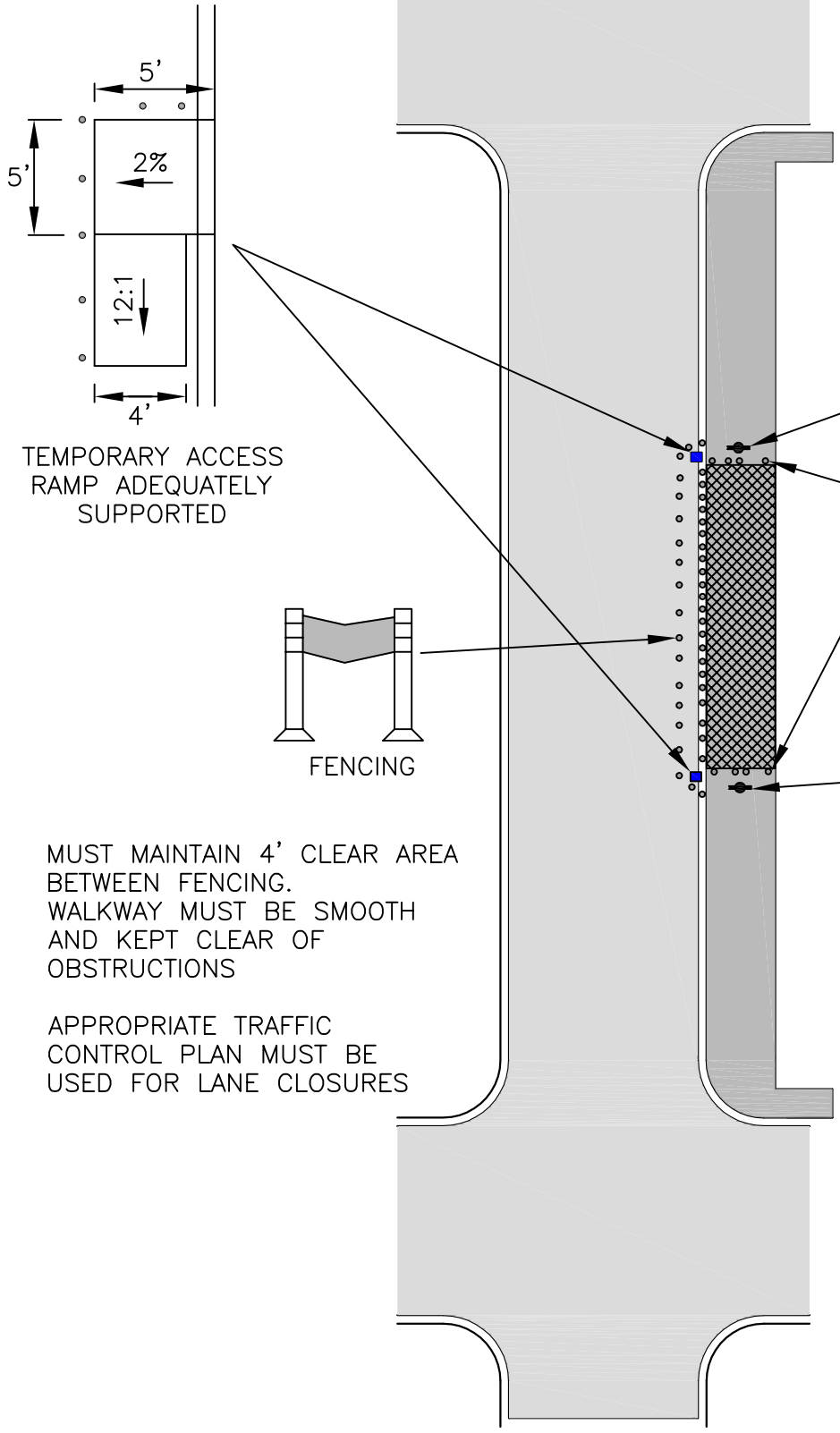
SIGNS ARE TO BE PLACED AT THE NEAREST LEGAL CROSSING TO THE WORK AREA. MAY ONLY BE USED IF A PARALLEL SIDEWALK EXISTS ON THE OTHER SIDE OF THE ROADWAY.

SIGN

WORK SITE

TRAFFIC DRUMS OR CONE

Date: 4/2010	Revised:	By:	CONSTRUCTION STANDARD NO. 01570-07
CITY OF BELGRADE			PEDESTRIAN TRAFFIC CONTROL FOR TEMPORARY SIDEWALK CLOSURE



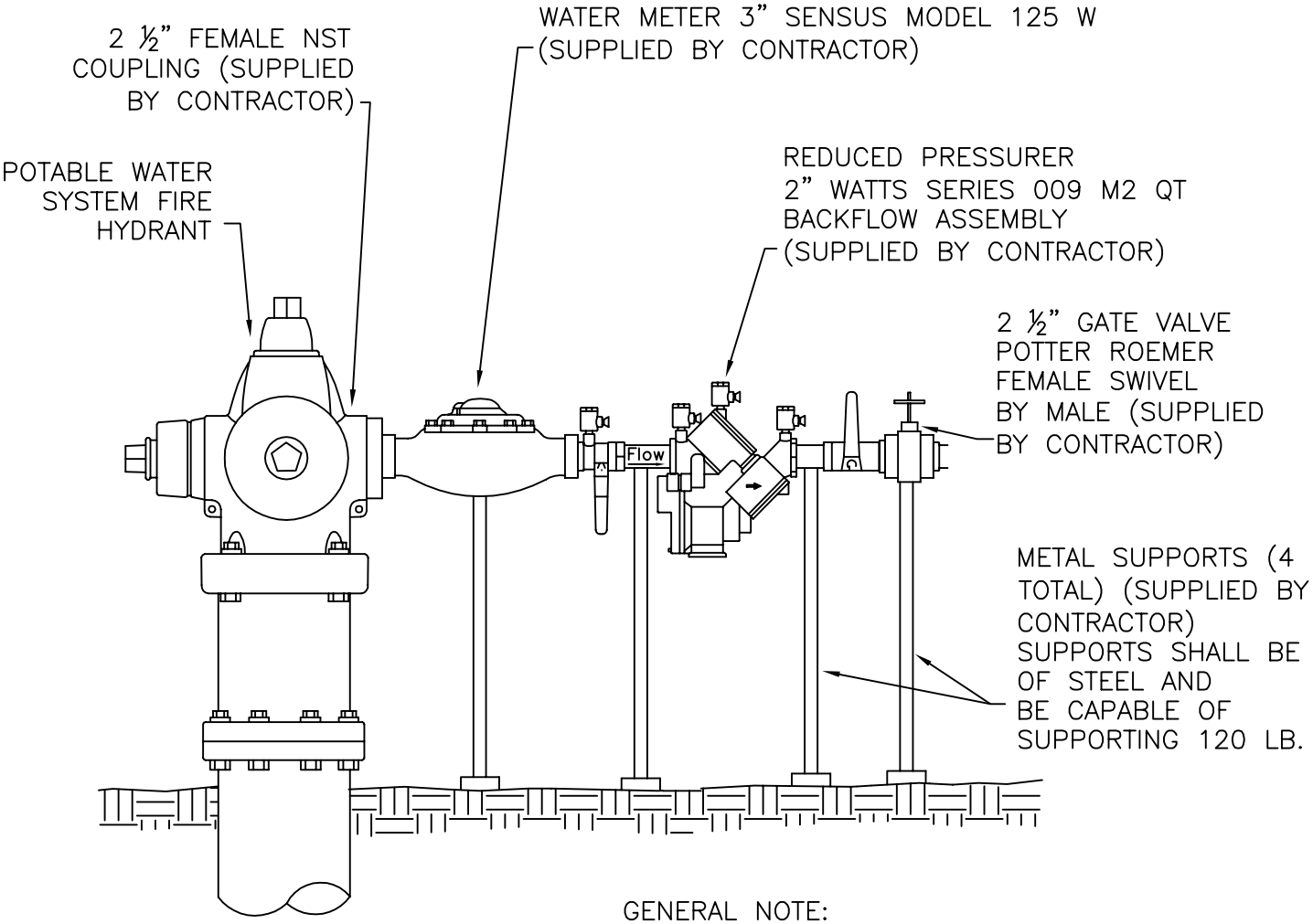
MUST MAINTAIN 4' CLEAR AREA BETWEEN FENCING. WALKWAY MUST BE SMOOTH AND KEPT CLEAR OF OBSTRUCTIONS

APPROPRIATE TRAFFIC CONTROL PLAN MUST BE USED FOR LANE CLOSURES

FENCING AS SHOWN MAY USED FOR SHORT TERM (LESS THAN 30 DAYS) INSTALLATION. MORE PERMANENT STRUCTURES WILL BE REQUIRED FOR LONGER TERM.

A COVERWALK MAY BE REQUIRED FOR OVERHEAD OPERATIONS (IF HEIGHT MINUS 10' EXCEEDS DISTANCE FROM WALK WAY TO WORK AREA)

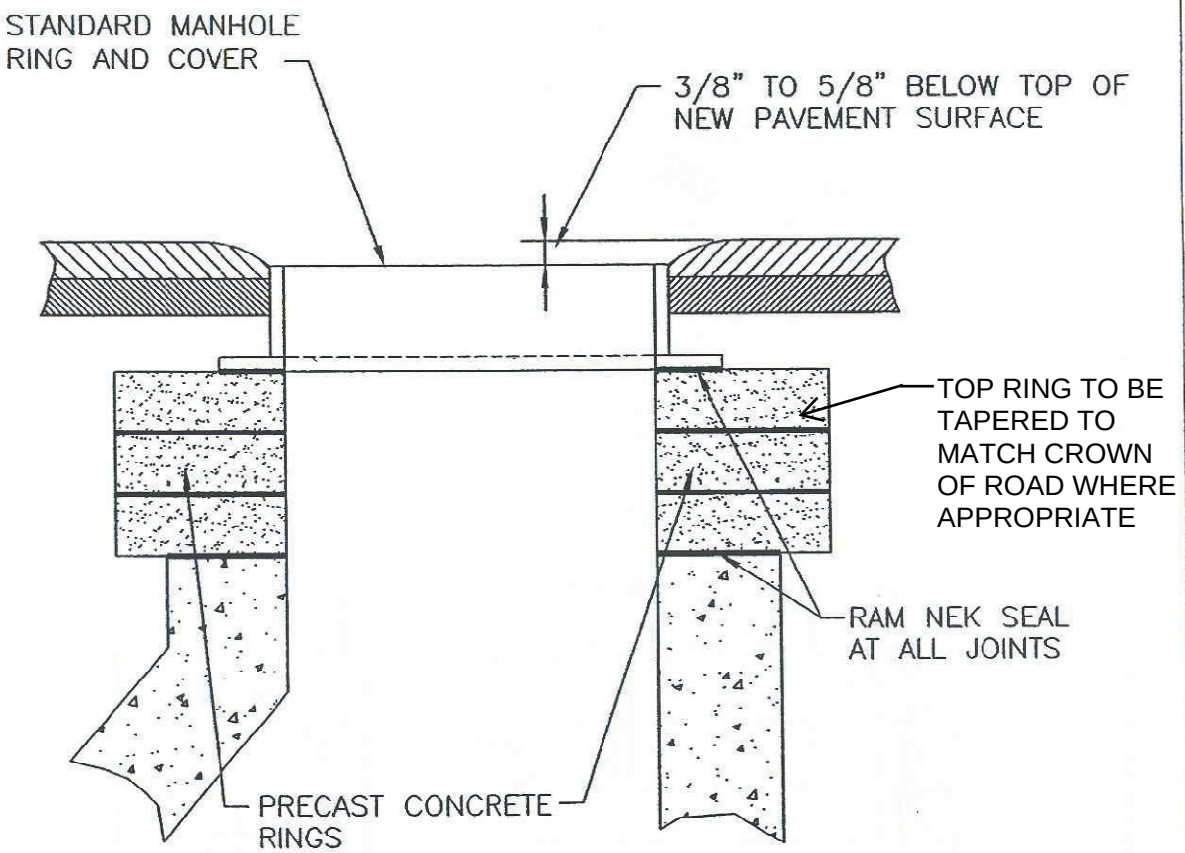
Date: 4/2010	Revised:	By:	CONSTRUCTION STANDARD NO. 01570-08
CITY OF BELGRADE			SIDEWALK CLOSURE WITH DETAIL



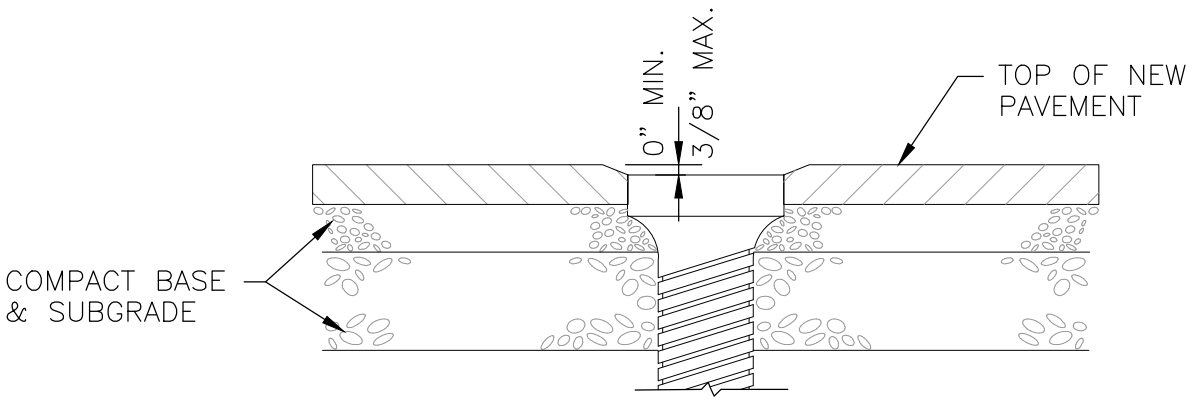
GENERAL NOTE:

CALL (406) 388–3760 WITH QUESTIONS.

Date: 4/2010	Revised:	By:	**CONSTRUCTION STANDARD NO. 01580-01**
CITY OF BELGRADE			**TEMPORARY WATER SUPPLY HYDRANT METER ASSEMBLY**

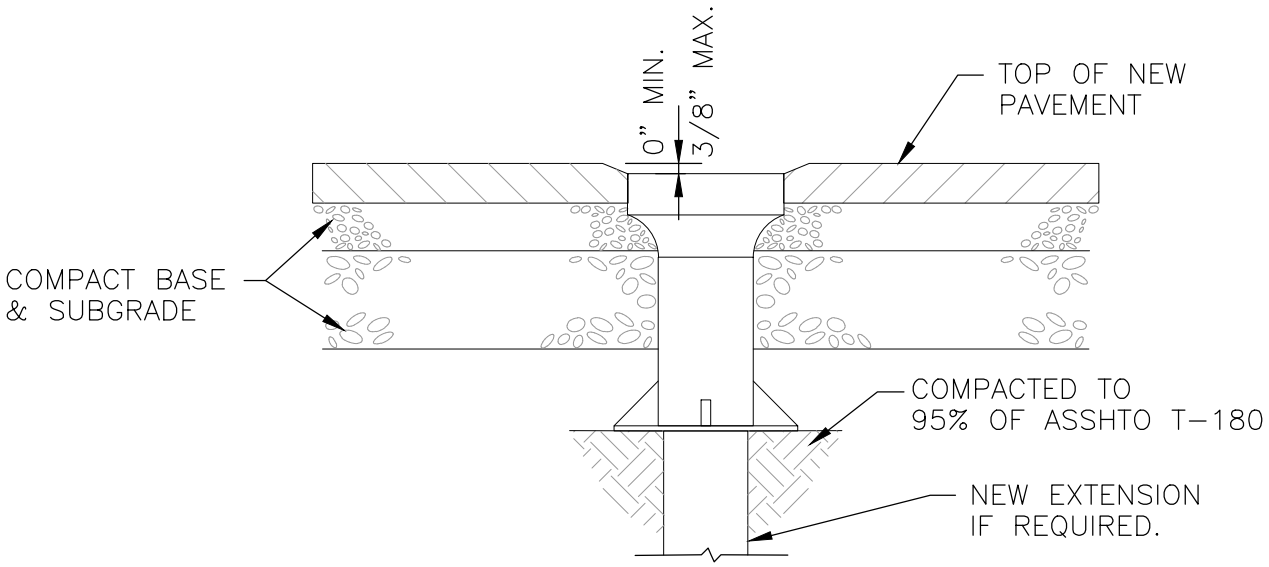


Date: 1/2005	Revised:	STANDARD DRAWING NO. 02113-01
CITY OF BELGRADE		**MANHOLE ADJUSTMENT DETAIL**



SCREW TYPE BOX

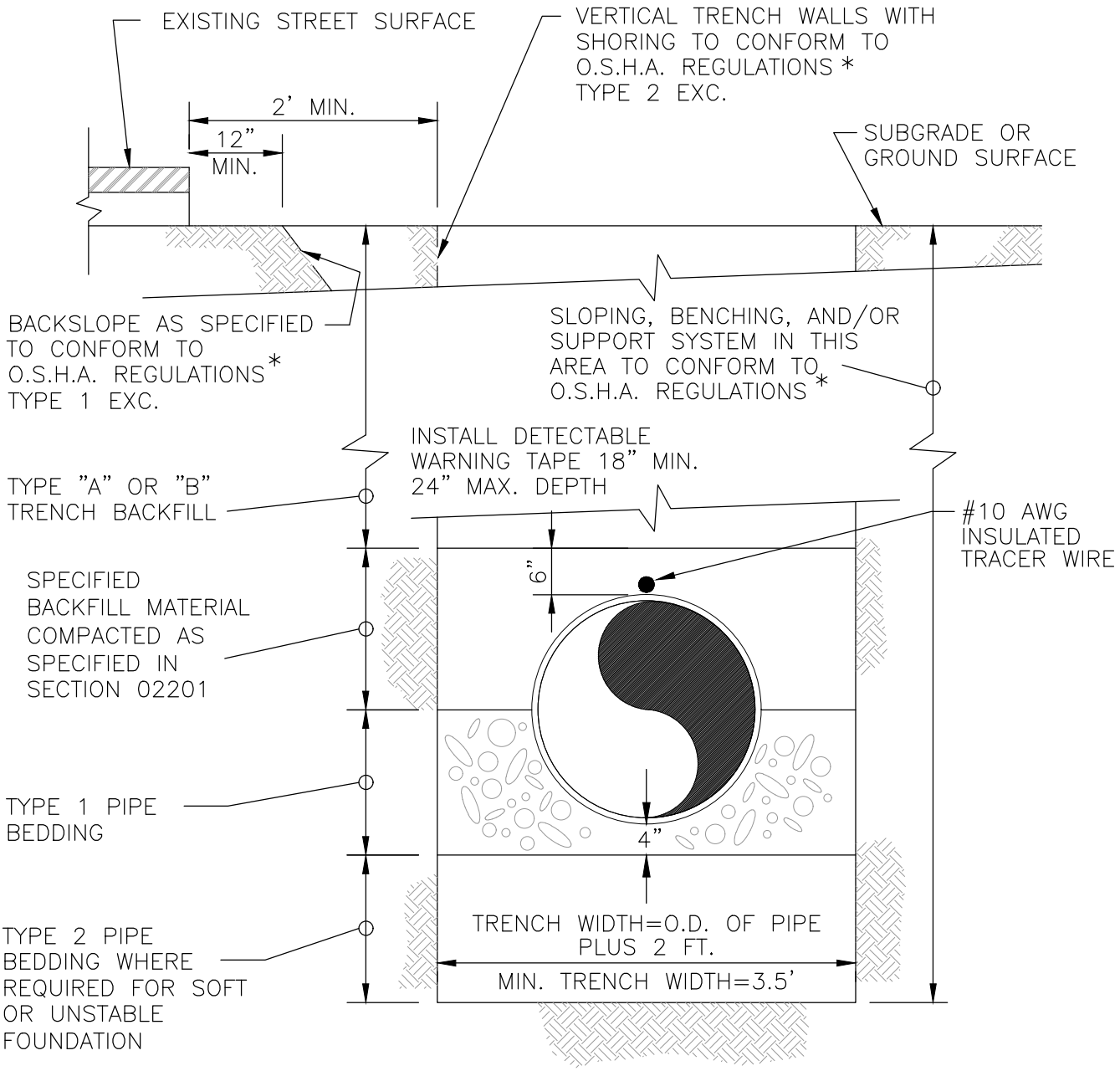
ADJUST WATER VALVES UPWARD OR DOWNWARD AS REQUIRED TO MATCH PAVEMENT GRADE BEFORE PAVING. FINAL ADJUSTMENT SHALL BE MADE AFTER PAVING AND BEFORE SEAL COATING. NO PAYMENT SHALL BE MADE FOR ADJUSTMENT OF NEW VALVES TO FINAL GRADE.



SLIDE TYPE BOX

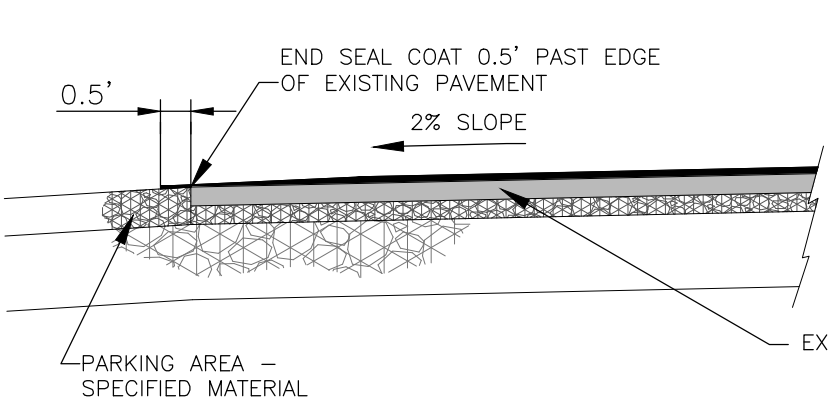
Date: 4/2010	Revised:	By:	**CONSTRUCTION STANDARD NO. 02113-02**
CITY OF BELGRADE			**WATER VALVE ADJUSTMENT DETAIL**

NOTE: WHERE TRENCH PASSES THROUGH EXISTING PAVEMENT, THE PAVEMENT SHALL BE CUT ALONG A NEAT VERTICAL LINE A MINIMUM OF 12" FROM THE EDGE OF THE TRENCH OPENING. WHERE NEAT LINE IS LESS THAN 3" FROM EDGE OF EXISTING PAVEMENT OR CURB AND GUTTER SECTION, REMOVE AND REPLACE ENTIRE PAVEMENT SECTION BETWEEN TRENCH AND EDGE OF PAVEMENT.

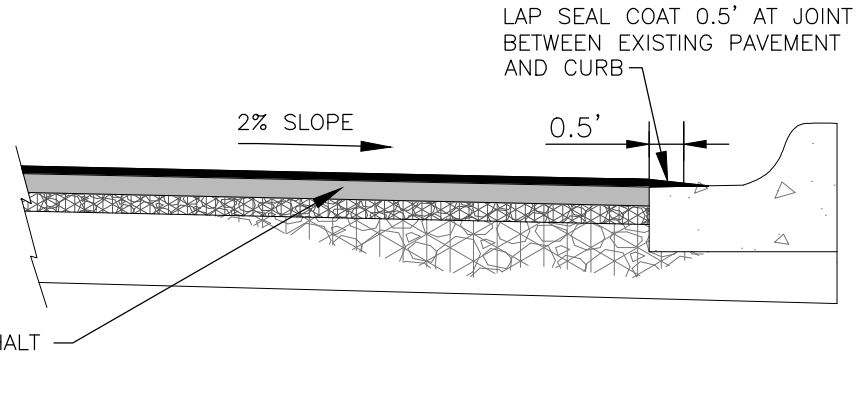


* SEE O.S.H.A. CONSTRUCTION STANDARDS FOR EXCAVATIONS, SEC. 1926, SUBPART P

Date: 1/2005	Revised: 1/2017	By:	**CONSTRUCTION STANDARD NO. 02221-01**
CITY OF BELGRADE			**TYPICAL UTILITY TRENCH DETAIL**

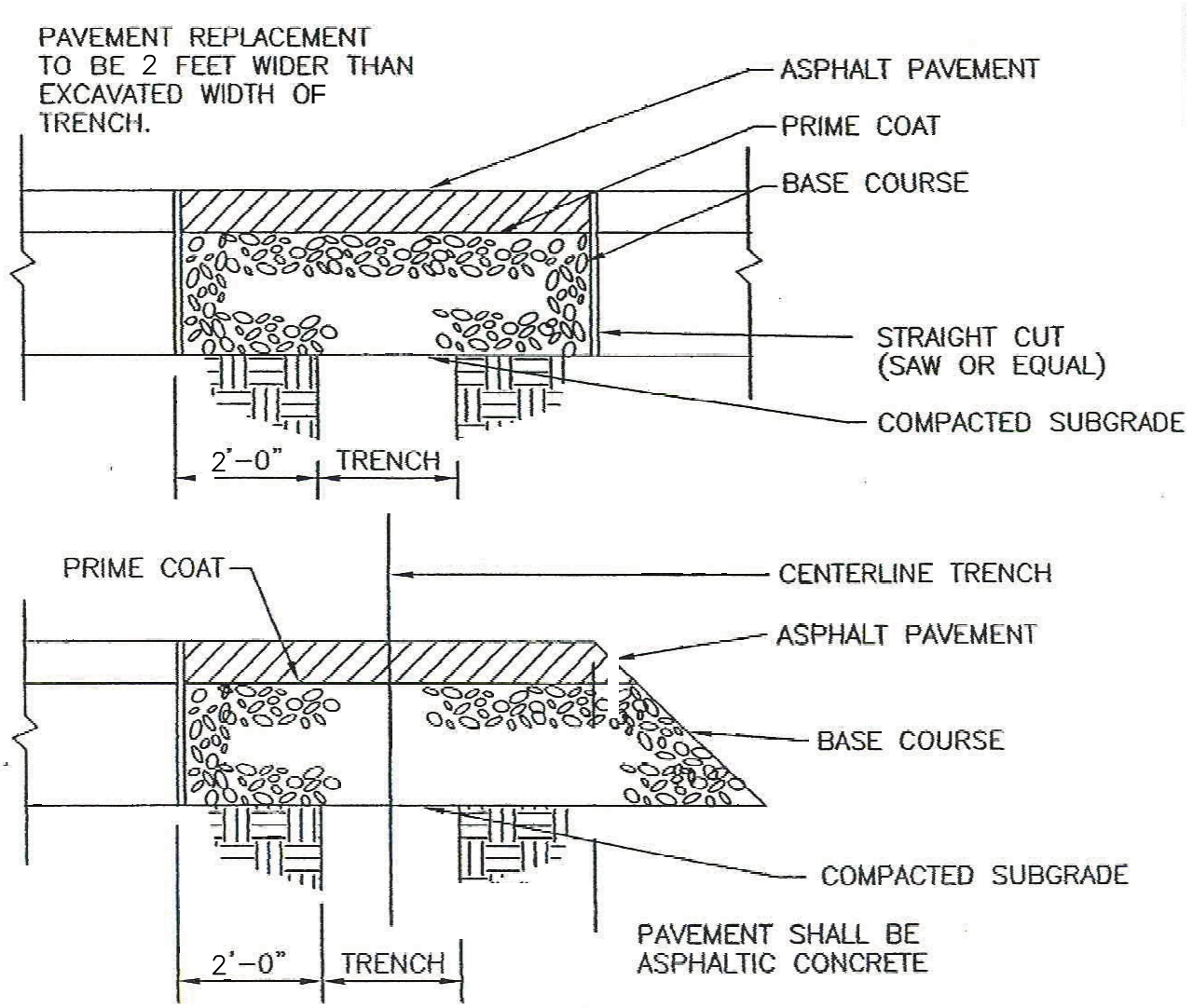


TYPICAL STREET SECTION NO CURB



TYPICAL STREET SECTION WITH CURB

CITY OF BELGRADE	TYPICAL SEAL COAT SECTION	STANDARD DRAWING NO. 02504–01
		DATE: 1/2005
		REVISED: 1/2017



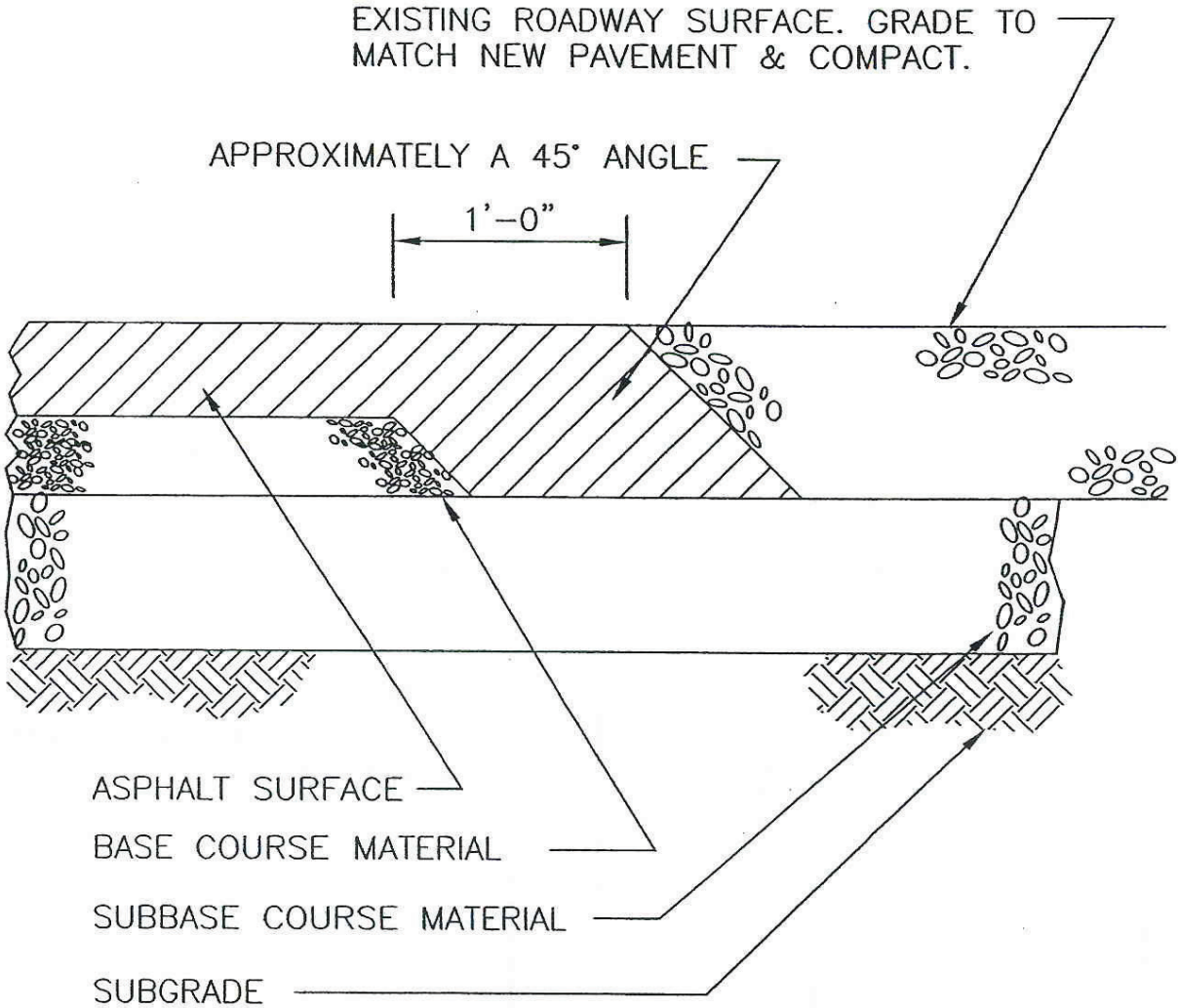
1. ASPHALTIC PAVEMENT AND BASE COURSE MATERIAL SHALL BE PLACED AS CALLED FOR IN THE CONSTRUCTION SPECIFICATIONS.

2. ASPHALT SURFACE THICKNESS SHALL BE AS SHOWN ON THE DRAWINGS.

MINIMUM REQUIRED SECTION TO BE DETERMINED BY A GEOTECH REPORT				
	TYPE I	TYPE II	HEAVY HIGHWAY	LIGHT HIGHWAY
ASPHALT	3 1/2" to 5"* min. max.	3" to 4"* min. max.	12"–6 LIFTS	4"–2 LIFTS
MIN. BASE	12"	8"	12"	12"

*PLACE IN 2 LIFTS

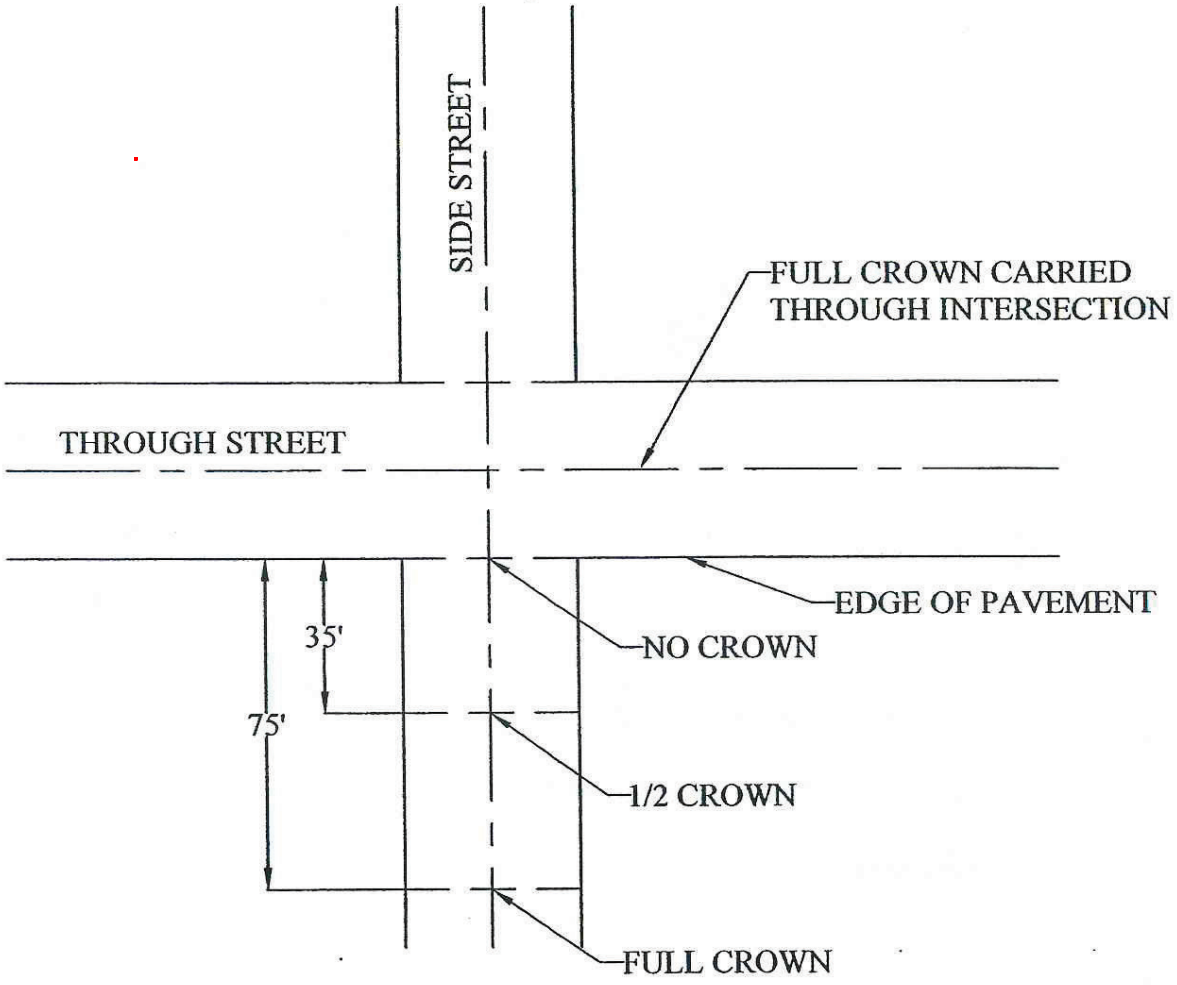
Date: 4/2010	Revised: 4/2016	By:	**CONSTRUCTION STANDARD NO. 02510-01**
CITY OF BELGRADE			**PAVEMENT REPLACEMENT**



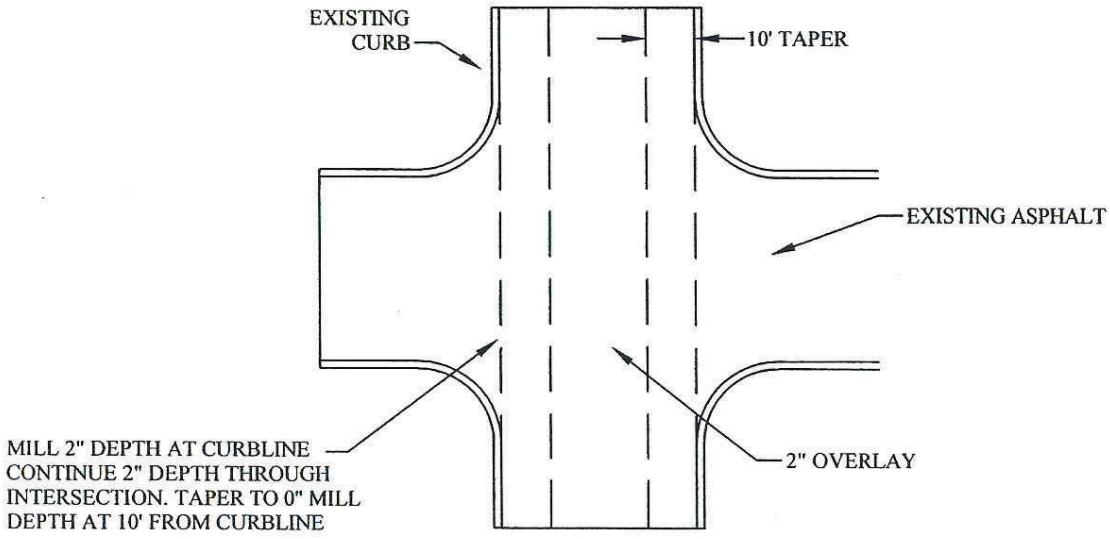
ASPHALT HEADER

NO SCALE

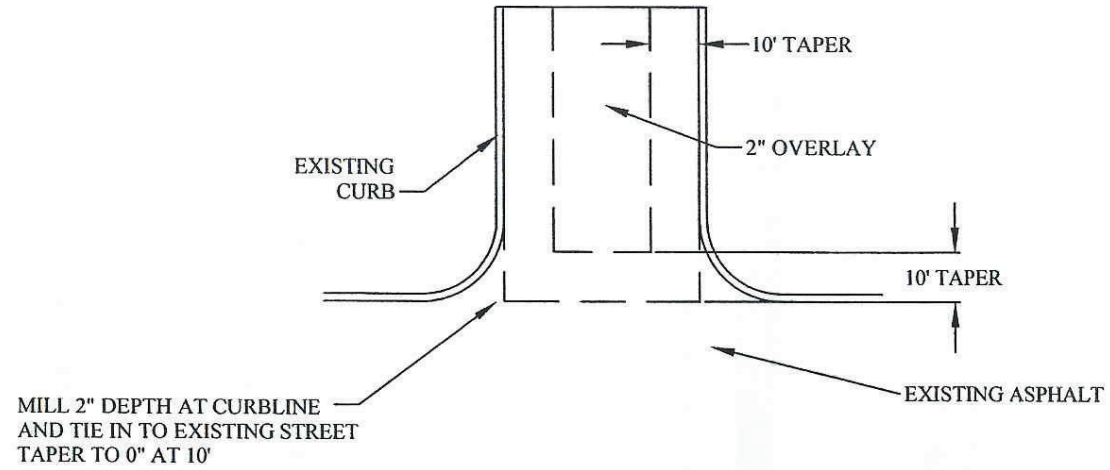
Date: 1/2005	Revised:	STANDARD DRAWING NO. 02510-03
CITY OF BELGRADE		**ASPHALT HEADER**



Date: 1/2005	Revised:	STANDARD DRAWING NO. 02510-04
CITY OF BELGRADE		**PAVEMENT TRANSITION DETAIL**

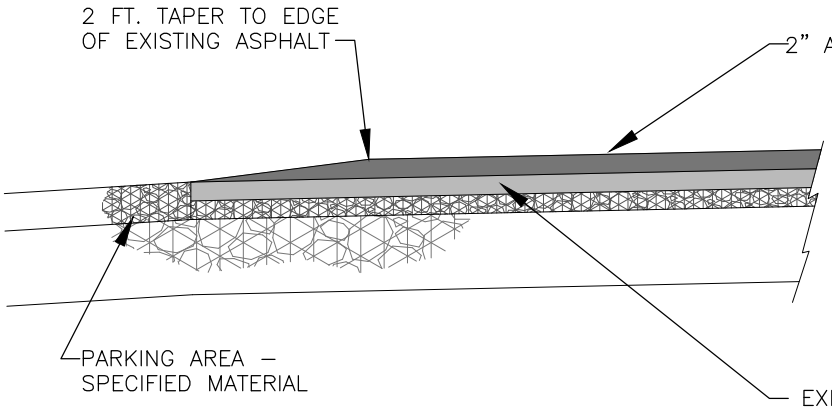


TAPER TRANSITION THROUGH INTERSECTION

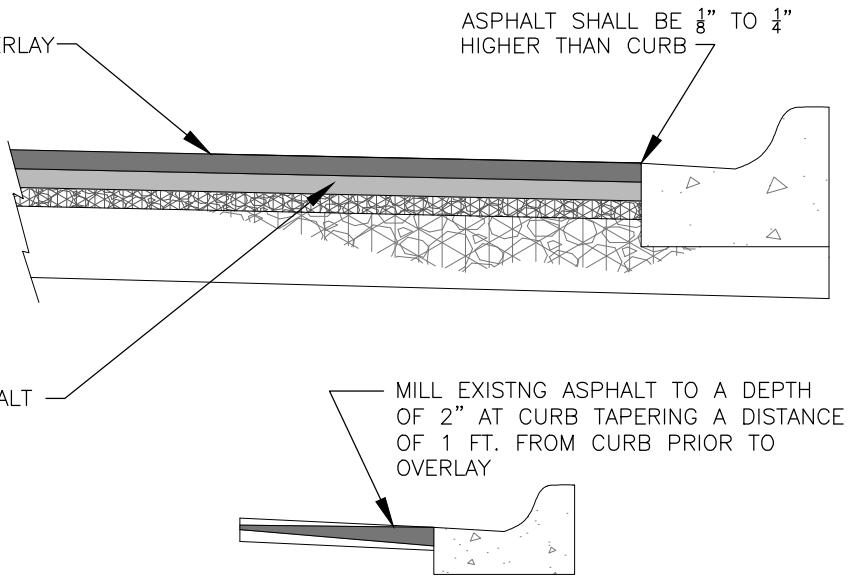


TAPER TRANSITION AT BEGINNING AND END OF OVERLAY

Date: 1/2005	Revised:	STANDARD DRAWING NO. 02510-05
CITY OF BELGRADE		**TAPER TRANSITIONS FOR OVERLAY PAVEMENT**



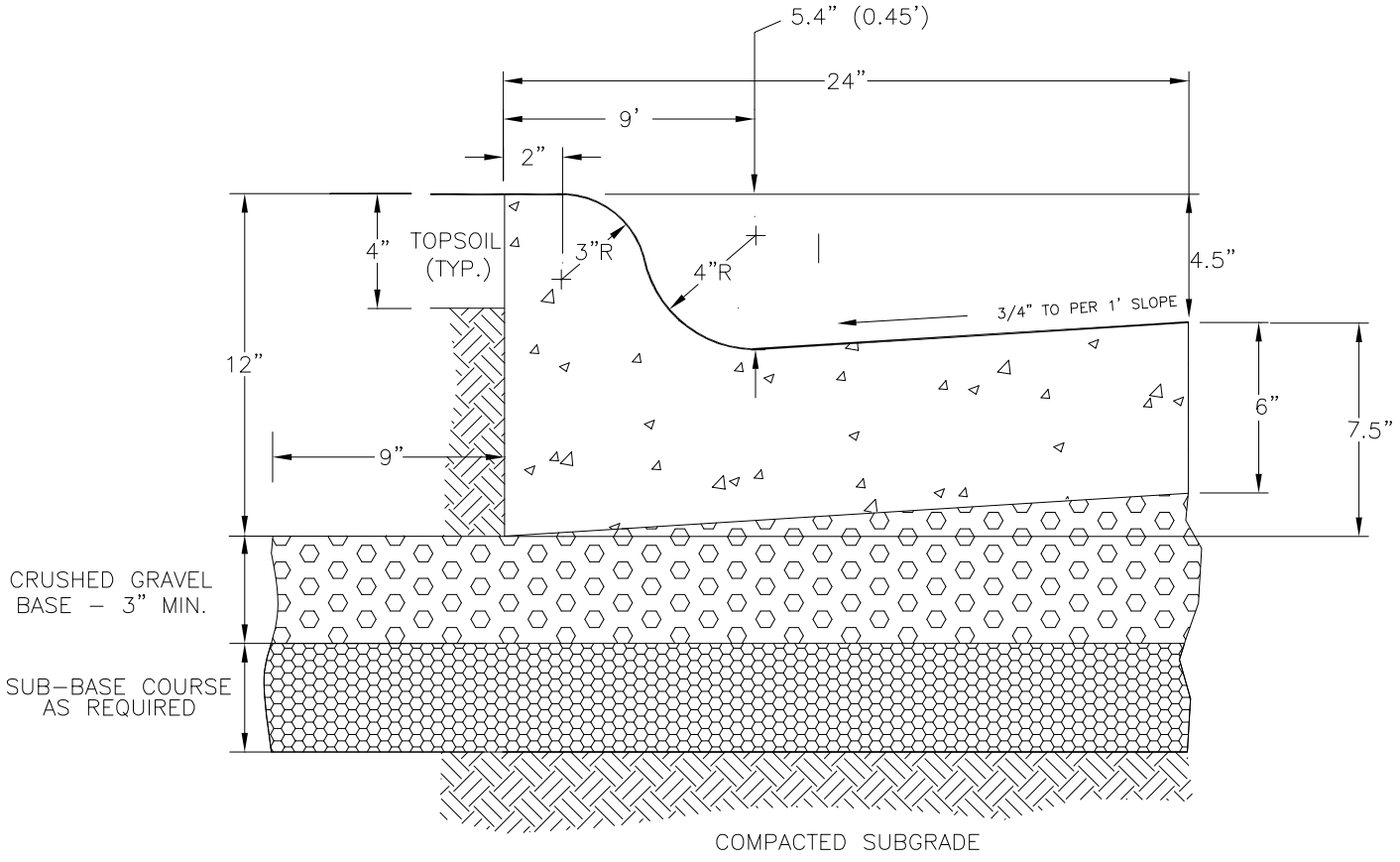
TYPICAL STREET SECTION NO CURB

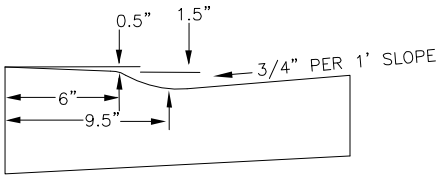


TYPICAL STREET SECTION WITH CURB

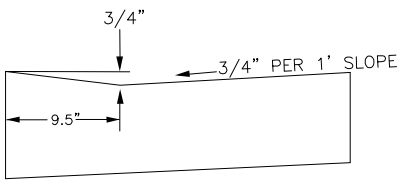
NOTE: TACK COAT ENTIRE WIDTH OF EXISTING ASPHALT
PRIOR TO PLACEMENT OF OVERLAY

CITY OF BELGRADE	TYPICAL OVERLAY SECTION	STANDARD DRAWING NO. 02510–06
		DATE: 1/2005
		REVISED: 1/2017

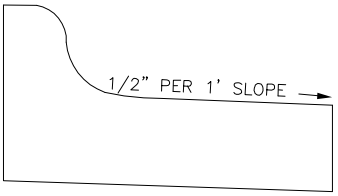




DROP CURB FOR DRIVEWAYS



DROP CURB FOR PEDESTRIAN RAMPS



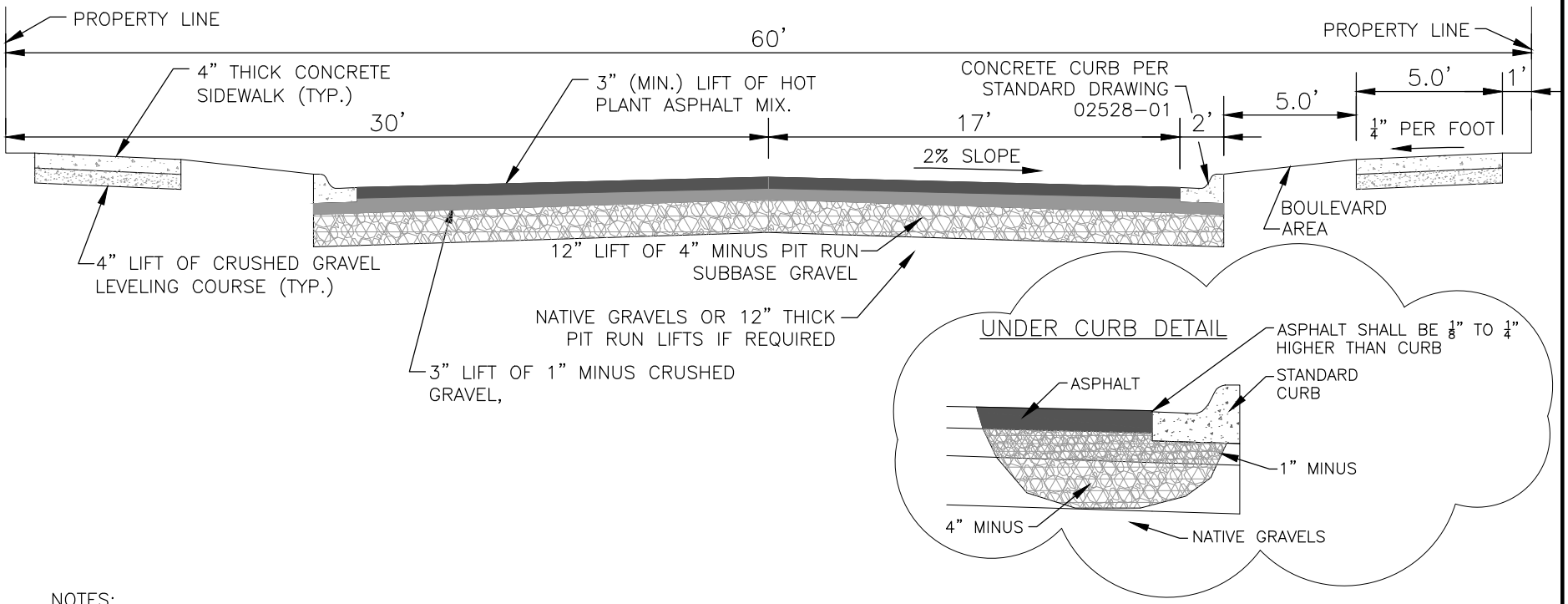
SPILL CURB

NOTES:

1. Subgrade or base course compaction shall conform to section 02230 (M.P.W. Specs., 1996 ed.)
2. Contraction joints shall be placed at 10' intervals and shall have a minimum depth of 3/4" and minimum width of 1/8".
3. 1/2" expansion joint material shall be placed at all P.C.s, P.T.s, curb returns and at not more than 300' intervals. The expansion material shall extend through the full depth of the curb and gutter.
4. No curb and gutter shall be placed without a final form inspection by the City Engineer or his representative.
5. Concrete shall be Class M–4000.
6. Crushed gravel base shall meet the requirements of Section 02235 (MPW SPECS, 2003 ed.) For curb and gutter replacement projects, washed rock may be used for the gravel base.

Date: 10/2016	Revised:	By:	**CONSTRUCTION STANDARD NO. 02528-01**
CITY OF BELGRADE			**INTEGRAL CONCRETE CURB AND GUTTER**

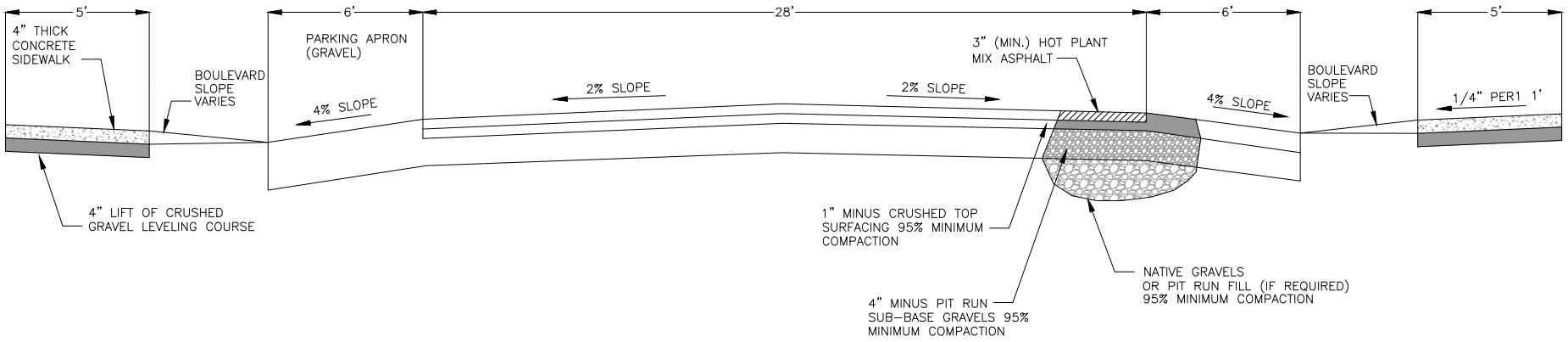
TYPICAL STREET SECTION
CURB AND GUTTER



NOTES:

1. REMOVE ALL TOPSOIL MATERIAL FOR FULL WIDTH OF ROADWAY. COMPACT TO A MINIMUM OF 95% OF MAX. DRY DENSITY AS DETERMINED BY AASHTO T-180
2. BACKFILL TO A SUBGRADE WITH A MINIMUM OF A 12" LIFT OF 4" MINUS PIT RUN GRAVELS, COMPACTED TO 95%.
3. PLACE A LIFT OF 1" MINUS CRUSHED SURFACING GRAVELS, COMPACTED TO 95%.
4. PLACE A LIFT OF HOT MIX ASPHALT FINISH SURFACING, COMPACTED TO 93%.
5. SECTION TO BE DESIGNED FOR TRAFFIC LOADS SITE SPECIFICALLY. IN NO CASE SHALL THE DESIGN SECTION BE LESS THAN 3" HOT PLANT MIX, 6" LIFT OF 1" MINUS CRUSHED GRAVEL AND A 12" LIFT OF 4" MINUS PIT RUN SUBBASE.

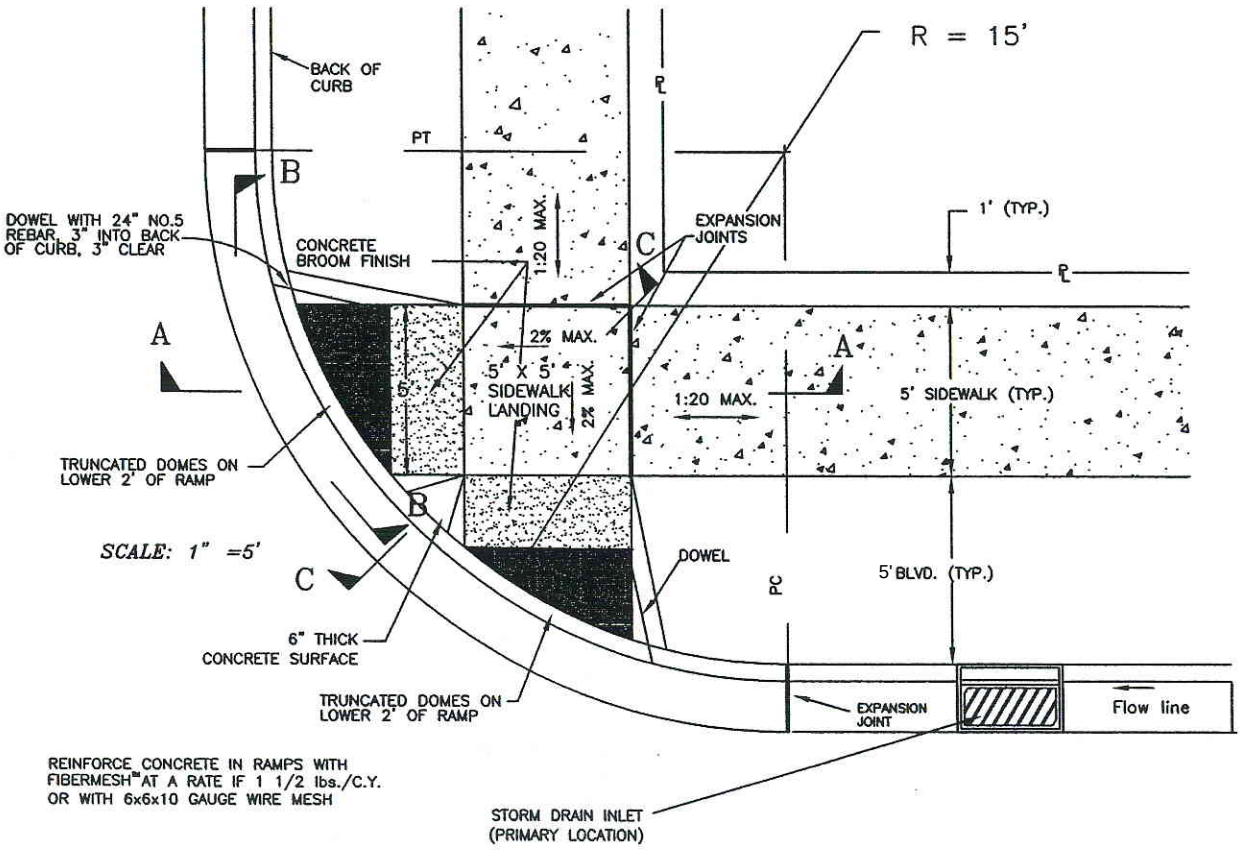
CITY OF BELGRADE	TYPICAL STREET SECTION CURB & GUTTER	STANDARD DRAWING NO. 02528-03 DATE: 1/2005 REVISED: 6/2017

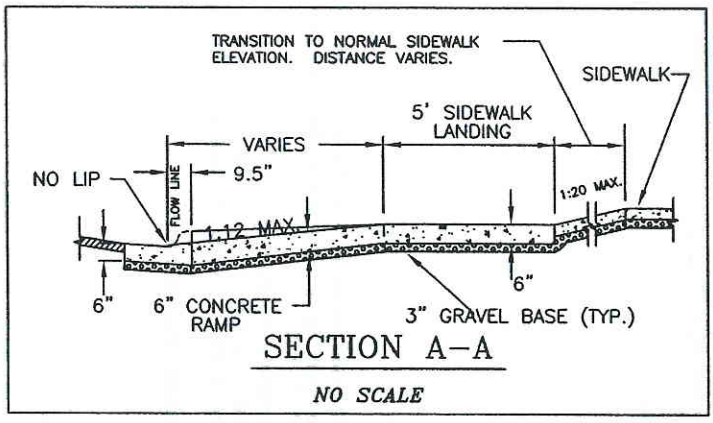


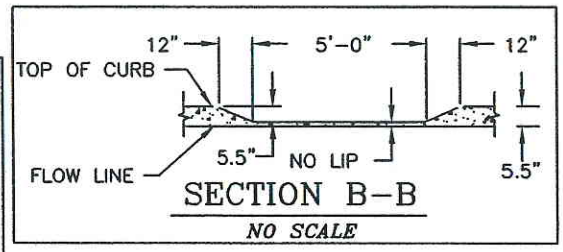
NOTES:

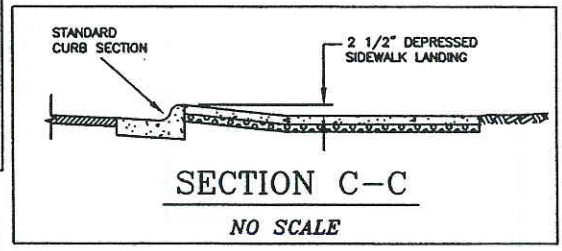
1. REMOVE ALL TOPSOIL AND FINE GRAINED MATERIAL DOWN TO NATIVE PIT RUN GRAVELS FOR FULL 40' WIDTH OF ROADWAY. COMPACT TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY, AS DETERMINED BY AASHTO T-99.
2. IF NECESSARY BACKFILL TO SUB-GRADE ELEVATION WITH 4" MINUS PIT RUN GRAVEL, WITH 8" MAXIMUM LIFTS, COMPACTED TO A MINIMUM OF 95%.
3. PLACE 3" LIFT OF 1" MINUS SURFACING MATERIALS, COMPACTED TO A MINIMUM OF 95%.
4. PLACE 3" LIFT OF HOT MIX ASPHALT FINISHED SURFACING, COMPACTED TO 95%.
5. SECTION TO BE DESIGNED FOR TRAFFIC LOADS SITE SPECIFICALLY. IN NO CASE SHALL THE DESIGN SECTION BE LESS THAN 3" HOT PLANT MIX, 6" LIFT OF 1" MINUS CRUSHED TOP SURFACING GRAVEL & 12" LIFT OF 4" MINUS PIT RUN/SUBBASE.

CITY OF BELGRADE	**TY□ICAL RECONSTRUCTION STREET SECTION NO CURB**	STANDARD DRAWING NO. 02528-04
		DATE: 1/2005
		REVISED: 1/2017





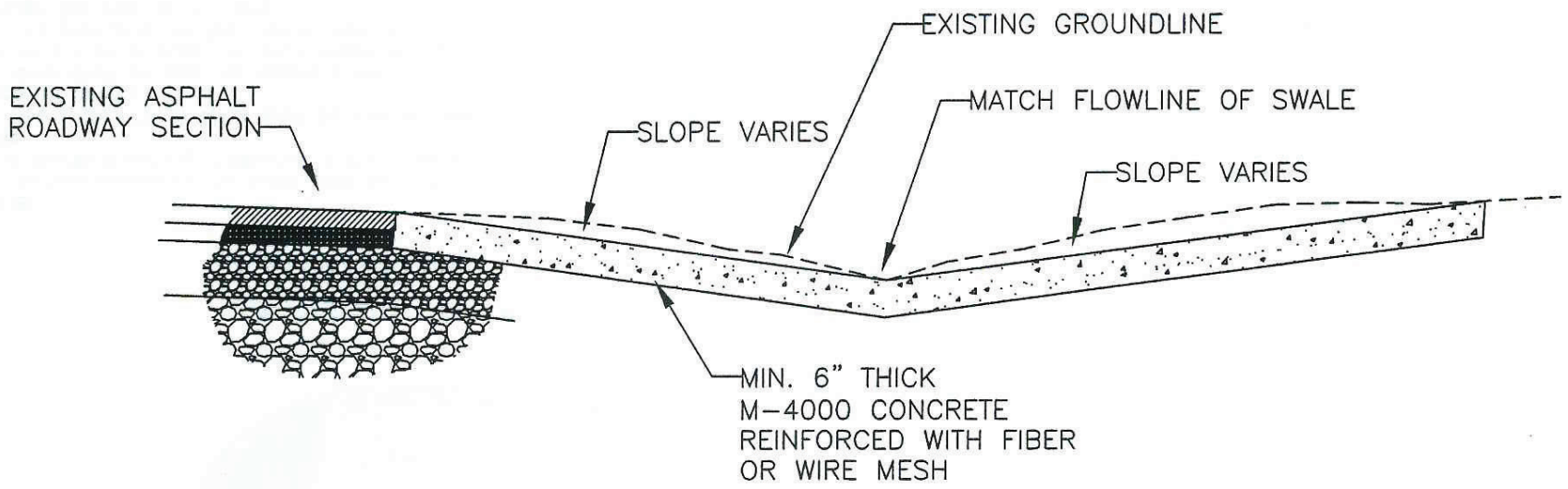




CONSTRUCTION NOTES:

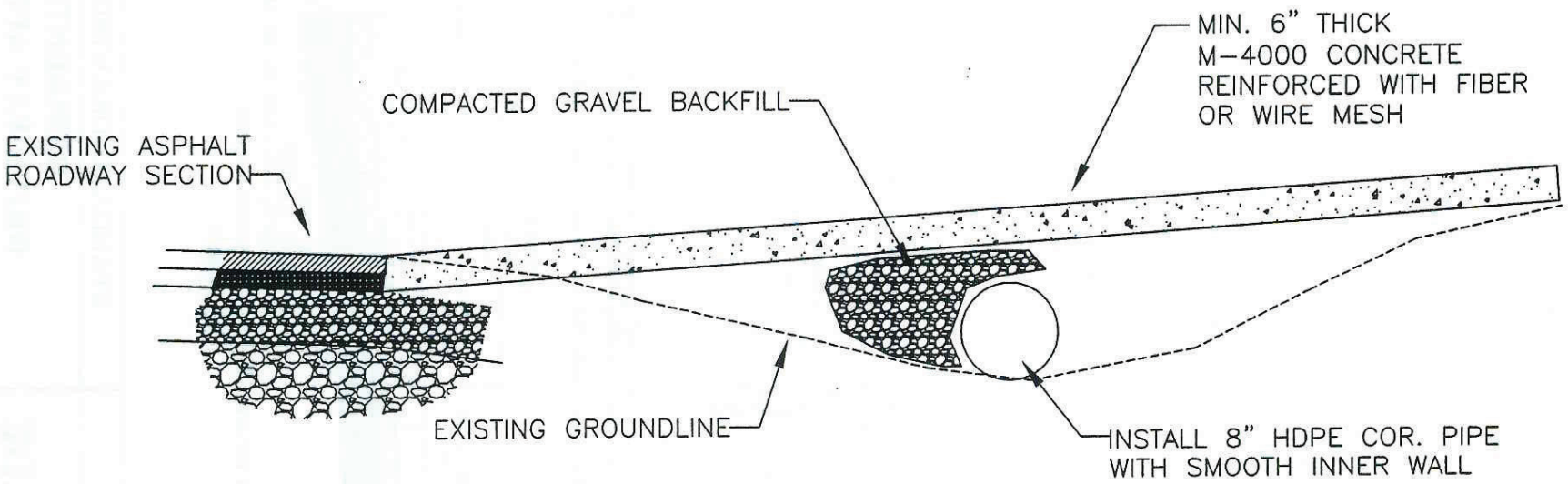
1. Standard applies to new construction, with max. curb R=15', and min. 4' boulevards.
2. Ramp and curb can be poured monolithically.
3. Storm drain inlets shall be constructed "upstream" of ramps. Alternative locations permitted only upon City Engineer's approval.
4. Ramp width shall be 5' minimum.
5. Sidewalk cross-slopes shall not exceed 2%.

Date: 1/2005	Revised: 6/2017	STANDARD DRAWING NO. 02529-08
CITY OF BELGRADE		**BOULEVARD SIDEWALK PERPENDICULAR PEDESTRIAN RAMP**



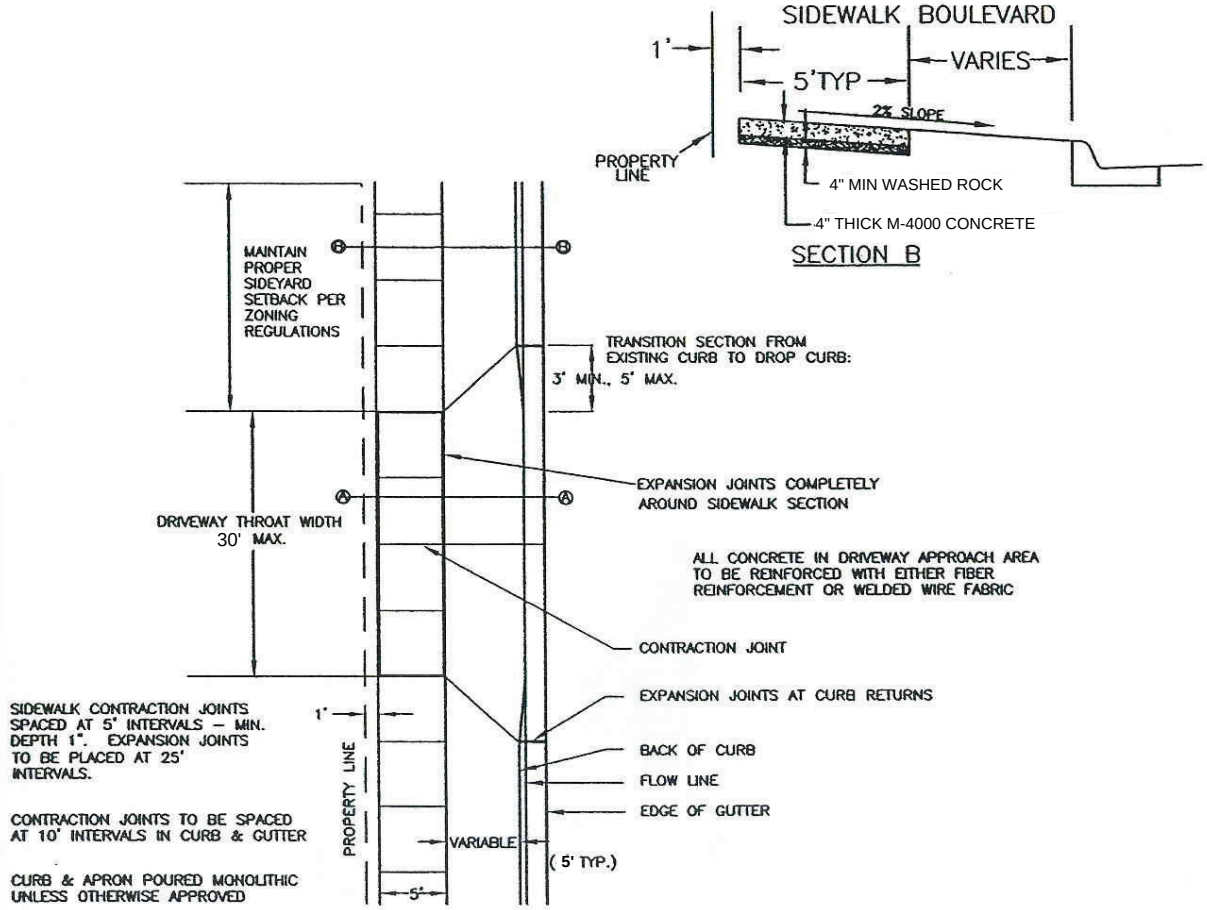
DRIVEWAY WIDTH TO BE 12' MIN. AND 24' MAX. FOR RESIDENTIAL.

CITY OF BELGRADE	**DRIVEWAY SWALE CROSSING DETAIL** **OPTION II**	STANDARD DRAWING NO. 02529-09A Date: 1/2005 Revised:

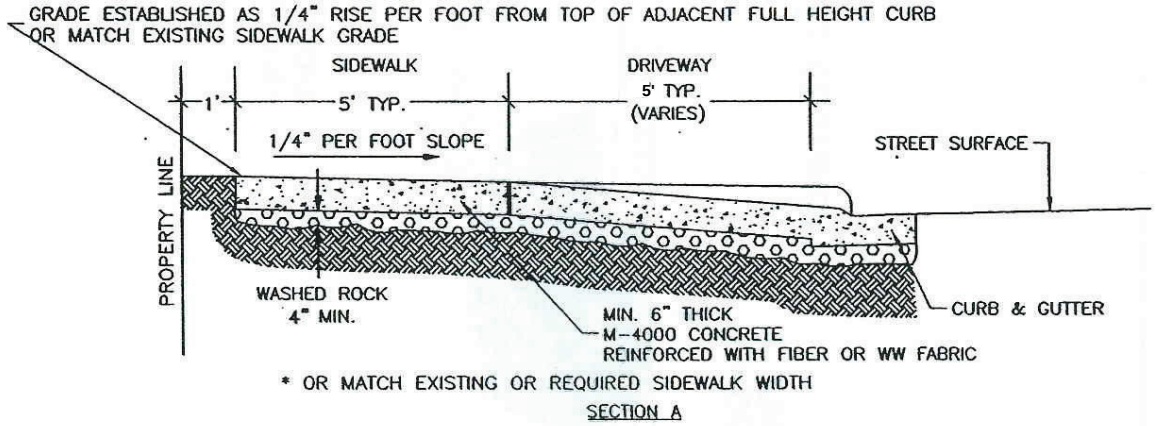


DRIVEWAY WIDTH TO BE 12' MIN. AND 24' MAX. FOR RESIDENTIAL.

CITY OF BELGRADE	**DRIVEWAY SWALE CROSSING DETAIL** **OPTION III**	STANDARD DRAWING NO. 02529-09B Date: 1/2005 Revised:

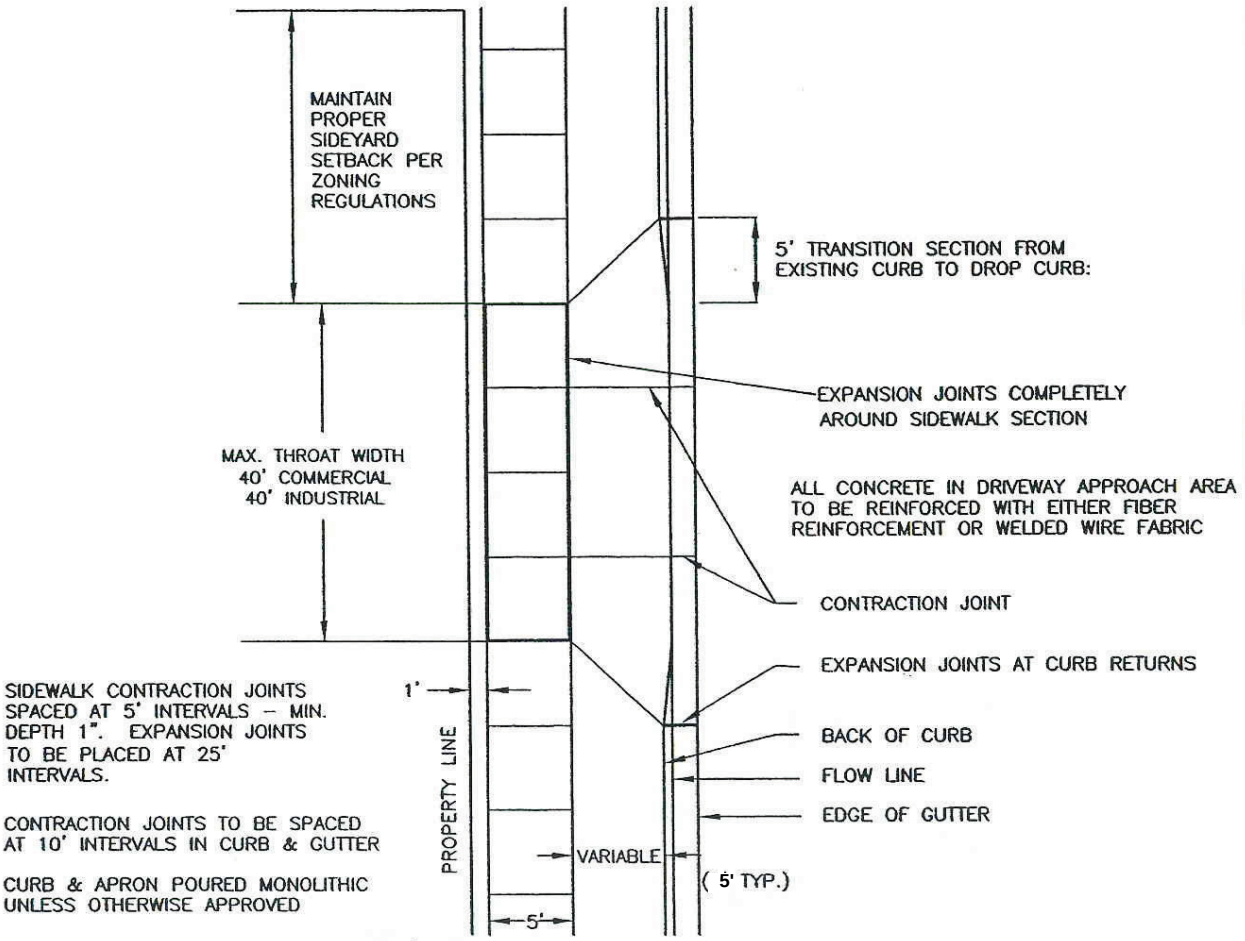


EXPANSION JOINT MATERIAL SHALL BE 1/2" THICK PRE-FORMED BITUMINOUS TREATED FIBERBOARD FILLER.
ALL CURB REPLACEMENT SHALL BE DONE WITH INTEGRAL CURB AND GUTTER UNLESS OTHERWISE APPROVED.

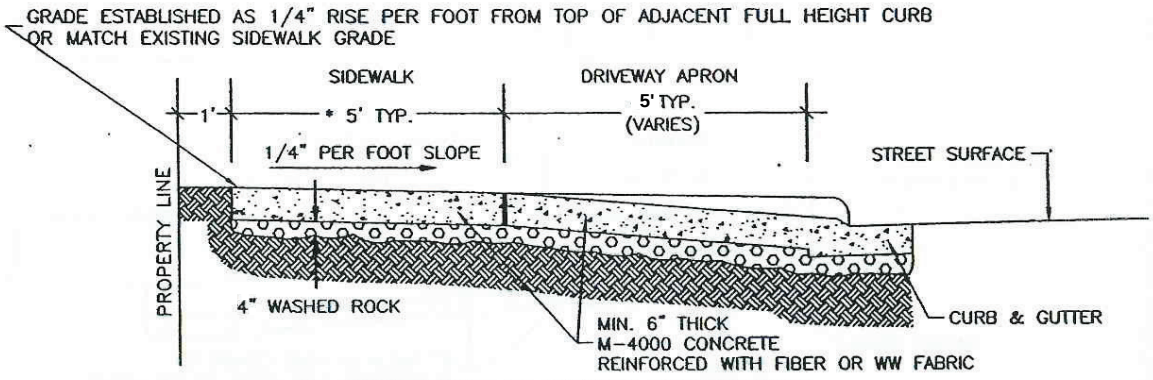


SECTION A

Date: 1/2005	Revised: 6/2017	STANDARD DRAWING NO. 02529-11
CITY OF BELGRADE		**RESIDENTIAL DRIVEWAY APPROACH AND SIDEWALK DETAILS**

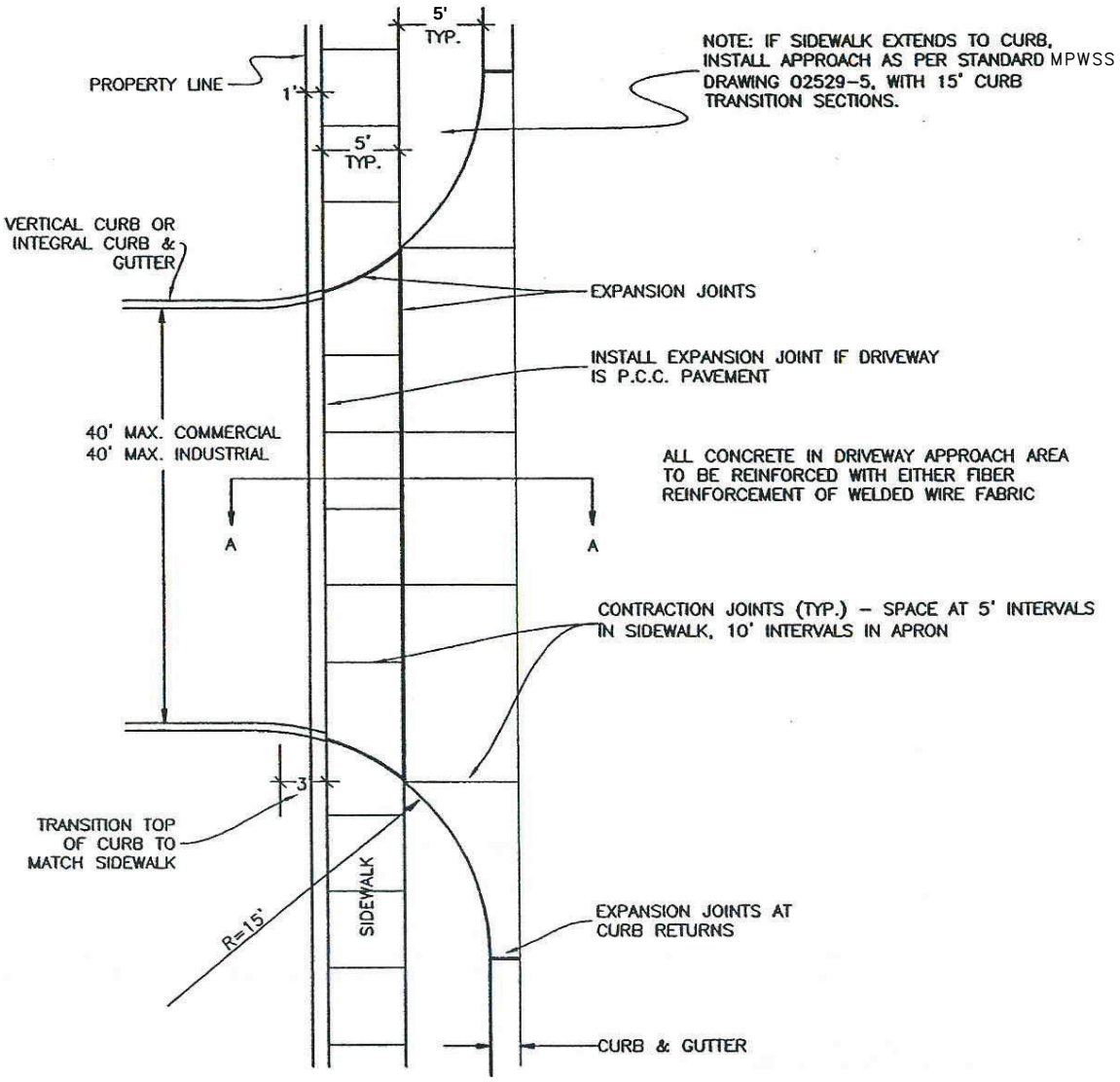


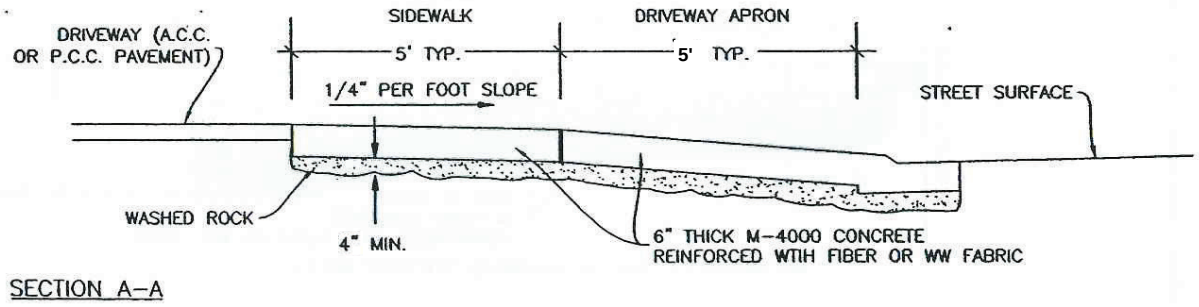
EXPANSION JOINT MATERIAL SHALL BE 1/2" THICK PRE-FORMED BITUMINOUS TREATED FIBERBOARD FILLER.
ALL CURB REPLACEMENT SHALL BE DONE WITH INTEGRAL CURB AND GUTTER UNLESS OTHERWISE APPROVED.



* OR MATCH EXISTING OR REQUIRED SIDEWALK WIDTH

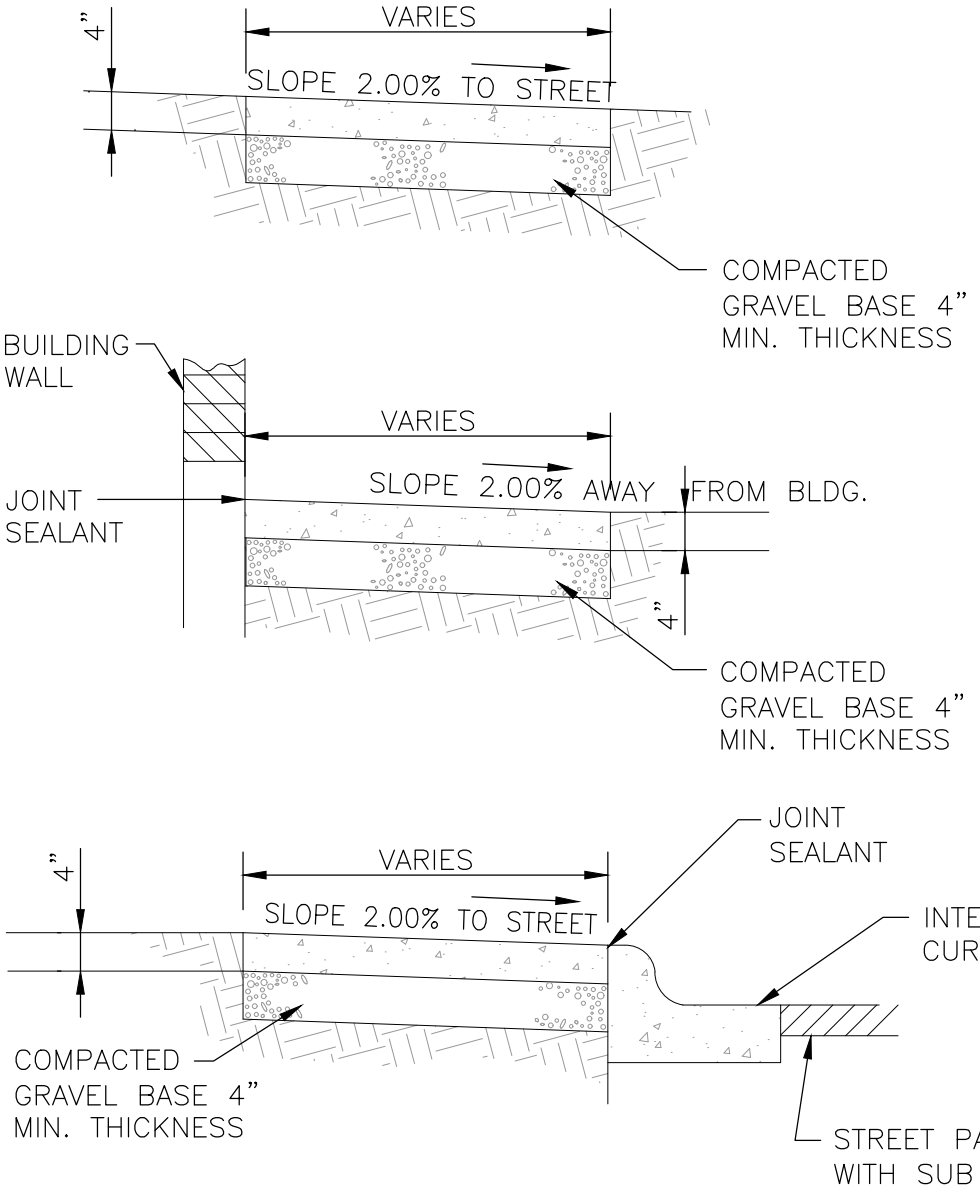
Date: 1/2005	Revised: 6/2017	STANDARD DRAWING NO. 02529-12
CITY OF BELGRADE		**NON RESIDENTIAL DRIVEWAY APPROACH**





SECTION A–A

Date: 1/2005	Revised: 6/2017	STANDARD DRAWING NO. 02529-13
CITY OF BELGRADE		**NON RESIDENTIAL DRIVEWAY APPROACH FOR ARTERIAL STREETS**



NOTE:

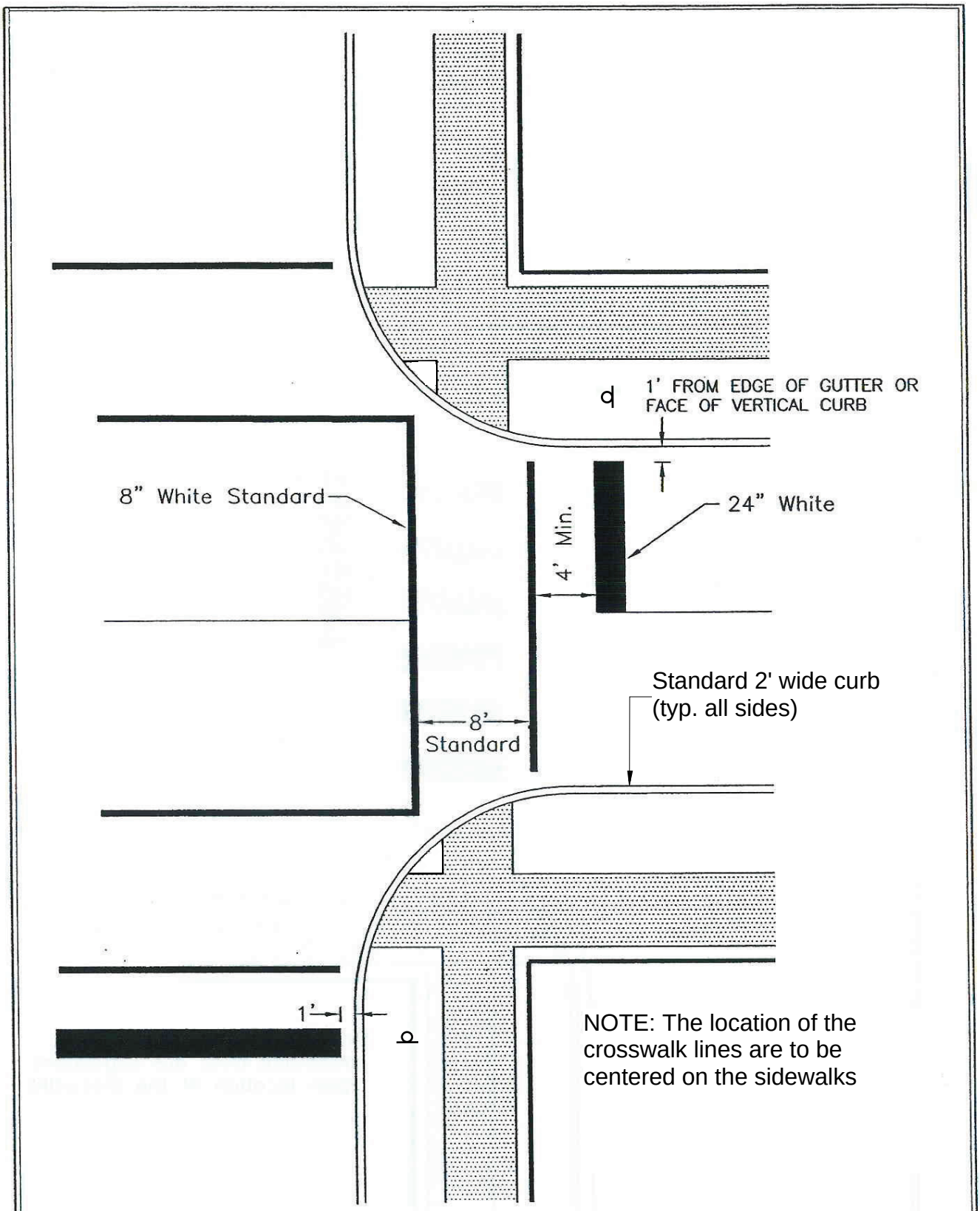
1. PROVIDE TRANSVERSE CONTRACTION JOINTS CUT AT LENGTHS APPROXIMATELY EQUAL TO THE WIDTH OF THE SIDEWALK WITH A MINIMUM SPACING OF 3 FT. SHALL BE CUT AT LEAST 1" DEEP.

2. EXPANSION JOINTS SHALL BE PLACED AT APPROXIMATELY 25 FOOT INTERVALS AND AT JUNCTIONS WITH SIDEWALKS.

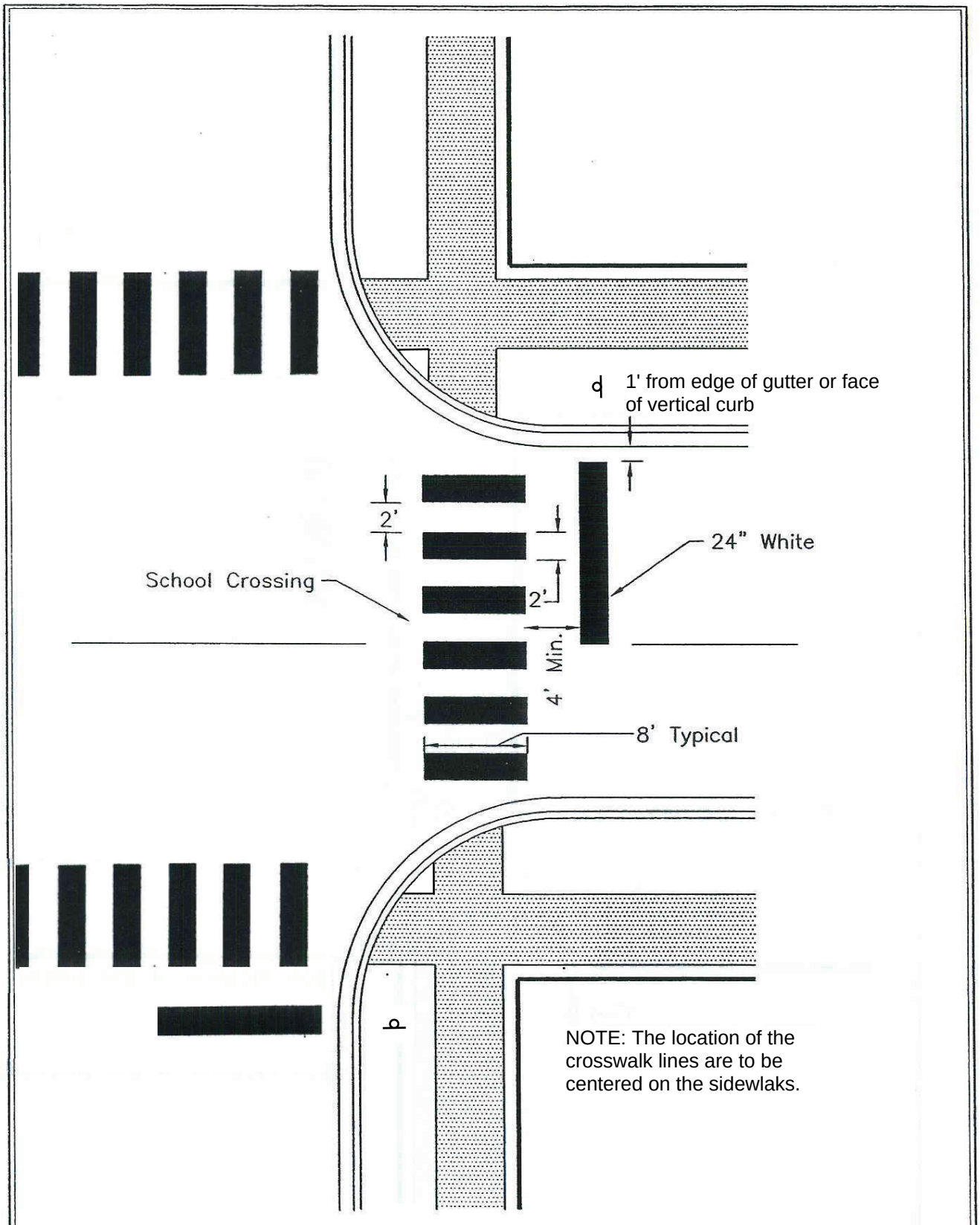
3. ROUND ALL SIDE EDGES AND JOINT EDGES WITH EDGING TOOL.

4. JOINT SEALANT PLACED OVER ROPE BACKING SET IN A 1½" DEEP BY 3/4" WIDE GROOVE.

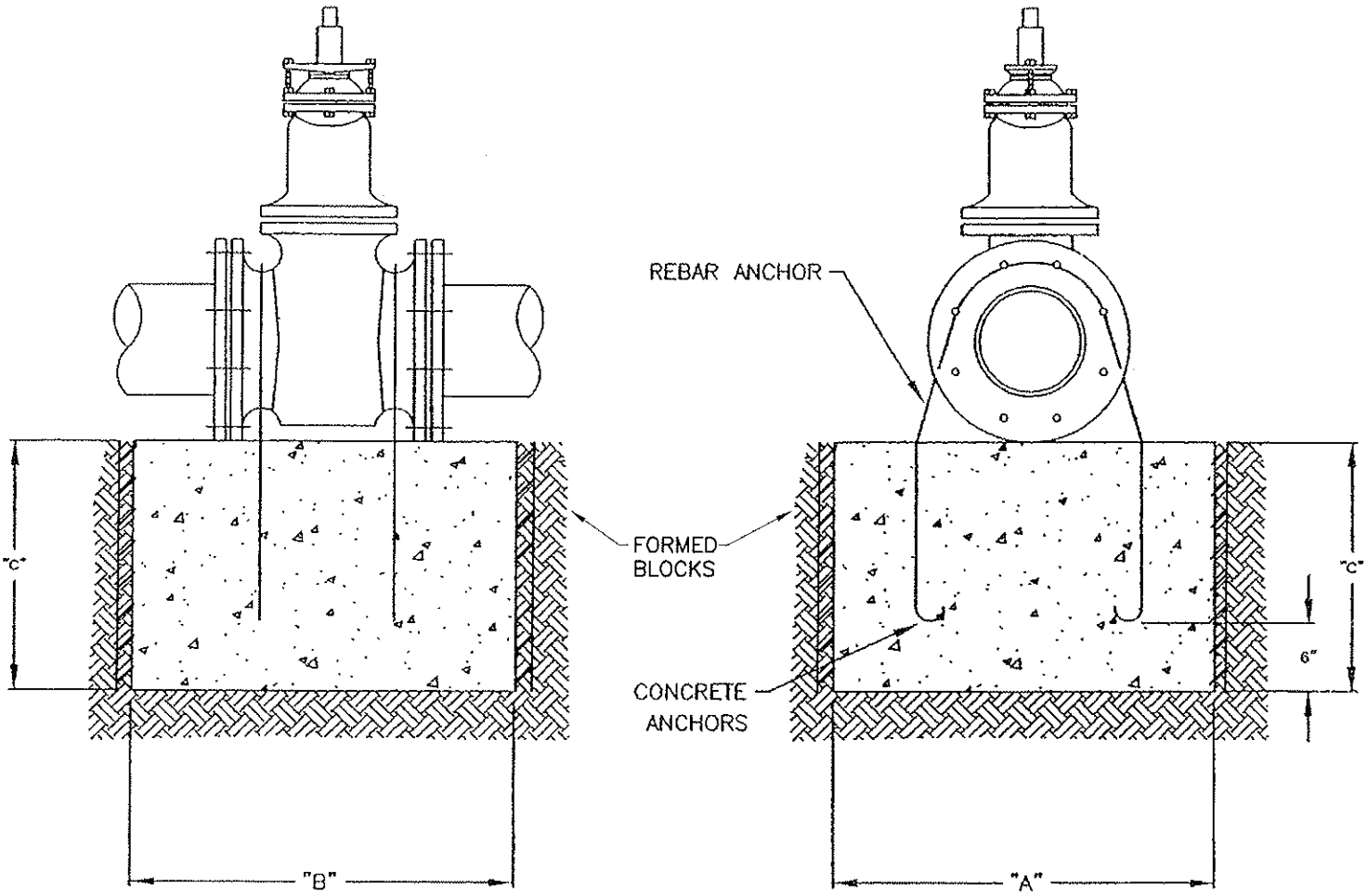
Date: 4/2010	Revised: 1/2017	By:	**CONSTRUCTION STANDARD NO. 02529-16**
CITY OF BELGRADE			**CONCRETE WALKS**



Date: 1/2005	Revised:	STANDARD DRAWING NO. 02581-01
CITY OF BELGRADE		**TYPICAL PAVEMENT MARKINGS FOR PEDESTRIAN CROSSINGS (TYPE "A" CROSSINGS)**



Date: 1/2005	Revised:	STANDARD DRAWING NO. 02581-02
CITY OF BELGRADE		**TYPICAL PAVEMENT MARKINGS FOR SCHOOL CROSSINGS (TYPE "B" CROSSINGS)**



NOTE: COAT RODS WITH "KOPPERS" BITUMASTIC NO. 50 COATING OR EQUAL.

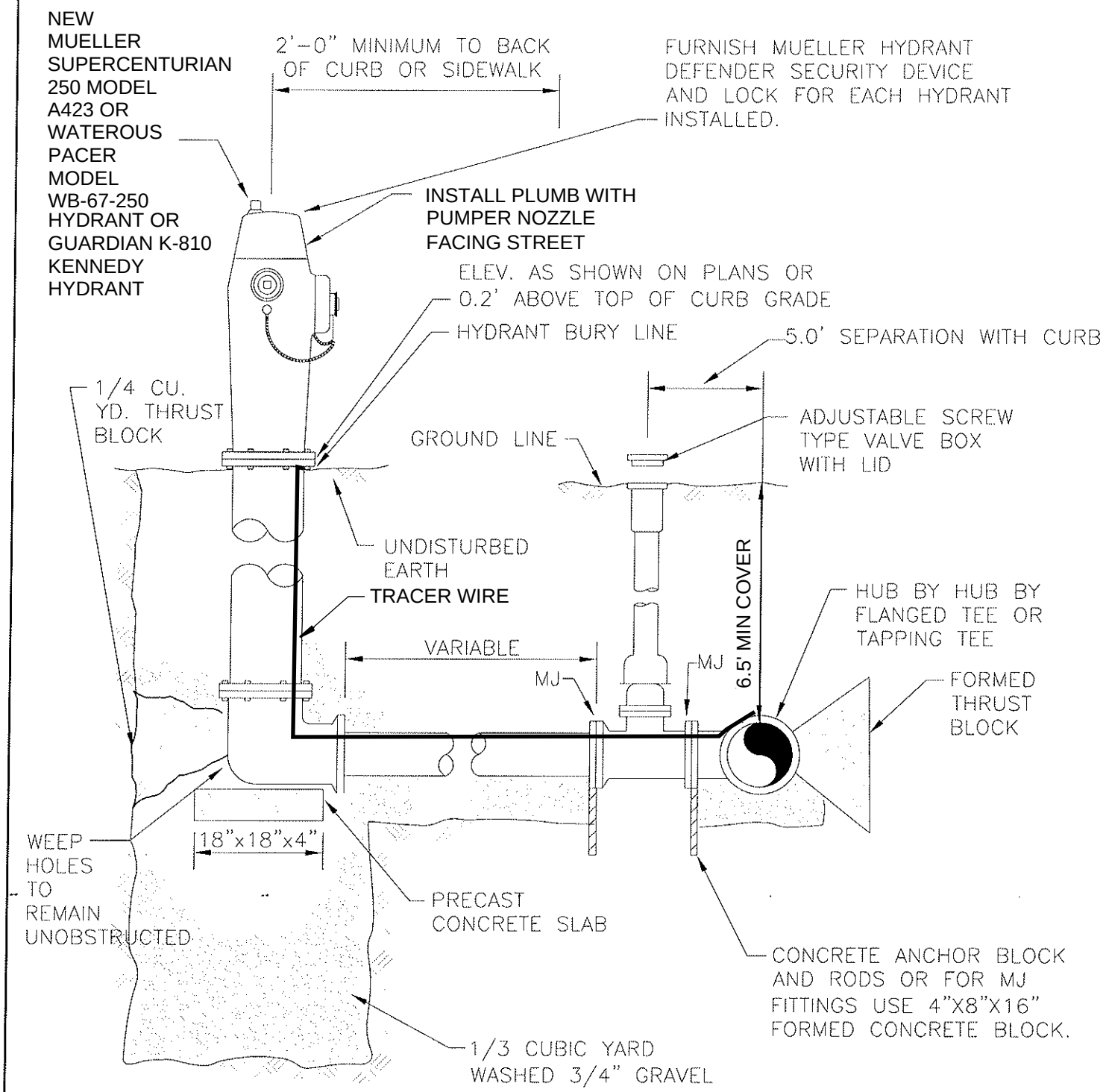
THRUST BLOCK DIMENSIONS																	
Anchor Rod Size	Valve Size	100 PSI			150 PSI			200 PSI			250 PSI			300 PSI			
		"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"	"C"	
1/2"	6"&8"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-7"	
1/2"	10"	2'-0"	2'-0"	2'-0"	2'-6"	2'-6"	2'-0"	2'-9"	2'-6"	2'-6"	3'-0"	3'-0"	3'-0"	3'-7"	3'-0"	3'-0"	
1/2"	12"	2'-3"	2'-0"	2'-0"	3'-0"	3'-0"	2'-8"	3'-5"	3'-0"	3'-0"	4'-3"	3'-0"	3'-0"	5'-1"	3'-0"	3'-0"	
1"	14"	2'-3"	2'-0"	2'-0"	3'-5"	3'-0"	3'-0"	4'-6"	3'-0"	3'-0"	4'-0"	4'-0"	4'-0"	4'-9"	4'-0"	4'-0"	
1 1/8"	16"	3'-0"	3'-0"	3'-0"	4'-4"	3'-0"	3'-0"	4'-1"	4'-0"	4'-0"	5'-1"	4'-0"	4'-0"	6'-1"	4'-0"	4'-0"	
1 1/4"	18"	3'-8"	3'-0"	3'-0"	5'-5"	3'-0"	3'-0"	5'-1"	4'-0"	4'-0"	6'-4"	4'-0"	4'-0"	5'-9"	5'-0"	5'-0"	
1 3/8"	24"	4'-4"	4'-0"	4'-0"	6'-5"	4'-0"	4'-0"	6'-6"	5'-0"	5'-0"	6'-5"	6'-0"	6'-0"	7'-8"	6'-0"	6'-0"	

NOTE: Pressures shown above are maximum working pressures in system.

THRUST BLOCKING AND ANCHORS ARE REQUIRED ON ALL VALVES.

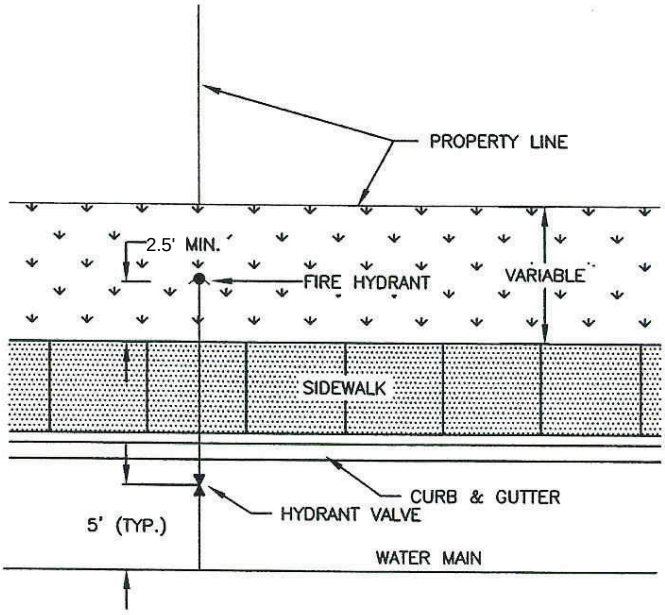
THRUST BLOCKS ARE REQUIRED ON TAPPING VALVES

Date: 9/2011	Revised:	By:	STANDARD DRAWING NO. 02660-03
CITY OF BELGRADE			**THRUST BLOCKING FOR WATER MAIN VALVES**

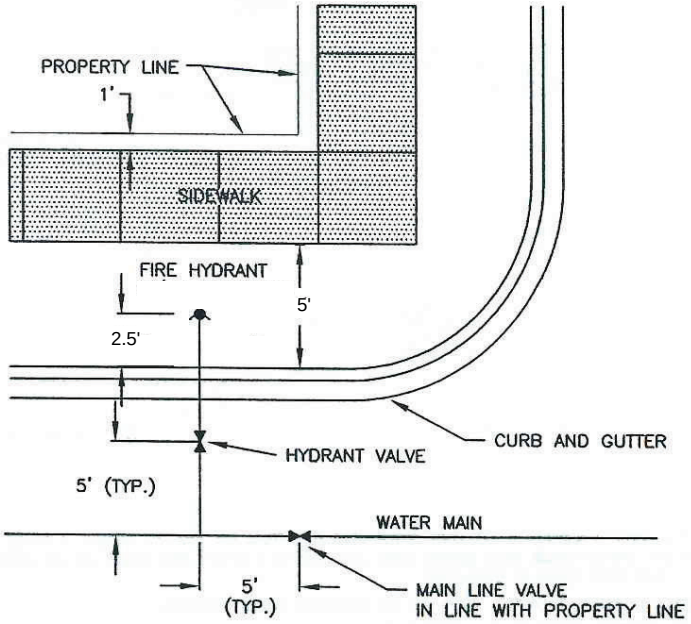


NOTE: WRAP ALL FITTINGS, VALVES, VALVE BOXES, DUCTILE IRON PIPE AND OTHER PIPELINE APPURTENANCES WITH POLYETHYLENE.

Date: 9/2011	Revised:	By:	CONSTRUCTION STANDARD NO. 02660-04
CITY OF BELGRADE			**FIRE HYDRANT (WITH REMOTE AUX. VALVE)**

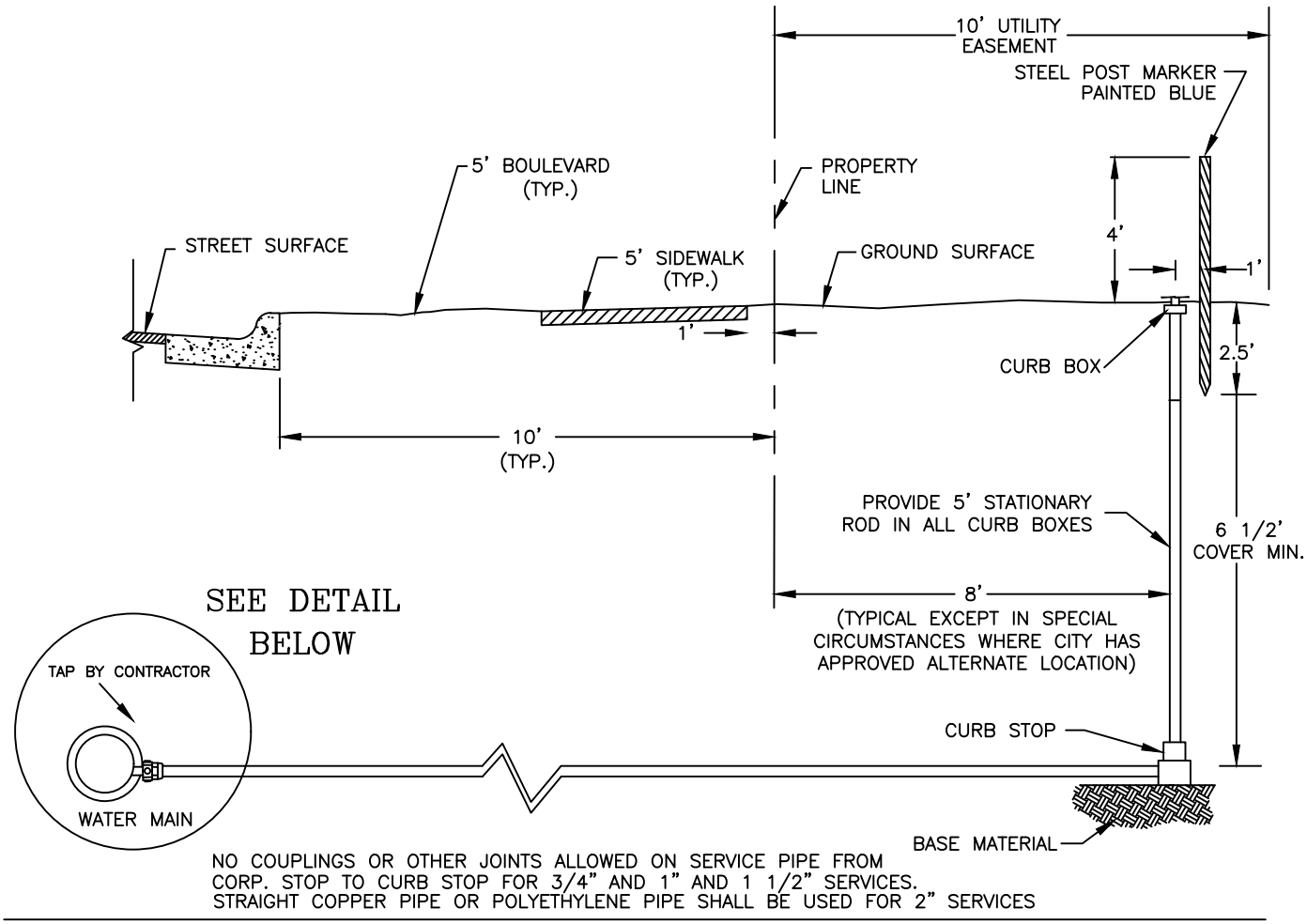


TYPICAL MID BLOCK LOCATION
(CURB WALK DETAIL)



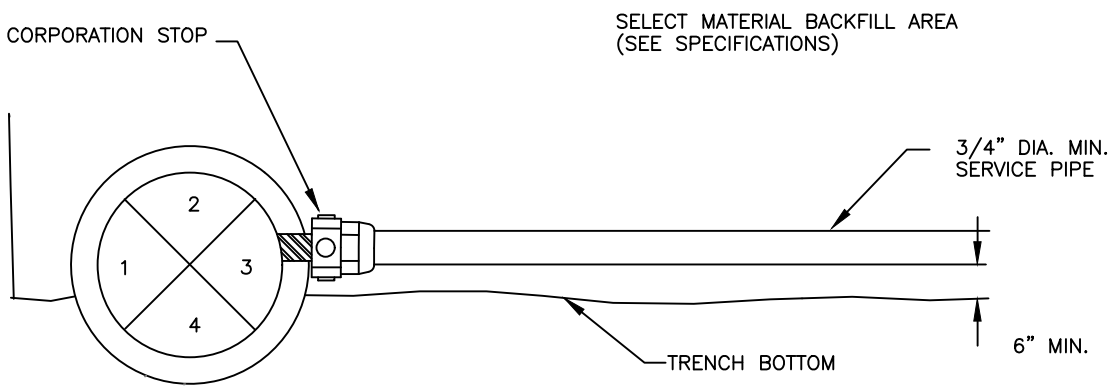
TYPICAL INTERSECTION LOCATION
(BOULEVARD WALK DETAIL)

Date: 1/2005	Revised:	STANDARD DRAWING NO. 02660-05
CITY OF BELGRADE		**FIRE HYDRANT LOCATION DETAIL**



NO COUPLINGS OR OTHER JOINTS ALLOWED ON SERVICE PIPE FROM CORP. STOP TO CURB STOP FOR 3/4" AND 1" AND 1 1/2" SERVICES. STRAIGHT COPPER PIPE OR POLYETHYLENE PIPE SHALL BE USED FOR 2" SERVICES

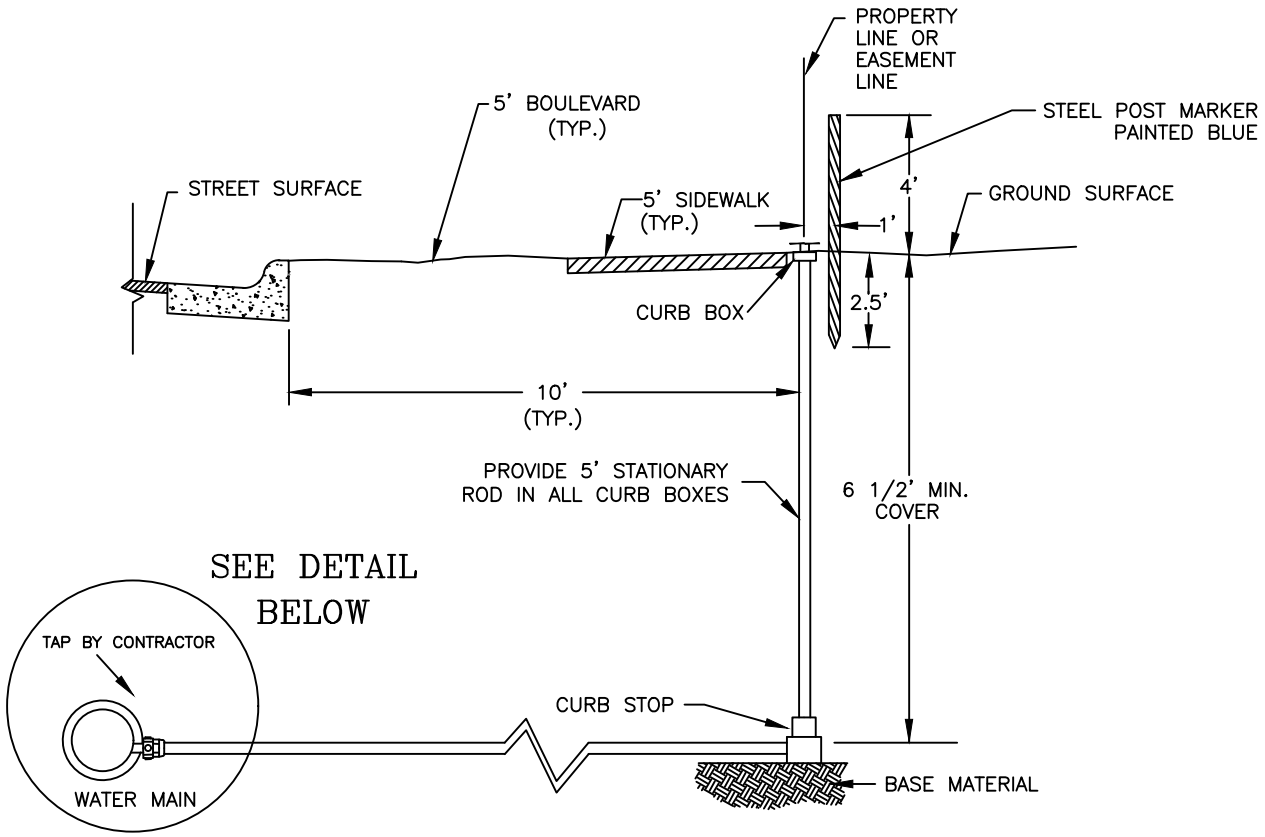
DETAIL OF A PROPERLY INSTALLED CORPORATION STOP. TAP MAIN AT SPRINGLINE.



GENERAL NOTES:

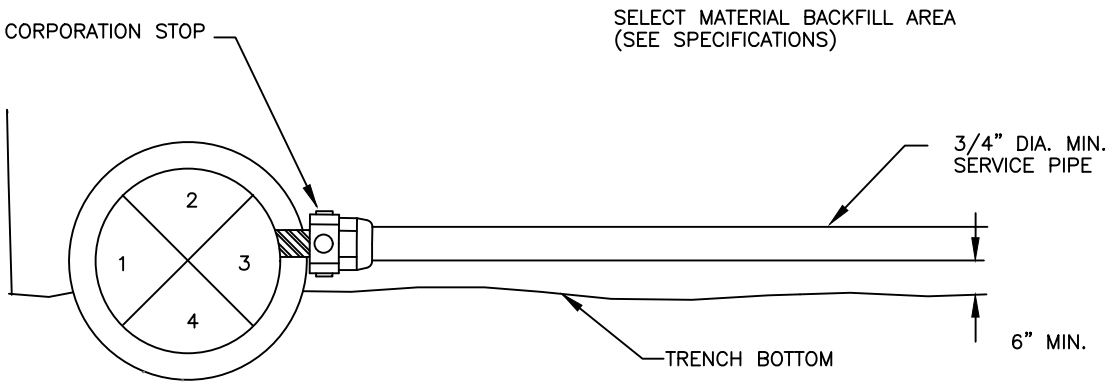
1. WATER SERVICE LINES SHALL HAVE A MINIMUM 6 1/2 FOOT COVER MEASURED FROM THE EXISTING GROUND SURFACE, EXCEPT THAT COVER SHALL BE MEASURED FROM CENTER LINE STREET GRADE WHEN SERVICE LINES ARE LAID TO A STREET SIDE WHICH HAS AN UPHILL SLOPE. WATER SERVICE LINES SHALL HAVE A MAXIMUM 7 1/2 FOOT COVER AT CURB STOP.
2. WATER SERVICE LINES SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS OR AS SPECIFIED.
3. BEDDING SHALL BE 1" DIA. MAXIMUM WITHIN 6" OF SERVICE PIPE.
4. INSTALL CURB STOP SO THAT OPERATING KEY IS PARALLEL TO STREET IN OFF-POSITION.
5. ROMAC 306 SERVICE SADDLE FOR PVC. MUELLER BR2 B SERIES, FORD 202B FOR DUCTILE IRON PIPE

Date: 1/2005	Revised: 6/2017	By:	**CONSTRUCTION STANDARD NO. 02660-06A**
CITY OF BELGRADE			**WATER SERVICE LINE WITH 10' UTILITY EASEMENT DETAIL**



NO COUPLINGS OR OTHER JOINTS ALLOWED ON SERVICE PIPE FROM CORP. STOP TO CURB STOP FOR 3/4" AND 1" AND 1 1/2" SERVICES. STRAIGHT COPPER PIPE OR POLYETHYLENE PIPE SHALL BE USED FOR 2" SERVICES

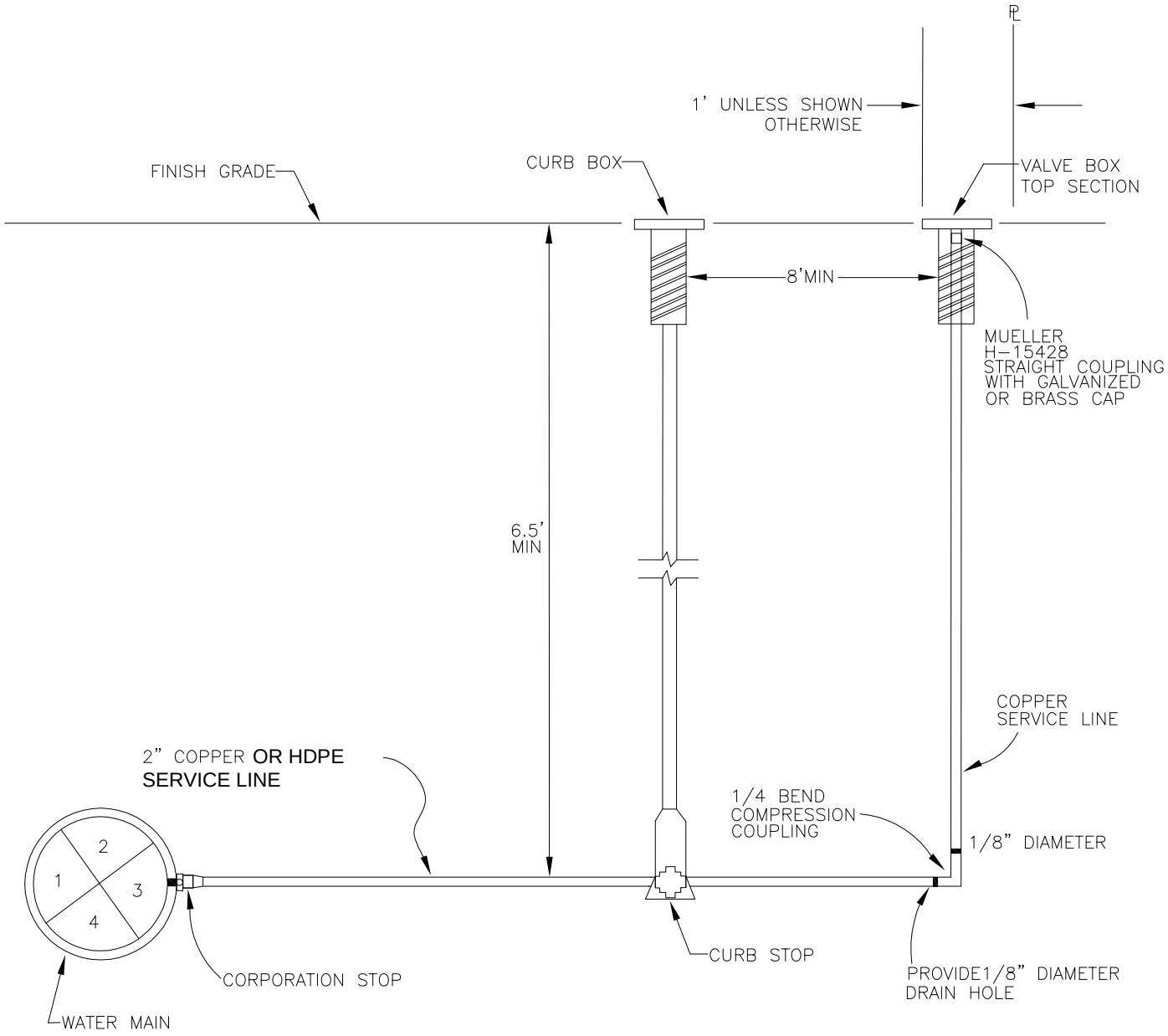
DETAIL OF A PROPERLY INSTALLED CORPORATION STOP. TAP MAIN AT SPRINGLINE.



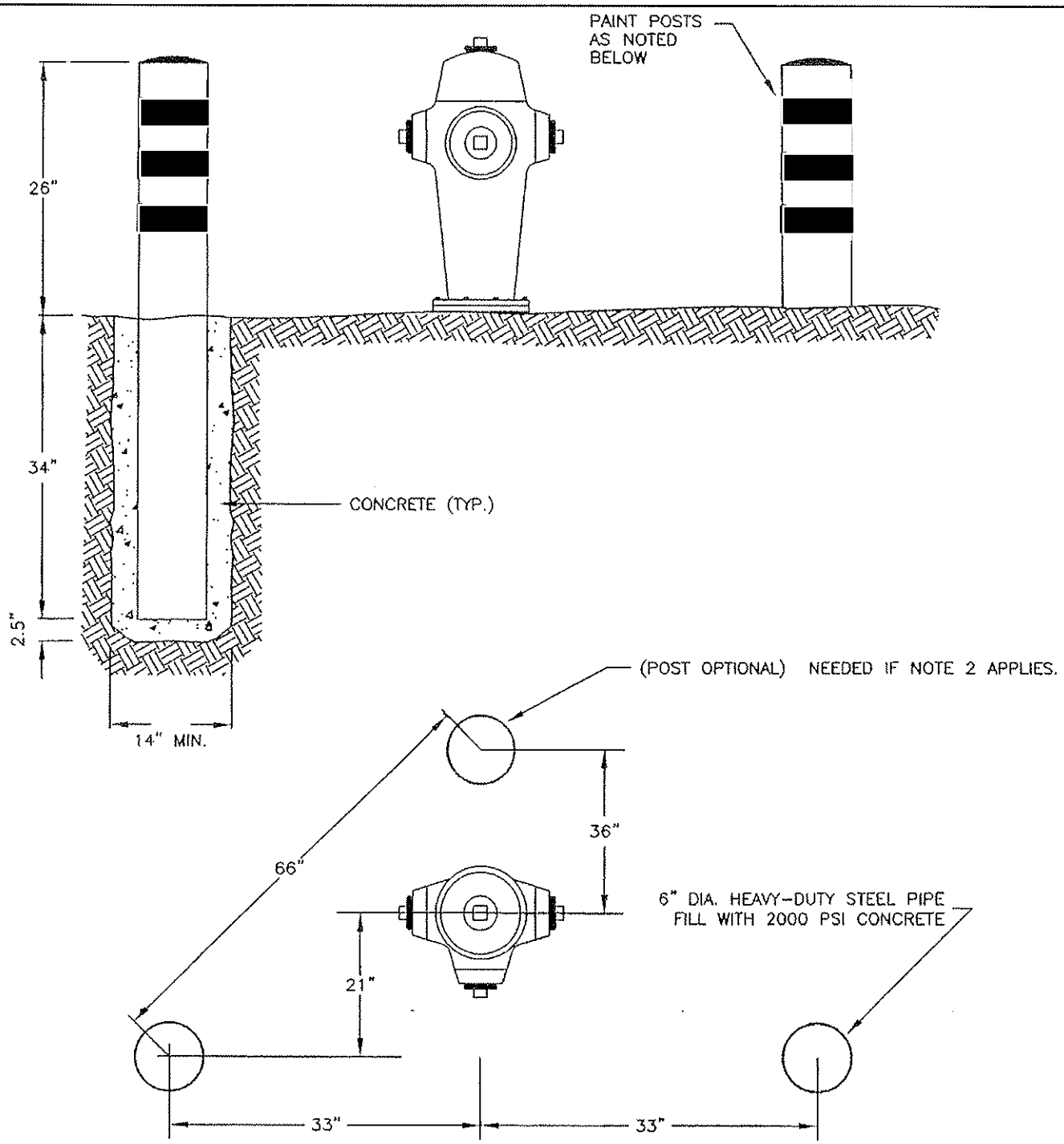
GENERAL NOTES:

1. WATER SERVICE LINES SHALL HAVE A MINIMUM 6 1/2 FOOT COVER MEASURED FROM THE EXISTING GROUND SURFACE, EXCEPT THAT COVER SHALL BE MEASURED FROM CENTER LINE STREET GRADE WHEN SERVICE LINES ARE LAID TO A STREET SIDE WHICH HAS AN UPHILL SLOPE. WATER SERVICE LINES SHALL HAVE A MAXIMUM 7 1/2 FOOT COVER AT CURB STOP.
2. WATER SERVICE LINES SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS OR AS SPECIFIED.
3. BEDDING SHALL BE 1" DIA. MAXIMUM WITHIN 6" OF SERVICE PIPE.
4. INSTALL CURB STOP SO THAT OPERATING KEY IS PARALLEL TO STREET IN OFF-POSITION.
5. ROMAC 306 SERVICE SADDLE FOR PVC. MUELLER BR2 B SERIES, FORD 202B FOR DUCTILE IRON PIPE

Date: 1/2005	Revised: 6/2017	By:	**CONSTRUCTION STANDARD NO. 02660-06B**
CITY OF BELGRADE			**WATER SERVICE LINE WITH NO EASEMENT DETAIL**



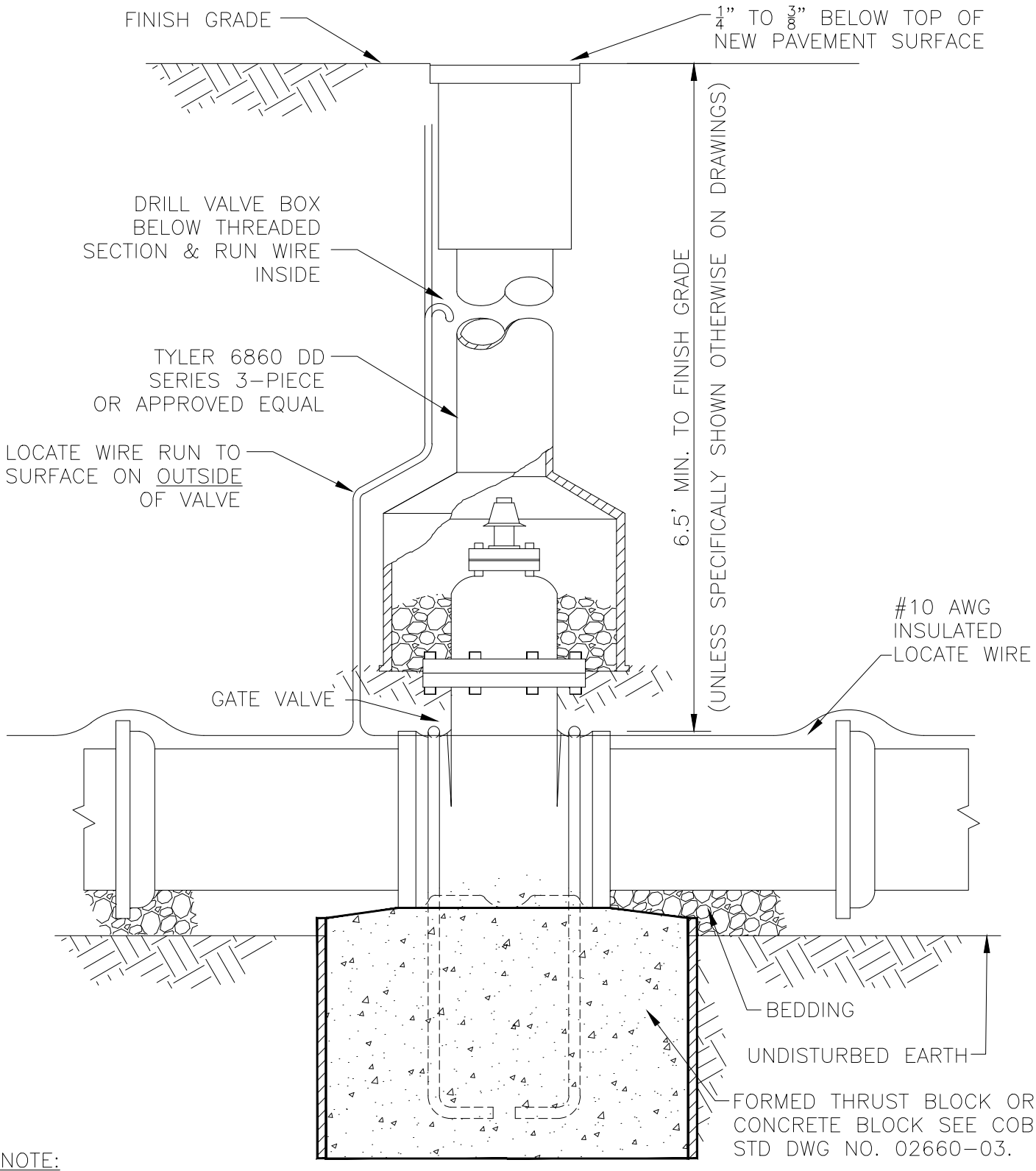
Date: 1/2005	Revised:	By:	**CONSTRUCTION STANDARD NO. 02660-07**
CITY OF BELGRADE			**BLOWOFF HYDRANT DETAIL**



NOTE: POSTS REQUIRED WHERE:
1.) HYDRANT IS LOCATED CLOSER THAN 2' BEHIND BACK OF CURB.
2.) HYDRANT LOCATION IS ADJACENT TO PARKING LOTS OR HEAVILY TRAVELED AREA WITH NO CURB.

PAINT POSTS WITH SHERWIN-WILLIAMS METALATEX SEMI-GLOSS COATING, SAFETY RED (B42 R38 620-4069). AND ADD REFLECTIVE STRIPES

Date: 9/2011	Revised:	By:	**STANDARD DRAWING NO. 02660-08**
CITY OF BELGRADE			**FIRE HYDRANT BARRIER POSTS (BOLLARD DETAIL)**



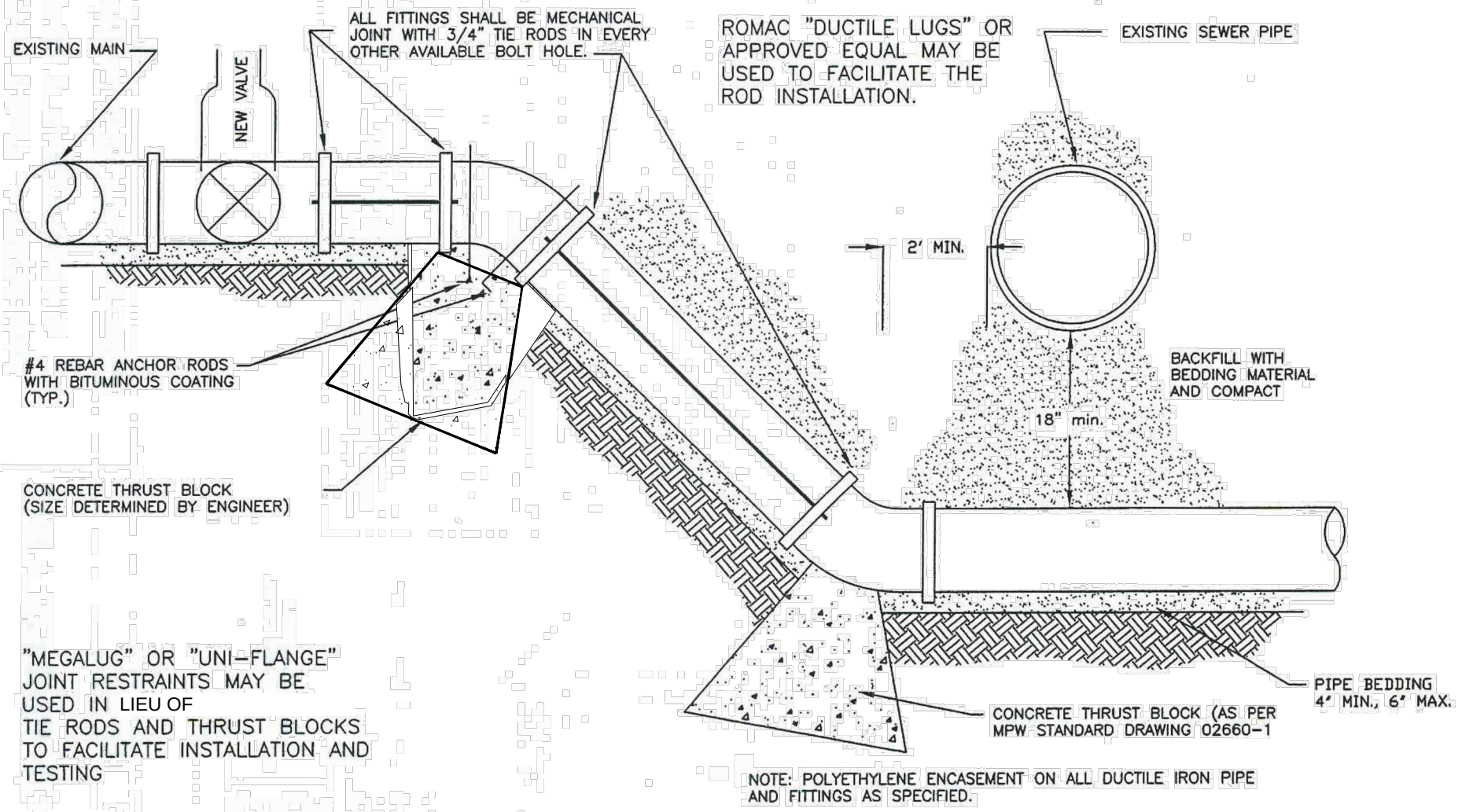
NOTE:

WRAP ALL VALVES, VALVE BOXES AND OTHER PIPELINE APPURTENANCES WITH POLYETHYLENE.

GATE VALVE SHALL CONFORM TO AWWA C-500 OR C-509.

VALVE BOXES SHALL BE PLUMB AND CENTERED DIRECTLY OVER THE VALVE NUT.

Date: 4/2010	Revised: 1/2017	By:	**CONSTRUCTION STANDARD NO. 02660-10**
CITY OF BELGRADE			**GATE VALVE AND VALVE BOX WITH THRUST BLOCK**



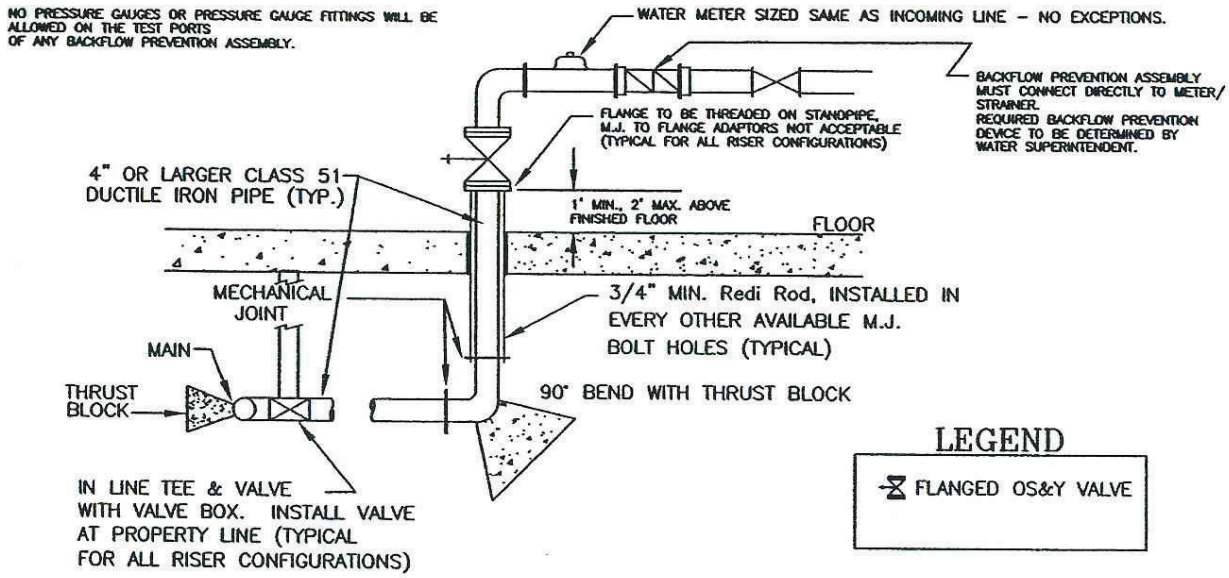
CITY OF BELGRADE

WATER MAIN CROSSING BELOW EXISTING SEWER MAIN

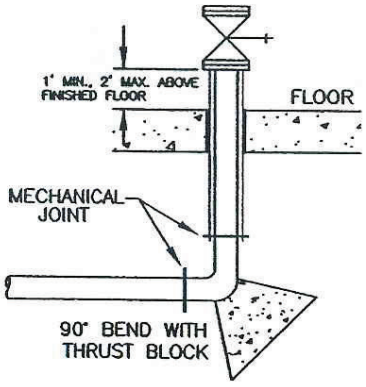
STANDARD DRAWING NO. 02660-11

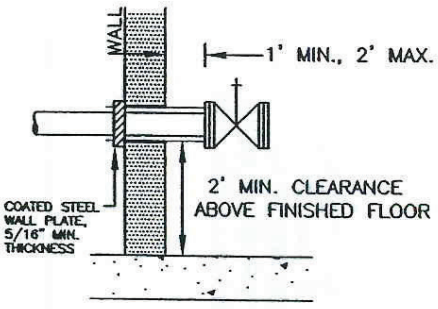
Date: 1/2017

Revised:



PROVIDE FLEXIBLE, WATER–TIGHT CONNECTION FOR ALL WALL OR FLOOR PIPE PENETRATION.





CITY OF BELGRADE REQUIREMENTS FOR INSTALLATION OF BACKFLOW PREVENTION ASSEMBLY

1. The FIRST fitting inside of the building shall be a UL listed flanged Kennedy or Mueller OS&Y valve the same size as the service line. Combination strainer/meter immediately following OS&Y valve or elbow attached directly to OS&Y valve –– meter must set horizontal.

2. All Backflow Prevention Assemblies shall be:
   a. UL or FM listed.
   b. Approved by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USCFCCCHR) for operation in the proposed position (vertical or horizontal) as shown on approved plans.
   c. Installed as shown on the approved plans.

3. Horizontal installations must be a minimum of 2' above the finished floor.

4. The service riser must be a minimum of 2' from any outside wall.

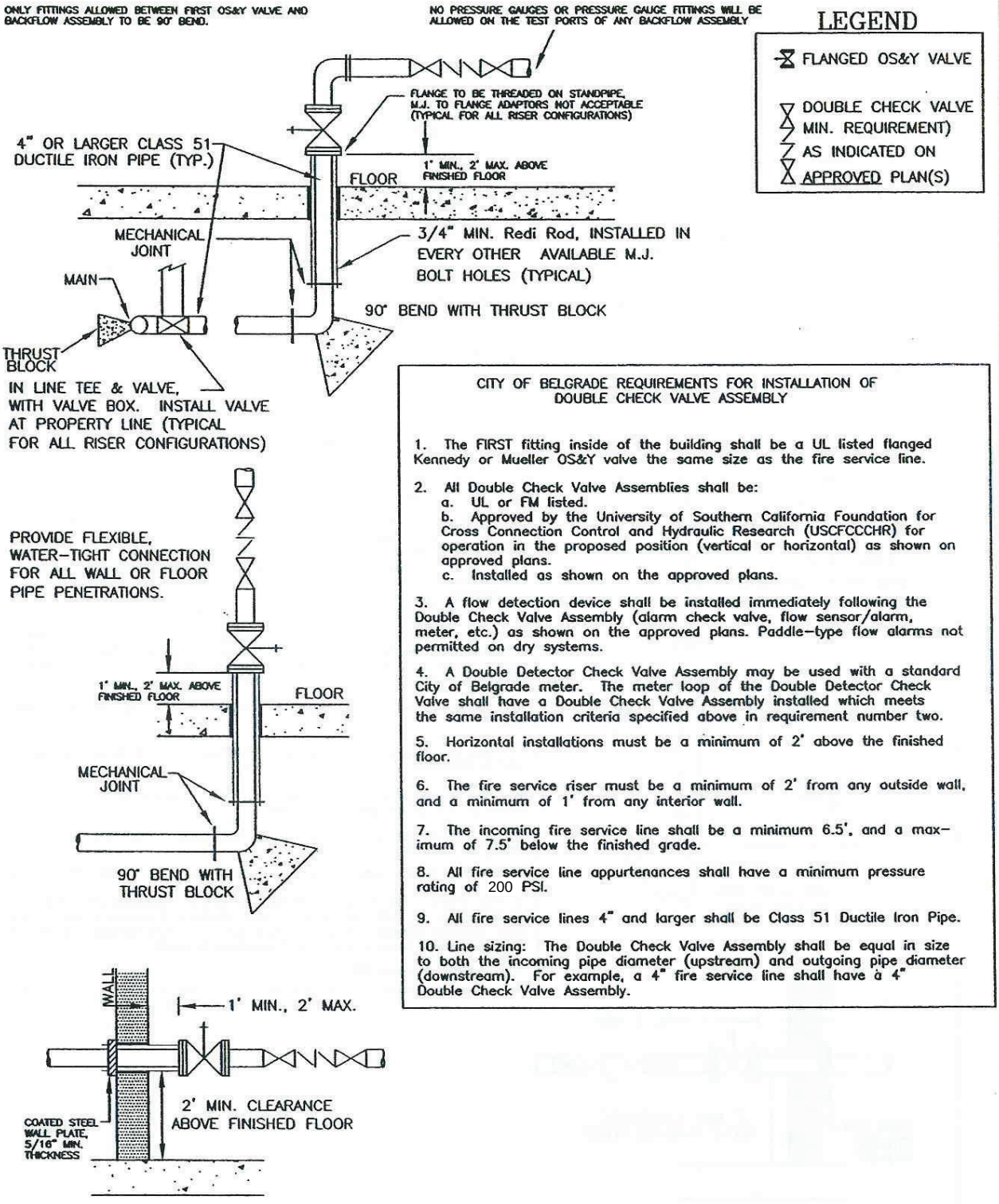
5. The incoming service line shall be a minimum 6.5', and a max–imum of 7.5' below the finished grade.

6. All service line appurtenances shall have a minimum pressure rating of 200 PSI.

7. All service lines 4" and larger shall be Class 51 Ductile Iron Pipe.

8. Line sizing: The Backflow Prevention Assembly and meter shall be equal in size to both the incoming pipe diameter (upstream) and outgoing pipe diameter (downstream). For example, a 4" service line shall have a 4" meter and Backflow Prevention Assembly.

Date: 1/2005	Revised:	STANDARD DRAWING NO. 02660-12
CITY OF BELGRADE		**WATER SERVICE LINE FOR SIZES 4" AND LARGER**



CITY OF BELGRADE REQUIREMENTS FOR INSTALLATION OF DOUBLE CHECK VALVE ASSEMBLY

1. The FIRST fitting inside of the building shall be a UL listed flanged Kennedy or Mueller OS&Y valve the same size as the fire service line.

2. All Double Check Valve Assemblies shall be:
   a. UL or FM listed.
   b. Approved by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USCFCCCHR) for operation in the proposed position (vertical or horizontal) as shown on approved plans.
   c. Installed as shown on the approved plans.

3. A flow detection device shall be installed immediately following the Double Check Valve Assembly (alarm check valve, flow sensor/alarm, meter, etc.) as shown on the approved plans. Paddle-type flow alarms not permitted on dry systems.

4. A Double Detector Check Valve Assembly may be used with a standard City of Belgrade meter. The meter loop of the Double Detector Check Valve shall have a Double Check Valve Assembly installed which meets the same installation criteria specified above in requirement number two.

5. Horizontal installations must be a minimum of 2' above the finished floor.

6. The fire service riser must be a minimum of 2' from any outside wall, and a minimum of 1' from any interior wall.

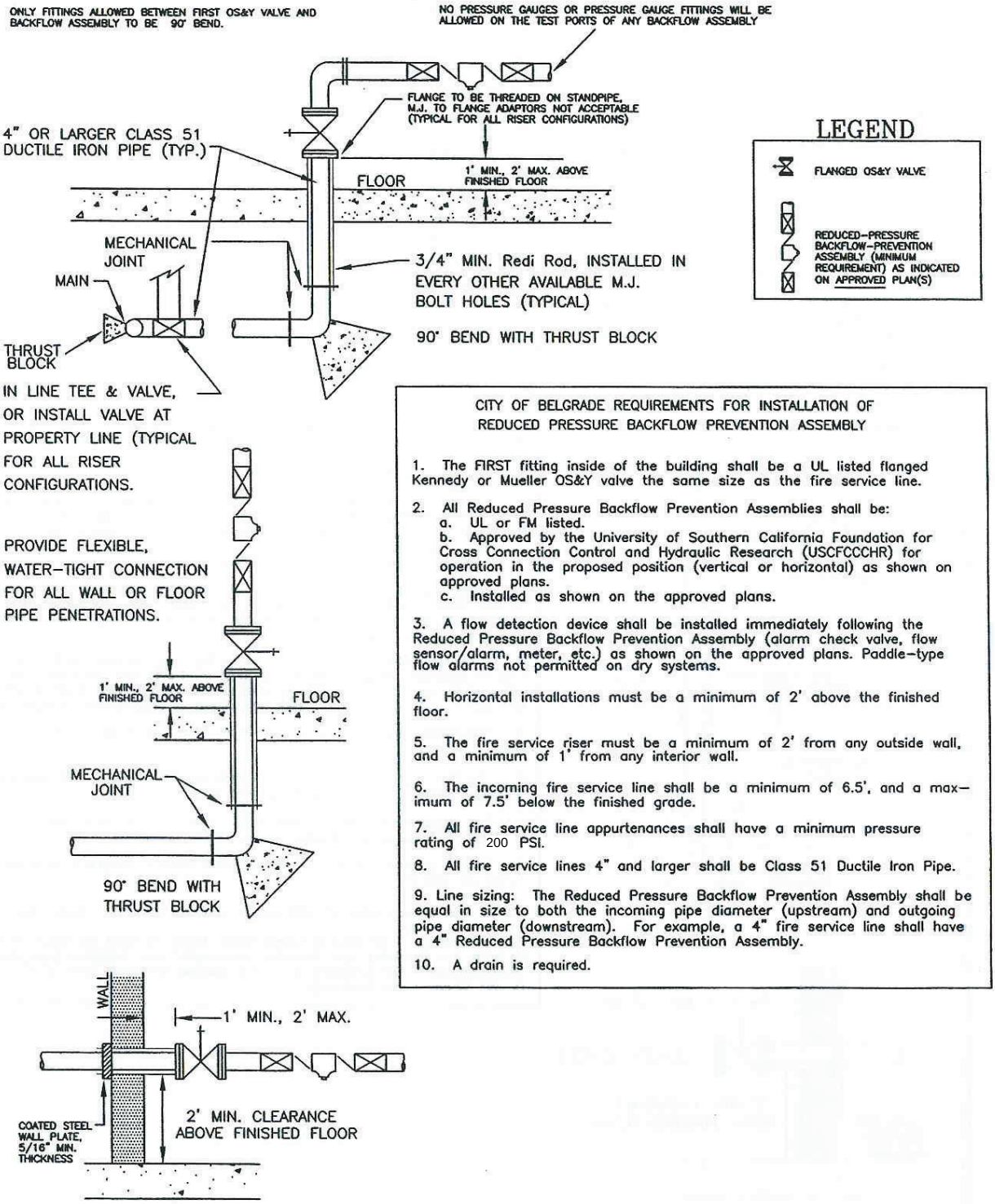
7. The incoming fire service line shall be a minimum 6.5', and a maximum of 7.5' below the finished grade.

8. All fire service line appurtenances shall have a minimum pressure rating of 200 PSI.

9. All fire service lines 4" and larger shall be Class 51 Ductile Iron Pipe.

10. Line sizing: The Double Check Valve Assembly shall be equal in size to both the incoming pipe diameter (upstream) and outgoing pipe diameter (downstream). For example, a 4" fire service line shall have a 4" Double Check Valve Assembly.

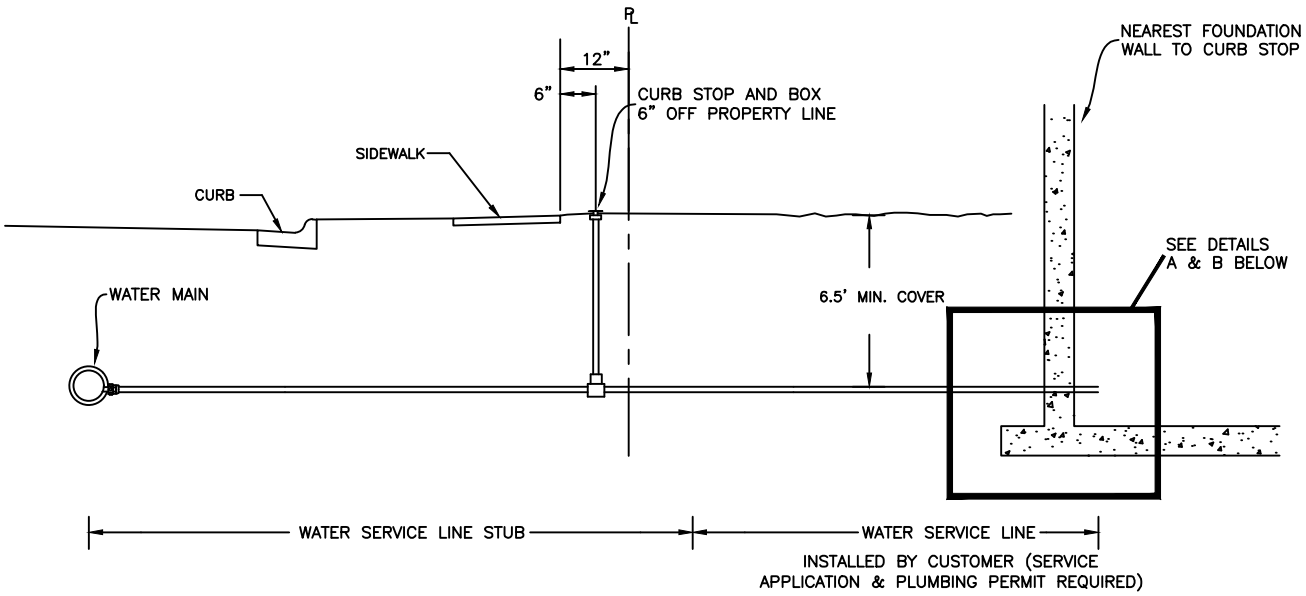
Date: 1/2005	Revised:	STANDARD DRAWING NO. 02660-13
CITY OF BELGRADE		**STANDARD FIRE SERVICE LINE INSTALLATION FOR CLASS I, II, AND III SYSTEMS**



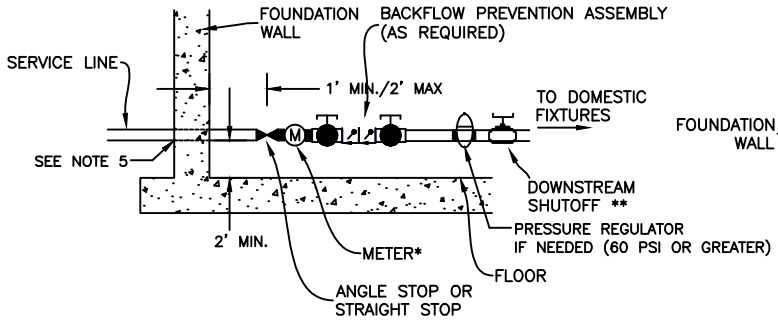
CITY OF BELGRADE REQUIREMENTS FOR INSTALLATION OF REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY

1. The FIRST fitting inside of the building shall be a UL listed flanged Kennedy or Mueller OS&Y valve the same size as the fire service line.
2. All Reduced Pressure Backflow Prevention Assemblies shall be:
   a. UL or FM listed.
   b. Approved by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USCFCCCHR) for operation in the proposed position (vertical or horizontal) as shown on approved plans.
   c. Installed as shown on the approved plans.
3. A flow detection device shall be installed immediately following the Reduced Pressure Backflow Prevention Assembly (alarm check valve, flow sensor/alarm, meter, etc.) as shown on the approved plans. Paddle-type flow alarms not permitted on dry systems.
4. Horizontal installations must be a minimum of 2' above the finished floor.
5. The fire service riser must be a minimum of 2' from any outside wall, and a minimum of 1' from any interior wall.
6. The incoming fire service line shall be a minimum of 6.5', and a maximum of 7.5' below the finished grade.
7. All fire service line appurtenances shall have a minimum pressure rating of 200 PSI.
8. All fire service lines 4" and larger shall be Class 51 Ductile Iron Pipe.
9. Line sizing: The Reduced Pressure Backflow Prevention Assembly shall be equal in size to both the incoming pipe diameter (upstream) and outgoing pipe diameter (downstream). For example, a 4" fire service line shall have a 4" Reduced Pressure Backflow Prevention Assembly.
10. A drain is required.

Date: 1/2005	Revised:	STANDARD DRAWING NO. 02660-14
CITY OF BELGRADE		**STANDARD FIRE SERVICE LINE INSTALLATION FOR CLASS IV AND V SYSTEMS**



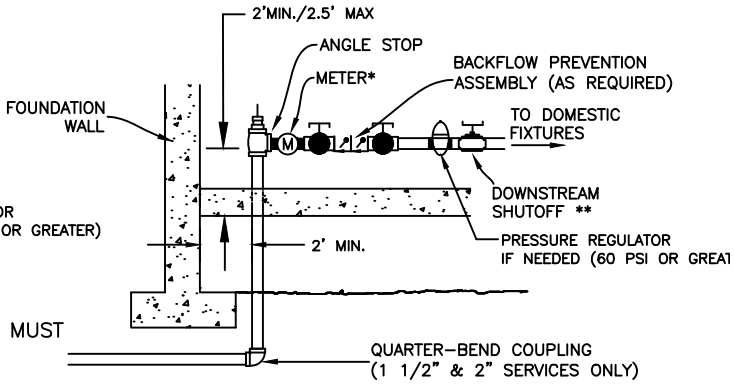
NOTE: METER SIZED SAME AS INCOMING LINE–NO EXCEPTIONS.



*METER SAME SIZE AS INCOMING LINE–NO EXCEPTIONS, METER MUST CONNECT DIRECTLY TO ANGLE OR STRAIGHT STOP AND BACKFLOW DEVICE

**DOWNSTREAM SHUT OFF VALVE MUST BE SEPARATE FROM BACKFLOW DEVICE

DETAIL A
TYPICAL WALL PENETRATION (N.T.S.)

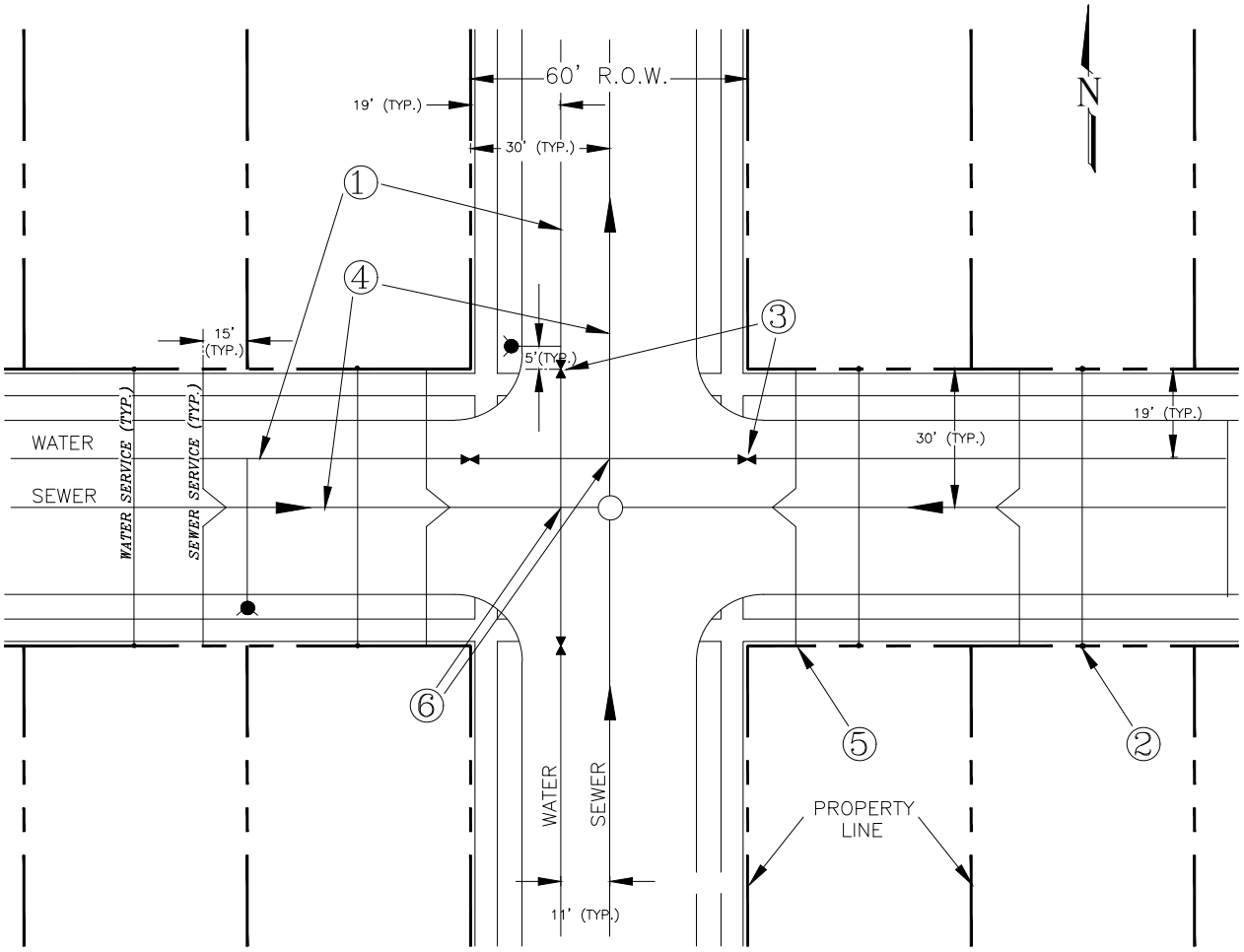


DETAIL B
TYPICAL FLOOR PENETRATION (N.T.S.)

INSTALLATION REQUIREMENTS:

1. WATER SERVICE LINE INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF BELGRADE WATER SUPERINTENDANT.
2. SERVICE LINES SHALL BE TYPE K COPPER OR HDPE FOR 3/4", 1", 1 1/2", AND 2" SERVICES. SEE STANDARD DRAWING NO. 02660–12 FOR 4" AND LARGER DOMESTIC SERVICE LINES. SERVICE LINES BETWEEN 2" AND 4" ARE NOT ALLOWED.
3. STRAIGHT COPPER TUBING SHALL BE USED FOR 2" SERVICES.
4. SERVICE LINES SHALL BE BEDDED 3" UNDER AND OVER THE PIPE WITH SAND. NATIVE MATERIAL MAY BE USED AS BEDDING IF IT CONFORMS TO THE REQUIREMENTS OF MONTANA PUBLIC WORKS STANDARD DRAWING 02221–2 AND DOES NOT CONTAIN ANY MATERIAL LARGER THAN 3/4".
5. PROVIDE FLEXIBLE, WATER TIGHT CONNECTION FOR ALL WALL OR FLOOR PIPE PENETRATIONS.
6. METERS SHALL BE INSTALLED BY THE CITY WATER DEPARTMENT AT CUSTOMERS' EXPENSE.
7. NO SERVICE LINE SHALL BE BACKFILLED UNTIL IT HAS BEEN INSPECTED AND APPROVED BY THE WATER DEPARTMENT.
8. CONTACT CITY OF BELGRADE WATER DEPARTMENT FOR APPROVED LIST OF COPPER CONNECTIONS.
9. WATER SERVICE LINE MAY BE REDUCED TO A SMALLER SIZE THAN THE WATER SERVICE STUB. REDUCTION MUST BE MADE WITHIN 18" OF CURB STOP.

Date: 1/2005	Revised: 6/2017	By:	**CONSTRUCTION STANDARD NO. 02660-15**
CITY OF BELGRADE			**WATER SERVICE LINE FROM CURB STOP TO BUILDING (LINES 2" AND SMALLER)**



1. WATER MAINS LOCATED 11' NORTH OR WEST FROM THE SEWER LINE.
2. WATER SERVICE STUB LOCATED AT CENTER OF LOT.
3. WATER MAIN VALVES LOCATED AT PROPERTY LINE.
4. SEWER MAINS SHALL BE LOCATED ON STREET CENTERLINE.
5. SEWER SERVICE STUB LOCATED 15' UPSTREAM FROM DOWNSTREAM PROPERTY LINE.
6. HYDRANTS LOCATED 5' FROM VALVE OR ON PROPERTY LINES EXTENDED FOR MID-BLOCK LOCATIONS.
7. HYDRANTS TYPICALLY LOCATED ON NW CORNER OR AS DIRECTED BY THE PUBLIC WORKS DEPARTMENT.

Date: 1/2005	Revised: 1/2017	By:	**CONSTRUCTION STANDARD NO. 02660-16**
CITY OF BELGRADE			**STANDARD WATER AND SEWER MAIN AND SERVICE LOCATIONS**

AREA 1

NEW SEWER CROSSING OVER EXISTING WATER SHALL HAVE ONE FULL LENGTH OF PIPE CENTERED AT THE POINT OF CROSSING.

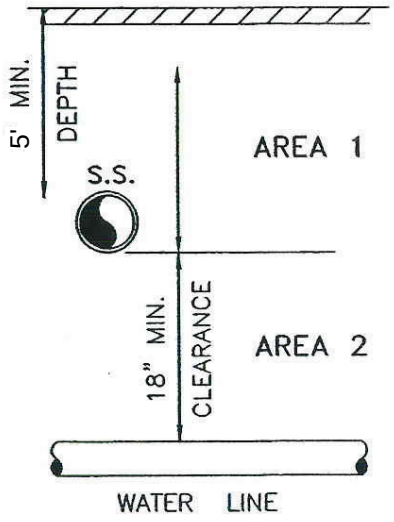
NEW WATER CROSSING UNDER EXISTING SEWER SHALL HAVE ONE FULL LENGTH OF PIPE CENTERED AT THE POINT OF CROSSING.

NEW WATER CROSSING NEW SEWER SHALL EACH HAVE ONE FULL LENGTH OF EACH PIPE CENTERED AT THE POINT OF CROSSING.

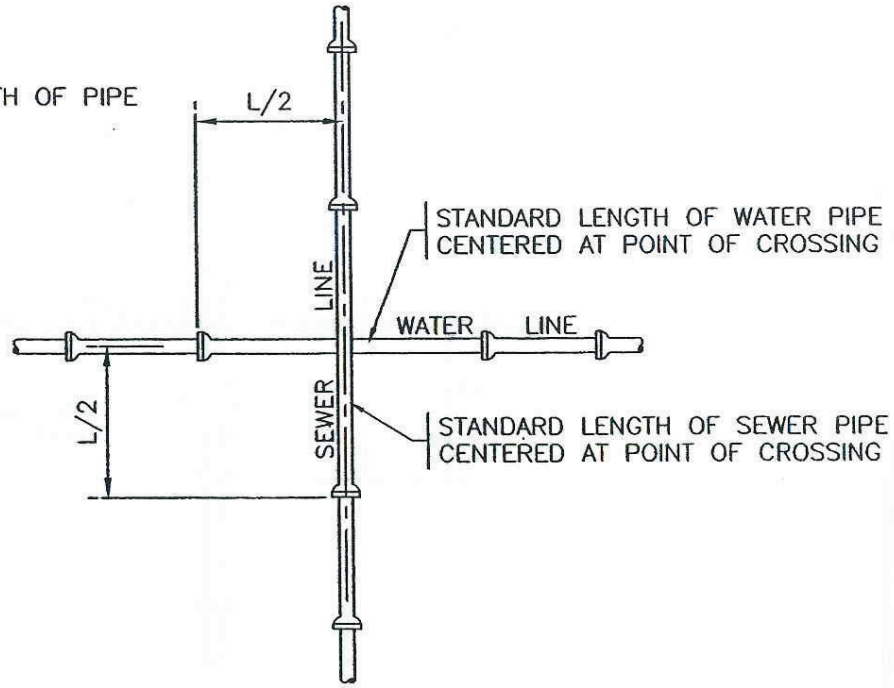
NEW SEWER PIPE SHALL BE PRESSURE PIPE.

AREA 2

18" MINIMUM CLEARANCE REQUIRED WHEN SANITARY SEWER IS ABOVE WATER MAIN. INSTALL OR RELOCATE WATER MAIN TO MEET THIS REQUIREMENT. KEEP WATER MAIN BELOW FROST LINE.



L = STANDARD LENGTH OF PIPE



NEW PIPE INSTALLATION

Date: 1/2005	Revised:	STANDARD DRAWING NO. 02660-39A
CITY OF BELGRADE		**SEWER AND WATER LINE CROSSING DETAIL (SEWER ABOVE WATER)**

AREA 3

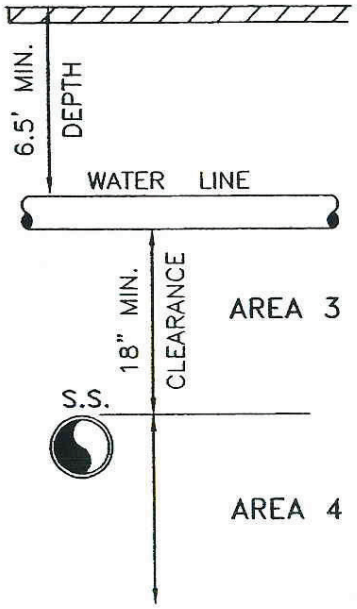
18" MINIMUM CLEARANCE REQUIRED WHEN SANITARY SEWER IS BELOW WATER MAIN. INSTALL OR RELOCATE WATER MAIN TO MEET THIS REQUIREMENT. KEEP WATER MAIN BELOW FROST LINE.

AREA 4

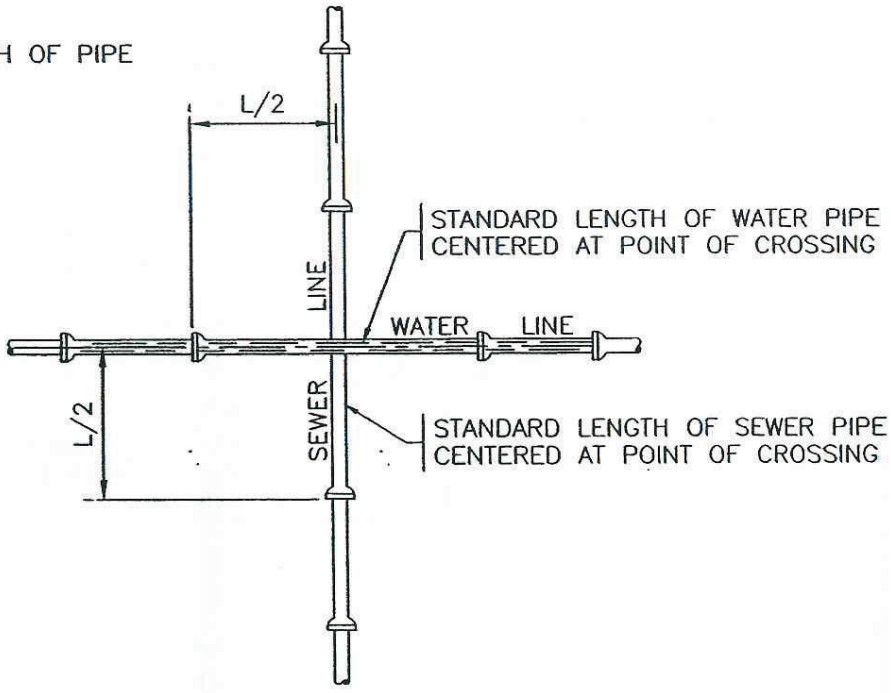
NEW WATER CROSSING OVER EXISTING SEWER SHALL HAVE ONE FULL LENGTH OF PIPE CENTERED AT THE POINT OF CROSSING.

NEW SEWER CROSSING UNDER EXISTING WATER SHALL HAVE ONE FULL LENGTH OF PIPE CENTERED AT THE POINT OF CROSSING.

NEW WATER CROSSING NEW SEWER SHALL EACH HAVE ONE FULL LENGTH OF EACH PIPE CENTERED AT THE POINT OF CROSSING.

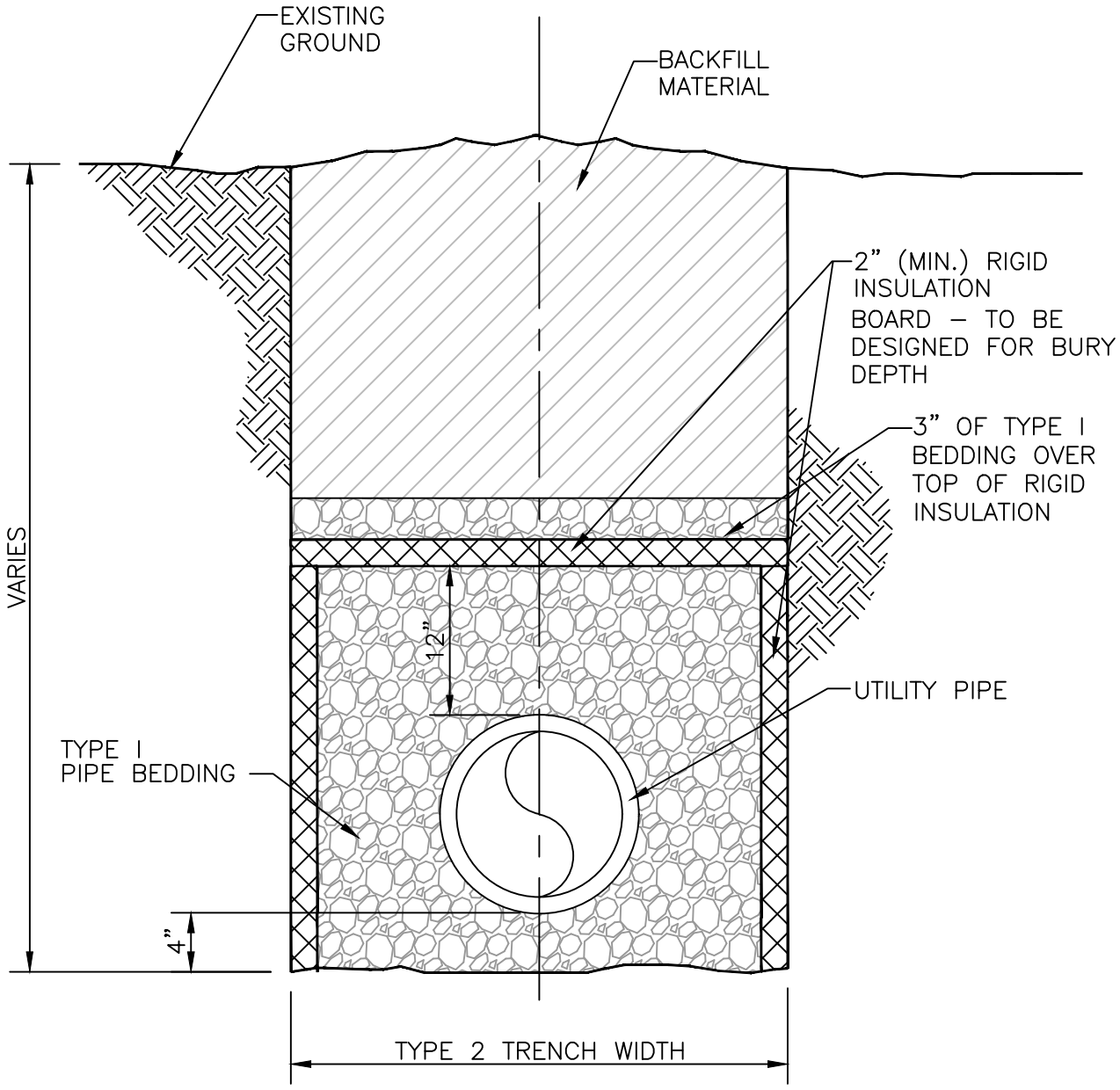


L = STANDARD LENGTH OF PIPE



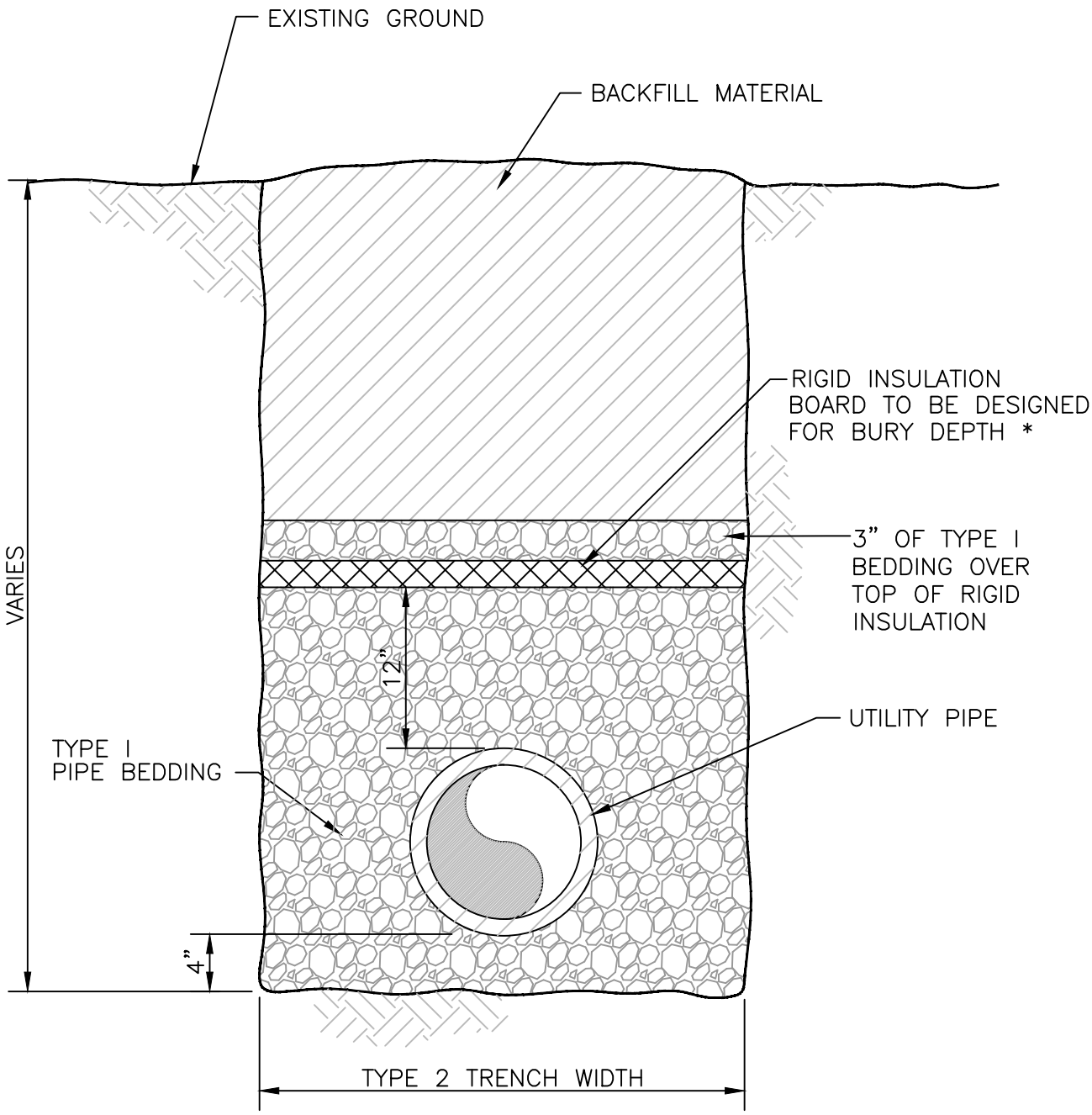
NEW PIPE INSTALLATION

Date: 1/2005	Revised:	STANDARD DRAWING NO. 02660-39B
CITY OF BELGRADE		**SEWER AND WATER LINE CROSSING DETAIL (SEWER BELOW WATER)**



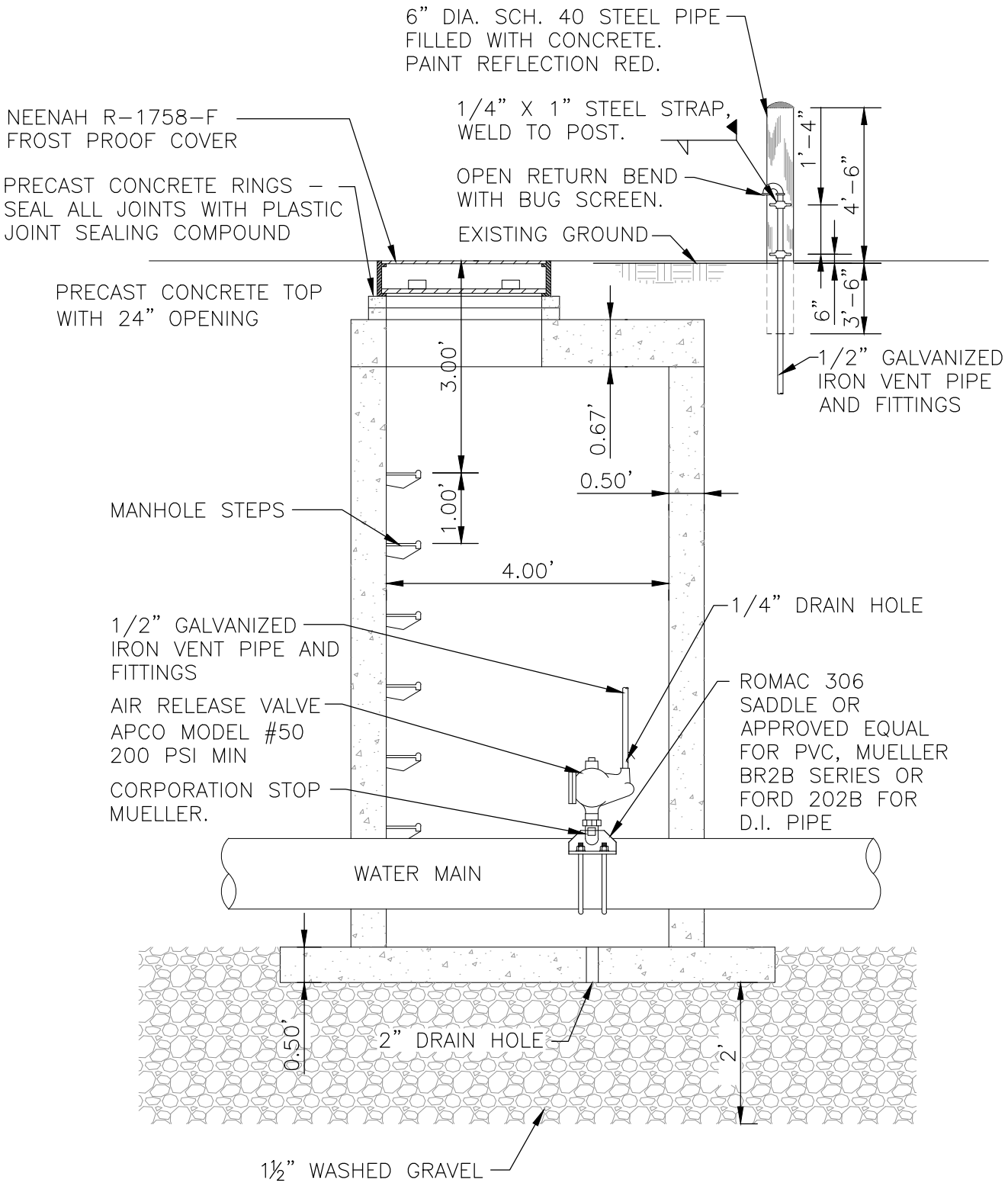
* INSULATION BOARD SHALL ONLY BE USED WHEN PIPE DEPTH CANNOT BE ACHIEVED AS DETERMINED BY CITY ENGINEER

Date: 4/2010	Revised: 6/2017	By:	**CONSTRUCTION STANDARD NO. 02660-42**
CITY OF BELGRADE			**UTILITY PIPE TRENCH INSULATION (ENCASED)**



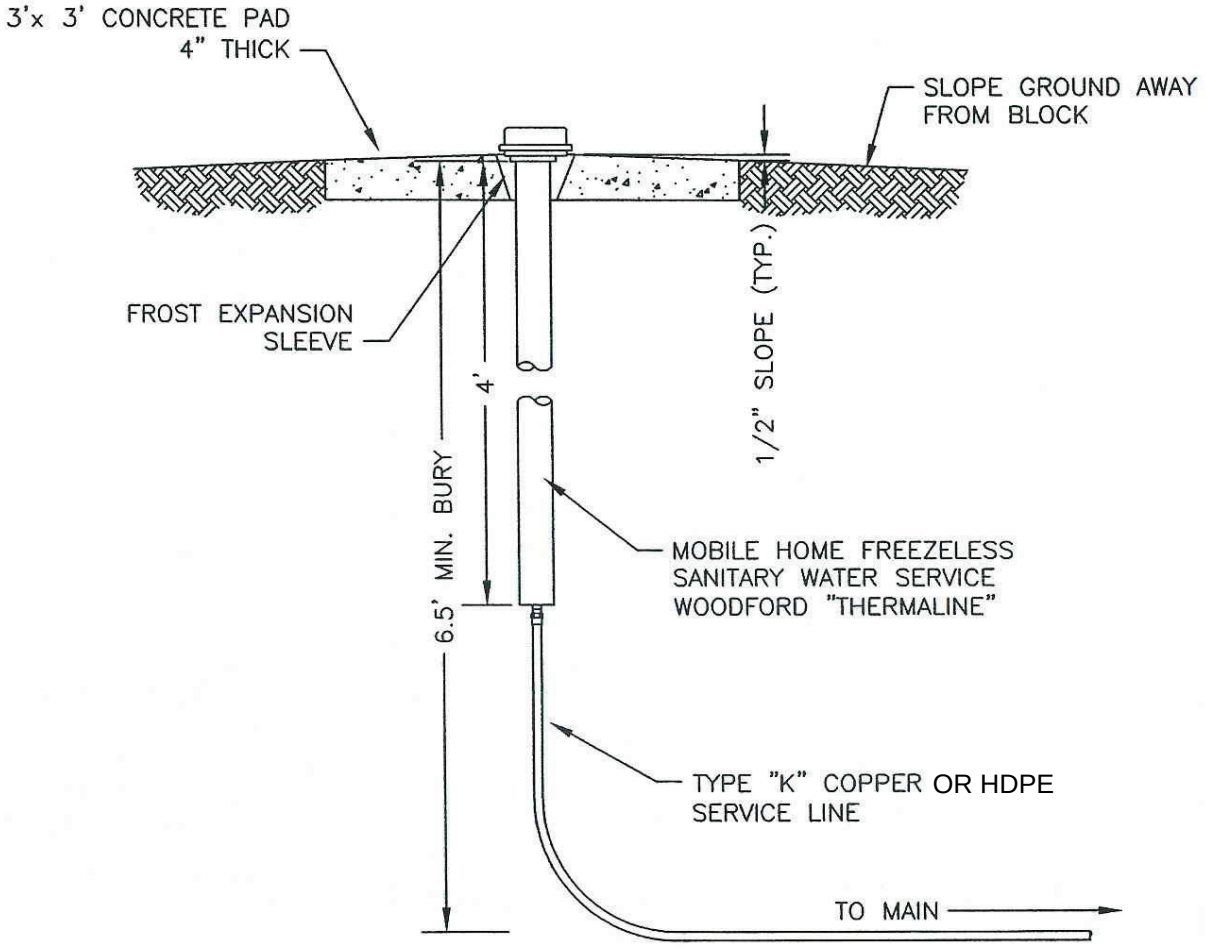
* INSULATION BOARD SHALL ONLY BE USED WHEN PIPE DEPTH CANNOT BE ACHIEVED AS DETERMINED BY CITY ENGINEER

Date: 4/2010	Revised: 6/2017	By:	**CONSTRUCTION STANDARD NO. 02660-43**
CITY OF BELGRADE			**UTILITY PIPE TRENCH INSULATION (TOP ONLY)**

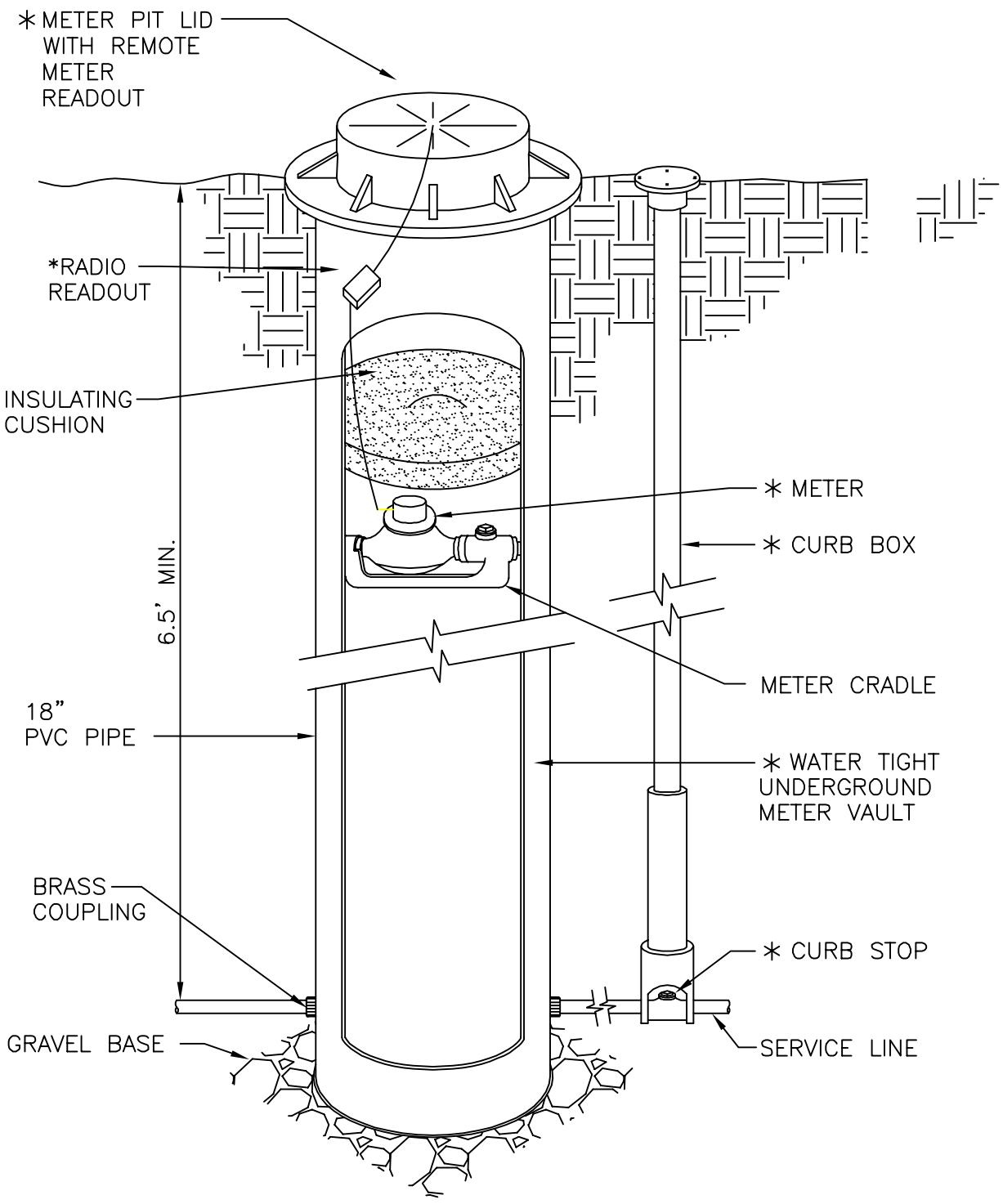


ONLY ALLOWED WHEN DESIGN SHOWS THAT A FIRE HYDRANT CANNOT BE USED AT A HIGH SPOT.

Date: 9/2007	Revised: 1/2017	By:	**CONSTRUCTION STANDARD NO. 02660-47**
CITY OF BELGRADE			**AIR RELEASE VALVE INSIDE MANHOLE**

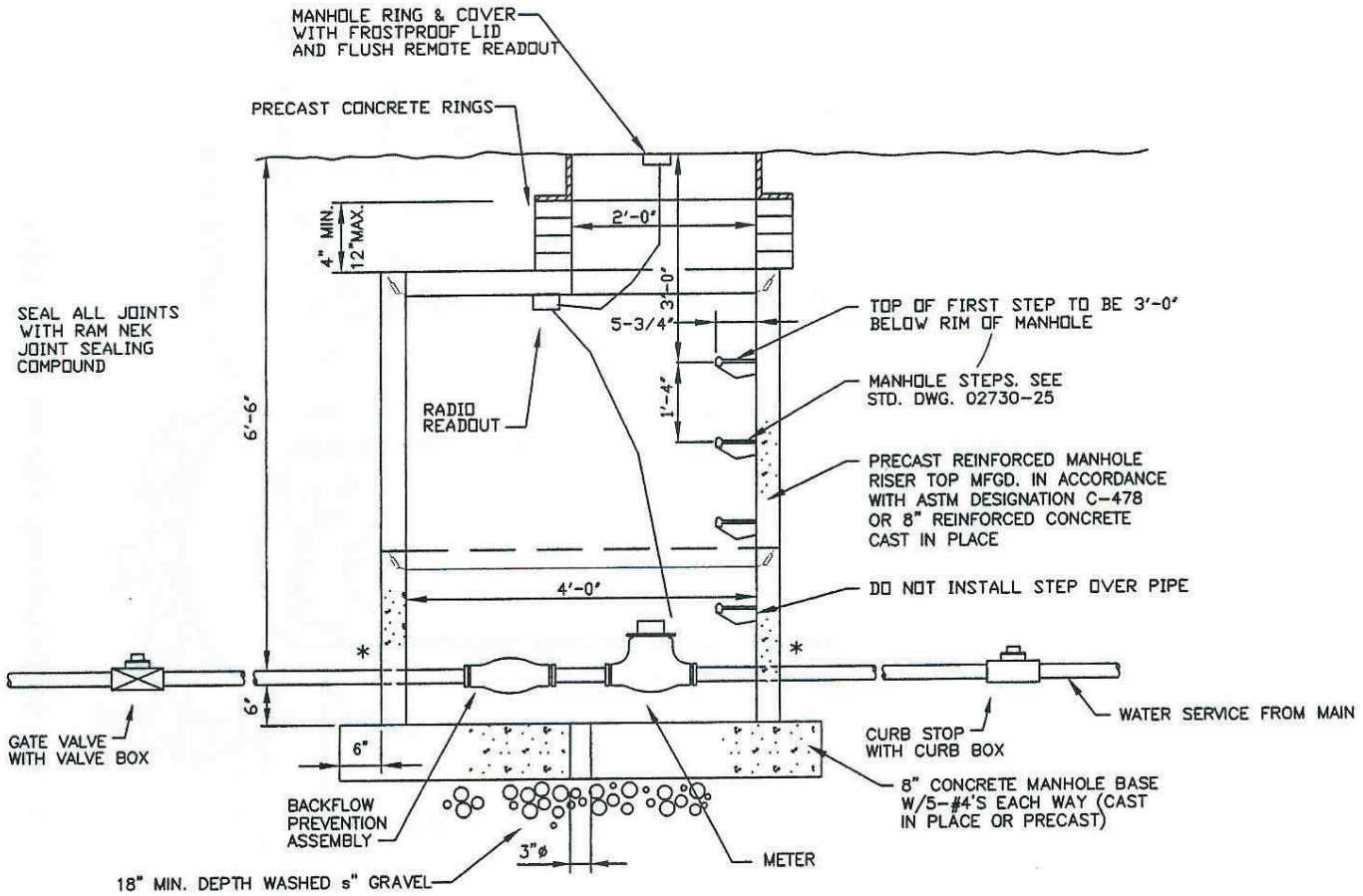


Date: 1/2005	Revised:	STANDARD DRAWING NO. 02660-58
CITY OF BELGRADE		**MOBILE HOME WATER SERVICE DETAIL**



* (SEE SPECIFICATIONS FOR APPROVED LIST)

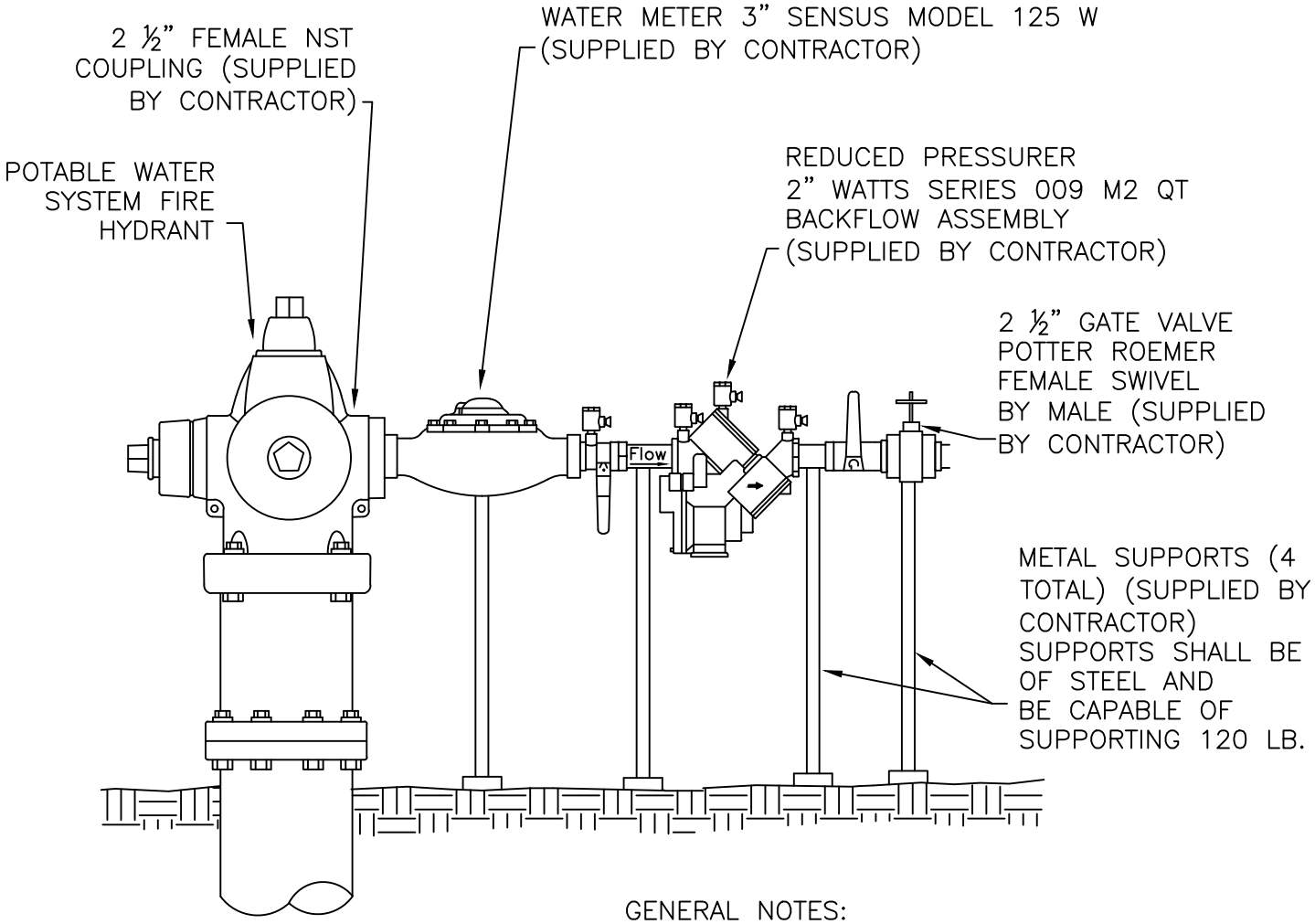
Date: 1/2005	Revised: 4/2016	By:	**CONSTRUCTION STANDARD NO. 02660-61**
CITY OF BELGRADE			**WATER SERVICE METER AND METER PIT WITH REMOTE AND RADIO READOUT**



INSTALL SIGNAL WIRE TO MINIMIZE CONFLICT WITH ACCESS TO MANHOLE.

* INSTALL WATER TIGHT GROUT AFTER PIPE LINES ARE INSTALLED AND PRESSURE TESTED.

CITY OF BELGRADE	WATER SERVICE METER AND VAULT	STANDARD DRAWING NO. 02660-61A
		Date: 1/2005
		Revised:



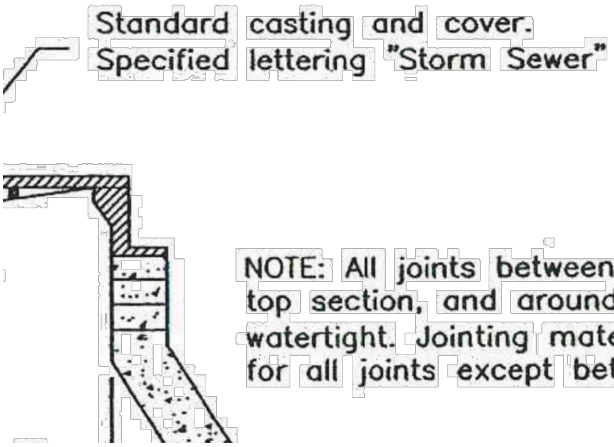
GENERAL NOTES:

CALL (406) 388–3760 WITH QUESTIONS.

1. THE CITY HAS UNITS AVAILABLE TO CHECK OUT ON A FIRST COME FIRST SERVE BASIS.

2. CITY PROJECTS TAKE PRECEDENCE ON SAID UNITS

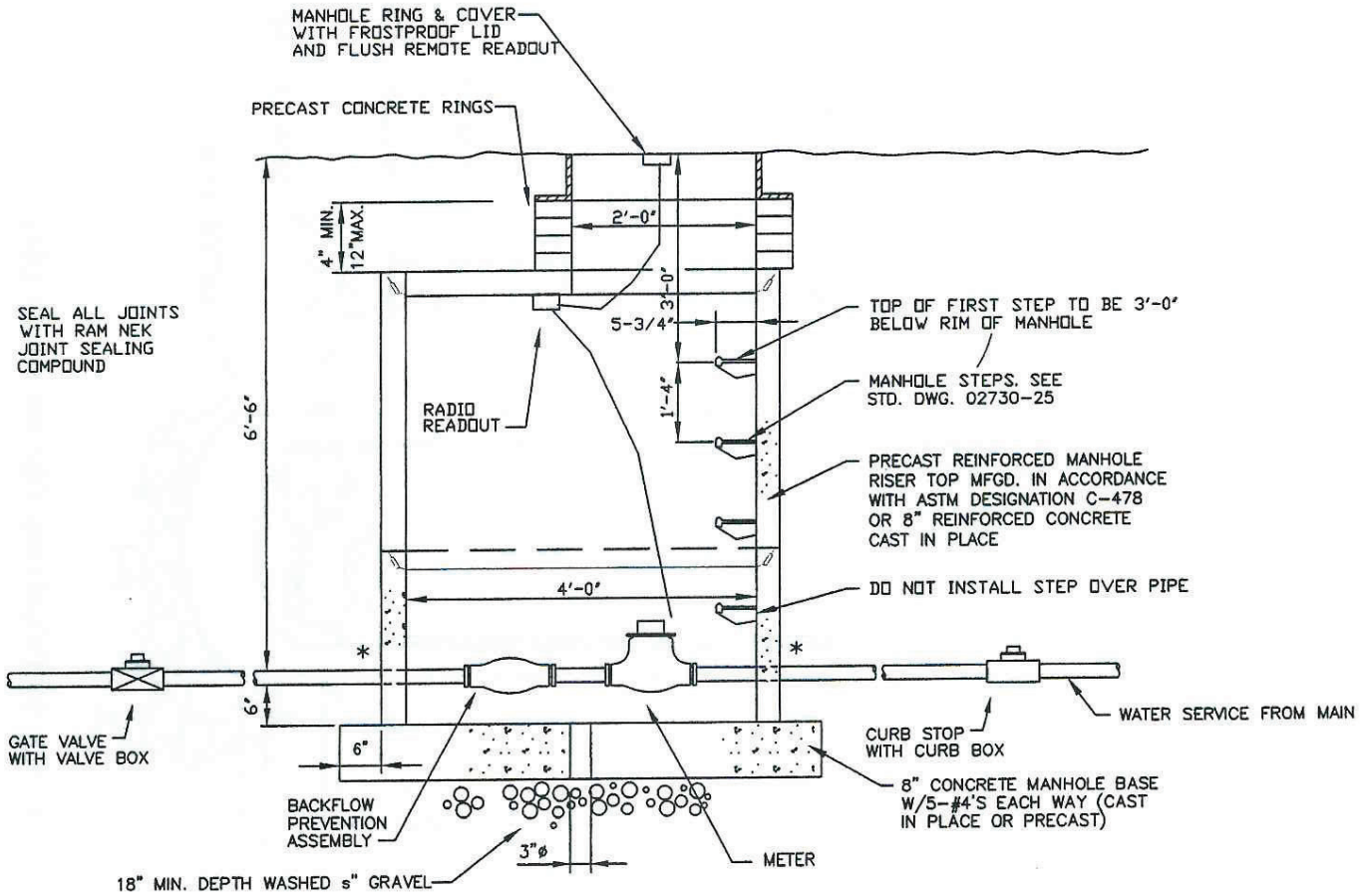
Date: 4/2010	Revised: 1/2017	By:	**CONSTRUCTION STANDARD NO. 02660-80**
CITY OF BELGRADE			**TEMPORARY WATER SUPPLY HYDRANT METER ASSEMBLY**



NOTE: All joints between manhole sections, manhole
top section, and around sewer pipe into manhole sh
watertight. Jointing material shall be "Ram-Nek" or
for all joints except between sewer pipe and manhol

Do not install step over
pipe inlets or outlets

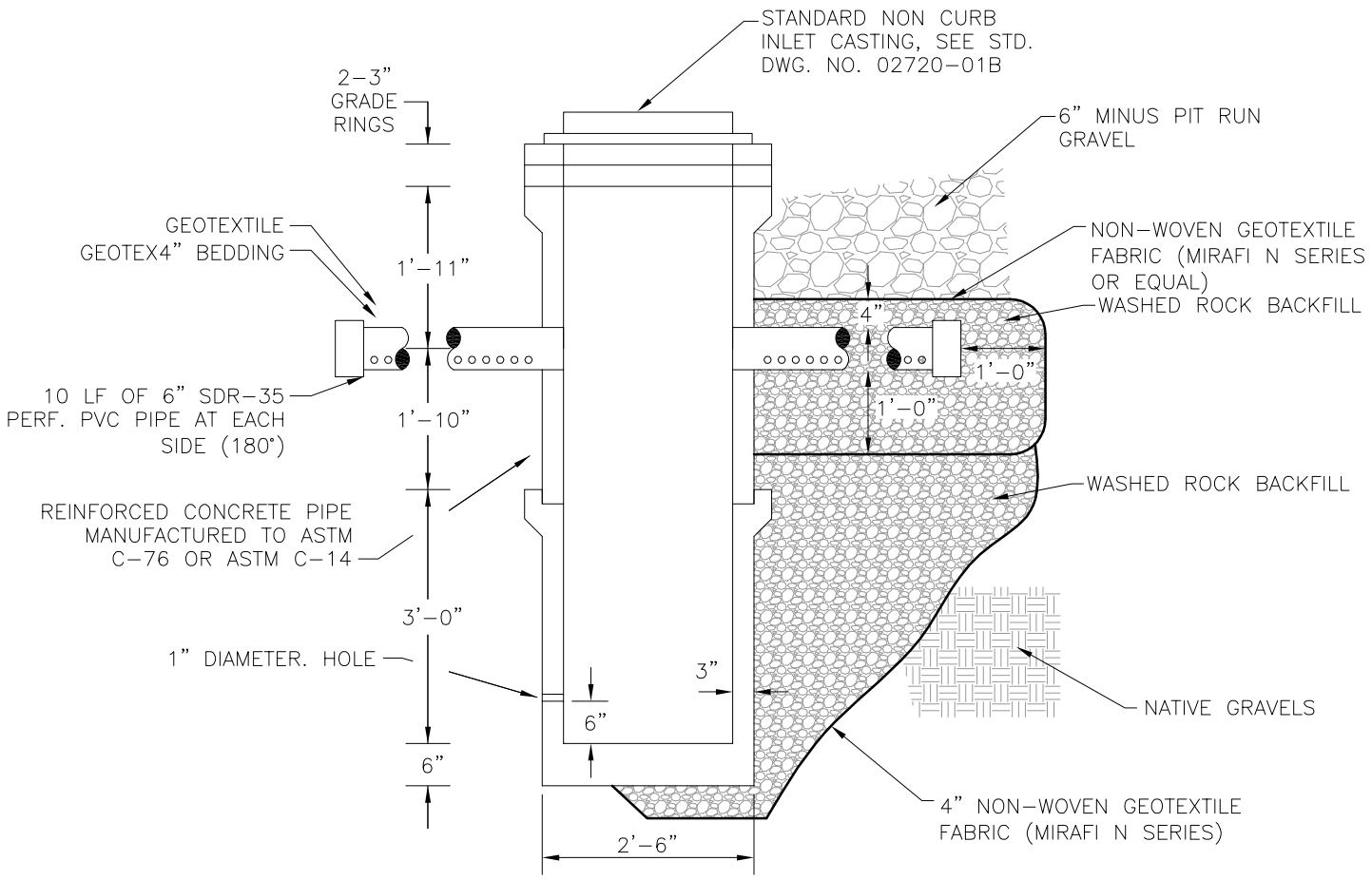
d:	By:	**STANDARD DRAWING NO. 02720-03**
BELGRADE		**STANDARD CONICAL STORM SEWER MANHOLE**



INSTALL SIGNAL WIRE TO MINIMIZE CONFLICT WITH ACCESS TO MANHOLE.

* INSTALL WATER TIGHT GROUT AFTER PIPE LINES ARE INSTALLED AND PRESSURE TESTED.

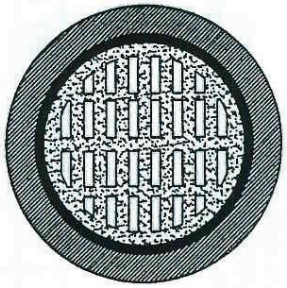
CITY OF BELGRADE	WATER SERVICE METER AND VAULT	STANDARD DRAWING NO. 02660-61A
		Date: 1/2005
		Revised:



NOTES:

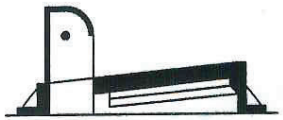
1. CONCRETE BASE SHALL BE MONOLITHICALLY CAST WITH BOTTOM SECTION.
2. PLACE WASHED ROCK TO A DEPTH OF 1' BELOW INLET BASE, BACKFILL ENTIRE STRUCTURE WITH WASHED ROCK TO A DEPTH OF 4" ABOVE THE PERFORATED PIPE.
3. BACKFILL ABOVE THE GEOTEXTILE FABRIC SHALL BE PIT RUN GRAVEL WITH A MAXIMUM PARTICAL SIZE OF 6". BACKFILL SHALL BE COMPACTED IN 8" LIFTS TO 95% OF MAXIMUM DRY DENSITY AASHTO T-180 FOLLOWED BY A 3" LAYER OF 1" MINUS CRUSHED TOP SURFACE LEVELING COURSE AND A 3" THICKNESS OF HOT PLANT MIX ASPHALT.
4. 6" PERFORATED PIPE MAY BE PLACED AT 90 DEGREE ANGLES IF 180 DEGREES IS NOT POSSIBLE. STUB PIPE OUTSIDE INLET, MAKE ANGLE BEND WITH FITTING, EXTEND PIPE TO MAKE 10' LENGTH.

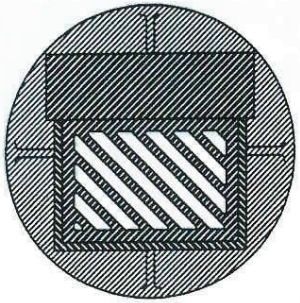
Date: 4/2010	Revised:	By:	**CONSTRUCTION STANDARD NO. 02720-01A**
CITY OF BELGRADE			**STORM DRAIN INLET DETAIL**



INLAND FOUNDRY 772-4" FRAME & GRATE
ASTM CLASS 30 GRAY IRON

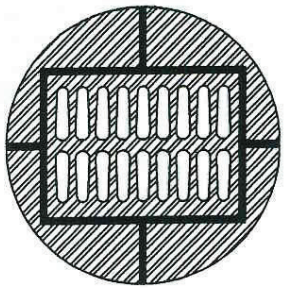
STANDARD NON CURB
INLET GRATE





INLET CASTING NEENAH R-3067-L,
EJIW 7030, DEETER 2047L, OR
D & L I-3517

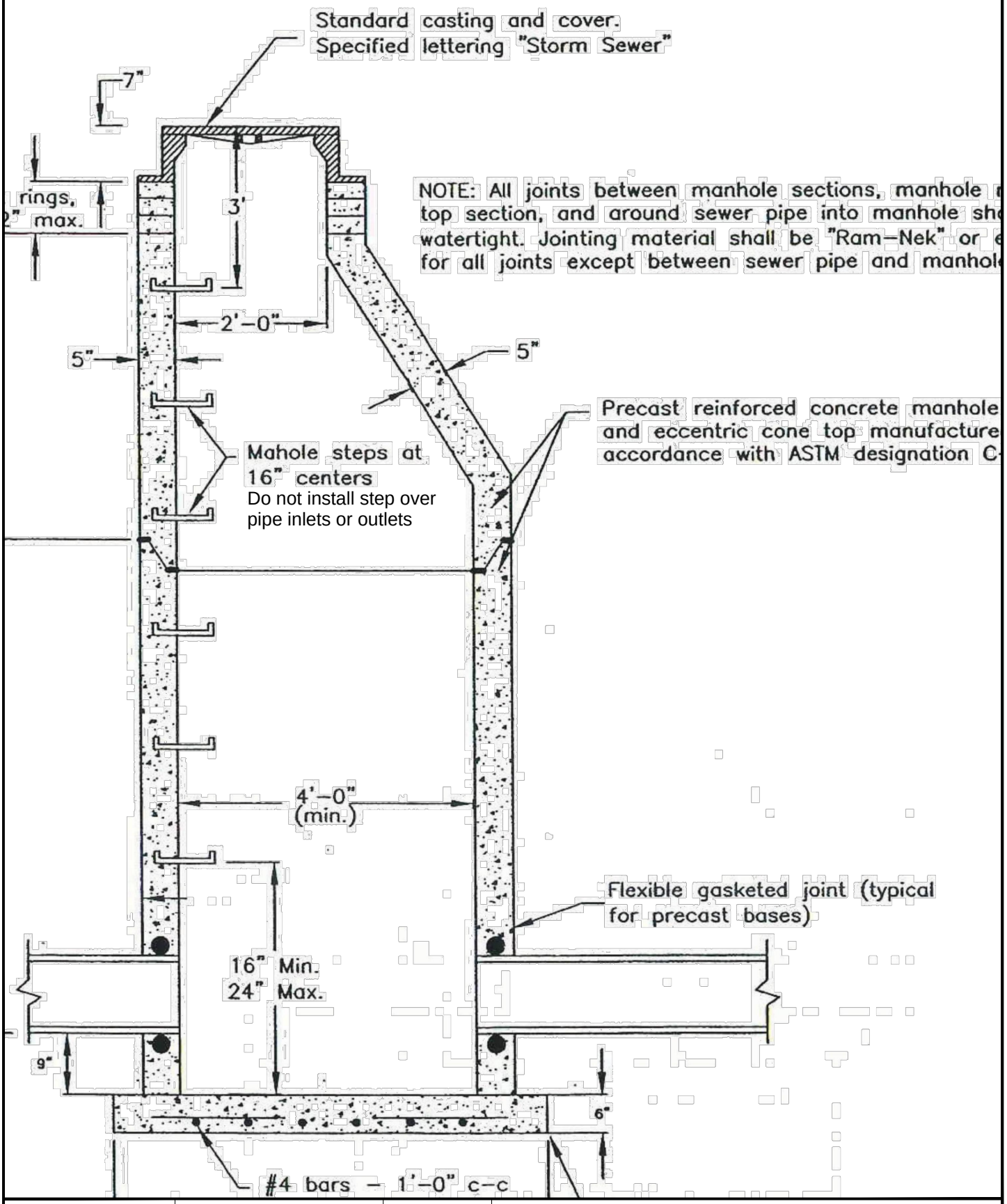
STANDARD FULL CURB
INLET GRATE



IFCO # 501 ROLLED CURB
FRAME & GRATE
ASTM CLASS 30 GRAY IRON

STANDARD DRIVE OVER
CURB
INLET GRATE

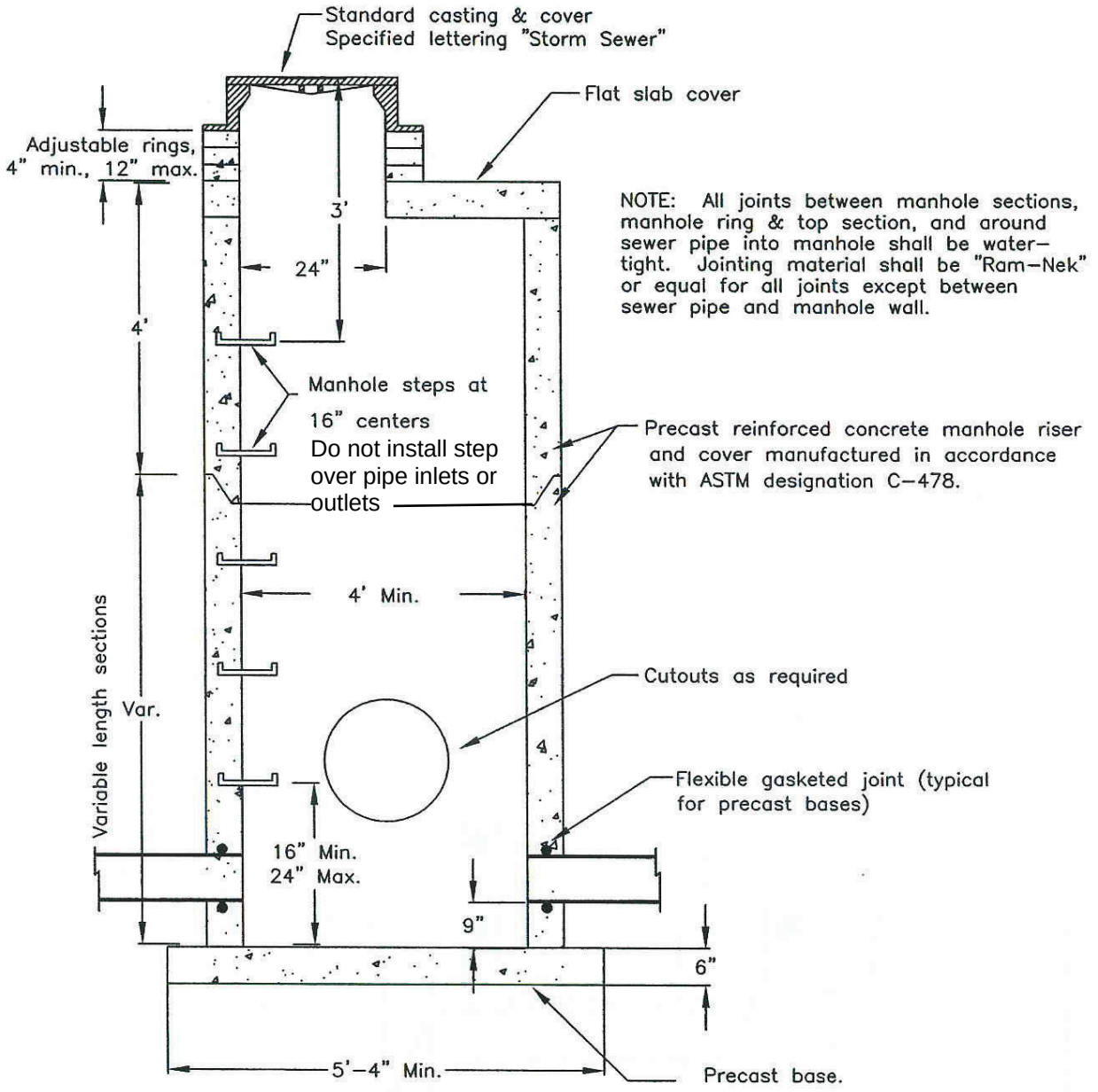
CITY OF BELGRADE	**STORM DRAIN INLET CASTINGS DETAIL**	STANDARD DRAWING NO. 02720-01B
		Date: 1/2005
		Revised: 6/2017



Date: 9/2011	Revised:	By:	**STANDARD DRAWING NO. 02720-03**

CITY OF BELGRADE

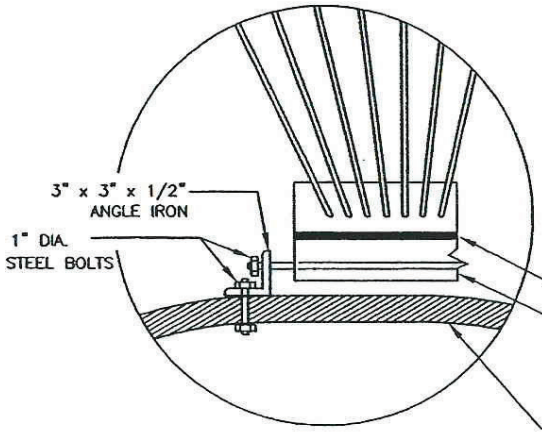
STANDARD CONICAL STORM SEWER MANHOLE



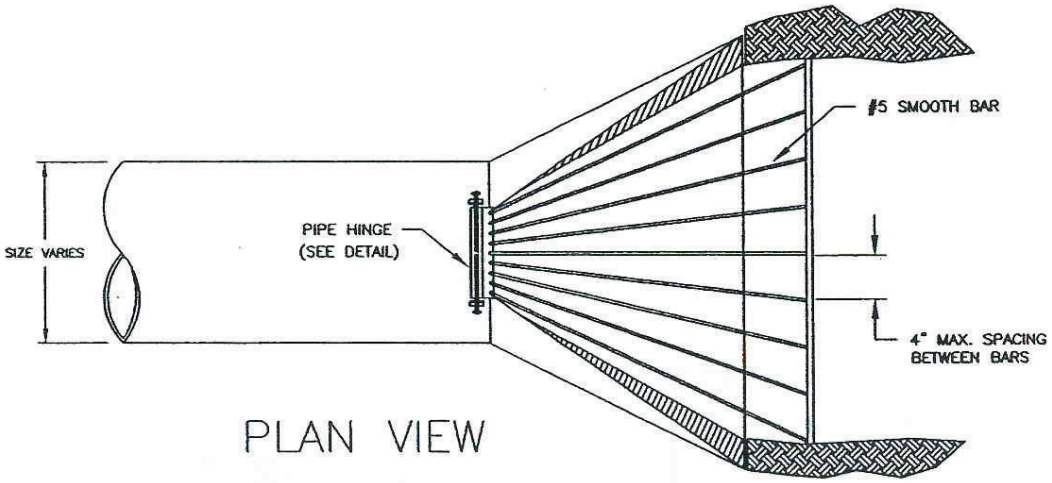
NOTE: All joints between manhole sections, manhole ring & top section, and around sewer pipe into manhole shall be water-tight. Jointing material shall be "Ram-Nek" or equal for all joints except between sewer pipe and manhole wall.

NOTE: Storm sewer manholes shall not have formed channels and the lowest pipe invert shall be 9" higher than bottom of manhole.

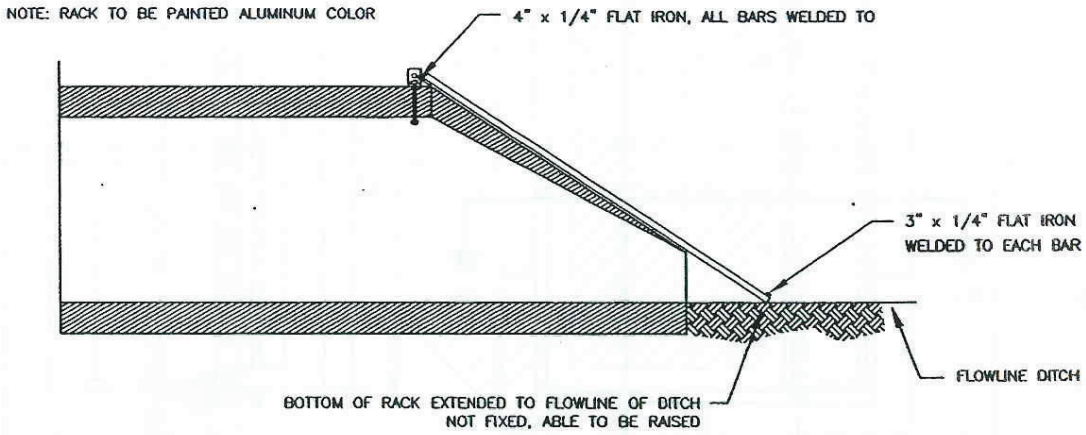
Date: 1/2005	Revised:	STANDARD DRAWING NO. 02720-04
CITY OF BELGRADE		**STANDARD STRAIGHT STORM SEWER MANHOLE**



HINGE DETAIL

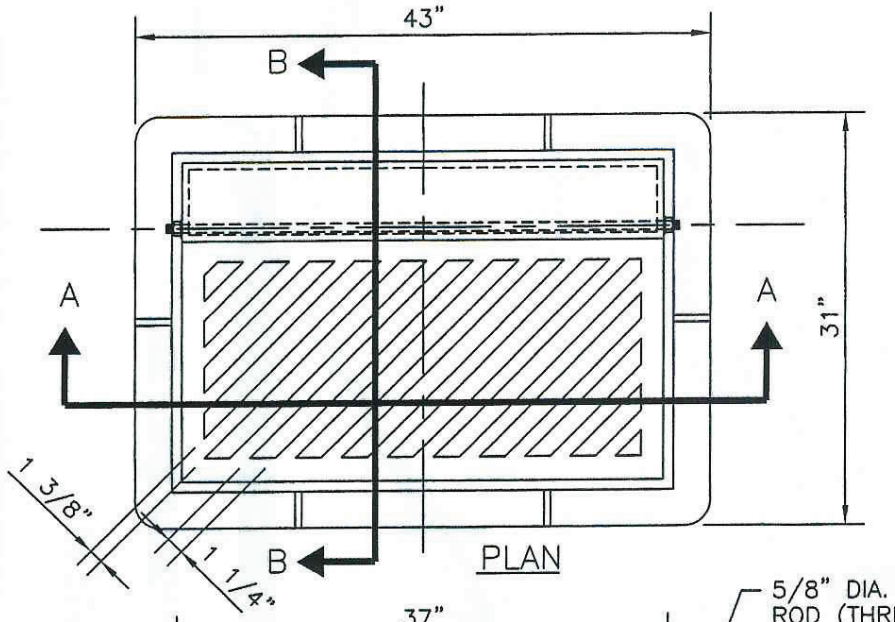


PLAN VIEW

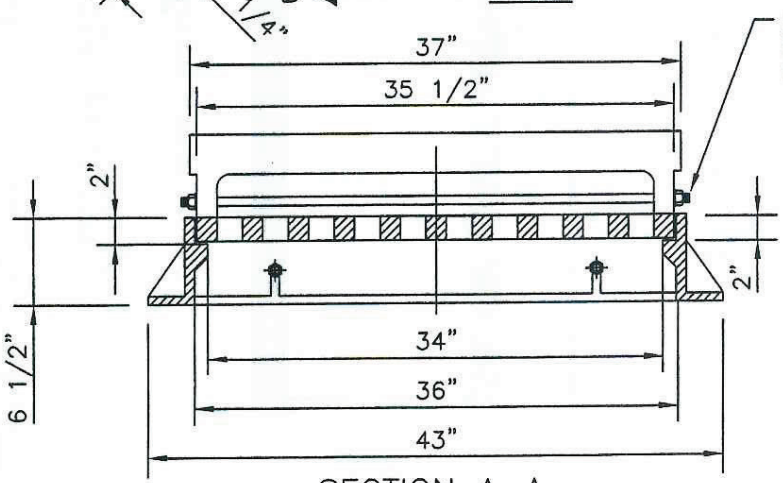


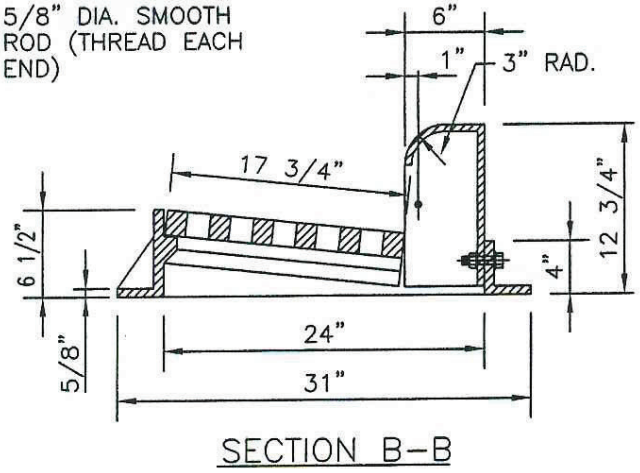
SECTION VIEW

Date: 1/2005	Revised:	STANDARD DRAWING NO. 02720-11
CITY OF BELGRADE		**STANDARD DEBRIS RACK**

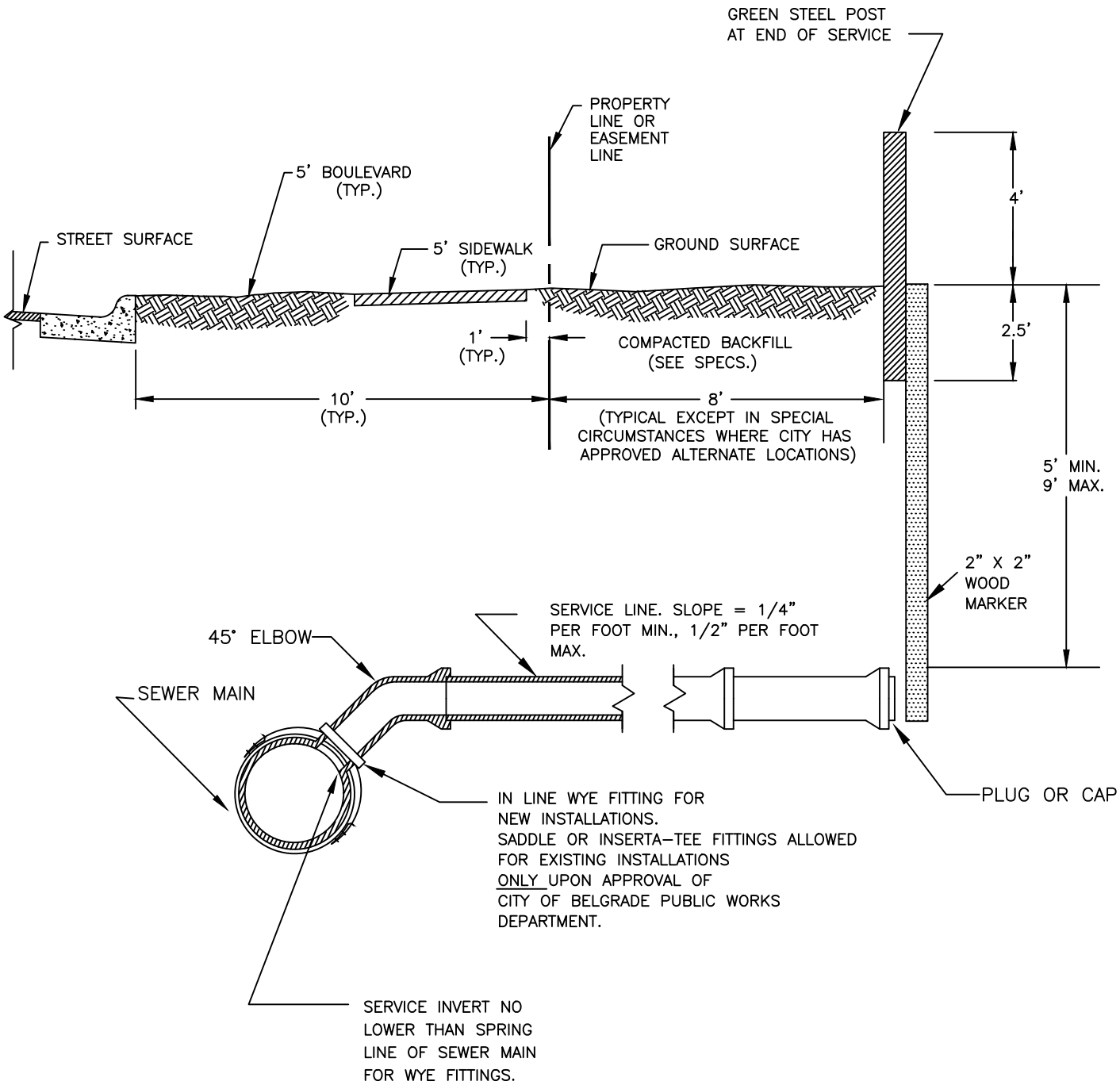


CURB INLET FRAME – NEENAH
FOUNDRY CO. NO. R-3067
BOTH RIGHT AND LEFT FLOW
DIRECTION AVAILABLE (DR SHOWN)
TOTAL WEIGHT = 530 lbs.

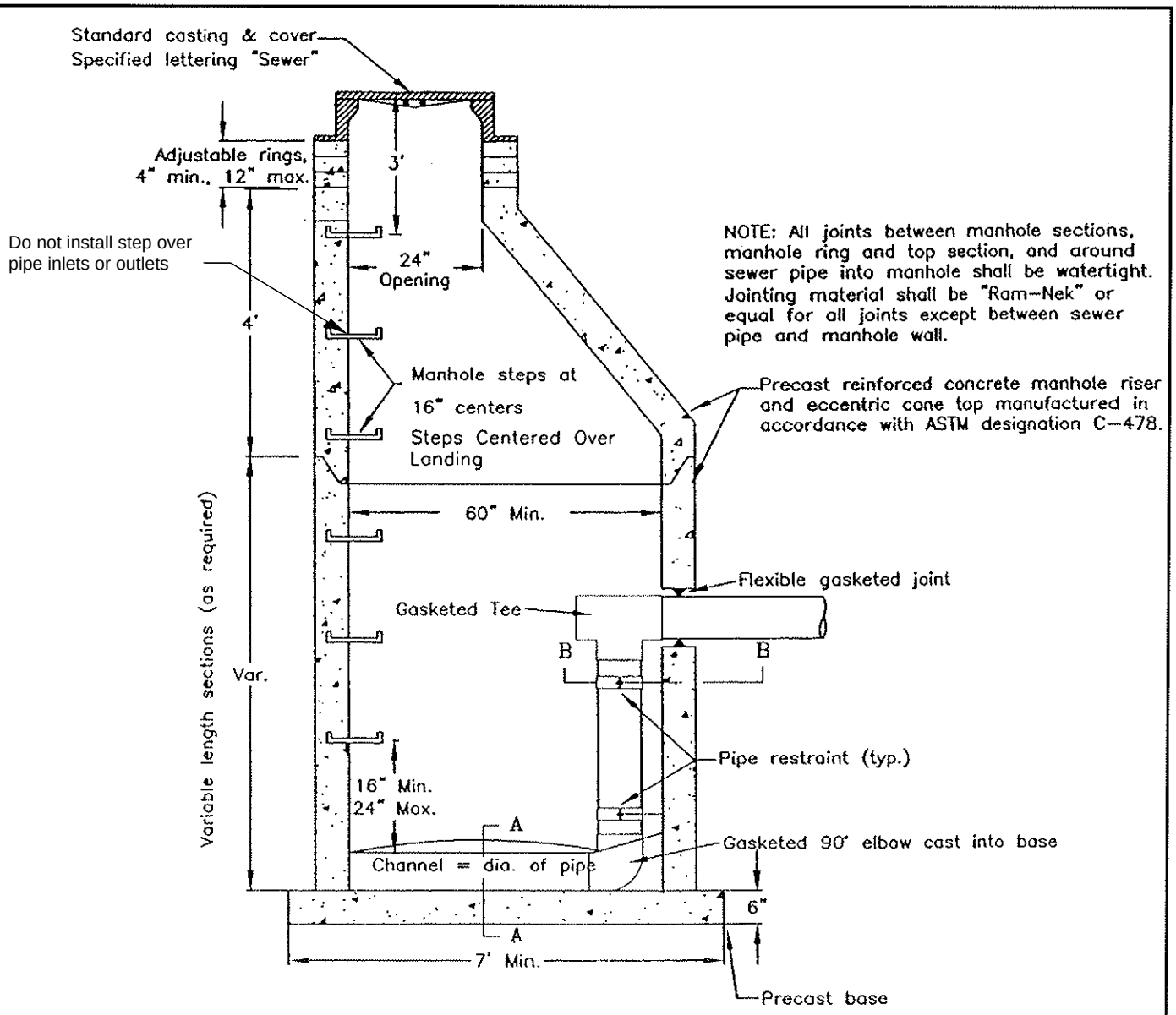


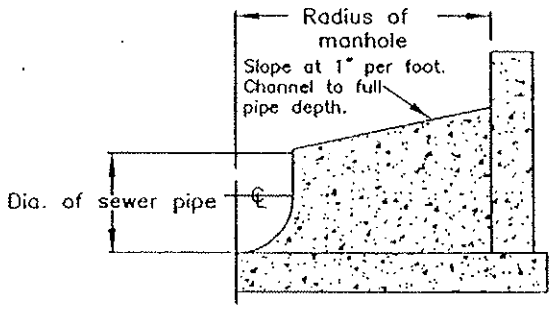


CITY OF BELGRADE	FULL CURB INLET CASTINGS FRAME AND GRATE	STANDARD DRAWING NO. 02720-19
		Date: 1/2005
		Revised:

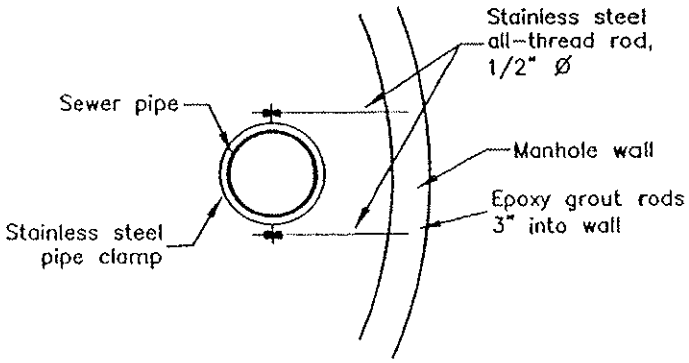


Date: 1/2005	6/2017	By:	**CONSTRUCTION STANDARD NO. 02730-02**
CITY OF BELGRADE			**SANITARY SEWER SERVICE LINE DETAIL**



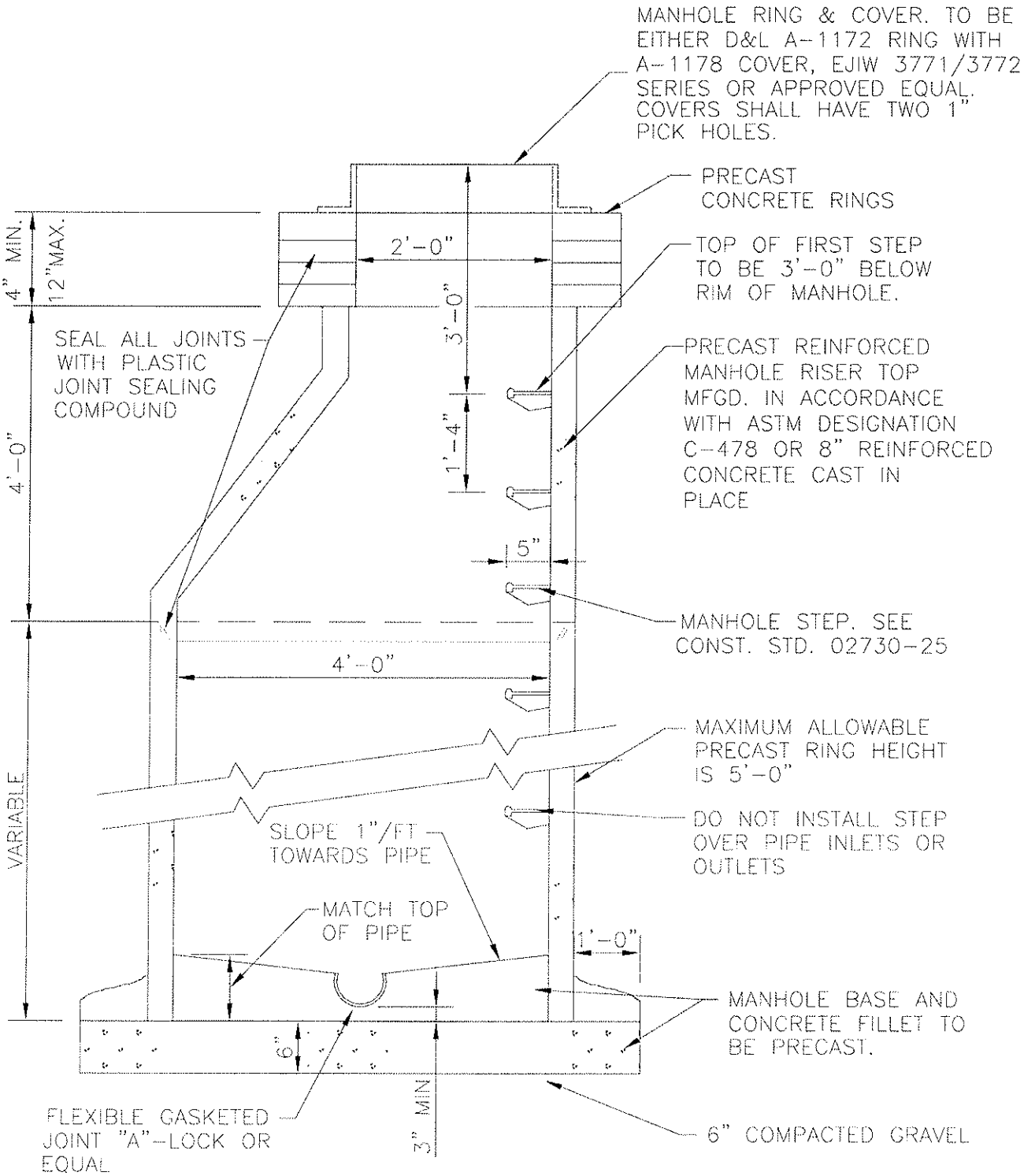


SECTION A-A



SECTION B-B

Date: 9/2011	Revised:	By:	STANDARD DRAWING NO. 02730-05
CITY OF BELGRADE			**STANDARD DROP MANHOLE DETAIL**

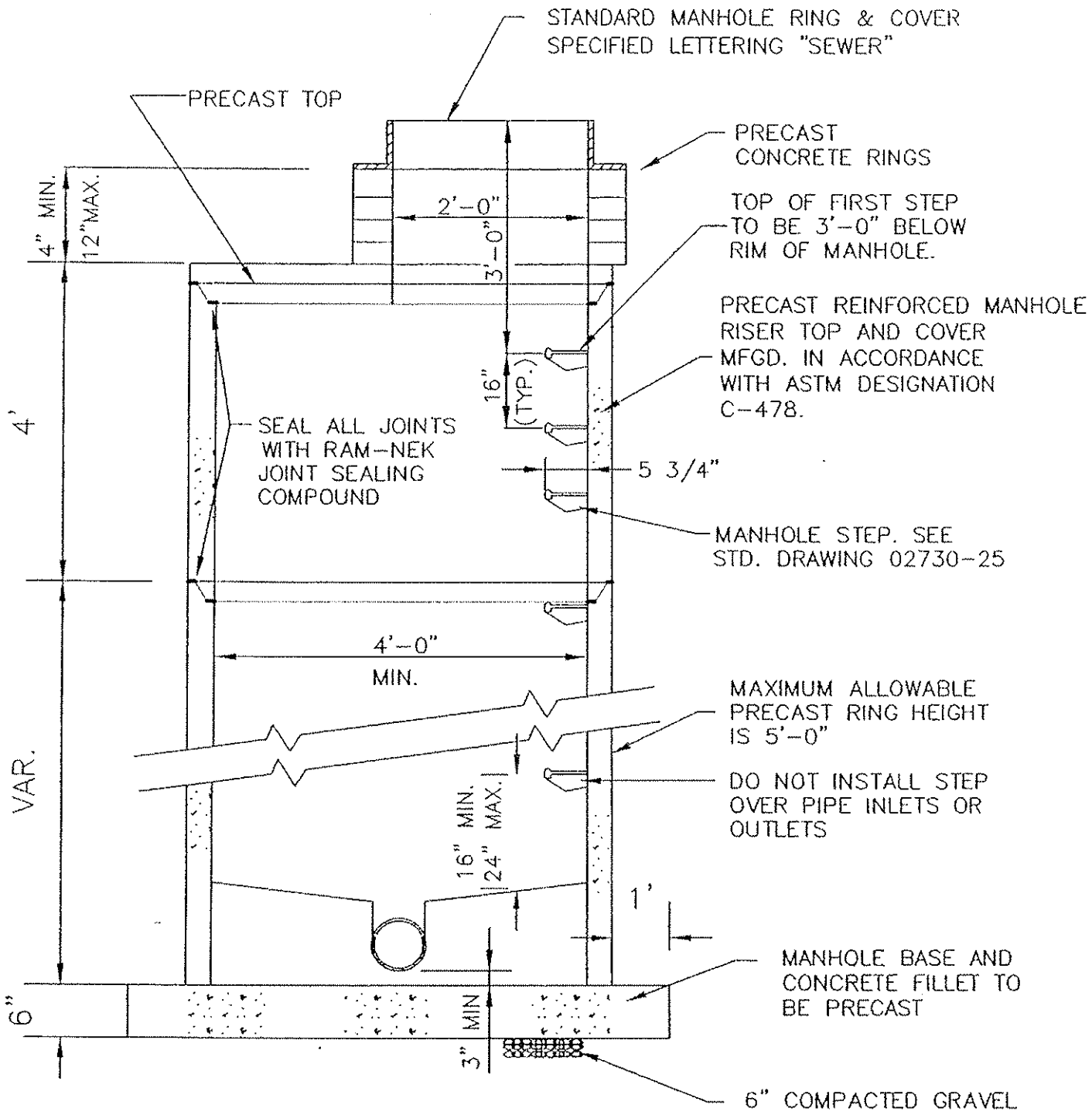


NOTE: 1. USE STRAIGHT MANHOLE IF RIM TO FLOWLINE IS 5'-6" OR LESS.

2. SET RIM 3/8" TO 5/8" BELOW FINISH GRADE SURFACE.

3. SET STEPS CENTERED OVER "LANDING" ON FLOOR.

Date: 9/2011	Revised:	By:	**STANDARD DRAWING NO. 02730-07**
CITY OF BELGRADE			**STANDARD SANITARY SEWER MANHOLE**



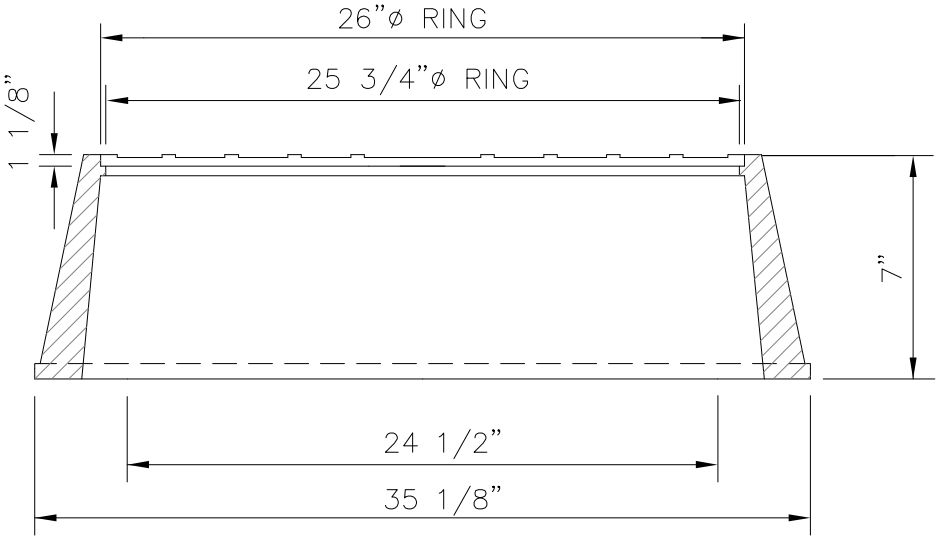
NOTES:

1.) USE STRAIGHT MANHOLE IF RIM TO FLOWLINE IS 5'-6" OR LESS.

2.) SET RIM 3/8" TO 5/8" BELOW PAVEMENT.

3.) SET STEPS CENTERED OVER "LANDING" ON FLOOR.

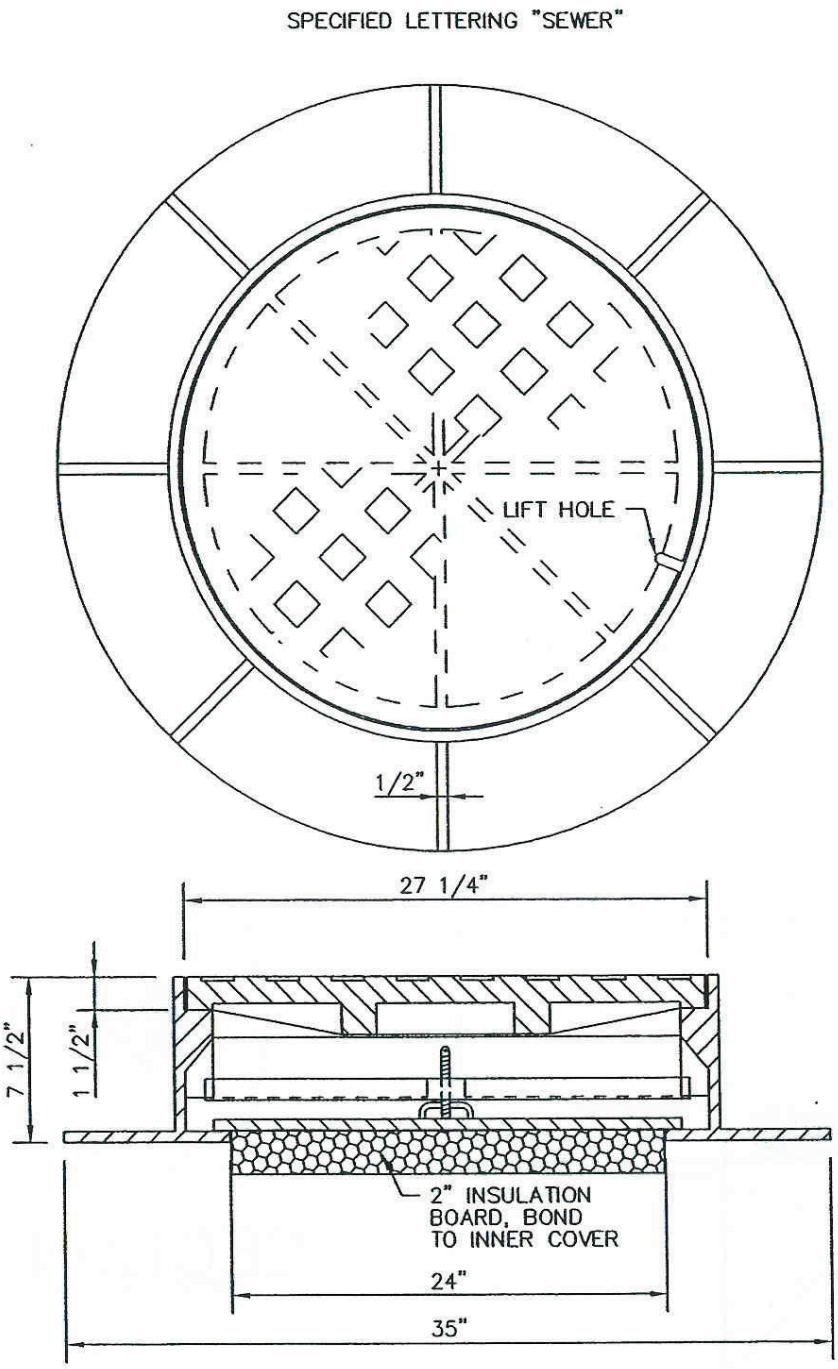
Date: 9/2011	Revised:	By:	**STANDARD DRAWING NO. 02730-08**
CITY OF BELGRADE			**STRAIGHT SANITARY SEWER MANHOLE**



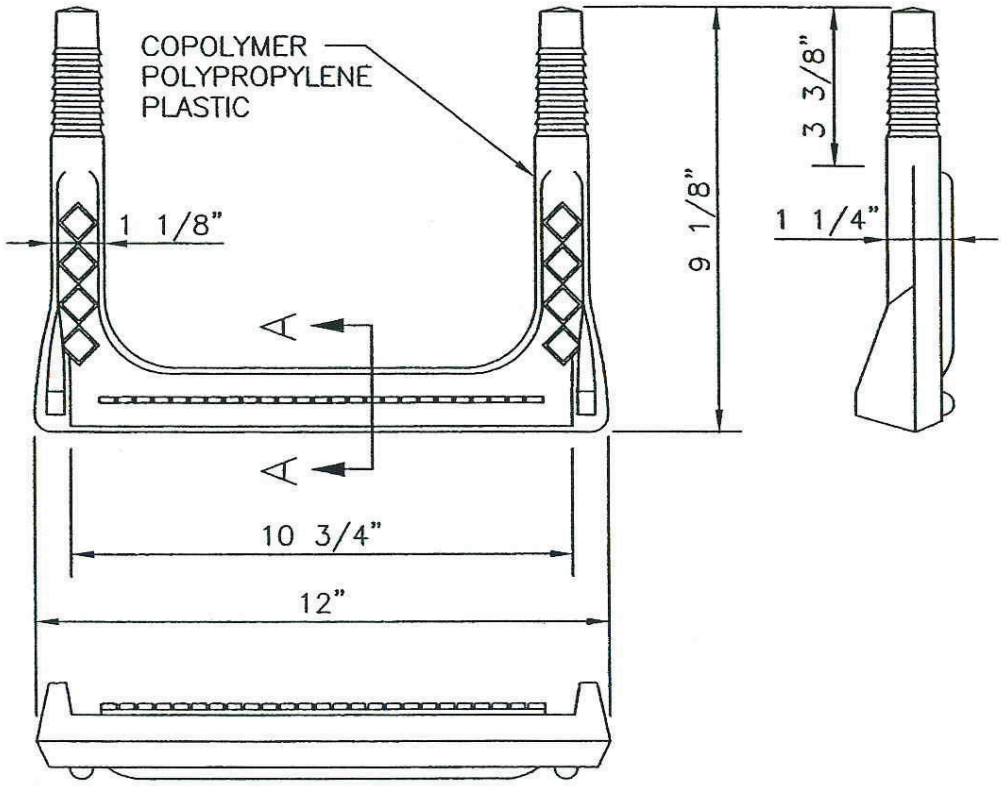
IN PAVED AREAS:
CASTING SIMILAR TO D&L FOUNDRY A-1178 RING AND COVER OR EJIW 3771/3772 SERIES RING AND COVER OR APPROVED EQUAL. COVERS SHALL HAVE 2 PICK HOLES, 1" MINIMUM.

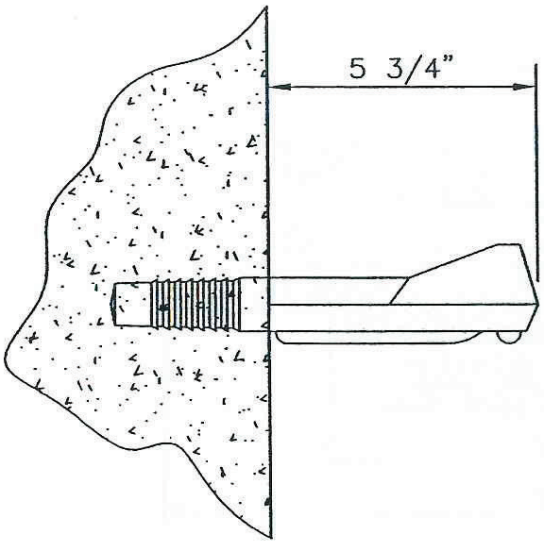
IN GRAVEL AREAS:
CASTING SIMILAR TO D&L FOUNDRY A-1172 WITH 1" COVER OR, EJIW NO. 3772, O-RING FRAME WITH RECESSED PICK HOLES.

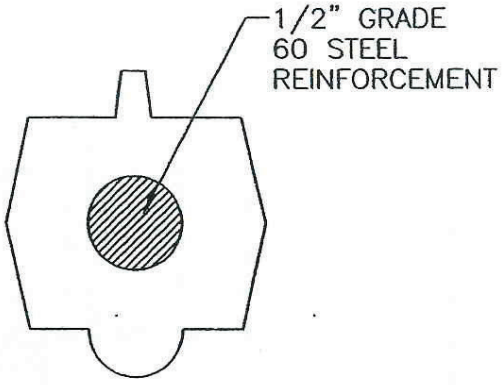
Date: 4/2010	Revised:	By:	**CONSTRUCTION STANDARD NO. 02730-18**
CITY OF BELGRADE			**STANDARD MANHOLE RING AND COVER DETAIL**



Date: 1/2005	Revised:	STANDARD DRAWING NO. 02730-20
CITY OF BELGRADE		**MANHOLE RING & COVER DETAIL (FROST PROOF, WATERTIGHT WITH LOCKABLE LID)**

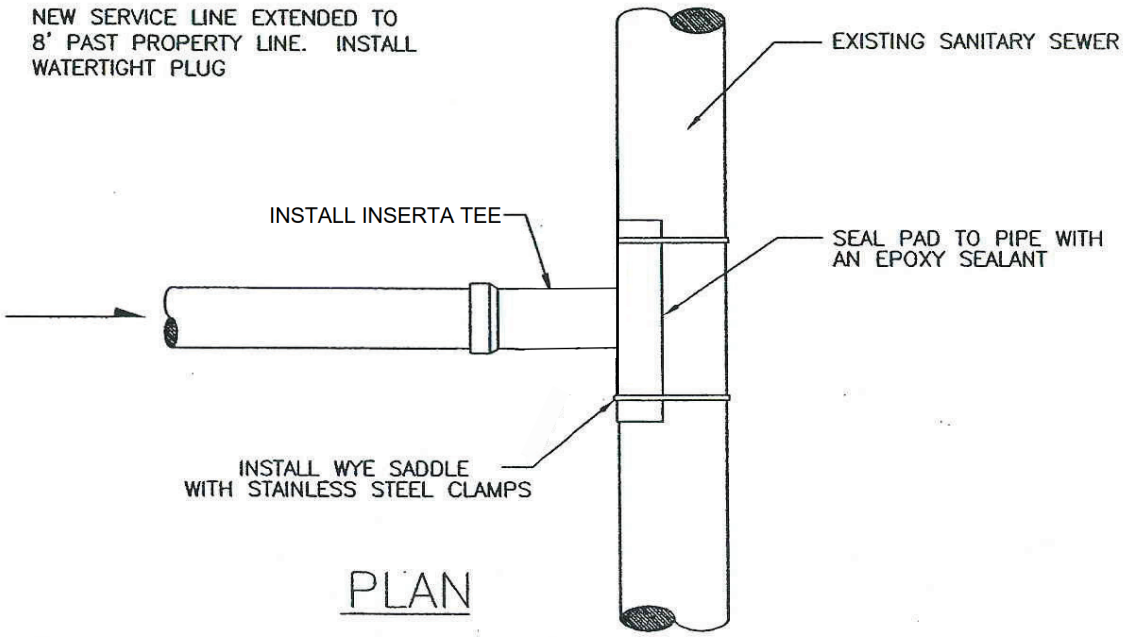




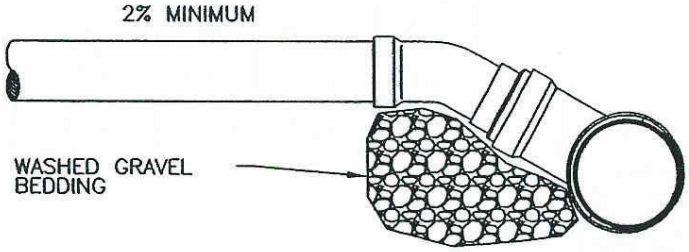


SECTION A–A

Date: 1/2005	Revised:	STANDARD DRAWING NO. 02730-25
CITY OF BELGRADE		**MANHOLE STEP DETAIL**

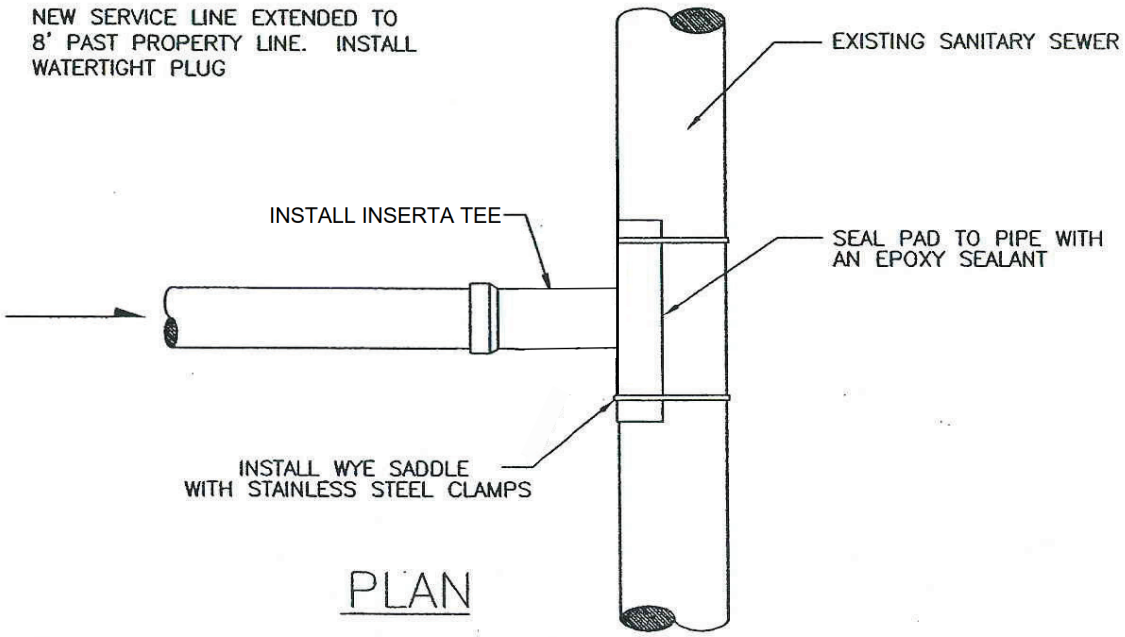


PLAN

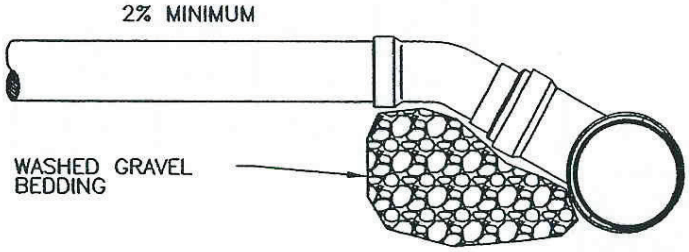


PROFILE

Date: 1/2005	Revised: 6/2017	STANDARD DRAWING NO. 02730-31B
CITY OF BELGRADE		**SANITARY SEWER TAPPING SADDLE INSTALLATION DETAIL**

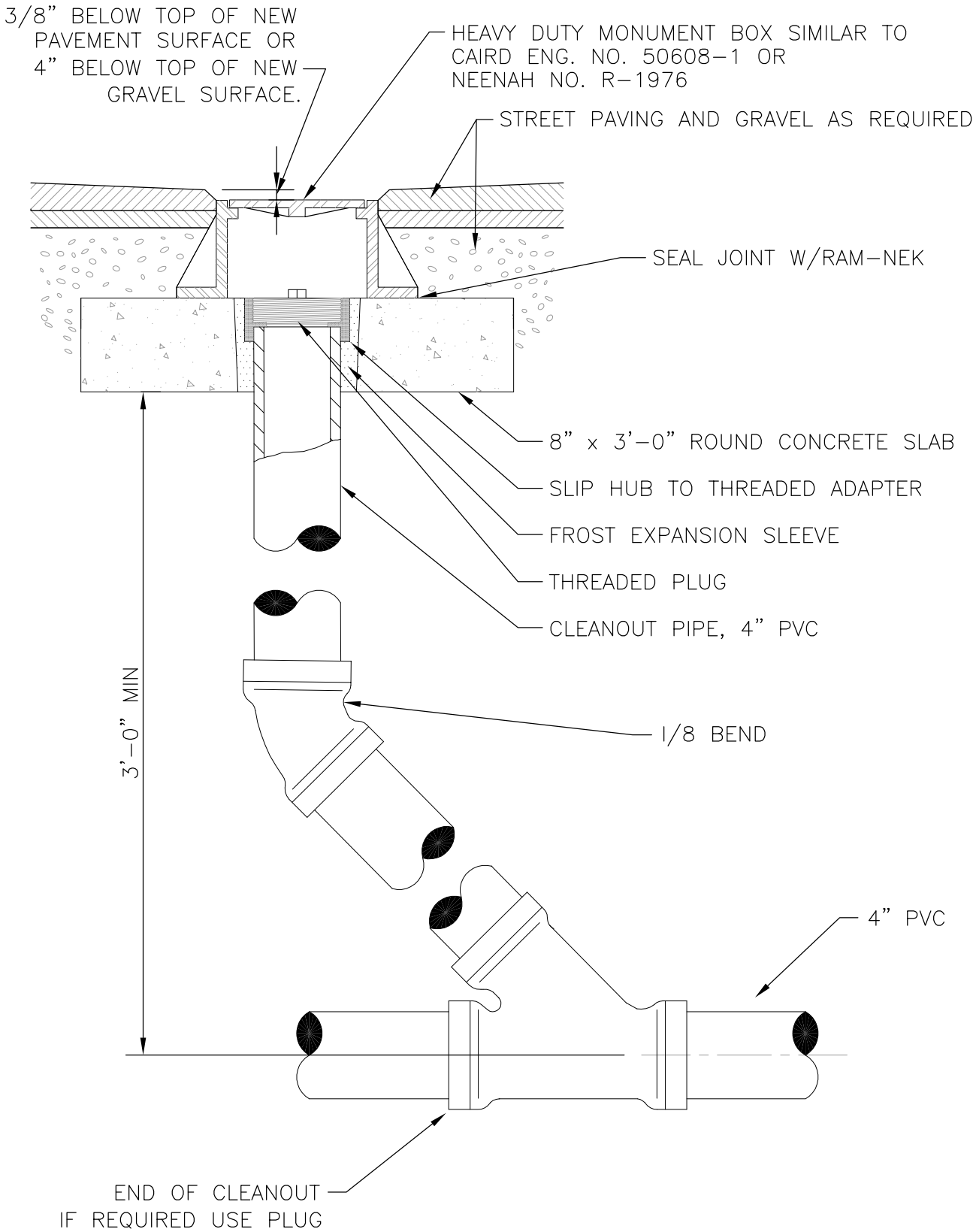


PLAN

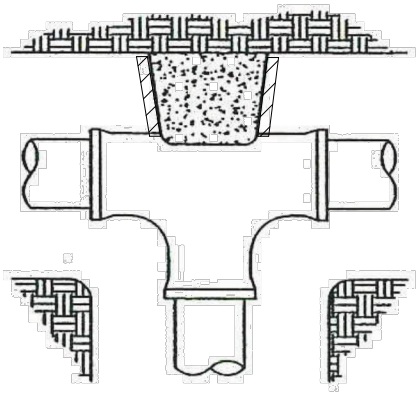


PROFILE

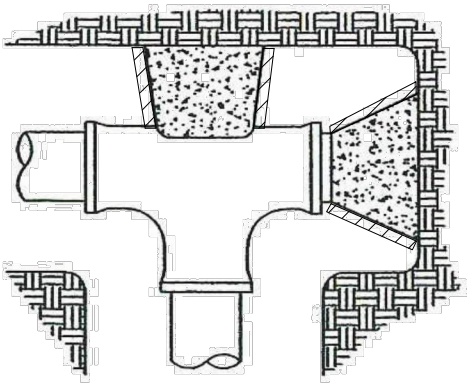
Date: 1/2005	Revised: 6/2017	STANDARD DRAWING NO. 02730-31B
CITY OF BELGRADE		**SANITARY SEWER TAPPING SADDLE INSTALLATION DETAIL**



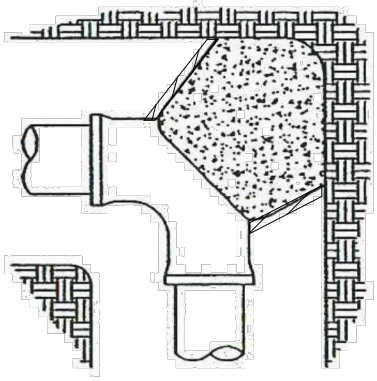
Date: 4/2010	Revised:	By:	**CONSTRUCTION STANDARD NO. 02730-32**
CITY OF BELGRADE			**CLEANOUT (TRAFFIC AREAS)**



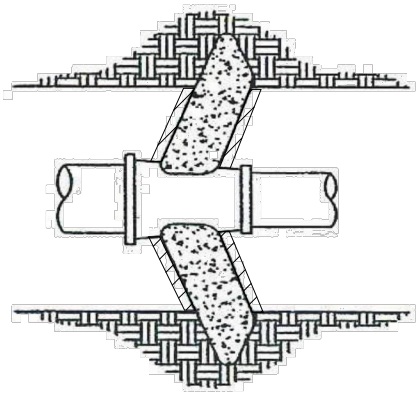
TEE



TEE PLUGGED

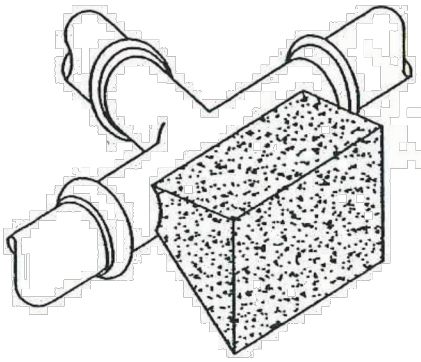


BEND



REDUCER

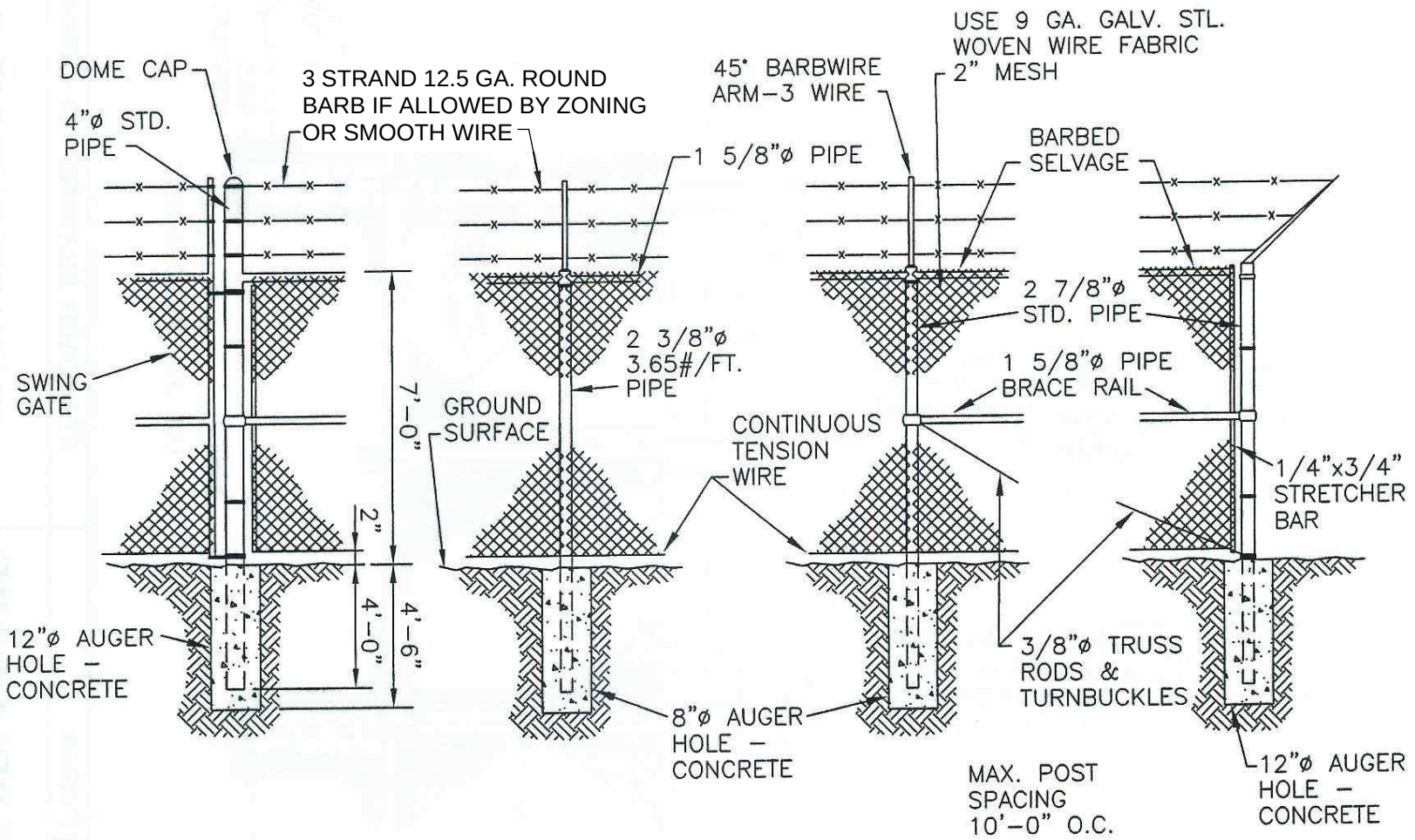
THRUST BLOCK BEARING AREAS (SQ. FT.)				
PIPE SIZES	TEES & PLUGS	90° BEND	45° BEND & WYES	REDUCERS & 22-1/2" BEND
4"	1.8	2.6	1.4	0.8
6"	3.8	5.2	2.9	1.5
8"	6.7	9.5	5.0	2.6
10"	10.8	15.3	8.3	4.2
12"	15.3	21.8	11.9	5.8
14"	20.8	28.8	16.2	8.3
16"	27.4	37.7	20.9	10.8
18"	34.7	47.7	26.5	13.6
20"	42.8	58.9	32.7	16.8
24"	61.7	84.8	47.1	24.2
30"	96.4	132.5	73.6	37.9



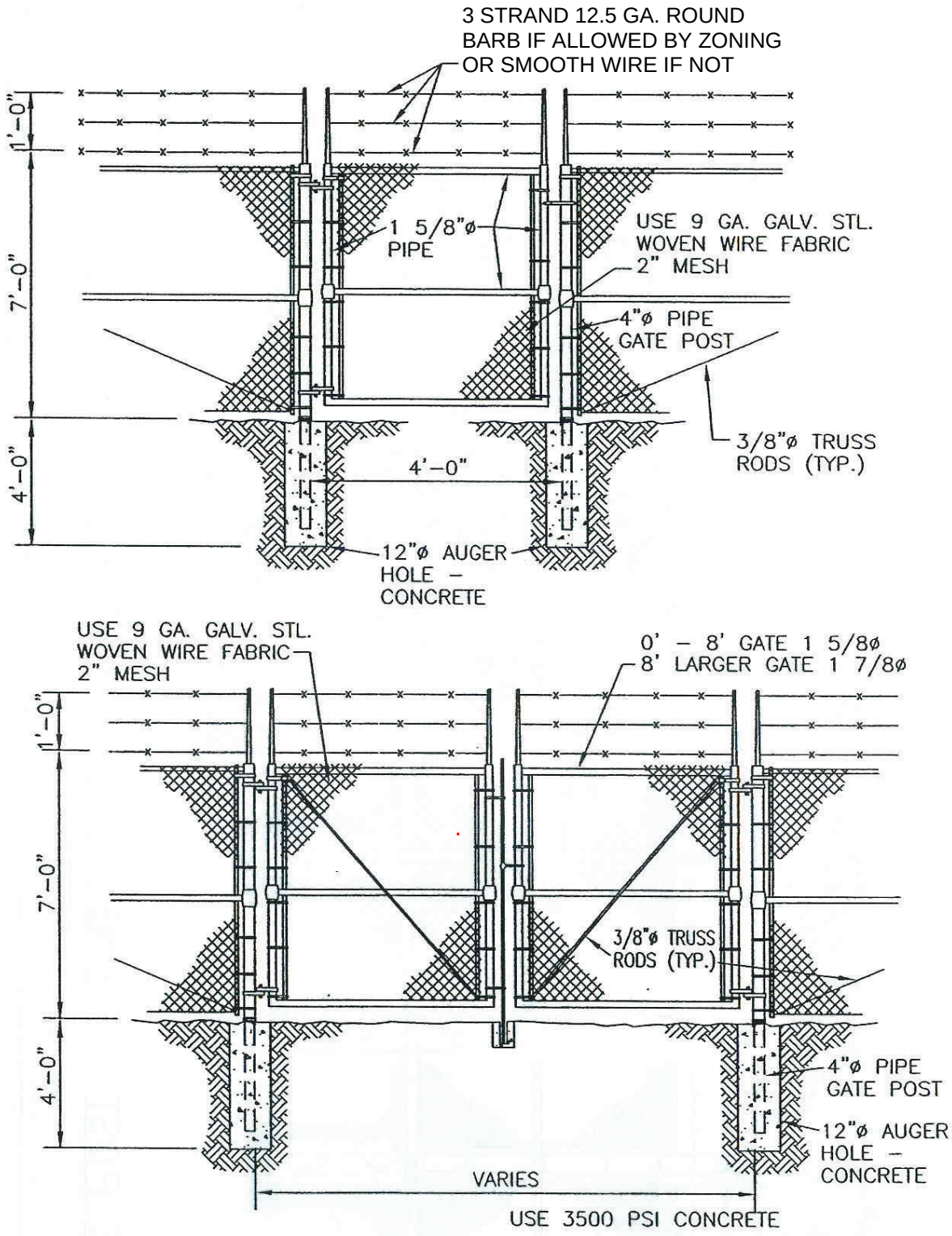
NOTE:

1. THIS TABLE IS BASED ON 150 PSI MAIN PRESSURE 2000 PSF SOIL PRESSURE.
2. WRAP ALL FITTINGS WITH POLYETHYLENE.
3. THRUST BLOCKS SHALL BE FORMED PRIOR TO ORDERING CONCRETE.

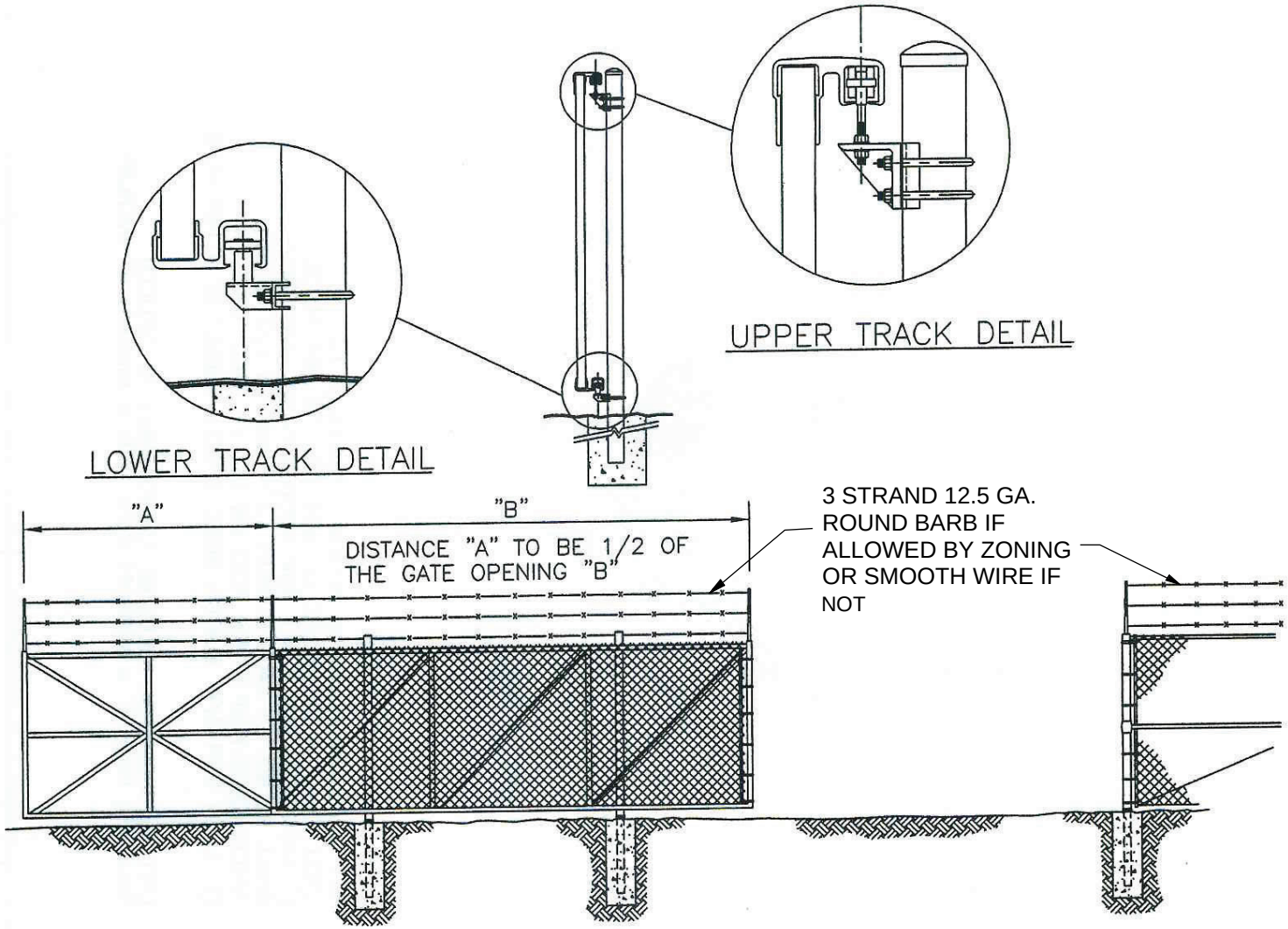
Date: 9/2011	Revised:	By:	**STANDARD DRAWING NO. 02730-50**
CITY OF BELGRADE			**THRUST BLOCKING FOR FORCE MAIN FITTINGS**



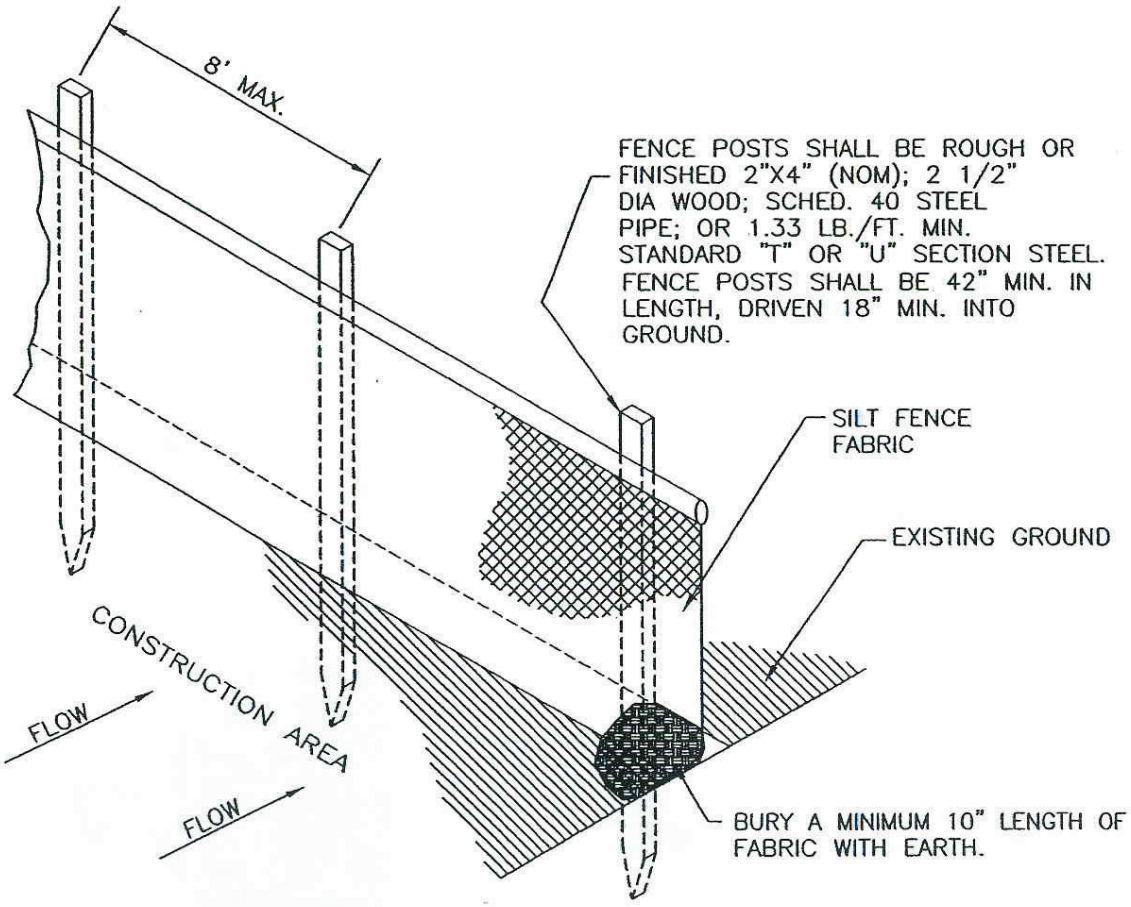
CITY OF BELGRADE	CHAIN LINK SECURITY FENCE AND POST DETAIL	STANDARD DRAWING NO. 02800-01
		Date: 1/2005
		Revised:



Date: 1/2005	Revised:	STANDARD DRAWING NO. 02800-02
CITY OF BELGRADE		**CHAIN LINK GATE DETAIL**



CITY OF BELGRADE	CHAIN LINK SLIDING GATE DETAIL	STANDARD DRAWING NO. 02800-03
		Date: 1/2005
		Revised:



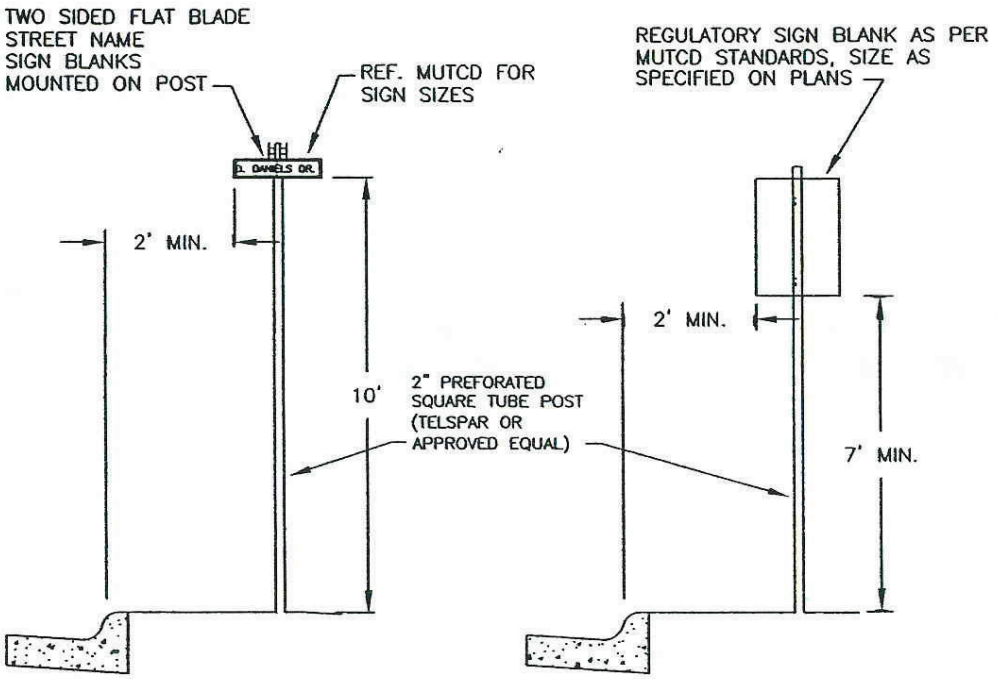
NOT TO SCALE

NOTES

1. SILT FENCE FABRIC TO BE FASTENED SECURELY TO STEEL FENCE POST BY USE OF WIRE TIES OR HOG RINGS. (3 FASTENERS PER POST), FOR WOODEN POSTS, FASTENERS SHALL BE NO. 17 GAGE STAPLES (3/4" WIDE X 1/2" LONG), SPACED EVENLY AT 5 PER POST OR NO. 14 GAGE NAILS (1" LONG WITH 3/4" BUTTON HEAD) SPACED EVENLY AT 4 PER POST.

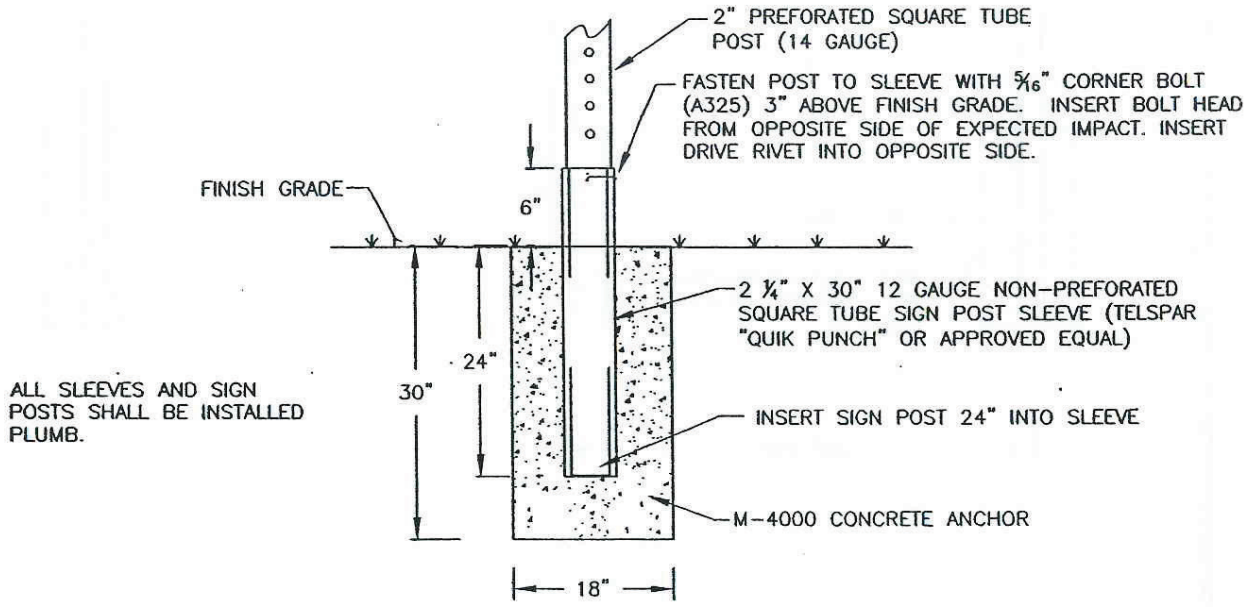
2. ENDS OF INDIVIDUAL ROLLS OF FABRIC SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6" OVERLAP.

Date: 1/2005	Revised:	STANDARD DRAWING NO. 02800-04
CITY OF BELGRADE		**SILT FENCE DETAIL**



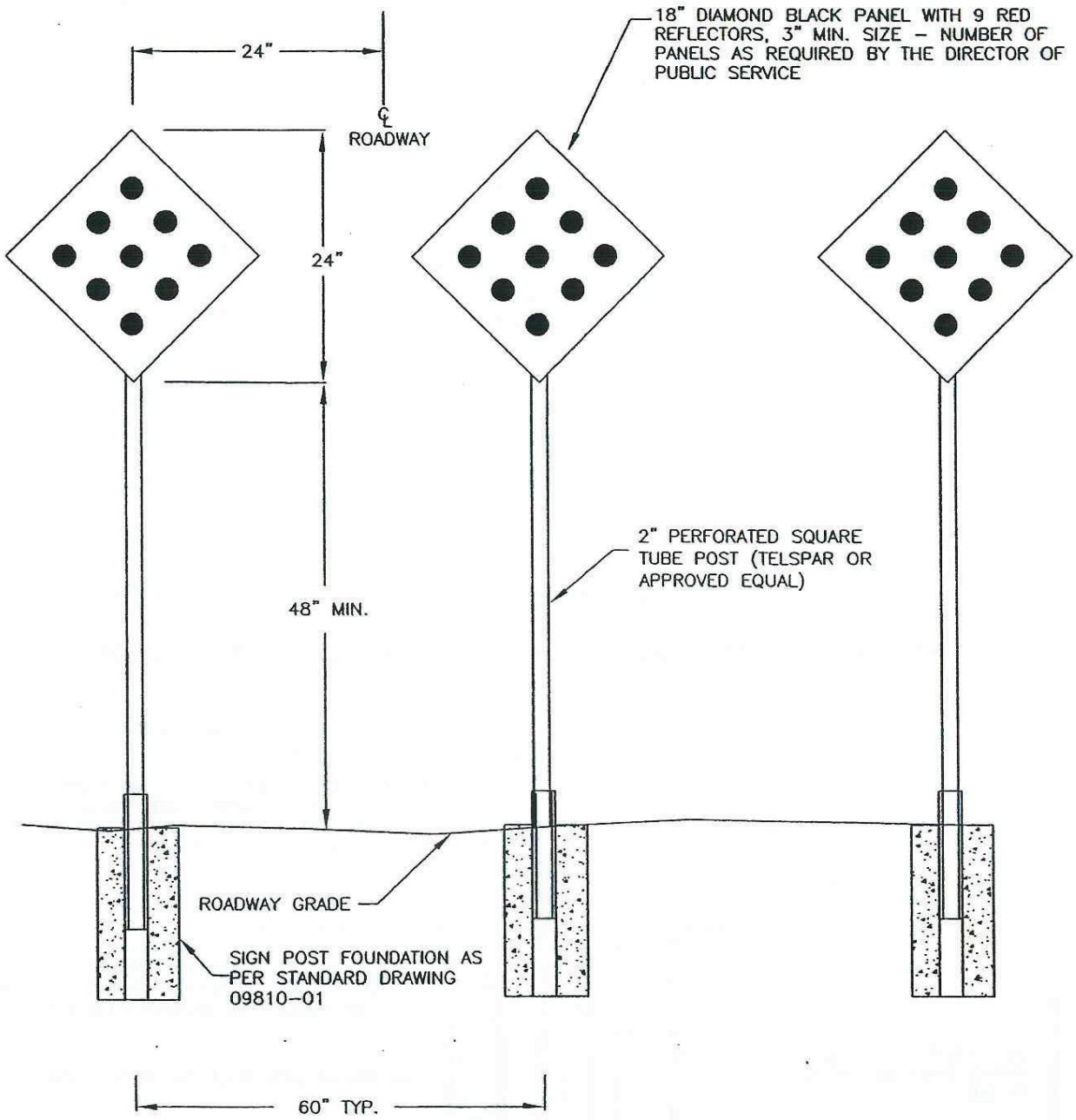
ATTACH SIGNS TO POST WITH 3/8" DRIVE RIVETS (MIN. 2 PER SIGN)

STREET MARKER SIGN REGULATORY SIGN



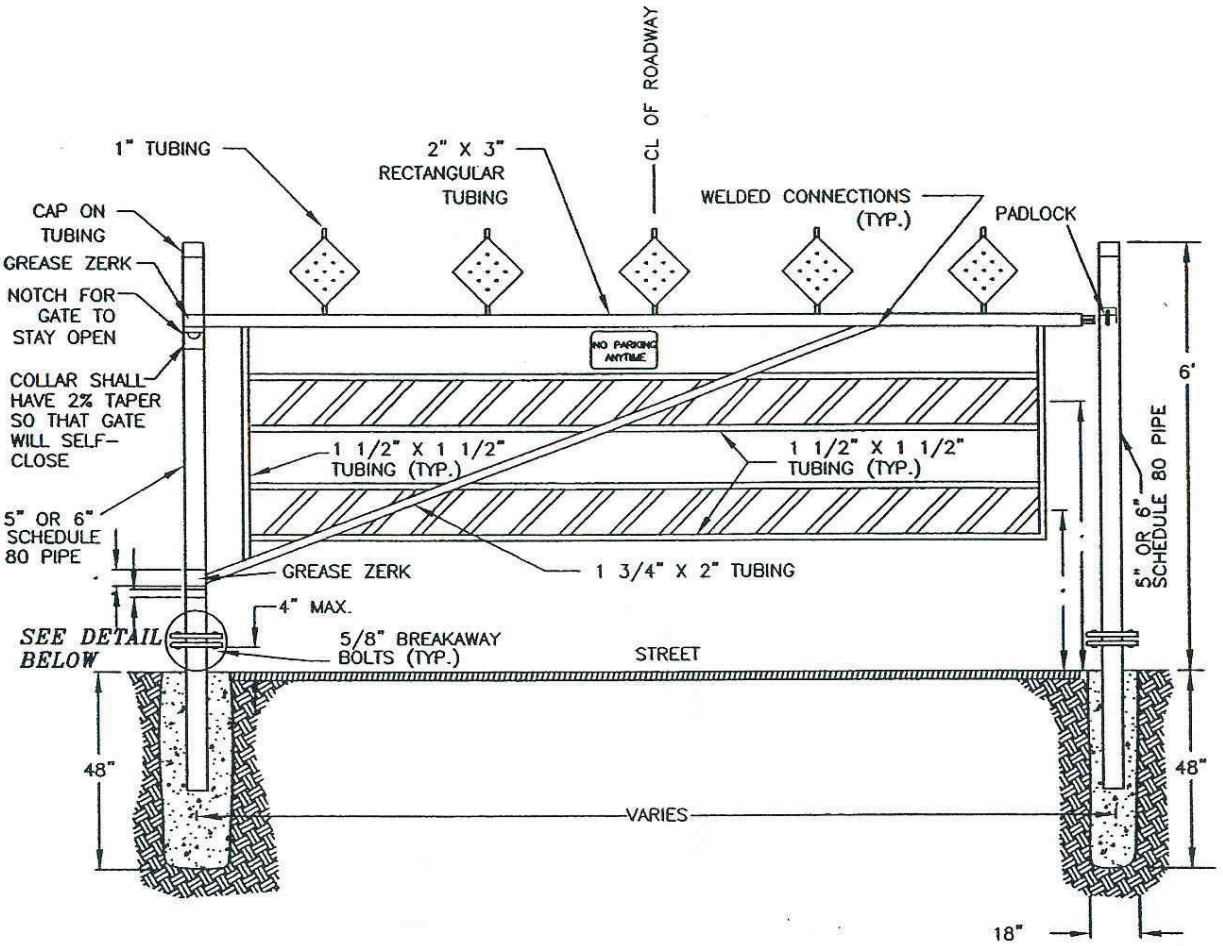
SIGN POST FOUNDATION DETAIL

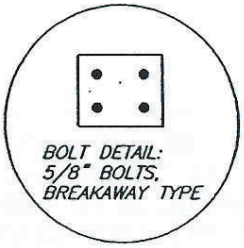
Date: 1/2005	Revised:	STANDARD DRAWING NO. 09810-01
CITY OF BELGRADE		**STREET SIGN INSTALLATION STANDARDS**



SIGN BLANKS SHALL BE CONSTRUCTION GRADE ALUMINUM, 0.08 INCH THICK, WITH ENGINEER GRADE REFLECTIVE SHEETING

Date: 1/2005	Revised:	STANDARD DRAWING NO. 09810-02
CITY OF BELGRADE		**DEAD END SIGN DETAIL**

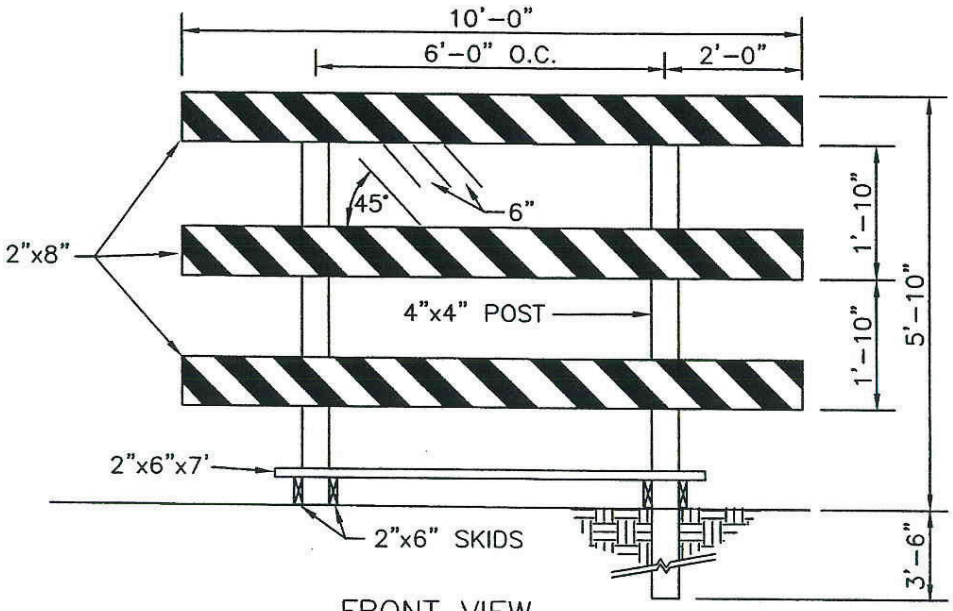




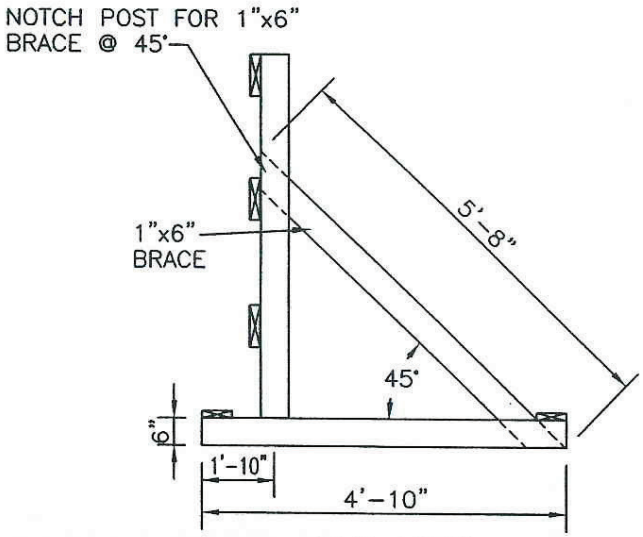
BOLT DETAIL:
5/8" BOLTS,
BREAKAWAY TYPE

NOTES:
1. 18" X 18" DEAD END SIGNS, RED REFLECTORS ON BLACK BACK-GROUND. MEETS MUTCD STANDARDS.
2. WIDTH OF STRIPS ON REFLECTIVE SHEETING SHALL BE 6 INCHES, IF RAIL LENGTH IS OVER 3 FEET LONG.
3. WIDTH OF RAIL SHALL BE MINIMUM OF 8 INCHES.
4. BREAKAWAY PLATE SHALL NOT PROTRUDE MORE THAN 4 INCHES ABOVE GROUND LEVEL.

Date: 1/2005	Revised:	STANDARD DRAWING NO. 09810-03
CITY OF BELGRADE		**STREET CLOSURE BARRICADE GATE**



FRONT VIEW

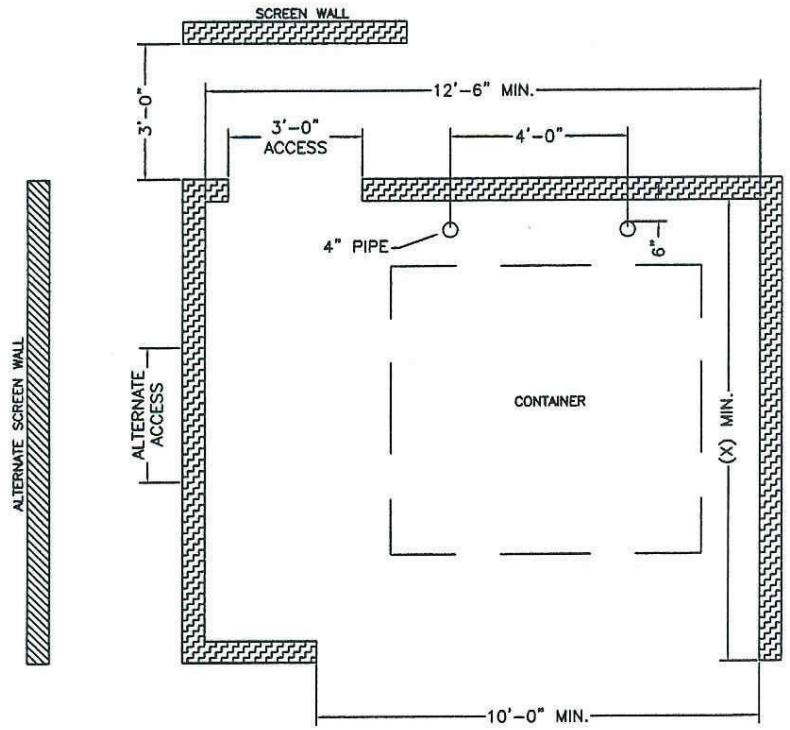


END VIEW

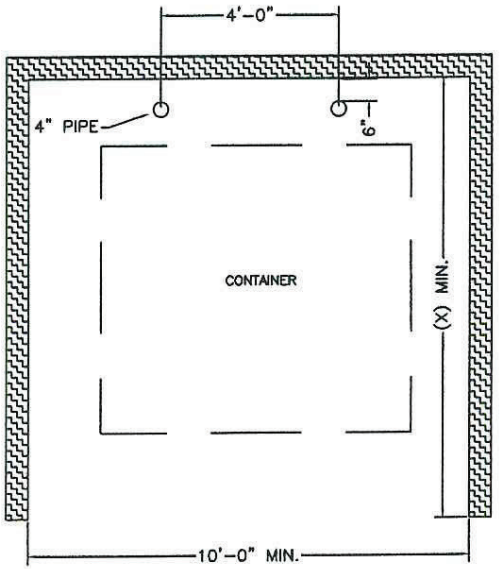
NOTES:

1. ALL BARRICADES SHALL HAVE ALTERNATING ORANGE AND REFLECTIVE WHITE STRIPES, 6 IN. WIDTH AT AN ANGLE 45° AS SHOWN. THE STRIPES SHALL SLOPE DOWNWARD TOWARD THE SIDE TRAFFIC IS TO PASS. FOR END STREET, STRIPES SHALL SLOPE DOWNWARD EACH WAY FROM CENTER OF BARRICADE.
2. BARRICADES, INCLUDING FRAMEWORK, SHALL BE PAINTED WITH 2 COATS OF WHITE PAINT.
3. BARRICADES SHALL BE CONSTRUCTED OF STANDARD GRADE (NO.2) OR BETTER S4S LUMBER. USE 3/8" CARRIAGE BOLTS FOR ALL CONNECTIONS.
4. WHERE BARRICADE IS TO BE SET IN GROUND, UPRIGHT POSTS SHALL HAVE A BURY DEPTH OF 3 1/2 FEET.

Date: 1/2005	Revised:	STANDARD DRAWING NO. 09810-04
CITY OF BELGRADE		**TYPE III STREET CLOSURE BARRICADE**



STANDARD CONTAINER ENCLOSURE WITH ACCESS



STANDARD CONTAINER ENCLOSURE

CONTAINER CAPACITY	MINIMUM DEPTH (X)
1 – 2 CUBIC FEET	5 FEET
3 – 4 CUBIC FEET	7 FEET
6 – 8 CUBIC FEET	10 FEET

CITY OF BELGRADE	**STANDARD CONTAINER ENCLOSURE**	STANDARD DRAWING NO. 09810-05
		Date: 1/2005
		Revised:

APPENDIX D

City of Belgrade

List of Approved Copper Connectors

COPPER TO COPPER UNIONS:

BRAND	SIZE	TYPE	FACTORY NUMBER
Note: Flare type connectors are not allowed.			
Ford	¾”	Compression 3 piece	C44-33Q
Mueller	¾”	Compression 3 piece	H15403
Ford	1”	Compression 3 piece	C44-44Q
Mueller	1”	Compression 3 piece	H15403
Ford	1 ½”	Compression 3 piece	C44-66Q
Mueller	1 ½”	Compression 3 piece	H15403
Ford	2”	Compression 3 piece	C44-77Q
Mueller	2”	Compression 3 piece	H15403
Mueller	¾X1”	Compression 3 piece	H15403
Mueller	¾”	Flare to Compression Adapter	H15451

COPPER TO COPPER 90’S:

BRAND	SIZE	TYPE	FACTORY NUMBER
Mueller	¾”,1”,1 ½”,2”	Compression	H15526

STRAIGHT STOPS:

BRAND	SIZE	TYPE	FACTORY NUMBER
Mueller	¾”	Compression	B24350
Mueller	1”	Compression	B24350
Mueller	1 ½”	Compression	B24335
Mueller	2”	Compression	B24335

ANGLE STOPS:

BRAND	SIZE	TYPE	FACTORY NUMBER
Mueller	¾”	Compression	B24258
Mueller	1”	Compression	B24258
Mueller	1 ½”	Compression	B24276
Mueller	2”	Compression	B24276

CORPORATION STOPS:

BRAND	SIZE	TYPE	FACTORY NUMBER
Mueller	¾”	Ball Corps	B25008
Ford	¾”	Ball Corps	FB10003Q
Mueller	1”	Ball Corps	B25008
Ford	1”	Ball Corps	FB10004Q
Mueller	1 ½”	Ball Corps	B25008
Ford	1 ½”	Ball Corps	FB10006Q
Mueller	2”	Ball Corps	B25008
Ford	2”	Ball Corps	FB10007Q

CURB STOPS:

BRAND	SIZE	TYPE	FACTORY NUMBER
Mueller	¾”	Ball Valves/Minneapolis Thread	B25155
Ford	¾”	Ball Valves/Minneapolis Thread	B44-333MQ
Mueller	1”	Ball Valves/Minneapolis Thread	B25155
Ford	1”	Ball Valves/Minneapolis Thread	B44-444MQ
Mueller	1 ½”	Ball Valves/Minneapolis Thread	B25155
Ford	1 ½”	Ball Valves/Minneapolis Thread	B44-666MQ
Mueller	2”	Ball Valves/Minneapolis Thread	B25155
Ford	2”	Ball Valves/Minneapolis Thread	B44-777MQ

CURB BOXES:

BRAND	SIZE	TYPE	FACTORY NUMBER
Ford	¾”		EM2-70-56-60R
Mueller	¾”		H10300
Ford	1”		EM2-70-56-60R
Mueller	1”		H10300
Ford	1 ½”		EM2-70-57-60R
Mueller	1 ½”		H10300-99002
Ford	2”		EM2-70-57-60R
Mueller	2”		H10300-99002

SADDLES:

BRAND	SIZE	TYPE	FACTORY NUMBER
Ford	4”	for DIP	202B-540
Mueller	4”		BR2B0474IP
Ford	6”	for DIP	202B-750
Mueller	6”		BR2B0684IP
Ford	8”	for DIP	202B-962
Mueller	8”		BR2B0899IP
Ford	10”	for DIP	202B-1212
Mueller	10”		BR2B1104IP
Ford	12”	for DIP	202B-1438
Mueller	12”		BR2B1314IP

Please Note: Other copper connectors may be approved by the City of Belgrade, on a case by case basis.

APPENDIX E

STREET CLOSURE AND EVENT AGREEMENT

This agreement is made and entered into this _____ day of _____, 20_____, by and between the **City of Belgrade, Montana**, a municipal corporation organized and existing under the laws of the State of Montana, 91 East Central, Belgrade, Montana 59714, hereinafter referred to as "City," and the _____, _____ _____, hereinafter referred to as "User." That City, far and in consideration of the covenants to be performed by User, does hereby allow User to use that certain real property situated in the City of Belgrade, County of Gallatin, State of Montana, generally known as _____.

Section One – Term of Agreement:

From _____ to _____.

Section Two – Consideration for Use:

For and in consideration of the granting of this use, User will pay to City, the sum of $_____.

Notes: _____

Section Three – Covenants of User:

User does hereby covenant and agree with City that User will:

1. During and upon completion of the event, all rubbish and debris shall be immediately removed from the right-of-way and the right-of-way and roadway shall be restored and left in a neat and presentable condition satisfactory to the City.

2. Not use or occupy the premises for any unlawful purpose, and conform to and obey all present and future laws, ordinances, rules, and regulations of all governmental authorities or agencies respecting the use of and occupation of the premises.
3. Not assign this agreement or sublet the premises, or any part thereof, without the prior written consent of City.
4. Not use or occupy the premises, or permit the same to be used or occupied, for any purpose deemed extra-hazardous on account of fire or otherwise.

5. Make no alterations, additions, or capital improvements in or to the premises including tents requiring excavation, stakes, etc.…
6. Indemnify and save the City, its officers, agents, and employees harmless from any and all loss, damage, and liability occasioned by, growing out of, or in any way arising or resulting from any tortious or negligent act on the part of User or User's agents or employees, and for such purpose User shall procure and maintain in full force and effect, during the term of this agreement, insurance issued by a reliable company or companies with for personal injury and property damage, in an amount not less than $1.0 million per occurrence and $2.0 million per event, naming City as a co-insured with User; and User shall provide an officially executed copy of such policy to City. Said insurance shall be in a form suitable to City.
7. An approved Traffic Control Plan shall be adhered to at all times by the Permitee, and all signs, barricades, and other traffic control devices shall be maintained in places prior to initiation of any work and until the work is completed.
8. At least 24 hours prior to closing the street, the Permittee shall notify all entities identified in Exhibit A and shall promptly notify them once the street has been re-opened.
9. For closures of collector or arterial streets, the Permittee shall in addition to item 8 above, send a press release to the Bozeman Daily Chronicle and the Belgrade News newspapers and local radio stations detailing the intended street closure at least two days in advance of any work.

Section Four –Mutual Covenants:

It is mutually agreed by and between City and User that:

1. If User is in default of any of the covenants or provisions of this agreement at any time, and if User fails to remedy such default upon notice thereof from City, City shall be entitled to terminate this agreement, and enjoy the same as if this agreement hand not been made, an thereupon this agreement and everything herein contained on the part of City to be done and performed shall cease and terminate.

In witness whereof, the parties hereto have executed this agreement the day and year first above written.

_____

Organization

_____

Signature / Title

Recommended by: _____

Steve Klotz, Director of Public Works

Recommended by: _____

E. J. Clark, Chief of Police

Approved by: _____

Ted Barkley, City Manager

EXHIBIT A

STREET CLOSURE NOTIFICATION CONTACT LIST

City of Belgrade Police Department	388-4262
Gallatin County Sheriff's Dept.	582-2100
Central Valley Fire Department	388-4480
City of Belgrade, Public Works	388-3760
Allied Waste Management	586-0606
US Postal Service – Belgrade office	388-4490
American Medical Response	586-0037
Belgrade Bus Barn	388-7217

APPENDIX F

STREET CUT PERMIT APPLICATION

CITY OF BELGRADE – PUBLIC WORKS DEPARTMENT

Applicants Name: _____

Applicants Telephone: _____

Applicants Address: _____

Contractor: _____

Contractor Telephone: _____

Street to be Cut: _____

Location of Cut: _____

Project Name: _____

Purpose of Street Cut: _____

Dimensions of Street Cut: _____

Type of Street Surface: _____

Street Classification: _____Local, _____Collector, _____Arterial

Street Closure Requested: _____Yes, _____No (If yes, attach Traffic Control Plan.

The Applicant, herein termed the Permitted, requests permission to make a street cut as described and shown on attached plot plan which by reference is make a part of this application.

The Applicant will complete and return this form to the Public Works Director at 91 East Central, Belgrade, Montana 59714. Applications should be submitted a minimum of one (1) week prior to the projected work date.

STREET CUT PERMIT

SUBJECT to the following terms and conditions, the permit applied for on the first page hereof is hereby granted:

1. **TERM.** This term shall be in full force and effect from the date hereof until revoked as herein provided.

2. **PERMIT FEE.** This permit may be issued only after all approval signatures are obtained and any applicable permit fees, as established by City Council resolution, are paid by the Permittee. A "Street Cut Fee Schedule" is attached as Exhibit "A" to this application and shall be used to calculate the permit fee.

3. **REVOCATION.** This permit may be revoked by the City up on giving thirty (30) days notice to the Permittee by ordinary mail, directed to the address shown in the application hereto attached; however, the City reserves the right to revoke this permit without giving said notice in the event Permittee fails to comply with any of the conditions or terms set forth herein.

4. **WORK STANDARDS.** All work shall be done in accordance with the Montana Public Works Standard Specifications, Sixth Edition, April 2010, as modified by the City of Belgrade. City modifications to the Montana Public Works Standard Specifications can be obtained at the office of the City, 91 E. Central, Belgrade, Montana.

5. **COMMENCEMENT OF WORK.** Upon approval of this Permit, the Permittee shall notify the Public Works Department 48 hours in advance of any work.

6. **PAVEMENT DEGRADATTION FEES.** Permits for excavations in paved streets or alleys shall be subject to a pavement degradation fee, see Exhibit "A". Newly constructed streets, re-constructed streets, or streets that have been re-paved shall be considered protected streets for a period of five years following construction. Permits for excavations in protected streets shall be subject to an additional pavement degradation fee surcharge. Pavement degradation fees or surcharges shall not be required for the following: emergency utility repair work; installation of new fire sprinkler service lines required by the City, if no alternate connection point is available, or for infrastructure improvement work being done under the City's direction.

7. **CITY HELD HARMLESS FROM CLAIMS.** In accepting this permit, the Permittee, its/his/her successors assigns, aggress to indemnify the City and hold it harmless from all claims, actions, liability, and damage of every kind and description which may accrue to, or of any such work, character of materials used, or manner of installations, maintenance and operation, or by the improper occupancy of said roadway right-of-way, and in case of any suit or action is brought against the City and arising of, or by or by reason of, any of the above

cause, the Permittee, its/his/her successors or assigns, will upon notice to it/him/her of the commencement of such action, defense the same at its/his/her sole cost and expense and satisfy any judgment which may be rendered against the City in any such suit or action. City includes its officers, employees, agents and assigns.

The Permittee shall obtain the necessary insurance coverages for the proposed excavation work as specified in Exhibit "B".

Permittee hereby waives any rights of subrogation with regards to workers compensation coverage it may have, or may require in the future, regarding the Work performed by Permittee and their Sub-Contractors. In the event Permittee uses Sub-Contractors to perform any portion of the Work, the Permittee will obtain a "Waiver of Subrogation" regarding workers compensation from that Sub-Contractor.

8. **STREET OPENING BONDS.** For each street cut permit, street opening bonds submitted on approved bond forms (see Exhibit "C") shall be provide in the amount of $4,000, or 125% of the estimated cost of repair of the street to be cut, whichever is greater, as surety for satisfactory completion of the work contemplated and maintenance of the completed work. The bond shall be valid for a period of at least one year following acceptance of the restoration by the City.

9. **PROTECTION OF TRAFFIC.** Insofar as the interests of the City and the traveling public are concerned, all work performed under this permit shall be done in accordance with the Montana Public Works Standard Specifications, Sixth Edition, April 2010, as modified by the City of Belgrade. All construction zones shall be signed in accordance with the Manual of Uniform Traffic Control Devices.

10. **STREET CLOSURES.** If a street closure is approved to complete the proposed work, the following shall apply:

    a. The approved Traffic Control Plan shall be adhered to at all times by the Permitee, and all signs, barricades, and other traffic control devices shall be maintained in places prior to initiation of any work and until the work is completed.

    b. At least 24 hours prior to closing the street, the Permittee shall notify all entities identified in Exhibit D and shall promptly notify them once the street has been re-opened.

    c. For closures of collector or arterial streets, the Permittee shall in addition to b. above send a press release to the Bozeman Daily Chronicle and the

Belgrade News newspapers and local radio stations detailing the intended street closure at least two days in advance of any work.

11. **EXISTING UNDERGROUND UTILITIES.**

a. It shall be the responsibility of the Permittee to contact all pertinent utility companies by calling the Utilities Underground Location Center (One Call) at 1-800-424-5555 at least two business days prior to starting any excavation.

b. Any underground utility which is damaged by a Permittee shall be repaired at the Permittee's expense in the manner and means prescribed by the authorized representative of the utility owner.

c. The cost incurred by the City to repair any damaged utility shall be paid by the Permittee.

12. **STREET RESTORATION.**

a. Trenches shall be compacted to 95% density in accordance with AASHTO T-180, as appropriate. When the street cut is to be made in a collector or arterial street, any area of poor subgrade materials, or any other area requiring immediate closure and resurfacing of the street, non-shrink backfill, or imported structural backfill shall be used when directed by the Director of Public Works prior to resurfacing.

b. Concrete curb, gutter, and sidewalks shall be repaired according to Montana Public Works Standard Specifications, Sixth Edition, April 2010.

c. All asphalt patches shall be made with hot mix asphalt in accordance with the Montana Public Works Standard Specifications, Sixth Edition, April 2010, as modified by the City of Belgrade within forty-eight hours of trench backfilling. The thickness of the asphalt patch shall be equal to or exceed that of the existing roadway but shall be no less that 3". In the event that hot mix asphalt is not available, cold mix asphalt may be used but shall be removed and replaced as soon as the local asphalt supplier company starts up the following construction season. The temporary cold mix patch shall be made within forty-eight hours of trench backfilling.

d. Before the street cut patch is made, the existing asphalt shall be cut back a distance of one (1) foot on each side of the existing trench opening. The edge of the existing asphalt shall be tacked with SS-1 or equal prior to placing the new hot mix asphalt.

e. All street cuts shall be covered by a one (1) year warranty period commencing upon final inspection and acceptance by the City and said warranty shall extend to the City.

f. In the event the applicant fails to restore the street in a timely manner, the City reserves the right to have the work completed at the applicant's expense. If defects in the patch occur within the warranty period, the City reserves the right to repair the patch at the applicant's expense if the applicant fails to make the necessary repairs within five days of being notified.

13. **RUBBISH AND DEBRIS.** Upon completion of work allowed under this permit, all rubbish and debris shall be immediately removed from the right-of-way and the right-of-way and roadway restored and left in a neat and presentable condition satisfactory to the City.

14. **INSPECTION.** The City shall have the right to inspect all work covered under the scope of this permit. All work contemplated under this permit shall be done to the satisfaction of the authorized representative of the City, and the City hereby reserves the right to order the change of location or installation authorized by this permit at any time, said changes to be made at the sole expense of the Permittee.

15. **CITY TO BE REIMBURSED FOR REPAIRING ROADWAY.** Upon being billed therefore, Permittee agrees to promptly reimburse the City for any expense incurred in repairing surface of roadway due to settlement after installation, or for any other damage to roadway, curb, gutter or sidewalk as a result of the work performed under this permit.

16. **OTHER CONDITIONS AND/OR REMARKS.**

a. This permit is valid for a period of six months after the date of approval, unless otherwise extended in writing by the Director of Public Works.

b. One (1) lane of traffic shall be kept open at all times, (unless street closures or a traffic control plan has been approved.)

c. Other_____
_____
_____

The undersigned Permittee, mentioned in this permit, hereby accepts this permit and agrees to comply with all of the terms and conditions set forth herein.

Permittee

Date

Street Cut Permit Recommended by:

Steve Klotz, Director of Public Works

Street Cut Permit Approved by:

Ted Barkley, City Manager

Completed Street Cut Inspection by:

Name, Title

Date

EXHIBIT A

STREET CUT FEE SCHEDULE

All persons permitted to excavate or cut a paved public street or alley shall pay the following fees prior to approval of the street cut permit. Pavement degradation fees shall only be required for excavations in asphaltic concrete pavement; pavement degradation fees shall not be required for street or alleys with Portland cement concrete surfaces or gravel surfaces.

The pavement degradations fee shall be determined by the actual area of the excavation plus an additional three (3) feet around the excavation.

Streets shall be considered "protected streets" for a period of five (5) years following initial construction, re-construction, or re-paving. In addition to the normal pavement degradation fee, a pavement degradation fee surcharge shall be required for any excavation in a protected street according to the following schedule. Seal-coating alone or similar maintenance treatments shall not make a street protected.

Application Fee:	$50.00
Pavement Degradation Fee:	$0.45/square foot
Pavement Degradation Fee Surcharge per age of protected street:	
• 0 to 1 year	$2.70/square foot
• 1 to 2 years	$2.25/square foot
• 2 to 3 years	$1.80/square foot
• 3 to 4 years	$1.35/square foot
• 4 to 5 years	$0.90/square foot

EXHIBIT B

BONDING AND INSURANCE REQUIREMENTS

Any person requesting permission to excavate in any public right-of-way shall be required to provide documentation of the following minimum bonding and insurance coverages:

General Liability Insurance. This insurance shall include coverage for collapse and underground hazard, explosions coverage, and contractual liability.

Coverage	Minimum Limits of Liability	
Commercial General Liability $1,000,000	Each Occurrence:	
	General Aggregate Limit: $2,000,000	
	Products – Completed Operations Aggregate Limit:	$2,000,000
	Personal Advertising Injury:	$1,000,000
	Fire Damage (any one fire):	$ 50,000

Automobile Liability Insurance. This insurance shall include coverage for owned, non-owned, and hired vehicles.

Coverage	Minimum Limits of Liability
Business Automobile Liability $1,000,000	Combined Single Limit:

Worker Compensation Insurance

State: Statutory

Federal:
Statutory

Employer's Liability: $ 500,000

The City of Belgrade shall be named as additional insured on all required insurance coverages.

Street Opening Bonds For each street cut permit and other work performed in the public right-of-way opening bonds submitted on approved bond forms shall be provided in the amount of $4,000, or 125% of the estimated cost of repair of the street to be cut, whichever is greater, as surety for satisfactory completion of the work contemplated and maintenance of the completed work. The bond shall be valid for a period of at least one year following acceptance of the restoration by the City. The director of public works shall have the discretion to release all or any portion of the bond at any time.

EXHIBIT C

STREET OPENING BOND FORM

KNOWN ALL MEN BY THESE PRESENT, That we, the undersigned _____, a corporation organized and existing under and by virtue of the laws of the State of _____, Hereinafter referred to as the "EXCAVATION CONTRACTOR" and _____, a corporation organized and existing under and by virtue of the laws of the State of _____, and authorized to transact business in the State of Montana, as Surety, are held and firmly bound unto the CITY OF BELGRADE, a municipal corporation of the State of Montana, hereinafter referred to as the "CITY", in the penal sum of _____, ($ _____) lawful money of the United States of America, for the payment of which sum, well and truly to be make, we bind ourselves and our heirs, executors, administrator, successors and assigns, jointly and severally, firmly to these present:

THE CONDITIONOF THE FOREGOING OBLIGATION IS SUCH THAT:

WHEREAS, the above bounden EXCAVATION CONTRACTOR has on the _____ day of _____, 20_____, Sought the issuance of a permit from the CITY pursuant to Belgrade Municipal Code 7-5-2 for excavation work in a public street, alley, or other public property of the CITY;

WHEREAS, execution of this bond is a condition precedent to the issuance of such permit:

NOW, THEREFORE, if the said EXCAVATION CONTRACTOR shall and will, in all particulars well and truly and faithfully observe, perform and abide by each and every ordinance relating to excavating in the right-of-way or other public property of the City and the Rules and Regulation of the Public Works Department, according to the true intent and meaning in such case; and

PROVIDED FURTHER, that if the said EXCAVATION CONTRACTOR shall satisfy all claims and demands incurred by the EXCAVATION CONTRACTOR in the performance of any such excavation, and shall fully indemnity and save harmless the CITY from all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising from any act, omission, or neglect of said ECAVATION CONTRACTOR, its agents, or employees with relation to any work performed under a permit; and shall fully reimburse and repay to the CITY all costs, damages and expenses which it may incur in making good any default based upon the failure of the EXCAVATION CONTRACTOR to fulfill its obligation to furnish

maintenance, repairs or replacements for the full guarantee period provided in the ordinance, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

This bond may be terminated at any time by the Surety upon sending notice in writing, by certified mail, to the Director of Finance of the City of Belgrade, with whom this bond is filed. After expiration of thirty (30) days from the receipt of said notice this bond shall terminate and the Surety shall thereupon be released from any liability, acts or omissions of the Principal subsequent to said date.

IN WITNESS WHEREOF, said EXCAVATION CONTRACTOR and Surety have executed these presents, as of the _____ day of _____, 20_____.

_____
EXCAVATION CONTRACTOR

ATTEST: BY:

_____
TITLE

_____
SECRETARY

_____
SURETY

BY:

_____
ATTORNEY-IN-FACT

(Accompany this bond with Attorney-in-Fact's authority from the Surety to execute bond, certified to include the date of the bond.)

EXHIBIT D

STREET CLOSURE NOTIFICATION CONTACT LIST

City of Belgrade Police Department	388-4262
Gallatin County Sheriff's Dept.	582-2100
Central Valley Fire Department	388-4480
City of Belgrade, Public Works	388-3760
Allied Waste Management	586-0606
US Postal Service – Belgrade office	388-4490
American Medical Response	586-0037
Belgrade Bus Barn	388-7217

APPENDIX G

City of Belgrade Modifications to MPWSS (6th Edition)
Comment/Suggestion Form

1) Please use a new comment form for each section/specification issue that is addressed.

2) Section/Specification: _____ Page: _____ Paragraph: _____

3) Type of Remark/Suggestion (check one):

□ General □ Boiler Plate □ Technical Specification □ Typographical

4) COMMENTS: (Please attach a marked-up page of the document that requires modification).

5) Name: _____ Organization: _____

Address: _____

Phone: _____

6) Mail completed form to:

City of Belgrade
Attn: MPWSS Changes
91 East Central Street
Belgrade, MT 59714

APPENDIX H

City of Belgrade Street Naming and Addressing Policy

A. All new street names, for both public and private streets, shall be approved by the City Engineering Department and the Gallatin County GIS Department.

B. Street names will not be reserved. Street names shall be approved prior to preliminary plat and final plat approval. Street names become effective upon filing of the final plat.

C. Street Name Selection

1. A new street shall assume the name of the street on which it aligns unless the street does not and cannot in the future connect to an existing street segment along the alignment.

2. Duplication of street names will not be permitted. Proposed street names that have the same primary name of an existing street but a different suffix (e.g. Smith Drive and Smith Lane) are considered duplicates and will not be permitted.

3. Similar (text or phonetic) or confusing spelling of street names will not be permitted (e.g. Briar Lane *I* Brier Lane; Allen Lane *I* Alan Lane; Beech Street *I* Peach Street).

4. Only the common spelling of street names will be accepted (e.g. Jane not Jayne, Green not Greene)

5. Names that tend to be slurred or difficult to pronounce shall not be used.

6. Do not use special characters in street names such as hyphens, apostrophes, or dashes.

7. No new street names shall consist of more than two (2) words or contain more than fifteen (15) characters, excluding the suffix (street, avenue, etc.) and directional prefix, if any.

8. No street name shall begin with an article.

D. Directional Prefixes

1. All streets that cross the east-west zero baseline shall be designated with the appropriate east or west directional prefix. The east-west zero baseline is Broadway Avenue as extended and shown on the City of Belgrade's address grid map.

2. All streets that cross the north-south zero baseline shall be designated with the appropriate north or south directional prefix. The north-south zero baseline is Main Street as extended and shown on the City of Belgrade's address grid map.

E. Street Type Designations

1. Street type designations should reflect the size and function of a street. Street types are contained in the suffix of the street name.

2. Approved street type descriptions and abbreviations are as follows:

a) Avenue (AVE): a continuous street with a definite north-south directional course.

b) Boulevard (BLVD): a wide arterial or collector type roadway, typically with a median.

c) Circle (CIR): a street that intersects another street only once and terminates in a closed loop.

d) Court (CT): a relatively short, uninterrupted dead-end street.

e) Drive (DR): a curvilinear or winding street which continues through to other rights-of-way.

f) Lane (LN): a minor roadway within a subdivision.

g) Loop (LOOP): a relatively short, uninterrupted street that begins and ends on the same parent street at two different points, or a street that connects to two intersecting perpendicular streets.

h) Parkway (PKWY): same as boulevard.

i) Place (PL): a relatively short, uninterrupted dead-end street.

j) Road (RD): an arterial or collector type roadway that may run in any direction. This street type designation should not be used for new streets in the City of Belgrade, unless the new street is an extension of an existing street designated as a road.

k) Street (ST): a continuous street with a definite east-west directional course.

1) Way (WAY): a minor roadway within a subdivision.

3. Private roads should use the designations Place or Way.

F. Cul-de-sacs and bubbles

1. When a cul-de-sac is located at the end of an existing street right-of-way or alignment, it shall be given the name of that street, including the suffix, whether the cul-de-sac is straight, curves, or meanders.

2. When two cul-de-sacs approach each other from opposite directions and are in the same alignment but do not join in any manner, they shall be assigned different street names.

3. Cul-de-sac or bubble streets less than 100 feet in length that provide frontage for three or fewer lots shall not be named, but shall take the name and numbering of the street adjoining.

G. Addressing

1. Subdivision developers shall make arrangements with the Public Works Director or City Engineer to assign addresses for all individual lots in the subdivision prior to filing of the final plat. A copy of the proposed final plat showing approved street names shall be submitted for use in assigning addresses. Unless the proposed project has been designated for concurrent construction, the lot addresses will not be entered into the City address database until the final plat has been filed.

2. One street address number will be assigned for each separate building by the Planning Department. For projects with multiple buildings on a single lot, a site plan showing the proposed buildings shall be submitted to the Engineering Department for address assignment prior to site plan approval. Developers of multi-unit buildings shall assign the unit or suite numbers. A floor plan showing the proposed unit or suite designations shall be submitted for approval to the Public Works Director or City Engineer prior to site plan or building permit approval. Unit/suite numbers shall be assigned based on the following guidelines:

a) Multi-unit residential buildings (including condominiums) on separate lots: assign consecutive unit numbers (Unit 1, Unit 2, etc.) or unit letters (Unit A, Unit B, etc.) for each unit.

b) Multi-unit residential buildings (including condominiums) on one lot: assign consecutive unit numbers for all the units in the

development, beginning at the building closest to the main roadway entrance and continuing in a logical manner through all of the buildings (i.e.: first building: 2301 Smith Street, Units 1, 2, 3,
4; second building: 2305 Smith Street, Units 5, 6, 7, 8). Use a counter-clockwise circular sweep starting from the right side of the primary entryway as you enter. Systematically increment numbers throughout all buildings on the site so as to end at the left side of the same entryway. Avoid oscillating back and forth across the site as much as possible. If the buildings have dwelling units on separate floors, use 3-digit numbers for all of the units, with the first number being the floor level. All building accesses shall clearly identify which units are served by the access.

c) Multi-unit commercial buildings: use 3-digit numbers for the units or suites, with the first number being the floor level of the unit.

d) Accessory dwelling units shall be assigned a separate street number, however if there are no remaining street numbers available, the main dwelling unit on the property shall be designated unit A and the accessory dwelling unit shall be designated Unit B.