

2027 WATER MAIN REPLACEMENT PROGRAM**INDEX OF SPECIAL PROVISIONS**

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VILLAGE OF WILMETTE

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2022, the "Standard Specifications for Water and Sewer Construction in Illinois," latest edition (hereinafter referred to as the Water Main Standard Specifications), the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", the "Manual of Test Procedures of Materials" in effect on the date of invitation of bids, and the "Supplemental Specifications and Recurring Special Provisions" indicated on the Check Sheet included herein which apply to and govern construction of the 2027 Water Main Replacement Program, and in case of conflict with any part or parts of said specifications; the said Special Provisions shall take precedence and shall govern.

2027 Water Main Replacement Program
Village of Wilmette
RFB No. XXXXX

LOCATION OF PROJECT

This project consists of water main replacement and pavement patching along Lake Avenue between Hibbard Road and Illinois Road and water main replacement and pavement resurfacing along Locust Road between the south end of the Village of Wilmette and Wilmette Avenue, Cook County, Illinois. The total length of the project is 5,520 feet (1.05 miles).

DESCRIPTION OF PROJECT

The proposed work includes installation of ductile iron water main and valves, installation of new fire hydrants and appurtenances, replacement of existing water services between the new water main and new curb stop, replacement of existing water service lines containing lead or galvanized material from the new curb stop to the existing water meter, replacement of affected storm and/or sanitary sewers, HMA pavement resurfacing with select curb & gutter, driveway, and sidewalk removal and replacements including ADA upgrades, restoration, and all incidental and collateral work necessary to complete the project as shown in the plans and as described herein.

PROJECT TIMING

Construction is scheduled to begin upon the proper execution of the contract documents, which includes the submission of insurance and bonds, but no earlier than **March 1, 2027**. All work associated with the 2027 Water Main Replacement Program must be substantially completed on or before **August 13, 2027**. This shall include all interim restoration and other ancillary work except sod placement, punch list items, and any extra work. Sod placement and punch list items shall be completed by the final completion date of **September 24, 2027**.

SUBCONTRACTOR APPROVALS

The Contractor shall provide a list of all Subcontractors within the bid package submittal for Village approval.

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All Subcontractors performing paving, concrete, and underground utility work shall be IDOT Prequalified in the appropriate work category, and their IDOT issued Certificate of Eligibility included in the bid package submittal. All other Subcontractors must be IDOT Prequalified or Registered Subcontractor.

The Village reserves the right to reject any Subcontractor based on past performance issues if, in the judgement of the Village, the best interests of the Village are promoted thereby.

The apparent low bidder must submit a Request for Approval of Subcontractor and Affidavit of Availability for major Subcontractor within 24 hours of the bid opening.

GEOGRAPHICAL INFORMATION

All digital geographical information used in the performance of the contract is the property of the Village, including all information obtained, collected, corrected, or created by the Contractor in their completion or pursuit of the contract.

PRE-CONSTRUCTION MEETING

The Contractor is required to attend a pre-construction meeting with representatives from the Village and other entities prior to the start of work. The Contractor shall submit a tentative schedule of work, contact list for contractor/subcontractors, and list of material sources to the Village at least **five (5) working days** prior to the scheduled pre-construction meeting for review and approval.

CONSTRUCTION NOISE RESTRICTIONS

Add the following to Article 107.35 of the Standard Specifications:

"All Work shall be performed between the hours of 7:00 AM and 7:00 PM, Monday through Friday, and between 9:00 AM and 6:00 PM on Saturday, except in the case of urgent necessity as determined by the Director of Engineering and Public Works. The Contractor shall notify the Village at least 48 hours in advance of Saturday work. All work on Saturdays must be pre-approved by the Village. No work shall be performed on Sundays or legal holidays."

AVAILABILITY OF REPORTS

- ☐ No project specific reports were prepared.

When applicable, the following checked reports and record information is available for Bidders' reference upon request:

- ☐ Record Structural Plans
- ☐ Preliminary Site Investigation (PSI)
- ☐ Preliminary Environmental Site Assessment (PESA)
- X Soils / Geotechnical Report
- X Boring Logs
- X Pavement Cores
- ☐ Location Drainage Study (LDS)
- ☐ Hydraulic Report
- ☐ Noise Analysis
- ☐ Other:

Reports are available for download at <https://www.wilmette.gov/bids.aspx> OR www.demandstar.com.

TYPICAL CONSTRUCTION SEQUENCE

Below is the anticipated sequence of work. Work must be completed within the specified completion dates:

1. Conduct pre-construction video documentation.
2. Conduct tree root and canopy pruning as directed by the Village.
3. Place all traffic control devices, inlet filters, and tree protection necessary for the work and as directed by the Village.
4. Complete water main installation and testing, water service replacements, utility point repairs, and structure replacements.
5. Construct concrete work (including the removal and replacement of curb & gutter, sidewalk, and concrete driveway aprons, front-filling, and backfilling) within **ten (10) working days** from the start of removal, or five (5) working days per each side of the street. **Concrete work shall occur on only one side of the street at a time, unless otherwise directed by the Village.** The Contractor must start concrete work on the fire hydrant side of the street first. The Contractor shall remove the forms at least one (1) day after pouring new concrete. The Contractor shall backfill the edges of new concrete prior to returning access to a sidewalk or driveway. The Contractor shall front-fill the edges adjacent to pavement with concrete prior to milling the pavement or allowing street parking. All disturbed driveways must have access restored within **five (5) working days** from removal.
6. Remove structure frames in the pavement (except Water structures) and grind the existing pavement surface. **Full width pavement grinding shall not begin until all water main and utility improvements are complete.**
7. Proof-roll the street and construct any pavement patches and/or aggregate base/subgrade repairs to resolve pavement section defects.
8. Pave the HMA binder course within **five (5) calendar days** after removing the existing pavement surface.

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9. Construct all HMA and Brick driveway replacements and repair any remaining or damaged concrete sections.
10. Return and set structure frames in the pavement area to final grade.
11. Remove tree protection materials and restore disturbed parkways with topsoil and seed or sod, as directed by the Village.
12. Pave the HMA surface course within **ten (10) working days** of the HMA binder course installation.
13. Conduct pavement markings and work site clean-up within **five (5) working days** from paving the HMA surface course.
14. Address any punch list items and sod restoration as directed by the Village.

JOB SITE DAILY CLEANUP

The Contractor shall maintain a clean work area daily. All materials not needed for the construction process shall be removed from the job site at the end of each day. This includes, but is not limited to, old vaults, piping, old cables, removed pavement, wood scrapes, old curb & gutter, paint cans, litter, broken tree branches, etc. The Contractor shall maintain clean water, sewer, and drainage structures throughout the work. Failure to maintain a clean work area at the end of each day and to the satisfaction of the Village will result in a penalty of \$500.00 per incident.

This provision includes all work covered under the "Maintenance of Roadways" special provision.

DIRT ON PAVEMENT OR STRUCTURES

Add the following to Article 107.15 of the Standard Specifications:

"Excess spoils and construction debris shall be removed by the end of each day. All slurry that results from saw cutting work shall be immediately washed away, using water, to prevent tracking by vehicles or pedestrians to the satisfaction of the Village. The Village may require the Contractor, at no additional expense, to utilize a mechanical street sweeper and/or a watering truck to clean the pavement surfaces affected by Contractor's operations and limit dust emitted into the air by vehicular traffic. The street sweeper shall be a full-sized municipal-type sweeper having dust collection and street washing capabilities."

EQUIPMENT AND MATERIAL STAGING

Add the following to Article 107.16 of the Standard Specifications:

"The Contractor shall not place any equipment or materials on the job site without prior approval from the Village. All staging locations for equipment and materials must be pre-approved by the Village."

CONCRETE WASHOUT FACILITY

Description. The Contractor shall take sufficient precautions to prevent pollution of streams, lakes, reservoirs, and wetlands with fuels, oils, bitumen, calcium chloride, or other harmful materials according to Article 107.23 of the Standard Specifications and as noted herein.

Construction Requirements. To prevent pollution by residual concrete and/or the by-product of washing out the concrete trucks, concrete washout facilities shall be constructed and maintained at

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any location which includes cast-in-place concrete items. The concrete washout shall be constructed, maintained, and removed according to this Special Provision.

The concrete washout facility shall be constructed on the job site in accordance with Illinois Urban Manual practice standard for Temporary Concrete Washout Facility (Code 954). The Contractor may elect to use a prefabricated portable concrete washout structure. The Contractor shall submit a plan for the concrete washout facility to the Village for approval a minimum of three (3) working days before the first concrete pour.

The working concrete washout facility shall be in place before any delivery of concrete to the site. The Contractor shall ensure that all concrete washout activities are limited to the designated area.

The concrete washout facility shall be located no closer than 50 feet from any environmentally sensitive areas, such as water bodies, wetlands, and/or other areas indicated on the plans. Adequate signage shall be placed at the washout facility and elsewhere as necessary to clearly indicate the location of the concrete washout facility to the operators of concrete trucks.

The concrete washout facility shall be adequately sized to fully contain the concrete washout needs of the project. The contents of the concrete washout facility shall not exceed 75% of the facility capacity. Once the 75% capacity is reached, concrete placement shall be discontinued until the facility is cleaned out. Hardened concrete shall be removed and properly disposed of outside the Right-of-Way. Slurry shall be allowed to evaporate or shall be removed and properly disposed of outside the Right-of-Way.

The Contractor shall immediately replace damaged basin liners or other washout facility components to prevent leakage of concrete waste from the washout facility. Concrete washout facilities shall be inspected by the Contractor after each use. All spills shall be reported to the Village and cleaned up immediately. The Contractor shall remove the concrete washout facility when it is no longer needed.

Method of Measurement and Basis of Payment. This work will not be paid for separately but shall be included in the cost of concrete items.

FAILURE TO COMPLETE THE WORK ON TIME

Revise Article 108.09 of the Standard Specifications to read:

"Should the Contractor fail to complete the work on or before the completion date as specified in the Special Provision, or within such extended time as may have been permitted by the Village, the Contractor shall be liable to the Village in the amount of \$2,000, not as a penalty but as liquidated damages, for each **work** day or a portion thereof overrun in the contract time or such extended time as may have been allowed.

In fixing the damages as set out herein, the desire is to establish a certain mode of calculation for the work since the Village's actual loss, in the event of delay, cannot be predetermined, would be difficult of ascertainment, and a matter of argument and unprofitable litigation. This said mode is an equitable rule for measurement of the Village's actual loss and fairly considers the loss of use of the roadway if the project is delayed in completion. The Village shall not be required to provide any actual loss to recover these liquidated damages provided herein, as said damages are very difficult to ascertain. Furthermore, no provision of this clause shall be construed as a penalty, as such is not the intention of the parties.

A calendar day is every day shown on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, twenty-four (24) hours later.”

AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS

Description. This work shall consist of furnishing, placing, and removing aggregate surface course for temporary access at the locations identified on the plans and as directed by the Village. This work shall be in accordance with Section 402.10 of the Standard Specifications except as noted herein.

Construction Requirements. Revise Article 402.10 of the Standard Specifications to read:

“402.10 For Temporary Access. The contractor shall construct and maintain aggregate surface course for temporary access to private entrances, commercial entrances, and roads according to Article 402.07 and as directed by the Village.

The aggregate surface course shall be constructed to the dimensions and grades specified below, except as modified by the plans or as directed by the Village.

- (a) Private Entrance. The minimum width shall be 12 ft (3.6 m). The minimum thickness after compaction shall be 6 in. (150 mm). The maximum grade shall be eight percent, except as required to match the existing grade.
- (b) Commercial Entrance. The minimum width shall be 24 ft (7.2 m). The minimum compacted thickness shall be 9 in. (230 mm). The maximum grade shall be six percent, except as required to match the existing grade.
- (c) Road. The minimum width shall be 24 ft (7.2 m). The minimum compacted thickness shall be 9 in. (230 mm). The grade and elevation shall be the same as the removed pavement, except as required to meet the grade of any new pavement constructed.

Maintaining the temporary access shall include relocating and/or regrading the aggregate surface for any operation that may disturb or remove the temporary access. The same type and gradation of material used to construct the temporary access shall be used to maintain it.

When use of the temporary access is discontinued, the aggregate shall be removed and utilized in the permanent construction or disposed of according to Article 202.03.”

Method of Measurement and Basis of Payment. This work will not be paid for separately but shall be included in the cost of the concrete and driveway work items.

PARKING

Add the following to Article 701.18(j) (1) of the Standard Specifications:

“Where on-street parking exists within the work zone, the Contractor shall notify the Village and place ‘No Parking’ signs a minimum of two (2) calendar days prior to the start of construction operations. The Village will furnish ‘No Parking’ signs at no cost to the Contractor. All ‘No Parking’ signs shall indicate the start date of enforcement and must be affixed and displayed to the satisfaction of the Village. The Contractor shall remove ‘No Parking’ signs and reopen on-street parking within three (3) calendar days after the construction task is complete. The Contractor shall repost the signs as required herein when work is scheduled to resume.”

DRIVEWAY ACCESS

The Contractor must notify the Village at least one (1) working day in advance of any anticipated driveway closures. The Village will notify the affected parties by distributing notices and/or posting signs.

All driveways disturbed by construction must be repaired, or have access restored, within five (5) working days from the date of removal. Failure to return access will result in a penalty of \$100.00 per **calendar** day for each disturbed driveway.

PRECONSTRUCTION VIDEO INSPECTION OF ROADWAY

Description: The Contractor shall prepare pre-construction audio-video documentation of all above-ground physical features in the area affected by construction.

Construction Requirements: All video cameras, recorders, tapes, accessories, and related equipment shall be of high resolution, color, and digital format. Each street shall be submitted to the Village individually in MP4 format. Each video shall begin with the current date, project name, and Owner, followed by descriptions of the general location, street names, addresses, and data that describes location and subject of viewing. The pertinent features within the construction zone of influence shall be shown, including but not limited to, pavements, curbs, driveways, sidewalks, buildings, landscaping, trees, shrubbery, fences, light posts, equipment, etc.

A rudimentary view orientation shall be included in the audio commentary of each video segment to help clarify what is being viewed. The Contractor shall create the pre-construction audio-video documentation and submit copies to the Village via USB flash drive prior to commencing any construction activity.

Method of Measurement and Basis of Payment: This work will not be paid for separately but shall be included in the cost of MOBILIZATION.

TEMPORARY TOILETS

The Contractor shall provide a temporary toilet facility for the use of all contractors' personnel employed on the work site and shall maintain same in proper sanitary condition. At completion, the facilities shall be removed and the premises left clean. The Village shall approve the location of the temporary toilet. The cost of this work shall be included in the cost of the contract.

PROTECTION AND RESTORATION OF PROPERTY

The Contractor shall protect and restore property according to Article 107.20 of the Standard Specifications and the following:

The Contractor shall adhere to limits of restoration shown, including concrete truck washout facilities. Areas outside these limits that are damaged or disturbed by the Contractor, shall be restored by the Contractor at his expense and no additional compensation will be allowed.

CLEARING AND REMOVALS

The Contractor shall pay special attention to article 201.01(a) of the Standard Specifications. Removal of all obstructions in the right-of-way, which are not included in a specific removal item, shall be considered clearing and will not be measured for payment. This shall include, but not limited to walls, foundations, buildings, accumulations of rubbish of whatever nature, old barricades, old pipe, rubber tires, concrete blocks, utility anchors, metal parts, abandoned wooden power poles, gates, and all vegetation, trees, shrubs, etc. less than 6" in diameter.

All items scheduled for removal will be examined by the Village to determine if the item is suitable for salvage. Items designated for salvage shall be carefully removed and stored at the location and in the manner designated by Village. Any material having salvage value which is damaged by the Contractor shall be replaced by the Contractor, at his/her own expense, with new items of the same kind and size. The cost of storing salvaged items shall be included in the cost of the contract.

DISPOSAL OF EXCAVATED MATERIAL

This work shall consist of meeting IEPA requirements for the disposal of excavated material including, but not limited to, clean construction or demolition debris (CCDD), uncontaminated soil, and/or contaminated soil. **Excavated materials must be removed from the site by the end of each day.**

The Contractor will be responsible to provide CCDD and soil fill site operators with all testing information and fees as required by the IEPA and fill site operators. The Village will provide the Contractor IEPA LPC documentation prior to the start of construction. The Contractor should be advised that, even with the submittal of properly executed LPC Form(s), the fill operators retain the right to reject any or all loads from a particular construction site based on their own determination of the suitability of material from that site.

Excavated material identified by the Village during the course of construction as not conforming to CCDD requirements shall be sampled, analyzed, and screened for disposal site acceptance by the Contractor in accordance with Section 669 of the Standard Specifications. This work will be paid for according to Article 109.04. This section only applies to work within IDOT Right of Way along Glenview Road. Any additional testing within all other project areas will not be paid for separately.

SAW CUTTING

Description. The Contractor shall cut existing curb, sidewalk, or pavement with a wet saw prior to the start of curb, sidewalk, utility, pavement removal or patching work.

Construction Requirements. The wet concrete saw shall be equipped with a diamond blade of sufficient size to saw pavements full-depth and be capable of accurately maintaining cutting depth. All saw cuts shall be parallel or perpendicular to the curb & gutter, edge of sidewalk, or the edge of pavement, with vertical straight, clean edges, to the satisfaction of the Village. It is Contractor's responsibility to determine the thickness of the existing pavement and whether it contains reinforcement. Any damage caused by the Contractor to infrastructure outside the limits of work shall be repaired or replaced at the Contractor's expense.

Any slurry resulting from the saw cutting work shall be immediately washed away using water to prevent staining and tracking by vehicles or pedestrians. Failure to clean the slurry to the satisfaction

of the Village will result in a penalty of \$500 per incident.

Method of Measurement and Basis of Payment. This work will not be paid for separately but shall be included in the cost of the removal, concrete, utility, and patching items.

STRUCTURE PROTECTION

Description. Shields, covers or other suitable equipment shall be provided by the Contractor to protect all structures during placement of tack coat and surface course. All frames and lids shall be clean and free from material after placement of the surface course.

Method of Measurement and Basis of Payment. This work will not be paid for separately but shall be included in the cost of the tack coat and HMA paving items.

MATERIAL TESTING/INSPECTION

All materials incorporated in this Contract are to be inspected according to IDOT's QC/QA programs per the Project Procedures Guidelines (PPG). The latest version is available on the IDOT website at <https://public.powerdms.com/IDOT/documents/2144679/Project%20Procedures%20Guide>. All material incorporated into the work shall originate from IDOT approved sources (as required by PPG) and/or be accompanied by sufficient IDOT approved evidence of material inspection. All mix-designs for PCC and HMA shall be submitted to the Village with QC Plans for review and approval.

STATUS OF UTILITIES

Utility companies and/or municipal owners located within the construction limits of this project have provided the following information regarding their facilities and the proposed improvements. The tables below contain a description of specific conflicts to be resolved and/or facilities which will require some action on the part of the Contractor to proceed with work. Each table entry includes an identification of the action necessary and, if applicable, the estimated duration required for the resolution.

UTILITIES TO BE ADJUSTED

Conflicts noted below have been identified by following the suggested staging plan included in the contract. The company has been notified of all conflicts and will be required to obtain the necessary permits to complete their work; in some instances, resolution will be a function of the construction staging. The responsible agency must relocate, or complete new installations as noted below; this work has been deemed necessary to be complete for the Contractor to then work in the stage under which the item has been listed.

Stage 1

No conflicts to be resolved.

UTILITIES TO BE WATCHED AND PROTECTED

The areas of concern noted below have been identified by following the suggested staging plan included for the contract. The information provided is not a comprehensive list of all remaining utilities, but those which during coordination were identified as ones which might require the Contractor to take into consideration when making the determination of the means and methods that would be required to construct the proposed improvement. In some instances, the contractor will be responsible for notifying the owner in advance of the work to take place so necessary staffing on the owner's part can be secured.

LOCATION	TYPE	DESCRIPTION	OWNER
-Running W/E under S Parkway of Wilmette Ave, Sta. 115+60 -Running N/S under E sidewalk of Locust Road -Running W/E under N Parkway of Glenview Road, Sta. 105+80	Underground Telecom Line	Watch and Protect	AT&T
-Running N/S under W parkway of Locust Road	Underground Electric Line	Watch and Protect	Village of Wilmette
-Running N/S under E parkway of Locust Road	Underground Gas Line	Watch and Protect	NICOR

The following contact information is what was used during the preparation of the plans as provided by the owner of the facility.

Agency/Company Responsible to Resolve Conflict	Name of contact	Phone	E-mail address
ATT Distribution			G11629@ATT.COM
ATT Distribution	Kari Martin	630.573.5789	km2618@att.com
ComEd	DESIGN STAGE LOCATE LINE	630-576-7094	PlanSubmittalsandMapRequests@exeloncorp.com
ComEd	Ben Koehler (Adesta)	331-264-7450	ben.koehler@aus.com
Nicor	UTILITY CONSULTANT GO3W	630-388-2362	
Nicor	SAKIBUL FORAH	630.388.2903	sforah@southernco.com

The above represents the best information available to the Village and is included for the convenience of the bidder. The days required for conflict resolution should be considered in the bid as this information has also been factored into the timeline identified for the project when setting the

completion date. The applicable portions of the Standard Specifications for Road and Bridge Construction shall apply.

Estimated duration of time provided above for the first conflicts identified will begin on the date of the executed contract regardless of the status of the utility relocations. The responsible agencies will be working toward resolving subsequent conflicts in conjunction with contractor activities in the number of days noted.

The estimated relocation duration must be part of the progress schedule submitted by the Contractor. A utility kickoff meeting will be scheduled between the Village, Contractor, and the utility companies when necessary. The Contractor is responsible for contacting J.U.L.I.E. prior to all excavation work.

PROTECTION OF EXISTING INFRASTRUCTURE

Description. This work shall consist of protecting existing sidewalks, curbs and gutters, driveways, and pavers from damage caused by the Contractor's trucks, excavating equipment, placement of bituminous prime or tack coat, and any other equipment used by the Contractor during construction.

Construction Requirements. When removing pavement, curb and gutter, or any other structure, the Contractor shall take every precaution necessary to ensure that there will be no damage to private/public underground utilities or property. The Contractor is not permitted to use a frost ball for removal work. Pavement openings must be initiated with hydraulic impact/air hammers. The use of excavator buckets to strike and break pavement is strictly prohibited and will result in an immediate deficiency deduction.

The Contractor shall use plywood sheets, wood planks, or other approved material to protect the existing sidewalk and aprons from damage by the Contractor's equipment and trucks. Sand shall be used to protect concrete pavers and concrete crosswalks in the roadway.

The Contractor shall provide sufficient planking or other approved materials needed to protect the existing concrete surfaces from damage during construction.

If any asphalt or bituminous materials are required, the Contractor shall place protection over all concrete pavers and concrete crosswalks within the vicinity of the job or as requested by the Village.

Cleaning afterward with environmentally safe chemicals, if required or as directed by the Village, shall not be paid for separately but shall be at the Contractor's own expense.

Method of Measurement and Basis of Payment. The cost to furnish, place, move, and dispose of plywood, planking, or other approved materials needed to continually protect and clean the existing roadways, concrete sidewalk, aprons and curb and gutter will not be paid for separately but shall be considered included in the cost of the various pay items.

SIGN AND POST REPAIR OR REPLACEMENT

Description. The Contractor shall remove and reinstall, or replace, all existing signs or posts that were disturbed by construction or not scheduled for removal or replacement. The disturbed sign and/or post must be placed in the same location or as directed by the Village. The Contractor must do a sign inventory for all signs removed and replaced at the beginning of the project. Removal and replacement

of signs shall conform to the Manual on Uniform Traffic Control Devices, latest edition.

Method of Measurement and Basis of Payment. All labor, material, and equipment necessary to remove, relocate, or replace existing signs or posts shall not be paid for separately but shall be included in the cost of MOBILIZATION.

TREE PROTECTION

Description. The Contractor shall make every effort to preserve trees and shrubs within the working area.

Construction Requirements. All trees to be retained shall be fenced, boxed, root pruned, or otherwise protected prior to the commencement of work. It shall be the responsibility of the Contractor to assemble and install this protection. The tree protection must be approved by the Engineer prior to the commencement of any work. Tree protection shall not be removed without prior approval of the Village.

There shall be no construction activity or storage of any material within the enclosure or within the drip line of any tree. All trees to be preserved within the construction zone shall be root pruned prior to any construction activity by the Contractor. The Contractor shall trim tree canopies for clearance, as necessary and as approved by the Village. The Contractor shall notify the Village at least three (3) working days in advance of tree canopy trimming work.

Any trees with trunk diameters of six (6) inches or less, including shrubs, which were removed or damaged beyond repair by the Contractor during construction and are outside the limits of the work shall be replaced by the Contractor, with a plant material equivalent in size and species, at no expense to the Village.

Any trees with trunk diameters greater than six (6) that were removed or damaged beyond repair by the Contractor during construction and are outside the limits of the work shall be removed by the Contractor at no expense to the Village. All replacement tree plantings will be done by the Village. The Contractor would be subject to a penalty for each damaged tree per the Village Ordinance.

Method of Measurement and Basis of Payment. The labor, material, and equipment necessary to place temporary fencing for tree protection will be paid under the item TEMPORARY FENCE. The labor, material, and equipment necessary to place tree trunk protection will be paid under the item TREE TRUNK PROTECTION. The labor, material, and equipment necessary to prune tree roots will be paid under the item TREE ROOT PRUNING. The labor, material, and equipment necessary to prune tree canopies will be paid under the item for TREE PRUNING 1-10.

TEMPORARY FENCE

Description. This work shall consist of furnishing and installing temporary construction fencing in accordance with Section 201 of the Standard Specifications except as noted herein.

Construction Requirements. The Contractor shall erect a temporary fence around all trees within the construction area to establish a "tree protection zone" before any work begins or any material is delivered to the jobsite. The exact location and establishment of the fence shall be approved by the Village prior to placement. The fence shall be erected on three sides of the tree at the dripline of the

tree, or as determined by the Village. No work is to be performed (other than root pruning), materials stored, or vehicles driven or parked within the "tree protection zone". The grade within the "tree protection zone" shall not be changed unless approved by the Village.

The temporary fence shall be 48" high, orange plastic poly-type in a large open-weave pattern, supported using metal T-Post style fence posts with spacing of three (3) feet. T-posts must be at least six (6) feet in length, two (2) feet of which must be set in the ground. The fence shall be attached to posts with a minimum of three nylon locking ties per post. The Village does not permit the use of rebar as a fence post.

This fence shall be properly maintained and remain up until final restoration or as directed by the Village. Failure to maintain the temporary fencing during the work will result in a penalty of \$100 per calendar day for each location.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per FOOT for TEMPORARY FENCE, which price shall include furnishing, installing, maintaining, removing, and all other labor, material, and equipment necessary to complete this work as specified herein.

TREE ROOT PRUNING

Description. This work shall consist of pruning the roots at each tree specified in the plans, or as directed by the Village, in accordance with Section 201 of Standard Specifications except as noted herein.

Construction Requirements. Root pruning shall be completed to a maximum width of 4-inches and depth of 12-inches using a 'Vermeer' wheel matching the following criteria. The root pruner wheel shall be 60-inches diameter (188-inch circumference) carrying 28 pair (56 total) stump cutter teeth with tooth spacing at 6.7-inches on center and shall utilize a 65hp tractor.

All root pruning cuts shall be immediately backfilled with material side cast from the earth-sawing procedure. The ground surface shall be even with no tripping potential. Failure to backfill the cuts at the time of tree root pruning will result in a penalty of \$100 per calendar day for each location.

Tree roots shall be cleared from the base of all removed concrete sections, unless otherwise directed by the Village. The Contractor shall remove all root grindings from the base prior to framing and pouring the concrete.

All root pruning work is to be performed through the services of a certified arborist.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per EACH for TREE ROOT PRUNING, which price shall include all mobilizations, labor, material, removal, and equipment necessary to complete this work around each tree.

TREE PRUNING

Description. This work consists of canopy pruning operations at each tree through the act of tree climbing in conjunction with aerial equipment, as needed. All pruning shall be in accordance with Section 201 of the Standard Specifications and the most current American National Standards Institute

standards, ANSI A300 (Part 1) – 2017 and all its supplements.

Construction Requirements.

A. CLEARANCE

Remove branches to achieve clearance of fourteen (14) feet on the street side of the tree and eight (8) feet on the sidewalk or pedestrian side of the tree.

Remove branches to achieve clearance of ten (10) feet over buildings, houses, and garages.

To achieve proper clearance, encroaching lower branches shall be subordinated to a lateral branch that is at least 1/3 the diameter of branch removed or pruned back to the main trunk.

Because of weight loads from summer foliage, dormant branches may need to be cleared an additional foot or two above fourteen (14), eight (8) and ten (10) feet respectively to achieve necessary clearances.

Lower branches that meet proper clearance heights and have diameters greater than 1/3 of the trunk's diameter shall not be ignored and instead be reduced to slow down growth and reduce competition with the leader. Use reduction cuts and shorten branches to laterals that are at least 1/3 the diameter of the cut branches.

Pruning shall be conducted in a manner that maintains the crown shape and symmetry typical of the species being pruned.

B. PRUNING CUTS AND TOOLS

Each pruning cut shall be made carefully, at the proper location, leaving a smooth surface with no jagged edges or torn bark.

All final pruning cuts shall be made just to the outside of the "branch collar"; sufficiently close to the trunk or parent limb, without cutting into the branch collar, trunk or leaving a protruding stub.

This will result in the slow movement of decay, preservation of the branch protection zone and a branch wound that can successfully begin normal callus and woundwood formation.

When the branch collar is absent, the pruning cut shall be made along a line which bisects the angle between the branch bark ridge and an imaginary line perpendicular to the leader or the branch being removed.

"Flush" pruning cuts to the main stem or behind the branch collar are PROHIBITED. Pruning cuts shall be conducted in a manner that results in even wound sides and not "dog ear" ridges on one side or another. Clean pruning cuts shall always be made without leaving any stubs. All limbs to be removed shall be cut in such a manner to prevent any ripping or tearing of the branch or trunk wood, located on the parent or remaining stem.

All removed branches that are four (4) inches in diameter or greater shall be cut using the

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three-cut pruning method.

All cut limbs shall be brought to the ground in such a manner as to prevent any damage to real or personal property, regardless of whether it is publicly or privately owned.

Proper tools for pruning shall be used for each cut. Acceptable pruning equipment includes hand pruners, loppers, hand saws, pole saws and chainsaws. Chainsaws shall not be used to remove live branches that are less than two (2) inches in diameter.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per EACH for TREE PRUNING (1 TO 10 INCH DIAMETER) and TREE PRUNING (OVER 10 INCH DIAMETER), which price shall include all equipment, labor, and material as specified herein to complete this work at each tree.

EARTH EXCAVATION

Description. This work consists of the excavation, transportation, and disposal of both suitable and unsuitable excavated materials from the project site. This work includes the excavation, transportation, and disposal of unsuitable pavement base, subgrade, and parkway encountered during construction. This work shall be in accordance with Section 202 of Standard Specifications except as noted herein.

Method of Measurement. This work will be measured in its original position and the volume will be computed by the method of average end areas based on field measurements.

Basis of Payment. This work will be paid for at the contract unit price per CUBIC YARD for EARTH EXCAVATION, which price shall constitute all labor, materials, and equipment necessary to complete the work as specified.

The material replacement of unsuitable subgrade will be paid under the item for AGGREGATE SUBGRADE IMPROVEMENT. The material replacement of unsuitable pavement base will be paid for under the item for AGGREGATE BASE COURSE, TYPE B.

If the Village determines that unsuitable pavement base must be replaced with bituminous material, the pay item for CLASS D PATCH of the depth specified will be used, and the required excavation and disposal of the unsuitable materials in this area will not be paid for separately.

TRENCH BACKFILL, SPECIAL

Description. This work shall consist of furnishing, transporting, and installing aggregate for use as backfilling material for all trenches made in the sub-grade of the proposed improvement, and all trenches outside of the sub-grade where the inner edge of the trench is closer than two (2) feet to the edge of the proposed pavement, curb, driveway, or sidewalk. This work shall be done in accordance with Section 208 of the Standard Specifications, except as modified herein.

Water Main / PVC / Ductile Iron Sewer:

Material used for water main and PVC or Ductile Iron sewer installation shall be CA-7 or CA-11 gradation from the bottom of the bedding material to one-foot above the proposed water main or sewer pipe, and CA-6 from one-foot above the proposed water main pipe to finished grade. All CA-6 trench backfill material shall meet the requirements of Article 1004.04 of the Standard Specifications, except

slag will not be allowed. The trench backfill shall be compacted to a density of 95% standard proctor in accordance with Method 1 described in Article 550.07 of the Standard Specifications. Method 2 (ponding) and Method 3 (jetting) will not be allowed.

RCP Sewer:

Material used for RCP sewer installation shall be CA-7 or CA-11 gradation from the bottom of the bedding material to the spring line of the proposed storm sewer pipe, and CA-6 from the spring line of the proposed storm sewer pipe to finished grade. All trench backfill material shall meet the requirements of Article 1004.04 of the Standard Specifications, except slag will not be allowed. The trench backfill shall be compacted to a density of 95% standard proctor in accordance with Method 1 described in Article 550.07 of the Standard Specifications. Method 2 (ponding) and Method 3 (jetting) will not be allowed.

Using the bucket of the backhoe to compact trench materials is strictly forbidden.

TRENCH BACKFILL, SPECIAL shall include installation of aggregate to the pavement finished grade. This work shall also include the excavation and proper disposal of any trench backfill material as needed to construct any temporary or permanent pavement cross section.

Method of Measurement and Basis of Payment. This work shall be measured in accordance with Article 208.03 of the Standard Specifications, except that the depth used to calculate payment shall be measured from a point one (1) foot above the crown of the pipe to finished grade. This work will be paid for at the contract unit price per CUBIC YARD for TRENCH BACKFILL, SPECIAL, which price shall include all labor, material, and equipment necessary to complete the work as specified herein.

Bedding material and initial backfill measured from four (4) inches below the bottom of the pipe to one (1) foot above the crown of the pipe shall be considered included in the installation of the pipe and will not be paid for separately.

Sheeting, bracing, shoring, and other safety measures will not be paid for separately but shall be considered included in the unit price for TRENCH BACKFILL, SPECIAL.

TOPSOIL FURNISH AND PLACE (SPECIAL)

Description. This work shall consist of placing additional topsoil to varying depths below the nominal depth of 4" included with the SODDING, SPECIAL pay item. Work shall be in accordance with Section 211 of the Standard Specifications. Additional depths shall be determined in the field by the Village.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per CUBIC YARD for TOPSOIL FURNISH AND PLACE (SPECIAL). This price shall constitute all labor, materials, and equipment necessary to complete the work as specified.

EXPLORATION TRENCH, SPECIAL

Description. This work shall consist of excavation, by methods of hand excavation or vacuum excavation approved by the Village, to verify the horizontal and vertical location of existing regulated (e.g., electric, natural gas, telephone) and unregulated (e.g., water, sewer, oil) utilities within the project limits as directed by the Village.

Materials. The Materials used for Porous Granular Embankment and backfill shall consist of coarse aggregate meeting the gradation of CA-18 in accordance with Article 1004.05.

General Requirements. In non-emergency conditions and unless specified elsewhere, the Contractor shall contact the owner of the utility at least seventy-two (72) hours prior to exploratory digging, to provide the anticipated location and to be available during exploration activities. The depth and width of the exploration shall be sufficient to allow positive identification of the type, size and depth of the utility(s). The number and location of exploration trenches shall be as directed by the Village.

When an existing utility is encountered, the Contractor shall verify the type of facility, obtain the horizontal and vertical (to the top of conduit or pipe) data, and transmit a copy of this data to the Village. Located utilities shall be marked with lath, flags or any other suitable method which will provide positive identification throughout construction.

Any costs resulting from damage incurred to any utility (including interruption of service provided) shall be the sole responsibility of the Contractor.

After positive location, the Village will direct the Contractor as follows:

- Backfill and/or restore the excavated area.
- Leave the excavated area open and protected. The excavated material can either be stockpiled in an acceptable location and provided with suitable erosion control measures or disposed of off-site in accordance with Article 202.03 of the Standard Specifications.

Method of Measurement. Exploration trench will be measured for payment per vertical FOOT based on the actual vertical length from the ground down to the top of the utility.

Basis of Payment. This work will be paid for at the contract unit price per FOOT for EXPLORATION TRENCH, SPECIAL, which payment shall constitute full compensation for locating, excavating, backfilling/restoring, and protection of the open excavation including suitable soil erosion measures.

SODDING, SPECIAL

Description. This work shall consist of preparing the ground surface, furnishing topsoil to a maximum depth of 4", placing fertilizer nutrients, and placing sod as directed by the Village. All work shall be in accordance with the applicable portions of Sections 211 and 252 of the Standard Specification except as noted herein.

Construction Requirements. When sod is specified, a minimum width of 24" shall be replaced as part of the restoration along curb and gutter, sidewalk, aprons, and at other locations as directed by the Village. All sod shall be salt tolerant unless directed otherwise by the Village. The Contractor shall grade and trim all ditch lines and areas disturbed by construction to ensure proper drainage exists after construction. Restoration of locations with underground construction shall take place after the trench has settled.

Add to Article 252.04 of the Standard Specifications:

"The Contractor shall prepare areas for sod restoration between July 1 to August 31 and place sod at those locations on or after September 1. The Contractor shall conduct additional preparation ahead of sod placement, including weed removal, if necessary."

Add to Article 252.09 of the Standard Specifications:

"The Village can request up to 15 supplemental waterings within the first 30 days of sod placement, beyond the initial and 15 additional waterings, at no additional cost."

Method of Measurement and Basis of Payment. This work shall be paid at the contract price per SQUARE YARD for SODDING, SPECIAL. This price shall include all costs for trimming and grading transitions, furnishing topsoil, placing topsoil (up to 4"), fertilizing, furnishing sod, placing sod, sod watering, disposing of excess materials, and all other labor, equipment, and materials used to complete the work as specified herein.

Additional work required to prepare the areas cut out between July 1 to August 31 for sod placement, including weed removal, will not be paid for separately but shall be considered included in the unit price for SODDING, SPECIAL.

INLET FILTERS

Description. This work shall consist of furnishing, constructing, maintaining, removing, and disposing of inlet filters as part of the project's temporary erosion control system.

General. The work shall be performed according to Section 280 of the Standard Specifications and the following:

During the construction operation when any loose material is deposited in the flow line of ditches, gutters, or drainage structures so the natural flow of water is obstructed, the material shall be removed at the close of each working day.

Maintenance includes weekly monitoring of the filter baskets and disposing of debris when filter baskets are no greater than $\frac{3}{4}$ filled.

Inspections after every rain event of $\frac{1}{4}$ inch or greater.

Respond to Engineers written request within 24 hours or liquidated damages for erosion control deficiency according to article 105.03(a).

At the conclusion of the construction operations all drainage structures shall be free from all dirt and debris. This work will not be paid for separately but shall be considered included in the unit cost of INLET FILTERS.

Method of Measurement. This work will be measured for payment as individual items and the unit of measurement will be Each regardless of the size or type of inlet being protected.

Basis of Payment. This work will be paid for at the contract unit price per Each for INLET FILTERS. The unit price shall include all work and materials necessary to properly install the inlet protection, maintain the inlet protection throughout the project, and to remove and dispose of the used materials at the completion of the project.

AGGREGATE BASE COURSE, TYPE B

Description. This work shall consist of installing an Aggregate Base Course, Type B to varying depths (nominal depth of 3") as specified in the plans and as directed by the Village, in accordance to Section 351 of the Standard Specification except as noted herein.

Construction Requirements. A typical base course section consists of:

1. A minimum 3" thick layer of CA-6.
2. Up to 12" thick layer of crushed gravel, conforming to the specifications as stated in AGGREGATE SUBGRADE IMPROVEMENT provision.

Geotextile fabric having a minimum weight of 6 ounces and meeting the requirements of Article 1080.02 of the Standard Specifications may be necessary dependent upon subgrade soil conditions.

The material shall be placed in two or more lifts or as directed by the Village. Each lift shall be rolled with a vibratory roller meeting the requirements of Article 1101.01 of the Standard Specifications to obtain the desired compaction. Construction equipment not necessary for the completion of the work shall not be allowed on the base course until completion of the recommended thickness of the base course as stated in this specification.

Any damage to the compacted base course due to the Contractor's activities or operations shall be corrected at no additional cost to the Village.

Method of Measurement and Basis of Payment. This work shall be measured and paid for at the contract unit price per CUBIC YARD for AGGREGATE BASE COURSE, TYPE B. The price shall include all labor, materials, and equipment necessary to complete the work as specified herein.

The preparation of base will be included in the cost of this item and will not be paid for separately.

PREPARATION OF BASE

Revise Article 358.07 of the Standard Specifications as follows:

"Basis of Payment. This work in connection with the repair and preparation of bases, except materials, will be paid for at the contract unit price per SQUARE YARD for PREPARATION OF BASE.

Additional material required for the repair of aggregate bases will be paid for at the contract unit price per CUBIC YARD for AGGREGATE BASE COURSE, TYPE B.

When the contract does not contain a unit price for the material required for the repair of any type of base, it will be paid for according to Article 109.04."

HOT-MIX ASPHALT DRIVEWAY REMOVAL AND REPLACEMENT, 3"

Description. This work shall consist of removing and replacing existing Hot-Mix Asphalt (HMA) driveway pavement at the locations shown on the plans and directed by the Engineer. This work shall be in accordance with Sections 301, 351, 406, and 440 of the Standard Specifications except as noted herein.

Construction Requirements. The existing HMA driveway shall be removed and disposed of by the Contractor to the limits marked out by the Engineer during construction. The driveway shall be saw-cut full depth for creating butt joints. All butt joints shall be cut vertically, straight, and shall be free of debris. Jack hammering of butt joints shall not be permitted. Any damage to areas outside the limits of removal shall be replaced by the Contractor at his/her own expense.

The Contractor shall remove the existing base and install a minimum 6" compacted aggregate base course, Type B (CA-6). The Contractor shall excavate deeper or place embankment, in accordance with Sections 202 and 205 of the Standard Specifications, to achieve the finished grades as shown on the plans. Where the driveway asphalt is an overlay of a concrete driveway, no extra compensation shall be given for the removal of the concrete base.

Where the new driveway will be wider than existing driveway, the Contractor shall excavate and dispose of existing topsoil and other material to provide the full pavement section. The payment for this work shall be included in the unit price for this item.

The Contractor shall maintain driveway access with temporary stone (no pavement grindings) during construction in accordance with Section 402.10 of the Standard Specification, except while paving the asphalt.

The Contract shall then install a 3" HMA surface course, Mix "D", N50. The HMA driveway shall be constructed in two lifts in accordance with Section 406 of the Standard Specifications insofar as applicable.

Method of Measurement and Basis of Payment. This work will be measured in place and paid for at the contract unit price per SQUARE YARD for HMA DRIVEWAY REMOVAL AND REPLACEMENT. This price shall include removing and disposing of the existing excavated material, furnishing, and placing aggregate base course (CA-6), furnishing and paving HMA, and all other materials, labor, and equipment necessary to complete this item.

The labor, material, and equipment necessary to maintain driveway access with temporary stone during construction shall be included in the cost of HMA DRIVEWAY REMOVAL AND REPLACEMENT and will not be paid for separately.

INCIDENTAL HOT-MIX ASPHALT SURFACING

Description. This work shall be in accordance with the applicable portions of Section 408 of the Standard Specifications. This item shall be used for, but not limited to, the temporary repair and replacement of existing bituminous and concrete surfaces, such as curb and gutter, sidewalk, drive approaches, driveways, and parking lot entryways which are removed for normal construction operations, not due to contractor negligence.

Material used shall be HMA Surface Course, IL-9.5, N30 or higher. Contractor shall submit a mix design for approval prior to placement.

When requested by the Village, locations shall have base and vertical surfaces tacked with material type NTEA "Trackless Prime" or approved equal, at a residual rate of 0.05 lb/sq ft, prior to placement of the asphalt material. The placement of INCIDENTAL HOT-MIX ASPHALT SURFACING shall occur as needed throughout construction as determined by the Village.

Method of Measurement and Basis of Payment. This work shall be measured and paid for at the contract unit price per Ton for INCIDENTAL HOT-MIX ASPHALT SURFACING.

BRICK DRIVEWAY REMOVAL AND REPLACEMENT

Description. This work shall consist of removing the existing brick pavers and base material and placing the brick pavers as described below upon replacement of the existing base. Pavers shall be in accordance with Article 1041.03 of the Standard Specifications except as noted herein.

Construction Requirements. This item includes removing and properly disposing of failed sand, aggregate, bituminous, or concrete base material after the bricks have been removed. The Village shall determine the thickness of base course to be removed and replaced in the field after the bricks have been removed. The maximum thickness of the existing base course to be removed shall be 9".

Removing brick from the project limits will not be allowed. Cleaning shall consist of removing all debris, mud, markings, etc. with water and a brush. In accordance with the typical sections, a three-quarter inch (3/4") layer of sand, gradation FA-2, shall be constructed and compacted with a hand compactor so that the finish is free of all undulations, ruts, tire mark and depressions. Prior to placing the brick pavers, the Village shall visually inspect the driveway. The Contractor shall repair any area deemed necessary by the Village by adding additional sand and compacting the area. The pattern of the brick pavers shall be identical to the existing driveway pattern prior to construction. Any damaged brick pavers or non-brick pavement shall be disposed of offsite.

Any brick pavers deemed unsuitable for installation shall be properly disposed of offsite by the Contractor at no additional expense to the Village. No additional compensation will be made for transporting and installing additional brick pavers required, but it shall be included in the unit cost for BRICK DRIVEWAY REMOVAL AND REPLACEMENT.

If base course removal is required by the Village, the depth of CA-6 shall be determined by the Village and placed in two lifts, or as directed by the Village, and compacted with a hand compactor so that the finish is free of all undulations, ruts, tire mark and depressions. Upon completion of the stone base layer, a three-quarter inch (3/4") layer of sand, gradation FA-2 shall be placed and compacted with a hand compactor so that the finish is free of all undulations, ruts, tire mark and depressions. Prior to the placement of the brick pavers the Village shall visually inspect the portion of driveway to receive the brick pavers. The Contractor shall repair any area deemed necessary by the Village by adding additional sand and compacting the area.

The pattern of the brick pavers shall be identical to the pre-existing condition of the driveway prior to construction. The Contractor shall take a minimum of two photographs of each driveway prior to removing the brick pavers. Any damaged brick pavers shall be disposed of and will not be permitted to be installed. If a shortfall of brick pavers is encountered, the Contractor shall provide additional material as necessary and install any additional required brick pavers to complete the limits as noted on the plans. The additional brick pavers must match the existing material and be approved by the Village before installation. No additional compensation will be made for supplying and installing additional brick pavers required, but it shall be included in the unit cost for BRICK DRIVEWAY REMOVAL AND REPLACEMENT.

Access to the existing driveways shall be maintained for the duration of the contract.

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Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per SQUARE FOOT for BRICK DRIVEWAY REMOVAL AND REPLACEMENT, which price shall be payment in full for removing, cleaning, stacking, saw-cutting, and installing the brick pavers; supplying, transporting, and installing additional brick pavers supplied by the Contractor, if required, removing and disposing of base material, furnishing and installing the bedding layers of stone and sand, and all labor and all equipment and materials necessary to complete the work as specified herein. The payment area shall be the final installed width of only the driveway area where work was performed.

BRICK PAVER REMOVAL AND REPLACEMENT

Description. This work shall consist of removing and replacing existing brick pavers, concrete pavers, stone, and any other type of specialty sidewalk or landscape features with the same material in kind, at the locations and limits determined by the Village during construction. This work shall be done in accordance with Article 1041.03 of the Standard Specifications except as noted herein.

Construction Requirements. Each area shall be returned to the same or better condition as it was prior to removal. The Contractor shall furnish all materials necessary to replace damaged pavers, to use for cutting, and to match the original dimensions of the specialty sidewalk or landscape feature. The Contractor shall not remove intact bricks from the project limits. Cleaning shall consist of removing all debris, mud, markings, etc. with water and a brush.

If base course removal is required, the depth of CA-6 shall be determined by the Village and compacted with a hand compactor so that the finish is free of all undulations, ruts, tire marks and depressions. Upon completion of the stone base layer, a three-quarter inch (3/4") layer of sand, gradation FA-2, shall be placed and compacted with a hand compactor so that the finish is free of all undulations, ruts, tire mark and depressions. Prior to placing the pavers, the Village shall visually inspect the portion of sidewalk to receive the repair. The Contractor shall repair any area deemed necessary by the Village by adding additional sand and compacting the area.

Method of Measurement and Basis of Payment. This work shall be paid for at the contract unit price per SQUARE FOOT for BRICK PAVER REMOVAL AND REPLACEMENT. This price shall include all costs for excavating, disposing of excess excavated material, furnishing base material, placing the pavers, and all other labor, material, and equipment necessary to furnish and install this item.

Furnishing and placing stone, sand, and any other replacement materials required to match the existing surface type of the sidewalk or landscape feature will not be measured for payment but shall be considered as included in this item.

It is the sole responsibility of the Contractor to determine the extent of work necessary to complete this work prior to contract bidding, as no additional compensation shall be provided for this item.

PORTLAND CEMENT CONCRETE DRIVEWAY REMOVAL AND REPLACEMENT, 6"

Description. This work shall consist of removing and replacing existing PCC driveway pavement at the locations shown on the plans and as directed by the Village. This work shall be in accordance with Sections 301, 351, and 440 of the Standard Specifications except as noted herein.

Construction Requirements. The existing PCC driveway shall be removed and disposed of by the

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Contractor to the limits marked out by the Village during construction. The driveway shall be saw-cut full depth for creating butt joints. All butt joints shall be cut vertically, straight, and shall be free of debris. Jack hammering of butt joints shall not be permitted. Any damage to areas outside the limits of removal shall be replaced by the Contractor at his/her own expense.

The Contractor shall remove the existing base and install a minimum of 4" compacted aggregate base course, Type B (CA-6). The Contractor shall excavate deeper or place embankment, in accordance with Sections 202 and 205 of the Standard Specifications, to achieve the finished grades as shown on the plans. Where the new driveway will be wider than existing driveway, the Contractor shall excavate and dispose of existing topsoil and other material to provide the full pavement section. The payment for this work shall be included in the unit price for this item.

The Contractor shall maintain driveway access with temporary stone during construction in accordance with Section 402.10 of the Standard Specification, except during and up to three days after pouring concrete.

The Contractor shall install a 6" PCC surface, in accordance with Section 423 of the Standard Specifications.

Method of Measurement and Basis of Payment. This work will be measured in place and paid for at the contract unit price per SQUARE YARD for PCC DRIVEWAY REMOVAL AND REPLACEMENT. This price shall include removing and disposing of the existing excavated material, furnishing aggregate base course (CA-6), pouring concrete, and all other materials, labor, and equipment necessary to complete this item.

The labor, material, and equipment necessary to maintain driveway access with temporary stone during construction shall be included in the cost of PCC DRIVEWAY REMOVAL AND REPLACEMENT and will not be paid for separately.

SIDEWALK REMOVAL

Description. This work shall consist of removing existing concrete or brick sidewalk, in accordance with Section 440 of the Standard Specifications and as specified herein.

Construction Requirements. During sidewalk removal, the Contractor shall trim, dispose of, and shape the adjacent parkway as necessary to remove a 6-inch or less vertical difference between the parkway surface and new sidewalk surface. The maximum transition width in the parkway, from the undisturbed area to the edge of sidewalk, shall be no more than 6-feet. PCC sidewalk curbs will be considered at locations outside of these height and width limits.

The Contractor shall maintain driveway and sidewalk access with temporary stone prior to concrete installation.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per SQUARE FOOT for SIDEWALK REMOVAL. This price shall include all labor, material, and equipment to remove the existing sidewalk and base.

The cost to trim, dispose of, and shape the adjacent parkway to fix the slope transition to the new sidewalk shall be included in the cost for SIDEWALK REMOVAL and will not be paid for separately.

The labor, material, and equipment necessary to maintain driveway and sidewalk access during construction with temporary stone shall be included in the cost of SIDEWALK REMOVAL and will not be paid for separately.

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH OR 8 INCH

Description. This work shall consist of installing new PCC sidewalk at the locations shown on the plans and as directed by the Village. This work shall be in accordance with Section 424 of the Standard Specifications except as noted herein.

Construction Requirements. The Contractor shall remove the existing base and install a minimum of 4" compacted aggregate base course, Type B (CA-6). The Contractor shall excavate deeper or place additional aggregate, in accordance with Sections 202 and 205 of the Standard Specifications, to achieve the finished grades as shown on the plans. The subgrade shall be tamped or rolled until thoroughly compacted before the aggregate is placed.

ADA curb ramps within IDOT Right of Way shall be 8 inches of concrete. All other sidewalk shall be 5 inches of concrete.

Where new sidewalk will be installed, the Contractor shall excavate and dispose of existing topsoil and other material to provide the full pavement section. The payment for this work shall be included in the unit price for EARTH EXCAVATION.

The Contractor shall maintain driveway and sidewalk access with temporary stone during construction in accordance with Section 402.10 of the Standard Specifications, except during and up to three days after pouring concrete.

Method of Measurement and Basis of Payment. This work will be measured and paid for at the contract unit price per SQUARE FOOT for PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH or 8 INCH. This price shall include removing and disposing of the existing base material, furnishing aggregate base course (CA-6), pouring concrete, maintaining temporary access, and all other materials, labor, and equipment necessary to complete this item.

DETECTABLE WARNINGS

Description. This work shall consist of installing galvanized steel detectable warnings at the locations shown on the plans and as directed by the Village. Work shall be in accordance with Section 424 of the Standard Specifications except as modified herein, and ADA Public Right of Way Accessibility Guidelines (PROWAG).

Materials:

Detectable warning tiles shall be of uniform quality, and free of surface defects. The detectable warnings shall be constructed out of galvanized steel – 10 gauge (0.14" minimum thickness), G90 galvanization or better.

The dome size and spacing of the detectable warnings shall meet all requirements of sections R305.1.1 and R305.1.2 of PROWAG. Domes shall be replaceable.

The color of the detectable warning tiles is to be powder-coated yellow as approved by the Village and shall comply with the requirements of section R305.1.3 of PROWAG.

If a concrete border is required for installation of the detectable warnings, it shall comply with section R305.2 of PROWAG.

Responsibility of the Contractor:

Detectable warnings shall be installed according to the manufacturer's specifications. The Contractor shall submit a catalog cut of the desired product to the Village for review and any substitutions must be approved in writing before installation.

The contractor shall verify all dimensions with the product manufacturer. If using radial units, the contractor shall verify that the radius of the detectable warnings supplied by the manufacturer matches that of the curb radius.

The contractor shall ensure that the supplied detectable warnings allow placement of the rows of domes that are aligned parallel with the path of travel. Where detectable warnings are radial, dome orientation is not significant.

The contractor shall ensure a maximum vertical transition of 1/4" between the edge of the detectable warnings and adjacent concrete.

Method of Measurement and Basis of Payment. This work will be measured and paid for at the contract unit price per SQUARE FOOT for DETECTABLE WARNINGS (SPECIAL), which price shall include all materials, labor, and equipment necessary to perform the work as specified herein.

COMBINATION CURB AND GUTTER REMOVAL

Description. This work shall consist of removing curb or combination concrete curb and gutter in accordance with Section 440 and 606 of the Standard Specifications except as noted herein.

Construction Requirements. Unsuitable material to be removed, as directed by the Village, shall be replaced with CA-6 aggregate base or additional thickness of concrete.

Saw cuts shall be in accordance with Article 440.03 of the Standard Specifications.

The Contractor shall maintain driveway and sidewalk access with temporary stone prior to concrete installation.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per FOOT for COMBINATION CURB AND GUTTER REMOVAL. This price shall include all costs for excavating and disposing of curb and unsuitable material, and all other labor, material, and equipment necessary to furnish and install this item.

Removal and disposal of hot-mix asphalt or concrete pavement within the limits of proposed gutter flag or adjacent to existing gutter shall be included in the cost for COMBINATION CURB AND GUTTER REMOVAL at no additional expense.

The labor, material, and equipment necessary to maintain driveway and sidewalk access during

construction with temporary stone shall be included in the cost of COMBINATION CURB AND GUTTER REMOVAL and will not be paid for separately.

COMBINATION CONCRETE CURB AND GUTTER, TYPE M-3.12

Description. This work shall consist of constructing combination concrete curb and gutter of the type specified in accordance with Section 606 of the Standard Specifications except as noted herein. The purpose of this item is to install new or full-length curb and gutter.

Construction Requirements. The Contractor shall excavate and dispose of any remaining excess or unsuitable material prior to installation. This material shall be replaced with CA-6 aggregate base or additional thickness of concrete.

Epoxy coated tie bars, #6 (20) – 24" (610) long at 24" (610) centers, shall be used except when adjacent to flexible pavement. Longitudinal bars, if encountered, are not to be replaced.

The Contractor shall depress the curb head at driveways and sidewalk ramps, as directed by the Village. The curb and gutter shall transition to match adjacent existing sections, unless directed otherwise by the Village.

½" (13) performed expansion joints shall be used at concrete sidewalks, driveways, and medians.

The Contractor shall front-fill the new gutter edges adjacent to pavement with concrete. This work shall occur prior to milling the pavement surface or allowing street parking.

Method of Measurement. COMBINATION CONCRETE CURB AND GUTTER will be measured for payment in FEET along the face of concrete curb.

Basis of Payment. This work will be paid for at the contract unit price per FOOT for COMBINATION CONCRETE CURB AND GUTTER of the type specified. This price shall include all labor, material, and equipment necessary for excavation, disposing of excess excavated material, furnishing aggregate base material or additional concrete, installing curb and gutter, backfilling, and front-filling.

The labor, material, and equipment necessary to install depressed curb at driveways and sidewalk ramps shall be included in the cost of COMBINATION CURB AND GUTTER items and will not be paid for separately.

COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT

Description. This work shall consist of removing and replacing intermittent sections of the existing combination concrete curb and gutter in accordance with Section 440 and 606 of the Standard Specifications except as noted herein.

Construction Requirements. Locations of removal and replacement shall be determined by the Village at the time of construction. Combination curb and gutter shall match the type of existing curb and gutter, unless otherwise directed by the Village.

Unsuitable material to be removed, as directed by the Village, shall be replaced with CA-6 aggregate base or additional thickness of concrete.

Saw cuts shall be in accordance with Article 440.03 of the Standard Specifications.

Hot-mix asphalt surface removal on the existing gutter flag, if encountered, shall be included in the removal of the curb and gutter.

The Contractor shall maintain driveway and sidewalk access with temporary stone prior to concrete installation.

Epoxy coated tie bars, #6 (20) – 24" (610) long at 24" (610) centers, shall be used except when adjacent to flexible pavement. Longitudinal bars, if encountered, are not to be replaced.

The Contractor shall depress the curb head at driveways and sidewalk ramps, as directed by the Village. The curb and gutter shall transition to match adjacent existing sections.

½" (13) performed expansion joints shall be used at concrete sidewalks, driveways, and medians.

The Contractor shall front-fill the new curb and gutter edges adjacent to pavement with concrete. This work shall occur prior to milling the pavement surface or allowing street parking.

Method of Measurement. Combination concrete curb and gutter removal and replacement will be measured for payment in feet along the face of concrete curb. A minimum replacement length of 4 feet is required.

Basis of Payment. This work will be paid for at the contract unit price per FOOT for COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT LESS THAN OR EQUAL TO 10 FEET for lengths less than or equal 10 feet. The price shall include all labor, material, and equipment necessary for excavation, disposing of excess excavated material, furnishing aggregate base material or additional concrete, installing curb and gutter, backfilling, and front-filling.

This work will be paid for at the contract unit price per FOOT for COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT GREATER THAN 10 FEET for lengths greater than 10 feet. The price shall include all labor, material, and equipment necessary for excavation, disposing of excess excavated material, furnishing aggregate base material or additional concrete, installing curb and gutter, backfilling, and front-filling.

Removal and disposal of hot-mix asphalt or concrete pavement within the limits of proposed gutter flag or adjacent to existing gutter shall be included in the cost for COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT items at no additional expense.

The labor, material, and equipment necessary to maintain driveway and sidewalk access during construction with temporary stone shall be included in the cost of COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT items and will not be paid for separately.

The labor, material, and equipment necessary to install front-fill and backfill shall be included in the cost of COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT items at no additional expense.

TEMPORARY PAVEMENT PATCHES, 2"

Description. This work shall consist of placing a temporary hot-mix asphalt surface over open cut trench excavations within roadway pavement areas. The work shall be completed in accordance with applicable portions of Sections 351 and 406 of the Standard Specifications. Temporary patching is intended to provide a paved surface over open cut trench excavations within roadway pavement until permanent Class D patching and/or future resurfacing can be completed.

Construction Requirements. Open cut trench locations shall not be left in gravel for extended periods or stoppages in work lasting longer than one week. Two (2) inches of HMA will be required to bring trenches to final grade and shall be compacted to the satisfaction of the Engineer. When requested by the Village, temporary hot-mix asphalt surfaces shall be completed within 3 days of trench backfill operations.

Material used for the hot-mix asphalt surface shall be HMA Surface Course, IL-9.5, N50.

On all streets, trenches are to be filled with TRENCH BACKFILL, SPECIAL to finish grade. Within three (3) days of backfilling, the Contractor shall remove and replace the top 2" of the trench with the compacted asphalt mix. The Contractor will be responsible for maintaining a smooth travel surface until the trench is final patched. Placement of this material shall extend the entire length of the trench including all crossings unless otherwise directed.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per SQUARE YARD for TEMPORARY PAVEMENT PATCHES, 2", which price shall include all materials, labor, and equipment necessary to perform the work as specified herein.

This work shall also include the removal and proper disposal of TRENCH BACKFILL, SPECIAL as needed to construct the temporary pavement at no additional cost.

CLASS D PATCHES, SPECIAL

Description. This work shall consist of removing the existing pavement, any excavation to achieve the required patch depth, and replacement with hot-mix asphalt at the locations identified by the Village. This work shall be done in accordance with Section 442 of the Standard Specifications except as noted herein.

Construction Requirements. Within pavement resurfacing areas, patching limits will be determined after milling and all patching shall be completed before paving the first course of asphalt. The Contractor shall excavate and remove all existing material at each location to the limits and depth specified by the Village. The Contractor shall correct all holes, soft places, and other defects in the base or subgrade by removing unsuitable material and installing additional aggregate (CA-6) or asphalt. If the base or subgrade are exposed, the Contractor shall compact the aggregate prior to paving the asphalt.

All patching shall be removed and replaced on the same day.

Method of Measurement and Basis of Payment. This work will be measured and paid for at the contract unit price per SQUARE YARD for CLASS D PATCHES, SPECIAL, of the thickness specified, which price shall include all labor, equipment, and materials necessary to complete the work as specified

herein.

DUCTILE IRON WATER MAIN

General. This work shall include furnishing all labor, equipment, and materials required for the construction of a water main of the required diameter, in accordance with the specifications herein and the Water Main Standard Specifications, and conforming in all respects to the lines, grades, and locations shown on the plans or directed by the Village. All work shall be done in accordance with ANSI/AWWA C651 – latest edition.

Materials. Ductile iron water main shall be domestically manufactured in conformance with ANSI/AWWA C151/A21.51, thickness Class 52, with interior cement mortar lining conforming to ANSI/AWWA C104/A21.4. The exterior of ductile iron pipe shall be coated with a layer of arc-sprayed zinc per ISO 8179-1, latest edition. The mass of the zinc applied shall be 200 g/m² of pipe surface area. A finishing layer topcoat shall be applied to the zinc. The asphaltic topcoat shall be an average minimum thickness of three (3) mils with a local minimum of not less than two (2) mils. The coating system shall conform in every respect to ISO 8179-1 "Ductile iron pipes, fittings, accessories and their joints - External zinc-based coating - Part 1: Metallic zinc with finishing layer." Joints shall be push-on conforming to ANSI/AWWA C111/A21.11. Each pipe shall have the weight and class designation conspicuously painted on it. In addition, the manufacturer's mark and year in which the pipe was made shall be distinctly cast or stamped on the bell. All bolts and nuts shall be 316 stainless steel with PTFE coating. All gaskets for push-on and mechanical joints must be lubricated prior to installation.

Installation and Backfill. Excavation and backfill of water mains shall conform to the provisions of Sections 20, 21, and 22 of the Water Main Standard Specifications and as specified herein. The water main shall be laid with a minimum cover of five feet six inches (5'-6") measured from the top of the pipe to finished grade or as indicated on the plans. The trench width shall be ample to permit the pipe to be laid and jointed properly and the backfill to be placed and compacted.

Backfill material used for water main installation shall be as detailed in the special provision for TRENCH BACKFILL, SPECIAL. All backfill shall be compacted in accordance with Method 1 described in Article 550.07 of the Standard Specifications. Method 2 (ponding) and Method 3 (jetting) will not be allowed. **Using the bucket of the backhoe to compact trench materials is strictly forbidden.** Trench backfill will be required for water main trenches within two (2) feet of curb lines and under sidewalks, driveways, and pavement and shall be compacted to a density of 95% standard proctor.

No clamps are allowed on the new water main, only cut-in connections.

Testing. A two-hour test combining the hydrostatic pressure test and leakage test shall be made in accordance with sections 41-2.14 of the Water Main Standard Specifications. The test pressure shall be 150 psi for a minimum of two (2) hours.

No bell clamps are allowed during pressure testing.

Final Connections to Existing Mains. Water mains and appurtenances must be completely installed, flushed, disinfected, and satisfactory bacteriological sample results received prior to permanent connections being made to the active distribution system. Sanitary construction practices must be followed per AWWA C651 during installation of the final connection, so that there is no contamination

of the new or existing water main with foreign material or groundwater:

- 4.10.1 *Connections equal to or less than one pipe length (generally <20 ft):* The new pipe, fittings, and valve(s) required for the connection may be spray disinfected or swabbed with a minimum 1 percent solution of chlorine just before being installed, if the total length of the connection from the end of a new main to the existing main is equal to or less than 20 ft.
- 4.10.2 *Connections greater than one pipe length (generally >20 ft):* The pipe required for the connection must be set up aboveground, disinfected, and bacteriological samples taken, as described in Section 5 of AWWA C651 if the total length of the connection from the end of a new main to the existing main is greater than 20 ft. After satisfactory bacteriological sample results have been received for the pre-disinfected pipe, the pipe can be used in connecting the new main to the active distribution system. Between the time the satisfactory bacteriological sample results are received and the time that the connection piping is installed, the ends of the piping must be sealed with plastic wraps, watertight plugs, or caps.

Chlorination. Before being placed into service, all new water mains shall be disinfected in accordance with ANSI/AWWA C651 – latest edition.

Sanitary Items/Procedures. All pipe shall be kept free from silt, mud, debris, or other contaminants at all times and shall be thoroughly cleaned and disinfected prior to installation. All pipes stored on site shall be capped with end plugs or securely covered with heavy mil plastic and taped securely.

The jobsite shall have at a minimum, the following materials available to all employees for disinfection / sanitary purposes:

- Chlorine granules, HTH type, 10# per 100 LF
- Liquid chlorine, in bleach or hypochlorite solution, 5 Gal. per 100 LF
- 1 new mop and handle with 1 spare new mop head per 100 LF
- 1 new, operable, sprayer with spray hose attachment, clearly marked for Chlorine use only.
- Waterless hand cleaner – 1 gallon per porta-potty, or a maintained, operable hand washing station – 1 per porta-potty.

During chlorination and sampling, only new copper whips shall be used. The re-use of a whip is prohibited. All employees on the jobsite who are installing water main shall be instructed in the use of the above material and in the proper procedures for disinfecting themselves and the water main, including proper handwashing techniques.

Method of Measurement and Basis of Payment. This work shall be measured and paid for at the contract unit price per FOOT for DUCTILE IRON WATER MAIN, of the diameter specified, which price shall include all materials, labor, and equipment required to complete the work as specified herein. Measurement shall be the actual installed length of pipe measured along the centerline, not including any fittings or valves.

Bedding material shall be considered included in the cost of DUCTILE IRON WATER MAIN and will not be paid for separately. Trench backfill will be paid for according to the special provision for TRENCH BACKFILL, SPECIAL.

DUCTILE IRON WATER MAIN FITTINGS

Description. This item shall include the furnishing and complete installation of “compact” ductile iron fittings with retainer glands as indicated on the contract drawings or required during the construction of this improvement. The unit price bid shall include the fittings, the required jointing materials, and the cost of any cutting.

All fittings furnished shall be “compact” ductile iron, mechanical joint, domestically manufactured, unless otherwise approved by the Village. All ductile iron fittings shall conform with ANSI/AWWA C153/A21.53 for the mechanical joint, with a maximum working pressure of three hundred fifty pounds (350lbs) per square inch.

Mechanical Joint Bolts: All bolts and nuts used on this project shall be 316 S.S. T- Head bolt and nut; no substitutes will be accepted. All bolts and nuts shall be stainless steel with PTFE coating.

Retainer Glands: All glands furnished to facilitate a mechanical joint connection shall be EBAA Iron MEGA LUGS or McWane Tyler retainer glands. No additional compensation will be allowed for furnishing and installing MEGA LUGS or McWane Tyler retainer glands. Thrust blocks shall also be required at all mechanical joint fittings in addition to retainer glands.

Method of Measurement and Basis of Payment. This work will be measured and paid for at the contract unit price per EACH for DUCTILE IRON WATER MAIN FITTINGS, of the type and diameter specified, which price shall include all labor, equipment, and materials to complete the work as specified herein.

ABANDON EXISTING WATER MAIN, FILL WITH CLSM

Description. This work shall consist of the abandonment of portions of the existing water main by filling the pipe with CLSM. This work shall be performed within IDOT Right of Way at locations shown on the plans or as directed the Village.

Excavation required to access the existing water main shall be performed in accordance with the applicable portion of the “Ductile Iron Water Main” Special Provision included herein. Any required water main removal and/or capping shall be according to the Special Provisions for “Water Main Removal” and “Cut and Cap Existing Water Main” included herein.

If the excavation required falls within two feet (2') of a paved area (existing or proposed), it shall be backfilled with TRENCH BACKFILL, SPECIAL in accordance with the applicable requirements of the Special Provision included herein.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per FOOT for ABANDON EXISTING WATER MAIN, FILL WITH CLSM, regardless of diameter, which price shall include all labor, equipment, and material necessary to complete the work as specified herein.

Trench Backfill will **not** be measured for payment but shall be considered included in the contract unit price for ABANDON EXISTING WATER MAIN, FILL WITH CLSM.

MJ capping of the existing water main will be paid for separately per EACH for CUT AND CAP EXISTING WATER MAIN, of the diameter specified.

WATER MAIN REMOVAL

Description. This work shall consist of the removal of portions of the existing water main. This work shall be performed at locations shown on the plans and/or subject to the review of the Village.

Excavation required for water main removal shall be performed in accordance with the applicable portion of the Special Provision "Ductile Iron Water Main" included herein. Water main removal shall end either at a joint or at a location where the existing pipe has been saw cut to provide a smooth, even surface so as to allow a watertight joint. After removal of the existing pipe, the integrity of that portion which is to remain in place shall be checked by the Village to ensure that the pipe end has not been damaged. Additional removal required by non-compliance with this Special Provision will be performed at the Contractor's expense and no additional compensation will be allowed. The existing water main shall be capped at all locations where removal is specified with a Mueller Krausz Hymax Grip or Romac Alpha cap. The valves that control the existing water distribution system may not be adequate to completely shut down the system and the Contractor should expect some residual pressure to be present when the cap is installed.

If the excavation required for the removal operation falls within two feet (2') of a paved area (existing or proposed), it shall be backfilled with TRENCH BACKFILL, SPECIAL in accordance with the applicable requirements of the Special Provision included herein.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per FOOT for WATER MAIN REMOVAL, regardless of diameter, which price shall include all labor, equipment, and material necessary to complete the work as specified herein.

Trench Backfill will **not** be measured for payment but shall be considered included in the contract unit price for WATER MAIN REMOVAL.

MJ capping of the existing water main will be paid for separately per EACH for CUT AND CAP EXISTING WATER MAIN, of the diameter specified.

NON-PRESSURE CONNECTION TO EXISTING WATER MAIN CUT AND CAP EXISTING WATER MAIN

Description. This work shall consist of the furnishing of all labor, equipment, and materials necessary to affect a connection to the existing water main and/or the disconnection of an existing water main. All work shall be in accordance with Section 41 of the Water Main Standard Specifications.

Construction Requirements. The Contractor shall coordinate a minimum of 48 hours in advance with the Village Water Superintendent for a shutdown connection of the existing water main within the area affected by this work. All materials shall be on hand before work is undertaken to minimize the time necessary to complete the work required. **Only Village Water Department Personnel shall operate existing system valves**, but the Contractor shall lend assistance as necessary to expedite the shutdown. When it becomes necessary for a system shutdown, the Village may direct the Contractor to distribute "NOTICES" door to door.

NON-PRESSURE CONNECTION TO EXISTING WATER MAIN will be paid at each point where a new section of water main pipe is connected to an existing section with a ductile iron sleeve. The

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Contractor shall furnish all pipe fittings, required jointing materials, and labor necessary to complete the connection as specified. This includes, but is not limited to, any necessary sleeves and corporation stops. An MJ x MJ ductile iron long solid sleeve shall be used as the cut-in sleeve. All fittings installed under this item shall be placed on a granular bedding a minimum of six inches (6") in thickness.

CUT AND CAP EXISTING WATER MAIN will be paid at each point where an existing section of water main is disconnected and capped/plugged. The Contractor shall furnish all pipe fittings, required jointing materials, and labor necessary to complete the disconnection as specified. This includes, but is not limited to, any necessary caps, plugs, and corporation stops. All caps shall be Mueller Krausz Hymax Grip or Romac Alpha end caps. All fittings installed under this item shall be placed on a granular bedding a minimum of six inches (6") in thickness.

Whenever a connection is made and a portion of the existing system will not be subject to the chlorination procedure for the new main, the Contractor shall provide tablet disinfection procedures as described in Section 41-2.15C (3) of the Water Main Standard Specifications. After the connection has been made, a visual inspection shall be made for leaks under system pressure, irrespective of the pressure test that may be required under other provisions in the Contract. If no visual leaks are detected, the excavation shall be backfilled with materials as directed by the Village.

Method of Measurement and Basis of Payment. This work shall be paid for at the contract unit price per EACH for NON-PRESSURE CONNECTION TO EXISTING WATER MAIN, of the diameter specified, and per EACH for CUT AND CAP EXISTING WATER MAIN, of the diameter specified, which price shall be payment in full for all work as specified.

Trench Backfill will **not** be measured for payment but shall be considered included in the contract unit price for NON-PRESSURE CONNECTION TO EXISTING WATER MAIN and CUT AND CAP EXISTING WATER MAIN. Any other items required for restoration (e.g., pavement patches, sidewalk, sodding, etc.) will be paid separately for as specified elsewhere in the Contract.

WATER SERVICE REPLACEMENT

Description: This work consists of installing a new water service in accordance with Section 562 of Standard Specifications, except as revised herein.

Any water service lines that are less than 5-foot in depth shall be insulated with minimum 2-foot wide by 4-inch-thick insulation board meeting ASTM 578, Type VI, 40 PSI compressive strength per ASTM D1621, with 0.1% maximum water absorption per ASTM C272. All insulation board joints shall be overlapped. Backfill material around the insulation boards shall be fine sand (FA-6), free from roots, organic matter, leaves, and all other injurious materials.

Any adjustment to the installed water service lines due to proposed storm sewer construction shall be included in the cost of this item.

Water service 2" diameter and less:

Work shall consist of the disconnection of the existing water services from the existing water main, to and including the existing service box and curb stop, tapping the new water main, and extending new copper services perpendicularly from the new water main to the new service box to be installed in the parkway, as close to the old service box as possible, as shown on the plans or as directed by the Village.

Services less than 2 inches shall be replaced with a 1.5-inch diameter minimum service. Services equal to 2 inches shall be replaced with the same diameter as the existing service.

Water service 3" or greater in diameter:

Work shall consist of the disconnection of the existing water service from the existing water main, installing appropriately sized tee fittings with an attached valve(s), and extending a new ductile iron service from the new water main to the new service box to be installed in the parkway, as close to the old service box as possible, as shown on the plans or as directed by the Village.

All existing water services which are 3-inch in diameter will be changed to 4-inch services and reduced to 3-inch at the point of connection to the existing service. Services greater than or equal to 4 inches shall be replaced with the same diameter as the existing service.

Ductile Iron Pipe Water Service:

All ductile iron pipe shall be thickness class 52 in accordance with the Ductile Iron Water Main Special Provision.

Copper Pipe:

Copper pipe shall be copper water tube, Type K with Ford packs, soft temper, for underground service, conforming to ASTM-B88 and ASTM-B251 of the inside diameter indicated on the plans. The pipe shall be marked with the manufacturer's name or trademark and a mark indicative of the type of pipe. The outside diameter of the pipe and minimum weight per foot of the pipe shall not be less than that listed in ASTM B251, Table 11.

Stops and Fittings:

All corporation stops, curb stops, and connection couplings shall be fabricated of bronze alloy and shall be provided with outlets suitable for connections. All connections shall be made with flare-type couplings. Stops and fittings shall be as manufactured by Ford, Mueller, or A.Y. McDonald and shall be in accordance with AWWA Specifications. The curb stops shall be Mueller No-Lead (Village of Wilmette Standard). Corporation stops and curb stops shall be the non-restricting ball valve type and shall be supported by a concrete block.

Curb Boxes:

The curb boxes shall be cast iron Ford, Mueller, or A.Y. McDonald Curb Boxes with Minneapolis tap base, extension-type for 5'-6" bury or as required to make flush with the existing ground elevation. The boxes shall be complete with a lid marked 'WATER' and pentagon brass plug. Lid and brass plug shall be removed and lubricated prior to installation.

Shop Drawings for water system components shall be submitted for approval as soon as possible, but not less than thirty (30) calendar days prior to the time when the components are intended to be installed.

Care should be taken in installing new water services so as to have the least interruption of service to the water customer. This work will require disruptions of water service. The Contractor shall notify the Village not less than 48-hours in advance of planned disruptions. It should be noted that the water main will not be turned off for the installation of water services. It should also be noted that the Village of Wilmette Public Works personnel are the only persons authorized to turn on and off water main valves.

All water service lines shall be augered in place and shall be a minimum of five (5) feet in depth. Provide pipe insulation if cover is less than 5-feet. The Contractor may select a boring tool, mechanical drill or jack, at his option, to form the passage through the soil for insertion of water services under existing pavements. The size of the passage shall be just large enough to accommodate the service, but not so large to cause post-construction subsidence of the pavement. The service line shall be capped or plugged during the insertion process to prevent the entrance of soil. The insertion and receiving pits shall be backfilled in accordance with Section 208.

The replacement service line shall be one continuous length (no couplings in the new copper tubing will be allowed) and be of sufficient length to allow for some movement for trench settling after placement of the backfill material. Contractor shall keep the existing and new water service line clean during installation. Following installation, the service pipe shall be fully flushed clean prior to disconnecting the existing service under the observation of the Wilmette Plumbing Inspector. The connection of the new copper service to the existing service shall be completed at a point at least eighteen inches (18") from the new curb stop. The old curb stop shall be closed and box disconnected from the new service line. Box shall be left in the parkway for Inspector review prior to disposal. After each service is reconnected, the Contractor shall verify that the water service is supplying adequate water. The Contractor will be charged for any labor and materials used by the Village of Wilmette Public Works to correct any problems that arise due to Contractor's efforts.

Method of Measurement: This work shall be measured per EACH for WATER SERVICE REPLACEMENT, of the type and diameter specified.

Basis of Payment: This work will be paid for at the Contract unit price per EACH for WATER SERVICE REPLACEMENT, 1.5" – SHORT and WATER SERVICE REPLACEMENT, 1.5" – LONG.

The Contract unit price for WATER SERVICE REPLACEMENT shall be payment in full for all materials, labor, and equipment required to complete the work as specified herein.

Additionally, for WATER SERVICE 4 inches or greater, the price shall also include all tees (no tapping saddles allowed) and two (2) 4-inch or greater resilient wedge type valves and valve boxes per each long service, and one (1) 4-inch or greater resilient wedge type valve and valve box per each short service to match the diameter of the new service.

FIRE HYDRANTS TO BE REMOVED

Description. This work shall consist of the removal of existing fire hydrants, including auxiliary valves, and plugging and blocking of abandoned water main as indicated on the plans or required by the Village. The existing fire hydrants are not to be removed until after the new fire hydrants have been installed and satisfactorily tested. The fire hydrants to be removed shall become the property of the Village and shall be delivered to the Public Works Facility. The trench shall be backfilled with TRENCH BACKFILL, SPECIAL, in accordance with the applicable requirements of the Special Provision included herein.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per EACH for FIRE HYDRANTS TO BE REMOVED, which price shall include all labor, equipment, and material necessary to complete the work as specified herein.

Trench Backfill will **not** be measured for payment but shall be considered included in the contract unit price for FIRE HYDRANTS TO BE REMOVED.

FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX

Description. This work shall consist of furnishing new fire hydrants of the type and size specified at the locations indicated on the plans or otherwise directed by the Village.

Materials. Hydrants shall be of the compression or gate type conforming to the latest specifications of the American Water Works Association C502 and shall be of a make that has been adopted by the owner as standard. Hydrants shall be designed for a 150-psi working pressure. Hydrants shall be finished with two (2), two and one-half inch (2-1/2") hose nozzles, and one (1) four and one-half (4-1/2") steamer connection. Threads on nozzles and caps shall be national standard thread and shall conform to the standard adopted by the owner. Hydrants shall open by turning to the left or counterclockwise and shall be so marked. All new fire hydrants furnished under this contract shall be factory painted "Safety Red" color 5-1/4" Waterous Pacer Traffic Model WB67-250 with 5" Storz Nozzle and shall have traffic flange construction design with a breakaway flange and mechanism at the ground line.

Hydrants shall have a six-inch (6") pipe connection, shall be equipped with a (6") auxiliary valve, and shall have a five and one-quarter inch (5-1/4") valve opening. The auxiliary valve shall be attached to the hydrant by means of an 18" to 24" long, 6" spool piece with wedge type mechanical joint couplings. The joint for joining the auxiliary valve shall be fitted with a cast iron valve box of the same type as specified under standard drawing #14 of the Water Main Standard Specifications. The word "WATER" shall be on all valve boxes. Contractor shall provide a rubber valve box stabilizer of the type Adaptor Inc. Valve Box Adaptor II which shall be installed between the valve box and the auxiliary valve.

The trench shall be backfilled with TRENCH BACKFILL, SPECIAL, in accordance with the applicable requirements of the Special Provision included herein. A hydrant and valve box grip shall be furnished and installed to hold the valve box in place during the backfilling operation.

Installation. Hydrants shall be set at the locations indicated on the plans and shall be such length that with the frost ring nearly at the ground level, there will be five and one-half feet (5-1/2') of cover over the connecting pipe and the height of the nut on the cap is 18"-24" above the ground. At least four feet (4') of cover will be provided across ditches. Hydrants shall be placed on a large, flat stone, and shall have a minimum of one-half cubic yard (1/2cy.) of CA-7 gravel around the base to provide drainage for the hydrant drip. This shall include a 3-4 mil. plastic barrier between the gravel drain field and the earth cover. All hydrants shall be properly braced to prevent movement. Any mechanical joint glands required on any mechanical joint fittings necessary for the installation of the hydrants shall be retainer-type glands. All hydrants shall be placed so that the steamer connection faces the existing roadway.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per EACH for FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX, which price shall include all labor, equipment, and material necessary to complete the work as specified herein.

Trench Backfill will **not** be measured for payment but shall be considered included in the contract unit price for FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX.

FIRE HYDRANT EXTENSION

Description. This item shall consist of installing a fire hydrant extension on a proposed hydrant to compensate for an increased water main depth due to normal construction operations and not due to improper construction methods by the Contractor. This item shall be constructed in accordance with all applicable portions of the included FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX special provision and Section 45 of the Water Main Standard Specifications.

Fire hydrant extensions shall be Waterous or approved equal to match the brand of hydrant installed.

Method of Measurement and Basis of Payment. FIRE HYDRANT EXTENSION will be measured per vertical FOOT of installed extension. This work shall be paid for at the contract unit price per FOOT for FIRE HYDRANT EXTENSION, which shall include all labor, materials, and equipment necessary to complete the work as specified herein.

SURGE SUPPRESSOR VAULT, 48" DIAMETER, TYPE 1 FRAME, CLOSED LID

Description. This work shall include installation of surge suppressors in vaults at the locations shown on the plans and in accordance with Section 602 of the Standard Specifications and the Water Main Standard Specifications.

Surge tanks with flanged connection will be provided by the Village, typically PowerSeal Model 3643AS. Installation will be performed by the contractor including furnishing of all cut-in tees, bolts, fittings, gaskets and other necessary hardware.

Construction Requirements.

1. Install mounting fitting in/on run of pipeline. Thoroughly clean the flange connections and gasket to be joined and inspect the area where the flanges will be installed for flaws, i.e., gouges, protrusions, excessive corrosion, etc.; irregular surfaces should be avoided to assure maximum gasket sealing. For gasket installation inspect for any nicks, gouges or tears. Lubricate the gaskets with soapy water.
2. Surge suppressor should be installed on the vertical of the pipe. The surge suppressor and mounting fitting should be properly supported.
3. Tighten the flange or MJ connection in a star pattern until the desired torque is reached.
4. The outlet plug should be tightened to a minimum of 50, maximum of 70 ft. lbs. of torque.
5. Confirm watertight application of all components. The pressure test must be done carefully to prevent damage to the surge suppressor or the mounting fitting.

Valve Vaults shall be constructed of precast concrete sections in accordance with IDOT Highway Standard 602501. Valve Vault frames and lids shall be "heavy duty" Neenah R-1538/R-1772/R-1713 or East Jordan 1020A/1022/1050 and be 'self-sealing' with neoprene gasket with zinc nuts and 2 concealed pick holes. All Valve Vaults shall be installed as watertight as possible. Each lid shall bear the marking "WATER". All valve vaults must include a minimum of 4-inches of adjusting rings, rubber boots and Mac Wrap exterior joint wrap.

Adjusting the frames on new structures to final grade in the pavement area, prior to paving the HMA surface course, will not be paid for separately.

Method of Measurement and Basis of Payment. This work shall be measured and paid for at the contract unit price per EACH for SURGE SUPPRESSOR VAULT, 48" DIAMETER, TYPE 1 FRAME, which includes installing the surge suppressor, all labor, equipment, cut-in tee, bolts, gaskets and all necessary appurtenances to complete the work.

GATE VALVE 8" WITH VAULT, 60" DIAMETER, TYPE 1 FRAME, CLOSED LID

Description. This work shall consist of furnishing and installing gate valves in vaults in accordance with Section 602 of the Standard Specifications, the Water Main Standard Specifications, and AWWA C515. All materials used in the manufacture of waterworks gate valves shall conform to the AWWA standards designed for each material list.

Materials. All gate valves shall have replaceable resilient seats or wedges. Water gate valves shall be iron body, fully bronze mounted, and of ample strength to withstand and operate satisfactorily under 200 psi cold water working pressure and shall be subjected to a 300-psi hydrostatic pressure test, made in the shop. Water gate valves shall be mechanical joint and shall equal or exceed the requirements of the American Water Works Association. All valves shall be of non-rising stem type and shall be equipped with two-inch (2") square operating nuts. All valves shall open to the left or counterclockwise and shall conform to AWWA C515 series 2500 American Flow Control/Waterous or Mueller A2362 with stainless steel trim bolts with PTFE coating, and ASTM D429 for the rubber to metal bond on the cast iron wedge. Zinc nuts, minimum 6 oz., shall be installed on all bolts. Gates will be epoxy impregnated in accordance with AWWA C550. Corporation stops, minimum 1" size, shall be installed on both sides of the valve.

Valve Vaults shall be constructed of precast concrete sections in accordance with IDOT Highway Standard 602501. Valve Vault frames and lids shall be "heavy duty" Neenah R-1538/R-1772/R-1713 or East Jordan 1020A/1022/1050 and be 'self-sealing' with neoprene gasket with zinc nuts and 2 concealed pick holes. All Valve Vaults shall be installed as watertight as possible. Each lid shall bear the marking "WATER". All valve vaults must include a minimum of 4-inches of adjusting rings, rubber boots and Mac Wrap exterior joint wrap.

Adjusting the frames on new structures to final grade in the pavement area, prior to paving the HMA surface course, will not be paid for separately.

Method of Measurement and Basis of Payment. This work shall be measured and paid for at the contract unit price per EACH for GATE VALVE 8" WITH VAULT, 60" DIAMETER, TYPE 1 FRAME, CLOSED LID. The price shall include all labor, material, and equipment necessary to complete this item as specified herein.

VALVE VAULTS TO BE ABANDONED VALVE BOXES TO BE REMOVED

Description. This work shall consist of abandoning the existing water valves not being used in the new water system. This work is to be accomplished after new water main has been placed into service as directed by the Engineer.

Construction Methods. When the new water main has been installed, tested, and placed into service, the Contractor shall excavate around existing valves in vaults to remove the top cone and barrel section(s) leaving only the bottom section with the existing valve. The existing valve is to be closed,

and this barrel section shall be filled with FA6 or approved equal. The remaining depth of the hole shall be filled to existing grade with backfill material as approved by the Engineer.

Valve boxes shall likewise be excavated, have their valves closed, boxes completely removed and be backfilled to existing grade with backfill material as approved by the Engineer.

The Village must witness all valves have been properly closed prior to abandonment.

All backfill shall be compacted in accordance with Section 550 of the Standard Specifications except that only Method 1 shall be used.

The barrel section(s) and boxes that have been removed shall be hauled offsite and disposed of in an approved location. Frames and lids removed shall be salvaged and delivered to Public Works.

Method of Measurement and Basis of Payment. This work shall be paid for at the contract unit price per EACH for VALVE VAULTS TO BE ABANDONED and VALVE BOXES TO BE REMOVED, which price shall include all labor, equipment, and material necessary to complete the work as specified herein.

STORM SEWERS, DRAINAGE STRUCTURES, PIPE UNDERDRAINS, AND UTILITIES

Whenever during construction operations any loose material is deposited in the flow line of drainage structures such that the natural flow of water is obstructed, it shall be removed at the close of each working day. At the conclusion of construction operations, all utility structures shall be free from dirt and debris. The cost of all materials required and all labor necessary to comply with these provisions will not be paid for separately but shall be considered as included in the cost of the storm sewers and drainage structures installed, lined, adjusted, or reconstructed as part of this project.

Connections to the existing sewer shall be made using non-shear, flexible couplings with stainless steel shear rings. Couplings shall be included in the cost of storm sewer being installed. The cost of making storm sewer connections to existing or proposed storm sewer or drainage structures shall be included in the cost of the storm sewer or drainage structure being constructed. All manholes shall be provided with flexible rubber boots for all pipes to ensure a watertight seal between the pipe and catch basin or manhole. The flexible rubber boots shall be Kor-N-Seal by National Pollution Control Systems and conform to ASTM Specification C923. Each boot shall be included in the cost of the proposed storm sewers and structures being installed and will not be paid for separately.

Removal of end sections shall be included in the cost of the storm sewer being removed unless indicated otherwise on the plans.

Temporary sheeting or bracing for sewer trenches that may be required shall be the responsibility of the Contractor. The cost of this work shall be included in the unit price for storm sewer being installed.

At locations where the proposed storm sewer crosses over utilities, a 4" Styrofoam cushion shall be placed under the storm sewer when directed to do so by the Engineer. This work shall be included in the unit price for STORM SEWER of the type, size, and material specified.

When existing drainage facilities are disturbed, the Contractor shall provide and maintain temporary outlets and connections for all private or public drains, sewers or catch basins. The Contractor shall

provide facilities to take in all storm water which will be received by these drains and sewers and discharge the same. The Contractor shall provide and maintain an efficient pumping plant, if necessary, and a temporary outlet. The Contractor shall be prepared at all times to dispose of the water received from temporary connections until such time as the permanent connections with sewers are built and in service. This work will not be paid for separately but shall be included in the cost of the storm sewers and drainage structures installed or lined as part of this project.

Top of frame ("rim") elevations given on the plans are only to assist the Contractor in determining the approximate overall height of each structure. Frames on all new structures shall be adjusted to the final elevations of the areas in which they are located. This work will not be paid for separately but shall be included in the cost of the drainage structures installed as part of this project.

All frames with closed lids to be furnished as part of this contract, for the construction, adjustment, or reconstruction of manholes, catch basins, inlets, valve vaults, or meter vaults shall have cast into the lid one of the following words: Lids for storm sewer structures shall bear the word STORM. Lids for sanitary sewer structures shall bear the word SANITARY. Lids for water system structures shall bear the word WATER. All lids shall be seal-tight self-sealing with a neoprene gasket and 2 concealed pick holes. All closed seal tight lids shall be East Jordan 1020A (with EPIC pick hole). Neenah R-1713 is acceptable as approved by the Engineer but must have a similar pick hole to the EJ EPIC. Additionally, open grates or lids shall include the wording DUMP NO WASTE, DRAINS TO WATERWAYS with symbols. This work shall be included in the unit cost of the structure being constructed, adjusted, or reconstructed or the new frame and lid/grate installed.

Unless otherwise noted on the plans, the existing drainage facilities shall remain in use during the period of construction. Locations of existing drainage structures and sewers as shown on the plans are approximate. Prior to commencing work the Contractor shall determine the exact locations of existing structures which are within the proposed construction limits.

During construction, if the Contractor encounters or otherwise becomes aware of any sewers, underdrains, or field drains within the right-of-way other than those shown on the plans, he shall so inform the Engineer, who shall direct the work necessary to maintain or replace the facilities in service and to protect them from damage during construction if maintained. Existing facilities to be maintained that are damaged because of the non-compliance with this provision shall be replaced at the Contractor's own expense. Should the Engineer have directed the replacement of a facility, the necessary work and payment shall be in accordance with Sections 550 and 601, and Article 104.02 of the Standard Specifications.

The Contractor shall determine when flat slab tops are required on manholes and catch basins. No additional compensation shall be allowed for the use of flat slab tops.

The Contractor shall be aware that at times the Engineer may require a change in storm sewer elevation due to a utility line or other obstruction. If such a grade change does not alter the pipe classification, the additional excavation, backfill, and sheeting required shall be included in the cost of the storm sewer being installed. If the revised grade results in a change in pipe classification, payment will be made for the revised type of storm sewer.

The Contractor shall maintain flows through sewer systems at all times. The existing structures shall be inspected before construction starts. As directed by the Engineer, any accumulation of material in the structure due to construction operations shall be removed by the Contractor at his/her expense.

The cost of all materials required and all labor necessary to comply with the above provisions will not be paid for separately but shall be considered as included in the cost of the contract, and no additional compensation will be allowed.

STORM AND SANITARY SEWERS

Description. This work shall include installation or removal and replacement of storm sewer or sanitary sewer due to drainage system improvements or regulatory crossing and separation requirements. Proposed and replacement sewers shall be of the diameter and material type specified in the plans and work completed in accordance with Sections 30, 31, 40, 41, 50, & 51 of the Water Main Standard Specifications and Section 550 of the Standard Specifications. The storm or sanitary pipe to be removed shall be disposed of and not reused.

Any storm or sanitary sewer that does not meet the horizontal and vertical separation requirements of Section 41-2.01A (1) & (2) of the Water Main Standard Specifications shall be removed and replaced with pipe equivalent to water main standards of construction. Construction shall extend on each side of the crossing of the water main until the perpendicular distance from the water main or water service to the sewer or drain line is at least 10 feet. A length of pipe shall be centered over the water main crossing with joints equidistant from water main. If the water main passes under the sewer or drain, a vertical separation of 18" shall be maintained between the invert of the sewer and the crown of the water main.

Materials. Any storm or sanitary sewer meeting the horizontal and vertical separation requirements as described in the Water Main Standard Specifications Section 41-2.01A (1) & (2), may be constructed of the following materials:

1. Concrete Pressure Pipe – ANSI/AWWA C300, C301, C302, or C303
2. Ductile Iron Pipe – ANSI/AWWA C151/A21.51 + C150/A21.50 + C104/A21.4
3. PVC Pipe – AWWA C900, ASTM D1785, or ASTM D2241
4. Reinforced Concrete Pipe – ASTM C76 + C443 (For storm sewer lines only; not allowed for sanitary or combined sewer)

Any storm or sanitary sewer that **does not** meet the horizontal and vertical separation requirements of Section 41-2.01A (1) & (2), as described in Section 41-2.01A (3) of the Water Main Standard Specifications, shall be constructed of the following materials meeting water main standards of construction:

1. Concrete Pressure Pipe – ANSI/AWWA C300, C301, or C303
2. Ductile Iron Pipe – ANSI/AWWA C151/A21.51 + C150/A21.50 + C104/A21.4
3. PVC Pipe – AWWA C900 or ASTM D2241
4. Reinforced Concrete Pipe – ASTM C76 + C443 (For storm sewer lines only; not allowed for sanitary or combined sewer)

A single pipe material shall be used for an entire run of pipe, regardless of whether the 10' horizontal separation has been met.

1. Concrete Pressure Pipe:

Concrete pressure pipe shall conform to the latest ANSI/AWWA Standard C300, C301, C302, or C303

as required.

Joints shall conform to Article 41-2.07B of the Water Main Standard Specifications.

2. Ductile Iron Pipe:

Ductile iron pipe shall conform to ANSI/AWWA C151/A21.51, thickness class 52 designed per ANSI/AWWA C150/A21.50, tar (seal) coated and/or cement lined per ANSI/AWWA C104/A21.4, with mechanical or rubber ring (slip seal or push on) joints.

Joints for ductile iron pipe shall be in accordance with the following applicable specifications.

1. Mechanical Joints - AWWA C111 and C600
2. Push-On Joints - AWWA C111 and C600

3. PVC Pipe:

PVC pipe shall be marked with the manufacturer's name (or trademark); ASTM or AWWA specification; Schedule Number, Dimension Ratio (DR) or Standard Dimension Ratio (SDR); and Cell Class. Pipe shall be made from PVC compound meeting ASTM D1784, Cell Class 12454. The pipe and fittings shall also meet NSF Standard 14 and bear the NSF seal of approval. Fittings shall be compatible with the type of pipe used. Pipe options shall be in accordance with the following:

1. Polyvinyl Chloride (PVC) conforming to AWWA C900. Minimum required wall thickness shall be DR 18 for pipe sizes 4" – 12" and DR 21 for sizes 14" and up.
2. Polyvinyl Chloride (PVC) conforming to ASTM Standard D1785. Schedule 80 is the minimum required for all pipe sizes. When pipe is to be threaded, the minimum required shall be Schedule 120.
3. Polyvinyl Chloride (PVC) conforming to ASTM D2241. A minimum wall thickness of SDR 26 is required for all pipe sizes.

Joining of plastic pipe shall be by push-on joint, solvent welded joint, heat welded joint, flanged joint, or threaded joint, in accordance with the pipe manufacturer's instructions and industry standards. Special precautions shall be taken to ensure clean, dry contact surfaces when making solvent or heat welded joints. Adequate setting time shall be allowed for maximum strength.

Elastomeric seals (gaskets) used for push-on joints shall comply with ASTM F477.

Solvent cement shall be specific for the plastic pipe material and shall comply with ASTM D2564 (PVC) or ASTM F493 (CPVC) and be approved by NSF.

4. Reinforced Concrete Pipe:

Reinforced concrete sewer pipe may be used for stormwater lines only and will not be allowed for sanitary or combined sewers. Pipe shall conform to ASTM C76 with a joint and rubber gasket meeting ASTM C443. The joint shall meet the leakage performance test in ASTM C443. The pipe manufacturer must demonstrate to the Engineer that the joints pass the leakage performance test prior to installation of the pipe. Pipe class shall be according to Section 550 of the Standard Specifications. The name

of the manufacturer, class, and date of issue shall be clearly identified on all sections of pipe.

Joints connecting dissimilar pipe materials shall be made with non-shear, "band-seal" couplings with stainless steel shear rings: Cascade CSS, Romac LSS, Fernco, Inc. Shear Ring, or approved equal. When available, a standard joint with a transition gasket may be used. If an appropriate mechanical coupling cannot be used, concrete collars per the detail in the plans may be required by the Engineer to ensure a watertight connection.

Method of Measurement and Basis of Payment. This work shall be measured in accordance with Article 550.09 of the Standard Specifications and paid for at the contract unit price per FOOT for STORM SEWERS or SANITARY SEWERS, of the type, diameter, and material specified, which shall include all labor, equipment, and material necessary for the completion of the work.

Removal of existing pipes will be paid for separately.

SANITARY SERVICE REPLACEMENT

Description. This work shall consist of removal and replacement of a portion of an existing sanitary sewer service of the required diameter with water quality pipe in accordance with the applicable portions of Section 41 of the Water Main Standard Specifications.

The proposed water main will cross several existing sanitary service lines servicing adjacent properties. The Contractor is responsible for determining the depth, location, size, and material of each service line. If an existing sanitary service line is discovered to be in direct conflict with the proposed water main, the Contractor shall either replace a portion of the existing sanitary service to eliminate the conflict with the proposed water main or adjust the elevation of the new water main as directed by the Village.

Additionally, any sanitary service that does not meet the horizontal and vertical separation requirements of Section 41-2.01A (1) & (2), as described in Section 41-2.01A (3) of the Water Main Standard Specifications, must be replaced with Ductile Iron or PVC pipe equivalent to water main standards of construction. Construction shall extend on each side of the crossing of the water main until the perpendicular distance from the water main to the sewer or drain line is at least 10 feet. Non-shear mission couplings or elbow fittings shall be used to connect new pipe to the existing sanitary service.

The Contractor shall provide a minimum of 2 days advance notice to the Engineer of the need for the sanitary service shutdown in order to notify the impacted resident(s). The Village has the right to approve or disapprove the proposed schedule if, in the opinion of the Village, it is not in the best interest of the residents impacted by the shutdown. Proper notification of loss of sanitary service shall be provided by the Contractor with assistance by Village staff. The duration of the shutdown for the adjusting of the sanitary service shall not exceed 5 hours and the sanitary service shall be restored no later than 3PM on the day of the shutdown.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per EACH for SANITARY SERVICE REPLACEMENT. This price shall include all labor, equipment, and materials necessary to complete the work as specified herein. Pipe bedding and trench backfill will not be measured for payment but shall be considered as included in the cost of this item.

CATCH BASINS, MANHOLES, OR INLETS

Description: This work shall consist of constructing catch basins, manholes or inlets, of the type, size, and depth specified (20-foot maximum), together with the necessary cast iron frames and lids, in accordance with Section 602 of the Standard Specifications and the latest IDOT Highway Standards, except as specified herein.

All catch basins, manholes, or inlets shall be provided with flexible rubber boots for all pipes (both existing and proposed) to ensure a watertight seal between the pipe and catch basin, manhole, or inlet. The flexible rubber boots shall conform to ASTM C-923. Sanitary manholes shall receive an external chimney seal and flexible rubber boot, which shall be included in the cost of SANITARY MANHOLE, SPECIAL.

Sewer pipe and connections shall be according to the "Storm and Sanitary Sewers" Special Provision. The connections, rubber boots, couplings, and trench backfill shall be included in the cost of CATCH BASINS, MANHOLES, or INLETS and will not be paid for separately. All half-trap pipes installed inside Catch Basins, Manholes, or Inlets shall be considered included in the cost of the structure.

All closed lids shall have the words "COMBINED", "STORM", or "SANITARY" cast into them, as directed by the Village. Adjusting the frames on new structures to final grade in the pavement area, prior to paving the HMA surface course or laying brick pavers, will not be paid for separately.

Method of Measurement and Basis of Payment: This work will be paid for at the contract unit price per EACH for CATCH BASINS, MANHOLES, or INLETS, of the type, size, and depth specified, with the specified frame and grates or lids, which price shall include all labor, material, and equipment necessary to complete the work as specified herein.

FRAMES AND LIDS, TYPE 1, OPEN LID

FRAMES AND LIDS, TYPE 1, CLOSED LID

Description. This work shall consist of furnishing and installing Type 1 frames and lids on structures identified by the Village. This work shall be in accordance with Sections 602 and 604 of the Standard Specifications except as noted herein.

Construction Requirements. The frames and lids shall be:

- Closed Lids: EJ 1050/1022 Type A (with neoprene gasket seal covers and 2 EPIC® closed pick slots) or Neenah Foundry R-1713/R-1772 (with neoprene gasket seal covers and 2 concealed pick holes).
- Open Lids: EJ 1050/1022 Type M1/M3 or Neenah Foundry R-2504/R-2502 Type D/G.

Closed Lids shall have text stating "SANITARY", "STORM", "COMBINED", or "WATER" cast into them.

Open Lids located west of Ridge Road shall have text stating "DRAINS TO WATERWAYS, DUMP NO WASTE" with symbols.

Method of Measurement and Basis of Payment. This work will be paid for at the contract unit price per EACH for FRAMES AND LIDS, TYPE 1, of the specified lid type. The price shall include all labor, material, and equipment necessary to complete the work as specified herein.

The frames and lids installed on reconstructed or replaced structures shall be included in the cost of CATCH BASINS, MANHOLES, INLETS, VALVE VAULTS, or DRAINAGE STRUCTURE TO BE RECONSTRUCTED, and will not be paid for separately.

The labor, material, and equipment necessary to adjust the new frames and lids to final grade shall be included in the cost of FRAMES AND LIDS, TYPE 1, of the specified lid type and will not be paid for separately.

STRUCTURES TO BE ADJUSTED

STRUCTURES TO BE ADJUSTED, SPECIAL

Description. This work shall consist of adjusting structures as noted herein:

All structures located in the curb flow line shall be adjusted to finished grade – this work shall be paid for as STRUCTURES TO BE ADJUSTED.

All structures located in the pavement, except for Water structures, shall be plated immediately ahead of full width pavement removal operations and buried under the HMA binder course. The Contractor shall then remove the HMA binder course over the plates and adjust the frames to finished grade – this work shall be paid for as STRUCTURES TO BE ADJUSTED, SPECIAL.

All existing Water structures located in the pavement and not scheduled to be abandoned shall be adjusted to finished grade – this work shall be paid for as STRUCTURES TO BE ADJUSTED.

Construction Requirements. Adjustments will be made with existing frames and grates or lids unless otherwise specified in the plans and as directed by the Village. All new frames and grates or lids will be paid for separately.

Concrete adjustment rings less than 4" thick shall not be allowed. High Density Polyethylene (HDPE) plastic adjusting rings and ring wedges shall be used for all adjustments less than 4" or in combination with 4" minimum concrete adjustment rings. Bricks shall not be used.

Revise the first paragraph of Article 602.04 to read:

"602.04 Concrete. Cast-in-place concrete for structures shall be constructed of Class SI concrete according to the applicable portions of Section 503. Cast-in-place concrete for pavement patching around adjustments and reconstructions shall be constructed of Class PP-1 concrete, unless otherwise noted in the plans, according to the applicable portions of Section 1020."

Revise the third, fourth and fifth sentences of the second paragraph of Article 602.11(c) to read:

"Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)(b)."

Revise Article 603.05 to read:

“603.05 Replacement of Existing Flexible Pavement. After the castings have been adjusted, the surrounding space shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)(b).”

Revise Article 603.06 to read:

“603.06 Replacement of Existing Rigid Pavement. After the castings have been adjusted, the pavement and HMA that was removed, shall be replaced with Class PP-1 concrete, unless otherwise noted in the plans, not less than 9 in. (225 mm) thick. The pavement may be opened to traffic according to Article 701.17(e)(3)(b).

The surface of the Class PP concrete shall be constructed flush with the adjacent surface.”

Revise the first sentence of Article 603.07 to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)(b).”

Method of Measurement and Basis of Payment. This work shall be paid for at the contract unit price per EACH for STRUCTURES TO BE ADJUSTED or STRUCTURES TO BE ADJUSTED, SPECIAL in accordance with the details, which shall include all labor, material, and equipment necessary to complete the above work as specified herein.

DRAINAGE OR UTILITY STRUCTURE TO BE RECONSTRUCTED, TYPE 1 FRAME, OPEN LID

Description. This work shall consist of replacing the existing (brick or block) cone and barrel sections on drainage structures with concrete cone, or flat top, and barrel sections. This work shall be in accordance with Section 602 of the Standard Specifications, except as noted herein.

Construction Requirements. The word DRAINAGE OR UTILITY STRUCTURE shall be understood to mean catch basin, manhole, inlet, valve vault, and valve box inclusive.

All structures shall be provided with flexible rubber boots for all pipes to ensure a watertight seal between the pipe and structure. The flexible rubber boots shall conform to ASTM C-923 and shall be included in the cost of this item.

Connections to the existing sewer shall be made using non-shear, flexible couplings with stainless steel shear rings. Couplings and pipe shall be included in the cost of this pay item and will not be paid for separately.

The space between the sides of the excavation and the outer surfaces of the catch basin, manhole, inlet, or valve vault shall be backfilled with coarse aggregate.

New frames and grates or lids shall be included in the cost for this pay item and will not be paid for separately.

Adjusting the frames on reconstructed drainage structures in the pavement to final grade, prior to paving the HMA surface course, will not be paid separately.

Method of Measurement and Basis of Payment. This work shall be measured and paid for at the contract unit price per EACH for DRAINAGE OR UTILITY STRUCTURE TO BE RECONSTRUCTED, TYPE 1 FRAME, OPEN LID, which price shall include all labor, materials, and equipment necessary to complete this work as specified herein.

MOBILIZATION

Description. This work shall be in accordance with Section 671 of the Standard Specification except as noted herein.

Add the following to Section 671.02 of the Standard Specifications:

"This work shall include all labor, material, and equipment necessary to mobilize construction for the start of work on the identified roadways, pavement patching, and any other locations associated with the project that start prior to the contract competition deadline."

TRAFFIC CONTROL AND PROTECTION

Description. This work shall be done in accordance with applicable portions of Section 701 of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", and any details and Highway Standards contained in the Plans and Special Provisions, and the Special Provisions contained herein, except as modified herein. This work shall consist of planning, furnishing, installation, maintenance, relocation, and removal of all traffic control devices as required to complete the work specified in the contract.

Construction Requirements. Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Recurring Local Roads and Streets Special Provisions, and Special Provisions contained herein, relating to traffic control.

HIGHWAY STANDARDS: 701301, 701427, 701501, 701606, 701801, and 701901.

DETAILS: Traffic Control and Protection for Side Roads, Intersections, and Driveways (TC-10)

SPECIAL PROVISIONS (Included in these Special Provisions by reference):

Maintenance of Roadways
Work Zone Traffic Control Surveillance (LRS 3)
Flaggers in Work Zones (LRS 4)
Work Zone Traffic Control Devices (BDE)

The Contractor shall contact the Village at least 72 hours in advance of beginning work. Construction operations shall be conducted in a manner such that streets will be open to emergency traffic and accessible as required to local traffic. 72 hours advanced notice shall be provided to residents, police, fire, school districts and trash haulers when access to any street will be temporarily closed or limited. Not complying with these notification requirements will be grounds for the Village to stop construction activities and the Contractor to be fined \$200 per violation. Removal and replacement of curb and

gutter and driveways shall be planned so as to cause a minimum of inconvenience to the abutting property owners.

The contractor shall provide the Village, at the preconstruction meeting, with a proposed plan for traffic control and protection throughout the duration of the project. The proposal shall include "Road Construction Ahead" signs at the beginning, end and all adjacent roadways to the project. Adjacent streets shall be open to local traffic at all times. If, at the discretion of the Village, a road closure is necessary, the contractor shall submit a proposed traffic control plan no less than three days prior to the day of the closure. The contractor shall also notify all local authorities and emergency services no less than 24 hours prior to the day of the closure.

At the preconstruction meeting, the Contractor shall furnish the name of the individual in his direct employ who is to be responsible for the installation and maintenance of the traffic control for this project. If the actual installation and maintenance are to be accomplished by a subcontractor, consent shall be requested of the Engineer at the time of the preconstruction meeting in accordance with Article 108.01 of the Standard Specifications. This shall not relieve the Contractor of the requirement to have a responsible individual in his direct employ supervise the work.

Revise Article 701.19 to read:

"701.19 Method of Measurement. Traffic control and protection will be measured for payment on a LUMP SUM basis."

Revise Article 701.20 to read:

"701.20 Basis of Payment. Traffic control and protection will be paid for at the contract price per LUMP SUM for TRAFFIC CONTROL AND PROTECTION, which price shall include all of the above listed details, standards, and special provisions."

CONSTRUCTION LAYOUT (SPECIAL)

Description. This work shall be done in accordance with Article 105.09 of the Standard Specifications, except as modified herein.

General. All required construction staking (storm sewer structure staking, utility installation, survey of the existing road edge or curb elevation, base course preparation, pavement placement, benchmark establishment and maintenance, etc.) shall be the responsibility of the Contractor. The Contractor shall mark advanced staking as requested by the Village, for coordination with adjacent property owners.

All existing topography, underground utilities, structures and associated facilities shown on these drawings have been plotted from available surveys and records. Therefore, their locations and elevations must be considered approximate only. There may be other facilities, the existence of which is not previously known. The Contractor shall field verify locations, elevations and sizes of all utilities and structures to be replaced prior to ordering the appropriate structures and materials. The Contractor is to notify the Village of any discrepancies prior to starting the work.

Construction Stakes, Lines and Grades. Engineering drawings provide benchmark and some control point (property/lot corners-iron pipe) information. The Contractor shall provide field forces, equipment, and material to set all stakes for this project, which are needed to establish offset stakes, reference

points, and any other horizontal and/or vertical controls, including street right-of-way, supplementary benchmarks, and other points necessary to secure a correct layout of the work.

The Contractor shall assume full responsibility for dimensions and elevations measured from such stakes. The Contractor shall exercise proper care in the preservation of the stakes set until the Village's approval of stake removal is obtained.

The reconstructed road edge of pavement elevation shall match the previous edge of pavement elevation, unless different road profile elevations are shown on the Engineering drawings and/or determined by the Village.

Method of Measurement and Basis of Payment. This work shall be paid for at the contract LUMP SUM price for CONSTRUCTION LAYOUT (SPECIAL).

SPRINKLER SYSTEM HEAD SPRINKLER SYSTEM LINE

Description. This work shall consist of repairing lawn sprinkler systems damaged by construction operations to the full extent.

Construction Requirements. The Contractor shall remove and properly dispose of damaged system materials and furnish and install sprinkler system replacement lines, fittings, and heads of the same or better quality, as approved by the Village.

Sprinkler system repairs shall be made by an experienced contractor specializing in lawn sprinkler system installation, maintenance, and repair, and shall be able to provide proof of experience upon request. The sprinkler system repair contractor will be considered a qualified contractor as determined by the Village.

Under no circumstance shall the Village take responsibility for scheduling repairs. The Village will not make payment for sprinkler system repairs until individual system owners have indicated in writing that their system has been satisfactorily repaired. The Contractor shall coordinate all repairs with the individual sprinkler system owners to access controls for flushing and testing.

Method of Measurement and Basis of Payment.

This work will be paid for at the contract unit price per EACH for SPRINKLER SYSTEM HEAD and at the contract unit price per FOOT for SPRINKLER SYSTEM LINE. These prices shall include all types and sizes of sprinkler system materials, fittings, and components necessary to make system repairs to the full extent, and all other labor, material, and equipment necessary to complete this work.

ITEMS ORDERED BY THE VILLAGE

Description. This item will be used at the discretion of the Village for items including, but not limited to, private landscaping / decorative landscaping replacement (or other restoration), investigation and repair/replacement of unknown utilities, structure modifications, and/or other items as determined in the field by the Village.

Basis of Payment. This work will be paid for in units of one dollar (\$1.00) under ITEMS ORDERED BY THE VILLAGE. Before work begins, the Village and the Contractor shall agree to the scope and amount

to be paid for each item of work.

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MAINTENANCE OF ROADWAYS (D1)

Effective: September 30, 1985 Revised: November 1, 1996

Beginning on the date that work begins on this project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Engineer but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

If items of work have not been provided in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for in accordance with Article 109.04 of the Standard Specifications.

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PUBLIC CONVENIENCE AND SAFETY (D1)

Effective: May 1, 2012
Revised: July 15, 2012

Add the following to the end of the fourth paragraph of Article 107.09:

“If the holiday is on a Saturday or Sunday, and is legally observed on a Friday or Monday, the length of Holiday Period for Monday or Friday shall apply.”

Add the following sentence after the Holiday Period table in the fourth paragraph of Article 107.09:

“The Length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday After”

Delete the fifth paragraph of Article 107.09 of the Standard Specifications:

“On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical.”

HOT-MIX ASPHALT BINDER AND SURFACE COURSE (D1)

Effective: November 1, 2019

Revised: January 1, 2025

Revise Article 1004.03(c) to read:

“(c) Gradation. The coarse aggregate gradations shall be as listed in the following table.

Use	Size/Application	Gradation No.
Class A-1, A-2, & A-3	3/8 in. (10 mm) Seal	CA 16 or CA 20
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & A-3	Cover Coat	CA 14
HMA High ESAL	IL-19.0; Stabilized Subbase IL-19.0	CA 11 ^{1/}
	SMA 12.5 ^{2/}	CA 13 ^{4/} , CA 14, or CA 16
	SMA 9.5 ^{2/}	CA 13 ^{3/4/} or CA 16 ^{3/}
	IL-9.5	CA 16, CM 13 ^{4/}
	IL-9.5FG	CA 16
HMA Low ESAL	IL-19.0L	CA 11 ^{1/}
	IL-9.5L	CA 16

1/ CA 16 or CA 13 may be blended with the CA 11.

2/ The coarse aggregates used shall be capable of being combined with the fine aggregates and mineral filler to meet the approved mix design and the mix requirements noted herein.

3/ The specified coarse aggregate gradations may be blended.

4/ CA 13 shall be 100 percent passing the 1/2 in. (12.5mm) sieve.”

Revise Article 1004.03(e) of the Standard Specifications to read:

“(e) Absorption. For SMA the coarse aggregate shall also have water absorption ≤ 2.0 percent.”

Revise the “High ESAL” portion of the table in Article 1030.01 to read:

“High ESAL	Binder Courses	IL-19.0, IL-9.5, IL-9.5FG, IL-4.75, SMA 12.5, Stabilized Subbase IL-19.0
	Surface Courses	IL-9.5, IL-9.5FG, SMA 12.5, SMA 9.5”

Revise Note 2. and add Note 6 to Article 1030.02 of the Standard Specifications to read:

"Item	Article/Section
(g)Performance Graded Asphalt Binder (Note 6)	1032
(h)Fibers (Note 2)	

Note 2. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

Note 6. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be a SBS PG 76-22 for IL-4.75, except where modified herein.."

Revise table in Article 1030.05(a) of the Standard Specifications to read:

"MIXTURE COMPOSITION (% PASSING)" ^{1/}												
Sieve Size	IL-19.0 mm		SMA 12.5		SMA 9.5		IL-9.5mm		IL-9.5FG		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max	min	max
1 1/2 in. (37.5 mm)												
1 in. (25 mm)		100										
3/4 in. (19 mm)	90	100		100								
1/2 in. (12.5 mm)	75	89	80	100		100		100		100		100
3/8 in. (9.5 mm)				65	90	100	90	100	90	100		100
#4 (4.75 mm)	40	60	20	30	36	50	34	69	60	75 ^{6/}	90	100
#8 (2.36 mm)	20	42	16	24 ^{4/}	16	32 ^{4/}	34 ^{5/}	52 ^{2/}	45	60 ^{6/}	70	90
#16 (1.18 mm)	15	30					10	32	25	40	50	65
#30 (600 μm)			12	16	12	18			15	30		
#50 (300 μm)	6	15					4	15	8	15	15	30
#100 (150 μm)	4	9					3	10	6	10	10	18
#200 (75 μm)	3.0	6.0	7.0	9.0 ^{3/}	7.5	9.5 ^{3/}	4.0	6.0	4.0	6.5	7.0	9.0 ^{3/}
#635 (20 μm)			≤ 3.0		≤ 3.0							
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		1.0		1.0		1.0

- 1/ Based on percent of total aggregate weight.
- 2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign = 90.
- 3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.
- 4/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.
- 5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.
- 6/ When the mixture is used as a binder, the maximum shall be increased by 0.5 percent passing."

Revise Article 1030.05(b) of the Standard Specifications to read:

- (b) Volumetric Requirements. The target value for the air voids of the HMA shall be 4.0 percent, for IL-4.75 and SMA mixtures it shall be 3.5 percent and for Stabilized Subbase it shall be 3.0 percent at the design number of gyrations. The voids in the mineral aggregate (VMA) and voids filled with asphalt binder (VFA) of the HMA design shall be based on the nominal maximum size of the aggregate in the mix and shall conform to the following requirements.

Mix Design	Voids in the Mineral Aggregate (VMA), % Minimum for Ndesign				
	30	50	70	80	90
IL-19.0		13.5	13.5		13.5
IL-9.5		15.0	15.0		
IL-9.5FG		15.0	15.0		
IL-4.75 ^{1/}		18.5			
SMA-12.5 ^{1/2/5/}				17.0 ^{3/} /16.0 ^{4/}	
SMA-9.5 ^{1/2/5/}				17.0 ^{3/} /16.0 ^{4/}	
IL-19.0L	13.5				
IL-9.5L	15.0				

- 1/ Maximum draindown shall be 0.3 percent according to Illinois Modified AASHTO T 305.
- 2/ The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30°F.
- 3/ Applies when specific gravity of coarse aggregate is ≥ 2.760 .
- 4/ Applies when specific gravity of coarse aggregate is < 2.760 .
- 5/ For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone"

Revise the last paragraph of Article 1102.01 (a) (5) of the Standard Specifications to read:

"IL-4.75 and Stone Matrix Asphalt (SMA) mixtures which contain aggregate having absorptions greater than or equal to 2.0 percent, or which contain steel slag sand, shall have minimum surge bin storage plus haul time of 1.5 hours."

Revise the first and second paragraphs of Articles 1030.06(c)(2) of the Standard Specifications to read:

- “(2) Personnel. The Contractor shall provide a QC Manager who shall have overall responsibility and authority for quality control. This individual shall maintain active certification as a Hot-Mix Asphalt Level II technician.

In addition to the QC Manager, the Contractor shall provide sufficient personnel to perform the required visual inspections, sampling, testing, and documentation in a timely manner. Mix designs shall be developed by personnel with an active certification as a Hot-Mix Asphalt Level III technician. Technicians performing mix design testing and plant sampling/testing shall maintain active certification as a Hot-Mix Asphalt Level I technician. The Contractor may provide a technician trainee who has successfully completed the Department’s “Hot-Mix Asphalt Trainee Course” to assist in the activities completed by a Hot-Mix Asphalt Level I technician for a period of one year after the course completion date. The Contractor may also provide a Gradation Technician who has successfully completed the Department’s “Gradation Technician Course” to run gradation tests only under the supervision of a Hot-Mix Asphalt Level II Technician. The Contractor shall provide a Hot-Mix Asphalt Density Tester who has successfully completed the Department’s “Nuclear Density Testing” course to run all nuclear density tests on the job site.”

Add Article 1030.06(d)(3) to the Standard Specifications to read:

- “(3) The Contractor shall take possession of any Department unused backup or dispute resolution HMA mixture samples or density specimens upon notification by the Engineer. The Contractor shall collect the HMA mixture samples or density specimens from the location designated by the Engineer. The HMA mixture samples or density specimens may be added to RAP stockpiles according to Section 1031.”

Revise the second paragraph of Articles 1030.07(a)(11) and 1030.08(a)(9) of the Standard Specifications to read:

“When establishing the target density, the HMA maximum theoretical specific gravity (Gmm) will be based on the running average of four available Department test results for that project. If less than four Gmm test results are available, an average of all available Department test results for that project will be used. The initial Gmm will be the last available Department test result from a QMP project. If there is no available Department test result from a QMP project, the Department mix design verification test result will be used as the initial Gmm.”

Revise the following table and notes in Article 1030.09 (c) of the Standard Specifications to read:

CONTROL LIMITS						
Parameter	IL-19.0, IL-9.5, IL-9.5FG, IL-19.0L, IL- 9.5L		SMA-12.5, SMA-9.5		IL-4.75	
	Individual Test	Moving Avg. of 4	Individual Test	Moving Avg. of 4	Individual Test	Moving Avg. of 4
% Passing: ^{1/}						
1/2 in. (12.5 mm)	± 6 %	± 4 %	± 6 %	± 4 %		
3/8 in. (9.5mm)			± 4 %	± 3 %		
# 4 (4.75 mm)	± 5 %	± 4 %	± 5 %	± 4 %		
# 8 (2.36 mm)	± 5 %	± 3 %	± 4 %	± 2 %		
# 16 (1.18 mm)			± 4 %	± 2 %	± 4 %	± 3 %
# 30 (600 µm)	± 4 %	± 2.5 %	± 4 %	± 2.5 %		
Total Dust Content # 200 (75 µm)	± 1.5 %	± 1.0 %			± 1.5 %	± 1.0 %
Asphalt Binder Content	± 0.3 %	± 0.2 %	± 0.2 %	± 0.1 %	± 0.3 %	± 0.2 %
Air Voids ^{2/}	± 1.2 %	± 1.0 %	± 1.2 %	± 1.0 %	± 1.2 %	± 1.0 %
Field VMA ^{3/}	-0.7 %	-0.5 %	-0.7 %	-0.5 %	-0.7 %	-0.5 %

1/ Based on washed ignition oven or solvent extraction gradation.

2/ The air voids target shall be a value equal to or between 3.2 % and 4.8 %.

3/ Allowable limit below minimum design VMA requirement.

Revise Article 1030.09(g)(2) of the Standard Specifications to read:

“(2)The Contractor shall complete split verification sample tests listed in the Limits of Precision table in Article 1030.09(h)(1).”

In the Supplemental Specifications, replace the revision for the end of the third paragraph of Article 1030.09(h)(2) with the following:

“When establishing the target density, the HMA maximum theoretical specific gravity (Gmm) will be the Department mix design verification test result.”

Add after third sentence of Article 1030.09(b) to read:

“If the Contractor and Engineer agree the nuclear density test method is not appropriate for the mixture, cores shall be taken at random locations determined according to the QC/QA document "Determination of Random Density Test Site Locations". Core densities shall be determined using the Illinois Modified AASHTO T 166 or T 275 procedure.”

Revise Table 1 and Note 4/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

	Breakdown/Intermediate Roller (one of the following)	Final Roller (one or more of the following)	Density Requirement
IL-9.5, IL-9.5FG, IL-19.0 ^{1/}	V _D , P, T _B , 3W, O _T , O _B	V _S , T _B , T _F , O _T	As specified in Section 1030
IL-4.75 and SMA ^{3/} _{4/}	T _B , 3W, O _T	T _F , 3W	As specified in Section 1030
Mixtures on Bridge Decks ^{2/}	T _B	T _F	As specified in Articles 582.05 and 582.06.

“4/ The Contractor shall provide a minimum of two steel-wheeled tandem rollers (T_B), and/or three-wheel (3W) rollers for breakdown, except one of the (T_B) or (3W) rollers shall be 84 inches (2.14 m) wide and a weight of 315 pound per linear inch (PLI) (5.63 kg/mm) and one of the (T_B) or (3W) rollers can be substituted for an oscillatory roller (O_T). T_F rollers shall be a minimum of 280 lb/in. (50 N/mm). The 3W and T_B rollers shall be operated at a uniform speed not to exceed 3 mph (5 km/h), with the drive roll for T_B rollers nearest the paver and maintain an effective rolling distance of not more than 150 ft (45 m) behind the paver.”

Add the following after the fourth paragraph of Article 406.13 (b):

“The plan quantities of SMA mixtures shall be adjusted using the actual approved binder and surface Mix Design’s G_{mb}.”

Revise first paragraph of Article 1030.10 of the Standard Specifications to read:

“A test strip of 300 ton (275 metric tons), except for SMA mixtures it will be 400 ton (363 metric ton), will be required for each mixture on each contract at the beginning of HMA production for each construction year according to the Manual of Test Procedures for Materials “Hot Mix Asphalt Test Strip Procedures”. At the request of the Producer, the Engineer may waive the test strip if previous construction during the current construction year has demonstrated the constructability of the mix using Department test results.”

Revise fourth paragraph of Article 1030.10 of the Standard Specifications to read:

“When a test strip is constructed, the Contractor shall collect and split the mixture according to the document “Hot-Mix Asphalt Test Strip Procedures”. The Engineer, or a representative, shall deliver split sample to the District Laboratory for verification testing. The Contractor shall complete mixture tests stated in Article 1030.09(a). Mixture sampled shall include enough material for the Department to conduct mixture tests detailed in Article 1030.09(a) and in the document “Hot-Mix Asphalt Mixture Design Verification Procedure” Section 3.3. The mixture test results shall meet the requirements of Articles 1030.05(b) and 1030.05(d), except Hamburg wheel tests will only be conducted on High ESAL mixtures during production.”

FRICITION AGGREGATE (D1)

Effective: January 1, 2011
 Revised: December 1, 2021

Revise Article 1004.03(a) of the Standard Specifications to read:

“1004.03 Coarse Aggregate for Hot-Mix Asphalt (HMA). The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate for HMA shall be according to the following table.

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	<u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA Low ESAL	Stabilized Subbase or Shoulders	<u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{1/} Crushed Concrete
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L SMA Binder	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete ^{3/}

Use	Mixture	Aggregates Allowed	
HMA High ESAL Low ESAL	C Surface and Binder IL-9.5 IL-9.5FG or IL-9.5L	<u>Allowed Alone or in Combination</u> ^{5/} :	
		Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}	
HMA High ESAL	D Surface and Binder IL-9.5 or IL-9.5FG	<u>Allowed Alone or in Combination</u> ^{5/} :	
		Crushed Gravel Carbonate Crushed Stone (other than Limestone) ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/}	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		25% Limestone	Dolomite
		50% Limestone	Any Mixture D aggregate other than Dolomite
HMA High ESAL	E Surface IL-9.5 SMA Ndesign 80 Surface	75% Limestone	Crushed Slag (ACBF) or Crushed Sandstone
		<u>Allowed Alone or in Combination</u> ^{5/ 6/} :	
		Crushed Gravel Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Dolomite ^{2/}	Any Mixture E aggregate

Use	Mixture	Aggregates Allowed	
		75% Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone
		75% Crushed Gravel ^{2/}	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF), or Crushed Steel Slag
HMA High ESAL	F Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} :	
		Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<u>Up to...</u>	<u>With...</u>
		50% Crushed Gravel ^{2/} or Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone

- 1/ Crushed steel slag allowed in shoulder surface only.
- 2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80.
- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as binder.
- 5/ When combinations of aggregates are used, the blend percent measurements shall be by volume."
- 6/ Combining different types of aggregate will not be permitted in SMA Ndesign 80."

HOT-MIX ASPHALT – MIXTURE DESIGN VERIFICATION AND PRODUCTION (D1)

Effective: January 1, 2019
Revised: December 1, 2021

Add to Article 1030.05 (d)(3) of the Standard Specifications to read:

“ During mixture design, prepared samples shall be submitted to the District laboratory by the Contractor for verification testing. The required testing, and number and size of prepared samples submitted, shall be according to the following tables.

High ESAL – Required Samples for Verification Testing	
Mixture	Hamburg Wheel and I-FIT Testing ^{1/ 2/}
Binder	total of 3 - 160 mm tall bricks
Surface	total of 4 - 160 mm tall bricks

Low ESAL – Required Samples for Verification Testing	
Mixture	I-FIT Testing ^{1/ 2/}
Binder	1 - 160 mm tall brick
Surface	2 - 160 mm tall bricks

- 1/ The compacted gyratory bricks for Hamburg wheel and I-FIT testing shall be 7.5 ± 0.5 percent air voids.
- 2/ If the Contractor does not possess the equipment to prepare the 160 mm tall brick(s), twice as many 115 mm tall compacted gyratory bricks will be acceptable.

Revise the fourth paragraph of Article 1030.10 of the Standard Specifications to read:

“When a test strip is not required, each HMA mixture shall still be sampled on the first day of production: I-FIT and Hamburg wheel testing for High ESAL; I-FIT testing for Low ESAL. Within two working days after sampling the mixture, the Contractor shall deliver gyratory cylinders to the District laboratory for Department verification testing. The High ESAL mixture test results shall meet the requirements of Articles 1030.05(d)(3) and 1030.05(d)(4). The Low ESAL mixture test results shall meet the requirements of Article 1030.05(d)(4). The required number and size of prepared samples submitted for the Hamburg wheel and I-FIT testing shall be according to the “High ESAL - Required Samples for Verification Testing” table in Article 1030.05(d)(3) above.”

Add the following to the end of Article 1030.10 of the Standard Specifications to read:

"Mixture sampled during first day of production shall include approximately 60 lb (27 kg) of additional material for the Department to conduct Hamburg wheel testing and approximately 80 lb (36 kg) of additional material for the Department to conduct I-FIT testing. Within two working days after sampling, the Contractor shall deliver prepared samples to the District laboratory for verification testing. The required number and size of prepared samples submitted for the Hamburg wheel and I-FIT testing shall be according to the "High ESAL - Required Samples for Verification Testing" table in Article 1030.05(d)(3) above."

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CONSTRUCTION LAYOUT SPECIAL FOR RESURFACING WITH ADA AND STAND ALONE ADA (D1)

Effective: January 1, 2017

Revised: April 17, 2017

Description. This work shall consist of furnishing and placing construction layout stakes for the construction of ADA Ramps shown in the plans. The Contractor shall furnish and place stakes marking the locations and elevations of points indicated in the plans for ADA Ramp Construction.

The Contractor shall locate all reference points as shown on the plans and listed herein. Any additional control points required will be identified in the field by the Contractor and all field notes will be kept in the office of the Resident Engineer.

The Contractor shall provide field forces, equipment, and material to set all additional stakes for this project, which are needed to establish offset stakes, reference points, and any other horizontal and vertical controls necessary to secure a correct layout for the work.

Layout stakes shall be set to assure conformance to the ADA Ramp design shown on the plans and shall meet the approval of the Engineer.

The Contractor shall be responsible for having the finished work conform to the lines, grades, elevations, and dimensions called for in the plans. Any inspection or checking of the Contractor's layout by the Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimensions, grades, and elevations of the work. The Contractor shall exercise care in the preservation of stakes and bench marks and shall have them reset when any are damaged, lost, displaced, removed or otherwise obliterated.

Responsibility of the Department.

The Department will make random checks of the Contractor's staking to determine if the work is in conformance with the plans. When the Contractor's work will tie into work that is being or will be done by others, checks will be made to determine if the work is in conformance with the proposed overall grade and horizontal alignment.

Where the Contractor, in setting construction stakes, discovers discrepancies, the Department will check to determine their nature and make whatever revisions are necessary to the plans. Any additional restaking required by the Engineer will be the responsibility of the Contractor. The additional restaking done by the Contractor will be paid for according to Article 109.04 of the Standard Specifications.

The Department will be responsible for the accuracy of the initial reference points shown in the plans.

It is not the responsibility of the Department, except as provided herein, to check the correctness of the Contractor's stakes. Any apparent errors will be immediately called to the Contractor's attention and the Contractor will be required to make the necessary correction before the stakes are used for construction purposes. The Contractor shall provide the Engineer a copy of any field notes and layout diagrams produced during the course of the project.

Responsibility of the Contractor.

The Contractor shall establish from the given survey points and contract plan information, all the control points or reference points necessary to layout the ADA Ramp elements. The Contractor shall furnish and place the layout stakes. The Contractor shall notify the Engineer when the stakes are complete and available for review and approval by the Engineer at least 3 working days in advance of the actual construction.

Field notes shall be kept in standard survey field notebooks and those books shall become the property of the Department at the completion of the project. All notes shall be neat, orderly, and in accepted form.

Measurement and Payment. This work will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT (SPECIAL).

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NOT FOR CONSTRUCTION