

INFRASTRUCTURE SERVICES DIVISION
ENVIRONMENTAL ENGINEERING SECTION

SPECIAL PROVISIONS
NORTH TERRACE AVENUE GREEN STREET PROJECT
FROM NORTH FROM EAST BELLEVIEW PLACE TO EAST LAFAYETTE PLACE
PLAN FILE NOS. 241-6, 241-7, 241-8, 241-9, 241-10, 241-11, 241-12, 241-13, AND 241-14

SPECIAL PROVISIONS, GENERAL NOTES:

1. STANDARD SPECIAL PROVISIONS, PLAN FILE NUMBER 198-5-92, REVISED DATED MAY 1, 2013 OR LATEST REVISION THEREOF IS PART OF THIS CONTRACT.
2. THE CONTRACTOR SHALL INSPECT THE PROJECT SITE AND STORM INLETS AND DRAINS PRIOR TO BIDDING. PLEASE CALL THE ENVIRONMENTAL ENGINEERING SECTION (EES) AT 414-286-3241, AT LEAST ONE WORKING DAY PRIOR TO THE DESIRED DATE OF INSPECTION FOR CLEANING.
3. THE CONTRACTOR SHALL SCHEDULE A PRE – CONSTRUCTION MEETING PRIOR TO THE START OF WORK. PLEASE CONTACT MR. SOLOMON BEKELE OF EES AT (414) 286-0507 TO SCHEDULE THE MEETING. ALL SUBCONTRACTORS MAY ATTEND.
4. NO WORK SHALL BE PERFORMED BEFORE APRIL 1, 2016. ALL WORK ON THIS CONTRACT SHALL BE COMPLETED BY JUNE 17, 2016. NO PLANTS SHALL BE INSTALLED WITHOUT THE CONSENT OF MR. SCOTT BARAN OF THE CITY'S FORESTRY SECTION. PLEASE CALL MR. BARAN AT (414) 286-3531 BEFORE INSTALLING ANY PLANTS.
5. THE CONTRACTOR SHALL CONTACT DIGGERS HOTLINE BEFORE COMMENCING ANY WORK ON THIS PROJECT TO VERIFY THE LOCATIONS OF EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO UTILITIES
6. THERE SHALL BE NO OVERNIGHT STORAGE OF ANY ERODIBLE MATERIALS IN THE PUBLIC RIGHT-OF-WAY. ANY MATERIALS STORED OVERNIGHT SHALL BE REMOVED BY CITY FORCES AT THE CONTRACTORS EXPENSE.
7. THE CONTRACTOR SHALL TAKE WHATEVER PRECAUTIONS NECESSARY TO PREVENT DEBRIS FROM ENTERING THE SEWER SYSTEM.
8. SEE SPECIAL PROVISION NO. 52 OF THE STANDARD SPECIAL PROVISIONS FOR EROSION CONTROL REQUIREMENTS.
9. THE CONTRACTOR SHALL POST CITY OF MILWAUKEE PROJECT IDENTIFICATION ("BLUE") SIGNS AS DIRECTED BY THE ENGINEER. THE CITY WILL PROVIDE BLANK SIGNS FOR THE CONTRACTOR TO FILL IN CONTACT INFORMATION AND POST.
10. WITHIN TEN (10) BUSINESS DAYS OF THE AWARD OF THIS CONTRACT, THE CONTRACTOR SHALL MAIL A PUBLIC NOTICE OF THE PROJECT TO THE CITY OF MILWAUKEE CONSTRUCTION SECTION AT 841 NORTH BROADWAY, ROOM 710, MILWAUKEE, WI 53202 FOR REVIEW AND APPROVAL. WITHIN FIVE (5) BUSINESS DAYS OF APPROVAL, THE CONTRACTOR SHALL MAIL THE PROJECT NOTICE TO ALL AFFECTED AREA RESIDENTS AND BUSINESSES. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL NOTICES ARE CONVEYED TO THE PUBLIC REGARDING THIS PROJECT. A SAMPLE NOTICE IS INCLUDED IN THE CONTRACT DOCUMENTS. CONTRACT WORK SHALL NOT START PRIOR TO COMPLETING. COMPLIANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

11. ALL MATERIALS AND EQUIPMENT INSTALLED AS PART OF THIS CONTRACT SHALL BE NEW AND FIRST-RATE QUALITY UNLESS OTHERWISE NOTED.
12. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL REPORT CLOGGED STORM INLET DRAINS TO THE UNDERGROUND OPERATIONS UNIT AT 414-286-3731 SO THAT THEY CAN BE CLEANED.
13. ALL WORK AND MATERIALS SHALL BE IN FULL CONFORMANCE WITH THE LATEST APPLICABLE RULES, REGULATIONS, REQUIREMENTS, AND SPECIFICATIONS OF LOCAL, STATE, AND FEDERAL LAWS, AMERICAN WATER WORKS ASSOCIATION (AWWA), NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), UNITED STATES OF AMERICA STANDARDS INSTITUTE, NATIONAL BOARD OF FIRE UNDERWRITERS, NATIONAL ELECTRICAL SAFETY CODE, AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), UNDERWRITERS LABORATORIES (UL), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND CITY OF MILWAUKEE ORDINANCES.
14. ANY DAMAGE OCCURRING TO LAWNS, VEGETATION, TREES, ETC. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
15. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY ALL FEES REQUIRED BY GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK. THE COST OF OBTAINING PERMITS AND PAYING FEES SHALL BE INCLUDED IN THE UNIT PRICE BIDS.
16. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE (1) 11-FOOT TRAFFIC LANE ON THE PROPER SIDE FOR EACH DIRECTION DURING WORKING HOURS. THE CONTRACTOR SHALL NOT IMPEDE TRAFFIC IN ANY WAY DURING NON-WORKING HOURS.
17. AT ALL LOCATIONS WHERE PROPOSED BIOSWALES WILL BE CONSTRUCTED OVER EXISTING WATER SERVICES, THE WATER SERVICE SHALL BE INSULATED ACROSS THE WIDTH OF THE EXCAVATION IN ACCORDANCE WITH MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS DRAWING NUMBER 241-12. CURB STOP VALVE BOXES SHALL BE ADJUSTED PER NOTE 6 OF DRAWING NUMBER 11. THE CONTRACTOR SHALL FURNISH ALL POLYETHYLENE WRAP AND INSULATION REQUIRED FOR INSTALLATION ON THIS PROJECT TO THE LATEST VERSION OF THE CITY OF MILWAUKEE'S MATERIAL SPECIFICATIONS. THE CITY OF MILWAUKEE WILL FURNISH CURB STOPS AND SERVICE BOXES, IF NEEDED, FOR INSTALLATION ON THIS PROJECT. CONTACT MR. RICARDO LOPEZ, INVENTORY MANAGER, AT (414) 286-6123 FOR CITY OF MILWAUKEE SUPPLIED MATERIALS. ALL COSTS FOR INSULATION OF WATER SERVICES AND ADJUSTMENTS OF VALVE BOXES TO BE INCLUDED IN THE UNIT BID PRICE FOR WATER SERVICE INSULATION.
18. THE CONTRACTOR SHALL SUPPORT ANY STREET LIGHTING CONDUITS AND CABLE CROSSINGS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO STREET LIGHTING FACILITIES AND SHALL CALL STREET LIGHTING SHOP AT (414) 286-3481 TO REPORT ANY DAMAGES. IF THE CONTRACTOR CANNOT WORK AROUND THE STREET LIGHTING FACILITIES IN ANY AREA OF THIS PROJECT, THE CONTRACTOR SHALL CONTACT THE STREET LIGHTING ENGINEER AT (414) 286-2174 FOR AN ESTIMATE OF COSTS FOR ALTERATIONS TO STREET LIGHTING FACILITIES.
19. TYPICALLY, ALL STREET LIGHTING CABLES ARE LOCATED ONE (1) FOOT BEHIND THE CURB SECTION. THE DEPTH OF THE STREET LIGHTING IS APPROXIMATELY 18" INCHES BELOW THE SURFACE. WHEN DIGGING AROUND STREET LIGHTING CABLES, THE CONTRACTOR SHALL EITHER DIG OR HYDROBORE THE EXISTING GROUND AND TAKE SPECIAL CARE AROUND THIS UTILITY. THE CONTRACTOR SHALL CALL DIGGERS HOTLINE TO IDENTIFY AND MARK UNDERGROUND UTILITIES.

A 2.5" STREET LIGHTING PVC CABLE SPLIT DUCTS SHALL BE INSTALLED BY THE CITY'S STREET LIGHTING SHOP TO COVER AND PROTECT THE STREET LIGHTING CABLES WITHIN THE PROJECT AREA. THE STREET LIGHTING CABLES SHALL BE PROTECTED WITH A SPLIT DUCT. IF NOT ALREADY PROTECTED, THE CITY WILL INSTALL THE SPLIT DUCT ONCE THE CONTRACTOR EXCAVATES THE MATERIAL IN THE EXSISTING FACILITIES. EXTREME CAUTION SHALL BE TAKEN WHEN EXCAVATING AROUND THE STREET LIGHTINIG CABLES. THE CONTRACTOR SHALL CONTACT THE STREET LIGHTING ENGINEER AT (414) 286-2174 OR THE FIELD SUPERVISOR DENNIS MILLER AT (414) 286-45942, SEVENTY TWO HOURS (72) IN ADVANCED TO INSPECT AND /OR SCHEDULE THE INSTALLATION OF THE SPLIT DUCT. THE SPLIT DUCT SHALL BE INSTALLED BY THE CITY PRIOR TO CONSTRUCTION OF THE BIORETENTION FACILTITIES.

ALL REQUIRED PVC CABLE SPLIT DUCT SHALL BE IN PLACE **BEFORE** INSTALLING THE 1 1/2" CRUSHED STONE STORAGE MEDIUM AND ENGINEERED SOIL. PRIOR TO ANY WORK THAT CAUSES CROSSING OF STREET LIGHTING FACILITIES, THE CONTRACTOR SHALL CONTACT THE STREET LIGHTING ENGINEER AT (414) 286-4251 OR THE FIELD ENGINEER AT (414) 286-4259 FOR SPLIT DUCT INSTALLATION.

ALSO NOTE THAT 6" DIA. STORM DRAINS AND STORM CURB INLETS WILL BE CONSTRUCTED UNDER THE STREET LIGHTING FACILITIES. PRIOR TO INSTALLING THE 6" STORM DRAINS AND STORM CURB INLETS, THE CONTRACTOR SHALL CONTACT THE STREET LIGHTING ENGINEER OR THE FIELD SUPERVISOR.

20. THE CONTRACTOR SHALL CONTACT FORESTRY ENGINEER AT (414) 286-3531 PRIOR TO REMOVING ANY TREES AND PRIOR TO INSTALLING ANY VEGETATION.

THERE ARE EXISTING CITY OF MILWAUKEE TREES WITHIN THE PROJECT LIMITS. ANY REQUIRED TREE PRUNING OR OTHER TREE RELATED WORK ON THIS PROJECT MUST BE FIRST APPROVED BY THE FORESTRY SECTION. THE CONTRACTOR SHALL BE LICENSED, INSURED, AND CERTIFIED TREE CARE PROFESSIONAL. THIS WORK MUST BE SCHEDULED AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE CONSTRUCTION WORK SO THAT TREE PRUNING WORK CAN BE ARRANGED. THE CONTRACTOR SHALL CONTACT MR. DWAYNE REINHARDT, FORESTRY SECTION INSPECTOR, AT (414) 708-2438 REGARDING ANY TREE RELATED WORK. THE COST OF ANY POSSIBLE TREE PRUNING WORK SHALL BE CONSIDERED INCIDENTAL

21. FOR THE CONSTRUCTION OF THE BIORETENTION FACILITIES, THE CONTRACTOR SHALL USE AS BENCHMARK THE ELEVATION SHOWN OVER THE EXISTING STORM INLETS OR MANHOLES WHEN CONSTRUCTING THE FACILITIES. THE CONTRACTOR SHALL BE AWARE THAT THE RIM OF THE OVERFLOW STRUCTURE IS SLIGHTLY LOWER THAN THE GUTTER ELEVATION OF THE LOWEST CURB INLET TO PREVENT WATER FROM FLOWING BACK INTO THE STREET.
22. THE CONTRACTOR IS ENCOURAGED TO SOLICIT BIDS FOR ALL WORK RELATED TO BID ITEM NOS. 92035 AND 95009 FROM THE CITY'S FORESTRY SECTION. PLEASE CONTACT MR. SCOTT BARAN AT 414-286-3531.
23. THE CONTRACTOR SHALL IMPLEMENT PROPER EXCAVATION METHODS TO ENSURE PROTECTION OF THE BUFFER AREAS LOCATED BETWEEN THE BIORETENTION FACILITIES AND THE CURB. IF THE BUFFER AREAS ARE DISTURBED OR REMOVED DUE TO CONTRACTOR'S EXCAVATION METHODS, THE CONTRACTOR SHALL REPLACE THEM IN KIND AT ITS OWN EXPENSE. THE BUFFERS AREAS ARE CLEARLY SHOWN IN THE PLANS FOR THIS CONTRACT.

24. THE FOLLOWING SPECIAL PROVISIONS REFER TO SPECIFIC BID ITEMS FROM THE PLANS AND SUPPLEMENT AND/OR ALTER THE STANDARD SPECIFICATIONS FOR THIS CONTRACT (FROM A TO T):

A. 3'-0" DIA. STORM INLET W/SUMP - BID ITEM NUMBER 42301

THIS BID ITEM CONSISTS OF FURNISHING AND INSTALLING A 3-FT DIA. STORM INLET WITH SUMP AT LOCATIONS SHOWN ON THE PLANS. ALL COSTS ASSOCIATED WITH THE INSTALLATION OF THE INLET AS SHOWN ON PLAN 241-52 SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 3'-0" DIA. STORM INLET W/SUMP.

B. STORM CURB INLET WITH GRATE TYPE A – BID ITEM NUMBER 44010

THIS BID ITEM CONSISTS OF FURNISHING AND INSTALLING A STORM INLET WITH GRATE TYPE A AS SHOWN ON THE PLANS. THE GRATE SHALL BE NEENAH R-3228 MODIFIED FRAME AND GRATE WITH THE CURB BOX REMOVED AND LETTERED 'CITY OF MILWAUKEE'. THE ELEVATION OF THE PROPOSED GRATE SHALL MATCH EXACTLY THE ELEVATION OF THE REMOVED GUTTER. THE CONTRACTOR SHALL CONTACT NEENAH FOUNDRY AT (414) 943-3500 TO OBTAIN ALL NECESSARY CASTING.

ALL WORK AND MATERIALS NECESSARY TO CONSTRUCT THE STORM CURB INLET WITH GRATE SHALL BE INCLUDED IN THE UNIT BID PRICE. THE WORK SHALL INCLUDE BUT IS NOT LIMITED TO SAWING, REMOVAL AND REPLACEMENT OF CURB AND GUTTER, AND SUPPLYING AND INSTALLATION OF NEENAH R-3228 H GRATE WITH FRAME, AND BUILDING A CHANNEL WITH SEMI SUBMERGED COBBLE STONES TO DIRECT THE RUNOFF INTO THE BIORETENTION FACILITY. THE CHANNELS SHALL BE CONSTRUCTED FROM THE BACK OF CURB TO THE SLOPED EDGE OF THE BIORETENTION FACILITY. THE BOTTOM OF THE CHANNEL SHALL HAVE SEMI-SUBMERGED 6" COBBLES AND BE SLOPED TO ALLOW WATER TO FLOW INTO THE BIORETENTION FACILITY. THE STORM CURB INLET WITH GRATE SHALL BE CONSTRUCTED ACCORDING TO THE DETAILS SHOWN IN PLAN FILE 241-52.

ALL REQUIRED PVC CABLE SPLIT DUCT SHALL BE IN PLACE **BEFORE** INSTALLING ALL STORM CURB INLET SECTIONS AND 6" DIA. STORM DRAINS. PRIOR TO ANY WORK THAT CAUSES CROSSING OF STREET LIGHTING FACILITIES, CONTACT THE STREET LIGHTING ENGINEER AT (414) 286-2174 FOR SPLIT DUCT INSTALLATION AND REQUIRED LOCATIONS.

C. TREES CLEARING AND TREES GRUBBING - BID ITEM NUMBERS 50012 AND 50013

THE WORK UNDER THESE BID ITEMS INCLUDES BUT IS NOT BE LIMITED TO THE COMPLETE REMOVAL OF EXISTING TREES LOCATED IN OR ADJACENT TO THE PROPOSED BIORETENTION FACILITIES AND A COMPLETE CLEARING OF ALL REMAINING ROOTS FROM THE AREA TO A SUFFICIENT DEPTH TO ALLOW THE INSTALLATION THE BIORETENTION FACILITY. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICES FOR TREE CLEARING AND TREE GRUBBING.

IF TREE PRUNING OR REMOVAL IS REQUIRED BUT IS NOT SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT MR. MIKE MUNSON AT (414) 286-3042, AT LEAST 10 WORKING DAYS PRIOR TO THE START OF THE CONSTRUCTION WORK SO THAT TREE REMOVAL AND/OR PRUNING WORK CAN BE ARRANGED.

D. TYPE "A" LAWN REPLACEMENT - BID ITEM NUMBER 50025

ALL DISTURBED GRASS AREAS OUTSIDE THE LIMITS OF THE BIORETENTION FACILITIES SHALL BE REPLACED WITH TYPE "A" LAWN REPLACEMENT. THE COST OF ALL WORK ASSOCIATED WITH THIS BID ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR TYPE "A" LAWN REPLACEMENT.

E. 6" GRANITE COBBLES - BID ITEM NUMBER 50043

A MINIMUM OF 4' X 4' AREA OF 6" GRANITE COBBLES SHALL BE FURNISHED AND INSTALLED AT EACH CURB CUT WITHIN THE BIORETENTION FACILITIES AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL USE 6" WISCONSIN GRANITE FIELD STONE BOULDERS PARTIALLY SUBMERGED WHICH ARE VISUALLY APPEALING AND WITH MORE THAN ONE COLOR. THE COST OF ALL WORK ASSOCIATED WITH THIS BID ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 6" GRANITE COBBLES

F. PAVEMENT DOWELS - 50300

THIS BID ITEM CONSISTS OF FURNISHING AND INSTALLING PAVEMENT DOWELS AT LOCATIONS WHERE THE NEW CURB AND GUTTER AND NEW PAVEMENT ABUTS EXISTING CURB AND GUTTER AND EXISTING PAVEMENT.

THE DOWELS SHALL BE SPACED 3-FEET CENTER-TO-CENTER AND INSTALLED ON A SKEW HORIZONTALLY. THE DIRECTION OF THE SKEW SHALL BE ALTERNATED AFTER EVERY TWO BARS.

THE CONTRACTOR SHALL INSTALL A MINIMUM OF TWO PAVEMENT DOWELS ON EACH SIDE OF THE NEW CURB AND GUTTER TO CONNECT TO THE EXISTING CURB AND GUTTER.

THE COST OF ALL WORK ASSOCIATED WITH THIS BID ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PAVEMENT DOWELS.

G. CONCRETE CURB AND GUTTER - BID ITEM NUMBER 50316

ALL WORK AND MATERIALS NECESSARY TO REMOVE AND REPLACE THE EXISTING CURB AND GUTTER INCLUDING SAWING AT THE GUTTER LINE SHALL BE INCLUDED IN THE UNIT PRICE BID. THE CONTRACTOR SHALL DETERMINE THE LENGTH OF CURB AND GUTTER REQUIRED TO BE REPLACED IN ORDER TO INSTALL EACH STORM CURB INLET WITH GRATE TYPE A. THE LENGTH OF REPLACED CURB AND GUTTER OUTSIDE THE CONCRETE INLET SECTION SHALL BE KEPT TO A MINIMUM; HOWEVER, IN NO CASE SHALL THE REPLACED CURB AND GUTTER EXCEED A 10' DIMENSION. IF AN EXISTING CRACK IS WITHIN TWO FEET OF A CRACK, THE REMOVAL SHALL BE TO THE JOINT.

THE REPLACED CURB AND GUTTER ELEVATIONS SHALL MATCH THE EXISTING CURB AND GUTTER ELEVATION AT THE SAW LINE. MINIMUM OF TWO (2) PAVEMENT DOWELS SHALL BE USED ON EACH SIDE OF THE NEW CURB AND GUTTER TO CONNECT TO EXISTING CURB AND GUTTER AT THE SAW LINE. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE CURB AND GUTTER.

H. 6" DIA. PERFORATED STORM UNDERDRAIN PVC PIPE - BID ITEM NUMBER 70061

THIS BID ITEM CONSISTS OF FURNISHING AND INSTALLING PERFORATED UNDERDRAIN PIPES IN THE BIORETENTION FACILITIES AS SHOWN ON THE PLANS. THE WORK INCLUDES BUT IS NOT LIMITED TO THE INSTALLATION OF 6" PERFORATED PIPES, CONNECTIONS TO THE 6" STORM DRAIN AND/OR TO INLETS INCLUDING INSTALLATION OF ALL TEES, WYES, FITTINGS, ETC AND PROVIDING ALL REQUIRED END CAPS ON ALL END PIECES. ALL WORK AND MATERIALS ASSOCIATED WITH THE INSTALLATION OF THIS BID ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 6" DIA. PERFORATED STORM UNDERDRAIN PVC PIPE.

THE PIPE SHALL HAVE 3/8-INCH PERFORATIONS, SPACED AT 6-INCH CENTERS, WITH A MINIMUM OF 4 HOLES PER ROW. THE PERFORATIONS SHALL BE DRILLED TO THE BOTTOM SURFACE OF THE PIPE.

I. 6" DIA. CLEANOUT - BID ITEM NUMBER 70064

THIS BID ITEM CONSISTS OF FURNISHING AND INSTALLING 6" DIA. CLEANOUTS AT ALL BIORETENTION FACILITIES AS SHOWN ON THE PLANS. THE WORK INCLUDES BUT IS NOT LIMITED TO THE INSTALLATION OF 6" DIA. CLEANOUT, CONNECTIONS TO THE 6" DIA. PERFORATED UNDERDRAIN AND INSTALLATION OF ALL TEES, WYES, FITTINGS, ETC. ALL WORK AND MATERIALS ASSOCIATED WITH THE INSTALLATION OF THIS BID ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 6" DIA. CLEANOUT.

J. ENGINEERED SOIL - BID ITEM NUMBER 91056

THIS BID ITEM INCLUDES ALL LABOR, EQUIPMENT, AND MATERIALS TO SUPPLY, MIX, AND INSTALL THE ENGINEERED SOIL, WHICH IS A 70:30 MIX OF SAND AND COMPOST BY VOLUME. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ENGINEERED SOIL AND SHALL BE PAID PER CUBIC YARDS OF ENGINEERED SOIL INSTALLED. PAYMENT SHALL BE MADE BASED ON VOLUMES MEASURED BY THE ENGINEER ON SITE.

AT A MINIMUM, ALL ENGINEERED SOIL SHALL BE SLOPED AT 2:1 RATIO. THE CONTRACTOR SHALL KEEP A MINIMUM OF 18" COVER OVER THE STREET LIGHTING CABLES.

THE ENGINEERED SOIL MIXTURE SHALL CONSIST OF A MIXTURE OF SILICA SAND AND COMPOST. THE MIX SHALL BE DESIGNED TO APPROXIMATE THE FOLLOWING PERCENTAGES BY VOLUME:

<u>ENGINEERED SOIL COMPONENT</u>	<u>PERCENTAGE COMPOSITION (BY VOLUME)</u>
SILICA SAND	70
COMPOST	30

COMPOST FOR BIORETENTION FACILITY BASIN - THE COMPOST SHALL MEET THE REQUIREMENTS OF THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES' (WDNR) TECHNICAL STANDARD 1004, BIORETENTION FACILITY FOR INFILTRATION AND WDNR SPECIFICATION S100, COMPOST.

SAND FOR BIORETENTION FACILITY – THE SAND SHALL BE USDA COURSE SAND (0.02 TO 0.04 INCH DIAMETER), PRE-WASHED TO REMOVE CLAY AND SILT PARTICLES, AND WELL-DRAINED OR DRIED PRIOR TO MIXING. CALCIUM CARBONATED, DOLOMITIC SAND, AND OTHER SUBSTITUTIONS ARE NOT ALLOWED. SAND SHALL MEET ASTM C-33.

THE ENGINEERED SOIL MIXTURE SHALL HAVE A PH BETWEEN 5.5 AND 6.5 AND HAVE ADEQUATE NUTRIENT CONTENT TO MEET PLANT GROWTH REQUIREMENT

K. 1 1/2" CRUSHED STONE - BID ITEM NUMBER 91180

THIS BID ITEM CONSISTS OF FURNISHING AND INSTALLING 1 1/2" CRUSHED STONE LAYER IN THE BIORETENTION FACILITIES AS SHOWN IN THE PLANS. THE COST OF ALL WORK AND MATERIALS NECESSARY TO INSTALL THE CRUSHED STONE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 1 1/2" CRUSHED STONE.

THE 1 1/2" CRUSHED STONE SHALL BE OPEN GRADED AND WASHED STONE WITH A POROSITY OF 40%. PAYMENT FOR THIS BID ITEM SHALL BE PER CUBIC YARDS OF STONE INSTALLED.

L. EXCAVATION AND OFFSITE DISPOSAL – BID ITEM NUMBER 92005

THIS BID ITEM INCLUDES THE REMOVAL AND OFFSITE DISPOSAL OF MATERIAL RESULTING FROM THE EXCAVATION AND CONSTRUCTION OF THE PROPOSED BIORETENTION FACILITIES. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EXCAVATION AND OFFSITE DISPOSAL. THE CONTRACTOR SHALL BE CAUTIOUS AROUND WATER VALVES, WATER LATERALS, COMMUNICATION AND UNDERGROUND CONDUITS AND STREET LIGHTING CABLES. THE CONTRACTOR SHALL USE EXTREME CAUTION TO PROTECT THE STREET LIGHTING CABLES LOCATED WITHIN THE FOOTPRINT OF THE BIORETENTION FACILITY. THE CONTRACTOR SHALL CALL THE STREET LIGHTING ENGINEER DENNIS MILLER AT (414) 708-4251 WHEN EXCAVATING AROUND THIS UTILITY.

ANY TREE ROOTS ENCOUNTERED DURING EXCAVATION ARE TO BE CLEANLY CUT USING HAND TOOLS. DO NOT REMOVE ROOTS USING EXCAVATION EQUIPMENT. ANY EXPOSED TREE ROOTS SHALL BE COVERED WITH MULCH AND WATERED UNTIL RESTORATION OF AFFECTED AREAS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICES BID FOR TREES CLEARING AND TREES GRUBBING.

M. FILTER FABRIC - BID ITEM NUMBER 92021

THIS BID ITEM INCLUDES FURNISHING AND INSTALLING FILTER FABRIC ABOVE THE PERFORATED UNDERDRAINS AS SHOWN ON THE PLANS. THE FILTER FABRIC SHALL BE GEO-TEXTILE FABRIC TYPE DF OR EQUIVALENT. THE FILTER FABRIC SHALL BE 2-FT WIDE CENTERED ON AND SHALL EXTEND ALONG THE ENTIRE LENGTH OF THE PERFORATED UNDERDRAIN PIPES. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR FILTER FABRIC.

N. 8" DIA. OVERFLOW STAND PIPE W/GRATE - BID ITEM NUMBER 92034

THIS BID ITEM INCLUDES FURNISHING AND INSTALLING THE 8" DIA. STAND PIPE WITH GRATE. THE 8" DIA. STAND PIPE WITH GRATE SHALL BE PLACED AT THE CONNECTING POINT BETWEEN THE SOLID DRAIN AND THE PERFORATED STORM UNDERDRAIN PIPES AS SHOWN ON THE PLANS. THE WORK SHALL INCLUDE PROVIDING AND INSTALLING A GRATE COVER AND ALL TEES, WYES AND FITTINGS NECESSARY TO CONSTRUCT THE STAND PIPE. THE GRATE SHALL BE NEENAH R-2560A WITH ANCHOR OR EQUIVALENT. THE ANCHOR SHALL BE SECURED TO THE OVERFLOW STAND PIPE. THE CONTRACTOR SHALL CONTACT NEENAH FOUNDRY AT (414) 943-3500 TO OBTAIN THE GRATE COVER. ALL COST ASSOCIATED WITH THIS WORK SHALL BE INCLUDED 8" DIA. STAND PIPE WITH GRATE.

THE CONTRACTOR SHALL MOUND ADDITIONAL COBBLES AROUND THE STAND PIPES FOR AESTHETIC PURPOSES. THE COST OF THE COBBLES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 6" GRANITE COBBLES.

O. 3/8" BEDDING CHIPS – BID ITEM NUMBER 92043

THIS BID ITEM INCLUDES FURNISHING AND INSTALLING 3/8" BEDDING CHIPS. THE BEDDING CHIPS SHALL CONSIST OF 3/8" DRY PEA GRAVEL. THE BEDDING CHIPS LAYER SHALL BE INSTALLED BENEATH THE ENGINEERED SOIL AND ABOVE THE 1 1/2" CRUSHED STONE. ALL COST ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 3/8" BEDDING CHIPS.

P. TREES AND PLANT POTS - BID ITEM NUMBERS 92035 AND 95009

THIS BID ITEM INCLUDES FURNISHING AND INSTALLING TREES, PLANT POTS AND MULCH. THE WORK SHALL INCLUDE SUPPLYING AND INSTALLING ALL TREES, GRASSES, SHRUBS,

PERENNIALS AND MULCH AS SHOWN ON THE PLANS. ALL COST ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE UNIT PRICES BID FOR TREES AND PLANT POTS.

THE CONTRACTOR SHALL CONTACT MR. SCOTT BARAN OF THE CITY'S FORESTRY SECTION AT (414) 286-3531 TO VERIFY THE LAYOUT OF THE PLANTS AND TREES IN THIS PROJECT. THE CONTRACTOR SHALL INSTALL TREES SPECIES AT THE DIRECTION OF MR. BARAN.

THE PLANTS SHALL BE INSTALLED ACCORDING TO THE LAYOUT SHOWN ON THE PLANS (PLEASE VERIFY WITH MR. SCOTT BARAN). BIORETENTION FACILITY PLANTINGS SHALL COMPLY WITH THE FOLLOWING TABLE:

BOTANICAL NAME	COMMON NAME	QUANTITY	CALIPER	HEIGHT
<u>GRASSES</u>				
PANICUM VIRGATUM	SWITCHGRASS	30		1 GAL.
CALAMOGROSTIS ACUTIFLORA	KARL FOERSTER GRASS	33		1 GAL.
MISCANTHUS PURPURESCENS	RED FLAME MAIDEN GRASS	41		1 GAL.
<u>SHRUBS</u>				
RHUS AROMATICA	GRO-LOW SUMAC	5	-	2-3'
CORNUS SERICEA	REDOISER DOGWOOD	3	-	2-3'
PHYSOCARPUS OPUFOLIUS	DIABLO NINEBARK	7	-	2-3'
ROSA SPECIES	RUGOSA ROSE	28		18"-24"
<u>PERENNIALS</u>				
EUPATORIUM MACULATUM	JOE PYE WEED	6	-	1 GAL.
HYDRANGEA ARBORESCENS	HYDRANGEA ANNABELLE	28	-	1 GAL.
HEMEROCALLIS	DAYLILIES-HAPPY RETURN	42	-	1 GAL.
RUDBECKIA HIRTA	BLACK EYED SUSAN	41	-	1 GAL.
ECHINACEA PURPUREA	PURPLE CONEFLOWER	60	-	1 GAL.
HEMEROCALLIS	DAYLILIES-STELLA D'ORO	154	-	1 GAL.
HEMEROCALLIS	DAYLILIES-PARDON ME	42	-	1 GAL.
LEUCANTHEMUM	BECKY SHASTA DAISY	36	-	1 GAL.
NEPETA	CATMINT	132	-	1 GAL.
SAMBUCUS NIGRA	BLACK LACE ELDERBERRY	10	-	1 GAL.

TREE SPECIES LIST:

BOTANICAL NAME	COMMON NAME	QUANTITY	CALIPER
<u>TREES</u>			
ACER FREEMANII "AUTUMN BLAZE"	AUTUMN BLAZE MAPLE	12	3.5"

NO TREES SHALL BE PLANTED UNDER POWER LINES. A 72" MOWING BUFFER SHALL BE KEPT BETWEEN ALL NEWLY PLANTED TREES. ALL TREES, SHRUBS, GRASSES AND PERENNIALS MUST MEET ANSI STANDARDS FOR NURSERY STOCK. ANY EXCESS SOIL OR SUBSOIL NEEDS TO BE REMOVED FROM THE SITE AND SHALL NOT BE MOUNDED AROUND NEWLY PLANTED TREES.

Q. 6" DIA. STORM DRAIN CLASS "C" BEDDING – BID ITEM NUMBER 95014

THIS BID ITEM INCLUDES FURNISHING AND INSTALLING ALL WORK AND MATERIALS NECESSARY TO INSTALL AND CONNECT THE 6" STORM DRAIN TO THE BACK OF THE STORM INLETS. THE CONTRACTOR SHALL LAY THE STORM WATER DRAINS WITH AT LEAST 1/8-INCH PER FOOT OF SLOPE AND, AND, AT THE CONNECTION POINT AT THE BACK OF THE INLETS, THEY SHALL BE SET AT AN ELEVATION HIGHER THAN THE OUTLET ELEVATION. ALL COST ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 6" DIA. STORM WATER DRAIN.

R. INFORMATIONAL SIGN - BID ITEM NUMBER 95015

THE CONTRACTOR SHALL INSTALL ONE INFORMATIONAL SIGN PER FACILITY. THE CONTRACTOR SHALL CONTACT MR. ALEJANDRO MUNOZ AT (414) 286-2471 TO DETERMINE THE EXACT LOCATION OF EACH SIGN.

THE INFORMATIONAL SIGN SHALL CONSIST OF: ONE DECORATIVE ROUND POST, A DECORATIVE FINIAL, A V-LOC ANCHORING SYSTEM AND A PAIR OF SIGN MOUNTING BRACKETS.

THE WORK SHALL INCLUDE SUPPLYING AND INSTALLING ALL NECESSARY HARDWARE AS FOLLOWS: A 10' SMOOTH BLACK POST WITH 2-3/8" OUTER DIAMETER (TAPCO ITEM #208-00210) OR EQUAL; A TAPCO BLACK DECORATIVE FINIAL (TAPCO ITEM #203-00043) THAT FITS A 2-3/8" DIA. POST OR EQUAL; A SET OF TWO BLACK SIGN MOUNTING Z-BRACKETS (TAPCO ITEM #203-01238BLK) THAT FIT A 2-3/8" DIA. POST OR EQUAL; AND A TAPCO V-LOC POST ANCHOR FOR LOOSE SOIL (TAPCO ITEM #034-00014) THAT FITS A 2-3/8" DIA. POST OR EQUAL (SEE DETAIL ON PLAN 241-52).

THE POST SHALL BE INSTALLED AND BE EXPOSED AT LEAST 6 FEET ABOVE GROUND. THE CITY WILL PROVIDE THE INFORMATIONAL PLAQUE TO BE MOUNTED ON THE POST.

ALL WORK AND MATERIALS NECESSARY TO INSTALL THE POST FOR EACH INFORMATIONAL SIGN SHALL BE INCLUDED IN THE UNIT PRICE BID.

S. PLANTS MAINTENANCE AND WARRANTY - BID ITEM NUMBER 95016

THE CONTRACTOR SHALL PROVIDE TWO FULL YEARS OF WARRANTY ON ALL INSTALLED PLANTS UNDER BID ITEM NUMBERS 92035 AND 95009.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE BIORETENTION FACILITIES FOR TWO FULL YEARS FROM THE DATE OF COMPLETION OF THIS CONTRACT. THE DATE OF COMPLETION SHALL BE DEFINED AS THE DATE WHEN ALL REQUIRED PLANTINGS (INCLUDING THE GRASS TURF AREAS) ARE INSTALLED THE PROJECT IS ACCEPTED AS COMPLETE BY THE CITY. THE ESTIMATED COST OF THE PLANTS MAINTENANCE AND WARRANTY IS **\$20,000**. THE CONTRACTOR SHALL USE THIS ESTIMATED COST FOR THIS BID ITEM. HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE ACTUAL COST OF HOURS WORKED (SEE NO. 10 BELOW). THE CONTRACTOR SHALL CONTACT THE EES PRIOR TO PERFORMING ANY MAINTENANCE ACTIVITIES TO THE PLANTS AND TREES. ANY WORK PERFORMED WITHOUT PRIOR AUTHORIZATION OF THE EES SHALL NOT BE PAID. THE CONTRACTOR SHALL PROVIDE TO THE EES, IN A MONTHLY BASIS, A DETAILED REPORT OF ALL BIORETENTION FACILITY MAINTENANCE WORK ACTIVITIES.

THE MAINTENANCE OF THE BIORETENTION FACILITIES SHALL BE ACCORDING TO THE FOLLOWING SCHEDULE:

1. APPLY PRE- EMERGENT TO THE PLANTING BED DURING INSTALLATION

2. ADD TWO TO FOUR INCHES OF ORGANIC MULCH TO THE ENTIRE NEWLY PLANTED BIORETENTION FACILITY. DO NOT COVER THE CROWNS OF THE PERENNIALS. REPLENISH MULCH IN THE FALL AS NEEDED.
3. AVOID FINE CUT OR LIGHTER WEIGHT MULCHES AS THEY TEND TO FLOAT IN WET CONDITIONS.
4. PRUNE ANY DEAD, DISEASED, OR DAMAGED PLANTS AS SOON AS THE PROBLEM IS NOTICED. PRUNE THE FOLIAGE OF PERENNIALS WHEN THEY DIE BACK FOR THE WINTER AND ORNAMENTAL GRASSES BEFORE NEW GROWTH BEGINS IN THE SPRING.
5. HAND REMOVE WEEDS AS NECESSARY.
6. WATER THE GARDEN DURING ITS ESTABLISHMENT AND EXTENDED DRY PERIODS. ONE INCH OF WATER PER WEEK IS RECOMMENDED.
7. REMOVE TRASH AND LEAVES FROM BEDS ONCE PER WEEK STARTING THE DATE OF INSTALLATION AND FOR THE ENTIRE TWO YEAR PERIOD FROM THE DATE OF COMPLETION.
8. CLEAN OVERFLOW STRUCTURE. IT IS THE CONTRACTOR RESPONSIBILITY TO ENSURE THAT THE OVER FLOW STRUCTURES ARE ALWAYS UNCLOGGED.
9. THE CONTRACTOR SHALL SUBMIT TO THE CITY A MAINTENANCE SCHEDULE IN A "CHECK LIST" FORMAT COVERING THE ABOVE MAINTENANCE ITEMS. THE SUBMITTAL SHALL BE ON A MONTHLY BASIS VIA EMAIL TO SBEKEL@MILWAUKEE.GOV. THE MAINTENANCE SCHEDULE SHALL BE CONSIDERED ACCEPTABLE WHEN A REPLY TO THE EMAIL IS SENT TO THE CONTRACTOR BY THE CITY.
10. THE CONTRACTOR SHALL SUBMIT MONTHLY INVOICES TO THE (EES) FOR ACTUAL WORK PERFORMED PER ITEM NO. 9 ABOVE.

T. WATER SERVICE INSULATION – BID ITEM NUMBER 95017

ALL WORK AND MATERIALS NECESSARY TO INSTALL THE WATER INSULATION SHALL BE INCLUDED IN THE UNIT PRICE BID. CONTRACTOR SHALL INSULATE WATER SERVICES PER SPEC. 5.11.1 AND SPEC. DRAWING NO. 37 OF THE WATER MAIN INSTALLATION SPECIFICATIONS. SEE DETAILS ON PLAN FILE 241-12. THE INSULATION SHALL BE FIVE (5) FEET IN WIDTH (CENTERED ON THE WATER SERVICE) WITHIN THE EXCAVATION LIMITS.

25. THE CONTRACTOR SHALL CONTACT NEENAH FOUNDRY AT (414) 943-3500 TO OBTAIN ALL NECESSARY CASTING.