

**EXISTING SUBSURFACE DRAINAGE**

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 605 - AGGREGATE DRAINS 200 FT.  
ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC 500 FT.  
ITEM 611 - 6" CONDUIT, TYPE F 50 FT.

**DRAINAGE DISCHARGE CONTINUANCE**

FURNISH A DRAINAGE DISCHARGE CONTINUANCE FOR ANY DRAINAGE DISCHARGE DISTURBED BY THE WORK AND NOT SHOWN IN THE PLANS. THE LOCATION, TYPE (CONDUIT OR SWALE), SIZE AND GRADE OF THE DRAINAGE DISCHARGE CONTINUANCE WILL BE AGREED TO BY THE ENGINEER

FURNISH AN INSPECTION WELL AT THE RIGHT OF WAY LINE IN ACCORDANCE WITH SCD DM-3.1 FOR EACH DRAINAGE DISCHARGE THAT OUTLETS THROUGH A CURB OPENING, OR INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST IS INCLUDED IN ITEM 611, INSPECTION WELL.

FURNISH A DRILLED HOLE OR A CURB SECTION WITH A HOLE WHEN OUTLETTING A CONDUIT THROUGH A CURB OPENING. THE COST OF DRILLING, OR FURNISHING THE CURB SECTION WITH HOLE IS INCLUDED IN ITEM 611, CONDUIT, MISC TYPE - FOR DRAINAGE DISCHARGE CONTINUANCE.

FURNISH A DRILLED CORE HOLE WHEN OUTLETTING INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST OF THE DRILLED CORE HOLE IS INCLUDED IN ITEM 611, CONDUIT, MISC TYPE - FOR DRAINAGE DISCHARGE CONTINUANCE.

DOCUMENTATION: THE CONTRACTOR SHALL FURNISH WRITTEN DOCUMENTATION TO THE ENGINEER AND TO THE DISTRICT R/W PERMIT OFFICE. THE DOCUMENTATION INCLUDES THE CONSTRUCTION PROJECT NUMBER, PID, COUNTY, ROUTE, SECTION, LATITUDE AND LONGITUDE OF THE DRAINAGE DISCHARGE AT THE R/W, THE NAME OF PROPERTY OWNER WITH ADDRESS, THE DATE THE DRAINAGE DISCHARGE WAS LOCATED, THE DATE THE DRAINAGE DISCHARGE CONTINUANCE WAS FURNISHED, A DETAILED DESCRIPTION OF THE WORK AND PICTURES OF THE DRAINAGE DISCHARGE CONTINUANCE (IN PDF OR JPEG FORMAT). THE DOCUMENTATION IS INCLUDED IN ITEM 611, CONDUIT, MISC TYPE - FOR DRAINAGE DISCHARGE CONTINUANCE.

CONDUIT MATERIAL TYPES THE FOLLOWING CONDUIT MATERIAL TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, AND 707.52 SDR35.

PAY ITEMS: EACH OF THE PAY ITEMS LISTED BELOW FOR CONDUIT MISCELLANEOUS TYPES B AND C FOR DRAINAGE DISCHARGE CONTINUANCE INCLUDE CONDUIT SIZES 2 INCH TO 12 INCH. THERE IS NO COST DIFFERENTIATION FOR SIZE IN THESE PAY ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN MAKING THE ABOVE DRAINAGE DISCHARGE CONTINUANCE:

ITEM 611, INSPECTION WELL 10 EACH  
ITEM 611, CONDUIT, MISC TYPE B FOR DRAINAGE DISCHARGE CONTINUANCE 500 FEET  
ITEM 611, CONDUIT, MISC TYPE C FOR DRAINAGE DISCHARGE CONTINUANCE 500 FEET

**ITEM 611 - CONDUIT**

PROVIDE PREMIUM, WATERTIGHT JOINTS ON ALL TYPE A, B AND C DRAINAGE CONDUIT, REGARDLESS OF SIZE OR MATERIAL. WATERTIGHT CONNECTIONS TO DRAINAGE STRUCTURES ARE NOT REQUIRED.

PAYMENT FOR THE PREMIUM JOINTS IS INCLUDED IN THE PERTINENT 611 ITEMS.

**REVIEW OF DRAINAGE FACILITIES**

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

**ITEM SPECIAL - MISCELLANEOUS METAL**

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 611 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL 10,000 POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

**ITEM 611 INLET, SIDE DITCH**

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED TO ADDRESS LOW AREAS INADVERTENTLY CREATED WITHIN THE PROJECT LIMITS, AS DIRECTED BY THE DEPARTMENT.

ITEM 611 INLET, SIDE DITCH 5 EACH  
ITEM 611 12" CONDUIT, TYPE C 500 FEET

**ITEM 611 12" CONDUIT, AS PER PLAN. 748.01 OR 748.06**

THE FOLLOWING CONDUIT TYPES SHALL BE PROVIDED FOR THIS ITEM OF WORK.

748.01 - PROVIDE ANSI CLASS 52 WITH PUSH-ON JOINTS CONFORMING TO 638.07.  
748.06 - PROVIDE STANDARD THICKNESS GALVANIZED STEEL CASING WITH FULL-CIRCUMFERENCE WELDED JOINTS CONFORMING TO 513.21.

**ITEM SPECIAL - PIPE CLEANOUT**

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL, PIPE CLEANOUT, 24" AND UNDER 4400 FT.  
SPECIAL, PIPE CLEANOUT, 27" TO 48" 225 FT.

**TEMPORARY DRAINAGE ITEMS**

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN ARE ITEMIZED ON THE MOT PLANS. PAYMENT FOR THE TEMPORARY DRAINAGE ITEMS ARE ITEMIZED AND CARRIED TO THE GENERAL SUMMARY.

**WATER QUALITY**

**POST CONSTRUCTION STORM WATER TREATMENT**

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

**MANUFACTURED WATER QUALITY STRUCTURE**

THIS PLAN UTILIZES MANUFACTURED WATER QUALITY STRUCTURES FOR WATER QUALITY TREATMENT. AREAS HAVE BEEN SHOWN IN THE PLANS FOR PLACEMENT OF AN OFF-LINE SYSTEM. PAYMENT FOR THESE DEVICES SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 895, MANUFACTURED WATER QUALITY STRUCTURE, TYPE 4.

**PAVEMENT**

**PART-WIDTH CONSTRUCTION**

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

**PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS**

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22, (449) 200 CU. YDS.  
ITEM 304 - AGGREGATE BASE 200 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 AND 304 THICKNESS OF 6 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

**PAVEMENT RESTORATION FOR DRAINAGE STRUCTURE INSTALLATIONS**

THE FOLLOWING QUANTITY IS PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF ITEM 611, DRAINAGE STRUCTURES.

ITEM 301, ASPHALT CONCRETE BASE, PG64-22, (449) 30 CU. YDS.  
ITEM 304 - AGGREGATE BASE 30 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 AND 304 THICKNESS OF 6 INCHES AND A WIDTH OF TWO FEET AROUND THE PERIMETER OF THE DRAINAGE STRUCTURE.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

**ITEM 874 - LONGITUDINAL JOINT PREPARATION, AS PER PLAN**

METHOD ONE SHALL BE USED TO COMPLETE THIS WORK.

A MINIMUM OF 12 INCHES WIDTH FROM THE FIRST PASS OF THE ENTIRE LENGTH OF ASPHALT CONCRETE SURFACE COURSE SHALL BE REMOVED.

INCLUDE THE COST OF FURNISHING, PLACING AND REMOVING 12 INCHES WIDTH OF ASPHALT SURFACE COURSE, AND FURNISHING AND PLACING SS 875 LONGITUDINAL JOINT ADHESIVE IN THE CONTRACT UNIT PRICE FOR LONGITUDINAL JOINT PREPARATION.

**ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441)**

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR PARTIAL DEPTH PAVEMENT REPAIR:

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441) 1400 SY.

REMOVAL DEPTH SHALL BE 3 INCHES OR AS DIRECTED BY THE ENGINEER.

**ITEM 442 ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A (446), AS PER PLAN, PG76-22M**

THE COARSE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO A BLEND OF AIR COOLED BLAST FURNACE SLAG (ACBFS) OR TRAP ROCK FROM ONTARIO AND LIMESTONE. THE CONTRACTOR SHALL USE A MINIMUM 60% OF ACBFS OR TRAP ROCK FROM ONTARIO WITH LIMESTONE COMPRISING THE REMAINING PERCENTAGE. AT LEAST 50% OF THE FINE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO ACBFS OR TRAP ROCK FROM ONTARIO.

TABLE 442.02-2 APPLIES EXCEPT NO. 4 SIEVE REQUIREMENTS ARE 52 TO 60 TOTAL PERCENT PASSING. FOR THE NO. 4 SIEVE, DO NOT EXCEED 63 IN PRODUCTION.

WHEN ACBFS IS USED FOR A FRACTION OF THE COARSE AGGREGATE, PROVIDE A TOTAL ASPHALT BINDER CONTENT GREATER THAN OR EQUAL TO 6.2%. IF ACBFS MAKES UP 100% OF THE COARSE AGGREGATE, APPLY THE BINDER CONTENT REQUIREMENTS OF CMS 442.

**ITEM 442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (446), AS PER PLAN**

ON THIS PROJECT SUPPLY A 19 mm INTERMEDIATE COURSE MEETING THE REQUIREMENTS OF 442 EXCEPT AS MODIFIED BELOW.

MODIFY TABLE 442.02-2 AS FOLLOWS:

SIEVE SIZE	9.5 mm mix	12.5 mm mix	19 mm mix
	TOTAL PERCENT PASSING		
1 1/2 inch (38 mm)	-	-	100
3/4 inch (19 mm)	-	100	95 to 100
1/2 inch (12.5 mm)	100	95 to 100	90 to 100
3/8 inch (9.5 mm)	90 to 100	96 max	96 max
No. 4 (4.75 mm)	70 max	52 to 65	60 max
No. 8 (2.36 mm)	34 to 52	34 to 45	34 to 45
No. 200 (75 µm)	2 to 8	2 to 8	2 to 8

MODIFY TABLE 442.02-3 AS FOLLOWS: APPLY 14.0 FOR A VMA (PERCENT MINIMUM) FOR A 19 mm MIX. APPLY 5.3 PERCENT FOR THE MINIMUM TOTAL ASPHALT BINDER CONTENT FOR A 19 mm MIX.

MODIFY THE 442 INTERMEDIATE COURSE REQUIREMENTS OF TABLES 401.04-1 AND 401.04-2 AS FOLLOWS: APPLY 3.5 PERCENT FOR THE TOTAL VIRGIN ASPHALT BINDER CONTENT, MINIMUM.

USE A PG64-22 IF USING 25 PERCENT OR LESS RAP. USE PG64-28 IF USING GREATER THAN 25 PERCENT RAP.

**ITEM 301 - ASPHALT CONCRETE BASE, (449), AS PER PLAN, PG64-22**

FOR THE PLACEMENT OF 301 ASPHALT BASE, USE ANTI-SEGREGATION EQUIPMENT CONFORMING TO THE REQUIREMENTS OF 401.03.C EXCLUDING THE USE OF REMIXING PAVERS. ALL COSTS ASSOCIATED WITH THIS PROVISION SHALL BE INCIDENTAL TO ITEM 301 - ASPHALT CONCRETE BASE, (449), AS PER PLAN, PG64-22.

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