

Drainage

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 appurtenances 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 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 drainage items.

Item 611 – Inlet, No. 3 for Single Slope Barrier, Type B1, As Per Plan
Item 611 – Inlet, No. 3 for Single Slope Barrier, Type C1, As Per Plan

This item shall consist of furnishing and installing Item 611 – Inlet, No. 3 for Single Slope Barrier, Type B1 and Type C1 according to the CMS and Standard Construction Drawing I-3B & I-3C with the following modifications:

1. This item is intended to replace the concrete barrier on top of the inlet only.
2. The length of the concrete barrier on top of the inlet varies as detailed in the subsummaries in order to avoid leaving very small sections of unreinforced barrier adjacent to the inlet.

All costs for this item of work, including labor, materials, equipment and incidentals shall be included in the unit bid price for Item 611 – Inlet, No. 3 for Single Slope Barrier, Type B1, As Per Plan & Item 611 – Inlet, No. 3 for Single Slope Barrier, Type C1, As Per Plan.

Item 611 – Inlet, Misc.: Inlet, No. 3B50

This item shall consist of furnishing and installing Item 611 – Inlet, Misc.: Inlet, No. 3B50 according to the details shown on P.116 of this plan with the following modifications:

1. This item is intended to replace the concrete barrier on top of the inlet only.
2. The dimensions for D-64 shall be adjusted to match the adjacent Type C Barrier as needed.
3. The length of the concrete barrier on top of the inlet varies as detailed in the subsummaries in order to avoid leaving very small sections of unreinforced barrier adjacent to the inlet.

All costs for this item of work, including labor, materials, equipment and incidentals shall be included in the unit bid price for Item 611 – Inlet, Misc.: Inlet No. 3B50.

Item 611 – Inlet Reconstructed to Grade, As Per Plan

The Contractor and Field Engineer shall field check all existing inlets located within the limits of the project. Any casting found that exhibits substantial deterioration shall be "Reconstructed to Grade", as directed by the Engineer. In addition, if it is found that the inlet trough section exhibits substantial deterioration, then replacement of the trough shall be incidental to Item 611 – Inlet Reconstructed to Grade, As Per Plan.

The following estimated quantity has been carried to the General Summary for use as directed by the Engineer:

Item 611 – Inlet Reconstructed to Grade, As Per Plan **10 Each**

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 duty) for the particular structure in question. All materials must meet Item 611 of the CMS and shall have the prior approval of the Engineer.

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.

The Contractor shall not order materials until authorized by the Engineer, and if none are needed, the item shall be non-performed.

The following estimated quantity has been carried to the General Summary for use as directed by the Engineer:

Item Special – Miscellaneous Metal..... **3000 Lbs**

Pavement

Profile and Alignment

Place the proposed pavement to follow the alignment of the existing pavement. Place the proposed asphalt concrete with a uniform thickness as shown on the typical sections.

Planing Requirements

The duration of time between planing the asphalt and placing the asphalt overlay shall be kept to a minimum. In no instance shall this time exceed 7 calendar days. The time limit shall begin on the first day of planing and shall continue based on calendar days, minus any weather days, until completion of the asphalt concrete surface course. This is to ensure that the potential degradation of the exposed pavement due to traffic is kept to a minimum. This requirement applies to both mainline and ramps alike.

In the event that the time between exposing the existing pavement and placing the asphalt surface course exceeds 7 calendar days, liquidated damages as per 108.07 of the C&MS shall be assessed.

Item 254 – Pavement Planing, Asphalt Concrete, As Per Plan

This item shall be used to remove a consistent width of the asphalt overlay from the inside shoulder at a depth of 1.5" as specified in the plans on IR-71. Care should be taken to avoid destroying or damaging existing rumble strips. Pavement planing limits shall be offset a minimum of 6" from the edge of the existing rumble strips. For estimating purposes, quantities are based on a consistent width of 4' as shown on the typical sections. The width shall be adjusted in the field, as directed

by the Engineer, as required to maintain the minimum 6" offset to the existing rumble strips.

Asphalt Concrete Surface Course Sealing Requirements

In addition to the gutter sealing requirements specified in SCD BP-3.1 and C&MS 401.15, after completion of the surface course, the contractor shall use a certified 702.01 PG binder to seal the following locations:

- All castings including but not limited to monuments, manholes, water valves, catch basins, curb inlets.
- Butt joints and feather joints including bridge approaches.
- Forward joint for driveway asphalt and trailing joint when butting to existing asphalt drive.
- Perimeter of all pavement repairs or other asphalt inlays when pavement repairs/inlays are not overlaid with an asphalt concrete surface course.
- All cold longitudinal joints between paved shoulders and guardrail asphalt.

The material used shall be a certified 702.01 PG binder. The width of the sealer shall be 2-3 inches.

Any additional costs associated with the work identified in this note shall be included in the appropriate asphalt concrete surface course item of work.

Item 442 – Asphalt Concrete Surface Course, 12.5mm, 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 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 percent. If ACBFS makes up 100% of the coarse aggregate, apply the binder content requirements of C&MS 442.

Item 442 – Asphalt Concrete Surface Course, 12.5mm, Type A, (448), As Per Plan, PG76-22M

The coarse aggregate for this item shall be limited to a blend of air cooled blast furnace slag (ACBFS) and limestone. The Contractor shall use a minimum of 50 percent ACBFS with limestone comprising the remaining percentage.

In addition to the joint sealing requirements specified in 401.17, the Contractor shall seal the perimeter of all rumble strip pavement replacement areas. The material used shall be a certified 702.01 PG binder. The width of the sealer shall be 2-3 inches.

Payment for all labor, materials and equipment required to perform the above work shall be included in the contract price for Item 442 – Asphalt Concrete Surface Course, 12.5MM, Type A (448), As Per Plan, PG70-22M.

DESIGN AGENCY
DESIGNER
DAB
REVIEWER
EMK 10/15/21
PROJECT ID
87904
SHEET TOTAL
P.13 152


REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA		202	254	305	407	441	442					
										PAVEMENT REMOVED	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.5"	9" CONCRETE BASE, CLASS QC 1P	NON-TRACKING TACK COAT	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), 4"	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG 76-22M, 1.5"					SY
				FT.	FT.	FT.	FT.	SQ. YD.		SY	SY	SY	GAL	CY	CY					
IR-71 NB RESURFACING																				
		1	814+30.00	822+82.48	852.48	4.00	4.00	4.00	378.88		378.88		34.10		15.79					
		1	825+54.52	825+68.43	13.91			CADD AREA	5.06		5.06		0.46		0.22					
		1	825+68.43	828+05.00	236.57	4.00	4.00	4.00	105.15		105.15		9.47		4.39					
		1	828+05.00	828+95.00	90.00	2.00	2.00	2.00	20.00		20.00		1.80		0.84					
		1	828+95.00	839+21.03	1026.03	4.00	4.00	4.00	456.02		456.02		41.05		19.01					
		1	841+16.38	851+75.00	1058.62	4.00	4.00	4.00	470.50		470.50		42.35		19.61					
		1	851+75.00	852+65.00	90.00	2.00	2.00	2.00	20.00		20.00		1.80		0.84					
		1	852+65.00	879+22.00	2657.00	4.00	4.00	4.00	1180.89		1180.89		106.29		49.21					
		1	879+28.00	902+23.67	2295.67	4.00	4.00	4.00	1020.30		1020.30		91.83		42.52					
		1	902+23.67	902+63.67	40.00	4.00	2.50	3.25	14.45		14.45		1.31		0.61					
		1	902+63.67	903+10.11	46.44	2.50	2.50	2.50	12.91		12.91		1.17		0.54					
		1	903+10.11	903+50.11	40.00	2.50	4.00	3.25	14.45		14.45		1.31		0.61					
		1	903+50.11	927+59.23	2409.12	4.00	4.00	4.00	1070.72		1070.72		96.37		44.62					
		1	929+40.54	938+96.33	955.79	4.00	4.00	4.00	424.80		424.80		38.24		17.70					
		1	940+61.35	941+66.00	104.65	4.00	4.00	4.00	46.52		46.52		4.19		1.94					
		1	941+66.00	942+06.00	40.00	4.00	3.00	3.50	15.56		15.56		1.41		0.65					
		1	942+06.00	942+16.00	10.00	3.00	3.00	3.00	3.34		3.34		0.31		0.14					
		1	942+16.00	942+56.00	40.00	3.00	4.00	3.50	15.56		15.56		1.41		0.65					
		1	942+56.00	942+70.00	14.00	4.00	4.00	4.00	6.23		6.23		0.57		0.26					
		1	942+70.00	943+60.00	90.00	2.00	2.00	2.00	20.00		20.00		1.80		0.84					
		1	943+60.00	953+63.89	1003.89	4.00	4.00	4.00	446.18		446.18		40.16		18.60					
		1	955+75.44	965+05.00	929.56	4.00	4.00	4.00	413.14		413.14		37.19		17.22					
		1	965+05.00	965+73.00	68.00	2.00	2.00	2.00	15.12		15.12		1.37		0.63					
		1	965+73.00	965+84.00	11.00	2.00	1.73	1.86	2.28		2.28		0.21		0.10					
		1	965+84.00	966+13.00	29.00	3.73	3.00	3.36	10.84		10.84		0.98		0.46					
		1	966+13.00	966+23.00	10.00	3.00	3.00	3.00	3.34		3.34		0.31		0.14					
		1	966+23.00	966+63.00	40.00	3.00	4.00	3.50	15.56		15.56		1.41		0.65					
		1	966+63.00	968+28.77	165.77	4.00	4.00	4.00	73.68		73.68		6.64		3.07					
		1	970+98.80	973+94.48	295.68	4.00	4.00	4.00	131.42		131.42		11.83		5.48					
		1	975+90.48	998+35.00	2244.52	4.00	4.00	4.00	997.57		997.57		89.79		41.57					
		1	998+35.00	998+75.00	40.00	4.00	3.00	3.50	15.56		15.56		1.41		0.65					
		1	998+75.00	998+85.00	10.00	3.00	3.00	3.00	3.34		3.34		0.31		0.14					
		1	998+85.00	998+93.00	8.00	3.00	3.20	3.10	2.76		2.76		0.25		0.12					
		1	998+93.00	999+25.00	32.00	1.20	2.00	1.60	5.69		5.69		0.52		0.24					
		1	999+25.00	999+51.00	26.00	2.00	2.00	2.00	5.78		5.78		0.53		0.25					
		1	999+51.00	1010+82.68	1131.68	4.00	4.00	4.00	502.97		502.97		45.27		20.96					
IR-71 SB RESURFACING																				
		1	781+07.33	781+12.99	5.66			CADD AREA	1.42											
		1	781+12.99	781+89.00	76.01	4.00	4.00	4.00	33.79		33.79		3.05		1.41					
SUBTOTALS										7.51	7980.36		718.47		332.68					
TOTALS CARRIED TO SHEET 56										8	7980		718		333					
PLAN SPLIT #1 TOTAL										8	7980		718		333					
PLAN SPLIT #2 TOTAL																				

PAVEMENT SUBSUMMARY

DESIGN AGENCY	
DESIGNER	DAB
REVIEWER	EMK 10/15/21
PROJECT ID	87904
SHEET TOTAL	P.54 152

REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	254	305	407	441	442				
									PAVEMENT REMOVED	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.5"	9" CONCRETE BASE, CLASS QC 1P	NON-TRACKING TACK COAT	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), 4"	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PC 6-2 M, 1.5"	SY	SY	SY	GAL
<u>IR-71 NB FULL DEPTH SHOULDER</u>																		
P-1	70	1	828+05.00 828+95.00	90.00	2.00	2.00	2.00	20.00	14.45		20.00	3.60	2.23	0.84				
P-3	75	1	851+75.00 852+65.00	90.00	2.00	2.00	2.00	20.00	14.45		20.00	3.60	2.23	0.84				
P-5	80	1	879+22.00 879+28.00	6.00	4.00	4.00	4.00	2.67	2.67		2.67	0.49	0.30	0.12				
P-7	93	1	942+70.00 943+60.00	90.00	2.00	2.00	2.00	20.00	14.45		20.00	3.60	2.23	0.84				
P-9	98	1	965+05.00 965+84.00	79.00	2.00	2.00	2.00	17.56	12.33		17.56	3.17	1.96	0.74				
P-11	104	1	998+93.00 999+51.00	58.00	2.00	2.00	2.00	12.89	10.18		12.89	2.33	1.44	0.54				
<u>IR-71 SB FULL DEPTH SHOULDER</u>																		
P-2	70	1	828+05.00 828+95.00	90.00	2.00	2.00	2.00	20.00	14.45		20.00	3.60	2.23	0.84				
P-4	75	1	851+75.00 852+65.00	90.00	2.00	2.00	2.00	20.00	14.45		20.00	3.60	2.23	0.84				
P-6	80	1	879+22.00 879+28.00	6.00	4.00	4.00	4.00	2.67	2.67		2.67	0.49	0.30	0.12				
P-8	93	1	942+70.00 943+60.00	90.00	2.00	2.00	2.00	20.00	14.45		20.00	3.60	2.23	0.84				
P-10	98	1	965+05.00 965+84.00	79.00	2.00	2.00	2.00	17.56	12.35		17.56	3.17	1.96	0.74				
P-12	104	1	998+93.00 999+51.00	58.00	2.00	2.00	2.00	12.89	10.18		12.89	2.33	1.44	0.54				
SUBTOTALS									137.08		186.24	33.58	20.78	7.84				
TOTALS CARRIED BELOW									137		186	34	21	8				
PLAN SPLIT #1 TOTAL									137		186	34	21	8				
PLAN SPLIT #2 TOTAL																		
TOTALS FROM SHEET 54									8	7980		718		333				
TOTALS FROM SHEET 55									14	8321		749		347				
TOTALS FROM THIS SHEET									137		186	34	21	8				
TOTALS CARRIED TO GENERAL SUMMARY									159	16301		186	1501	21	688			

PAVEMENT SUBSUMMARY

DESIGN AGENCY	
DESIGNER	DAB
REVIEWER	EMK 10/15/21
PROJECT ID	87904
SHEET TOTAL	P.56 152