

Part 1 General

1.1 MEASUREMENT AND PAYMENT

- .1 The adjustment on the catch basin head will be paid as a lump sum. The price must include all required materials and man power necessary to achieve the work as per detail shown on plans.

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM A185/A185M-[07], Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
 - .2 ASTM D260-[86(2001)], Standard Specification for Boiled Linseed Oil.
 - .3 ASTM D1751-[04], Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non extruding and Resilient Bituminous Types).
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-19.24-[M90], Multicomponent, Chemical-Curing Sealing Compound.
- .3 CSA International
 - .1 CSA-A23.1/A23.2-[2004], Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA A3000-[08], Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
 - .3 CAN/CSA-G30.18-[M92(R2002)], Billet-Steel Bars for Concrete Reinforcement.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section [01 33 00 - Submittal Procedures].
- .2 Shop Drawings:
 - .1 Submit placing drawings prepared in accordance with plans to clearly show size, shape, location and necessary details of reinforcing.
 - .2 Submit drawings showing formwork and falsework design to: CSA A23.1/A23.2.
 - .3 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Quebec.
- .3 Provide results for review by Departmental Representative and do not proceed without written approval when deviations from mix design or parameters are found.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 The mixing of concrete will be executed on site.
- .2 Packaging Waste Management: remove and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 MATERIALS

- .1 Cement base concrete ready to use, highly flowable, usable for thickness between 25 to 450mm: full depth repairs and approved by Ministère des Transports du Québec.
 - .1 Air content: 5% - 9%.
 - .2 Slump: 600mm – 700mm to ASTM C1611.
 - .3 Flow rate after mixing: 250mm to ASTM C230
 - .4 Application time: 25 to 30 minutes.
 - .5 Compressive strength: 45MPa min. after 28 days to ASTM C39.
 - .6 Accelerator: as per manufacturer recommendations.
 - .7 Bond strength: 2.5MPa min. after 7 days to CAN A23.2-6B.
 - .8 Shrinkage: <0.065% to ASTM C157.
 - .9 Water ratio: 2.6L for 25kg.
- .2 Water: to CSA A23.1/A23.2.
- .3 Reinforcing bars: to CAN/CSA-G30.18, Grade 400.
- .4 Sealer: boiled linseed oil to ASTM D260, mixed with mineral spirits 1:1.
- .5 Other concrete materials: to CSA A23.1/A23.2.
- .6 Acceptable product: Sikacrete – 08 SCC or equivalent.

Part 3 Execution

3.1 PREPARATION

- .1 Provide Departmental Representative 24 hours' notice before each concrete pour.
- .2 Place concrete reinforcing and other elements to be inserted.
- .3 During concreting operations:
 - .1 Development of cold joints not allowed.
 - .2 Ensure concrete delivery and handling facilitates placing with minimum of rehandling, and without damage to existing structure or Work.
- .4 Protect previous Work from staining.
- .5 Clean and remove stains prior to application of concrete finishes.

3.2 INSTALLATION/APPLICATION

- .1 Do cast-in-place concrete work in accordance with CSA A23.1/A23.2.
- .2 Sleeves and inserts:
 - .1 Cast in sleeves, ties, slots, anchors, reinforcement, frames, conduit, bolts, waterstops, joint fillers and other inserts required to be built-in.

- .2 Sleeves and openings greater than 100 mm x 100 mm not indicated, must be reviewed by Departmental Representative.

3.3 FINISHES

- .1 Formed surfaces exposed to view: in accordance with CSA A23.1/A23.2.
- .2 Pavements, walks, curbs and exposed site concrete:
 - .1 Screed to plane surfaces and use floats.
 - .2 Provide round edges and joint spacings using standard tools.
 - .3 Trowel smooth to provide lightly brushed non-slip finish.

3.4 CURING

- .1 Use curing compounds compatible with applied finish on concrete surfaces free of bonding agents and to CSA A23.1/A23.2.

3.5 SITE TOLERANCES

- .1 Concrete floor slab finishing tolerance to CSA A23.1/A23.2.

3.6 FIELD QUALITY CONTROL

- .1 Concrete testing: to CSA A23.1/A23.2 by testing laboratory designated and paid for by Departmental Representative. Accelerated test methods will apply.

3.7 CLEANING

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
- .2 Use trigger operated spray nozzles for water hoses.
- .3 Designate cleaning area for tools to limit water use and runoff.
- .4 Cleaning of concrete equipment to be done in accordance with Section 01 35 43 Environmental Procedures.
- .5 Waste Management: separate waste materials for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Divert unused concrete materials from landfill to local facility after receipt of written approval from Departmental Representative.
 - .2 Provide appropriate area on job site where concrete trucks and be safely washed.
 - .3 Divert admixtures and additive materials from landfill to approved official hazardous material collections site after receipt of written approval from Departmental Representative.
 - .4 Do not dispose of unused admixtures and additive materials into sewer systems, into lakes, streams, onto ground or in other location where it will pose health or environmental hazard.

END OF SECTION