



CITY OF WINDSOR PUBLIC WORKS

ROLES & RESPONSIBILITIES FOR FIELD ENGINEERING CONSTRUCTION INSPECTION STAFF

UPDATED APRIL 4, 2018

CONSTRUCTION INSPECTOR – ROLES & RESPONSIBILITIES

The construction inspector holds a vital role in the construction process.

The responsibility for monitoring and documenting progress on and ensuring the structural integrity of infrastructure projects is largely that of the site inspection team.

The inspector forms the final element in the design / construction process and represents the City Engineer on the “front line” to ensure a quality product.

An inspector must demonstrate ongoing knowledge, commitment and experience, be a person who has uprightness of character, honesty and must maintain a professional approach through out all aspects of the job.

Having the knowledge and confidence to recognize and correct unsound practices or materials, resolve conflicts and continually ensure quality workmanship is received and paid for all serve to make an experienced inspector of paramount importance.

The role of an inspector cannot be under-rated or taken on lightly.

Role and Responsibilities

An Inspector is the full time onsite City representative and will:

- Be competent and have a clear understanding of their place in the process.
- Develop and maintain a working and cooperative relationship with the contractor.
- Be knowledgeable and familiar to the project and its specifications.
- Be responsible and ensure that contractor is carrying out the intent of plans and specifications.
- Be fair and subjective/objective & consistent.
- Provide comprehensive site inspection and documentation for City engineering.
Maintain quality day to day records and an open correspondence with City engineer and supervisor.
- Be the representative of the city towards residents, act courteously and professionally and be available and attentive to concerns.
- Be aware of the safety of the public on the site.
- Know and ensure adherence to City of Windsor specification and procedures and best practices.
- Notify the contractor and City supervision of problems or conflicts as they arise or when anticipated.
- Work within OHS regulations – confined space, traffic control etc.
- In all manners act with integrity, ethics and in the best interest of the City.

An inspector will never:

- Manage the project for the contractor.
- Direct a contractor’s employees.
- Change a design, plans or specifications without direction from a supervisor or the project engineer.
- Behave unethically or misrepresent the City’s interests.

- Participate in “ambush” style inspection.

The Act of Inspection

An inspector uses experience to assist in the pre-engineering work leading up to a construction project. By reviewing and commenting an experienced inspector can aid with the aspects of design.

Some of an inspectors pre- construction tasks include:

Plan & Contract Review

Look for:

- Conflicts to City of Windsor specification requirements and best practices.
- Constructability issues including haul routes.
- Cost savings that may be available thru substitutions or deletions if possible.
- Utility, Traffic, or other conflicts current or anticipated.
- Check for mathematical error
- Ensure material specified in the contract is appropriate to city standards.
All pipe materials and fittings, reclaimed and quarried granular materials etc.

Benchmarks and Survey Layout

Prior to start of project

- Review survey benchmarks and turn-points and amend where required.
- Review all proposed grades and ensure required field layout and offset stakes are in good order.
- Review location of layout with survey staff (cut cross or stake and required offset)

Pre-construction Video and Still Photography

Video of existing PDC's that are plastic prior to start of project to determine acceptance and burn all video to DVD and file.

Still photography and video should be taken immediately prior to contractor mobilization to document the state of the work zone prior to any work.

Still photos are to be digital and are to be written to CD and hard-drive immediately as well as printed, a set of which will be carried in field.

Video is to be written to DVD and backed up on hard-drive immediately.

Specific attention should be given to the pre construction condition and make up of:

- Private driveways, curb-cuts, lead walks, steps and porches.
- Measurements of curb cuts, leadwalks or any other hard surfaced area in the right of way to be restored
- Fences, landscaping and existing property bars and markers.
- Tree trunks and overhanging branches that may receive damage.
- Buildings and utility poles and boxes.
- Pavement, curbs and boulevards adjacent to and surrounding the construction site including haul routes when identified in tender documents or pre-construction meeting minutes.
- Privately owned objects in the right of way such as landscaping

It is important to document any existing damage or flaw to private property before construction begins. The most minor details have a way of becoming nagging issues always after the fact. A complete and thorough video and photograph collection will lessen or completely eliminate future disagreements.

It may be necessary to identify certain sensitive areas to the contractor to ensure adequate precautions are taken.

Project File Set Up

The project folder is to be constructed and labeled with the project name, project number and comprised of the following sub-folders:

1. Summary of Commentary
This paperwork is where the inspector closes the loop. Fill in all areas and always include the Diary # and Page # to show where the info came from. Show calculations here when required.
CAN BE DONE BY HAND OR DIGITALLY AND PRINTED
2. Force Accounts and Claims
If claims not documented in the diary then they did not happen. All claims to come to the Field Office for review of equipment, workers and hours worked and then to Engineer for monetary review and then payment if acceptable.
ENGINEER TO ADVISE CONTRACTOR TO SUBMIT IN DIGITAL FORMAT
3. Final Payment Quantities
File to contain copies of the Monthly Payment Certificates and the Final Payment Certificate. All certificates to be submitted and months end to their supervisor.
ENGINEERING TO SEND COPY OF CHANGES TO FIELD OFFICE
4. Summary of Working Days
This document is to be done every 2 weeks for the site meeting and then signed, distributed at site meeting and filed.
ENGINEER TO PROVIDE COPY OF LETTER STARTING WORKING DAYS AND COPY OF SUBSTANTIAL COMPLETION FORM - ALSO TO NOTIFY CONTRACTORS IN THE PRE-CON MEETING THAT A MINIMUM OF 24 HOURS NOTICE REQUIRED TO SCHEDULE WORK ON WEEKENDS
5. Deficiencies / Incomplete Work
This list to be separate items but done on the same sheet as you need to distinguish between deficiencies and incomplete work.
ENGINEER USES THE DEFICIENCIES TO DETERMINE SUBSTANTIAL COMPLETION AND TO CALCULATE HOLDBACK
6. Correspondence

File such items as Letters to Residence, Directives to Contractor, Design Changes from Engineer, Minutes of Meetings, Grade Sheets, Copies of Emails
 AT THE END OF THE JOB BURN ALL CORRESPONDENCE TO DVD/CD AND PUT IN FILE AND REMOVE PAPER COPIES

7. Weighed Material

Total material tickets from jobsite. Check with QA staff for current Proctor Values when doing manual check calculations.

8. Survey Information

This should contain construction loop, excavation calculations and requested asbuilt info.
 IF MISSING ANY INFORMATION, SEE THE SURVEY STAFF AND ASK FOR IT

9. Testing

Get results from the QA staff for concrete testing including break reports, asphalt testing, mix designs, topsoil reports, compaction reports and recycled granular reports to determine if acceptable and advise supervisor and engineer of acceptance or rejection.
Note in diary pipe review when pipe delivered to the site.

ENGINEER TO HAVE CONTRACTOR PROVIDE MATERIAL SUPPLIERS AT PRE-CON MEETING – NO EXCEPTIONS

10. Photos / Videos / DVD / CD

Put all copies of all pre-con photos and/or videos in this file. Label photos with address, material and measurements for restoration purposes.

WHEN YOU GET THE PHOTOS PRINTED, WRITE THE ABOVE INFO DIRECTLY ON THE PHOTOS

List all loose items not in a folder such as the diaries, PDC books and any other items.

Field Book Set Up

General/Project Diary

The General Diary will serve to record the day to day activities and progress of the contract. The diary will be kept in the care of the project inspector attending the given project.

The Project Diary will have a minimum content of:

- Project name and project number.
- A clear and prominent “if found please call...” Statement.
- Table of contents.
- Pages numbered and dated.
- A list of survey benchmarks, turn points and control points used on the site.
- Weather, site, and soil conditions recorded one or more times per day when required.
- Record of working days.
- Clear signature or initials identifying the attending inspector for the day (make note of any time absent)
- Description of any utilities or structures crossed, exposed or disturbed.

- Description of contractors operation, location, equipment and personnel. Make note of all materials delivered to site.
- List and times of other parties on site, city staff or other agencies. Identify any utility, layout or locate work, material testing or sampling.
- List any relevant conversations agreements, directions or discussions.
- List any complaints from residents and remedial actions taken.
- Document any accident or incident that takes place within or adjacent to the construction zone. (of course notify supervisor and or emergency responders when warranted)
- Contract contact info & Engineering contact info
- Note payment items & highlight them for final quantities

Remember that a diary may be used for engineering reference or in court dispute cases years after the projects completion. Information clearly recorded daily will serve better than anyone's memory. Always be neat, conscience and completely thorough. Use a pen not a pencil as ink can't be erased.

Confusion and disagreement can be avoided by taking critical measurements or documented observations with a resident, a supervisor or representative of the contractor present. Note when photos are taken.

The general project diary is a very important collection of information and must be preserved.

Private Drain Connection Diary

The connection diary (SEE SAMPLE BELOW) is dedicated to any of the work surrounding private drain connections (storm and sanitary) and will follow the form of the attached "Location of Storm and Sanitary Connections". (SEE SAMPLE BELOW)

The diary is to be completed at the time of the sewer installation, and include the following:

- Table of contents and page numbers.
- Confirmation of proper connections by dye, camera or visual inspection.
- Municipal building outline, and address with a north arrow and roll number.
- Invert elevations at clean out and at the main
- At least two horizontal measurements relative to municipal building faces and the clean out cap.
- Date and time of work at FINAL hookup.
- Description of the condition of sewer pipe material from ROW property towards municipal building. This is done with CCTV inspection.
- Details on pipe lengths and elbows / fittings used.
- Describe location and condition of any utilities crossed or disturbed.
- Index to as-built and connection card information.
- Information on backfill material, method of compaction and restoration.
- Cast iron cap was used.
- Show both mainline sewers if sewers placed under the same contract even if no PDC is left to lot

CITY OF WINDSOR
 DEPARTMENT OF PUBLIC WORKS
 LOCATION OF STORM AND SANITARY CONNECTIONS

DATE MARCH 2013
 LOCATION 2344 Fraser
 LOT No. _____
 SAN. SEWER SIZE & TYPE: 375mm x PVC
 STORM SEWER SIZE & TYPE: _____
 SAN. CONNECTION SIZE & TYPE: 150mm x PVC
 STORM CONNECTION SIZE & TYPE: _____

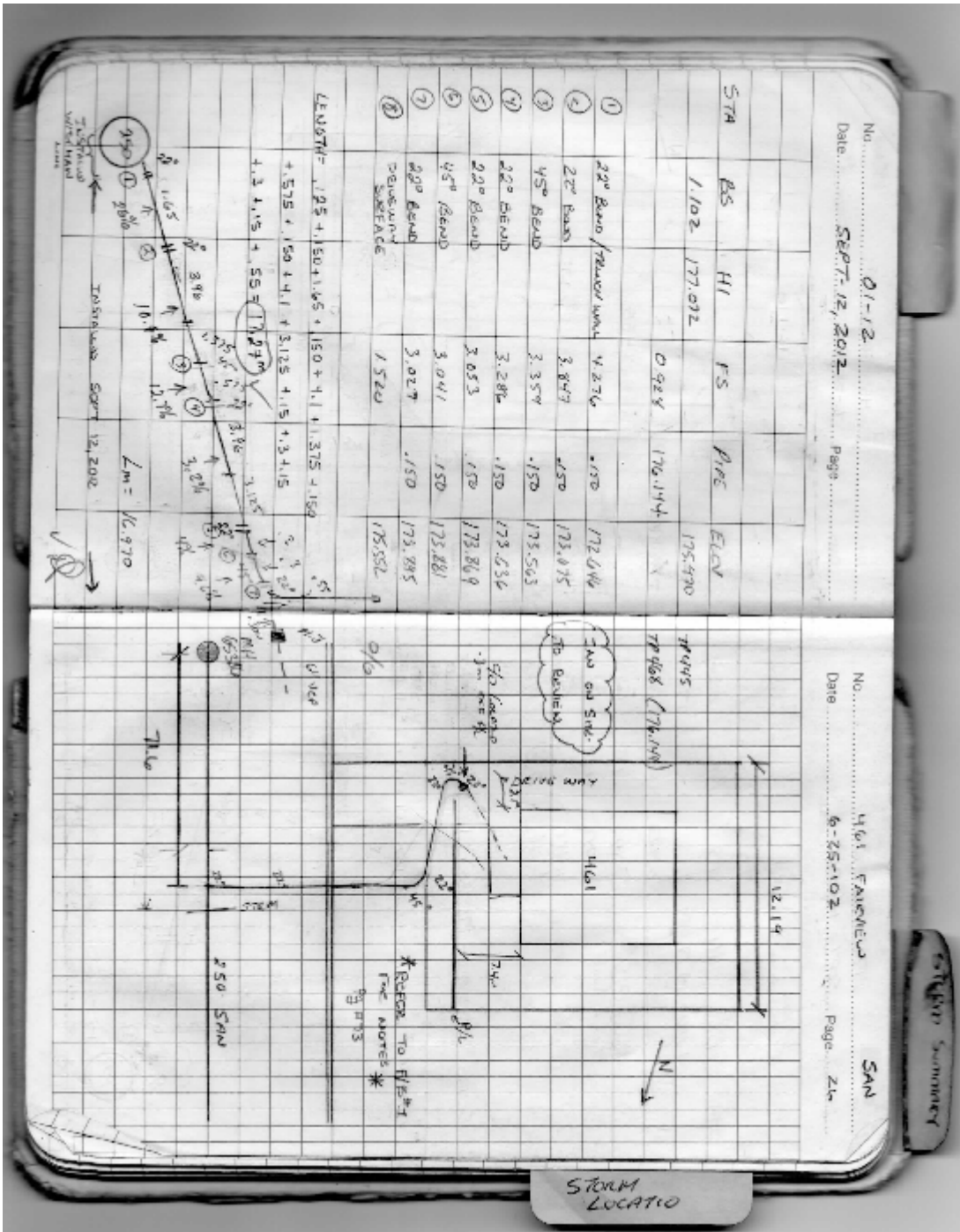
THE DEPARTMENT OF PUBLIC WORKS
 DOES NOT GUARANTEE THE ACCURACY OF
 THE LOCATIONS AND ELEVATIONS SHOWN

REMARKS 2344 Fraser

1. BASEMENT ELEVATION - _____
2. INVERT AT PROPERTY LINE - 186.429
3. PRIVATE DRAIN CONNECTION OBTAINED BY PLUMBING INSPECTOR - _____
4. CIRCULAR LETTER SENT TO HOMEOWNER - _____
5. MAIN SEWER COMPLETED - July 2007
6. P.D.C. CONNECTION PLACED TO PROPERTY LINE - July 2007
7. PRIVATE DRAIN CONNECTION INFORMATION AVAILABLE (a) BUILDING DEPARTMENT (b) PUBLIC WORKS DEPT. ENGINEERING

JOB No. - 2007-01

✓-AF.



No.	Date	Project	Page
No. 461	SEP 21, 2012	FAIRVIEW	55
Date:	10/15/2012	10/15/2012	55

STA	BS	HI	FS	Pipe	Elev
	1.052	173.196	1.229		171.944
①			3.600		175.767
②			3.036		178.940
	0.792	176.486	1.752		174.010
③			2.552		177.236
④			1.378		175.588

No. 461 FAIRVIEW STORM
 Date: 10/15/2012 Page 55

BEGIN TO FILE # BY TO
 STAKE TO EARTH OF
 GRAVITY, NOT ELEVATION
 AND CHECK SPICE, W/ST
 DISCREPANCIES DOCUMENT

461
 STORM
 300mm

EXISTING
 V.I.S.O. PIPE
 STOP/PIST
 P/W. CAP/DO
 W/ STAKE/PIST
 ELEV. BEHIND

NEW PVC PIPES
 IN-LINE WITH EXISTING
 V.I.S.O. EXISTING V.C.P. AND
 CAP/DO. SET AT 24" HD.
 ELEVATION TO BE DETERMINED
 ELEV. BEHIND LOCATED

300mm STORM
 15.0m
 6R410p

It is part of the Construction Inspector's job to reference and be familiar with the following City of Windsor documents listed below.

Contract documents and drawings

General conditions

AS-Drawings

Best Practices

City of Windsor Recycled Aggregate Quality Control Program

Supplemental Specifications and Mandatory Procedures and Practices

S-1 Sewers

S-2 Manholes, Catchbasins and Adjustments

S-3 Excavation and Backfill

S-4 Selected Granular Base Courses

S-5 Concrete Curbs and Combined Curbs and Gutters

S-6 Concrete Sidewalk and Driveway Approaches

S-7 Concrete Heavy Duty Pavement, Concrete Base, Concrete Residential Pavement and Alley Pavements

S-8 VACANT

S-9 Concrete

S-10 Hot Mix, Hot Laid Asphaltic Concrete

S-11 Culverts, Headwalls and Roadside Drainage

S-12 Dense Graded Thin Bituminous Hot Mix Surfacing

S-13 Weighing of Materials

S-14 Sodding

S-15 Seeding Roadway Areas by Hydraulic Seeding and Mulch Cover Method

S-16 Perforated Corrugated Polyethylene Pipe Sub-Drains

S-17 Reinforcing Steel

S-18 Routing and Sealing

S-19 Cleaning of Storm and Sanitary Gravity Sewers

S-20 Catch Basin Cleaning

S-21 VACANT

S-22 Surface Treatment with Bituminous Material

S-23 Maintenance Painting of Structural Steel

S-24 Unshrinkable Backfill

S-25 Clearing Blocked Sewer Connections

S-26 Weed and Grass Cutting

S-27 Emulsified Asphalt Slurry Seal Surface

S-28 Cold In Place Pavement Rehabilitation with Expanded Asphalt

S-29 Utility Cut Restoration

S-30 Bridges

S-31 Keyhole Excavations and Permanent Reinstatement of Keyhole Excavations

S-32 CCTV Sewer Inspections

S-33 Winter Control Snow Plowing, Salting and Snow Removal Activities

S-34 Topsoil

S-35 Replacement of Private Drain Connections

S-36 Preservation of Trees

S-37 Dust Control

S-38 Prevention of Debris from Entering Existing Sewer Systems

S-39 Backfill Around Utilities

S-40 Installation Method of Traffic Signage Disturbed by Construction

S-41 Open Graded Drainage Layer

S-42 Cold In Place Milling

It is also the Construction Inspector’s job to ask for all Quality Assurance documents from internal or external sources. The documents are to then be reviewed to ensure compliance to the applicable specification. If you don’t have a copy or are missing any of the required documents then you must ask for them as it is your job to get to review them.

If a submission does not meet the applicable City of Windsor’s Specification for that material, the engineer and your supervisor immediately be notified.

Measured contract items for final payment will be quantified in the unit accounted for in the tender document and will have the following precision as per the Book of Supplementary Specifications and Mandatory Procedures and Practices.

Sewer pipe (PVC or concrete)	0.00m
Culverts	0.00m
Manhole (pre-cast)	EACH (LUMP SUM INCLUDING F&C)
Catchbasins (pre-cast)	EACH (LUMP SUM INCLUDING F&G)
Adjust existing MH or CB	EACH
Sawcutting	0.0 m
Milling	nearest square meter
Excavation	nearest cubic meter
All weighted material	0.00 tonne
Concrete pavement	0.00 sq.m
Concrete sidewalk or driveway	0.00 sq.m
Concrete curb and gutter	0.0 m
Fence or guard -rail	0.0m
Sod/ seeding or re-vegetation	nearest square meter
Application of calcium chloride	0.0 cubic meter
Equipment rental	0.5 hr
Top soil	nearest cubic meter
Clearing and brushing	nearest square meter
Removal of concrete pavement	nearest square meter
Removal of concrete sidewalk	nearest square meter
Removal of curb and gutter	0.0 m
Removal of sewer, culvert or water-main	0.0 m

Payment Structure for Incomplete Work

Payment for a manhole or catchbasin that is not parged or benched is 0.8 EACH until work is completed. Also payment is to be only 0.7 until confirmation is received that ALL castings have been returned to the City of Windsor’s Maintenance Yard at 1531 Crawford Avenue.

Once completed, castings returned and the base asphalt is down then the remaining 0.2 EACH or 0.1 EACH can be paid for a total of 1.0 EACH.

Payment for the removal and replacement of manhole frame and covers OR for the placement of new catchbasin covers shall be 0.8 EACH until the contractor provides confirmation that the old castings have been returned to the City of Windsor’s Maintenance Yard at 1531 Crawford Avenue.

The above two (2) items can be confirmed by the contractor having the security guard at the gate sign a release confirming that the required number of castings has been returned and the delivery has taken place.

Payment for project & construction signage is 0.5 EACH at the start of the project for the original placement of ALL the signs and then an additional 0.5 EACH is paid at the end of the project for the removal of ALL signs for a total of 1.0 EACH.

Payment for every PVC fitting is by the diameter of the fitting when doing PDC or catchbasin connection work.

THEREFORE

Every PVC fitting (this includes a wye) is paid as 6" (150mm) when doing private drain connections except the TEE fitting at the cleanout as this is paid under the cleanout item in the Form of Tender.

THE REDUCER FROM 6" (150mm) to 4" (100mm) IS NOT PAID AS A FITTING AND ALL 4" (100mm) IS PAID AS 6" (150mm) AS A LENGTH ONLY

Every PVC fitting is paid for either 8" (200mm) or 10" (250mm) when connecting catchbasins based on the size of the lead to the main. The catchbasin lead does not include half the mainline diameter when calculating the total length placed.

PDC lengths do include half the diameter of the mainline when calculating the total length placed.

NOTE: If a connection is capped at the property line, **the cap IS NOT to be paid for.**

MH to be paid from centre of cover to centre of cover not from outside of MH to outside of MH as this is only used to check and calculate grade of sewer run.

CB box out is not paid under linear curb measurement it is included in the unit item paid for catchbasin.

As-Built Quantities and Post Construction Sod Video

It is the inspector's responsibility to produce the as-built records to use for quantities for payment of the work done under the contract.


The inspector is required to gather the required information for this record by using total station drawings, hand measuring and quantifying.

Such a drawing could accurately depict:

- Pipe sizes, lengths, inverts and locations as installed.
- Manhole locations. (MUST BE SHOT)
- Stubbed sewer locations and lengths.
- Inverts and manufacturer of ALL concrete pipe stubs
- Concrete curb lengths and limits
- Areas and locations of concrete pavement, driveways and sidewalks.
- Areas of sod

- Areas and notes of contractor work that is paid for privately but is adjacent to city work and areas of contractor restoration that is likewise not paid by the city.

REQUESTED AS-BUILT SURVEY INFORMATION



THE CITY OF WINDSOR

Project name: _____

Project number: _____

Date of request: _____

Requested by: _____

Date completed: _____

Completed by: _____

Date returned: _____

HARD SURFACES

Concrete

Pavement

Residential drives and approaches

Commercial drives and approaches

Residential lead walks

Municipal sidewalk

Asphalt

Road - Base asphalt

Road - Surface asphalt

Residential drives and approaches

Commercial drives and approaches

Asphalt paths

MISC

Manholes

Curb (including catch basins)

Granular drives and approaches

Brick drives and approaches

Stamped concrete drives and approaches

Sod area cut out

Seed area cut out

Clean outs

Metal caps

In general all items paid by an area or a volume should be measured and included in the “As-Built” drawing.

Only item areas measured are to be used for quantities.

Items paid by lump sum, tonnage or by the unit may be shown on the drawing for reference information only but are not used for payment quantities.

Payment for such items are to be calculated from the appropriate source.

As-Built drawing protocols

Once field total station work is completed and a frame-work drawing is composed and delivered to the inspector for review and mark up.

The frame-work drawing is to have:

- Street names, property lines and building outline with municipal address.

- All field measured sidewalk, driveway sod/seed areas with an area number (but no quantity assigned)
The inspector will provide notes and hand measurements delineating any areas in part or entirety that are not to be included in the City's cost. Such areas are to be included in the drawing but hatched out and not be part of the payment area totals.
- The center of the manholes shot and joined with a line representing the sewer run.
The inspector will label the MH i.d. numbers, provide invert or stub information and list the sewer run pipe size and material as placed.
- The concrete curb lengths and limits.
The inspector will confirm.
- PDC clean out caps
The inspector will cross-reference and supply measurements for any missed, existing or buried.

Once the marked up frame-work drawing is reviewed and approved it may be returned to the survey dept. and quantity totals can be tabulated totaled and finalized. All amendments and notes are to be included and checked prior to final print and distribution. The inspector can complete the final payment certificated based on the quantities illustrated on the drawing or hand measured and tabulated on the item total sheets.

Below are some points to follow that may not be specifically outlined but bare mention.

Contractor Mobilization

Line Item for Signage is paid as 0.5 for initial setup and remaining 0.5 is paid upon removal at the completion of project.

Signage is only checked during construction if complaints received.

Utilities

Contractor is responsible for all locates.

Any damage to any utility plant is noted and contractor to advise appropriate utility. Inspector to mention in site meeting minutes that utility plant was damaged.

Sewer Construction

Saw cutting

Track cutting as may be a line item in the Form of Tender and may be done prior to road removal so once road removal completed there will be no way to confirm measurements. Engineering to define how and when sawcutting required by adding it as a line item in the Form of Tender.

Manhole tie in

Sand collar or rubber boot to be used as per City of Windsor Standard Specifications..

FLEXIBLE JOINT DISTANCE

CONCRETE PIPE IS CLASS A BEDDING ALWAYS TO FIRST PIPE JOINT AND PVC PIPE THE FLEXIBLE JOINT HAS TO BE WITHIN 3 FEET OR 1 METRE IF NOT USING A RUBBER BOOT.

Open cut trench

Minimum 1% fall on any open cut PDC – boring or pipe bursting to be 2%.

Document any utility crossings in trench.

Pipe class and material

It should be listed on drawings and in tender documents.

De-watering

Ensure that any de-watering done properly which means into a downstream manhole or pumper truck – not on the roadway. Should the inspector observe this they should immediately contact their supervisor.

Bedding material

Granular material required.

Pipe installation

Installed as per manufactures guidelines or accepted practice

Compaction of bedding material required as well as compaction required at springline.

“T” locations for pcd’s or CB’s

They are to be close as possible to required location which is +/- 1 meter of property line unless otherwise shown in tender documents.

Manhole and chamber placement

They are to be close as possible to required location as to not affect cost.

Backfill materials and compaction

Visual checks are required as well as the QA compaction testing.

CCTV FOR ACCEPTANCE

Flushing of the PDC’s and catchbasin leads to be undertaken first then PDC’s and catchbasin leads to be reviewed with CCTV with the Contractor providing assistance to access to the cleanouts or open the frame & grates.

Agreement for Sewer Camera Inspection to be filled out and signed by the Contractor stating that they have scheduled the cleaning of the PDC’s, catchbasin leads and mainline sewer and then we will schedule the mainline camera and the inspector is to undertake the CCTV review of the PDC’s and catchbasin leads. Record all of the hours that the CCTV contractor is on site in your diary. The Inspector is to be on site to observe the CCTV of mainline sewer with the contractor.

AGREEMENT FOR SEWER CAMERA INSPECTION

Contract: _____ Contractor: _____
Location: _____ Consultant: _____

M.H. _____	TO M.H. _____	M.H. _____	TO M.H. _____
M.H. _____	TO M.H. _____	M.H. _____	TO M.H. _____
M.H. _____	TO M.H. _____	M.H. _____	TO M.H. _____
M.H. _____	TO M.H. _____	M.H. _____	TO M.H. _____
M.H. _____	TO M.H. _____	M.H. _____	TO M.H. _____
M.H. _____	TO M.H. _____	M.H. _____	TO M.H. _____
M.H. _____	TO M.H. _____	M.H. _____	TO M.H. _____
M.H. _____	TO M.H. _____	M.H. _____	TO M.H. _____
M.H. _____	TO M.H. _____	M.H. _____	TO M.H. _____
M.H. _____	TO M.H. _____	M.H. _____	TO M.H. _____

AGREEMENT: The sewer lines noted above are now ready for C.C.T.V. inspection. The lines have been flushed/cleaned. All applicable testing including infiltration/exfiltration and the passing of the test gauge has been successfully completed and all manholes accessible. Sufficient water has been introduced to the lines so that any ponding will be evident. The City of Windsor will complete all C.C.T.V. inspections within three working days, weather permitting. **All cost associated with the initial C.C.T.V. inspection will be the responsibility of the City of Windsor. The cost of any subsequent C.C.T.V. inspection due to dirt, defects, lack of water or inaccessibility will be borne by the Contractor/Developer.** If the C.C.T.V. inspection is not completed within the time noted above, the contractor will not be held responsible for the removal of excess dirt, the addition of water or for the providing of access needed to carry out the C.C.T.V. inspection. The contractor, will of course, remain responsible for any defects noted in the inspection and the developer will remain responsible for the condition of the sewers until final acceptance.

I have fully read and understand the above agreement.

Signed: _____ Date: _____
(Contractor/Developer or representative)

Print Name: _____

Recommend charge to Contractor/Developer Yes No

Approved: _____

Note: When contracts or subdivision agreements require C.C.T.V. inspection, that agreement will take precedence.

SHEET OF

Boring and auguring

All sewer boring and auguring is to be done as per tender documents.

Testing

Air testing, infiltration/exfiltration (depending on conditions), CCTV, Test cage

Road Cut

Layout

Check documents to see who is responsible? If it is the contractor, then remind them they are in the precon meeting minutes. Contractor gets one layout only.

Sub-grade Inspection/Excavation/Sub-drain Installation

Shoot the excavation every 15 metres, no exceptions.

Check the proof rolling prior to shots and placement of granular material.

Removal of any deleterious materials and also track any over excavation.

Placement of approved Granular Material

Visual checks and look at the water content for weight ticket issues/compaction issues.

Compaction Requirements

100% SPD at optimum water content

Maintenance of road base during construction

Contractor to provide 4" (100mm) of granular 'A' for maintenance stone but check contract documents.

Testing

Compaction and grade

Inspector is responsible to call for all for QA testing when required.

Approval

Any issues to be discussed with the supervisor or engineer.

Payment

Inspector is to be responsible to recommend payment for items in Form of Tender and also for work done under T & M.

Road Pavement

Curb and gutter

Grade

Shoot the highs and lows. Discuss any issues with the contractor.

Curb cuts

Restore existing widths that were there and any new cuts are as per the permit for them.

Placement

Curing compound applied as per manufactures specifications to all exposed sides or plastic covering everything.

Testing

Slump test / Air test / Temperature are the minimum testing required. Cast cylinders if required.

Rigid pavement

Placement

Check the grade and the LTD (Load Transfer Devices) as well as the deformed bars.

Testing

Slump test / Air test / Temperature are the minimum testing required. Cast cylinders for FIELD and LAB cures.

Flexible pavement

Placement

All debris (ex. leaves) must be removed from area to be paved.

Paving not allowed on frozen base.

Kolis applied as per manufactures specifications.

Testing

Check ticket for proper material.

Check temperature and depth.

Samples taken – depends on mix how they are taken.

Resurfacing and Repair work

Repair work to be done as per Standard Specification or Best Practice.

Restoration behind the curb

Sidewalks

Location

Sidewalk location as per the plan.

Base

Granular base as per the plan.

Form check
Positive drainage always.
Placement
Never placed on frozen base.
Testing
Slump test / Air test / Temperature are the minimum testing required. Cast cylinders for FIELD and LAB cures.

Driveways and lead walks

Minimum amount left when doing removals is 4 feet for sidewalk and 6 feet for driveways.

Location

Full panel removals for concrete. Minimum width for proper compaction for asphalt.

Base

Granular base as per the plan.

Form check

Positive drainage always.

Placement

Never placed on frozen base.

Testing

Slump test / Air test / Temperature are the minimum testing required. Cast cylinders for FIELD and LAB cures.

Topsoil /sod / re-vegetation

Placement

Visual check before placement and refuse if looks to be out of spec and advise supervisor.

Force Accounts

Contactor must advise us on their intent to claim.
Document the hours of equipment and staff.
Claims to be submitted to Field Engineering for review.
Check the hours & rates with OPSS rates.

Road Checklist

Inspector is to complete the Road Checklist form (SEE SAMPLE BELOW) and place it in the job file. This is to be filled out upon completion of the base asphalt or before the project is accepted onto maintenance.



**THE CORPORATION OF THE CITY OF WINDSOR
PUBLIC WORKS - OPERATIONS**

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Road Checklist

Prior to Surface Asphalt or Maintenance Remainder

Purpose: This form is to be used as a checklist to ensure that when roads are left after construction completion or acceptance onto maintenance and the road has not been completed with surface asphalt, the following checklist should be used.

Date:	
Street:	
From:	To:

Checklist:

<input type="checkbox"/> Manhole	<input type="checkbox"/> Flush	<input type="checkbox"/> Raised	Painted: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> All Valves	<input type="checkbox"/> Flush	<input type="checkbox"/> Raised	Painted: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Catchbasins	<input type="checkbox"/> Flush	<input type="checkbox"/> Raised	Painted: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Flush	<input type="checkbox"/> Raised	Painted: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Flush	<input type="checkbox"/> Raised	Painted: <input type="checkbox"/> Yes <input type="checkbox"/> No

Project Status:

<input type="checkbox"/>	Accepted onto Maintenance
<input type="checkbox"/>	Road Being Prepared for Surface Asphalt
<input type="checkbox"/>	Roadway Complete

Maint/Forms/Road Construction-Checklist-form

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