

# **NIAGARA GIS/CAD STANDARDS Supplementary Special Provisions**

**for**

## **Regional Municipality of Niagara Transportation Engineering Projects**

Revised – July, 2008

The following special provisions will form part of the Niagara GIS/CAD Standards (NGCS) document for all works related to Regional Municipality of Niagara Transportation Engineering Projects as outlined in section 1.15.

The provisions of the NGCS apply except as amended or extended herein.

Sample files are available from the Region of Niagara Transportation Engineering Department.



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## **SP1 NAME CONVENTION – DRAWINGS AND MAPS**

The CAD file name format is critical to enable drawings to be easily located and identified. There are three basic types of drawings as outlined below.

**ROAD CONSTRUCTION DRAWINGS** - CAD file names will consist of the project number, regional road number, road name and location. Finally an optional description ending may be included as shown in the below example.

RN04-06\_RR69\_Pelham\_First-to-Louth\_TENDER.dwg

When the project drawing is at the tendering stage the regional project number must replace any e-number or preliminary identifying number.

**BRIDGE STRUCTURE CONSTRUCTION DRAWINGS** - CAD file names will consist of the project number, regional road number and bridge name. An optional description may be included as shown in the below example.

RN04-06\_RR24\_BecketsBridge\_AS-BUILT.dwg

Structure drawings will be developed in the STRUCTURES folder within the PW\_PROJECTS folder. When the project drawing is at the tendering stage the regional project number must replace any e-number or preliminary.

**TRAFFIC SIGNAL DRAWINGS** – CAD file names will begin with the intersection identification number. This is a six digit alpha-numeric code followed by the AutoCAD '.dwg' file designation.

050DCW.dwg

Traffic signal drawings must be developed within a project related folder which contains all related files as outlined in the below SP2. A traffic signal project developed in conjunction with roadway improvements as part of a roadway project will be kept in the Roadway Project folder. The traffic signal drawings should be plotted from separate tabs which are traffic signal construction and legal PHM-125. At the point of legal drawing development the that section of the project should be copied to a folder in the PW\_SIGNALS folder for future reference.

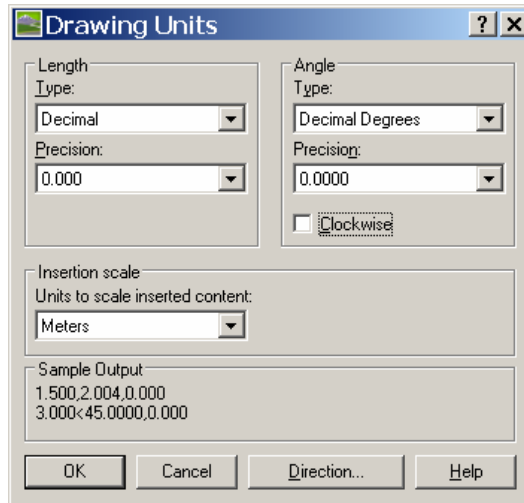
**DEVELOPMENT RELATED PROJECTS** - Projects for development related expansion which are funded by the owners of the development are kept in the E9989-Approvals\_General folder. The project name will include the Regional Road number and name and the development name and municipal jurisdiction of the development

!RR77\_FourthAve - Hospital (St-Cath)

## **SP2 SCALE**

AutoCAD drawings will be developed in model space at 1:1 scale. Roadway and traffic signal drawings must be plotted to show the drawing at 1:200 scale. Lines and text must be developed to plot at 1:200 scale. Structure and development related drawings will be developed as required by the region.

The drawings **UNITS** must be set to meters as below:



### **SP3 PROJECT FOLDER NAME CONVENTION**

Folders will be created for all projects. The project folder will be the project name (folder for all LDD folders and files) set up by AutoCAD LDD or Civil 3D when the project is initiated. The name of the project folder will include the RN number or the E-Number, the Regional Road name and location.

RN04-41\_RR70Taylor\_ThoroldStone-to-Mountain

In-house capital works road projects will be placed in the PW\_PROJECTS folder. Subfolders to further separate the types of projects include regional road number, structures, facilities and E9989-Approvals\_General.

The PW\_SIGNALS folder has been set up for traffic signal drawings.

### **SP4 PROJECT FOLDERS**

A Project folder must be set up at the beginning of each project as outlined above and designated as the LDD Project Name.

In addition to the LDD folders that are automatically set up, the following folders should be created.

**Correspondence** - print or copy all correspondence related to the design of the project to this folder in PDF format.

**Reports** - This folder should include a copy of all reports associated with the project. All reports must be received in digital format as well as paper.

**Inactive\_Drawings** - This folder contains drawing backups and out of date drawing files. It is important that only the current drawing be kept in the dwg folder and all other CAD files be renamed and moved to the Old\_Drawings folder.

**Drawings\_Received** - This folder will contain subfolders named by date and sender of all drawing files received. For example when a base plan is received

from Kerry T Howe Engineering on September 8, 2006 the folder '2006-09-08\_KTHowe' should be created within the Drawings\_Received folder to store the file(s) received. The original drawing received should be preserved and a copy made for editing in the 'dwg' folder.

**Design\_Spreadsheets** - This folder should contain all design spreadsheets developed for the project. This folder may be subdivided in storm, sanitary and roadway folders.

**Utility\_Locates** - This folder should contain PDF or TIF copies of all locate files received for the project. The files in this folder should be designated by dated and sender of the information. For example a gas locate received on December 19 will read "2006-12-19 Gas.pdf".

**Pictures** - This folder will contain photographs of the site. This folder may contain sub-folders by date and/or description of the contents.

**Images Scanned** - This folder contains scanned images related to the project development.

**Estimates** - This folder contains all the estimating spreadsheets developed for the project. Out of date estimates should be moved to an [OLD\_ESTIMATES] folder.

## **SP5 DRAWING BACKUPS**

CAD files must be backed up on a regular basis. Backup files should be copied to the OLD DRAWINGS folder in the LDD project. The name of the drawing must be changed to identify it is a backup. There are two options for backup name changes

1) Type 'OLD' at the beginning of the CAD file name. For example

OLD\_E0247\_RR69Pelham\_First-to-Louth\_DESIGN.dwg

2) A second way of designating the drawing as a backup is to insert the date at the beginning of the name in the *yyyy-mm-dd* format. For example:

2004-08-15\_E0247\_RR69Pelham\_First-to-Louth\_DESIGN.dwg

CAD files should be backed up a minimum of once every month during project development.

**SP6 LINES**

The region transportation custom linetypes must be used for all transportation projects. The line file RT\_NGCS.LIN is available from the Regional Transportation Department.

**SP7 TEXT**

The region transportation text will follow the NGCS.

**SP8 BLOCKS**

The region transportation has updated blocks to be used for transportation projects.

**SP9 LAYER NAMES**

The regional transportation department follows the layer name convention of the NGCS. Provided herein is a summary of commonly used layers along with the regional layer colour.

**SP10 BORDERS**

Region of Niagara Transportation Engineering project must use the below border block files:

NR\_Transportation\_COVER.dwg

NR\_Transportation\_Plan.dwg

NR\_Transportation\_Plan-Profile.dwg

All borders attributes including viewport coordinates, must be fully completed as per NGCS document.

Border detail including lines and text are drawn on layer BORDER and set to colour by object. The border outline plot area and the plan view viewport are drawn on VIEWPORT\_RECTANGLE layer which is a no-plot layer.

## **SP11 PLOTTING**

The region transportation drawing must be set up and plotted with the Region Transportation borders and plot colour table.

## **SP12 DRAWING TYPES**

The region transportation drawing templates can be used to provide drawing setup.

## **SP13 DRAWING TEMPLATES AND SAMPLE DRAWINGS**

Drawing templates are provided to allow pre programmed setup of new drawings. Sample drawings can also be used to start drawings. Sample drawings include all layer names, line types, blocks and borders required.

Templates and sample drawings can be found in the below folders:

*P:\IPW\_STANDARDS\NGCS\_2007\7 Transportation\_Engineering Supplemental\Templates*

## **SP14 PROJECT DEVELOPMENT NOTES**

Project notes will be kept as a diary of the development of the project. Note information will be in point form (by date) listing important events or decisions made during the development of the project. It is critical to note events such as base plan received, issued for review, submitted to MOE and so forth. Design decisions that are contrary to normal practices must be noted and explained. Any design direction should be noted including the personnel involved. Design meeting should be noted and any outcome of the meetings. All notes in point form will include the date before the note in the following format as in the below example:

2005-07-31 project managers meeting identified the need for a road widening.

2005-08-04 Joe Smith requested estimate for base plan from K T Howe.

2005-08-13 received estimate from K T Howe \$850

2005-08-15 contracted Howe to provide survey base lane

2005-08-16 received base plan from K T Howe via email.

## **SP15 AS-CONSTRUCTED DRAWINGS**

As-constructed drawings must be received by the Region within 90 days of the completion of the project.

Consultants not providing as-constructed records will not be eligible to contract with the region for new work until the as-constructed drawings are received.

RT\_NGCS.LIN

;; ; AutoCAD Linetype Definition file  
;; for Region of Niagara Transportation Services  
;;  
;; to be used at for 1:200 scale drawings = Lt scale 0.2  
;; text15 & text20b Textstyles must be defined in the drawing  
;;

\*UTIL\_PROFILE, ---- ---- ----  
A, 5, -1.5

\*BELL\_UNDERGROUND, --- --- --- B  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["B", text15, S=5.0, R=0, X=-.75, Y=-0.75], -1.5

\*BELL\_CONDUIT, --- --- --- BC  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["BC", text15, S=5, R=0, X=-.75, Y=-0.75], -3

\*BELL\_CONC\_ENCASED, --- --- --- BE  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["BE", text15, S=5, R=0, X=-.75, Y=-0.75], -3

\*BELL\_AERIAL, ----- AB  
A, 30, -2.5, 30, -1.8, ["AB", text15, S=5.0, R=0, X=-.75, Y=-0.75], -3

\*HYDRO\_UNDERGROUND, --- --- --- H  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["H", text15, S=5.0, R=0, X=-.75, Y=-0.75], -2

\*HYDRO\_AERIAL, ----- AH  
A, 30, -2.5, 30, -1.8, ["AH", text15, S=5.0, R=0, X=-.75, Y=-0.75], -3, 5

\*PR\_HYDRO\_UNDERGROUND, --- --- --- H  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["H", text20b, S=5, R=0, X=-.3, Y=-1], -3

\*TV\_UNDERGROUND, --- --- --- TV  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["TV", text15, S=5.0, R=0, X=-.75, Y=-0.75], -3

\*TV\_AERIAL, ----- AT  
A, 30, -2.5, 30, -1.8, ["AT", text15, S=5.0, R=0, X=-.75, Y=-0.75], -3

\*BROADBAND, ----- BBN ----- BBN  
A, 50, -0.75, ["BBN", text15, S=5, R=0, X=0, Y=-0.75], -5

\*STREET\_LIGHT\_CABLE, --- --- --- L  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["L", text15, S=5, R=0, X=-.75, Y=-0.75], -1.5

\*EX\_GUYWIRE, -- -- -- GW  
A, 1, -1, 1.5, -1, 1.5, -1.5, ["GW", text15, S=2.5, R=0, X=-0.35, Y=-0.35], -2, 1.5, -1, 1.5, -1

\*GAS, --- --- G --- G  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["G", text15, S=5.0, R=0, X=-0.75, Y=-0.75], -1.5

\*GAS\_HIGH\_PRESSURE, --- --- --- GH  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["GH", text15, S=5, R=0, X=-.75, Y=-0.75], -3

\*OIL\_PIPE, ----- OL -----  
A, 12.7, -6.35, 12.7, -6.35, 12.7, -1.5, ["OL", text15, S=5.0, R=0, X=-.75, Y=-0.75], -3

\*EXWATERMAIN, -- . -- W -- . ---  
A, 6, -3, 0, -3, 6, -3, 0, -3, 6, -2, ["W", text15, S=5.0, R=0, X=-.75, Y=-0.75], -2

\*EXWATERMAIN\_PROFILE, -- . -- . ---  
A, 6, -3, 0, -3

\*PR\_WATERMAIN, -- . -- W -- . ---  
A, 12, -3, 0, -3, 12, -3, 0, -3, 12, -2, ["W", text20b, S=5.0, R=0, X=-.75, Y=-1], -3

\*PR\_WATERMAIN\_PROFILE, -- . -- . ---  
A, 12, -3, 0, -3

\*TS\_INTERCONNECT, --- --- INTER --- --- INTER  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["INTER", text15, S=5, R=0, X=-0.75, Y=-0.75], -6

\*TS\_LOOPS, -- --- ---  
A, 3, -3

\*TS\_50\_CONDUIT, \_ \_ \_ \_ \_  
A, 3, -1, 0, -1

\*TS\_100\_CONDUIT, --- --- TS  
A, 5, -4.5, 5, -4.5, 5, -1.5, ["TS", text20b, S=5, R=0, X=0, Y=-1], -5

\*EX\_TS\_CONDUIT, --- --- TS  
A, 5, -4.5, 5, -4.5, 5, -1.5, ["TS", text15, S=5, R=0, X=0, Y=-0.75], -5

\*TS\_LEGAL\_PROPERTY, --- --- PL  
A, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, 5, -1.5, ["PL", text20b, S=5, R=0, X=0, Y=-1], -5

RT\_NGCS. LIN

```

*EXSTM, ----- ST -----
A, 12. 7, -6. 35, 12. 7, -6. 35, 12. 7, -1. 5, ["ST", text15, S=5. 0, R=0, X=-. 75, Y=-0. 75], -3
*EXSTM_PROFI LE, -----
A, 12. 7, -6. 35
*PR_STM, ----- ST -----
A, 12. 7, -6. 35, 12. 7, -6. 35, 12. 7, -1. 5, ["ST", text20b, S=5. 0, R=0, X=0, Y=-1], -5
*EXSAN, --- --- SA
A, 6. 35, -3. 175, 6. 35, -3. 175, 6. 35, -3. 175, 6. 35, -3. 175, 6. 35, -1. 5, ["SA", text15, S=5. 0, R=0, X
=-. 75, Y=-0. 75], -3
*EXSAN_PROFI LE, --- ---
A, 6. 35, -3. 175
*PR_SAN, --- --- SA
A, 6. 35, -3. 175, 6. 35, -3. 175, 6. 35, -3. 175, 6. 35, -3. 175, 6. 35, -1. 5, ["SA", text20b, S=5. 0, R=0,
X=0, Y=-1], -5

*ROAD_3-3_PMARKS, ___ ___
A, 15, -15
*ROAD_1-1_PMARKS, _ _ _
A, 5, -5
*ROAD_3-6_PMARKS, ___ ___
A, 15, -30
*ROAD_XWALK_PMARKS, _ _ _
A, 2. 25, -1. 125

*TRACKS, ---|---|---|---|---|
A, 25, -. 05, ["|", text15, S=5, R=0, X=-. 28, Y=-0. 65], -. 05

*ROAD_CL, _____
A, 25, -2. 5, 5, -2. 5
*LEFT_PROPERTY, ----- LPL ----- LPL
A, 50, -0. 75, ["LPL", text15, S=5, R=0, X=0, Y=-0. 75], -5
*RI GHT_PROPERTY, ----- RPL ----- RPL
A, 50, -0. 75, ["RPL", text15, S=5, R=0, X=0, Y=-0. 75], -5
*LEFT_SI DEWALK, ----- LSW ----- LSW
A, 40, -0. 75, ["LSW", text15, S=5, R=0, X=0, Y=-0. 75], -5
*RI GHT_SI DEWALK, ----- RSW ----- RSW
A, 40, -0. 75, ["RSW", text15, S=5, R=0, X=0, Y=-0. 75], -5
*GRAN_SHLDR, -----
A, 20, -3. 75

*FENCE, -----X-----X--
A, 10, -0. 25, ["X", text15, S=5, R=0, X=0, Y=-0. 75], -1. 5
*FENCE_SHORT, -----X-----X--
A, 5, -0. 25, ["X", text15, S=5, R=0, X=0, Y=-0. 75], -1. 5
*FENCE_WOOD, -----[]-----[]-----[]--
A, 12, ["[" , text15, S=3, R=0, X=-. 18, Y=-0. 386], -0. 6, ["]" , text15, S=3, R=0, X=-. 380, Y=-0. 386]
, 0

*HAND_RAI L, -----0-----0-----0--
A, 10, -. 2, ["o", text15, S=5, R=0, X=0, Y=-0. 5], -1. 5
*PR_RAI L, -----0-----0-----0--
A, 10, -. 05, ["o", text20, S=5, R=0, X=0, Y=-0. 7], -1. 6

*GUI DE_RAI L, _____[]_____[]_____[]
A, 15, ["[" , text15, S=5, R=0, X=-0. 29, Y=. 5], -0. 94, ["]" , text15, S=5, R=0, X=-0. 65, Y=. 5], 0
*PR_GUI DE_RAI L, _____[]_____[]_____[]
A, 15, ["[" , text20, S=5, R=0, X=-0. 38, Y=. 6667], -1. 332, ["]" , text20, S=5, R=0, X=-0. 865, Y=. 666
7], 0

*DRAI N,
A, 25, -3. 5, 2. 5, -2. 5, 2. 5, -3. 5
*DI TCH, -----

```

RT\_NGCS. LIN

A, 35, -5, 5, -5, 5, -5, 5, -5, 35  
\*CULVERT, -- -- --  
A, 3, -3

\*PR\_DASHED, -- -- --  
A, 3, -3

\*BANK, \_\_\_\_\_|||\_\_\_\_\_|||\_\_\_\_\_|||\_\_\_\_\_  
A, 25, -. 05, ["|", text15, S=5, R=0, X=-. 28, Y=. 5], -. 05, 1, -. 05, ["|", text15, S=10, R=0, X=-. 575, Y=1], -. 05, 1, -. 05, ["|", text15, S=5, R=0, X=-. 28, Y=. 5], -. 05

5.3.3.1

# NIAGARA GIS/CAD STANDARDS REGIONAL TRANSPORTATION SUPPLEMENTAL LINETYPES

## ROADWAY

ROAD\_CL \_\_\_\_\_  
GRAN\_SHLDR \_\_\_\_\_

## PROFILES

LEFT\_PROPERTY \_\_\_\_\_ LPL \_\_\_\_\_ LPL \_\_\_\_\_  
RIGHT\_PROPERTY \_\_\_\_\_ RPL \_\_\_\_\_ RPL \_\_\_\_\_  
LEFT\_SIDEWALK \_\_\_\_\_ LSW \_\_\_\_\_ LSW \_\_\_\_\_  
RIGHT\_SIDEWALK \_\_\_\_\_ RSW \_\_\_\_\_ RSW \_\_\_\_\_

## FENCES AND GUIDERAIL

FENCE —X—X—X—X—X—X—X—X—X—X—X—X—  
FENCE\_SHORT —X—X—X—X—X—X—X—X—X—X—X—X—X—X—X—X—  
FENCE\_WOOD —□—□—□—□—□—□—□—□—□—□—□—□—  
HAND\_RAIL —○—○—○—○—○—○—○—○—○—○—○—○—  
PR\_RAIL —●—●—●—●—●—●—●—●—●—●—●—●—  
GUIDE\_RAIL —▮—▮—▮—▮—▮—▮—▮—▮—▮—▮—  
PR\_GUIDE\_RAIL —▮—▮—▮—▮—▮—▮—▮—▮—  
NOTE: USE POLYLINE WITH LINEGEN 'ON'

## MISCELLANEOUS

TRACKS \_\_\_\_\_  
BANK \_\_\_\_\_





*NIAGARA GIS/CAD STANDARDS  
REGIONAL TRANSPORTATION  
CUSTOM LINETYPES*

*UTILITIES*

UTIL_PROFILE	-----
BELL_UNDERGROUND	----- B ----- B ----- B -----
BELL_CONDUIT	----- BC ----- BC ----- BC -----
BELL_CONC_ENCASED	----- BE ----- BE ----- BE -----
BELL_AERIAL	----- AB -----
BROADBAND	----- BBN ----- BBN -----
HYDRO_UNDERGROUND	----- H ----- H ----- H -----
HYDRO_AERIAL	----- AH -----
PR_HYDRO_UNDERGROUND	----- H ----- H ----- H ----- H -----
STREET_LIGHT_CABLE	----- L ----- L ----- L -----
EX_GUYWIRE	----- GW ----- GW ----- GW ----- GW ----- GW ----- GW ----- GW ----- GW -----
GAS	----- G ----- G ----- G -----
GAS_HIGH_PRESSURE	----- GH ----- GH ----- GH -----
TV_UNDERGROUND	----- TV ----- TV ----- TV -----
TV_AERIAL	----- AT -----
OIL_PIPE	----- OL ----- OL -----

*NIAGARA GIS/CAD STANDARDS  
REGIONAL TRANSPORTATION  
STANDARD LINETYPES*

*ROADWAY*

EXISTING CURB 

*PROPOSED CURB* 

EXISTING SIDEWALK 

*PROPOSED SIDEWALK* 

PROPERTY 

BUILDINGS 

## 5.3.4 EXISTING DETAIL

Description	Cat Category	Div Division	Grp Group	Layer	C Color	P-Linetype	(B)lock (T)ext (H)atch	Survey Code
Aerial Photo					7			
Alignment	IN	RS	GEO	ALIGNMENT	56	continuous		
Alignment Text	IN	RS	GEO	ALIGNMENT_T	56		T	
Armour Stone	LB	AR	MSC	ARMOURSTONE	234			
Asphalt Edge Road	IN	RS	RDY	EDGEASPH	180	continuous		EP
Asphalt Material	IN	RS	GND	ASPH				
Asphalt Shoulder	IN	RS	RDY	SHDASPH	202	continuous		SHD
Asphalt Sidewalk	IN	RS	SWK	SWASPH	202	continuous		SWA
Bank (Slope) Bottom	LB	TM	GND	SLOPEBOTTOM	33	continuous		
Bank Top	LB	TM	GND	SLOPETOP	33	bank		LTS
Bar, Property see SIB, IB, IT...	LB	SV	MON	BAR	51		B - SIB,IB,IT...	
Bell Cabinet	UT	BL	GND	CABINET	34		B - BCAB	
Bell Cable Underground	UT	BL	UND	CABLE	34	bell_under		BU
Bell Control Box	UT	BL	GND	CONTROLBOX	34	continuous		
Bell Guy Pole	UT	BL	GND	GUYPOLE	34		B - BP	BPG
Bell Manhole	UT	BL	GND	MANHOLE	34		B - BMH	BMH
Bell Pedestal	UT	BL	GND	PEDESTAL	34		B - BPED	BPED
Bell Pole	UT	BL	GND	POLE	34		B - BP	BP
Bell Switch Box	UT	BL	GND	SWITCHBOX	34			
Bell Telephone Booth	UT	BL	GND	TELEBOOTH	34		B - TELEB	TELB
Bell Underground Conduit	UT	BL	UND	CONDUIT	34	bell_conduit		
Bell Wire Aerial	UT	BL	AER	WIRE	34	bell_aerial		BOHD
Bench Mark (Vertical Control)	LB	SV	CNT	VERTICAL	51		B - BM	VBM
Bench seat	LU	PK	MSC	BENCH	234			
Bike Rack	LU	PK	MSC	BIKERACK	234			
Border	DR	BR	LIN	LINE20	7			
Border Grid	DR	BR	PRF	GRID	245	dot	Linetype Scale=0.5	
Border Grid (0.1m INTERVALS)	DR	BR	PRF	GRIDFINE	244	dot	Linetype Scale=1.0	
Borehole	LB	AR	GEO	BOREHOLE	234		B - BH	
Boulder	LB	NF	ETH	BOULDER	82		B - BLD	BLD
Breaklines	LB	TM	FLT	BREAKLINE	51	continuous		
Brick, Interlocking								
Bridge	IN	RS	STR	BRIDGE	234			
Bridge	LU	BS	BRG	BRIDGE	34	continuous		
Broadband Network Cable	UT	BN	UND	CABLE	34			
Broadband Network Conduit	UT	BN	UND	CONDUIT	34			
Broadband Network Connection Box	UT	BN	GND	CONNECTIONBOX	34			
Broadband Network Lamp	UT	BN	AER	LAMP	34			
Broadband Network Wire	UT	BN	AER	WIRE	34			
Building	LU	BS	BLD	BUILDING	220	continuous		
Building - Address	LU	BS	BLD	ADDRESS	180		T - TEXT15	
Building - House Footprint	LU	BS	BLD	FOOTPRINT	220	continuous		HSE
Bus Route	TR	TN	BUS	ROUTE	11	continuous		
Bus Shelter	TR	TN	STR	BUSHELTER	11	continuous		BS
Bush - Row of Bushes	LB	NF	VEG	SHRUBLINE	82	continuous		BRH-R
Bush (Shrub)	LB	NF	VEG	SHRUB	82		B - SHRB	BSH
Cable TV (CATV)	UT	TV	UND	CABLE	34	TV_under		UTV
Camera, traffic detection	IN	TS	AER	CAMERA	142		B - CAMERA	
Catch Basin	IN	DS	SEW	CB	134	continuous	B - CB	CB
Catch Basin Lead	IN	DS	SEW	LEAD	134			

## 5.3.4 EXISTING DETAIL

Description	Cat Category	Div Division	Grp Group	Layer	C Color	P-Linetype	(B)lock (T)ext (H)atch	Survey Code
Catch Basin Manhole	IN	DS	SEW	MHS	134	continuous	B - CBMH	CBMH
CATV Pedestal	UT	TV	GND	PEDESTAL	34		B - CATV	TVPED
CATV Underground Cable	UT	TV	UND	CABLE	34	TV_under		UTV
CATV Wire Aerial	UT	TV	AER	WIRE	34	TV_aerial		
Cemetery Boundary	LU	CM	GRV	BOUNDARY	10	continuous		
Centerline Roadway	IN	RS	GEO	CENTRELINE	56	road_CL		CL
Cleanout Sanitary	IN	WW	SER	CLEANOUT	106		B - CO	CO
Columns	LU	LF	BLD	COLUMN	234			
Combined Sewer	IN	WW	COM	PIPE	106	exsan		
Concrete Cross Walk	IN	TS	GND	CROSSWALK				
Concrete Material								
Concrete Pad	IN	RS	MSC	CONCRETEPAD	202	continuous		
Concrete Parking Blocks	IN	RS	PRK	STOPBLOCK	30			
Contour Lines	LB	TM	CNT	CONTOURS	106	continuous		
Control Point	LB	SV	CNT	CONTROLPNT	51			
Control Point Horiz. & Vert.	LB	SV	CNT	HORZVERT	51		B - CM	CM
Control Point Horizontal	LB	SV	CNT	HORIZONTAL	51		B - HCM	HCM
Control Point Vertical	LB	SV	CNT	VERTICAL	51		B - BM	BM
Creek	LB	NF	WAT	CREEK	130			
Culvert - Concrete Corner	IN	DS	DDS	CULVERTCONC	134			
Culvert - CSP	IN	DS	DDS	CULVERT	134	culvert		CSP
Curb	IN	RS	RDY	CURB	180	continuous		
Curb Box or Curb Stop	IN	WS	SER	CURBSTOP	152		B - CS	CS
Curb Cut	IN	RS	RDY	CURBCUT	184	continuous		
Cut Cross	LB	SV	CNT	CUTCROSS	51			
Cut Cross Control	LB	SV	CNT	HORZVERT	51		B - CC	
Cut Cross Property Marker	LB	SV	MON	BAR	51		B - CC	
DICB Ditch Inlet Catch Basin	IN	DS	SEW	DICB	134		B - DICB	DICB
Dimension See proposed detail and add "_D" as a suffix of the layer. ie: LAYERNAME_D								
Disconnect for Traffic Signal	IN	TS	AER	DISCONNECT	142	B - DISC		
Ditch	IN	DS	DDS	DITCH	134	ditch		D
Dock	LU	PK	MSC	DOCK	234			
Double Catch Basin	IN	DS	SEW	DCB	134		B - DCB	DCB
Drainage Area Line Sanitary	IN	WW	BND	DRAINAGEAREA	106	continuous		
Drainage Area Line Storm	IN	DS	BND	DRAINAGEAREA	50	continuous		
Drawing Text Miscellaneous	DR	BR	TXT	TEXT	10			
Driver Vision Cone	IN	TS	MSC	VISIONCONE	142			
Driveway	IN	RS	DWY	DRIVEWAY	192	continuous		DW
Driveway Description Text	IN	RS	DWY	DRIVEWAY_T	192		T	
Dump Area Boundary	IN	WM	BND	DUMPAREA	192	continuous		
Fault lines or Breaklines	LB	TM	FLT	BREAKLINE	10	continuous		
Fence	LU	LF	FNC	FENCE	234	fence		FL
Fence (short)	LU	LF	FNC	FENCE	234	fence_short		FL
Fence (Wood)	LU	LF	FNC	FENCEWOOD	234	fence_wood		FL
Fence Post	LU	LF	FNC	FENCEPOST	234		B - FPOST	PF
Fire Hydrant	IN	WS	DST	HYDRANT	152		B - HYD	HYD
Fire Hydrant Coverage Area	IN	WS	BND	HYDCOVERAGE	152			
Flag Pole	LU	LF	MSC	FLAGPOLE	234		B - FP	FP
Forcemain Sanitary	IN	WW	SEW	FORCEMAIN	106	exsan		SFM
Gas Main Underground	UT	GS	UND	PIPE	34	gas		G

### 5.3.4 EXISTING DETAIL

Description	Cat Category	Div Division	Grp Group	Layer	C Color	P-Linetype	(B)lock (T)ext (H)atch	Survey Code
Gas Meter	UT	GS	GND	METER	34		B - GM	
Gas Valve	UT	GS	GND	VALVE	34		B - GV	GV
Gate in Fence Line	LU	LF	FNC	GATE	234		B - GATE	GATE
Geodetic Survey Monument	LB	SV	CNT	MONUMENT	51			
Granular	IN	RS	RDY	SHDGRAN	202	gran_shldr		
Granular Road Edge	IN	RS	RDY	EDGEGRAN	202	gran_shldr		
Granular Shoulder	IN	RS	RDY	SHDGRAN	202	gran_shldr		
Guide Rail	IN	RS	STR	GUIDERAIL	234	guide_rail		GR
Gutter of Curb	IN	RS	RDY	GUTTER	180	continuous		GUT
Guy Wire	UT	HY	GND	GUYWIRE	34	ex_guywire	B - GW	GW
Hand Rail	IN	RS	FNC	HANDRAIL	234	continuous		
HatchSee related layer and add "_H" as a suffix to the layer name ie: LAYERNAME_D								
Headstone	LU	CM	GRV	HEADSTONE	10		B - HS	
Headwall on Ditch or Swale	IN	DS	DDS	HEADWALL	134			
Hedge	LB	NF	VEG	SHRUBLINE	82	continuous		HDG
House	LU	BS	BLD	HOUSE	220	continuous		
Hub on Tangent	LB	SV	CNT	HUB	51		B - HOT	HOT
Hydrant (also Fire Hydrant)	IN	WS	DST	HYDRANT	152		B - HYD	HYD
Hydrant Valve	IN	WS	DST	HYDRANTVALVE	152		B - WV	SECV
Hydro	UT	HY	GND	JUNCTIONBOX	34		B - JB	JBH
Hydro - Street Light Cable	UT	HY	UND	LIGHTCABLE	34	street_light_cable		
Hydro Overhead Wire	UT	HY	AER	WIRE	34	hydro_aerial		
Hydro Pole	UT	HY	GND	POLE	34		B - HP	HP
Hydro Tower	UT	HY	GND	TOWER	34		B - HT	HTWR
Hydro Transformer	UT	HY	GND	TRANSFORMER	34			
Hydro Transformer Above Ground	UT	HY	GND	TRANSFORMER	34		B - HTF	HT
Hydro Transformer Underground	UT	HY	UND	TRANSFORMER	34		B - HTF	HT
Hydro Underground Cable	UT	HY	UND	CABLE	34	hydro_under		
Hydro Vault	UT	HY	GND	VAULT	34		B - HV	HV
Image								
Invert of Culvert	IN	DS	DDS	CULVERT	134	culvert		
Iron Bar (IB)	LB	SV	MON	BAR	51		B - IB	IB
Iron Pipe (IP)	LB	SV	MON	BAR	51		B - IP	IP
IT (Pinched)	LB	SV	MON	BAR	51		B - IT	
Jersey Barrier	IN	RS	STR	JERSBARRIER	234			
Junction Box	IN	TS	GND	JUNCTIONBOX	142			
Lake	LB	NF	WAT	LAKE	130	continuous		
Lamp Pole	UT	HY	GND	LAMPPOLE	34		B - LP	
Light Pole	UT	HY	GND	LIGHTPOLE	34		B - LP	LP
Light Standard	UT	HY	GND	LIGHTSTANDARD	34		B - LS	LS
Limits of Construction	IN	RS	REF	CONSTLIMIT	220	continuous		
Loops - see "Traffic Signal Detection Zone"								
Luminaire	IN	TS	AER	LUMINAIRE	142		B - LUMIN	
Mail Box	LU	LF	MSC	MAILBOX	234		B - MB	MB
Manhole Combined	IN	WW	COM	MHCOMB	106		B - MH	MHC
Manhole Sanitary	IN	WW	SEW	MH	106		B - MH	MHSA
Manhole Storm	IN	DS	SEW	MHS	134		B - MH	MHST
Manhole Unknown	IN	UN	MSC	UNKNOWNMH	106		B - MH	MH
Match Line	DR	BR	REF	MATCHLINE	51	continuous		
Monument	LB	SV	MON	MONUMENT	51		B - CM	

## 5.3.4 EXISTING DETAIL

Description	Cat Category	Div Division	Grp Group	Layer	C Color	P-Linetype	(B)lock (T)ext (H)atch	Survey Code
Nail	LB	SV	CNT	NAIL	51		B - NA	NA
Nail and Washer	LB	SV	CNT	NAIL	51		B - NA	NW
North Arrow	DR	BR	REF	NORTHARROW	51		B - NORTH	
Obvert of Storm Culvert	IN	DS	DDS	PIPE	134	culvert		OBV
Oil Pipe (Underground)	UT	OL	UND	PIPE	34	oil_pipe		OPL
Oil Tank	UT	OL	GND	TANKS	34	continuous		
Oil Well Structure	UT	OL	GND	WELLSTRUCTURE	34			
Original Ground	LB	TM	GND	ELEV	1	continuous		OG
Original Ground – Center Line	LB	TM	GND	CELEV	56	road_CL		OGCL
Original Ground – Top of Slope	LB	TM	GND	ELEV	33	dashed		OGTS
Original Ground Bottom of Slope	LB	TM	GND	SLOPE BOTTOM	33	dashed		
P.K. Nail	LB	SV	CNT	NAIL	51		B - NA	PK
Parking Lot	IN	RS	PRK	PARKINGLOT	192	continuous		
Parking Meter	IN	TS	MSC	PARKINGMETER	142		B - PM	PM
Pavement – Edge of	IN	RS	RDY	EDGEASPH	180	continuous		EP
Pavement Markings	IN	TS	PMK	PMARKS	206			PMKR
Pavement Marks - 3-3	IN	TS	PMK	LINE3-3	206	road_3-3_pmarks		
Pavement Marks - Double Yellow Lines 100	IN	TS	PMK	LINE100	206	continuous		
Pavement Marks - Rural Crosswalk	IN	TS	PMK	RURALCROSS	206	road_xwalk_pmarks		
Pavement Marks - Stop Bar	IN	TS	PMK	LINE600	206	continuous		
Pavement Marks - Symbols	IN	TS	PMK	SYMBOLS	202		B	
Pavement Marks - Yellow Line 100mm	IN	TS	PMK	LINE100	206	continuous		
Pavement Marks 1-1	IN	TS	PMK	LINE1-1	206	road_1-1_pmarks		
Pavement Marks 3-6	IN	TS	PMK	LINE3-6	206	road_3-6_pmarks		
Pavement Marks -White Line 100mm	IN	TS	PMK	LINE100	206	continuous		
Ped Head for Traffic Signal	IN	TS	AER	PEDHED	142		B - PHEAD	
Pen weight - Extra Fine	DR	BR	PEN	05	11	continuous		
Pen Weight - Extra Heavy	DR	BR	PEN	100	221	continuous		
Pen Weight - fine	DR	BR	PEN	10	31	continuous		
Pen weight - Heavy	DR	BR	PEN	70	161	continuous		
Pen weight - Medium	DR	BR	PEN	35	81	continuous		
Pen weight - Medium Fine	DR	BR	PEN	20	51	continuous		
Pen Weight - Medium Heavy	DR	BR	PEN	50	121	continuous		
Piers	LU	LF	BLD	PIERS	234			
Pillar	LU	LF	MSC	PILLAR	234			
Playground Equipment	LU	PK	MSC	PLAYEQUIP	234			
Point of Intersection	LB	SV	CNT	PI	51		B - PI	PI
Pool	LU	PK	MSC	POOL	234			
Porch	LU	BS	BLD	PORCH	220	continuous		
Post	LU	LF	MSC	POST	234		B - FPOST	PST
Post for Fence	LU	LF	FNC	FENCEPOST	234		B - FPOST	PF
Profile Border Elevations	DR	BR	DR	PROFELEV	51		T - TEXT35B	
Profile Border Stations	DR	BR	PRF	PROFSTA	51		T - TEXT15	
Profile Left Property Line	LB	SV	BND	PROPERTYL_PF	120	left_property		
Profile Right Property Line	LB	SV	BND	PROPERTYR_PF	120	right_property		
Project (survey) extents	DR	PJ	REP	PROJEXTENSE	10			
Project (survey) part	DR	PJ	REF	PROJPART	10			
Property Line	LB	SV	BND	PROPERTY	120			PL
Property Line for Traffic Signal Drawings	LB	SV	BND	TS-PROPERTY	120	ts_legal_property		PL
Pump Station	IN	WW	STR	PUMPSTATION	106	continuous		

## 5.3.4 EXISTING DETAIL

Description	Cat Category	Div Division	Grp Group	Layer	C Color	P-Linetype	(B)lock (T)ext (H)atch	Survey Code
Push Buttons for Traffic Signals	IN	TS	AER	PUSHBUTTON	142		B - PB	
Rail	TR	RL	TRK	RAIL	11			
Railway Crossing Sign	TR	RL	SGN	CROSSING	11		B - RR	RCS
Railway Line (Center Tracks)	TR	RL	TRK	CLTRACKS	11	tracks		RWY
Railway Track	TR	RL	TRK	TRACKS	11	tracks		
Rear Yard Catch Basin	IN	DS	SER	RYCB	134		B - CB	
Rear Yard Catch Basin lead	IN	DS	SER	LEAD	134	exstm		
Retaining Wall	LB	LF	WAL	RETAININGWALL	234	continuous		WALL
Rip Rap in Ditch	IN	DS	DDS	RIPRAP	134			
Road	IN	RS	RDY	EDGEROAD	180			
Road Center Line	IN	RS	RDY	CENTERLINE	56	continuous		CL
Road Centerline Station Labels	IN	RS	GEO	CENTRELINE_T	56		T - TEXT15	
Road Centerline Text	IN	RS	GEO	CENTERLINE_T	56		T - TEXT15	
Road Edge of Pavement	IN	RS	RDY	EDGEASPH	180	continuous		EP
Road Sign (also Sign)	IN	TS	SGN	INFORMATION	112		B - RS	RS
Rock Outcrop	LB	NF	ETH	OUTCROP	82			
Rock Outcrop Hatch	LB	NF	ETH	OUTCROP_H	106		H - rock outcrop	
Rock Outcrop Line	LB	NF	ETH	OUTCROP	82	continuous		
Round Iron bar	LB	SV	MON	BAR	51		B - RIB	RIB
Sanitary Sewer Lateral	IN	WW	SER	LATERAL	106	exsan		
Sanitary Sewer Pipe	IN	WW	SEW	PIPE	106			SAN
Sanitary Sewer Plan View	IN	WW	SEW	PIPE	106	exsan		
Sanitary Sewer Profile	IN	WW	SEW	PIPE_PF	106	exsan_profile		
Sanitary Sewer Treatment Plant	IN	WW	TPL	TREATPLANT	106			
Scale House	IN	WM	STR	SCALEHOUSE	192			
Shrub	LB	NF	VEG	SHRUB	82		B - SHRB	SHRB
Sidewalk	IN	RS	SWK	SIDEWALK	202	continuous		SW
Sidewalk Profile Left	IN	RS	SWK	SIDEWALKL_PF	202	right_sidewalk		
Sidewalk Profile Right	IN	RS	SWK	SIDEWALKR_PF	202	left_sidewalk		
Sidewalk/Path Gravel	IN	RS	SWK	SWGRAVEL	202			
Sign	IN	TS	SGN	SIGNUNKNOWN	112			
Sign - Illuminated Sign	IN	TS	SGN	WARNING	112		B - RS_ILLUM	
Sign - Information	IN	TS	SGN	INFORMATION	112		B - RS	
Sign - non traffic	LU	LF	MSC	SIGN	234			
Sign - Regulatory	IN	TS	SGN	REGULATORY	112		B - RS	
Sign - Warning	IN	TS	SGN	WARNING	112		B - RS	
Sign with Flashing Beacon	IN	TS	SGN	WARNING	112		B - RS_BEACON	
Stairs	LU	BS	BLD	STAIRS	220			
Stake, Control point	LB	SV	CNT	STAKE	51		B - STK	STK
Standard Iron bar (SIB)	LB	SV	MON	BAR	51		B - SIB	SIB
Stations	IN	RS	RDY	STATIONS	56			
Statue	LU	LF	MSC	STATUE	234			
Steel Grate in Sidewalk	IN	RS	SWK	STEELGRATE	202		B - SWG	
Step in Sidewalk	IN	RS	SWK	STEP	202	continuous		
Stop Block	IN	RS	PRK	STOPBLOCK	30	continuous		
Stop Sign	IN	TS	SGN	REGULATORY	112		B - RS	
Storm Sewer Lead (CB Lead)	IN	DS	SEW	CBLEAD	134	exstm		
Storm Sewer Pipe	IN	DS	SEW	PIPE	134			
Storm Sewer Plan View Pipe	IN	DS	SEW	PIPE	134	exstm		
Storm Sewer Profile View	IN	DS	SEW	PIPE_PF	134	exstm_profile		

## 5.3.4 EXISTING DETAIL

Description	Cat Category	Div Division	Grp Group	Layer	C Color	P-Linetype	(B)lock (T)ext (H)atch	Survey Code
Stream	LB	NF	WAT	STREAM	130	continuous		
Street Name Main road	IN	RS	REF	STREETNAME	20		T - TEXT80B	
Street Name Side road	IN	RS	REF	STREETNAME	20		T - TEXT80B	
Street Names	IN	RS	REF	STREETNAME	20			
Stump	LB	NF	VEG	STUMP	82		B - STP	STP
Surface Asphalt	IN	RS	GND	ASPH	180		H	ASPH
Surface Concrete	IN	RS	GND	CONC	7		H	CONC
Surface Granular	IN	RS	GND	GRAN	34		H	GRAN
Surface Grass	IN	RS	GND	GRASS	86		H	GRASS
Swale	IN	DS	DDS	SWALE	134			
Swamp	LB	NF	WAT	SWAMP	130			
Swamp Hatch	LB	NF	WAT	SWAMP_H	106		H - swamp/muskeg	
Swamp Line	LB	NF	WAT	SWAMP	130	continuous		
Telephone Booth – see Bell	UT	BL	GND	TELEBOOTH	34		B - TELEB	TB
Teranet Layer 3 (Township Lines)	LB	SV	BND	GEOTOWNSHIP	120			
Teranet Layer 1 (Property parcel)	LB	SV	BND	PARCEL	120			
Teranet Layer 13 (Easement)	LB	SV	BND	EASEMENT	120			
Teranet Layer 17 (PIN Number)								
Teranet Layer 27 (Condo Plan)	LB	SV	BND	CONDOPLAN	120			
Teranet Layer 5 (subdivision)	LB	SV	BND	SUBDIVISION	120			
Traffic Detection Zone	IN	TS	GND	DETECT	142	ts_loops	B - LOOP	VLD
Traffic Signal Conduit (50)	IN	TS	UND	CONDUIT50	142	ts_50_conduit		
Traffic Signal Conduit (50+100)	IN	TS	UND	CONDUIT100	142	ts_100_conduit		T
Traffic Signal Controller	IN	TS	GND	CONTROLLER	142		B - TSC	TSC
Traffic Signal Head	IN	TS	AER	SIGNALHEAD	142			
Traffic Signal Head Arms	IN	TS	AER	ARMS	142			
Traffic Signal Interconnect	IN	TS	UND	INTERCONNECT	142	ts_interconnect		
Traffic Signal JB	IN	TS	GND	JUNCTIONBOX	142		B - JB	JB
Traffic Signal Detection Zone	IN	TS	GND	DETECT	142	ts_loops		
Traffic Signal Poles	IN	TS	GND	POLES	142		B - TL	TL
Traffic Signal Power Supply Underground	IN	TS	UND	UNDPower	142			
Traffic Vehicle Detection Device	IN	TS	AER	DETECTDEVICE	142			
Tree	LB	NF	VEG	TREE	82			
Tree – Coniferous	LB	NF	VEG	TREE	82		B - CNF	CNF
Tree – Deciduous	LB	NF	VEG	TREE	82		B - DEC	DEC
Tree Line	LB	NF	VEG	TREE	82	continuous		
Utility Pole, Hydro	UT	HY	GND	POLE	34		B - HP	HP
View box in Model space (NO PRINT)	DR	PJ	REF	VIEWBOX	10	continuous	POLYGON	-
Wall, Retaining	LU	LF	WAL	RETAININGWALL	234	continuous		WALL
Water Service Line	IN	WS	SER	PIPE	152	exwatermain		
Water Service Mainstop	IN	WS	SER	MAINSTOP	152			
Water Valve	IN	WS	DST	VALVE	152		B - WV	WV
Water Valve - Secondary 9also Hyd vlv)	IN	WS	DST	VALVE	152	continuous	B - WV	WV
Water Valve Chamber	IN	WS	DST	VLVCHAMBER	152			
Water Valve Chamber Cast in Place Rectan	IN	WS	DST	VLVCHAMBER	152		B - WVC-2	WVC
Water valve Chamber Pre-cast Circular	IN	WS	DST	VLVCHAMBER	152		B - WVC-1	WVC
Watermain Lateral	IN	WS	SER	LATERAL	152			
Watermain Locate Mark	IN	WS	DST	PIPE	152	exwatermain		WU
Watermain Plan View	IN	WS	DST	PIPE	152	exwatermain		
Watermain Profile View	IN	WS	DST	PIPE_PF	152	exwater_profile		

### 5.3.4 EXISTING DETAIL

Description	Cat Category	Div Division	Grp Group	Layer	C Color	P-Linetype	(B)lock (T)ext (H)atch	Survey Code
Watermain Supply Area	IN	WS	BND	SUPPLYAREA	152			
Well	LB	AR	MSC	WELL	234		B - WELL	WELL

Display Colour			Plot Colour			Line Wth		
C.	#		C.	#		C.	#	mm
1	1		1	1				0.05
2	2		2	2				0.05
3	3		3	3				0.05
4	4		4	4				0.05
5	5		5	5				0.05
6	6		6	6				0.05
7	7		7	7				0.05
8				7				0.05
9				7				0.05
10				7				0.50
11				7				0.05
12				7				0.05
13				7				0.05
14				7				0.05
15				7				0.05
16				7				0.05
17				7				0.05
18				7				0.05
19				7				0.05
20				7				0.50
21				7				0.05
22				7				0.05
23				7				0.05
24				7				0.05
25				7				0.05
26				7				0.05
27				7				0.05
28				7				0.05
29				7				0.05
30				7				0.05
31				7				0.10
32				7				0.05
33				7				0.05
34				7				0.05
35				7				0.05
36				7				0.05
37				7				0.05
38				7				0.05
39				7				0.05
40				7				0.05
41				7				0.05
42				7				0.05
43				7				0.05
44				7				0.05
45				7				0.05
46				7				0.05
47				7				0.05
48				7				0.05
49				7				0.05
50				7				0.35
51				7				0.20
52				7				0.05
53				7				0.05
54				7				0.05
55				7				0.05
56				7				0.05
57				7				0.05
58				7				0.05
59				7				0.05
60				7				0.50
61				7				0.05
62				7				0.05
63				7				0.05
64				7				0.05
65				7				0.05
66				7				0.05
67				7				0.05
68				7				0.05
69				7				0.05
70				7				0.05
71				7				0.05
72				7				0.05
73				7				0.05
74				7				0.05
75				7				0.05
76				7				0.05
77				7				0.05
78				7				0.05
79				7				0.05
80				7				0.05
81				7				0.35
82				7				0.05
83				7				0.05
84				7				0.05
85				7				0.05
86				7				0.05
87				7				0.05
88				7				0.05
89				7				0.05
90				7				0.50
91				7				0.05
92				7				0.05
93				7				0.05
94				7				0.05
95				7				0.05
96				7				0.05
97				7				0.05
98				7				0.05
99				7				0.05
100				7				0.70
101				7				0.05
102				7				0.05
103				7				0.05
104				7				0.05
105				7				0.05
106				7				0.05
107				7				0.05
108				7				0.05
109				7				0.05
110				7				0.05
111				7				0.05
112				7				0.05
113				7				0.05
114				7				0.05
115				7				0.05
116				7				0.05
117				7				0.05
118				7				0.05
119				7				0.05
120				7				0.50
121				7				0.50
122				7				0.05
123				7				0.05
124				7				0.05
125				7				0.05
126				7				0.05
127				7				0.05
128				7				0.05
129				7				0.05
130				7				0.70
131				7				0.05
132				7				0.05
133				7				0.05
134				7				0.05
135				7				0.05
136				7				0.05
137				7				0.05
138				7				0.05
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235				7				0.05