

Physical Data Models

The following models represent the current state physical data models (Microsoft Access) used to manage the data in the IWS program. It should be noted that this is not a comprehensive list of all data stores or a complete data dictionary.

Other sources of data include (not documented):

- Physical documents and forms
- Electronic documents and forms are also persisted on an internal file share and managed through a windows directory structure
- Financial and billing information managed in external accounting and ERP systems
- Liquid waste volume and disposal event details in the SCADA system
- Sampling results in the LIMS system
- Scheduling events in an external spreadsheets and Microsoft Outlook

Pollution Control Database

class IWMS Legacy Access Database

Sample Information

```
# Sample ID: int
+ Customer ID: int
+ Inspection ID: int
+ Time
+ Date
+ Temperature: short
+ Sampler: short
+ Sample name: short
+ Sample Location: short
+ Chain of Custody #: short
+ Sample By-Law Version: short
+ ASB Sample: boolean
+ Comments: long
+ Aldrin / Dieldrin: short
+ Aluminum (total): short
+ Antimony (total): short
+ Arsenic (total): short
+ Benzene: short
+ Biochemical oxygen demand: short
+ Cadmium (total): short
+ Chlordane (cis plus trans isomers): short
+ Chromium (hexavalent): short
+ Chromium (total): short
+ Cobalt (total): short
+ Copper (total): short
+ Cyanide (total): short
+ 1,1,2,2 Tetrachloroethane: short
+ 1,2 - dichlorobenzene: short
+ 1,4 - dichlorobenzene: short
+ 3,3 - dichlorobenzidine: short
+ Dichlorodiphenyltrichloroethane (DDT): short
+ Cis-1,2 - dichloroethylene: short
+ Ethyl benzene: short
+ Fluoride: short
+ Hexachlorobenzene: short
+ Hexachlorocyclohexane (Lindane): short
+ Lead (total): short
+ Manganese (total): short
+ Mercury (total): short
+ Methylene chloride: short
+ Mirex: short
+ Molybdenum (total): short
+ Nickel (total): short
+ Nitrogen (total): short
+ Nonylphenols: short
+ Nonylphenol ethoxylates: short
+ Animal or vegetable oil: short
+ Mineral or synthetic oil: short
+ Pentachlorophenol (PCP): short
+ Phenolics (total be AAAP method): short
+ pH: short
+ Phosphorus (total): short
+ Polychlorinated biphenyls (PCBA) - total: short
+ Polycyclic aromatic hydrocarbons (PAHs) - total: short
+ Selenium (total): short
+ Silver (total): short
+ Sulphate (total): short
+ Sulphide: short
+ Suspended Solids (total): short
+ Tetrachloroethylene: short
+ Tin (total): short
+ Titanium (total): short
+ Toluene: short
+ Total Purgeable Hydrocarbons: short
+ Total Semivolatile Hydrocarbons: short
+ Trichloroethylene: short
+ Xylenes (total): short
+ Zinc (total): short
+ Ammonia (total): short
+ Di-n-butyl phthalate: short
+ Chlorine (total residual): short
+ Cyanide (weak acid dissociable): short
+ Trans-1,3 - dichloropropylene: short
+ Aldrin / Dieldrin below DL: boolean
+ Aluminum (total) below DL: boolean
+ Antimony (total) below DL: boolean
+ Arsenic (total) below DL: boolean
+ Benzene below DL: boolean
+ Biochemical oxygen demand below DL: boolean
+ Cadmium (total) below DL: boolean
+ Chlordane (cis plus trans isomers) below DL: boolean
+ Chromium (hexavalent) below DL: boolean
+ Chromium (total) below DL: boolean
+ Cobalt (total) below DL: boolean
+ Copper (total) below DL: boolean
+ Cyanide (total) below DL: boolean
+ 1,1,2,2 Tetrachloroethane below DL: boolean
+ 1,2 - dichlorobenzene below DL: boolean
+ 1,4 - dichlorobenzene below DL: boolean
+ 3,3 - dichlorobenzidine below DL: boolean
+ Dichlorodiphenyltrichloroethane (DDT) below DL: boolean
+ Cis-1,2 - dichloroethylene below DL: boolean
+ Ethyl benzene below DL: boolean
+ Fluoride below DL: boolean
+ Hexachlorobenzene below DL: boolean
+ Hexachlorocyclohexane (Lindane) below DL: boolean
+ Lead (total) below DL: boolean
+ Manganese (total) below DL: boolean
+ Mercury (total) below DL: boolean
+ Methylene chloride below DL: boolean
+ Mirex below DL: boolean
+ Molybdenum (total) below DL: boolean
+ Nickel (total) below DL: boolean
+ Nitrogen (total) below DL: boolean
+ Nonylphenols below DL: boolean
+ Nonylphenol ethoxylates below DL: boolean
+ Animal or vegetable oil below DL: boolean
+ Mineral or synthetic oil below DL: boolean
+ Pentachlorophenol (PCP) below DL: boolean
+ Phenolics (total be AAAP method) below DL: boolean
+ pH below DL: boolean
+ Phosphorus (total) below DL: boolean
+ Polychlorinated biphenyls (PCBA) - total below DL: boolean
+ Polycyclic aromatic hydrocarbons (PAHs) - total below DL: boolean
+ Selenium (total) below DL: boolean
+ Silver (total) below DL: boolean
+ Sulphate (total) below DL: boolean
+ Sulphide below DL: boolean
+ Suspended Solids (total) below DL: boolean
+ Tetrachloroethylene below DL: boolean
+ Tin (total) below DL: boolean
+ Titanium (total) below DL: boolean
+ Toluene below DL: boolean
+ Total Purgeable Hydrocarbons below DL: boolean
+ Total Semivolatile Hydrocarbons below DL: boolean
+ Trichloroethylene below DL: boolean
+ Xylenes (total) below DL: boolean
+ Zinc (total) below DL: boolean
+ Ammonia (total) below DL: boolean
+ Di-n-butyl phthalate below DL: boolean
+ Chlorine (total residual) below DL: boolean
+ Trans-1,3 - dichloropropylene below DL: boolean
+ Cyanide (weak acid dissociable) below DL: boolean
+ Bis (2-ethylhexyl) phthalate below DL: boolean
+ Type of Sample: short
+ Sample retained: boolean
+ Field1: short
+ test: int
```

Schedule Limits

```
# By-Law Version: int
+ Aldrin / dieldrin limit: int
+ Aluminum (total) limit: int
+ Ammonia (total) limit: int
+ Antimony (total) limit: int
+ Arsenic (total) limit: int
+ Benzene limit: int
+ Biochemical oxygen demand limit: int
+ Cadmium (total) limit: int
+ Chlordane (cis plus trans isomers) limit: int
+ Chromium (hexavalent) limit: int
+ Chromium (total) limit: int
+ Cobalt (total) limit: int
+ Chlorine (total residual) limit: int
+ Copper (total) limit: int
+ Cyanide (weak acid dissociable): int
+ Cyanide (total) limit: int
+ 1,1,2,2 Tetrachloroethane limit: int
+ 1,2 - dichlorobenzene limit: int
+ 1,4 - dichlorobenzene limit: int
+ 3,3 - dichlorobenzene limit: int
+ Di-n-butyl phthalate limit: int
+ Dichlorodiphenyltrichloroethane (DDT) limit: int
+ Cis-1,2 - dichloroethylene limit: int
+ Trans-1,3 - dichloropropylene: int
+ Ethyl benzene limit: int
+ Bis (2-ethylhexyl) phthalate limit: int
+ Fluoride limit: int
+ Hexachlorobenzene limit: int
+ Hexachlorocyclohexane limit: int
+ Lead (total) limit: int
+ Manganese (total) limit: int
+ Mercury (total) limit: int
+ Methylene chloride limit: int
+ Mirex limit: int
+ Molybdenum (total) limit: int
+ Nickel (total) limit: int
+ Nitrogen (total) limit: int
+ Nonylphenols limit: int
+ Nonylphenol ethoxylates limit: int
+ Animal or vegetable oil limit: int
+ Mineral or synthetic oil limit: int
+ Pentachlorophenol (PCP) limit: int
+ Phenolics (total be AAAP method) limit: int
+ pH limit: int
+ pH (upper limit) limit: int
+ Phosphorus (total) limit: int
+ Polychlorinated biphenyls (PCBA) - total limit: int
+ Polycyclic aromatic hydrocarbons (PAHs) - total limit: int
+ Selenium (total) limit: int
+ Silver (total) limit: int
+ Sulphate (total) limit: int
+ Sulphide limit: int
+ Suspended Solids (total) limit: int
+ Tetrachloroethylene limit: int
+ Tin (total) limit: int
+ Titanium (total) limit: int
+ Toluene limit: int
+ Total Purgeable Hydrocarbons limit: int
+ Total Semivolatile Hydrocarbons limit: int
+ Trichloroethylene limit: int
+ Zinc (total) limit: int
+ Xylenes (total) limit: int
```

Plan Information

```
# Plan ID: int
+ Customer ID: int
+ Plan Type: short
+ Plan submission Date
+ Plan Accepted: boolean
+ Plan Rejected: boolean
+ Estimated Plan Completion Date
+ Plan Ineffective: boolean
+ Plan completed date
+ Plan completed: boolean
+ Plan Due Date
+ Document Compliance: boolean
+ Comments: long
+ Plan Expiry Date
+ Plan Completed1: short
```

Company Information

```
# Customer ID: int
+ Company Name: short
+ Service Address: short
+ Service City and Province: short
+ Service Postal Code: short
+ Title: short
+ Contact Person: short
+ Telephone: short
+ Alternate Phone: short
+ Fax: short
+ Email: short
+ Website: short
+ Mailing Address: short
+ Mailing Address Line 2: short
+ Mailing City/Province: short
+ Mailing Postal Code: short
+ NAICS Code: int
+ NAICS Description: short
+ File Number: short
+ Comments: long
+ Active: boolean
+ Archived: boolean
+ Current Overstrength Discharge Licence: boolean
+ OSD/Licence File Number: short
+ Home based business: boolean
+ Annual re-inspection: boolean
```

Enforcement Documents

```
# Document ID: int
+ Inspector: short
+ Customer ID: int
+ Notice Date
+ Notice Due Date
+ Document Type: short
+ Comments: long
+ Document Compliance: boolean
+ PlanDeniedReason1: boolean
+ PlanDeniedReason2: boolean
+ PlanDeniedReason3: boolean
+ PlanDeniedComment: long
+ Registered Owner: short
+ Appeal Date
+ Incorporated: boolean
+ ProgressUpdateDeniedReason1: boolean
+ ProgressUpdateDeniedReason2: boolean
+ ProgressUpdateDeniedReason3: boolean
+ RenewedPlanReason1: boolean
+ RenewedPlanReason2: boolean
```

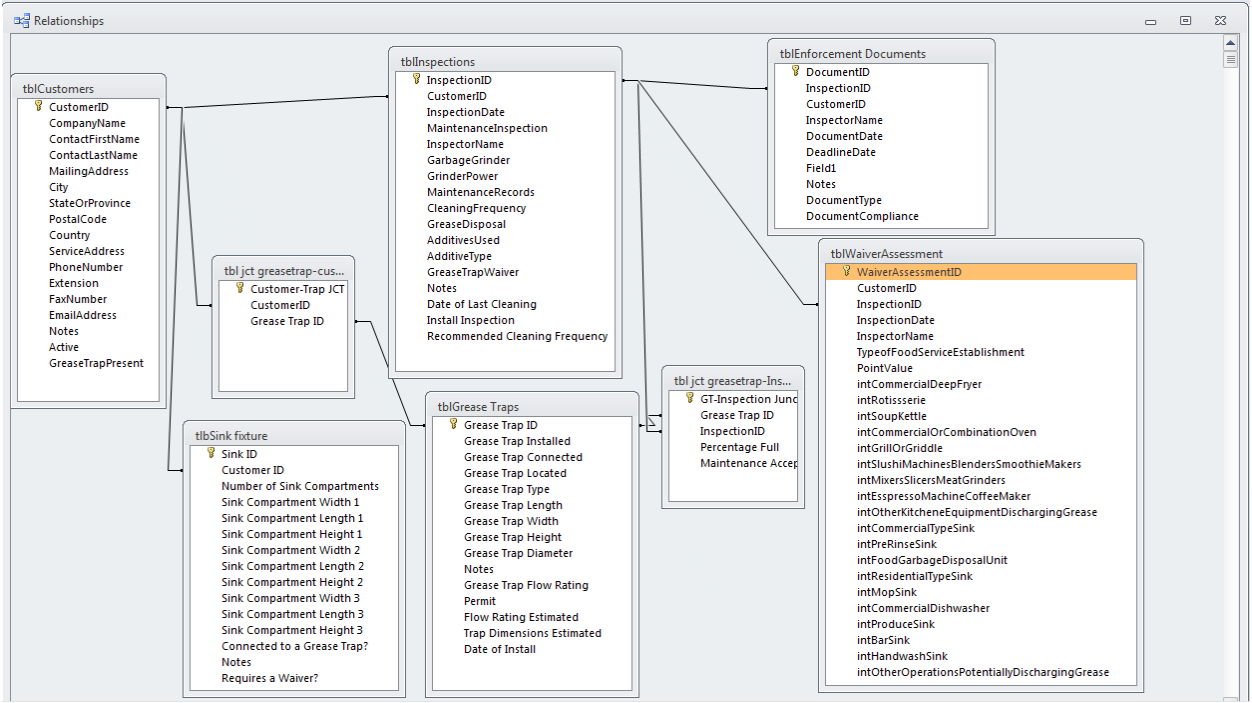
Inspection Information

```
# Inspection ID: int
+ Customer ID: int
+ Inspection Date
+ Inspector Name: short
+ Holding Tanks Present: boolean
+ Catch Basins Present: boolean
+ Interceptor Present: boolean
+ Onsite Treatment: boolean
+ Sample Taken: boolean
+ Sewer Plans Obtained: boolean
+ Number of Sewer discharge locations: int
+ Next Inspection Required
+ Inspection Not required: boolean
+ Comments: long
+ Contact Person from inspection: short
+ Hauler Manifest Requested: boolean
+ Hauler Manifest Received: boolean
+ No Industrial wastewater discharged: boolean
```

Inspector Name

```
# Inspector Name: short
```

Grease Trap Database



Industry Database

class IWSMS Industry Database

License Type and Restrictions
+ ID #: short
+ Licence Type: short
+ Discharge To Address: short
+ Discharge To Location: short
+ Wastewater Type: short
+ Licencee: long
+ Technician: short
+ Notes: short

Company Info
Customer ID #: short
+ Company: short
+ Street Name: short
+ Street Number: short
+ Address: short
+ City, Province: short
+ Postal Code: short
+ Contact Prefix: short
+ First Name: short
+ Last Name: short
+ Title: short
+ Email: short
+ Phone #: short
+ Fax #: short
+ Cellphone: short
+ File Number: short
+ Comments: long
+ IsCurrent: boolean

Inspection Tracking
+ Company ID: short
Inspection ID: short
+ Company Description: long
+ Inspection Date
+ Chain of Custody #: short
+ Sample Date: short
+ Follow Up Type: short
+ Review Complete Date
+ Overstrength Licence Notes: long
+ Wastewater Licence Notes: long
+ Land Drainage Licence Notes: long

Technician Table
Tech ID: short
+ Tech First Name: short
+ Tech Last Name: short
+ Tech Phone Number: short
+ Tech Email: short
+ Tech Title: short

Sample Information
+ Customer ID#: short
+ Sample ID#: int
+ Inspection ID: short
+ Chain of Custody #: short
+ Sampler: short
+ Date /Time
+ Sample Location: short
+ Limit Effective Date
+ Comments: long
+ Aldrin / Dieldrin: short
+ Aluminum (total): short
+ Antimony (total): short
+ Arsenic (total): short
+ Benzene: short
+ Biochemical oxygen demand: short
+ Cadmium (total): short
+ Chlordane (cis plus trans isomers): short
+ Chromium (hexavalent): short
+ Chromium (total): short
+ Cobalt (total): short
+ Copper (total): short
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+ 3, 3 - dichlorobenzidine: short
+ Dichlorodiphenyltrichloroethane (DDT): short
+ Cis-1, 2 - dichloroethylene: short
+ Ethyl benzene: short
+ Fluoride: short
+ Hexachlorobenzene: short
+ Hexachlorocyclohexane (Lindane): short
+ Lead (total): short
+ Manganese (total): short
+ Mercury (total): short
+ Methylene chloride: short
+ Mirex: short
+ Molybdenum (total): short
+ Nickel (total): short
+ Nitrogen (total): short
+ Nonylphenols: short
+ Nonylphenol ethoxylates: short
+ Animal or vegetable oil: short
+ Mineral or synthetic oil: short
+ Pentachlorophenol (PCP): short
+ Phenolics (total by 4AAP method): short
+ pH: short
+ Phosphorus (total): short
+ Polychlorinated biphenyls (PCBs) - total: short
+ Polycyclic aromatic hydrocarbons (PAHs) - total: short
+ Selenium (total): short
+ Silver (total): short
+ Sulphate (total): short
+ Sulphide: short
+ Suspended Solids (total): short
+ Tetrachloroethylene: short
+ Tin (total): short
+ Titanium (total): short
+ Toluene: short
+ Trichloroethylene: short
+ Xylenes (total): short
+ Zinc (total): short
+ F1 (purgeable HC): short
+ F2 (semivolatle HC): short
+ F3: short
+ F4: short
+ Total Hydrocarbons: short

Overstrength Database

class IWSMS Legacy Overstrength Database

Restrictions
Restrictions: short

DischargeToLocation
DischargeToLocation: short

Licenses
ID #: short
+ ContractorUsed: short
+ Application Date
+ Restrictions: short
+ AnnualSurcharge: int
+ Surchargeable: boolean
+ DischargeToLocation: short
+ DischargeToAddress: short
+ Additional Restrictions: long
+ WellWaterDischarge: boolean
+ DischargeToRiver: boolean
+ RenewalLicence: boolean
+ IsCurrent: boolean

Company Addresses & Contacts
ID #: short
+ Company: short
+ Address: short
+ City, Province: short
+ Postal Code: short
+ Contact Prefix: short
+ First Name: short
+ Last Name: short
+ Title: short
+ Email: short
+ Phone #: short
+ Fax #: short
+ Cellphone: short
+ File Number: short
+ Comments: long
+ Restrictions: long
+ IsCurrent: boolean

Wastehauler Database

