Figure 4-3 - Typical Inlet and Catch basin Layout

In addition to inlets for highway drainage the Consultant shall ensure that all other areas draining to the network have inlet arrangements that trap sand and connect to the network by pipes that are as short as possible.

Recommended spacing between inlets should be calculated as stated in Appendix 3, and shall be spaced between 20-50m intervals. At the pronounced low spots in a sagging road profile in urban areas, the system is to be designed for a single inlet; however, a double inlet is to be constructed to ensure that the system will operate in the event of the blockage of an inlet.

The methodology for the calculation of inlet spacing, spread and the hydraulic capacity of inlets is given in Appendix 3.

Additional risks from windblown sand and other surface material will occur during construction as a result of the ground being excavated or material stockpiled. Facilities shall be provided which minimise or prevent such material reaching the storm water network.

Inlets and catchbasins shall be used where pipeline sizes are up to 500mm diameter. Depth to invert of inlets and catchbasins shall not exceed 2.8m. Refer to below table and Standard Drawings Volume 2 for details.

For projects in Al Ain, Al Ain Municipality Standard drawings and details to be used.

Outlet pipe diameter up to (mm)	Maximum depth (D) to outlet pipe invert level (m)	Inlets internal dimensions mm	Catchbasins internal dimensions mm
300	D=<2.0	600 x 600	600 x 1600 630 x 1600
500	2.0>D=<2.8	1000 x 1000	1000 x 1600

Table 4-3 - Use of Inlets and Catchbasins

4.4.1. Surface Erosion Control

In addition to windblown sand there is also the possibility that surface material will be washed into inlets if overland flow occurs during times of storm.

The design and layout of the development shall incorporate features which prevent overland flow draining to inlets unless an intermediate settlement facility is provided, for example a shallow depression in the finished ground level. Such measures shall also be included during the construction period when the natural ground is disturbed or a system proposed by the contractor and agreed by the engineer for reducing the cost and increasing the effectivity of the whole installation.

4.4.2. Manhole Positioning and Access

The design of manholes shall conform to Volume 2: Standard Drawings.

Manholes shall normally be built at:

- every change of alignment or gradient
- the head of each branch of the network
- every pipe junction
- wherever there is a change of pipe size, the connection shall be ‘soffit to soffit’.