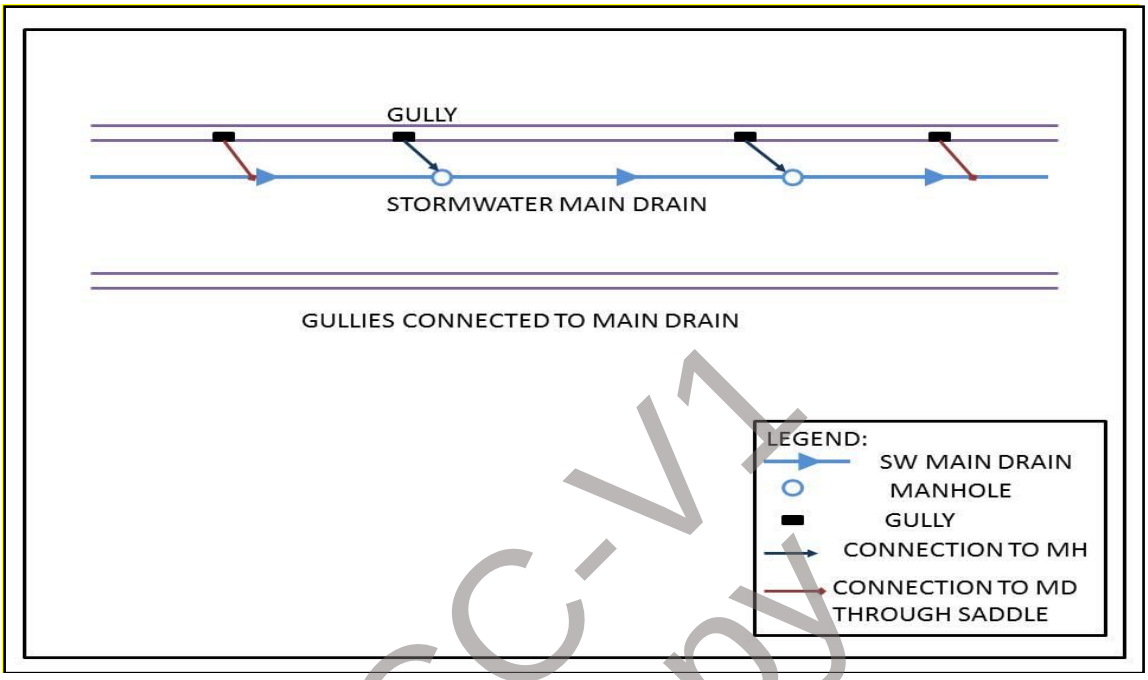

Figure A-4.3-: Inlet to Main Drain Connection Configuration – Preferred Method

This inlet layout method is preferable from a construction cost and hydraulic performance point of view; however, the selected arrangement and configuration shall be approved by the Al Ain City Municipality during early design phases, according to Project conditions.

A4.4 Soakaway:

Individual Soakaway systems shall be sized for infiltrating the runoff volume for paved/unpaved areas with a storage volume that accommodates the detention of the design return period 24-hour stormwater flow to be infiltrated (volume emptied) within a 24-hour period after the end of the storm.

Generally, it is better to use multiple systems with smaller catchment areas to simplify the size and complexity of the Soakaway for both cost and maintenance purposes. It is also preferable, from a soil permeability and Soakaway interaction standpoint, to spread the individual infiltration areas apart, according to road structure, safety, and geotechnical requirements. Several types of soakaways, appropriate for use throughout the emirate, are described below:

A4.4.1 Soakaway vaults and chambers:

Structural-type chambers can be constructed of larger diameter pipe; precast perforated concrete ring units and rectangular section(Bricks), sometimes called an infiltration well; concrete vaults; and proprietary preformed chamber systems, such as plastic cells having a 90 percent void ratio to overall volume. In all cases, the structure will have a backfill surround of a uniformly graded aggregate wrapped in a Geotextile filter fabric.

Structure sizes are based on providing storage for the design storm runoff volume minus the volume lost due to infiltration during the storm period. Infiltration interface areas, or the outer areas of gravel backfill, must be sufficient to provide an infiltration flow that empties the storage volume within 24 hours after the storm event. Bottom surfaces are assumed to be blocked by sediment, thus the infiltration interface surface is based on the sides only. Design is based on the following procedure: