12-Sep

# ISSUES RELATED TO WATER LEAKAGE

| Source of leakage | Cause | Remedial measures | Reference Detail |
|---|---|---|---|
| External walls | Tile rod holes not grouted | Gaps in supervision to be closed. Work permit required along with checklist of sub-strata prior to start of external plaster | |
| | Junction of beam and masonry wall not grouted | | |
| | Holes made in external walls for scaffolding are not properly grouted after scaffolding is removed | | |
| | Chajja - top not waterproofed or planter box provided on chajja not waterproofed | Chajja top needs to be water proofed & planter boxes need to be large enough to afford sufficient working space for waterproofing masons to work | |
| | Chajjas not provided for punch windows | Punch windows to be provided with chajjas | |
| | Grooves in external plaster provided at junction of beam and wall | Groove positions need to be changed so that these do not fall at vulnerable locations (joints) considering the fact that thickness of plaster in grooves is much less. | |
| | Gap between window Acs & surrounding wall joints | Gaps need to be minimum and to be filled with silicon sealent from outside. Subframe with exact window AC size opening with EPDM gaskets all around to be provided. | Refer Jindal catalogue frame no 18416 |
| | Gaps between aluminium windows and jambs | Need to provide stepped cill or proper aluminium subframe which facilitates draining the water away from window. Gaps need to be min. and sealed with silicon weather sealant | |
| From floors above | Junction between pipe and nahani trap not properly sealed | Stage wise sign off to be done. Also water level test to be done | |
| | In case of multiple inlet nahani trap, some inlets could be left open | Smoke test in soil and waste pipes compulsory prior to filling and flooring | |
| | Drop pipe provided above nahani trap up to Finished floor level (FFL) is not properly jointed and just kept on top of nahani trap | smoke test to be done for concealed piping | |
| | Leakages in concealed plumbing | Dry fixing + removing assembly + Final fixing to be followed for all concealed plumbing as jointing of pipes in laid condition is very difficult and not done as per required quality | |
| | Ingress of water under floor tiles (from floor bedding) where tile drop is provided as separation of dry and wet areas. E.g. (Kitchen utility area, bedroom and toilet floor junction, external deck and living / bedroom junction) | Vertical marble cill to be provided as a separator between the dry and wet area. Joint of dry and wet area to be grouted / sealed | Refer Detail A7 |
| Service Ducts | Insufficient place for carrying out proper plaster from inside of service ducts | Sufficiently sized shafts to afford adequate working space for carrying out plaster | |
| | Top of service ducts at terrace not fully covered | Shafts to be covered from top at terace. Ventilation opening to be kept at sides with netting for preventing ingress of rodents / mosquitoes | Refer Detail A3 |
| | Joints of pipes inside service ducts leaking | Smoke test mandatory | |

12-Sep

# ISSUES RELATED TO WATER LEAKAGE

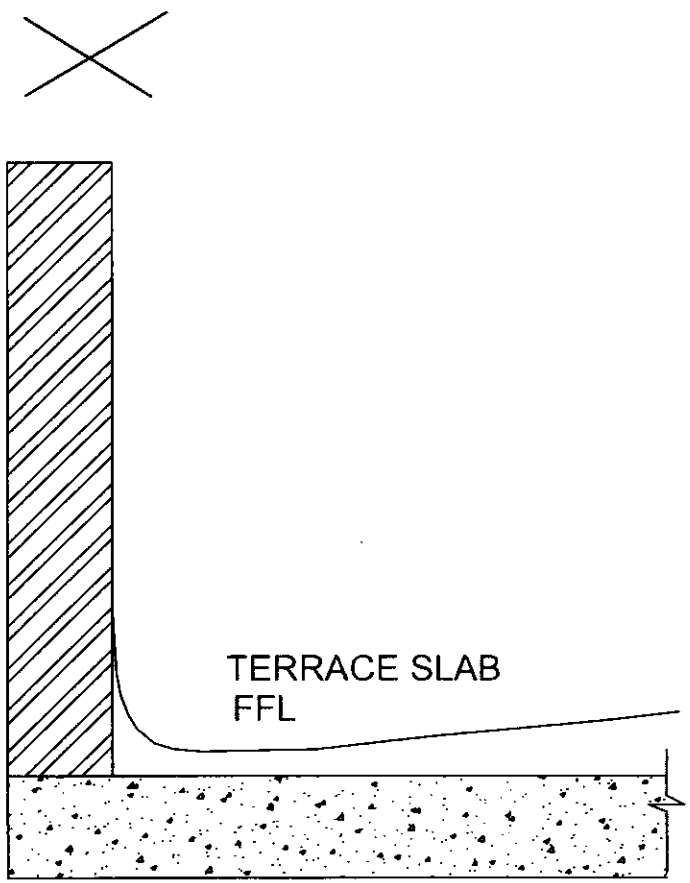
| Source of leakage | Cause | Remedial measures | Reference Detail |
|---|---|---|---|
| | | Access to shafts needs to be safe and secure for maintenance | |
| Expansion joints | Proper detail of manufacturer not followed | Manufacturer's shop drawing and installation procedures to be strictly followed | |
| | Long gap between expansion joint work and RCC completion | Work has to be completed immediately after the RCC works at that level is completed | |
| Terrace | Slab cast in many pours leading to construction joints | Construction joints to be grouted prior to waterproofing. Entire slab to be cast as single pour so that cold joints are avoided | |
| | Steel embeddments in waterproofing | Embeddments in waterproofing to be avoided | |
| | Service penetrations through terrace left untreated or poorly treated | Service penetrations through terrace if any need to be treated with proper waterproofing details with annular gaps sealed with silicon sealant or any sealant compatible with concrete and service | |
| | Parapet not waterproof | Internal and top plaster of parapet to be responsibility of terrace waterproofing contractor. Also RCC coping to be provided at top in case of masonry plaster | Refer detail A2 |
| Swimming pool, water tanks, water bodies | sleeves left in form of pipe. Leakage around the pipes | All sleeves need to in form of puddle flanges placed in forms prior to concreting | Refer detail A6 |
| | corecuts and chipping done after RCC completion | any corecut or chipping of concrete will surely cause leakage afterwards. This to be strictly avoided | |
| | joints of base raft and walls | Water stopper to be provided at joints of base raft and walls. In absence of waterstopper the junction to be grouted properly | Refer detail A4 |
| | crystalline waterproofing | Crystalline wateproofing method to be avoided as it is found to be totally ineffective | |
| | masonry walls for water bodies | Water bodies need to have monolithic construction like concrete trough. All masonry walls of water bodies to be converted to RCC | Refer detail A4 |
| Internal walls at skirting level | Non uniform cement backing behind skirting creating hollow gaps | Cement backing behind skirting to be uniform so that no hollow gaps are left | |
| | Junction between flooring and skirting not grouted | Junction between flooring and skirting needs to be grouted with white cement | |
| | no plaster on masonry walls up to skirting height leading to water used in floor polishing travelling upwards due to capillary action | Preferable to plaster masonry wall up to skirting height. Skirting to be fixed with grout | Refer detail A5 |
| Basement raft & Retaining wall | crystalline waterproofing | Crystalline wateproofing method to be avoided as it is found to be totally ineffective | |
| | joints of base raft and walls | Water stopper to be provided at joints of base raft and walls. In absence of waterstopper the junction to be grouted properly | |
| | construction joints in raft | all construction joints need to be pre-planned in case of raft concreting so that they can be correctly identified at later stage. All construction joints in walls to be properly marked in drawing and grouted immediately after formwork is removed | |

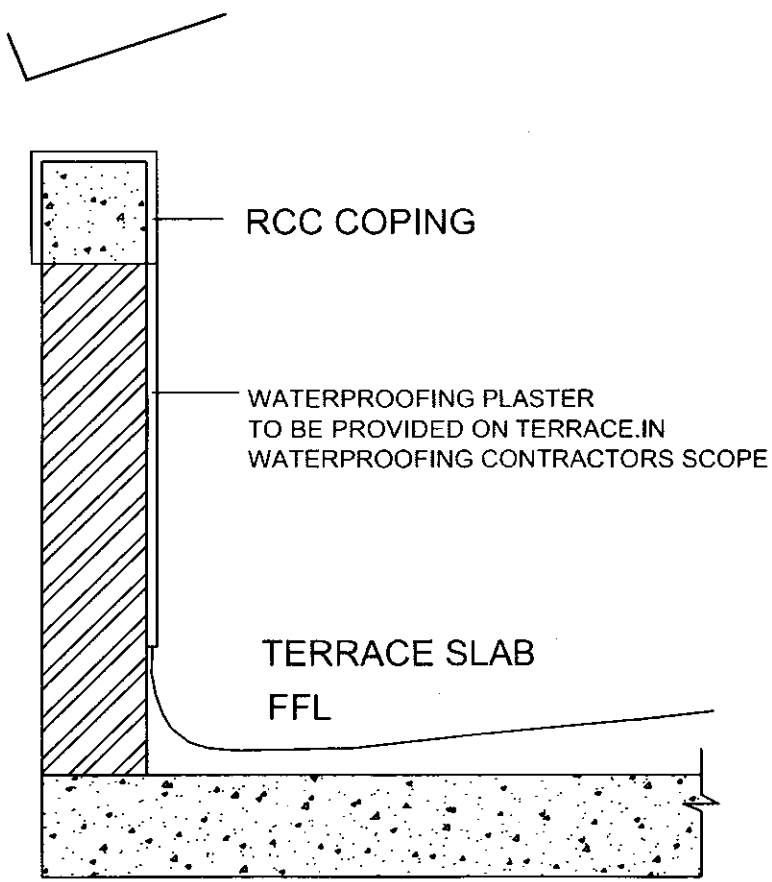
12-Sep

# ISSUES RELATED TO WATER LEAKAGE

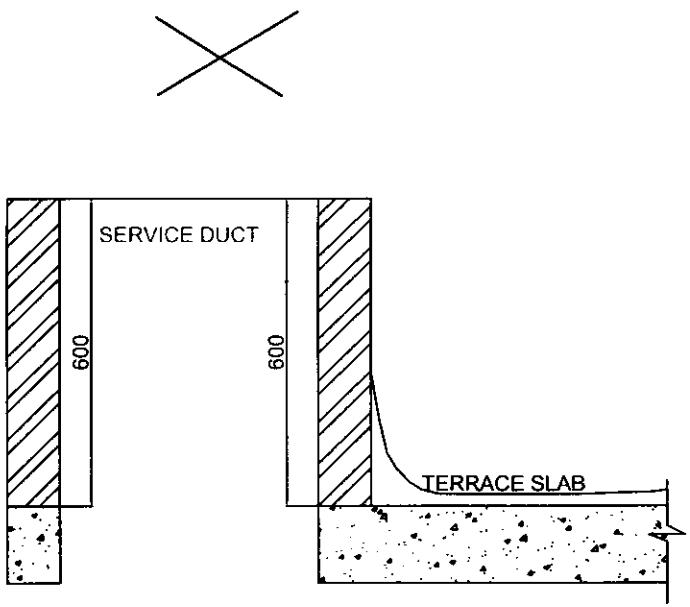
| Source of leakage | Cause | Remedial measures | Reference Detail |
|---|---|---|---|
| | waterproofing material not sticking to the substrata due to wet surface | In case of chemical waterproofingthe material selected must be workable on wet surface (most of membranes do not stick to wet surface) | |
| | sleeves left in form of pipe. Leakage around the pipes | All sleeves need to in form of puddle flanges placed in forms prior to concreting | Refer detail A6 |
| | corecuts and chipping done after RCC completion | any corecut or chipping of concrete will surely cause leakage afterwards. This to be strictly avoided | |
| Parking floors | architectural openings in external walls leading to water entry during monsoons on Podium Parking floors | Since we do not waterproof parking floor slabs the openings in external walls need to have louvers or arrangements for temporary closure during monsoon | |
| | construction joints in slab | Construction joints in floor slabs need to be grouted prior to ceiling painting below or flooring above | |
| | Rain water outlets at long distances creating non uniform slopes, leading to ponding of water | Rain water outlets need to be provided at sufficiently close distance so that proper slope is available for water to drain from any point | |
| Podium & ramp | sleeves left in form of pipe. Leakage around the pipes | All sleeves need to in form of puddle flanges placed in forms prior to concreting | Refer detail A6 |
| | corecuts and chipping done after RCC completion | any corecut or chipping of concrete will surely cause leakage afterwards. This to be strictly avoided | |
| | Service penetrations through podium slab not treated or poorly treated | Service penetrations through podium slab need to be treated separately after slab waterproofing (refer terrace remedial measures - point no 3) | |
| | masonry walls for water bodies | Water bodies need to have monolithic construction like concrete trough. All masonry walls of water bodies to be converted to RCC | Refer detail A4 |

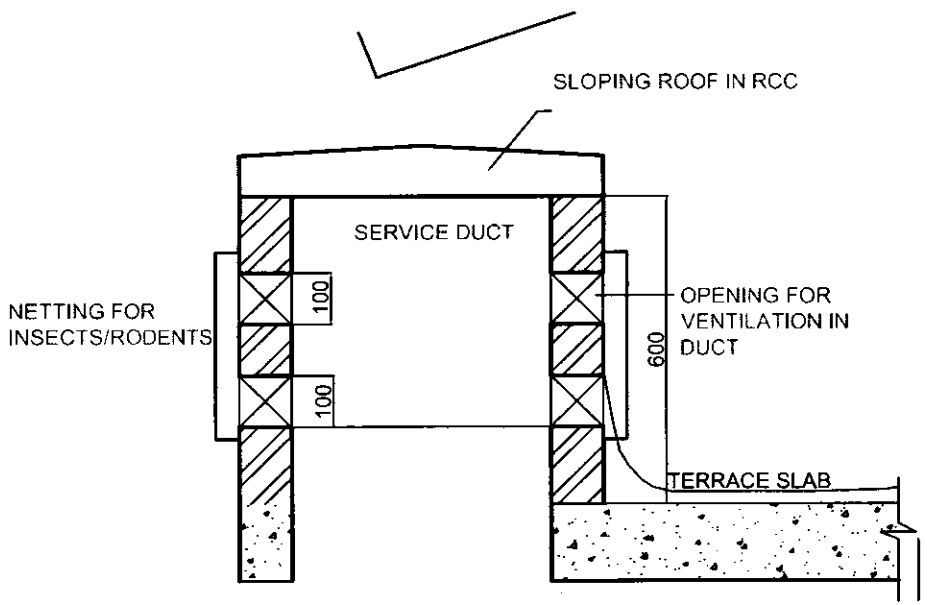
# A-2 MASONARY PARAPET ABOVE TERRACE



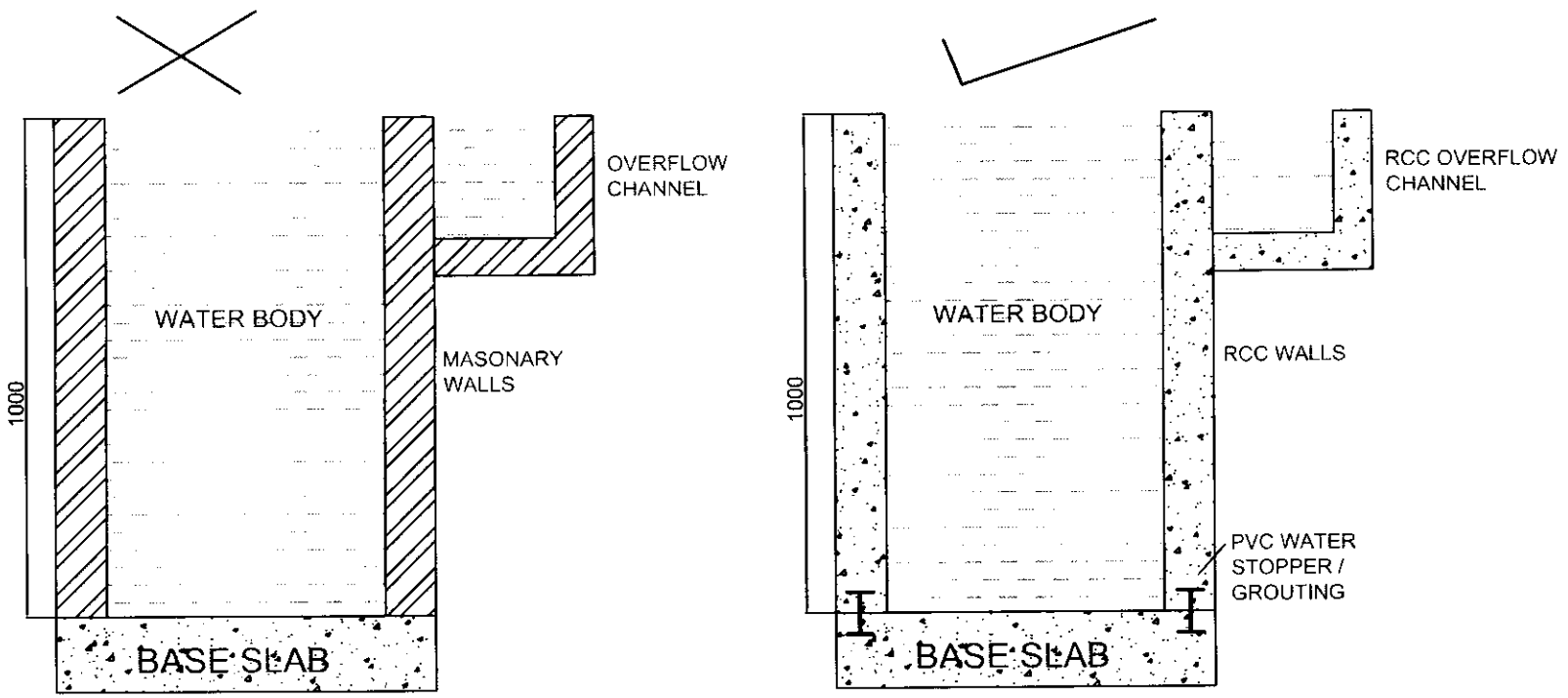



# A-3 TOP OF TERRACE SHAFT

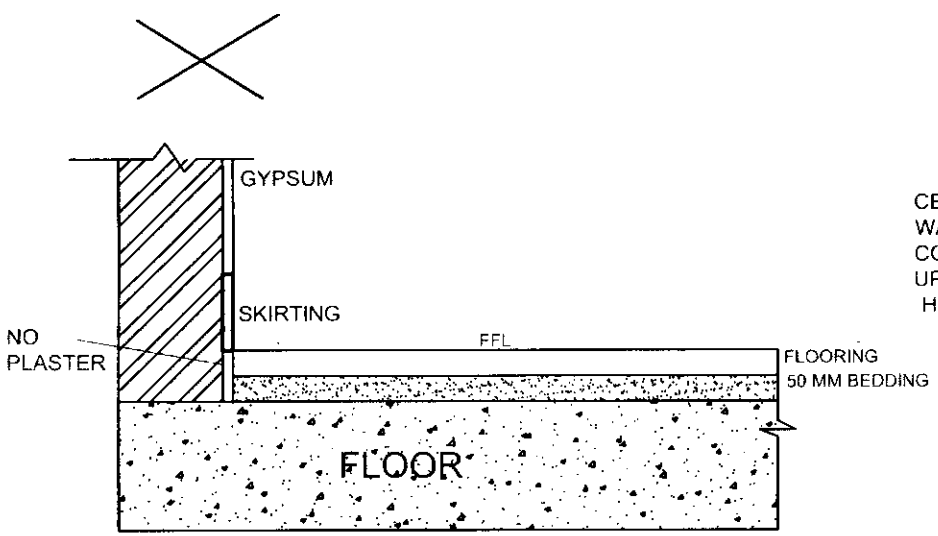


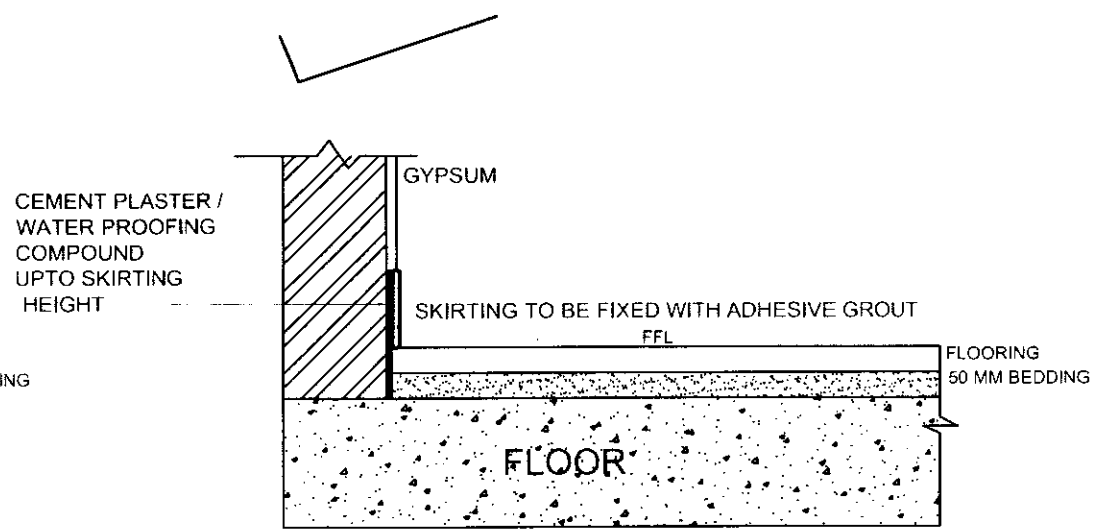



# A-4 RCC DETAIL FOR SWIMMING POOL AND WATER BODIES

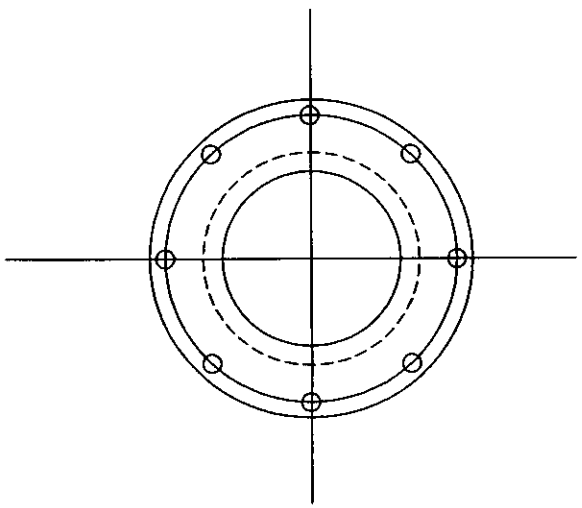


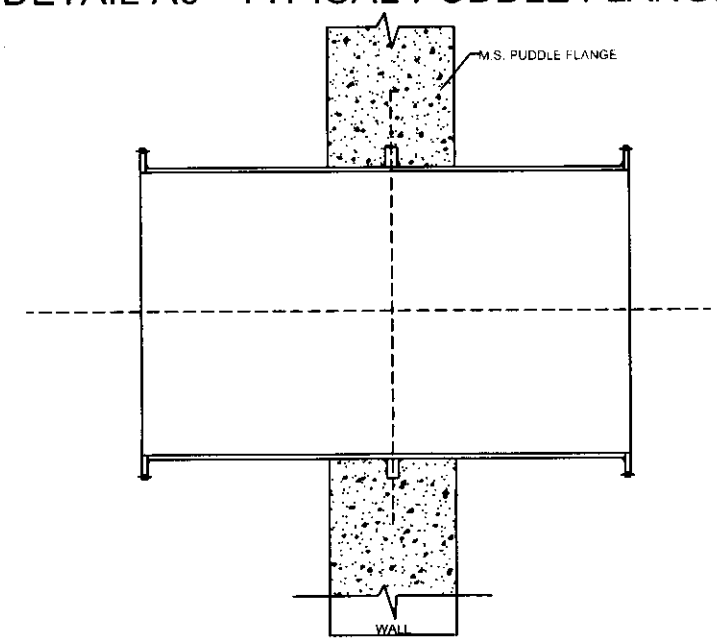
# A-5 PLASTER UPTO SKIRTING HEIGHT



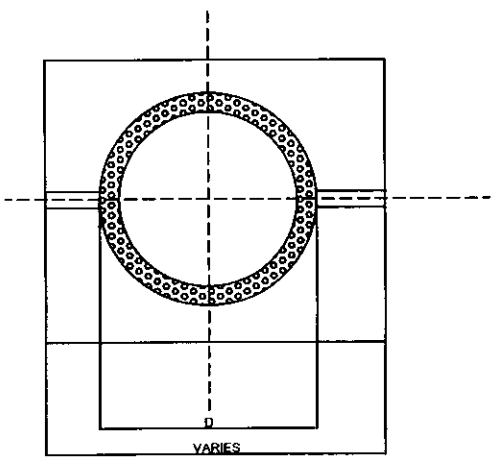



# DETAIL A6 - TYPICAL PUDDLE FLANGE






SLEEVES DETAIL
SCALE - NTS




PUDDLE FLANGE DETAIL

# A 7 JUNCTION BETWEEN DRY AND WET AREAS

