



FLOW DIVERSION WEIR
65'-R WEIR CALCULATIONS
 65' LONG WEIR w/ 127.8 cfs 25-YR FLOW
 $Q = C_d L H^{3/2}$
 $25 = 0.62 C_d L H^{3/2}$
 $C_d = 3.33$
 $L = 127.8$
 $H = 65$
 TOTAL HEAD OVER WEIR = 67.5 Feet

POND CRITERIA
 VOLUME REQUIRED = 100,993 CF
 VOLUME PROVIDED = 101,978 CF
 BASIN AREA = 11,256 SF
 SAND AREA REQUIRED = 10,099 SF
 SAND AREA PROVIDED = 10,798 SF
 TOP OF WATER SURFACE ELEV = 947.00'
 TOP OF SAND ELEVATION = 938.00'
 TOP OF GRAVEL ELEVATION = 936.50'

1 WATER QUALITY POND - PLAN VIEW

SCALE: 1"=10'
 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
 WATER POLLUTION ABATEMENT PLAN
 GENERAL CONSTRUCTION NOTES

- WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
- ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
- IF ANY SENSITIVE FEATURE IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
- NO TEMPORARY ABOVEGROUND HYDROCARBONIC AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM IS TO BE INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL OR OTHER SENSITIVE FEATURE.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.
- IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS TO WATER QUALITY (E.G., FUGITIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).
- SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
- LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGE (E.G., SCREENING OUTFALLS, PICKED UP DAILY).

- ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY WEATHER CONDITIONS. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE, WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS. TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
- THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
- THE HOLDER OF ANY APPROVED EDWARDS AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
 - ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
 - ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED, OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
 - ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

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BASIN MATERIAL NOTES:

- ALL CONCRETE SHALL BE A MINIMUM 4000 PSI IN 28 DAYS, UNLESS OTHERWISE NOTED.
- ALL REBAR SHALL BE ASTM A615, GRADE 60.
- ALL REBAR SPICES AND LAPS SHALL BE A MINIMUM OF 40 BAR DIAMETERS UNLESS OTHERWISE INDICATED ON DETAILS.
- ALL REBAR BENDS SHALL HAVE A MINIMUM INSIDE RADIUS OF SIX NOMINAL BAR DIAMETER.
- ALL REBAR SHALL HAVE A MINIMUM OF 2" CONCRETE COVER.
- SAND FOR FILTRATION CHAMBER SHALL BE CLEAN, WASHED CONCRETE SAND, (I.E., ASTM C-33 FINE AGGREGATE)
- GRAVEL FOR FILTRATION CHAMBER SHALL BE CLEAN, WASHED 1" DIAMETER GRAVEL.
- CLEAN-OUTS SHALL BE NON-PERFORATED AND SHALL BE PROVIDED AT ALL UPGRADMENT ENDS OF PIPES.
- CONCRETE WALL THICKNESS AND REINFORCEMENT IS FOR BID PURPOSES ONLY. FINAL STRUCTURE DESIGN SHALL BE PREPARED BY A STRUCTURAL ENGINEER, LICENSED IN THE STATE OF TEXAS.
- THE OWNER MAY SUBSTITUTE A 6" HIGH DECORATIVE SECURITY FENCE IN LIEU OF THE CHAIN LINK FENCE.

- NOTES:
- THE BASIN BOTTOM MUST BE SLOPED TO PROVIDE A MINIMUM 1% SLOPE FOR DRAINAGE. CONTRACTOR SHALL MAINTAIN THE BASIN INVERT AT THE PIPE DISCHARGE POINT AND SLOPE THE BASIN BOTTOM AT 1% FROM THAT POINT.
 - ALTERNATIVE 40 MIL UV RESISTANT POLY LINER WITH ANCHOR PER DETAIL.
 - CONCRETE WALL THICKNESS AND REINFORCEMENT IS FOR BID PURPOSES ONLY. FINAL STRUCTURAL DESIGN SHALL BE PREPARED BY A STRUCTURAL ENGINEER, LICENSED IN THE STATE OF TEXAS.
 - ELEVATIONS SHOWN INSIDE BASIN ARE AT BASIN FLOOR UNLESS NOTED OTHERWISE.
 - UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
 - ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASIN SHALL BE REVEGETATED PRIOR TO COMPLETION.
 - CONTRACTOR TO PROTECT EXISTING TREES, SHOWN ON THIS PLAN.
 - CONTRACTOR SHALL ENGAGE ENGINEERED WALL DESIGNS OR EQUIVALENT IMPERMEABLE WALL AND LINER SYSTEM TO PROVIDE A SIGNED AND SEALED SET OF PLANS, DETAILS AND SPECIFICATIONS FOR THE STRUCTURAL COMPONENTS OF THE POLLUTION ABATEMENT BASIN. CONTRACTOR SHALL PROVIDE FOR STRUCTURAL ENGINEER'S INSPECTION DURING BASIN CONSTRUCTION AND STRUCTURAL ENGINEER'S CONSTRUCTION CERTIFICATION UPON COMPLETION OF THE BASIN.
 - CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR APPROVAL.
 - CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN BASIN CONSTRUCTION HAS PROGRESSED TO THE FOLLOWING MILESTONES:
 - REINFORCING STEEL FOR BASIN WALL OR RFP-RAP LINER HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED AND OUTFALL DRAIN PIPE IS IN PLACE.
 - CONCRETE WALLS OR LINER IN PLACE AND UNDER DRAIN SYSTEM IS IN PLACE WITHOUT GRAVEL.
 - GRAVEL AROUND UNDER DRAIN SYSTEM IS IN PLACE AND FILTER FABRIC IS INSTALLED AND ATTACHED TO WALLS OR RFP-RAP.
 - SAND FILTER MEDIA HAS BEEN PLACED & BASIN HAS BEEN COMPLETELY FINISHED INCLUDING SOD PLACEMENT ON SIDE SLOPES (WHERE APPLICABLE).
 - WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION AT EACH STAGE. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.
 - PRIOR TO PROCEEDING TO NEXT STAGE OF CONSTRUCTION, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:
 - TOP OF WALL AT EACH CORNER OF BASIN
 - TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
 - SPLASH PAD/INLET PIPES
 - OVERFLOW WEIRS
 - BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR SHALL REMOVE ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASIN AND RE-ESTABLISH IT TO THE PROPER OPERATING CONDITION.
 - THE MINIMUM DRAIN TIME FOR A FULL BASIN IS 24 HOURS. THE CONTRACTOR SHALL RESTRICT THE FLOW THROUGH THE BASIN BY ADJUSTING THE GATE VALVE ON THE DISCHARGE PIPE SO AS TO PROVIDE THE MINIMUM 24 HOUR DRAW DOWN TIME.

TCEQ-R13
 JAN 11 2007
 SAN ANTONIO

TCEQ-R13
 JAN 11 2007

NO.	DATE	DESCRIPTION	BY

PLAZA LAS CAMPANAS
 WATER POLLUTION ABATEMENT PLAN
 SITE PLAN

SHEET
 WQ1