**CIVIL DESIGN CRITERIA**

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# GENERAL

* 1. The Design Professional shall use this document in conjunction with the Educational Specifications and District Master Specifications (DMS) to develop the design and contract documents.
	2. The Design Professional shall coordinate all aspects of the civil plans with the plans prepared by other professionals to produce a consistent design document wherein all connecting, interrelated features match between disciplines.
	3. The Design Professional is encouraged to use recycled products when economically feasible and practical, such as recycled plastic wheel stops or crushed recycled concrete road base.
	4. Goals:
		1. Ensure provision of safe, convenient, legal access to and circulation with the campus for vehicular, bicycle, disabled, and pedestrian traffic.
		2. Provide adequate infrastructure improvements in accordance with accepted standards for design and construction, and ensure associated rights and obligations exist for the use and maintenance of said improvements.
	5. Site design shall incorporate the latest design requirements or code requirements of the following:
		1. Florida Building Codes (FBC)
		2. Florida Fire Prevention Code as presented in the Florida Administrative Code (FAC).
			1. FAC Chapter 69A-58, Fire Safety in Educational Facilities (existing facilities)
			2. FAC Chapter 69A-60, The Florida Fire Prevention Code
		3. The National Fire Codes (NFC), as specifically modified by FAC requirements Florida Department of Transportation (FDOT)
			1. Standards for Design, Construction, Maintenance, and Utility Operation on the State Highway System
			2. Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways
			3. Standard Specifications for Road and Bridge Construction
		4. Florida Department of Environmental Protection (FDEP)
		5. Facilities Planning for Physical Activity and Sport
		6. “National Federation Courts and Field Diagram Guide"
		7. Southwest Florida Water Management District (SWFWMD):
			1. Basis Of Review For Environmental Resource Permit Applications Within The Southwest Florida Water Management District (latest version available on line)
			2. If wetland mitigation and/or dredging and fill are required, provide a copy of the Joint Permit (WMD/DEP/ACOE) and a copy of the appropriate Nationwide Permit, including general and regional conditions (if required) as issued by the US Army Corps of Engineers.
			3. Basis Of Review For Water Use Permit Applications Within The Southwest Florida Water Management District (latest version available on line)
		8. United States Department of Transportation (USDOT), Federal Highway Administration, (FHWA), Manual on Uniform Traffic Control Devices (MUTCD)
		9. A project specific evaluation shall be made to determine which Agencies and permitting requirements apply.
			1. **Surface Water Environmental Resource Permit** (SWERP)-Southwest Florida Water Management District(SWFWMD)
			2. **Uniform Mitigation Assessment Management** (UMAM)- Southwest Florida Water Management District(SWFWMD)
			3. **United States Army Corps of Engineers** (USACE)
			4. **Wetland Resource Permit** (WRP)- United States Army Corps of Engineers(USACE)
			5. **Isolated Wetlands-Southwest Florida Water Management District** (SWFWMD)
			6. **Coastal Zone Consistency Concurrence** (CZCC)-Costal Management Program
			7. **Corp Nationwide Permit- United States Army Corps of Engineers** (USACE), Coastal Zone Consistency Concurrence(CZCC)-Costal Management Program, United States Department of Agriculture(DA)-Natural Resources Conservation Service
			8. B**ald and Golden Eagle Protection**- United States Fish and Wildlife Service(USFWS), Florida Fish and Wildlife Conservation Commission(FWC)
			9. **State Programmatic General Permit** (SPGP)-United States Army Corps of Engineers
			10. **Florida Fish and Wildlife Conservation Commission** (FWC)-United States Fish and Wildlife Service(USFWS)
			11. **Habitat Management for Wood Stork- United States Fish and Wildlife Service** (USFWS), Florida Game and Fresh Water Fish Commission(The Agency is Applicable to the State of Florida Only)
			12. **Florida Department of Environmental Protection Agency** (FDEP)
			13. **National Pollutant Discharge Elimination System** (NPDES) Construction Generic Permit (CGP)- Florida Department of Environmental Protection Agency(FDEP)
			14. **Development Review Committee** (DRC)-Local Municipalities
			15. **Water Use Permit** (WUP)- Southwest Florida Water Management District
			16. **Division of Historical Resources** - Department of the State
			17. **Florida Department of Transportation** (FDOT)
			18. **Local Municipalities**

# CRITERIA

1. SITE SURVEYS
2. Provide six copies of signed and sealed Boundary and Topographic surveys.
3. Provide all survey information on civil engineering plans -- boundaries (bearing and distance), existing grades, final grades, benchmark, horizontal control points, location of buildings, existing utilities, wells and easements of record. Identify adjacent landowners and land use.
4. Show or note any municipal well fields, aviation air space, or other items that may affect construction.
5. Provide tree surveys to include:
6. Scientific and common tree names
7. Tree height and Diameter Breast Height (DBH)
8. Canopy spread (drip lines)
9. Grade elevation at base

## GEOTECHNICAL INVESTIGATION, TESTING and REPORT

1. Geotechnical investigation
	1. **Standard Penetration Test** (SPT)-Frequency/depth contingent upon project size, scope. Must be determined by design team professionals and office of Facilities Design and Construction Pinellas County Schools (FD&C).
	2. **Double Ring Infiltration** (DRI)-Frequency contingent upon project size, scope. Must be determined by design team professionals and office of Facilities Design and Construction Pinellas County Schools (FD&C).
	3. **Hand Auger** (HA)-Frequency/depth contingent upon project size, scope. Must be determined by design team professionals and office of Facilities Design and Construction Pinellas County Schools (FD&C).
	4. **Contamination**- Frequency contingent upon project size, scope. Must be determined by design team professionals and office of Facilities Design and Construction Pinellas County Schools (FD&C).
	5. **Monitoring Reports**- Frequency of testing/observation and reporting contingent upon the governing agency’s requirement having jurisdiction over a specific project.
2. Project specific plans and specifications shall reference the availability of corresponding Geotechnical report(s) and pertinent information. The Geotechnical report(s) shall be offered to interested bidders and Contractors as a separate package.
3. An evaluation should be made as to whether Geotechnical testing may be required for a given project.
4. The type, number, frequency and depth of testing will be largely dependent on the scope and nature of the project.
5. Geotechnical investigation and testing is mandatory for all New Construction. The report issued by the Geotechnical Engineer shall be a part of the design and construction documents and the report availability shall be referenced in the plans and specifications. No additions, deviations or alteration to this report is permitted by other design team members unless approved and issued by the Geotechnical Engineer of Record.
6. The consulting Civil Engineer shall NOT incorporate into the project specifications a copy of the Geotechnical Engineer's report, but shall make references to the availability of such reports in the project specification and offer a copy of the Geotechnical Engineer’s report separately. The Geotechnical Engineer’s report shall include all pertinent tests required for accommodating the proposed design and successful completion of the project.

## SITE ACCESS

### Site Circulation

1. Site access shall consist of a primary road and secondary access in the event the primary road is blocked.
2. Provide separate bus driveways and parent drop-off area.
3. Provide safe separation between vehicular and pedestrian access.
4. Build roads with a crowned centerline, or graded to one side. Design roads, parking areas and other pavement to drain properly off site
5. Minimum outside turning radii and unobstructed **one-way** travel width:
	* + - 1. School Buses 90 Feet / 30 Feet

75 feet is the minimum centerline radius for two-way traffic.

* + - * 1. Passenger Vehicles 26 Feet / 12 Feet
				2. Fire trucks (pumper type) 50 Feet / 20 Feet
				3. Garbage Trucks 34 Feet / 15 Feet

The service organization providing trash removal must approve the dumpster and garbage truck arrangements for each school and may have criteria that are more restrictive.

1. Parent drop-off area must accommodate small buses and must meet emergency access criteria as needed at the individual school site.
2. Provide constant width of traffic lanes.
3. Align driveways with existing roads where possible.
4. Provide accessible passenger ramps/loading zones in the bus and parent drop-off areas.
5. Locate passenger-loading zones beneath/adjacent to covered walkways.
6. Provide curb behind loading zone to retain sod/topsoil and divert storm water.
7. Provide loading area for delivery trucks near the Kitchen and custodial receiving.

Do not use the bus loop or any other circulation driveway for loading area.

### Emergency Access

1. Provide emergency vehicle access to all areas of the site, with double gates as required by FFPC.
2. Provide a 20' wide emergency access road with markers on both sides of the road.
3. Design access road to support a 32-ton fire truck.
4. Provide ambulance access to the sport field areas at middle and high schools.
5. Provide paved or stabilized access “path” having a 16' minimum clear width.
6. Provide level paved access at all curbs. Ambulances cannot jar patients by jumping curbs.
7. The access point will be the edge of the playing area. Leave 16' wide double gates in playing area fences to enhance ambulance access during dry weather when the ambulance can drive on non-stabilized playing field surfaces.
8. Maintain emergency access for fire department and emergency vehicles at all times during construction on new and existing campuses.
9. Maintain all egress paths for all existing buildings on student occupied campuses.
10. Provide a plan sheet that shows fire department access during construction.

### Parking

1. Provide parking spaces as required by 423.10.2.8 FBC and the District Educational Specifications provided for each school.
2. Parking should be 90° when possible with two-way traffic.
3. Stall dimensions shall be a minimum 9'0" wide x 19'0" long for 90° parking, recommend 10' wide x 20’0” long.
4. Provide accessible parking spaces with direct access to the main office.
5. Provide accessible parking spaces in each separate parking area.
6. Provide tabulation of proposed and required parking spaces.

### Bicycle

Provide bicycle access with a shared use path, with the following features:

1. Minimum width of 10'
2. Minimum separation from public roadways shall be 5'

### Traffic Marking

Provide traffic marking following PCSB standard

## STORMWATER MANAGEMENT - FLOOD CRITERIA

### Outside Agencies

Drainage design submittal shall be required for approval of the storm water management design system and obtaining ERP from SWFWMD. Submit to SWFWMD plans, narrative and calculations and all supporting document.

### Finish Floor Elevations

1. Minimum elevations of finished on-site grading and building lowest finished floor elevations shall comply with the highest elevation requirements of:
2. SWFWMD three-day, one hundred year storm event
3. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM).
4. Minimum grade elevation requirements:
5. Set parking lot elevations at the ten-year, one-day storm event.
6. Set roadway crown elevations at the ten -year, one-day storm event.
7. Set playing fields elevations for elementary schools at the five-year, one-day storm event.
8. Set playing fields for middle schools and high schools at the ten-year, one-day storm event.

### Paving Grading and Drainage

1. Paving, grading and drainage plans shall indicate the size, location, and material of the storm sewer system (all pipes and storm leaders), the size and location of all drainage structures, of all retention/detention areas, and of the outfall structure(s).
2. Provide an outfall for the drainage system to a retention pond, city catch basin, etc.
3. Provide catch basin and manhole details:
4. May use yard drains in small grass areas.
5. Provide traffic cover as required, and label applicable manhole covers “STORM”.
6. Provide manhole lid casting anchors for all manholes placed in grassed areas.
7. Drainage pipe will be reinforced concrete, high-density polyethylene (HDPE) or polyvinyl chloride (PVC).
8. HDPE pipe shall not be adjacent to tilt wall construction (within 5 feet). HDPE pipe shall have a minimum diameter of 8 inches, a smooth internal bore, and water tight push-on joints sealed with an elastomeric gasket.
9. Specify concrete pipe below pavement and at locations subject to large construction wheel loads.
10. All PVC drainage pipe must be green.
11. Provide perimeter berms to prevent storm water drainage onto adjacent property.
12. Coordinate the size (8” minimum) and location of the roof drains with the architect and direct the roof drains to the storm drainage system.

### Covered Walkways

1. DEFINITIONS:
2. Wet Column Pipe – A pipe connecting a single wet column to the drainage pipe
3. Drainage Pipe – A larger pipe connected to one or more wet column pipes.
4. All aspects of drainage design will comply with requirements in the Florida Building Code- Plumbing and the requirements listed below. The following requirements list criteria for laying out the walkway drainage system.
5. Use PVC pipe to connect the wet column to the drainage collection pipe. The maximum length of wet column pipe from a single wet column shall not exceed the distance between two adjacent columns.
6. The drainage collection pipe shall have a minimum diameter of 8 inches. The drainage collection pipe will begin at the point where two or more pipes from individual wet columns join or at the point where a single wet column pipe has exceeded the maximum wet column pipe length, as above noted.
7. Construct all wet column connector pipes using sanitary style sweep fittings that direct fluid and waste materials in the direction of flow. Assemble all drainage pipes in the same fashion or route them in straight runs between yard drains or other drainage structures.
8. All wet column connector pipes and drainage collection pipes will be assembled using flexible, watertight pipe gaskets that form an integral part of the manufactured pipe or fitting joints.

## PAVEMENT AREA AND ROAD IMPROVEMENTS

### Pavement Markings

Asphalt shall be type S-3 and indicated thickness shall be a “minimum”.

### Pavement markings

Show all parking lot lines, stop bars, crosswalks (at bus loop, parent drop off, entrances, and exits), direction arrows, traffic lane lines, accessibility striping and symbols, and fire lane striping.

1. Fire lane striping is a 4" yellow line 42" from the face of the curb, and diagonal lines 36" o.c. with the alternating words "NO PARKING - FIRE LANE" 60' o.c. (12" high letters) for the distance the bus loop and parent drop off area interface with the building and or cover walkway or minimum of 100'
2. Fire lanes shall be marked with freestanding signs reading “NO PARKING FIRE LANE”.
3. These signs shall be 12” x 18” with a white background and red letters.
4. Place the signs 7' above grade as measured to the bottom of the sign at 60' intervals.

### Signs and traffic marking

1. All signing and traffic marking shall conform to the MUTCD.
2. See Architectural for additional information and coordinate with Architect.

## CONCRETE CURBS AND SIDEWALKS

### Sidewalks and Curbs

1. Sidewalks and curbs shall be concrete. Exception: Brick pavers may be used within designated area so long as those areas are away from normal walking paths. All groups of pavers shall be restrained for control of lateral movement due to edge loading. Use zip strip plastic joints with urethane infill at all locations where the sidewalk abuts an exterior building wall. Provide termite treatment below sidewalks at these locations. Fiber fill expansion joint materials are not permitted.
2. Provide curbs and raised sidewalk to separate pedestrians and vehicles.
3. Provide details for curb, accessibility curb cutouts, sidewalk ramps, aluminum walkway covers, striping (including stop bars) and sidewalk (dummy joint spacing, finish, expansion joints, etc.)
4. Covered walkway columns shall be separated from the face of adjacent roadway curbing by at least 24 inches, measured to the near face of the walkway column. Any walkway cover located within six inches of the edge of a vehicular way shall have a minimum clearance of 14 feet between the lowest portion of the walkway cover structure and the finished grade of the vehicular way.
5. Provide 6' wide minimum sidewalks.

Show expansion joints 48' o.c., at changes in direction, and against existing buildings.

1. Provide accessible curb cutouts at all crosswalks (including perimeter sidewalk).
2. Bus drop-off area (one per 100' of bus drop-off length, minimum of two).
3. Accessible parking, parent drop-off, and main entrance.
4. Provide disabled access aisle at the parent drop-off loop meeting the requirements of the Florida Building Code for aisle configuration. Place aisle beneath walkway canopy, maintaining a minimum 10' separation between canopy columns in this area.
5. Treat all sidewalks as means of egress and accessible route; therefore, all sidewalk ramps and stairways will meet code requirements for egress and accessibility.
6. Sidewalk longitudinal slopes greater than 1:20 are ramps.
7. Sidewalk longitudinal slopes shall not exceed 1:12.
8. Sidewalk cross slopes shall not exceed 1:50 (2%).

### Wheel Stops

1. Wheel stops may be concrete or recycled plastic.
2. Show details of the anchoring of the wheel stops.

### Dumpster Pad and Enclosure

1. Minimum size dumpster pad is 10' x 20' inside dimensions.
2. Provide concrete dumpster pad with a 10' approach apron.
3. Locate dumpster pad in an out-of-the-way area and with a direct approach for trucks.
4. Provide 6' high enclosure to visually screen the dumpster, with minimum 12' wide gates.

### Recycling Area

1. The recycling area pad shall be 10’x12’ inside dimensions, divide the interior into two 6’ bays.
2. Provide a 10’ approach apron.
3. Locate the recycling area near the dumpster pad and enclosure.
4. Provide a direct approach for trucks.

### Courtyards

1. Provide detailed control and expansion joint layout plans for all large concrete courtyards.
2. Show and dimension the location of all control and expansion joints.

### Walkway Covers

1. The storm water discharge from walkway covers flows via wet columns and discharges from a “mouse hole” located at the bottom of each wet column or directly into a storm water pipe. All wet columns shall be located so rainwater will discharge into a storm water leader system or onto a grassed area.
2. Wet columns shall not discharge to sidewalks, courtyards, or other walking/playing surfaces.

## PLAY FACILITIES AND OUTDOOR SPORTS FIELDS

### Drainage

Provide proper drainage for all play and sports fields, and set at proper elevations. The following elevation and slope guidelines will apply:

* + - * 1. Uniformly slope all play courts (tennis, basketball, etc.) in one direction at 1 inch per 10 feet. The slope shall be even and free of depressions that hold rainwater.
				2. The minimum allowable slope on a play court shall be 0.5% and the maximum allowable slope shall be 1.5%.
				3. Running tracks shall have a 2% maximum cross slope, maximum turn bank of 18 degrees, and maximum longitudinal slope of 1:1000.
				4. High Jump in run area shall slope toward the crossbar with a maximum slope of 1:250.
				5. Baseball and softball infields shall be sloped away from the pitcher’s mound, which shall be the high point.
				6. Baseball and softball outfields shall slope away from the infield at 1.3%.
				7. Make provisions to control storm water runoff and collect it in drainage structures without field erosion or flooding.

### General

1. Keep all active play areas and sports fields clear of obstructions.
2. Obstructions shall include fire hydrants, drainage structures, valve boxes, and all similar items that may create tripping hazards or otherwise interfere with the footing, concentration, or performance of the student athlete.
3. Obstructions shall be located at least 10' away from the nearest edge of the active play or sport participation area.
4. This includes the entire area inside of the baseball/softball field perimeter fence and the extensions of said fence, when that fence is not continuous.
5. Provide access to athletic facilities and play fields via interconnected paved walkways, placed to coincide with the natural flow of pedestrian traffic and comply with FBC Accessibility.
6. Provide for drinking water at all play fields, playground equipment, or sports fields, within 250' of the facility.
7. The designer shall consider the following facilities for any sports fields: P.E. storage, restrooms, concession stands, bleachers, and ticket booths. These facilities shall be available to both home and visitor sides with no cross traffic between ticket purchases and other facility traffic.

### Elementary Level

1. Play fields shall follow "Facilities Planning for Physical Activity and Sport", ages 10 years and younger.
2. See Ed Specs for other requirements for playgrounds and play fields.
3. Provide covered play court 40’ x 80’ utilizing a gabled pre-engineered metal structure. The concrete slab to be constructed of 4” thick light broom finish consisting of 3000 psi concrete with 6” x6” #10 WWM. All 4 edges to have a 6” bell footing with a #5 continuous horizontal rebar. Concrete shall be one continuous pour and saw cut 10’ E.W.

### Middle School Level

1. Play fields shall follow "Facilities Planning for Physical Activity and Sport", ages 14 and younger.
2. Provide non-rubberized 6-lane 400-meter track.
3. See Ed Specs for other requirements.
4. Provide paved basketball, volleyball, and tennis courts in numbers as required by the Ed Specs.

### High School Level

1. Use the National Federation's "Court & Field Diagram Guide" for field dimensions and requirements.
2. Track and Field Facility
3. Track shall be "broken oval", to allow for wider infield and flatter curves. Infield shall accommodate football and soccer layouts.
4. When possible, align the long dimension of the track in north-south direction.
5. Design track with an 8-lanes, with each lane 42" wide.
6. When possible keep the discus-throw and the shot-put events out of the infield, but keep two events in close proximity to each other.
7. Provide a cage around the discus throw circle.
8. Provide drain in the discus throw and shot put circle.
9. Place the jumping events in one of the two curve areas.
10. Provide jump areas at each end of runway for the long/triple jump and pole-vault.
11. Extend the runway surface for the long/triple jump over the concrete curb for the pit.
12. Locate the long jump, high jump, pole vault, and other specialty track events away from the end zone and sidelines of all soccer and football fields. The minimum separation is 25' the desired separation is 100'.
13. Provide dry-storage area near the track for track and field equipment.
14. Locate the scoreboard outside of the track infield on one of the curves.
15. Provide lighting for infield events.
16. Baseball/Softball
17. Align playing diamond in north-south direction.
18. Provide protected covered dugouts along 1st and 3rd base lines.
19. Provide ample space for relieve pitcher warm-up area.
20. Place scoreboard in left-center or right-center field.
21. Provide lighting, only if required by Ed Specs.
22. See Ed Specs for other requirements.
23. Consider storage area for equipment near the baseball, track/football/soccer fields
24. Provide paved basketball, volleyball, and tennis courts in numbers as required by the Ed Specs.

### Dimensional Standards

1. The dimensional standards listed in the [Athletic Field Dimensions chart](#_bookmark55) in the appendix covers softball, baseball, soccer, and football fields for all grade levels.
2. Refer to guidance standards for unlisted dimensions and for sport court dimensions.
3. The Architect’s plans may provide dimensions that differ from these if the site geometry will not support construction in accordance with the table.
4. Deviations must be justified during the PCSB Facilities Design & Construction Department review.

## WATER UTILITY SYSTEMS

### General Requirements

1. This section provides criteria for design of systems that distribute potable water, collect and transmit wastewater, and provide fire service.
2. All potable water and wastewater systems shall satisfy criteria used by the Florida Health Department, and the Florida Department of Environmental Protection in their construction permitting process.
3. Design the off-site potable water and wastewater system components per the criteria used by the owner of the off-site system.
4. Design piping systems using polyvinyl chloride (PVC) and ductile iron (DI) pipes, fittings and appurtenances.
5. Provide easements for public systems constructed on District property.
6. The civil drawings and plumbing drawings shall agree regarding points of entry for all pipes extended to any given building and points of connection to public facilities.
7. Provide valve boxes for all underground valve installations.

### Potable Water System

1. The design operating pressure shall be 150 psig.
2. The potable water service shall be separate from the fire service.
3. Provide separate connections to the public water system or similar protective measures.
4. The water main connection to the source of supply shall always be upstream from the backflow prevention device used to isolate the fire service main.
5. Loop the potable water service main within the campus when there are more than three buildings having separate service lines.
6. Each building shall have a separate service off the campus main domestic service.
7. Provide an isolation valve at each building service line approximately 5 feet from the building wall.
8. The maximum water meter size shall be 3 inches. The Civil designer shall use the smallest diameter water meter allowed by the Florida Plumbing Code based upon the fixture unit count supplied by the building Plumbing designer.
9. The minimum water main size at the meter and backflow preventor shall be 4 inches unless use of a smaller line size is justified with appropriate calculations.
10. Provide dual, 4-inch diameter, parallel, reduced pressure backflow preventor assemblies to isolate the District potable water main from the public water system. Each backflow preventor assembly shall be equipped with isolation valves on the inlet and outlet side.

### Fire Service System

1. Fire hydrants shall be the dry barrel style and equipped with a barrel drain.
2. Fire hydrant branches shall be entirely ductile iron from the tee serving the branch to the hydrant, with an isolation valve installed on each hydrant branch.
3. Fire mains feeding individual building fire suppression systems shall be entirely ductile iron from the tee serving the individual feed to the building connection point.
4. Post indicator valves, fire department connections, and fire hydrants shall be a minimum of 40' from the nearest building.
5. All points on each building shall be within 200' of a fire hydrant.
6. Provide a fire hydrant within 150' of fire department connection.

### Wastewater System

1. The design operating pressure for force mains shall be 150 psig.
2. The minimum standard dimension ratio for PVC gravity sewer shall be 35.
3. Locate pre-cast concrete manholes at the beginning and end of each sanitary sewer run, all gravity sewer deflection points, and at maximum intervals of 400' on straight sewer sections. Provide manhole lid casting anchors for all manholes placed in grassed areas.
4. Connect individual building wastewater lines to gravity sewer laterals with service tees. Connect individual building wastewater service lines to manholes with proper flow channels at the manhole invert.
5. Connect wastewater service lines from cafeterias to concrete grease interceptors that meet the specific requirements in FBC Plumbing Sec P1003.1-Sec P1003.5.
6. The maximum number of interceptors shall be three at elementary, three at middle, and four at high schools.
7. Design Grease interceptor to resist floatation when empty.
8. Design to meet H-20 truck loading if located below a driveway or parking lot.
9. The preferred location will be outside of paved areas or below a car parking area if a grassed area is not available.
10. Provide one of the following features when the grease traps are located in a paved area outside of a car parking area:

Concrete pad extending a minimum of 5' beyond the limits of all grease traps

The pad shall be at least 6" thick and reinforced with at least #3 bars at 12" on center each way.

Place the rebar mat at the center of the pad.

Use low strength mortar (LSM) backfill (200-psi compressive strength) for all backfill around the grease traps.

The top elevation of the LSM will match the top elevation of the base course for adjacent pavement.

Provide a sealer for the LSM if placed in advance of final paving operations.

1. Provide an oil/water separator for vehicle maintenance areas or wash down areas, connect to wastewater system.
2. Keep all cleanouts at least 10' from any building entrance.

## FENCES

1. Clearly identify all fence locations and fence components on a site plan.
2. Provide minimum 6' high fences around the site, dumpsters, lift stations, pre-K and kindergarten play area, wet retention/detention ponds (on site or off site), irrigation pump systems and well, electrical transformer(s), condensers, and other ground level equipment installations. Perimeter fence shall be 6’ high 9 gauge hot dipped galvanized black vinyl clad, posts shall be schedule 40 hot dipped galvanized. For athletic fields follow the athletic field guidelines.
3. Ensure that the pedestrian gates meet egress capacity requirements per PCSB.
4. All pedestrian gates that are located along a means of egress shall be equipped with panic hardware allowing immediate egress from the school site. The panic hardware operating mechanism shall be equipped with guards that prevent unauthorized operation by individuals outside the school site.
5. At elementary schools, provide fences around wet and dry retention/detention ponds.
6. Provide 8' high fence around bike racks.
7. Fences used as traffic control or guard rails maybe a minimum of 42 inches high, unless the location is described or listed above, then minimum 6 foot high fence is required.
8. All fencing shall prevent the passage of a 4 inch sphere, and fencing around play areas for children under the age of 5 years, shall be less than 3.5 inches.
9. Provide double gates in fences around retention ponds.
10. Provide fences to protect all above grade gas system components and piping.
11. Fence fabric shall be selvage knuckled top and bottom.
12. Use chain link fence around athletic facilities including baseball fields, tennis and basketball courts, and volleyball courts.
13. Elementary school basketball courts and playfields need not be separately fenced.
14. Use fencing to separate public and vehicle access to the outdoor play areas.
15. Use galvanized chain link fencing (9ga.) in all other areas.
16. If part of the old fence is to remain, then the new fence should match the existing.
17. Provide swing gates. Minimum vehicle gate clearance is 2 feet wider than the traveled way.
18. DO NOT use barbed or razor wire fencing.

## SIGNS

1. Provide signs that convey facility specific information. These signs shall include as a minimum; a school marquee, building names (e.g. – Gymnasium, Cafeteria, etc.), dedication plaque, principal parking only, assistant principal parking only, visitor parking, all necessary warning/no trespassing sign, and other directional signs needed to direct the general public to administrative locations (e.g. – main office, student services office, visitor parking, delivery/service area, etc.).
2. Provide signs of a regulatory nature in accordance with applicable codes and standards.
3. The Design Professional shall develop plans and specifications for sign types and locations as part of the final construction plans for permit.

## LANDSCAPING

### General Requirements

1. The Architectural team for new schools or other projects with large or specialized site components shall include a Florida registered Landscape Architect.
2. Develop a comprehensive landscape design providing students protection from the sun and promoting low maintenance, energy, and water conservation. Emphasize the main administration entrance and front facades and coordinate with architectural, civil, mechanical, and electrical work.
3. Landscaping shall not impede any means of egress.
4. Locate all planters and plantings away from buildings.
5. Maintain natural conditions in areas not needed for playfields or other purposes, these areas shall be self-maintaining and un-irrigated.

### Protection and Transplantation of Existing Trees

1. When feasible, preserve existing trees on site. Evaluate existing trees to decide feasibility and desirability of retainage or relocation. Consult with an arborist.
2. Provide appropriate plans and specifications for tree protection or transplantation.
3. Tree Protection.

Construction documents shall indicate methods and scheduling for effective tree and plant protection during construction, or indicate how to coordinate protection with contractor. (Consistent with National Pollutant Discharge Elimination System (NPDES) requirement).

1. Tree Transplantation
2. Include tree relocation instructions on plans and in specifications.
3. Specify all maintenance procedures and who is responsible for maintenance until substantial completion.

### Earthwork for Landscape Areas

1. Slopes:
2. Establish finish grade at building perimeter at least 6" below adjacent lowest interior finish floor. From building perimeter, maintain a 1:50 slope for a minimum of 6 feet and then a slope not to exceed 1:12 to finish grade unless otherwise directed.
3. Sidewalks shall not exceed a slope of 1:20 or cross slopes of 1:50.
4. From sidewalk edges, maintain a 1:50 slope for at least 5' and then a slope not to exceed 1:12 to finish grade unless otherwise directed.
5. Adjacent grade to receive sod shall be 2 to 4 inches below finish elevation of sidewalk.
6. Finish grade slopes at berms shall not exceed 1:4.

### Irrigation Systems

1. The Architect will provide specifications for an automatically controlled irrigation system for head to head coverage of planted areas to comply with high quality local examples of engineering, landscaping practices, and equipment manufacturers' recommendations.
2. Design all components to withstand 125 psig internal pressure, minimum.
3. Design system and controls so internal pressure is maintained only while actively watering.
4. Design system without curved pipe runs, use straight pipe runs with fittings for direction changes.
5. Design system so no irrigation head or pipe is within 2 feet of the building. Under no circumstances should water discharged for irrigation wet building surfaces.
6. Design Professional shall inspect and evaluate the existing well and pump system on modernizations and make recommendations for the renovation of the well and the pump system.
7. Irrigation water sources shall be: A well system, surface water system, or cistern system (rainwater harvesting/condensation capture); or combination
8. Locate pumps and controllers in a pump room, mechanical room, or other custodial controlled space within the facility for security.
9. Design irrigation pump stations to use pre-manufactured stations supplied by a vendor regularly engaged in the manufacture and supply of such systems.
10. Pump stations assembled locally from component parts by the irrigation or piping contractor will not be acceptable.
11. All pump station piping located above grade shall be metallic. All metallic piping shall extend to at least 36 inches below grade and be properly supported and jointed for the anticipated pressure, flow, soil, wind, and gravity loads.
12. All electric motors within the scope of the Energy Independence and Security Act of 2007 shall be designed to comply with NEMA MG1 efficiency requirements. Such motors shall be identified on the plans.
13. Size the irrigation zones so that the irrigation pumps will be able to supply a full irrigation cycle (flow and volume) for the entire campus within 8 hours.
14. Provide quick connect couplings near first and third base at high school softball and baseball fields.
15. Place the couplings in a below grade enclosure that will allow hazard-free play.
16. Locate the couplings outside of the clay area.
17. Equip the couplings with a ball valve for isolation purposes.

END OF SECTION

# ATHLETHIC FIELD DIMENSIONS

|  |  |  |  |
| --- | --- | --- | --- |
| **DIMENSIONS (FEET)** | **ELEMENTRY SCHOOL** | **MIDDLE SCHOOL** | **HIGH SCHOOL** |
| **SOFTBALL FIELD** |
| Home Plate (tip) to Pitcher’s Mound (plate center) | 35 | 46 | 46 |
| Between Bases | 55 | 60 | 60 |
| Infield Radius from Pitcher’s Mound (center) | 55 | 60 | 60 |
| Outfield Radius from Home Plate (tip) | 150 – 175 | 175 – 200 | 200 – 250 |
| Home Plate (tip) to Backstop | 25 | 25 | 30 |
| Offset from center Home Plate to On-deck Circle(On-deck circle is 5 feet in diameter, center is even with tip of home plate) | 25 | 25 | 30 |
| Radius of Pitcher’s Mound | 6 | 8 | 8 |
| Warning Track Width at Outfield Fence | 10 | 10 | 10 |
| Backstop Dimensions (wing – center – wing) | 16 – 16- 16 | 16 – 16- 16 | 16 – 16- 16 |
| **BASEBALL FIELD** |
| Home Plate (tip) to Pitcher’s Mound (plate center) | 46 | 54 | 60’ 9” |
| Between Bases | 60 | 75 | 90 |
| Infield Radius from Pitcher’s Mound (center) | 50 | 80 | 95 |
| Outfield Radius from Home Plate (tip) | 180 – 200 | 250 - 300 | 315 - 385 |
| Home Plate (tip) to Backstop | 60 | 60 | 60 |
| Radius of clay circle from center of Home Plate | 9 | 13 | 18.5 |
| Offset from center Home Plate to On-deck Circle(On-deck circle is 5 feet in diameter, center is even with rear of home plate circle) | 37 | 37 | 37 |
| Radius of Pitcher’s Mound | 6 | 9 | 9 |
| Radius of Arc at First, Second, Third Base | 8 | 13 | 13 |
| Baseline Track Width | 6 | 6 | 6 |
| Warning Track Width at Outfield Fence | 10 | 10 | 10 |
| Backstop Dimensions (wing – center – wing) | 60 – 50 - 60 | 60 – 50 - 60 | 60 – 50 - 60 |
| **SOCCER FIELD** |
| LengthIf site conditions do not allow for preferred, work with plan reviewer with in ranges. | 210 | 300 | 360 preferred Acceptable range 300-360 |
| WidthIf site conditions do not allow for preferred, work with plan reviewer with in ranges. | 120 | 165 | 225 preferred Acceptable range 165-240 |
| Center Circle Radius | 24 | 30 | 30 |
| Penalty Box (depth-parallel to the sideline x length-parallel to the goal line) | 42 x 105 | 54 x 132 | 54 x 132 |