

City of La Quinta Public Works Department - Commercial Precise Grading Plan Review Checklist

(Includes Multi-Unit Family PUD Precise Grading)

SUBMITTAL REQUIREMENTS

- Traffic Study (if required by conditions of approval).
- Approved Tentative Tract Map.
- Conditions of Approval.
- Rough grading plan (if previously graded or graded separately).
- Street improvement plan (as applicable).
- Soils report & annual update letter.
- PM 10 plan.
- SWPPP plan.
- Hydrology and Hydraulics Report.
- Precise grading plans.
- Estimates of quantities.
- Precise grading plan review checklist (filled out and signed by the EOR).
- ADA review checklist (filled out and signed by the EOR).
- Archeo/paleo monitoring contract agreement
- Letter of approval for offsite improvements when encroaching on other property

CONDITIONS OF APPROVAL

- Engineer to independently verify conditions of approval have been met. Please list all conditions not met if box is not checked. _____.

TITLE SHEET

- Earthwork volumes, as applicable. Include shrinkage and import/export.
- Street/drive aisle sections and details (may be shown on separate sheet if room does not permit on title sheet). Show limits of grade, depth, slope and all hinge points.
- On the index map, show Q10 and Q100 at all inlets and final outlets.
- FEMA flood zone designation.
- Typical grading detail(s) may be shown on separate sheet.
- City required signature blocks: Building and Safety (all commercial plans), Planning Department (all commercial plans), and Community Services (parks, sport or recreational facilities, art improvements).
- Underground service alert note.
- Soil engineer stamp & signature block – ensure update letter is within 1 year of plan set submittal (as applicable). Plans signed by soils engineer.
- Parking table provided wherein building area(s), standard slots, HC standard slot parking, HC van parking, Standard vs. HC covered parking ratio, and total parking slots are identified and required quantities verified. Also show bicycle parking amount.
- Define AC, PPC & sub-base thickness and detail – utilize compacted fill or cab base rock – see City road structural sections for more information. Minimum parking lot section is 3 inches AC over 4.5 inches CAB. Provide recommendation in Geotechnical Report, TI=6. For heavy truck traffic, use minimum of 4.5 inches AC over 5.5 inches CAB.
- Specify City Standard 200 for all concrete construction. Geotechnical Report should address and recommend remedial measures for high sulfate and high chloride soils.
- Call out all new construction with construction notes – show summary quantities on title sheet.
- Provide complete legend to identify water line, sewer line, property line, flow line, R/W and easements.
- Provide hatching pattern legend identifying concrete, AC pavement and other surfaces.

PLAN SHEETS

- Grading and paving plan shows:
- North arrow (preferred to point up or right).
- 4 inch bar scale – scale to be 1 inch = 20 ft or larger, no 1 inch = 30 ft or 1 inch = 40 ft submittals.
- Complete boundary information and lot line annotation.
- All parcel or lot numbers.
- All easements.
- Primary image corridor lines. Confirm building height setback.
- Adjacent record map references.

- Dimension walkway, street and R/W widths. Confirm no encroachment of PUE by building, fence, patio, wall or other structure. 10 ft PUE unless written approval from IID for 5 ft PUE.
- Show grades and dimensions of sidewalks, landings and ramps with arrow direction and % slope. Inadequate grade and dimension callout is common in precise grading plans. Call out top of curb and finish floor elevations.
- Street plans and precise grade plans match up in details.
- Curb/gutter alignment matches tentative map.

PARKING- SEE PUBLIC WORKS ADA CHECKLIST FOR ADDITIONAL REQUIREMENTS

- Parking facility design standards shall be consistent with Chapter 9.150.080 of the Municipal Code.
- Except for single family detached, single family attached, duplex and townhome residential uses, no parking facility shall be designed so that vehicles are required to back into a public street.
- No parking space shall be located within 3 ft of any property line.
- With the exception of single family detached, single family attached and duplex residential uses, all parking bays shall be bordered by continuous curbs to serve as drainage channels and as wheel stops. Individual wheel stops shall not be permitted in lieu of such curbs.
- All driveways shall be designed for positive drainage. If an inverted crown is proposed for a driveway, the center portion shall be a ribbon gutter of Portland cement concrete rather than asphaltic concrete.
- Parking lot layouts shall provide a clear hierarchy of major access drives (connecting the parking area to the public street), fire lanes, loading areas, minor drives, parking bay maneuvering areas, etc. Parking shall not be arranged to require backing out into major access drives.
- In order to avoid dead end aisles, parking bays shall connect with other parking bays or drive aisles or shall provide a turnaround area at the end of the bay.
- Parking access ways are those driveways that provide ingress or egress from a street to the parking aisles, and those driveways providing interior circulation between parking aisles. No parking is permitted on an access way.
- All parking facilities taking access from a major, primary or secondary arterial highway shall have a parking access way between the arterial and the parking aisles.
- Call out bicycle rack locations and detail.
- One-way access ways shall have a minimum width of 15 ft, unless the access way is a fire lane or used for ingress or egress, which requires a minimum of 20 ft of AC pavement.
- Two-way access ways shall have a minimum width of 26 ft.
- Entry/exit driveways shall be placed where they result in the least interference with the flow of traffic on the public street to which they connect – no backing of parked vehicles into street LQMC 9.150.080
- Joint entry driveways are encouraged and shall be arranged to allow parking lot maneuvering from one establishment to another without requiring exit to the street. Adjacent properties shall maintain agreements which permit reciprocal driveway connections across property lines.
- Regular space dimensions. All parking spaces up to the minimum required shall be designed for regular vehicle parking. Regular vehicle spaces shall be 9 ft wide, 17 ft long (with overhang), and 19 ft long without overhang. If wheel stops are used, the space is measured from the wheel stop, 17ft.
- City prefers limited or no use of wheel stops to minimize tripping hazards and to facilitate pavement cleaning and maintenance.
- If wheel stops are used, provide a detail or dimensional call out showing location in stall. Avoid vehicles straddling the wheel stop. Position wheel stop 1 ft from passenger side stall striping (preferred).
- Show concrete wheel stops at all parking slots adjacent to sidewalks less than 6 ft – all locations as applicable. Confirm use of La Quinta “hair pin” parking stripe for straight or diagonal parking – show detail
- Compact space dimensions. Compact spaces are permitted only if such spaces are in excess of the minimum parking requirement for the use. Compact spaces shall be 8 ½ ft wide, 16 ft long (with overhang), 17 ½ ft long (without overhang).
- End spaces. Parking spaces at the end of a parking aisle against a wall shall be widened by two additional ft and/or shall have a backing out pocket provided.
- Parallel spaces. Spaces provided for parallel parking shall be a minimum of 9 ft wide and 24 ft in length to permit room for maneuvering. If a wall or curb in excess of eight inches in height is adjacent to the parallel parking space, the space shall be 10 ft in width. All end spaces confined by a curb shall be 30 ft long.
- Call out curb paint (white, red, yellow) as applicable.

PLANTERS

- Planter areas greater than 5% grades will require erosion mitigation to avoid irrigation runoff issues and resultant storm drain inlet plugging.
- Show a supplemental 1 ft sidewalk stepout strip at planter bays where passenger side occupants step out into planters.

- All planter beds not containing trees shall be at least 3 ft in width and planter beds containing trees shall be at least 6 ft in width or diameter per Municipal Code 9.150.080.

DRIVEWAYS/THROATS/DRIVE AISLES- SEE PUBLIC WORKS ADA CHECKLIST FOR ADDITIONAL REQUIREMENTS

- Locate driveways with no less than 250 ft of separation.
- Parking access ways from arterial highways shall not have parking spaces taking direct access there from and shall not be intersected by a parking aisle or another parking access way for a minimum distance, (measured from BCR to BCR) of 30 ft for projects with zero to 200 spaces, 50 ft for projects with 201 to 350 spaces, 75 ft for projects with 351 to 450 spaces, and 90 ft for projects with 451 spaces or more. Review parking and aisle layout with City Traffic Engineer.
- Parking access ways from non-arterial streets and highways shall not be less than 30 ft in length from the ultimate curb line of the adjacent street, (measured from BCR to BCR).
- Provide sight distance triangle exhibits (see City guidelines via the web-site) for all traffic intersections; parking isles to access ways, access ways to streets and driveways. Landscaped areas will need to restrict plantings (maintained) to less than 3.5 ft in elevation if in a sight triangle. Sight triangle exhibits should be separate from the construction plans. Assume 20 mph speeds on access aisles and 15 mph speeds on parking aisles for sight distance calculations.
- Entry/exit driveways. Entry and exit driveways for commercial and multi-family parking lots shall be a minimum of 28 ft wide plus any median width (medians shall be a minimum of 3 ft in width). Additional turning lanes, if required, shall be a minimum of 12 ft in width. Maximum driveway width shall be 48 ft plus median.
- Internal circulation should be checked for fire truck, trash and delivery truck functionality. Delivery truck loading and offloading zones should be established as applicable.
- Internal driveway widths shall conform to the minimum widths, depending on the angle of parking:

Parking angle (degrees)	One-way aisle width (feet)	Two-way aisle width (feet)
0-44 (0 degrees = parallel)	14'	26'
45-54	16'	26'
55-64	18'	26'
65-79	22'	26'
80-90	26'	26'
- Minimum access road width of 28 ft.
- Show increase of curb radii for truck trailer access. Provide turning template exhibits (separate from plans).
- Show fire lanes and blue RPM markers as applicable.
- Provide service truck routes by showing pavement section and route arrows on horizontal control plan.
- Backout into access aisle is not angled greater than 10 degrees.
- Speed control device (speed table or equal) is provided for parking conflict/sight distance issues.
- 42 inch high bollards with 5-10 ft o.c. spacing (typ.) should be utilized for pedestrian protection at flush curb returns, crosswalks or equivalent facilities.
- No angle points at curbs, median or skewed geometry locations.
- Show fire hydrant locations with blue rpm per RCFD.

ROOF DRAINAGE

- Flat roof drain(s) shall discharge on concrete surfaces or underground system to retention basin – no primary roof drains to sidewalks or planter areas. Roof drip lines should drain to gutters or area drains without flow to walking areas – call out details for roof drainage – avoid sidewalk drains as possible – show roof edge on drainage layout.

GRADING

- Existing contours shall be shown in screened or dashed line types at the following intervals:
- Show existing contours a minimum of 15 ft beyond all property lines or as needed for day-light or to explain the design.
- 1 ft maximum contour interval on normal areas.
- Show ½ ft contours in very flat areas.
- Show proposed contours in heavy solid lines. Match contour intervals for required existing contours.
- Show proposed elevations at:
 - Top of curb/flow lines on planter islands and drive aisles.
 - Concrete and asphalt surfaces.
 - Top and bottom of stairs.
 - Doorway thresholds (no greater than ½ inch in height from adjacent finished floor).
 - Building corners (include dimensions tying building corners to property lines).

- Grade breaks.
- All high points, flow lines and ridgelines.
- Elevations and invert elevations at catch basins, manholes, junction structures, bends, inlets and outlets, area and landscape drains and retention basins.
- Any other elevations pertinent to the grading design.
- Minimum grading shown per City technical guidance relating to minimum grades.
- Show depth and limits of overexcavation.
- Grading plan geotechnical items per City Engineering Bulletin 09-03 are addressed, as applicable.

VERTICAL CURVES (STREETS)

- Provide vertical curves on grade breaks >0.5% at local and arterial streets.
- Sag vertical curves utilize the approximate AASHTO specification for sag vertical curve distance (ft) with <2% grade break = 3 times design speed (mph). Avoid use of short (e.g. 50 ft) vertical curves.
- Crest vertical curve length accommodates sight distances in accordance with Caltrans & AASHTO design standards.
- Check for flat spots at high and low points of vertical curves.

PAD & FF ELEVATIONS/BUILDING/FLOOD CONTROL MEASURES

- Ensure conformance with 2007 CBC 2304.11.2.2 specification for 8 inch offset from pad to untreated wood. An 8 inch slab thickness or equal is now required.
- Show pad elevations or dirt elevations to the nearest 0.1 ft. Show finished floor or "hard" surface elevations to the nearest 0.01 ft. Show finished pad and floor elevations of adjacent properties and provide note if adjacent site is vacant.
- Pad elevation shall be a minimum of 1 ft above 100 year flood elevation. 100 year flood elevation is generally considered to be at the R/W – EOR should confirm same. FEMA minimum is finished floor elevation shall be a minimum of 1 ft above 100 year flood elevation.
- Check driveway HP's to isolate drainage in adjacent street. HP should be at street 100 WSE or use R/W elevation if offsite street analysis is not applicable.

STORM DRAINS/GENERAL DRAINAGE - SEE PUBLIC WORKS STORM DRAIN CHECKLIST FOR ADDITIONAL REQUIREMENTS

- Concentrated flows shall be conveyed on PCC surfaces.
- Show roof drains with both vertical and horizontal locations. Show connection locations to any hard surface or underground system. The roof emergency overflow drains must be on independent lines per the CBC.
- Details of any on site drainage structures, walls, surface protection, etc. Shall be shown on the plans.
- No drainage over retaining walls and sidewalks. Use concrete "trapezoidal" ditches, area drains, down drains or other approved drainage design.
- Show ribbon gutters, catch basins and buried drain lines. Provide storm drain detail sheet as applicable showing plan & profile (including WSE100 & HGL) views of primary storm drain systems. Supply invert elevations for all catch basin and area drain locations. Call out WSE100 for all retention basins.
- No flow crossing property line.
- Provide CDS unit or equal for golf cart wash down or equal nuisance flow.
- Specify drain inlet size, PVC schedule, size and slope for area drain lines – show centerline on layout, 6 inch minimum line size stub in to RCP primary drain.
- Maximum HDPE bend/elbow size is 11.25 degrees for storm drains 12 inches or larger to provide equivalent curvilinear pipe.
- Utilize appropriate drainage systems for application – e.g. ribbon gutters for small flows, gunnite trapezoidal ditches for large swales by buildings.
- Check number of drywells against nuisance flow or retention basin draw down calculations. See City Engineering Bulletin 06-16. Drywell are specified at La Quinta Village area as a standard nuisance flow device for all parcels.
- Confirm adequate surface overflow route for sump inlets in case inlet is blocked.
- Storm drain standards in City Storm Drain Plan Review Checklist have been followed, as applicable.

WALLS

- Location of block walls and other structures are clearly shown. Show top of wall, ground, and top of footing elevations. Eliminate rebar detail (include in separate plan for building & safety approval but include on construction note). Specify one course (6 to 8 inch) soil cover of footing minimum.
- Structural calculations are required for all non standard walls. All wall construction is by separate permit
- Show center line curve data table for streets – ensure proper tie in to existing street.

- Provide 1 ft minimum bench adjacent to walls where slopes exceed 3:1.
- Provide 42 inch railing with 4 inch ballister spacing (or equal) when drop off hazard exceeds 30 inches.

WET UTILITIES - SEE PUBLIC WORKS PRIVATE OR PUBLIC WATER & SEWER CHECKLISTS FOR REQUIREMENTS – EXCEPTING SEPARATE SEWER AND WATER PLAN SHEETS, PROVIDE SCREENED BACK WATER AND SEWER UTILITIES ON PRECISE GRADING PLAN SET

TECHNICAL GUIDANCE & MISCELLANEOUS

MINIMUM/MAXIMUM GRADES

Minimum grades shall be as follows unless otherwise approved by the City Engineer, show grade percentages in plan view as applicable:

- Earth or turf swales are 0.50%, minimum.
- Asphalt concrete pavement – 1.0% minimum.
- Portland cement concrete pavement – 1.0% minimum. Flow in PCC gutters – 0.5% minimum, increase gradient to 1.0% in cul-de-sac and curves as possible.
- 5% maximum slope in all general parking area and paths of pedestrian travel including ribbon gutter crossings. Driveways may be up to 10% if alternate ADA accessible routes are provided. Golf cart paths may be up to 15% maximum slope.
- Handicap stalls are 2% or less in all directions, including ribbon gutters if in the stall.
- 1.0% minimum sheet flow (concrete or AC surfaces) away from the building to a drive aisle or storm drain system.
- 2.0% minimum sheet flow (natural cover or equal surfaces) away from the building to a drive aisle or storm drain system.
- 5% maximum sheet flow in planter areas or Planning Department approved equivalent erosion control method.

GATED DEVELOPMENTS

- Confirm 2 car stack (gated development call box to street distance) = 37 ft, 3 car stack = 62 ft + 25 ft for each additional car stack.

MEDIANS

- Show medians w/dimensions at all entrances as applicable. Privately maintained medians shall not be located within the City R/W.

BUILDING ENTRY/LANDINGS- SEE PUBLIC WORKS ADA CHECKLIST FOR ADDITIONAL REQUIREMENTS

- Detail weep screed showing 4 inch minimum clearance from earth and 2 inch minimum clearance from pavements or concrete. Include bottom plate/footing location.

MISCELLANEOUS LEGENDING/FORMATING

- Join elevations and relationships to surrounding properties are shown. Confirm no excessive road grade breaks with short vertical curves.
- Show locations of all existing and proposed structures, buried tanks and wells.
- Show building footprint outline. Show any depressed or raised slab areas.
- Show roof overhang line.
- Show spot elevations on existing structures near property lines, such as walls, hedges, trees, buildings, etc.
- Show concrete stippling on PCC surfaces, and shading or other indicator on AC surfaces.
- Label planter areas as "PA"
- Include disposition notes for existing facilities. The term "by others" shall not be used but shall be defined.
- Include construction notes on each sheet with summary quantities on title sheet. Do not refer back to construction notes on the title sheet. Remove unused construction notes.
- Refer to City Standard Drawing No. if applicable to work. Provide specifications, notes, details or other approved Standard Drawing No. if different from City standard.
- Show existing, removal & new sections (as applicable) with varied shading. Show existing join & limit locations.

HORIZONTAL CONTROL/BOUNDARY INFORMATION/ADA

Horizontal control plan is provided and shows:

- ADA paths of travel (use bold dashed line on horizontal control sheet, typ.) PW ADA checklist completed & verified separately.
- North arrow (preferred to point up or right or left).
- 4 inch bar scale – scale to be 1 inch = 40 ft or larger.

- Complete boundary information, including tract, parcel, APN and lot line boundaries and reference numbers. Define all property lines and building projections. Provide bearings and distances of boundaries and label on plan.
- Typical dimensions through parking lot stalls and drive aisles.
- Line and curve data for curbs.
- Dimension buildings from property lines to building corners.
- Dimension building setbacks and landscape set backs.
- Sufficient horizontal and vertical control and data to stake improvements.
- Show and label parking lot stall and drive aisle striping, handicap striping, signing and other traffic control – utilize double stripe parking stall with 1 ft spacing.

PAVERS

- Utilize Interlocking Concrete Pavement Institute specifications when improvements are with interlocking pavers or current City of La Quinta Standards.

BUS STOPS/SHELTERS

- Provide confirming correspondence from SunLine or School District on requirements.

SOILS

- Building Department/CBC 1802.6 Foundation Soils Requirement addressed per June 16, 2008 Building Memo.

DRIVE THRU LANE

- 14 ft knuckle, 12 ft lane provided.