

## GENERAL REQUIREMENTS FOR GRADING, STREET/STORM DRAIN, LANDSCAPING, AND TRAFFIC SIGNAL PLANS

PLAN NAME \_\_\_\_\_ PLAN CHECK NO. \_\_\_\_\_

PLAN CHECKED BY: \_\_\_\_\_ FIRM \_\_\_\_\_

PLAN CHECKS DATES:            IN            OUT

1st            \_\_\_\_\_            \_\_\_\_\_

2nd            \_\_\_\_\_            \_\_\_\_\_

3rd            \_\_\_\_\_            \_\_\_\_\_

4th            \_\_\_\_\_            \_\_\_\_\_

RECOMMEND FOR APPROVAL: \_\_\_\_\_

CLEARED?  
YES    NO    N/A

- |       |       |       |   |
|-------|-------|-------|---|
| _____ | _____ | _____ | 1. All plans shall be drawn to a scale of 1"= 40' or 1"= 20'. A graphic scale shall be placed on all sheets.  |
| _____ | _____ | _____ | 2. <u>All sheets</u> shall be signed and properly sealed by the Civil Engineer in responsible charge, including license number and expiration date.   |
| _____ | _____ | _____ | 3. All sheets shall be 24" x 36" mylar prepared in ink. <b>Sticky-backs, Kroy tape, or other stick-on materials are not allowed.</b>  |
| _____ | _____ | _____ | 4. All sheets must be numbered consecutively, "Sheet ___ of ___", in the lower right hand corner. Adding sheets will require re-numbering of all sheets (changing sheet numbers to 3A, 3B, 3C, etc. will not be allowed). |
| _____ | _____ | _____ | 5. All lettering shall be 1/10" minimum.  |
| _____ | _____ | _____ | 6. North arrows should point to top or right of sheet, if possible.   |
| _____ | _____ | _____ | 7. Construction notes shall be designated by circles.   |
| _____ | _____ | _____ | 8. Curve data shall be designated by hexagons.  |
| _____ | _____ | _____ | 9. Construction removals shall be designated by squares.  |
| _____ | _____ | _____ | 10. Plan revisions shall be indicated by triangle with cloud around revision.   |
| _____ | _____ | _____ | 11. Plans shall conform to conditions of approval.  |
| _____ | _____ | _____ | 12. Encroachment permit is required for access to the property or for construction in the public right-of-way. Note requiring encroachment permit has been added to plans.  |
| _____ | _____ | _____ | 13. Pre-inspection review notes the following discrepancies: _____  |
| _____ | _____ | _____ | 14. Haul route is required. Note requiring approval from City has been added to plan.   |
| _____ | _____ | _____ | 15. All required signatures or clearances have been obtained (OCFA, County, Caltrans, etc.).  |

YES NO N/A

**GENERAL REQUIREMENTS CONTINUED**

- |       |       |       |   |
|-------|-------|-------|---|
| _____ | _____ | _____ | 16. Approval of water and sewer system plans. All off-site water system plans plan checked and approved by Golden State Water Company. All off-site sewer plans plan checked by Stanton Public Works. <b><i>On-site private water &amp; sewer are permitted by the City building department and must go through a separate approval process.</i></b>  |
| _____ | _____ | _____ | 17. Minimum pavement structural sections are 4" AC/4" AB for parking stall areas, 4" AC/8" AB for Commercial driveways, commercial perimeter drives and loading areas, and 4" AC/10" AB for industrial drives, industrial perimeter drives and loading areas. Structural sections are to be determined once R values are obtained from field testing. Traffic indices (TI's) should also be submitted with backup calculations. The final sections should be filled in during a revision or during preparation of as-built plans. Lime treatment is not allowed without approval of the City Engineer.  |
| _____ | _____ | _____ | 18. Minimum thickness for PCC sidewalk is 4".   |
| _____ | _____ | _____ | 19. Submit itemized cost estimate. Improvements within the right-of-way shall be separated out. All quantities and unit costs should be verified.<br>a. Grading: All grading (cubic yardage), drainage devices, erosion control devices, driveways, paving, and all improvements to be constructed under the grading plans. <u>All on-site sidewalks, drive approaches, and decorative paving are to be constructed per grading plans</u> (unless shown on separate improvement plans), and referenced only on landscaping plans.<br>b. Improvements: All drainage devices, paving, sidewalks, curb & gutters and all improvements to be constructed per improvement plans.<br>c. Landscaping: Square footage of all types of landscaping (slopes, flat areas, quads, entries, etc.). |
| _____ | _____ | _____ | 20. Additional information required: <u>See attached letter to City Engineer</u>  |
| _____ | _____ | _____ | 21. Other comments: _____   |

## **DRAINAGE PLANS AND HYDROLOGY FOR GRADING, STREETS, AND STORM DRAINS**

PLAN NAME \_\_\_\_\_ PLAN CHECK NO. \_\_\_\_\_  
 PLAN CHECKED BY: \_\_\_\_\_ FIRM \_\_\_\_\_

CLEARED?  
 YES NO N/A

- |       |       |       |  |     | <b>A. General</b>  |
|-------|-------|-------|--|-----|--|
| _____ | _____ | _____ |  | 1.  | Criteria utilized for the hydrology and hydraulics and frequency of design year storm shall be in accordance with the <u>Orange County Hydrology Manual</u> , and <u>County of Orange Local Drainage Manual</u> , current editions.  |
| _____ | _____ | _____ |  | 2.  | The use of underground storm drain systems shall be in accordance with the City's Design Manual.   |
| _____ | _____ | _____ |  | 3.  | A recorded letter of acceptance from adjacent property owner(s) is required for acceptance of concentrated or unnatural drainage. Include legal description and AP number.   |
| _____ | _____ | _____ |  | 4.  | Hydrology and hydraulic calculations shall be sealed and signed by the responsible engineer in charge, registered by the State of California.  |
| _____ | _____ | _____ |  | 5.  | Concentrated drainage over walkways/driveways is not permitted.  |
| _____ | _____ | _____ |  | 6.  | Hydrology and hydraulics have been approved and forwarded to the City.   |
|       |       |       |  |     | <b>B. Hydrology Map</b>  |
| _____ | _____ | _____ |  | 7.  | The hydrology map and street plans must agree with the grades and configurations of drainage areas.  |
| _____ | _____ | _____ |  | 8.  | The hydrology map must be a topographic map of sufficient scale and quality to allow for readability, and must show drainage patterns and quantities of runoff (both on-site and off-site).  |
| _____ | _____ | _____ |  | 9.  | Show all Q's (with times of concentration) entering and leaving the project. If previous studies were used, they must be referenced and copies must be submitted. Need for comparative analysis of interim and ultimate flow rates for off-site drainage to be determined by the City. |
| _____ | _____ | _____ |  | 10. | Show all Q's (with times of concentration) flowing in the streets. Design discharge to be Q10 and Q25. If one side of a street carries more Q than the other side, show it. Show all cross over Q's and flow splits were they occur.   |
| _____ | _____ | _____ |  | 11. | Show all flow confluences with upstream and downstream Q's.  |
| _____ | _____ | _____ |  | 12. | Show all Q's approaching, entering and carried over from catch basins shown. Designate all catch basin lengths.  |
| _____ | _____ | _____ |  | 13. | All existing catch basins or manholes shall be identified by numbers or letters as shown in the City's Master Storm Drain Maps, if required.   |
| _____ | _____ | _____ |  | 14. | Identify all critical street flow locations and show these locations.  |
| _____ | _____ | _____ |  | 15. | Drainage areas shall close and the acreage shall be shown.   |

YES NO N/A

**DRAINAGE PLANS CONTINUED**

- \_\_\_ \_\_\_ \_\_\_ 16. Show and identify all storm drains, their sizes, line numbers, line designation, Q's, and times of concentration. Distinguish between Q10 and Q25.
- \_\_\_ \_\_\_ \_\_\_ 17. If the project contains more than one soil group, use the most impervious soil group ("D" being the most impervious).
- \_\_\_ \_\_\_ \_\_\_ 18. All off-site drainage areas must be shown with a reasonable analysis of the interim and ultimate Q's from those tributary areas. Include the necessary supporting calculations or reference previously approved studies and submit copies.
- \_\_\_ \_\_\_ \_\_\_ 19. Names or some other designation for all streets in and around the project shown.
- \_\_\_ \_\_\_ \_\_\_ 20. Final or tentative tract numbers shall be shown.
- \_\_\_ \_\_\_ \_\_\_ 21. Initial areas limited to 4 acres with a maximum flow path of 300 feet.
- \_\_\_ \_\_\_ \_\_\_ 22. Comments/additional info required: \_\_\_\_\_

**C. Hydrology Calculations**

- \_\_\_ \_\_\_ \_\_\_ 23. General formula to be used  $Q=CIA$ .
- \_\_\_ \_\_\_ \_\_\_ 24. Time of travel, rainfall intensity, runoff coefficient, soil group, allowable flooded width, and catch basin interception requirements in conformance with the Orange County Hydrology Manual, and County of Orange Local Drainage Manuel, current editions.
- \_\_\_ \_\_\_ \_\_\_ 25. Check "W" width of ponding on arterials for possible flooding of the required "dry" lane.
- \_\_\_ \_\_\_ \_\_\_ 26. Calculations are required to show that all building pads will be protected from a 100 year storm.
- \_\_\_ \_\_\_ \_\_\_ 27. Street sections should not traverse from or be superelevated away from catch basins.
- \_\_\_ \_\_\_ \_\_\_ 28. Check the Q's in pipes (for sump areas, Q25 must be used until the sump condition is relieved by a downstream catch basin providing an alternate path for the water).
- \_\_\_ \_\_\_ \_\_\_ 29. Comments/additional info required: \_\_\_\_\_

**D. Hydraulic Calculations**

- \_\_\_ \_\_\_ \_\_\_ 30. Design criteria for hydraulic calculations and format for presentation of the calculations shall be in conformance with the the Orange County Hydrology Manual, and County of Orange Local Drainage Manuel, current editions, and the City's Design Manual.
- \_\_\_ \_\_\_ \_\_\_ 31. The use of grate type catch basins and parkway culverts are not allowed on public and private streets without prior approval from the City Engineer. Any grate inlet shall have a minimum grated area of 100 square inches.
- \_\_\_ \_\_\_ \_\_\_ 32. Hydraulic calculations shall be performed in accordance with the City's Design Manual.

YES NO N/A

**DRAINAGE PLANS CONTINUED**

**E. Storm Drain Improvement Plan Preparation**

- |     |     |     |  |
|-----|-----|-----|--|
| ___ | ___ | ___ | 33. Storm drain alignment, grade and easements in conformance with the City's Design Manual (horizontal location relative to curb, minimum pipe size and depth of cover, manhole locations and spacing, minimum grades, and velocities, minimum radius, maximum velocities relative to requirements for additional steel clear cover, existing facility abandonment procedures, etc.). |
| ___ | ___ | ___ | 34. Reinforced Concrete Box (RCB), Reinforced Concrete Channel (RCC) improvement plans, details and reinforcing schedule shall be in conformance with the City's Design Manual and approved standards.   |
| ___ | ___ | ___ | 35. Hydraulic grade line shall be plotted on profile.  |
| ___ | ___ | ___ | 36. Prepare a hydraulic elements table showing design year storm, Q's, pipe size, n, V <sub>f</sub> , S <sub>o</sub> , S <sub>f</sub> , F.L. elevations and pertinent stationing. Place table on each relevant plan sheet.   |
| ___ | ___ | ___ | 37. Show all storm drain laterals in profile.  |
| ___ | ___ | ___ | 38. Show D-loads for all PCC pipe, and classification/schedule for all other type pipe.  |
| ___ | ___ | ___ | 39. Curve data and bearing for storm drain centerlines.  |
| ___ | ___ | ___ | 40. Pertinent storm drain stationing and equations, including reference to street station at BC, EC, and manholes. Stationing shall increase from downstream to upstream.  |
| ___ | ___ | ___ | 41. Identification of existing facilities showing regional facility names and improvement plan names/numbers.  |
| ___ | ___ | ___ | 42. Catch basin type and sizes including length, height, top of curb elevation, and centerline street station at the catch basin centerline.   |
| ___ | ___ | ___ | 43. Slopes less than .5 percent (0.005) are not allowed without the approval of the City Engineer.   |
| ___ | ___ | ___ | 44. Easement lines and widths shown and checked to make sure they conform with easement document or tract map and are an adequate width for maintenance as determined by the City.   |
| ___ | ___ | ___ | 45. Show bedding details, if applicable.   |
| ___ | ___ | ___ | 46. All storm drain connections require a City encroachment permit and have connection fees associated with them. Size of connection(s): _____   |
| ___ | ___ | ___ | 47. Additional information required: _____   |
| ___ | ___ | ___ | 48. Other comments: _____  |

## GRADING PLANS

PLAN NAME \_\_\_\_\_ PLAN CHECK NO. \_\_\_\_\_  
 PLAN CHECKED BY: \_\_\_\_\_ FIRM \_\_\_\_\_

**Model Sites and Commercial/Industrial Developments:** Precise grading plans shall show grading, paving, temporary parking lots, sidewalks, drainage devices, driveways, drive approaches, walls (retaining and screen), access ramps, erosion control, signing, striping, and all other improvements as necessary (including those within the right of way). Decorative paving shall be constructed per the precise grading plan, and referenced on the landscaping plan. A separate grading permit is recommended for models and model site parking lots. Another grading permit will be required for final model conversion and removal of temporary parking lot, including an updated geotechnical report.

**Tract Improvements:** Precise grading plans for subdivisions shall show grading, walls (retaining and screen), on-site drainage devices and driveway construction. Improvement plans should be referenced.

CLEARED?			
YES	NO	N/A	
_____	_____	_____	1. Grading Title Sheet - available on City web site.
_____	_____	_____	a. Name, address, and phone number of owner/developer, civil engineer, and geotechnical firm.
_____	_____	_____	b. Responsible civil engineer's signature, license number, expiration and seal ( <b>required on all sheets</b> ).
_____	_____	_____	c. Geotechnical engineer and geological engineer's signature, license number, expiration and seal. (Geological required on rough grade only).
_____	_____	_____	d. Grading permit number ( <b>required on all sheets of plan</b> ).
_____	_____	_____	e. Location map shall be completed.
_____	_____	_____	f. Erosion control 24 hour phone number, contact person, and civil engineer's approval to be completed.
_____	_____	_____	g. Job Address/Site Location - If tract development, provide nearest major cross streets.
_____	_____	_____	h. All information including tentative and final tract/parcel numbers, lots, community development approval, and benchmark shall be completed.
_____	_____	_____	i. Plan index including sheet number and descriptions.
_____	_____	_____	j. Earthwork quantities.
_____	_____	_____	k. Plan name (include tract and lot numbers) under "GRADING PLAN FOR".
_____	_____	_____	l. Job number is for use by design engineer.
_____	_____	_____	m. Reference any previous grading permit numbers.
_____	_____	_____	2. Grading plans shall be in conformance with the design standards identified in the <u>City of Stanton Grading Manual and Grading and Excavation Code</u> and <u>City's Erosion Control Standards</u> .
_____	_____	_____	3. Show a table of all construction items with total quantities to be constructed.
_____	_____	_____	4. Show applicable construction notes on each sheet.
_____	_____	_____	5. Show a legend of symbols on each sheet.
_____	_____	_____	6. Soils Report shall be prepared as stated in the Grading Manual. Copy of <b>approved report</b> has been received.
_____	_____	_____	7. Show all existing and proposed structures within 15 feet of property line and on property.

YES NO N/A

**GRADING PLANS CONTINUED**

- |     |     |     |     |  |
|-----|-----|-----|-----|--|
| ___ | ___ | ___ | 8.  | All street and storm drain stationing and elevations shall match those shown of street/storm drain improvement plans.  |
| ___ | ___ | ___ | 9.  | Provide adequate setbacks per approved site plan, City Zoning Code and Grading Code and Manual.  |
| ___ | ___ | ___ | 10. | A recorded letter of permission from adjacent property owner(s) is required for slope encroachment or other off-site grading work. Include legal description and AP number.  |
| ___ | ___ | ___ | 11. | Show cut and fill daylight lines and how finish grades meet adjoining property.  |
| ___ | ___ | ___ | 12. | Provide cross-sections at 50' or 100' intervals for review of earthwork calculations, if requested.  |
| ___ | ___ | ___ | 13. | Indicate disposal of excess earth material. Add note stating separate haul route permits must be obtained prior to any removal of earth.   |
| ___ | ___ | ___ | 14. | Horizontal control must be shown for precise grading plans.  |
| ___ | ___ | ___ | 15. | Show building pad, finish floor, and garage finish floor elevations.   |
| ___ | ___ | ___ | 16. | Show existing and proposed elevations using contours and/or spot elevations.   |
| ___ | ___ | ___ | 17. | Show detail of typical slope benching.   |
| ___ | ___ | ___ | 18. | Show proposed locations and fully dimensioned cross sectional details of all buttress fills as recommended in the approved soils report.   |
| ___ | ___ | ___ | 19. | Delineate areas of overexcavation and recompaction as recommended in the approved soils report. Detail and show volume as a separate item.   |
| ___ | ___ | ___ | 20. | Show top and toe of cut and fill slopes.   |
| ___ | ___ | ___ | 21. | Drainage easements are required for off-site facilities. Verify with tract map.  |
| ___ | ___ | ___ | 22. | Show plan and section details of typical lot and roof drainage.  |
| ___ | ___ | ___ | 23. | Berms are required at tops of all slopes. Show detail of berm (minimum 1 foot high and 4 feet wide). No sheet flow is allowed over the top of slopes greater than 5 to 1.  |
| ___ | ___ | ___ | 24. | Drainage over manufactured slopes is not permitted except in approved drainage devices.  |
| ___ | ___ | ___ | 25. | Show existing off-site terrace drains and drainage features which could significantly affect the project.  |
| ___ | ___ | ___ | 26. | Velocity reducers and trash racks are required where drains discharge onto natural ground. If riprap is to be used, specify class and size. Show plan and provide detail. Downstream discharge (i.e. creek, channel) must be taken into consideration. Maintenance responsibility should be outlined and approved. |
| ___ | ___ | ___ | 27. | Show flow line elevations of all swales and other drainage devices.  |
| ___ | ___ | ___ | 28. | Application for "Certification for movement of soil" from or within the <u>Quarantine against Red Imported Fire Ant</u> area is required prior to approval of grading plan.  |

YES NO N/A

**GRADING PLANS CONTINUED**

- |       |       |       |  |
|-------|-------|-------|--|
| _____ | _____ | _____ | 29. Erosion control plans are required for all grading plans. Hydrology/ hydraulic calculations shall be submitted for all desilting basins. Erosion control plans shall incorporate storm water pollutant control using Best Management Practices (BMPs) to the maximum extent possible.  |
| _____ | _____ | _____ | 30. A NPDES General Construction Activity Storm Water Permit from the Santa Ana Regional Water Quality Control Board (SDRWRCB) is required for construction on sites larger than (1) one acre or on sites that are part of a larger project greater than (1) one acre. A copy of the letter from the SARWRCB must be obtained to show that the Notice of Intent (NOI) for the permit has been filed.   |
| _____ | _____ | _____ | 31. Approved Water Quality Management Plan (WQMP) as required in the approved conditions for the project (note, this is a separate submittal to the Public Works Department).  |
| _____ | _____ | _____ | 32. Retaining walls shall be shown, including drainage swales behind the walls. <b>Retaining walls are permitted by the City building department and must go through a separate approval process.</b> Show top of wall and top of footing, finished surface elevations, and a typical section. Show subdrain details with disposal points, flow line elevations, and pipe material. Drains shall not outlet concentrated flows onto private property or at property lines. |
| _____ | _____ | _____ | 33. Screen walls shall be shown on the plans with typical sections. (Show green construction fence)  |
| _____ | _____ | _____ | 34. Show all existing utilities and service locations, including existing vaults, manholes, etc.   |
| _____ | _____ | _____ | 35. Show and label all easements (existing and future).  |
| _____ | _____ | _____ | 36. All existing and proposed overhead utilities shall be placed underground.  |
| _____ | _____ | _____ | 37. Submit profiles of driveway approaches and driveways and/or provide elevations and dimensions. Thickness of PCC shall be recommended by geotechnical engineer (6" min.).   |
| _____ | _____ | _____ | 38. Drive approaches and/or driveways shall not have grades in excess of 15%.  |
| _____ | _____ | _____ | 39. All trash enclosures shall have a concrete pad under them with a minimum 10' wide apron in front. Thickness of PCC shall be recommended by the geotechnical engineer (6" min.). Trash enclosure PCC pad shall have a 3% minimum slope to the rear of the enclosure and include a drain connected to the sewer system.  |
| _____ | _____ | _____ | 40. Sight distance triangles have been plotted at all intersections and driveways.   |
| _____ | _____ | _____ | 41. Grades are in conformance to tentative map/site plan grades.   |
| _____ | _____ | _____ | 42. Prior to submittal of second check, all Landscape plans must be submitted to the City for first plan check (this requires a separate submittal to the Public Works Department).  |
| _____ | _____ | _____ | 43. Additional information required: _____   |



## STREET IMPROVEMENT PLANS

PLAN NAME \_\_\_\_\_ PLAN CHECK NO. \_\_\_\_\_  
 PLAN CHECKED BY: \_\_\_\_\_ FIRM \_\_\_\_\_

CLEARED?  
 YES NO N/A

- |       |       |       |  | <b>A. Street Improvement Title Sheet</b> - The Title Sheet shall include:   |
|-------|-------|-------|--|---|
| _____ | _____ | _____ |  | 1. Project site shall be shown on location map.   |
| _____ | _____ | _____ |  | 2. Basis of bearings.   |
| _____ | _____ | _____ |  | 3. Benchmark - O.C.S./City BM description, date (year of adjustment), and full elevation to three decimal places.   |
| _____ | _____ | _____ |  | 4. Engineering firm name, address, telephone number, date plans prepared, seal, signature, registration number and expiration date of responsible Engineer registered by the State of California. |
| _____ | _____ | _____ |  | 5. Soils engineer firm name, address, telephone number.   |
| _____ | _____ | _____ |  | 6. Approval block for City Engineer's signature with spaces for signature, date, and registration number.   |
| _____ | _____ | _____ |  | 7. Developer/owner name, address and telephone number.  |
| _____ | _____ | _____ |  | 8. Title block containing tract number and tentative tract number, if applicable; otherwise, give street name and limits of improvements.   |
| _____ | _____ | _____ |  | 9. Water and sewer district approval, if applicable.  |
| _____ | _____ | _____ |  | 10. Fire marshal approval, if applicable.   |
| _____ | _____ | _____ |  | 11. Other agency approvals, if required.  |
| _____ | _____ | _____ |  | 12. Utility company contacts and phone numbers.   |
| _____ | _____ | _____ |  | 13. Revision Block, with columns for revision number, description of plan changes, City approval, and approval date.  |
| _____ | _____ | _____ |  | 14. City approved general notes. Water and sewer notes as required by the district.   |
| _____ | _____ | _____ |  | 15. Separate individual sheet index listing all sheet descriptions.   |
| _____ | _____ | _____ |  | 16. Underground Service Alert (USA) statement   |
| _____ | _____ | _____ |  | 17. Plan legend and symbols.  |
|       |       |       |  | <b>B. Second Sheet and Detail Sheet(s)</b>  |
|       |       |       |  | 18. Index map showing the following:  |
| _____ | _____ | _____ |  | a. Street configuration within project limits.  |
| _____ | _____ | _____ |  | b. Lot configurations.  |
| _____ | _____ | _____ |  | c. Tract boundary.  |
| _____ | _____ | _____ |  | d. Street names/street signs.   |
| _____ | _____ | _____ |  | e. City limit lines, if contiguous to tract.  |
| _____ | _____ | _____ |  | f. North arrow.   |
| _____ | _____ | _____ |  | g. Scale.   |
| _____ | _____ | _____ |  | h. Street lights.   |
| _____ | _____ | _____ |  | i. Sewer, water and storm drain improvements (existing and proposed).   |
| _____ | _____ | _____ |  | 19. Construction notes, with quantities separated by tract and street, if applicable. Also quantities should include a total column if separated.   |
| _____ | _____ | _____ |  | 20. Construction details not included in standard drawings.   |
| _____ | _____ | _____ |  | 21. Arterial street intersection details at 1"=10' or 1"=20' showing 0.1 foot design elevations in a grid @ 10' on center with contours.  |

YES	NO	N/A	<b>STREET IMPROVEMENT PLANS CONTINUED</b>
-----	----	-----	---

- |       |       |       |  |
|-------|-------|-------|--|
| _____ | _____ | _____ | 22. Typical sections showing:  |
| _____ | _____ | _____ | a. All geometric dimensions, including sidewalks, parkways, curbs, gutters, and right-of-way limit lines.                  |
| _____ | _____ | _____ | b. Existing pavement to be joined or removed. Details of join to existing pavement, if applicable.                         |
| _____ | _____ | _____ | c. Level line from centerline crown to top of curb with vertical dimension. Pavement cross-fall rates shall also be shown. |
| _____ | _____ | _____ | 23. Street name sign table, if applicable.   |
| _____ | _____ | _____ | 24. Miscellaneous details as needed to delineate construction.   |

**C. PLAN AND PROFILE SHEET(S)**

- |       |       |       |  |
|-------|-------|-------|--|
| _____ | _____ | _____ | 25. All stationing shall refer to centerline of street unless otherwise noted and shall increase left to right, and run upstation from south to north or west to east. No negative stationing allowed.   |
|       |       |       | a. Stationing has preference over north arrow.   |
|       |       |       | b. All streets have continuous stationing and shall be consistent with, or continue, prior (existing) street stationing, if applicable.  |
| _____ | _____ | _____ | 26. Horizontal and vertical alignment conform to City geometric design standards, such as: sight distance, minimum centerline radii, minimum and maximum street grades, vertical curve lengths, intersecting street offsets, intersecting street angles, length of tangent between reverse curves, superelevation requirements, etc. |
| _____ | _____ | _____ | 27. Profile shall be on top half of sheet and include:   |
| _____ | _____ | _____ | a. Centerline profile.   |
| _____ | _____ | _____ | b. Existing ground at centerline (not necessary if site has been mass graded).   |
| _____ | _____ | _____ | c. Top of curb profiles including curb returns. Rate of grade shown on profiles to be based on centerline stationing rather than true length of curves (except for curb returns, cul-de-sacs and knuckles). Negative grades shall be indicated.  |
| _____ | _____ | _____ | d. Scale (horizontal and vertical).  |
| _____ | _____ | _____ | e. Vertical curve data, including tangent grades, length of curve, BVC, EVC, PIVC station and elevation, and elevations every 25'.   |
| _____ | _____ | _____ | f. Elevations on curb returns at ECR and BCR locations and at 1/4 delta points.  |
| _____ | _____ | _____ | g. Elevations at grade breaks, street intersections, and as necessary to provide adequate vertical control.  |
| _____ | _____ | _____ | h. Limits of superelevation, if applicable. A separate sheet may be required to show actual superelevation diagram.  |
| _____ | _____ | _____ | i. Identification of existing improvements referencing existing improvement plan names/numbers.  |
| _____ | _____ | _____ | j. Utility line crossings and substructures (existing and proposed) which could interfere with road and other underground construction. (Check potential conflicts and <b>advise if potholing is warranted</b> . Potholing requires a City encroachment permit.)   |
| _____ | _____ | _____ | k. Curb height transitions.  |
| _____ | _____ | _____ | l. Storm drain profiles.   |
| _____ | _____ | _____ | m. For pavement widening projects, profile of existing edge of pavement with elevations at a minimum of 50 foot intervals.   |
| _____ | _____ | _____ | n. Sewer profiles shall be shown on separate sheets for water and sewer construction.  |

YES	NO	N/A	<b>STREET IMPROVEMENT PLANS CONTINUED</b>
-----	----	-----	---

- |                          |                          |                          |   |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 28. Plan View shall include:  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | a. Existing improvements shown dashed or faded out.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | b. Improvements to be constructed, including join lines.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | c. Approved street names (should match final tract map).  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | d. Station equations at all intersections.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | e. Stations at each 100 feet marked on all construction centerlines and aligned with profile.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | f. Bearings for all tangents on street centerlines. Curve data for all curves.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | g. Existing and proposed utilities, including, but not limited to, valves, manholes, vaults, poles, meters, etc.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | i. Tract number, boundary and lot lines for each adjacent parcel.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | j. Applicable construction notes shown on each sheet.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | k. Match lines clearly shown and referenced.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | l. Identification of all storm drain lines, referencing the facility numbers, if applicable.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | m. Approved street lighting layout, if applicable. All street lights on arterial highways in parkways shall be staggered or placed in medians.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | n. Removals.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | o. Local depression details showing top of curb elevations and curb height and width transitions.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | p. Centerline station reference of all BC's, EC's, PCC's; angle points, etc. in the curb or edge of pavement line.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | q. Identify limits of new paving, old paving, overlay and removal using appropriate shading to delineate areas.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | r. Show sight distance triangles at all intersections and driveways.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 29. All ramps shall conform to the most recent Title 24 and American Disabilities Act (ADA) requirements.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 30. All street lights, except those on private streets or in parking lots, shall be Mission Bell with a scroll. Locations, spacing, and lumen levels are verified by the City. All other items related to street lights are checked by the appropriate utility company. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 31. Separate Utility Improvement or Relocation Plans, if requested.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 32. Cross-sections at 50' or 100' intervals for review of pavement widening joint conditions and/or earthwork calculations, if requested.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 33. Additional information required: _____  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 34. Other comments: _____   |