



**PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**

411 Main Street, 2nd Floor Phone: (530) 879-6900
P.O. Box 3420 Fax: (530) 895-4899
Chico, CA 95927-3420 www.ci.chico.ca.us

**DEVELOPMENT ENGINEERING CHECKLIST FOR
IMPROVEMENT PLANS**

THIS CHECKLIST IS A PROCESSING AID AND DOES NOT ENSURE THAT ALL ISSUES PERTINENT TO A PARTICULAR PLAN SET HAVE BEEN ADDRESSED

Subdivision Name/Number: _____

Location/APN(s): _____

Engineering Firm/Contact Number: _____

Submittal Number: _____ Date Received: _____

Plan Checker: _____ Date Returned: _____

NOTE: Prior to resubmittal, call Matt Johnson at 879-6910 to schedule an appointment to review the submittal for completeness.

REQUIRED PLAN CHECK ITEMS

Information from Developer's Engineer

- 1. Improvement plans (2 copies)
COMMENTS: _____

- 2. Plan Check Fees
COMMENTS: _____

- 3. Approved Street Names (*After Tentative Map has been approved, contact Jessica Henry at 879-6720*)
COMMENTS: _____

- 4. Storm drainage analysis
COMMENTS: _____

- 5. Sanitary sewer analysis
COMMENTS: _____



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6. Street section calculations
COMMENTS:

7. Fire Hydrant Plan approved and signed by Fire Marshal
COMMENTS:

8. Landscape Plans
COMMENTS:

Information from City Staff - Contact City for Information

1. Traffic index - Traffic Division
COMMENTS:

2. Sewer & Storm Drain Identification - Sewer & Storm Drain Division
COMMENTS:

3. Street trees - Parks Division, Urban Forester
COMMENTS:

REVIEW OF IMPROVEMENT PLANS

General Items

1. Compliance with all conditions of approval
COMMENTS:

2. Easements from title report are shown
COMMENTS:

3. Applicable general notes included (i.e. street lights, street trees, underground alert contact, mailbox location and construction)
COMMENTS:



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- 4. 22" x 34" sheet size used to include 1" borders
COMMENTS:

- 5. Title block, north arrow, and scale shown on each sheet where appropriate
COMMENTS:

- 6. Drafting quality neat and legible
COMMENTS:

- 7. Vicinity/Location map
COMMENTS:

- 8. Sheet index for 3 or more sheets
COMMENTS:

- 9. Legend shown for all proposed and existing features not labeled on plan
COMMENTS:

- 10. Verify all existing public improvements within public right-of-way
COMMENTS:

- 11. Contractor will install City-supplied benchmark
COMMENTS:

- 12. Engineer's name block (including stamp, license number, date, and signature) with the note: "Prepared by or under the supervision of"
COMMENTS:

- 13. City Engineer's signature block
COMMENTS:



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Streets

Typical Sections

- 1. Structural sections indicated per "R" value
COMMENTS:

- 2. Curb type and sidewalk indicated
COMMENTS:

- 3. R/W and street dimensions shown
COMMENTS:

- 4. Cross-slope (cut/fill slopes) shown beginning at R/W line
COMMENTS:

Plan View

- 1. Curve data (i.e.,), R, and length shown)
COMMENTS:

- 2. 30' radius @ f.o.c. shown at curb returns
COMMENTS:

- 3. 40' minimum radius @ f.o.c. in cul-de-sac
COMMENTS:

- 4. R/W, PSE, PUE, and street widths shown
COMMENTS:

- 5. Centerline stationing at 100' intervals, also at all BC, EC, BCR, ECR, and angle points
COMMENTS:

- 6. Lot/parcel lines and numbers/letters shown
COMMENTS:



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- 7. 1.5% - 5% x-slope from lip of gutter to high point in cul-de-sac
COMMENTS:

- 8. Flowline grades at quarter points on curb returns and along valley gutter centerline
COMMENTS:

- 9. Station/offset information for drainage, sewer, and other structures shown (as an option, can be shown in profile)
COMMENTS:

- 10. T/C, flowline, and invert elevations of structures shown
COMMENTS:

- 11. Easements shown and dimensioned
COMMENTS:

- 12. Location of all existing underground utilities shown
COMMENTS:

- 13. Standard Plan S-27A handicapped ramp shown at all curb returns with 5' wide sidewalk contiguous to curb; Standard Plan S-27 handicapped ramp shown at all curb returns with 9.5' wide sidewalk contiguous to curb or with sidewalk not contiguous to curb
COMMENTS:

- 14. Driveway ramps/centerline stationing shown
COMMENTS:

- 15. Driveways with contiguous sidewalk are ADA compliant
COMMENTS:

- 16. Centerline data, street limits, and curb return locations consistent with final map
COMMENTS:



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17. Cul-de-sac, 500' maximum length

COMMENTS:

18. Edge of pavement grades shown for street widening

COMMENTS:

19. Verify existing improvements shown (location and elevation)

COMMENTS:

Profile View

1. Curb return and cul-de-sac profiles shown

COMMENTS:

2. Vertical curves used where grade break is > 1%

COMMENTS:

3. Minimum vertical curve lengths observed (CMC 18R, Table 2)

COMMENTS:

4. Maximum/minimum gradient observed at intersecting streets

COMMENTS:

5. Minimum 0.25% grade observed for paved gutter

COMMENTS:

6. Minimum 0.50% grade observed for unpaved gutter

COMMENTS:

7. Existing and proposed underground pipes and utilities shown

COMMENTS:

8. Existing and proposed grade along centerline and T/C or F/L grade shown



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COMMENTS:

9. Centerline of intersecting streets shown to their point of intersection
COMMENTS:

10. Centerline stationing/elevations shown at 100' intervals, and at BVC, EVC, PVI, and grade breaks
COMMENTS:

11. SD/SS crossing, minimum 6" grade separation
COMMENTS:

12. Standard Plan S-12A, pipe crossing cradle, 1" min. separation - use only if no other alternatives
COMMENTS:

Storm Drainage

Hydrology

1. Contours continue beyond tract boundary sufficiently to show off-tract drainage pattern (minimum 25')
COMMENTS:

2. Analysis and design of proposed storm drain system submitted; if applicable, includes study of upstream area. For stage construction, the analysis shall provide for the design of the entire storm drain system.
COMMENTS:

3. For proposed subdivision boundaries, higher than existing grade, solution to blocked drainage pattern is submitted.
COMMENTS:

Collection System & Hydraulics

1. Size, material, and class of conduit indicated
COMMENTS:



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- 2. Headwalls and outlet structures incorporated
COMMENTS:

- 3. 10-inch minimum conduit diameter
COMMENTS:

- 4. Minimum velocity of 2 fps achieved
COMMENTS:

- 5. 2' minimum cover over conduits. Use City Standard S-12M for less than 2' of cover.
Use alternative pipe type, as approved by the City where S-12M requirements cannot
be met.
COMMENTS:

- 6. 1% minimum lateral slope or minimum velocity achieved
COMMENTS:

- 7. Standard Plan S-10 manhole and S-7 inlets used
COMMENTS:

- 8. Maximum 500' inlet spacing
COMMENTS:

- 9. Maximum 350' MH spacing for 30" diameter or smaller conduit
COMMENTS:

- 10. Crowns of conduits intersecting MH match, or minimum fall 0.1' through structure
observed
COMMENTS:

- 11. Improved earth channel side slopes: 1.5:1 or flatter
COMMENTS:

- 12. All public open channels located within dedicated easements



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COMMENTS:

13. 12' wide access road adjacent to open channels
COMMENTS:

14. Maximum velocity, pipes, & ditches
COMMENTS:

15. Minimum radius of curvature of 500'
COMMENTS:

16. Verify existing improvements shown (location and elevation)
COMMENTS:

17. Seepage trench (pursuant to CMC 18R- private streets unless approved by Director)
COMMENTS:

18. Storm water interceptor (maintainability)
COMMENTS:

19. Detention facilities (maintainability)
COMMENTS:

20. No concentrated flows onto unimproved areas
COMMENTS:

21. 1st flush and peak flow mitigation is provided
COMMENTS:

22. Outfalls match proposed grades and erosion control is provided
COMMENTS:



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23. If necessary, storm drain easements provided and dimensioned
COMMENTS:

24. In a flood plain? If yes, specify design modifications.
COMMENTS:

Sanitary Sewer

Collection System and Hydraulics

1. Size and material of pipe indicated
COMMENTS:

2. Minimum 8" diameter pipe installed
COMMENTS:

3. Pipe straight between MHs, 500' radius of curvature for special case
COMMENTS:

4. 4.5' minimum cover from flowline to finish grade, 5' to existing grade
COMMENTS:

5. Maximum MH spacing: 6"-8", 400'; 10"-12", 500'; 15" & up, 1000'
COMMENTS:

6. Crowns of conduits intersecting MH match
COMMENTS:

7. Flush hole; 150' maximum distance from MH
COMMENTS:

8. Flush hole installed in cul-de-sac or at temporary ends of lines where no MH is intended
COMMENTS:



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- 9. 4" minimum lateral size
COMMENTS:

- 10. 2% minimum lateral slope
COMMENTS:

- 11. Laterals installed 5' minimum into private property
COMMENTS:

- 12. Lateral stubs don't conflict with facilities in joint utility trench, end beyond joint trench
COMMENTS:

- 13. Depth of lateral shall be 3' at property line. Where sewer main is 10' or greater in depth, deep sewer risers shall be installed
COMMENTS:

- 14. Deep laterals constructed against undisturbed soil
COMMENTS:

- 15. Stubs at manholes for future extensions (for maintenance, place manhole a minimum of 20' from subdivision boundary)
COMMENTS:

- 16. Note to replace existing stub if material differs from rest of main
COMMENTS:

- 17. Maintain maximum depth where practical (minimum slope = 0.003)
COMMENTS:

- 18. Verify existing improvements shown (location and elevation)
COMMENTS:



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19. Show adjacent public sewers, adequate access
COMMENTS:

20. For phased subdivisions, sewer application has been submitted for each phase
COMMENTS:

Grading

1. Surface drainage away from buildings
COMMENTS:

2. 1% minimum slope, 2% away from buildings
COMMENTS:

3. Back of sidewalk below lot corner
COMMENTS:

4. Fill retention at property line (fill shall not block existing drainage pattern of adjacent property)
COMMENTS:

5. Pad elevations
COMMENTS:

6. Erosion/dust control
COMMENTS:

7. Existing trees to remain match proposed grades
COMMENTS:

Traffic

1. Signing (including street signs)
COMMENTS:



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- 2. Stop signs on public streets only if justified by current conditions
COMMENTS:

- 3. Stop signs on all private streets
COMMENTS:

- 4. All stop signs to have high-intensity grade sheeting
COMMENTS:

- 5. Striping (including stop legends)
COMMENTS:

- 6. Bike path
COMMENTS:

- 7. Bus stops
COMMENTS:

- 8. Pavement markers
COMMENTS:

- 9. Replace existing pavement markers in kind
COMMENTS:

- 10. Check sight distance at intersections
COMMENTS:

- 11. Traffic signals reviewed by Traffic Engineer
COMMENTS:

- 12. Is traffic regulation amendment required (for stop signs or parking elimination)?



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COMMENTS:

Streetlights

1. Service point(s), (PG&E secondary pull boxes)
COMMENTS:

2. PG&E streetlight identification number(s) referenced for illustration on As-Built Plan set and for Contractor to install prior to improvement acceptance.
COMMENTS:

3. Reference to City standard details
COMMENTS:

4. Maximum spacing of streetlights dependent on type
COMMENTS:

LANDSCAPING AND IRRIGATION

1. Street trees
COMMENTS:

2. Preserve existing trees
COMMENTS:

3. Plant list
COMMENTS:

4. Landscaping plans
COMMENTS:

5. Irrigation plans and design calculations
COMMENTS:



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6. Electric/water service points

COMMENTS:

7. Irrigation system (water & elec.) sized for future extension

COMMENTS:

8. Minimum 3/4" irrigation pipe size

COMMENTS:

9. Reference to City standard details

COMMENTS:

10. Landscaping/irrigation reviewed by Urban Forester

COMMENTS:

OTHER NOTES/COMMENTS