



Chandler · Arizona
Where Values Make The Difference

Civil Engineering Site Plan Review Checklist

Log No: _____

Project:	
Location:	

Legend	
/	Requirement satisfied.
O	Requirement not satisfied.
?	Unable to determine status, more information is required.
X	Not applicable.

Review #	Reviewed By	Date
1		
2		
3		
4		
5		

The requirements referred to on the checklist can be found in *International Building Code*, *International Plumbing Code*, City's Zoning Code, Subdivision Code, Technical Design Manuals, Standard Details, and Standard Specifications.

Item	Requirement	Comments
1.	The civil plans must be submitted on 24" x 36" sheets.	
2.	Submit soils report.	
3.	The minimum height of all text and lettering shall be 0.1" (one tenth of one inch).	
4.	Add the following on the lower right of the cover sheet over the title block: C. O. C. Log No. _____	
5.	Show the name of the proposed development on the cover sheet.	
6.	Show the engineer's name, address, and phone number on the cover sheet.	

Item	Requirement	Comments
7.	Show the developer's name, address, and phone number on the cover sheet.	
8.	A vicinity or site location map is needed on the cover sheet.	
9.	Show the legal description of property on the cover sheet.	
10.	<p>Elevations noted on the plans shall be based upon the NAVD 1988 datum.</p> <p>A. The nearest City CMCN benchmark shall be utilized with the proper conversion value to NAVD 88.</p> <p>B. The City's benchmark ID number (CMCN #) and verbatim description must match the latest edition of <i>City of Chandler Vertical Control Base List</i>, and must be shown on the cover sheet with the equation.</p> <p>C. Fill in the equation value in the <i>General Notes</i>.</p>	
11.	<p>The following City standard notes must be shown, or corrected, on the cover sheet:</p> <p>A. General Notes.</p> <p>B. Water Notes.</p> <p>C. Reclaimed Water Notes.</p> <p>D. Sewer Notes.</p> <p>E. Paving Notes.</p> <p>F. Grading and Drainage Notes.</p> <p>G. Street Light Notes (APS area).</p> <p>H. Street Light Notes (SRP area).</p> <p>I. Signing and Striping Notes.</p> <p>J. Fire Department General Notes.</p>	
12.	<p>Submit a Certificate of Quantities for permit fee calculation. Quantities must be tabulated separately by phase. See the Certificate of Quantities form for the minimum applicable items required to be included for permit and inspection purposes.</p>	

Item	Requirement	Comments
13.	<p>Add the following note to the plan cover sheet:</p> <p>The following installation procedure shall be followed on all water line extensions of lines over eleven (11) months in age:</p> <p>A new valve of like size shall be installed in the new line extension at the point of extension. A ¾" saddle and riser shall be installed in the line between the new valve and the first existing valve in the existing system. This line will be flushed and tested by the City and the ¾" nut and riser removed.</p> <p>After the new water system is accepted by the City, and the new valve and existing valve are turned on, the operating nut shall be removed from one or the other of the valves and abandoned.</p>	
14.	<p>Add the following note to the cover sheet:</p> <p>A retaining wall will be required if at the completion of grading there exists more than one foot of difference in elevation between this site and adjacent properties.</p>	
15.	<p>Add the following note to the grading plans:</p> <p>The existing retention and drainage facilities on this site will not be removed from service until the permanent retention and drainage facilities are functional.</p>	
16.	<p>Reclaimed water lines are required on this project. Please add the following note to the cover sheet:</p> <p>This site plan will not be approved, nor will a Certificate of Occupancy be issued until a Reclaimed Water Use Agreement is executed by the developer and approved by the City.</p>	

Item	Requirement	Comments
21.	<p>The following certifications are required on the cover sheet:</p> <p>GRADE CERTIFICATION:</p> <p>This is to certify that this grading plan is in compliance with the grade requirements of the soils report prepared by:</p> <p>_____ DATE</p> <p>_____ REGISTERED CIVIL ENGINEER DATE</p> <p>FINISH GRADE CERTIFICATION:</p> <p>This is to certify that the finish grades shown or as-built on this grading plan are in compliance with the soils report prepared by:</p> <p>_____ DATE</p> <p>_____ REGISTERED CIVIL ENGINEER DATE (OR REGISTERED LAND SURVEYOR)</p>	
22.	<p>Add the following certification blocks to the cover sheet:</p> <p>I HEREBY CERTIFY THAT THE "AS-BUILT" INFORMATION AS SHOWN HEREON WAS MADE UNDER MY SUPERVISION, OR AS NOTED, AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.</p> <p>_____ DATE</p> <p>REGISTERED LAND SURVEYOR</p> <p>REGISTRATION NO: _____</p> <p>_____</p> <p>FIRM NAME</p> <p>I HEREBY CERTIFY THAT THE AS-BUILT INFORMATION SHOWN HEREON SATISFIES THE INTENT OF THE DESIGN.</p> <p>_____ DATE</p> <p>REGISTERED CIVIL ENGINEER</p> <p>REGISTRATION NO: _____</p> <p>_____</p> <p>FIRM NAME</p>	
23.	<p>Add the following certification block to the cover</p>	

Item	Requirement	Comments
sheet:	<p>I HEREBY CERTIFY THAT THE SETBACKS TO THE NEAR FACE OF UTILITY POLES, STRUCTURES, AND OTHER SIMILAR FACILITIES GREATER THAN 18 INCHES IN HEIGHT ARE SHOWN TO BE 5.5 FEET BACK OF CURB AND 1 FOOT FROM SIDEWALKS. IN CASES WHERE THE FACILITIES ARE ADJACENT TO A DECELERATION LANE OR BUS BAY, THE SETBACK MAY BE REDUCED TO 2.5 FEET BACK OF CURB.</p>	
_____	_____	
24.	<p>Show a legend identifying the symbols used for the following items on the cover or detail sheet.</p> <ul style="list-style-type: none"> A. Existing top-of-curb elevations. B. Existing ground elevations. C. Existin pad and finish floor elevations. D. Proposed top-of-curb elevations. E. Proposed ground elevations. F. Proposed finished floor and pad elevations. G. Existing contour lines. H. Proposed contour lines. I. Arrows designating direction of drainage flow. J. Drainage structures. K. Grade breaks. 	
25.	<p>Each sheet of the civil package must be sealed, with signature, by the Civil Engineer preparing the plans.</p>	
26.	<p>Show the scale on the plans. An engineering scale must be used; architectural scales are not allowed.</p>	
27.	<p>Show north arrows on each sheet.</p>	
28.	<p>Perimeter traverse data is required for the project boundaries. This is the information normally required to define the land parcel legal description.</p>	

Item	Requirement	Comments
29.	<p>The following information is required for existing streets and alleys adjacent to the development:</p> <ul style="list-style-type: none"> A. Street name or “alley” label. B. Right-of-way width. C. Identify the basis for the centerline of the streets with stationing. D. Driveway locations on both sides of the street with dimensional ties unless there is a divided median. E. Street light locations on both sides of the street with dimensional ties. F. Location of curb, gutter, and sidewalk. This is normally provided by dimensional ties from the street centerline. G. Width of sidewalk must be noted. H. Extent and type of pavement with dimensional ties to the edge-of-pavement. Unimproved alleys should be noted as such. Pavement type is normally noted as “A.C.” or “Concrete”. 	
30.	<p>Improvements to existing and proposed public streets, alleys, water lines, reclaimed water lines and sewer lines may be required to be shown on a separate improvement plan set with a separate cover sheet. Construction and plan requirements can be found within the appropriate City technical design manuals. All private improvements are to be included in the site plan set.</p>	
31.	<p>Show all existing wells and their Arizona Department of Water Resources registration number on the plans. If not registered, so note on the plans. Register wells with the ADWR prior to any disposition, and documentation provided to the City. Water wells are to be abandoned using standard abandonment method, per ADWR “Well Abandonment Handbook”. Contact Sandy Story at 480-782-3588 to coordinate well registration and disposition.</p>	
32.	<p>All existing buildings, transformers, cabinets, power poles and other significant structures or items must be shown. Significant structures and items include canals, irrigation ditches, easements, and other like items. If any of these items are to be removed or relocated, they must be noted as such.</p>	

Item	Requirement	Comments
33.	The location of all proposed driveways to the site must be shown with dimensional ties. The driveway width must also be noted. All driveway locations and construction details must comply with the standards presented within the City's <i>Technical Design Manual 4 - Street Design and Access Control</i> .	
34.	Bus pullouts are required; see the City's <i>Technical Design Manual 4 - Street Design and Access Control</i> for construction details.	
35.	Landscape design plans are required for the adjacent arterial median: A. New median. B. Existing median requires upgrade. C. Submit landscape plans with next civil submittal. Note: No further review will be performed until the required landscaping design is submitted.	
36.	Show the finish floor elevation of all buildings. The finish floor elevation shall be 14" above the development's low-outfall elevation, which shall be identified on the plans and within the drainage report.	
37.	Cross-section must be shown across all property lines. Show all existing and proposed perimeter walls on the plan and cross sections, with top of wall elevations.	
38.	Show construction details, cross-sections and/or profiles for all proposed drainage facilities such as: A. Proposed contours are required for retention basins. B. Proposed spot elevations every 50 ft. and at grade breaks are required for drainage swales. C. Profiles are required for storm drains. Roof drain lines and equalizer pipe are excepted from the profiling requirement. D. Scupper profiles must include elevations at grade breaks with dimensions and elevations demonstrating no ponding within the right-of-way. E. Catch basins.	

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39.	Show existing spot elevations for all existing curb and gutter adjacent to the development. Show existing curb and gutter spot elevations beyond the site limits sufficient to permit analysis of off-site drainage impacts on the project. Elevations must be shown adjacent to each property corner, at all grade breaks, and at all scuppers/catch basins.	
40.	Show existing ground spot elevations and top of existing and proposed perimeter wall elevations along and adjacent to all property lines.	
41.	Show existing spot elevations at all property corners and at a reasonable spacing, typically 50-ft. intervals, throughout the site. Spot elevations are required immediately off-site adjacent to the project boundary sufficient to permit analysis of grade differentials and drainage. On large sites or sites with significant natural slopes, contours may be required.	
42.	Retention basin requirements: A. Maximum design storm depth shall not exceed 3 feet. B. 4:1 maximum side slope allowed. C. Show contours of side slopes. D. Show berming as required by Site Development.	
43.	Water lines, including fire lines and water services, are not allowed to pass under retention basins. This does not apply to paved parking areas used for retention.	
44.	All portions of the development within the FEMA 100-year flood zones must be identified. If any such areas are identified, Maricopa County Flood Control District approval is required.	
45.	Provide a separate Erosion and Sediment Control Plan. Refer to City's Stormwater Quality Protection Manual for additional information.	
46.	All basin infiltration test results will be provided prior to any grading on the site as a part of the grading and drainage plan review process. Under no circumstances will testing be deferred to after completion of site grading.	

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47.	<p>A drainage report is required. Requirements for the hydrology report are presented within the City's <i>Technical Manual 3 - Drainage Policies and Standards</i>. The drainage report shall include the following as a minimum:</p> <ul style="list-style-type: none"> A. Calculations showing the volume of retention required for each drainage area plus 10%. B. Calculations showing the volume of retention provided. Depth of ponding of basins must not exceed 3 ft. C. A drainage map showing the tributary areas to the proposed retention basins. D. A minimum finished floor elevation should be called out in discussion of low outfall. It should be 14" above ultimate outface of drainage area and/or project, whichever is higher. E. Certified double-ring infiltrometer test results and retention basin drainage time calculation are required for each drainage basin/area. Retention basin drainage time shall be based on a 50% attenuation of the infiltrometer test results. If drywells are deemed to be necessary to meet the 36-hour drainage time requirement, the number of drywells must be determined. The drywell design drainage rate shall not exceed 0.1 cfs until percolation tests are performed on the drywell. F. Maximum depth of storm water retention on pavement shall be 0.5 ft. G. A discussion concerning the minimum finish floor elevation within the development. H. Street hydraulic calculations showing that the 10-year storm runoff is retained within the curbs. Velocities shall be based upon the 10-year full depth. I. Street hydraulic calculations showing that the 50-year storm runoff is retained within 0.3 feet maximum depth over curb. J. Storm drainage inlet and pipe sizing/capacity calculations. K. Show all calculations, formulas and charts used. 	
48.	<p>Underground retention storage tanks must comply with the <i>Underground Retention Review Checklist</i> criteria.</p>	
49.	<p>Provide structural calculations for all drainage pipe subject to wheel loads.</p>	

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50.	<p>Register all proposed drywells with the Arizona Department of Environmental Quality (ADEQ) and provide a copy of the application and receipt to the City of Chandler for its files. The following requirements also apply:</p> <ul style="list-style-type: none"> A. The City drywell detail must be shown on the plans. B. All drywells must conform to the City detail. C. All drywells involving petroleum-based materials must include the "ENVIBRO" drainage system or equal. D. Provide a plan showing the location of drywells and a log form for recording ADEQ registration number and field-verified infiltration rate by location. 	
51.	<p>Identify existing drywells and label with ADEQ registration number.</p>	
52.	<p>The following standard details are to be called out or shown on the plans:</p> <ul style="list-style-type: none"> A. When catch basins are located within the right-of-way, the plans shall also specify: <ul style="list-style-type: none"> 1. Storm drain inlet marker per C-508. 2. Curb and gutter transition per MAG Std Dtl 532. 3. Alternate cover for curb-opening catch basins per MAG Std Dtl 536-2. B. Trash rack per C-503 is required for all pipe 12" and larger. Show detail on plans. C. A safety rail in accordance with MAG Std Dtl 145 is required along the top edge of structures adjacent to public pedestrian access ways where the grade difference is 30" or greater. D. Structures which present a fall hazard of 48" or greater shall have a safety rail per MAG Std Dtl 145. 	
53.	<p>Provide the following in accordance with subdivision requirements:</p> <ul style="list-style-type: none"> A. Preliminary plat. B. Final plat. C. Replat or amended plat. D. Minor land division. E. A Standard Owners Policy Preliminary Title Report, no older than 6 months, is required with 	

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	<p>the plat submittal. Submit an updated title report (no older than 30 days) with the mylars for final staff approval.</p> <p>F. ALTA Survey.</p> <p>Note: No building permit will be granted until a required final plat is recorded. No Certificate of Occupancy will be granted until a required Map of Dedication is recorded.</p>	
54.	<p>Provide for review a Phase I Environmental Assessment in compliance with ASTM “Standard for Environmental Site Assessment: Phase I Environmental Site Assessment Process (E-1527-93)”. Submit an original updated Phase I Environmental Assessment, no older than 90 days, naming the City of Chandler as beneficiary, with the plat mylars at the time of final plat approval or at the time of site and improvement plan approval if platting is not a requirement.</p>	
55.	<p>An easement deed (or warranty deed) is required.</p> <p>A. A warranty deed is required for street dedication.</p> <p>B. Please use the City’s form for the warranty deed.</p> <p>C. An easement deed is required; please use City form.</p> <p>D. Submit all deeds and exhibits for review prior to obtaining the owner’s notarized signature(s).</p> <p>E. An easement or warranty deed that is submitted in a format not pre-approved must be approved by the City Attorney.</p> <p>F. A private easement is required.</p> <p>G. Private easement deeds are to be recorded by the owner after City review and a copy of the recorded deed submitted for City file.</p> <p>Note: Warranty deeds are generally not allowed over Maps of Dedication.</p>	
56.	<p>All deeds require, as a minimum, all of the following information and/or exhibits:</p> <p>A. Project name.</p> <p>B. Type of easement/right-of-way.</p> <p>C. The reason or purpose for the easement/right-of-way.</p> <p>D. Vicinity map showing major cross streets.</p> <p>E. Legal description with R. L. S. certification, labeled “Exhibit A”.</p> <p>F. Detailed map as an exhibit showing the</p>	

Item	Requirement	Comments
	<p>easement/right-of-way alignment with dimensions and bearings, true point of beginning, section, township and range, labeled "Exhibit B".</p>	
	<p>G. A Standard Owners Policy Preliminary Title Report no older than 60 days.</p>	
	<p>H. The final submittal for deeds for acceptance and recording by the City's Real Estate Division must be in accordance with the Real Estate Checklist for Processing Separate Instruments.</p>	
57.	<p>The development is within an Airport Impact Overlay District. Please complete and submit an avigation easement form for review for the following airport:</p>	
	<p>A. Stellar Airpark.</p>	
	<p>B. Chandler Municipal Airport.</p>	
	<p>FAA approval per FAA Regulation Part 77 is required. Written approval from the FAA is required prior to City plan approval.</p>	
58.	<p>If one or more of the following wall conditions exist, a separate building permit for wall construction will be required:</p>	
	<p>A. Retaining wall where the finish grade differential is in excess of 48" (4'),</p>	
	<p>B. Screen wall where the maximum exposed height is in excess of 7',</p>	
	<p>C. Retaining wall that supports a surcharge load.</p>	
59.	<p>Submit a utility infrastructure study.</p>	
60.	<p>Show all existing fire hydrants adjacent to the property boundaries.</p>	
61.	<p>The following information is required for existing utility lines in the streets/alleys surrounding the development:</p>	
	<p>A. Location and size of water lines.</p>	
	<p>B. Location and size of sewer lines.</p>	
	<p>C. Location and size of reclaimed water lines.</p>	
	<p>D. Location of power poles.</p>	
	<p>E. Dimensional ties to utility lines being tied into.</p>	

Item	Requirement	Comments
62.	The location of existing potable and reclaimed water meters and water, reclaimed water, sewer, and fire line services to the site must be shown with dimensional ties. The sizes of the aforementioned meters and services must also be shown.	
63.	Provide a water analysis for all domestic meters 3 inches and larger. Meter sizing will be based on AWWA Standards for "Continuous Duty" in GPM.	
64.	Backflow prevention devices are required on the potable water services per City Standard Details and shall be located on private property immediately following the water meter box.	
65.	<p>Domestic water lines:</p> <p>A. All water lines 4" and larger must meet all Public Works Department offsite inspection requirements.</p> <p>B. Refer to the City's <i>Technical Design Manuals 1 & 2 - Water and Wastewater System Design</i> for requirements.</p> <p>C. See "Water Plan Review Checklist" for further requirements.</p>	
66.	<p>Fire lines:</p> <p>A. Refer to the City's <i>Technical Design Manuals 1 & 2 - Water and Wastewater System Design and Fire Department Plan Review Guides and Standard Details</i> for requirements.</p> <p>B. Refer to the requirements of the Fire Department's:</p> <ul style="list-style-type: none"> • Plan Review Guide for Site Plans • Plan Review Guide for Underground Fire Lines. <p>C. Add note:</p> <p style="padding-left: 40px;">All fire line thrust blocks shall comply with N.F.P.A. 24.</p> <p>D. All fire hydrants shall be provided with an "Out Of Service" sign per FD123. The sign shall remain in place until the City accepts the lines.</p> <p>E. Provide a note that fire hydrant operating nut locks (C-304) shall not be installed on private hydrants.</p>	

Item	Requirement	Comments
67.	<p>Sewer lines:</p> <p>A. All sewer lines 8" and larger must be profiles and meet all Public Works Department offsite inspection requirements. Refer to the City's <i>Technical Design Manuals 1 & 2 – Water and Wastewater System Design</i> for requirements.</p> <p>B. All existing and proposed manholes shall be adjusted per C-401 and MAG Spec 345.</p> <p>C. See "Sewer and Reclaimed Water Plan Review Checklist" for further requirements.</p>	
68.	<p>For industrial projects, a waste sampling manhole may be required. Contact Ray Figueroa at (480) 782-3734 for plan requirements.</p>	
69.	<p>Reclaimed water lines are required in the arterial street right-of-way adjacent to this project. Location is 1 ft. off of the right-of-way line with 7 ft. of cover, unless otherwise determined by the City Engineer.</p>	
70.	<p>Improvements are being installed that are eligible for reimbursement. The developer must request, in writing, that a reimbursement agreement be prepared after eligible offsite improvements are completed and accepted.</p>	
71.	<p>Streetlights are required on all streets adjacent to the development; see the City's <i>Technical Design Manual 6 – Streetlight Design</i> for spacing requirements.</p>	

Item	Requirement	Comments
72.	<p>Proposed street light installations must comply with street light standards and must note the following minimum items:</p> <ul style="list-style-type: none"> A. Luminaire size. B. Luminaire mounting height. C. City Standard Detail number for the type of pole. (SL1 for most installations, SL10 for City Center area, SL16 for decorative poles on local streets or collector streets or SL17 where necessary along arterial streets for clearance from overhead power lines.) D. Dimensional ties from the street centerline to the proposed street light. E. Dimensional ties from property corners to the proposed street light. F. Add the following note on the cover sheet: <p style="text-align: center;">The design herein is in conformance with Appendix A/B of the Street Light Standards.</p> 	
73.	<p>If the development site is located on an arterial street, a traffic signal interconnect conduit is required to be installed 6" behind the back of curb and at a depth of 48" minimum below finished grade or top of curb.</p> <p>The conduit shall be 4" PVC with three 1 ¼ " innerduct with ADOT #9 pull boxes at all arterial/arterial intersections and ADOT #7 pull boxes with extension at ¼ mile intervals.</p> <p>See C-200 for location and ADOT Standard Detail T.S. 1-2 for pull boxes. See <i>City Technical Design Manual 4 - Street Design and Access Control</i>.</p>	

Item	Requirement	Comments
74.	<p>If the development site is located at:</p> <p>A) An arterial intersection where median breaks are present, or where the future installation of traffic signals are possible, or</p> <p>B) An arterial–arterial intersection,</p> <p>Traffic signal conduit is required to be installed across the adjacent arterial streets.</p> <p>The conduit shall be 4" schedule 40 P.V.C. with a detectable mule tape, and ADOT No. 7 pull boxes at each end providing a No. 7 with extension in front of the traffic signal cabinet. The pull boxes will be located behind the sidewalk, at the center of the radius.</p> <p>See ADOT Standard Detail T.S. 1-4 for pull boxes. See <i>City Technical Design Manual 4 - Street Design and Access Control</i>. See <i>City Technical Design Manual 5 - Traffic Signal Design</i>.</p>	
75.	<p>Any existing 2" traffic signal conduit and associated pull boxes must be reconstructed per the above requirements in the case of street widening or the installation of a new deceleration lane.</p>	
76.	<p>Any existing 3" transverse traffic signal conduit and associated pull box must be relocated to a location in back of the sidewalk in the case of the installation of a new deceleration lane at the intersection.</p>	
77.	<p>Payment of buy-ins is required before plans can be approved.</p>	
78.	<p>A street cut application must be submitted to the City, and approved by the City Engineer prior to plan approval:</p> <p>A. Please submit application.</p> <p>B. Application is currently under review.</p> <p>C. Application has been denied.</p> <p>D. Application has been approved.</p>	

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	79. Complete and submit the following forms: <ul style="list-style-type: none"> A. Certificate of Area. B. Certificate of Quantities - to be submitted with mylars for final approval. C. Right-of-way/easement dedication forms. D. Waste Water Discharge Questionnaire. E. Offsite Construction Estimate (for Performance Bond purposes). F. New Non-Residential Water Use Plan. 	

Return prior plan comments and checklist with subsequent submittals.

City Use Only
1. Buy-ins paid?
2. Zoning code landscaped area in front?
3. Review by city service supervisors needed?
4. Reimbursement Agreement
<ul style="list-style-type: none"> A. Required B. Prepared