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Administrative Services



OC Development



OC Facilities Design & Construction Management



OC Facilities Maintenance & CUF



OC Fleet Services



OC Construction



OC Environmental Resources



OC Operations & Maintenance



OC Infrastructure Programs



OC Survey



This checklist is intended to be used for **Street Improvement Plan** applications for projects located within the Ranch Plan Planned Community and processed through Land Development under a Reimbursement Agreement (RA). Plans must be submitted via the Land Management System (LMS) at: https://myOCeServices.ocgov.com

The following basic documents are required to apply for a street improvement permit; additional information may be required by the OC Building Official based on individual project conditions.

Street Improvement Plan Submittal Requirements - RMV Backbone Only (Commercial & Multi-family Projects Case by Case Determination)

- Permit Application Provide an electronic copy of completed application via https://myOCeServices.ocgov.com
 - a. **Description** Clearly describe the entire project proposal and scope of work consistent with the submitted plans.
 - b. **Financially Responsible Party (FRP)** Designate a FRP and an active trust account. FRP shall match the owner of the trust account provided in the application.
 - c. **Other Approvals/Related Permits** List all other related, previous and concurrent, applications and permits.
- 2. Notarized Agent Authorization Letter
- 3. Concurrent Processing Letter
- 4. **Street Improvement Plan** Plans must be stamped and signed by the licensed Engineer.
- 5. **Plan Check Deposit** Provide initial deposit required at the time of submittal for plan check. Refer to RA plan check deposit schedule.
- 6. **Bond Estimates** Provide Engineer's Quantity Take-off / Construction Cost Estimate for private and public improvements
- 7. **Sewer, Water and Recycled Water Improvement Plans for Reference Only** Draft plans are acceptable during plan check. Approved plans by Santa Margarita Water District (SMWD) are required for final plan check and approval.
- 8. **Fire Master Plan for Reference Only** A copy of approved Fire Master Plan shall be attached to the final street improvement plan set for signature.

Supporting Documents

- 9. Geotechnical Report
- 10. Hydrology and Hydraulic Report
- 11. Water Quality Management Plan (WQMP)
- 12. Deviation Request Letter See Attachment 1 for details.
- 13. Structural Design and Calculations
- 14. Copy of Final Tract or Parcel Map for reference only
- 15. Copy of corresponding Grading, Storm Drain and Utility Plans for reference only

NOTE: All supporting documents that are concurrently being submitted and reviewed are subject to plan check under each separate permit. Comments made on other plans may affect these plans and require design modifications/responses.

Street Improvement Plan Review Checklist

Project Title:									
Permit No.:		Checked	d By:						
Tract/PM No.:		Checked Date:							
		PLAN (CHECK		00151577777				
DESCRIPTION	1st	2nd	3rd	4th	COMMENTS				
General			'						
Review conditions of approval for tentative tract/parcel maps and other related permits for special conditions, approved deviations, and modified OCPW Standards, etc.									
Caltrans right of way requirements and standards implemented, if necessary. – Provide a copy of Caltrans submittal plans for coordination purposes only.									
All sheets in the final plan set must have signatures and stamps by a licensed engineer.									
Drafting									
Refer to OCPW CAD Standards Manual for drafting requirements.									
Sheet size, scale and margin									
Border & title block									
Revision block									
Signature blocks (Engineer, Traffic Engineer, OCPW, Sewer and Water Agency, etc.)									
All sheets must be labeled consecutively, "Sheet of" in the lower right corner.									
Use of standard symbols									
1. Title Sheet									
Project title and description									
 Be consistent with referenced conditions of approval Identify tract, planning area/subarea 									
Index of sheets									
Benchmark									
Basis of bearing									
Vicinity and Location maps									

DESCRIPTION		PLAN (CHECK		COMMENTS
DESCRIPTION	1st	2nd	3rd	4th	COMMENTS
Legal description					
General notes					
Legend of abbreviations and symbols					
Approved Deviations and Alternative Development Standard - Deviations to meet County ordinance section 6-2-13					
Funding source and agreements					
Identify maintenance ownership					
Utility contacts and phone numbers					
Quantity take-off, verify quantities with Bond Estimate					
Developer/Owner name & contact info					
Dig alert					
Subject permit number and related permit/application numbers					
Conditions of approval of associated tract(s) concerning street improvements					
Licensed engineer's stamp and signature, company, address, and date on plans.					
 Index/Key map Utility lines in streets Numbers of adjacent tracts Lot configuration and lot lines Final tract boundaries Street names Scale North arrow Identify limits of each plan sheet City, County, or other jurisdictional limits 					
2. Plan Sheet: Plan View					
Typical street cross-sections per OCPW Standard plan and to match with the approved tentative tract map. Check the followings, but not limited to: R/W width number of lanes lane widths grades median shoulder width sidewalk width parkway width, etc.					

DEGGDYDETON		PLAN (CHECK		GOVE TINE
DESCRIPTION	1st	2nd	3rd	4th	COMMENTS
North arrow points to top or right of sheet.					
Existing improvements shown dashed with all plan reference - file numbers noted					
Improvements to be constructed: 1. Proposed paving shown shaded 2. Joins					
Street, alley and easement labeled and dimensioned – indicate "public" or "private" where applicable					
 Stationing: All stationing should refer to the centerline of street, unless otherwise noted. Stationing to read from left to right on sheets and run from south to north or west to east. Label major stations with tick marks at every 50-ft along the centerlines. Negative stationing is not allowed. Stationing to match stationing established by earlier plans (i.e. streets that are part of a larger improvement) 					
Station equations at all intersections					
Centerline bearings of all streets and alleys					
Centerline curve data table					
Bearing and distance					
Curb return - BCR and ECR					
Curb, gutter and sidewalk					
Existing facilities					
Proposed storm drain					
Driveways					
Access ramps at all intersections, with type no. per SP1115. Provide individual ramp details specific to each site location, including grades, distances, elevations, etc.					
Local depression details – a modified depression is required for inlets in raised medians.					
Special paving details (i.e. patterned stamped concrete at turnarounds, guard gates, private entries, etc.)					
Sidewalk drain type per SP1309					

DUGGDIDWIGH		PLAN (CHECK		
DESCRIPTION	1st	2nd	3rd	4th	COMMENTS
Landscaped Medians per SP1114 1. Determine that maintenance has been provided.					
 Check for median drains. Check for proper drainage – show proposed contours on plan view. 					
Check intersections for cross-gutters and landing pad profile.					
Cross gutter is not allowed in Collector Street.					
Match line and sheet reference					
Property lines					
Lot numbers/letters					
City, County, or other jurisdictional limits, where applicable					
Limits of construction					
Construction notes					
OCPW Standard Plans referenced					
Maintenance responsibilities to be identified – "Private" or "Public" delineation at ROW.					
3. Profile	l		I		
Scale: • Horizontal (1" = 20' typ., or 1" = 40') • Vertical (1" = 4' typ., or 1" = 8')					
Datum at both edges of sheet					
Centerline profile					
Top of curb profiles					
Label existing ground (dashed line)					
Label proposed finished surface with grade in percent (solid line)					
Channel, ditch, and gutter grade lines with grade in percent					
Stationing to increase from left to right of sheets and noted at bottom of profile grid (100-ft interval) – align stationing for Plan and Profile.					
Station: 1. At all BC, EC, PRC, and PCC 2. At all grade breaks and equations 3. At beginning and end of bridge					

DUGGDYDWYCYY		PLAN (CHECK		GOLGLEDATEG
DESCRIPTION	1st	2nd	3rd	4th	COMMENTS
Elevation to be noted at each edge of profile grid (5- or 10-foot intervals)					
Elevation:					
 At each edge of major grid lines At all BVC, EVC, PRVC, and PCVC, equations, BCR, ECR and quarter-delta points At beginning and end of bridge At every 100-ft station and all intersections 					
All grades noted at grade breaks with grade in percent, beginning and end of vertical curves, and point of intersections (PI)					
Grades on existing E.P. at all joins to existing improvement.					
Insert standard symbol for grade breaks (circle)					
Vertical curves are required for grade breaks greater than 0.5%.					
Vertical curve lengths & PI elevations					
Street centerline and name where it crosses profile					
Super-elevation transition diagram (above corresponding profile) – Check for crown runoff, transition, rate, 1/3 and 2/3 L.					
Check profile for minimum grade (1% at flow lines) and maximum grades.					
Check for drainage at low points.					
4. Bikeways					
Located per tentative tract map					
Graded width and striping per OCHDM					
Check for clearance from any fixed objects					
Verify 18" min. clear from curb face					
Provide min. clear recovery zone if no curb or on high speed roads, or provide appropriate protection (i.e. guardrail, barrier, crash cushion, etc.) to meet the County requirements.					
Indicate maintenance agreements / responsibility (O&M)					
5. Traffic Index and Structural Section					
Use OC TI Handbook methodology					

DUGGDIDWOON		PLAN (CHECK		CONTINUE
DESCRIPTION	ıst	2nd	3rd	4th	COMMENTS
Use OC traffic generation rates					
Document sources of Arterial and Collector traffic volumes					
TI's shown on map					
Collector/Local St. TI > 5.0, use 20-yr design					
R value sample points shown on map					
R value results documented					
Minimum section (Table 605.1B)					
Ratio AC/AB > 0.25					
Check street sections to match the Geotechnical report.					
Check horizontal alignment for proper design speed, B.C.'s, E.C.'s, bearings and intersection sight distance, etc.					
Check vertical alignment for proper design speed, stopping sight distance, lengths of vertical curves, etc.					
Minimum tangent between reversing curves on arterial highways, 400-ft					
Verify that a proper transition from the higher classification arterial highway is provided if the highway changes classification.					
6. Street Lights and Lumens					
General					
Refer to OCPW SP1411 for street light requirements.					
 All lights shall be HPSV or equivalent LED. Place on alternating sides of street spacing May be up to 110% of SP spacing Spacing > 110% of SP spacing, Add a light pole 					
Local and Collector					
 Locate at property line or at ECR 5,800 lumen HPSV light Spacing of poles at 300 feet Do not place on local/collector islands 					
Special Locations 1. At throat of cul-de-sac 2. At knuckle at outside PL (preferred) or inside BCR					

Phagpipmon		PLAN (СНЕСК		GOLDANIA
DESCRIPTION	ıst	2nd	3rd	4th	COMMENTS
Intermediate Lights 1. Uniform spacing between spec locs and intersections					
Roundabouts 1. RT ECR for entering traffic 2. RT ECR for exiting traffic					
Arterials					
Intersections 1. 3-way with Local: 1 light - 22,000 lumens at stem 2. 4-way with Local street: 2 lights - 22,000 lumens at ECRs on arterial 3. Intersection of two (2) Arterial: 4 lights - 30,000 lumens at ECRs					
Intermediate 1. Uniform spacing between intersections 2. On alternating sides of streets a. Secondary 16,000 lmn. at 200 ft b. Primary 16,000 lmn. at 200 ft c. Major 22,000 lmn. at 200 ft					
Intermediate in median (uniform between Int.) 1. Primary dbl 9,500 lmn. at 200 ft 2. Major dbl 9,500 lmn. at 180 ft					
List quantity of light poles installed per street within County ROW (O&M)					
7. Traffic Signal					
Check for traffic signal conduits and pull boxes at intersections where developer is required to design and construct or provide a cash deposit for a future signal.					
8. Striping and Signage					
Striping and signage requirements per OC Standards and Manuals, and CA MUTCD					
Street name sign per SP1407					
Check for consistency with fire master plan					
Check for consistency with street imp. plans (e.g., total street width, etc.).					
Check for special conditions (e.g. bike lanes, NEV markings, etc.)					
9. Miscellaneous					

DESCRIPTION		PLAN (CHECK		COMMENTS
DESCRIPTION	1st	2nd	3rd	4th	COMMENTS
Plan check, inspection and bond amount fee calculations should generally be performed on the second submittal. Note: Use County Bond Estimate Form					
Verify that additional right-of-way, to the back of curb return, is provided where private streets intersect public streets for pedestrian crossing.					
Ensure that adequate pedestrian facilities are provided, including condominiums and apartments, and provide a minimum 4' clear sidewalk (may require meandering around fire hydrants, street signs, bus benches, etc.)					
Maintenance agreements / O&M manuals for basins (O&M)					
Check Attachment 2 - "Regulation Compliance Matrix" for conditions that may be applicable to the street imp. project.					

Reviewed By:	
Printed Name:	
Date:	
Company:	

Attachment 1

Deviations/Design Exception Requests

The Deviation/Design Exception Request (Request) documents engineering decisions leading to the approval of each exception to a design standard. It is essential that adequate records are prepared and preserved to document such decisions and approvals. The engineer of record must identify proposed nonstandard design features, prepare a Deviation/Design Exception Request for review and resolve all plan check comments to the satisfaction of County staff. If all comments are satisfied, the Request may then be circulated for approval by the Director of Public Works or the person to whom approval authority has been delegated. The Request must contain the following information:

- Cover Sheet (will contain approval signatures and engineer's stamp)
- **Project Description**
- Existing conditions (not applicable in this case)
- Proposed work and nonstandard features describe work to be done and nonstandard design element that required the exception
- Standard for which the exception is required be specific, name the source (County Standard from which the deviation is requested)
- Accidents (if applicable)
- Design year traffic volumes 20 year forecast (if applicable)
- Description of any additional work to enhance safety mention any additional work which would qualify for safety enhancement such as slope flattening, super correction, elimination of roadside obstacles, etc.
- Reasons for requesting exception- be thorough but brief (land form configurations, value engineering and character of the community are not acceptable engineering reasons)
- Provide scaled drawings, technical documents and/or other exhibits to assist in reviewing the request
- Provide cross sections and/or special details to clearly illustrate the proposed condition for each location that does not meet the standard
- Letters, resolutions, traffic study summaries, etcetera should only be attached if requested
- The Request shall be signed and stamped by the Engineer of Record

Attachment 2

Regulation Compliance Matrix

See the next pages.

REGULATION COMPLIANCE MATRIX

Item No.	Cross Reference Column	Source	Condition, Mitigation, Public Benefit or Entitlement Provision	Timing	Subject	Keywords	Title	Requirements or Entitlement Provisions	Reviewing / Approving Authority (Advisory Agency in Parentheses)	Form of Compliance	Guidance for Compliance	Area Application
121.2	122-124 (MM 4.9 22)		MM 4.9-22 (cont.)	Prior to completion of a Project Report for Cow Camp Road	Biological Resources	Cow Camp Road, Wildlife Movement	Roadway Design to Facilitate Wildlife Movement	Prior to completion of a Project Report for Cow Camp Road, the applicant shall demonstrate to the satisfaction of the County's Director, OC Planning or his/her designee that the design for the specified portions of Cow Camp Road includes the following features to facilitate wildlife movement: (see Items 122-124 below)	Director, OC Planning	Approval of a Street Improvement Plan demonstrating the design for Cow Camp Road includes features to facilitate wildlife movement	121.2 has been added to differentiate compliance between F Street (previously Cristianitos Road) and Cow Camp Road	
124.1	121-123 (MM 4.9 22)	EIR 589	MM 4.9-22 (cont.)	Prior to completion of the Project Report for F Street issuance of a Grading Permit for construction of Cristianitos Road and	Biological Resources	F Street, Cristianitos Road, Wildlife Movement	Lighting on F Street Bridge (Wildlife Movement)	All lighting on the bridge, if required for public health and safety, shall be shielded to prevent spill-over effects.	Director, PDS Director, OC Planning	Project Report for F Street	Project Report for F Street shall include sufficient detail to demonstrate that lighting of bridge(s) will prevent spill- over effect, thereby facilitating wildlife	PA-2-8 and 10
124.2	121-123 (MM 4.9 22)		MM 4.9-22 (cont.)	Prior to completion of a Project Report for Cow Camp Road	Biological Resources	Cow Camp Road, Wildlife Movement	Camp Road	All lighting on the bridge, if required for public health and safety, shall be shielded to prevent spill-over effects.	Director, OC Planning		Project Report for Cow Camp Road shall include sufficient detail to demonstrate that lighting of bridge(s) will prevent spill- over effect, thereby facilitating wildlife	PA-2-8 and 10

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140	141 (MM 4.9-28) 515 (ROSA Exhibit G)	EIR 589	MM 4.9-28	Prior to the issuance of building permits on streets fortracts with public street lighting adjacent to RMV Open Space habitat areas	Biological Resources	Open Space habitat, light shields	Streetlight Shielding Adjacent to Open Space	Lighting shall be shielded or directed away from RMV Open Space habitat areas through the use of low-sodium or similar intensity lights, light shields, native shrubs, berms or other shielding methods.	Director, PDS Director, OC Planning	Preparation of a lighting plan	Preparation of street improvement plans for public streets that detail how street lighting is to be directed away from RMV Open Space areas	Each Applica ble PA
141	140 (EIR 589, MM 4.9-28)	EIR 589	MM 4.9-28 (cont.)	See above	Biological Resources	Light shields, street improvement plans	Streetlight Shielding Verification	a. Prior to the issuance of building permits for a tract with public street lighting adjacent to RMV Open Space habitat areas, the County of Orange shall verify that measures to shield such lighting have been incorporated in the street improvement building plans.	Director, PDS Director, OC Planning	Preparation of building plans in compliance with lighting measures		Each Applica ble PA
515	140 (MM 4.9-28)	Resource Organ- izations Settle- ment Agree- ment	Exhibit G (cont.)	Prior to the issuance of building permits for tracts adjacent to PA-8 Open Space	Planning Area 8 Edge Requirements (cont.):		Edge	4. Lighting: Lighting shall be shielded or directed away from Defined Open Space through the use of low-sodium or similar intensity lights, light shields, native shrubs, berms or other shielding methods (also see Program EIR 589, Mitigation Measure 4.9-28, Item 140)		RMV: Develop and implement lighting plan	Preparation of street improvement plans for public streets that detail how street lighting is to be directed away from RMV Open Space areas	PA-8
545		EIR 589	SC 4.6-3	Prior to the recordation of a Subdivision Map	Private Street Improvements:		Private Street Improvements:	Prior to the recordation of a subdivision map, the subdivider shall place a note on the map, in a manner that meets the approval of the Manager, Subdivision and Grading Services, that states: "The private streets constructed within this map shall be owned, operated and maintained by the developer, successors or assigns. The County of Orange shall have no responsibility therefore unless pursuant to appropriate sections of the Streets and Highways Code of the State of California, the said private streets have been accepted into the County Road System by appropriate resolution of the Orange County Board of Supervisors. (County Standard Condition, TO2)	County of Orange Director of Planning & Development Services, Director, OC Planning	Verification of a note on the Subdivision Map	Note shall make statement listed in quotations in condition.	Each PA

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546		EIR 589	SC 4.6-4	Prior to the recordation of a Subdivision Map	Street Improvements (cent.) :		Street Improvements (cont.):	Prior to the recordation of a subdivision map, the subdivider shall design and construct (or provide evidence of financial security, such as bonding) the following improvements in accordance with plans and specifications meeting the approval of the Manager, Subdivision and Grading: (County Standard Condition T04)	Director, OC	, ,	If applicable, bonding may substitute for construction of each of the required improvements.	Each PA
546.1		EIR 589	SC 4.6-4 (cont.)	See above	Street Improvements (cont.):		Street Improvements (cont.):	A. Streets, bus stops, on-road bicycle trails, street names, signs, striping and stenciling. (County Standard Condition T04)	See above	See above	See above	Each PA
546.2		EIR 589	SC 4.6-4 (cont.)	See above	Street Improvements (cont.):		Street Improvements (cont.):	B. The water distribution system and appurtenances shall also conform to the applicable laws and adopted regulations enforced by the County Fire Chief. (County Standard Condition T04)	See above	See above	See above	Each PA
546.3		EIR 589	SC 4.6-4 (cont.)	See above	Street Improvements (cont.):		Street Improvements (cont.):	C. Underground utilities (including gas, cable, electrical and telephone), streetlights, and mailboxes. (County Standard Condition T04)	See above	See above	See above	Each PA
549		EIR 589		Prior to the recordation of a Subdivision Map	Traffic Signal Conduit:		Traffic Signal Conduit:	Prior to the recordation of a subdivision map, the subdivider shall install (or provide evidence of financial security, such as bonding, that) all underground traffic signal conduits (e.g., signals, phones, power, loop detectors, etc.) and other appurtenances (e.g., pull boxes, etc.) needed for future traffic signal construction, and for future interconnection with adjacent intersections, all in accordance with plans and specifications meeting the approval of the Manager, Subdivision and Grading. (County Standard Condition, 108)		Approved traffic signal plans with verification of subsequent installation	If applicable, bonding may substitute for construction of each of the required improvements.	Each PA
550		EIR 589	SC 4.6-8	Prior to the recordation of a Subdivision Map or prior to the issuance of Building Permits, whichever occurs first	Internal Circulation:		Internal Circulation:	A. Prior to the recordation of a subdivision map or the issuance of any building permits, whichever occurs first, the subdivider shall provide plans and specifications meeting the approval of the Manager, Subdivision and Grading, for the design of the following improvements: (County Standard Condition T12)	County of Orange Director of Planning & Development Services, Director, OC Planning	Submittal of satisfactory street improvement plans		Each PA

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550.1		EIR 589	SC 4.6-8 (cont.)	See above	Internal Circulation (cont.):		Internal Circulation (cont.):	Internal street common private drive system. (County Standard Condition T12)	See above	See above		Each PA
550.2		EIR 589	SC 4.6-8 (cont.)	See above	Internal Circulation (cont.):		Internal Circulation (cont.):	2) Entrance to the site to emphasize that the development is private by use of signs and other features. (Standard Condition of Approval T12)	See above	See above		Each PA
550.3		EIR 589	SC 4.6-8 (cont.)	Prior to the recordation of Subdivision Map.	Internal Circulation (cont.):		Internal Circulation (cont.):	B. Prior to the recordation of a subdivision map, the applicant shall construct (or provide evidence of financial security, such as bonding) the above improvements in a manner meeting the approval of the Manager, Construction. (County Standard Condition T12)	County of Orange Manager of Inspection, Manager, OC Inspection Division	improvements' construction in SC 4.6-8A	If applicable, bonding may substitute for construction of each of the required improvements.	Each PA
550.4		EIR 589	SC 4.6-8 (cont.)	Prior to the issuance of Building Permits	Internal Circulation (cont.):		Internal Circulation (cont.):	C. Prior to the issuance of any building permits, the subdivider shall provide plans meeting the approval of the Manager, Subdivision & Grading, for the design of the internal pedestrian circulation system within the development. (County Standard Condition T12)		Submittal of satisfactory internal pedestrians circulation plans		Each PA
551		EIR 589	SC 4.6-9	Prior to the recordation of a Subdivision Map	Traffic Signal Maintenance Easement:		Traffic Signal Maintenance Easement:	Prior to the recordation of a subdivision map, the subdivider shall dedicate a signal maintenance easement to the County of Orange at the project site access, in a manner meeting the approval of the Manager, Subdivision and Grading. (County Standard Condition T13b)	County of Orange Director of Planning & Development Services,	Submittal of offer(s) of dedication for signal maintenance easement(s)		Each PA
552		EIR 589	SC 4.6-10	Prior to the recordation of a Subdivision Map	Traffic Signal Installation:		Traffic Signal Installation:	Prior to the recordation of a subdivision map, the subdivider shall design and	County of Orange Director of Planning & Development Services, Director, OC Planning	Verification of approved street improvement plans with subsequent installation of improvements or enter into agreement with County for construction (with appropriate financial	If applicable, bonding may substitute for construction of each of the required improvements.	Each PA