

	MAPS CHECKLIST	1st Check	2nd Check	3rd Check	Comments
A.	Map Content				
	1. Conforms to General Requirements in regard to material, size, Placement of information, statements, etc.				
	2. Map number and subtitle legal description (includes section, township, range)				
	3. North arrow, properly oriented, scale, and bar scale				
	4. Vicinity Map				
	5. Sheets numbered, " Sheet _of_ "				
	6. Community Development Department COAs approval on file				
	7. Map conforms to approved tentative map				
	8. Number of lots				
	a. gross/net areas				
	b. Buildable lots numbered, highest lot number circled				
	c. No duplicated lot numbers, no omitted lot numbers				
	d. Unbuildable lots lettered, no duplications, no omissions				
	9. Dedications shown				
	10. Street names-lettered until approved by the City				
	11. Street names conform to approved street name list and names on map agree with names on improvement plan				
	12. Street widths and center lines shown				
	13. Distinctive border line				
	14. Basis of bearing				
	15. Symbols and linetypes per City Stds. MVSI-010A-0 through MVSI-010D-0				
	16. Curve Data table				
	17. Environment Constraint Sheet (when required)				
	18. Shown at upper left hand corner number of lots, number of letter lots, and total gross acres				
B.	Fees to be paid per COAs				
	1. RCFCWCD Fee (need Area Drainage Plan receipt)				
	2. Development Impact Fee (DIF)				
	3. TUMF Fee				
	4. Regulatory rate mail ballot proceeding				

	MAPS CHECKLIST (continued)	1st Check	2ⁿ Check	3rd Check	Comments
C.	Research				
	1. Vesting deed; of portion of lot, check for:				
	a. Legality (deed prior to March 4, 1972)				
	b. Certificated of Compliance				
	c. Lot Line Adjustment				
	d. Prior Rights				
	2. Title Report- Less than 30 days old				
	3. Adjacent properties				
	a. Maps-Recorded or in checking process				
	b. Record of Survey				
	4. Dedications by separate instrument				
	5. Utility company easements				
	6. Common access agreements				
	7. Other legal documents:				
	a. Record Maps				
	b. Unrecorded maps				
	8. Road dedications along MB 11/10 boundary (yes/no)				
	9. Corner record files/tie books				
	10. Check project location against 5-Year Plan for Arterial Street Pavement Rehabilitation and Preservation exhibit				
	11. Check project location against 5-Year Plan – Citywide Local Streets Pavement Rehabilitation exhibit				
D.	Statements				
	1. Owner(s) statement and title				
	a. Dedications (street & drainage)- Check map book for status of existing right-of-way				
	b. Easements – landscape, drainage, sewer, multi-use trails				
	c. All parties having any record title interest in property (trustees, lessee) must sign under owner’s certificate				
	d. Verify that private easements and private lots are retained by the owner, for the future benefit of the owners assignees, beneficiaries, successors, etc.				
	2. Notary acknowledge and title (one for each of the above)				
	a. Notary expiration date				
	b. Name(s) same as above				

MAPS CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
	c. Correct type of acknowledgement				
D.	3. Signature omissions and title				
	a. Check against title report				
	b. Reason for omission per Subdivision Map Act, Sec. 66436				
	4. Trustee				
	5. Surveyor's Statement				
	6. City Surveyor's Statement				
	7. City Engineers Statement				
	8. City Clerk Statement				
	9. Tax Collector's Certificate				
	12. Tax Bond Certificate				
	13. Soils Report (Tract Maps Only)				
	14. County Recorder- Block upper right corner				
	15. Guarantee Title Insurance – upper right corner				
E.	Conditions				
	1. Conforms to Community Development Department approval				
	a. Roads				
	b. Flood				
	c. Health				
	2. Non-interference (will serve) letters from public utility companies received:				
	a. Cable company(ies)				
	b. Gas Company				
	c. Eastern Municipal Water District/BSMWD/ECSD				
	d. MVU				
	e. Southern California Edison				
	f. Verizon				
	3. Legal access: plot when practical; check for barrier strips				
	4. Fire protection (clearance received)				
	5. Improvements required-Yes/No				
	6. Improvements completion guarantee (bond/security) required-Yes/No				

	MAPS CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
F.	Miscellaneous				
	1. Adjacent subdivision and lot or parcel lines shown				
	2. Existing street names shown				
	3. Lettered lots on street, alleys, barrier strips and HOA common lots such as open space, vegetated swales, and water quality basins.				
	4. Vicinity map shows approximate distance to publicly maintained road/street				
	5. Recorded dimensions				
G.	Survey Procedure				
	1. Proper Control				
	g. Basis of bearings and closures (placed in binder)				
	h. Proper centerline control on all City/County roads				
	i. Boundary surveyed per vesting deed				
	j. All monuments set were established from sufficient monuments of record				
	k. Procedure for all government corners restored				
	l. Procedure for all lot and subdivision corners restored				
	m. Procedure for all deed lines established				
	n. Lot Closures				
	o. Street Closures				
	p. Overall boundary closures				
	q. Overall bearings and distances				
	r. Curve data				
	s. Radial bearings				
H.	References				
	1. Monuments of adjoining surveys recovered				
	2. Proper ties and reference made to monuments of adjoining surveys				
	3. Found monuments ,if no reference used by surveyor, should be "Accepted as.....", and described as to position				
	4. If monument is untagged and used for control, it should be Tagged/Establish by a licensed land surveyor per Std. Plans MVSI-170A-0 through MVSI-170E-0.				
	5. Line used as the Basis of Bearing shall have two (2) know points (monuments).				

	MAPS CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
H.	References (continued)				
	6. Describe sectional location of all points when applicable				
	7. Proper ties and references for found monuments				
I.	Computation				
	1. Accumulative and total distance				
	2. Curve Data				
	a. Radial bearings, to all intersecting lines				
	b. Radius, length, delta, and tangent on centerline				
	c. Delta and length on side lines				
	3. Corner cutbacks				
	a. Out distances along centerline				
	b. Cutback bearing and distance				
	c. Right-of-way distances				
	4. Boundary closure Basis of Bearing closure/description of street closure /description report				
	5. Breakdown of larger area				
	6. Lot closures-numbered and lettered lots				
	7. Lot areas- all lots are to show square-footage				
	8. Total gross area, in engineer/surveyor notes				
	9. Monument inspection fees, if monuments have been set				
	10. If monuments not set, monument cost to be included in Estimate of cost for bond purposes				
	11. Improvements:				
	a. Completed, or				
	b. Bond required				
J.	Submission of Original Map for approval and City signatures				
	1. Original is free of erasures, spots, creases, stick-ons				
	2. Zone Change required?				
	a. Approved prior to recording				
	b. Application prior to recording				

	MAPS CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
K.	Submission of Original Map for approval and City Signatures (continued)				
	1. Check signatures (proper ink?)				
	a. Surveyor-LS or RCE number (check current roster for authorization)				
	b. Owners, including trustee or beneficiary, of applicable, same as vesting deed				
	c. Lessee or easement holder(of interest can ripen into fee), same as vesting document				
	2. Notary:				
	a. Proper acknowledgement				
	b. Signature				
	c. Notary's expiration date				
	3. Area Drainage Plan Fee Paid				
L.	Geological clearance, when applicable				
M.	Health Department clearance, when applicable-data print submitted				
N.	Caltrans clearance, when applicable-data print submitted				
O.	Railroad clearance, when applicable				
P.	"Final Map Clearance" roster signed off				
Q.	Improvements				
	1. Plans approved by City engineer and all other affected agencies or divisions				
	2. Agreements for Public Improvements and securities in standard format (or in special format approved by City Attorney) have been submitted				
R.	Schedule final approval of map and acceptance of agreement and security for City Council agenda (Date: _____)				
S.	Environmental Constraint Sheet, if needed				

	TITLE SHEET CHECKLIST - REQUIRED FOR EACH TYPE OF IMPROVEMENT PLANS SUBMITTED	1st Check	2nd Check	3rd Check	Comments
A.	Title block per General Requirements (City Std. MVSI-168A-0)				
B.	Vicinity map				
	1. North arrow (matching index map) and scale (N.T.S. ok)				
	2. Arterial streets shown and shown connecting to the nearest Hwy/Freeway				
	3. Project location called out				
C.	Title sheet for each type of plan set shall have an Index map showing the following items				
	1. North arrow, properly oriented				
	2. Street configuration within project limits				
	3. Map exterior boundary and lot boundaries, or single lot exterior boundary				
	4. Lot configurations				
	5. City limit and/or county limit lines, if adjacent to tract or parcel				
	6. Street name(s)				
	7. Street lights				
	8. Existing and proposed sewer, water and storm drain lines				
	9. Scale with bar scale (between 1" = 100' and 1" = 500')				
	10. Sheet coverage with sheet number shown				
D.	Basis of bearings (bearing and source)				
E.	Benchmark - Riverside County Standard, description/location, date year of adjustment), and full elevation to three decimal places				
F.	Name, address and telephone number of the owner/developer				
G.	Name, address and telephone number of the soils engineer				
H.	Name, address and telephone number of the archeologist and the paleontologist firm(s), if applicable				
I.	Name, address, telephone number and the contact name for any and all public agencies involved in the project				
J.	Utility company contacts and telephone numbers				
K.	Notice to Contractor per City Std. MVSI-168A-0				
L.	Legal description				
M.	Underground Service Alert (USA) phone number				
N.	All general notes (City Stds. MVSI-166A-0, MVSI-166B-0, MVSI-166C-0, & MVSI-166D-0 (if applicable)). Any additional notes by the E.O.R. are to be labeled as "Special Notes."				

	TITLE SHEET CHECKLIST - REQUIRED FOR EACH TYPE OF IMPROVEMENT PLANS SUBMITTED (continued)	1st Check	2nd Check	3rd Check	Comments
O.	The "Declaration of Engineer of Record"				
P.	Engineer of Record's signature, stamp and date in appropriate block on originals				
Q.	FEMA flood zone designation and flooding boundary				
R.	Mylar Submittal				
	1. Text height 0.10" minimum				
	2. Sheet x of y (all sheets included and consecutively numbered)				
	3. Title/phase at top/center of sheet				
	4. Legend (include all used symbols, line types, and hatches)				
	5. Abbreviations				
	6. Include all construction notes with quantities. Separate out public and private.				
	7. Cubic yards of C/F for grading plans				
	8. City I.D. number in bottom right corner filled in.				
	9. Include sheet index				
	a. Include City planning case number (PAXX-XXXX, PXX-XXX), map number (TM or PM number, if applicable), type of plan (RGP, PGP, Street, Storm Drain, etc.), sheet purpose (ex. "title sheet"), APN/Address (if custom home)				
S.	Hanging Tabs on approved/signed Mylars (Except EMWD and Sewer Plans)				

MASS GRADING PLAN CHECKLIST		1st Check	2nd Check	3rd Check	Comments
A.	Title block per General Requirements, Section I				
	1. Storm Water Pollution Prevention Plan (SWPPP) must be submitted to the State Water Resource Control Board. Show WDID # on title sheet.				
B.	Title sheet shall show the following items:				
	1. North arrow, properly oriented, vicinity map, index map				
	2. 4" bar scale, 1"=40' or larger for large project and 1"=20" for smaller project, unless otherwise prior approved (no odd number scales)				
	3. Show adjacent record map references				
	4. Map exterior boundary and lot boundaries, or single lot exterior boundary. (complete boundary information, lot numbers, easements, and lot line annotations)				
	5. Lot Configurations				
	6. City limit and/or county limit lines, if adjacent to tract or parcel				
	7. Dimension street and right-of-way widths, existing and proposed				
	8. FEMA flood zone designation and flooding boundary				
	9. Stamped and signed by Soils Engineer with soils statement				
	10. Show all earthwork quantities, including cut, fill, remedial, import, and export				
	11. Show Emergency Contact numbers on Sheet 1				
C.	Non-interference (will serve) letters from public utility companies received:				
	a. Cable company(ies)				
	b. Gas Company				
	c. Eastern Municipal Water District/BSMWD/ECSD				
	d. MVU				
	e. Southern California Edison				
	f. Verizon				
D.	Detail Sheet(s)				
	1. Mass grade, depth and all changes in slopes. (Shown "not a part" areas)				
	2. Typical grading details				
	3. Show wall sections. Do not show rebar (add: "Walls Constructed under separate permit"). Submit wall designs to Building & Safety.				
	4. Show proposed sub-drainage system, drain connection to underground facilities or acceptable drainage outlet				

MASS GRADING PLAN CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
	5. Details of any on-site drainage structures, surface protections, etc., shall be shown on the plans				
	6. Details of all structures not standard of Moreno Valley, RCFCWCD, or Caltrans. For manufactured products, submit separate Specification literature. Include manufacturer's model number's number on plans.				
	7. Include construction notes and quantities. Show applicable "Notes" on each sheet where callout is used.				
E.	Plan Sheets				
	1. See design policy, City Stds. MVSI-160A-0 and MVSI-160B-0				
	2. Existing contours shall be shown in screened and dashed line types at the following intervals:				
	a. Show existing contours a minimum of 50' beyond all property lines, or as needed for daylight, or to show the connection to adjacent property supporting the design				
	b. 2' maximum contour interval in flat areas and 10' maximum on steep slopes				
	c. Show spot elevations in very flat areas to support contours				
	d. Exist contour elevations and spot elevations in parenthesis				
	3. Show proposed contours in heavy, solid lines. Match contour intervals for the required existing contours				
	4. Show dirt elevations to the nearest 0.1'				
	5. Show pad elevations to the nearest 0.1'				
	6. Show spot elevations on existing structures near property lines, i.e. sidewalk, walls (TW/TF), building, etc.				
	7. Minimum rates of grade for earth or turf swales is 1.0% minimum. Show flow line grades at the beginning, end, and at 100' intervals				
	8. Join existing elevations/contours and show relationships to surrounding properties				
	9. Top of slope swales shall be a minimum of 4' wide and shall have a 12" high berm				
	10. Show limits of grading, daylight lines, and cut/fill transition lines				
	11. No drainage over slopes. See CBC A33 for terrace drainage requirements and the City grading ordinance				
	12. All slopes and fill areas shall be shaded				

MASS GRADING PLAN CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
13.	Mass Grading Plan’s erosion control considerations to be shown on plan:				
	a. Erosion control notes (See City Stds. MVFE-351A-0 through MVFE-351F-0)				
	b. Show details of all control measures				
14.	Final Conditions of Approval are to be included on the last plan sheet(s)				
15.	All mitigation measures per C.O.A. shall be included in the submitted design				
16.	Show limits of grading				
17.	Max slopes are to be 2:1 unless recommended by the soils engineer and approved by the City Engineer				
18.	Show existing and proposed easements				
19.	Check project location against 5-Year Plan for Arterial Street Pavement Rehabilitation and Preservation exhibit				
20.	Check project location against 5-Year Plan – Citywide Local Streets Pavement Rehabilitation exhibit				
F.	Geotechnical requirements:				
	1. Plans signed and stamped by Soils Engineer and Geologist (S.E. statement)				
	2. Plan conforms with recommendations of Soils Engineer				
	3. Up-date letter if soils report is more than one year old				
	4. Delineate areas of over excavation and re-compaction. Where depth exceeds 6’, Soils Engineer to recommend compaction in the final report				
	5. Recommendation for shrinkage and subsidence				
	6. Plan delineated, and details provided, for rock disposal area as recommended by the Soils Engineer. City minimum is 48” or larger at 6’ deep in parking areas.				
	7. Soils Report is required to have the “Geotechnical or Soils Engineer” statement incorporated into said report				
	NOTE: A change in the soils engineering firm requires the following items:				
	1. Letter of acceptance from the replacement firm agreeing with all the information provided in the existing soils report(s), accepting all responsibility, and agreeing to continue providing compliance with the report				
	2. A letter from the original firm declaring that they are no longer the soils/geotechnical firm of record				
G.	Design Requirements:				

MASS GRADING PLAN CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
1.	Drainage is conducted to a street, natural watercourse, retention basin, or other approved location				
2.	A notarized letter of permission/acceptance from adjacent property owner(s) is required for slope encroachment acceptance of non-historic natural drainage or other off-site grading or work. Include legal description and Assessor's Parcel Numbers. Calculation shall be submitted for all structural fills and shown (high-lighted) on the grading permit.				

ROUGH GRADING PLAN CHECKLIST		1st Check	2nd Check	3rd Check	Comments
A.	Title block per City Std. MVSI-168A-0				
	1. WDID number has been issued and attached to the plans prior to permits, submit copy of NPDES permit, and apply WQMP ID number from the City (as applicable)				
	2. North arrow, properly oriented, vicinity map, index map (scaled)				
	3. 4" bar scale, 1"=40' or larger for large project and 1"=20' for smaller project, unless otherwise prior approved (no odd number scales)				
	4. Standard Grading Notes shall be shown on the cover sheet. Refer to the current City Std. MVSI-166D-0.				
	5. Utility company contacts and telephone numbers				
	6. Public agency contacts and telephone numbers				
	7. Reference adjacent record maps				
	8. Map exterior boundary and lot boundaries, or single lot exterior boundary. Provide complete boundary information, lot numbers, easements, and lot line annotations. Phase boundaries, if applicable.				
	9. Lot configurations				
	10. City limit and/or county limit lines, if adjacent to tract or parcel				
	11. Dimension street and right-of-way widths, existing and proposed				
	12. FEMA flood zone designation and flooding boundary				
	13. Cubic yards of cut, fill, import, export, and remedial earthwork				
B.	Non-interference (will serve) letters from public utility companies received:				
	g. Cable company(ies)				
	h. Gas Company				
	i. Eastern Municipal Water District/BSMWD/ECSD				
	j. MVU				
	k. Southern California Edison				
	l. Verizon				
C.	Details Sheet(s)				
	1. Rough graded street/drive isle sections and other details				
	2. Typical grading details				
	3. Show retaining wall sections - do not show rebar. Note: "Walls constructed under separate permit." Submit wall designs to Building & Safety.				
	4. Purposed sub-drainage structures , surface protection, etc., shall be shown on the plans				

ROUGH GRADING PLAN CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
	5. Details of any on-site drainage structures, surface protection, etc., shall be shown on the plans				
	6. Details all structures not standard of Moreno Valley, RCFC & WCD, or Caltrans. For manufactured products, submit specification literature.				
	7. Include all construction notes and quantities on sheet 1. Show applicable “Notes” on each sheet where callout is used.				
	8. Show all earthwork quantities, including cut, fill, remedial, import, and export				
	9. Typical Street sections showing rough cut.				
	10. Typical lot grading detail with side and rear sections – should conform with City Std. MVS1-160B-0)				
D.	Plan Sheets				
	1. WDID number has been issued and attached to the plans prior to permits, submit copy of NPDES permit, and apply WQMP ID number from the City (As applicable)				
	2. Existing contours shall be shown in screened and dashed line types at the following intervals:				
	a. Show existing contours a minimum of 50’ beyond all property lines or as needed for daylight or to show the connection to adjacent property supporting the design.				
	b. 2’ maximum contour interval on flat areas and 10’ maximum on steep slopes				
	c. Show spot elevations in very flat areas to support the contours				
	d. Show existing contour and spot elevations in parenthesis				
	3. Show street centerlines and stationing at 100’ intervals (minimum) and station tic marks at 50’. Show intersection stationing, BC, EC, PCC, TC’s elevations.				
	4. Show underground drainage facility. Detail connection if necessary to make clear the construction. Show installations of French drain system per soils report along canyons/gorges, and fills. Include at least, FL, HP & outlets.				
	5. No drainage over retaining walls. Use concrete “V”-ditch, down drains or other approved drainage design.				
	6. Proposed wall show elevations for the top of wall (TW), top of footing (TF) and ground. If other than 12” above the top of footing, show details. Cross sections shown. Include “per separate permit” note. Make sure wall and footing are outside right of way.				
	7. Locations of all existing and proposed structures, buried tank(s), well(s), or any other infrastructures, are to be shown with disposition notes.				

	ROUGH GRADING PLAN CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
	8. Sufficient control and data to stake improvements has been provided				
	9. Pad elevations and grading concepts are in accordance with the approved tentative map/site development plan and Conditions of Approval. No pad elevation deviations from approved TM greater than 1' maximum.				
	10. "Wall construction by Separate Permit" has been placed on this plan (if applicable)				
	11. Pad elevations shown at pad corner (front & rear) and at HP and GB along any drainage swales (H.P. to L.P.). Min. slope = 1%.				
	12. For adjacent properties, slopes placed on downhill (lower elevation) property				
	13. Percentage of grades and flow line arrows shown in street (min. and max. per City Std. MVSI-160A-0)				
	14. Show pad elevations				
	15. Representative sections along all project boundaries				
	16. Slope set-backs per current City Code (8.21.100 Setbacks)				
	17. Clearly label degree of slope with slope symbols. 2:1 max slope, unless prior City and soils report approves otherwise				
	18. Written permission from adjacent property owner for grading outside PL, cross-lot drainage, etc.				
	19. Existing easements shown with written permission from holder				
	20. Show limits of grading, daylight lines, cut/fill transition lines, proposed contours match existing				
	21. Offsite flows affecting tract addressed				
	22. Provide min. 6' wide terrace at max. 30' vertical				
	23. No sheet flow allowed over slopes except in approved drainage device				
	24. Interception drain at top of slope where drainage path to slope exceeds 40'				
	25. Velocity reducers provided where drains discharge onto natural ground (if rip rap, specify class, thickness, size, etc.)				
	26. Details for all drainage facilities not provided in improvement plans				
	27. No cross lot drainage except within private easements and approval by the City Engineer				
	28. Show flood plain if within project boundary				
	29. Include erosion and sediment control plan - see City Std. MVFE-351A-0				
	30. Setback dimensions per current City Code (8.21.100 Setbacks)				

Project Number _____

Plan Reviewer _____

	ROUGH GRADING PLAN CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
	31. Approval of Storm Water Prevention Plan from the Water Quality Control Board prior to issuance of a grading permit. The Storm Water Prevention Plan shall be submitted concurrently to the City and to the Water Quality Control Board.				
	32. Property line retaining walls must be approved by the Planning Division. This includes the height of a garden/retaining wall combination.				
	33. Check project location against 5-Year Plan for Arterial Street Pavement Rehabilitation and Preservation exhibit				
	34. Check project location against 5-Year Plan – Citywide Local Streets Pavement Rehabilitation exhibit				

Check #1 _____ Check #2 _____ Check #3 _____
 N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

	PRECISE GRADING PLAN CHECKLIST	1st Check	2nd Check	3rd Check	Comments
A.	Title Block per City Std. MVS1-168A-0				
B.	Title sheet meets requirements:				
	1. North arrow, properly oriented				
	2. Vicinity map				
	3. Standard Grading Notes shall be shown on the cover sheet. Refer to the current City Std. MVS1-166D-0. Show all earthwork quantities, including cut, fill, remedial, import, and export.				
	4. "Declaration of Engineer of Record" on plan				
C.	Non-interference (will serve) letters from public utility companies received:				
	a. Cable company(ies)				
	b. Gas Company				
	c. Eastern Municipal Water District/BSMWD/ECSD				
	d. MVU				
	e. Southern California Edison				
	f. Verizon				
D.	Grading plans are to be in conformance with the City's design standards and as identified in the projects preliminary soils report				
E.	Plan Sheet:				
	1. Stationing and elevations conform with street improvement plans				
	2. Stationing is from left to right or bottom to top. North arrow is oriented accordingly (no downward north arrows).				
	3. Construction notes are shown on the plan and clearly indicate the scope of work to be performed. Construction notes are referenced to the appropriate City Standard Plans.				
	4. Details of non-City of Moreno Valley standard drainage improvements, if any, are shown on the plan				
	5. Run-off water is detained and de-silted prior to release onto downstream properties or into the public right of way, or storm drain system. Appropriate detention and de-silting features shall be shown on the plan.				
	6. Section details should be used to clarify areas where proposed site joins adjacent properties				
	7. Tract boundary is clearly shown and identified on plan				
	8. The following shall be shown and dimensioned on the plan:				
	a. Project property lines and right of way lines				

	PRECISE GRADING PLAN CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
	b. Centerline of adjacent street improvements and distance to nearest intersection				
	c. Existing utilities (water & sewer, or other appropriate utilities) and public improvements				
	d. Proposed structures, buildings, parking lot pavement, curbs and gutters, drainage facilities, masonry block walls, and retaining walls				
	e. Proposed public improvements (curb, gutter, sidewalk, and driveway approaches) and street pavement areas				
	9. Typical X-sections for side and rear yards. X-Section at boundary line and adjacent streets. Typical lot detail and typical street sections.				
	10. Installation of P.V.C. pipe, A.B.S. pipe, or other similar pipe, which is used to drain water from the site to approved City drainage facility, shall be used to handle nuisance water only (curb drain)				
	11. Onsite drainage over A.C. pavement shall have a minimum grade of 1%. A minimum 2' wide concrete gutter, 6" thick, is required when concentration of drainage occurs within travel ways.				
	12. Open earthen swales shall have a minimum slope of 1%				
	13. The proposed grades at the right of way lines shall conform to ¼" per foot (2%) parkway slope from top-of-curbs, including back of driveway approaches.				
	14. Top-of-curb and flow line elevations at all property line projections, top-of-driveway "X" and drainage devices shall be shown.				
	15. Accurate contours and/or elevations of existing ground and finished grade shall be shown at 50' (maximum) grids. Show contours and/or elevations for adjacent properties within 25' of the property lines.				
	16. Proposed building with pad elevations and finished floor elevations shall be shown. Show finished floor elevations of existing buildings to remain, finished floor elevations of building on adjacent property within 25' of property lines, shall be shown.				
	17. Flow- line grades and elevations of all drainage swales, gutters, or drainage structures shall be shown				
	18. Elevations of existing grades shall be shown at each outer lot corner along the tract boundary				
	19. Elevations of proposed grades shall be shown at all lot corners				

PRECISE GRADING PLAN CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
20. Details of drainage structures and masonry block walls shall be shown where applicable				
21. Fills against existing block walls shall not exceed 1 foot and shall not block weep holes				
22. Change of grade along project property lines shall not exceed 1 foot without installation of retaining walls; otherwise, off-site grading letters are required from adjoining property owners				
23. Retaining walls shall be shown. Retaining walls and other non-standard walls require calculations and wall details prepared, signed, and stamped by Registered Civil Engineer - to be submitted to the Building & Safety Division. A note shall be placed on the plans "Separate Permit Required."				
24. Cut slopes shall be no greater than 2:1 vertical, unless otherwise recommended by the geotechnical engineer and approved by the City Engineer. Clearly label degree of all slopes and slope symbol.				
25. All on-site drainage shall be conveyed toward the street or an approved drainage facility. For SFR, drainage may be directed over a driveway approach per City Standard Plans. For commercial, industrial, and multi-family residential developments, nuisance water will not be allowed to drain over the driveway approach or sidewalk, and a parkway drain or similar structure shall be installed to convey nuisance water to the street per City Standard Plans.				
26. Concrete curbs are required between planters and/or landscaped and paved areas and shall be shown on the plan with appropriate details. Slots may be provided to run nuisance flows through landscape areas.				
27. Plan shall agree with all other plans submitted to the Planning, Building, Fire, and Land Development Divisions, as to locations of buildings, planters, parking areas and fire services				
28. Plan shall agree with the approved tentative map				
29. The lot shall drain to the street at 1%				
30. The side swales between houses shall be a minimum of 1%				
31. Flow-line of swales for the rear yard of residences shall be a minimum of 10' from the house with a minimum slope of 2% away from pad elevation to the high point of the swale				
32. Proposed T.C. elevation shall be shown at the B.C. and E.C				
33. Pavement structural section for on-site areas shall be per City Standard Plans and as recommended by the soils engineer. (Section 8.21.140, Moreno Valley Municipal Code)				

PRECISE GRADING PLAN CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
34. All utility service connections shall be underground				
35. Quantity of excavation and fills should be shown. Sheet 1				
36. For commercial, industrial and multi-family, on-site sewer on water plans are to be approved by the Building and Safety Division				
37. ADA requirements are to be approved by the Building and Safety Division.				
<p>38. For commercial, industrial, and multi-family PGP, use notes as follows:</p> <p>Place the following note on title sheet and all on-site utility (sewer/water layout) sheets.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>UTILITY NOTE: APPROVAL OF THESE PLANS BY CITY OF MORENO VALLEY LAND DEVELOPMENT DIVISION DOES NOT CONSTITUTE FINAL APPROVAL FOR THE CONSTRUCTION OF WATER AND SEWER UTILITIES UNTIL REVIEWED, APPROVED, AND PERMIT ISSUED BY THE BUILDING AND SAFETY DIVISION.</p> <p>A SEPARATE ON-SITE UNDERGROUND FIRE SERVICE PLAN FOR CONSTRUCTION SHALL BE SUBMITTED TO THE FIRE PREVENTION BUREAU FOR REVIEW AND APPROVAL.</p> </div> <p>Place the following note on the title sheet and all grading sheets.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>ADA NOTE: ALL ADA / TITLE 24 REQUIREMENTS AND PATH OF TRAVEL INCLUDING BUT NOT LIMITED TO ACCESS SHALL BE REVIEWED AND APPROVED BY CITY OF MORENO VALLEY BUILDING AND SAFETY DIVISION. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE FINAL APPROVAL OF THE ACCESS REQUIREMENTS.</p> </div>				

PRECISE GRADING PLAN CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
<p>If a pump system is proposed, place the following note on the applicable grading sheet(s).</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>NOTE: APPROVAL OF THESE PLANS BY CITY OF MORENO VALLEY LAND DEVELOPMENT DIVISION DOES NOT CONSTITUTE FINAL APPROVAL FOR THE CONSTRUCTION OF PUMP AND ELECTRICAL CONNECTIONS UNTIL REVIEWED BY THE BUILDING AND SAFETY DIVISION.</p> </div>					
	39. Check project location against 5-Year Plan for Arterial Street Pavement Rehabilitation and Preservation exhibit				
	40. Check project location against 5-Year Plan – Citywide Local Streets Pavement Rehabilitation exhibit				
F.	Soils report completed as stated in the City’s grading ordinance and has ‘wet’ signature and seal				
G.	Erosion Control Plan, where applicable, shall accompany the precise grading plan				
H.	Graded areas to be landscaped and maintained by the City shall be 3:1 minimum outside the right of way				
I.	Approval of Storm Water Prevention Plan from the State Water Resource Control Board prior to issuance of a grading permit				
J.	Engineer of Record’s signature, stamp and date in appropriate block on originals when submitted for approval				
K.	Notice to Contractor				
L.	Final Soils Report with Declaration of Soils/Geotechnical Engineer and Geologist of Record				
M.	Compliance with Conditions of Approval (COA)				
N.	Water & sewer plans for industrial, commercial, multi-family, and tract model homes require approval by the B & S Division				
O.	12” step-outs behind curb at all landscaped medians adjacent to parking stall (parking lots)				
P.	Provide building set-back dimensions (minimum distance building to PL)				
Q.	Lot lines shown and dimensioned per map and lot numbers				
R.	Street names				
S.	Check for need of deepened footing				
T.	Cost estimate matches quantities on plan				

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U.	TG elevations and inlet elevations for all area drains and pipes				
V.	Check that Source Control/Treatment Control BMP's are per approved F-WQMP				
W.	Review F-WQMP vs. precise grading plan prior to approval				

Check #1 _____ Check #2 _____ Check #3 _____
N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

DRAINAGE AND HYDROLOGY PLAN CHECKLIST		1st Check	2nd Check	3rd Check	Comments
A.	Drainage Plan Requirements:				
	1. Criteria utilized for the hydrology and hydraulics shall be as stated in the hydrology and design criteria published by RCFCDD. Frequency of design year storm shall be as stated in the hydrology manual. City systems are designed for 100 yr Q's.				
	2. The use of underground storm drain systems shall be in accordance with the City's requirements and with RCFCDD, if appropriate				
	3. Drainage acceptance agreement, if required				
	4. Improvement plans, hydrology, and hydraulic calculations shall be stamped and signed by the engineer of record				
	5. Engineer of record signature, stamp and date in appropriate block on originals when submitted for approval (registration number correct and in effect)				
B.	Hydrology Map:				
	1. Map exhibits have title, legend, graphic scale, north arrow, P or PA number, EOR information, etc.				
	2. The hydrology map and street plans agree as to the grades and configurations of drainage areas				
	3. The hydrology map is on topographic map of sufficient scale and quality to allow for readability				
	4. All Q's shown (with time of concentration) flowing in the streets. Design year Q's to be designed to 10 yr and 100 yr				
	5. All street flow confluences shown with their calculations				
	6. All Q's approaching, entering and by pass from catch basins shown, and all Q's shown at all points of concentration				
	7. All Q's entering and leaving the project are shown with their time of concentration and verified with legible contours or other adequate means. If previous studies were used, they must be referenced. Need for comparative analysis for interim and ultimate flow rates for off-site drainage to be determined by the City.				
	8. Show storm drains with design year flow rates				
	9. Drainage areas acreage to be shown				
	10. Map to show existing and proposed contours				
	11. Map to show drainage boundaries				
	12. Scale and north arrow				
	13. Show all proposed street, storm drain, and grading improvements				
	14. Flow arrow and drainage paths shown				

DRAINAGE AND HYDROLOGY PLAN CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
C.	Hydrology Calculations:				
	1. Time of travel, rainfall intensity, runoff coefficient, soil group, allowable flooded width, and catch basin interception requirements in conformance with the current edition of the manual published by RCFCWCD				
D.	Hydraulic Calculations:				
	1. Design criteria for hydraulic calculations and format for presentation of the calculations shall be in conformance with the City's and the County's requirements (i.e., catch basin free board, catch basin interception, use of grate type catch basins, parkway culverts, etc.). Catch basin, street capacity, and storm drain pipe calculations provided. Appropriate program used WSPG for closed conduit, WSPG or HEC-RAS for open channel. For regional channels, a HEC-RAS for existing and proposed conditions shall be submitted for review and approval.				
E.	Submittal to RCFCWCD for parallel processing where the S.D. system is larger than 36" pipe system, for RCFCWCD review and approval prior to the City's approval				

STORM DRAIN PLAN CHECKLIST (TYPICALLY A SUBSET OF STREET PLAN)		1st Check	2nd Check	3rd Check	Comments
A.	Title block per General Requirements, Section 2.1				
B.	Title Sheet (where not part of Street Plans)				
	1. Vicinity map per General Requirements, with north arrow properly oriented				
	2. Construction notes with quantities				
C.	Scale-1"= 40' horizontal, 1"= 4' vertical				
D.	Requirements:				
	1. Storm drain alignment, grade, and easement in conformance with the City's requirements (i.e., horizontal location relative to curb, minimum pipe size and depth of cover, manhole locations and spacing, minimum grades (0.003 mainline and 0.005 all others), minimum radius, maximum velocities relative to requirements for additional steel clear cover, existing facility abandonment procedures, etc.). Maximum horizontal angle point 5 degrees. See MVSİ-160A-0 and MVSİ-180A-0				
	2. Reinforced concrete box (R.C.B.), reinforced concrete channel (R.C.C.) improvement plans, details, and reinforcing schedule in conformance with City's requirement				
	3. Hydraulic grade line plotted on profile				
	4. Prepare hydraulic elements table showing design year storm Qn, Vn, slopes, pipe size, and pertinent stationing and place on each relevant plan sheet				
	5. All storm drain laterals shown in profile. Separate profile for each lateral and connection shown on main line.				
	6. D-loads for all pipes				
	7. Curve data and bearing for storm drain centerlines				
	8. Pertinent storm drain stationing and equations, including reference to street station at B.C., E.C., and manholes. Stationing shall increase from downstream to upstream (as applicable). Storm drain to have its own stationing.				
	9. Identification of existing facilities showing City's plan file numbers. Clearly note connection and manner of connection to exist.				
	10. Applicable construction notes on each sheet				
	11. Catch basin type and size, including width and height, T.C., F.L., and Inv				

	STORM DRAIN PLAN CHECKLIST (TYPICALLY A SUBSET OF STREET PLAN) (continued)	1st Check	2nd Check	3rd Check	Comments
D.	Requirements: (continued)				
	12. Easement lines and widths shown and checked to make sure they conform with easement document(s) and are an adequate width for maintenance, as determined by the City (20 min)				
E.	Storm Drain Plan shall be in conformity with the approved tentative map				
F.	Show existing or proposed inlet and outlet head walls				
G.	Show existing or proposed rip-rap, size and dimensions				
H.	“Declaration of Engineer of Record” Statement for stand-alone plans				
I.	Engineer of records signature, stamp and date in appropriate block on originals when submitted for signature (registration number correct and in effect)				
J.	Show all other infrastructure that crosses the S.D. Show top of pipes for underline crossing and bottom of pipes for over crossing structures.				
K.	When joining or extending existing structures a collar or access hole is required				
L.	Concrete energy dissipater at exit velocities greater than 20 fps				
M.	Provide details for any construction other than City, County or Caltrans standards				
N.	List manufacturer name and model number for all manufactured products				
O.	Restricted access for open channel (wall/fence per separate permit)				
P.	Maintenance access for open channel				
Q.	Street stationing, width, depth, standard detail called out (via construction notes) for all catch basins				
R.	Combination side and grate inlet catch basin for street slopes equal to or greater than 5%				
S.	Dimension from storm drain center line to street center line				
T.	No flow through catch basins				
U.	Profile: Stationing and elevation at begin/end, change in grade, connections, match line, D-load, slopes, length, size, material, crossings, Q, V, HGL/WS, slope anchors for S greater than 0.20. Proposed and existing surface over 5.0, station and elevation grids with elevations and vertical scale.				
V.	Standard number, station, & in and out elevations labeled for all structures. Check for minimum drop/floor slope.				

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	STORM DRAIN PLAN CHECKLIST (TYPICALLY A SUBSET OF STREET PLAN) (continued)	1st Check	2nd Check	3rd Check	Comments
W.	Existing surface shown beyond outlet, beginning water surface shown correctly				
X.	Lateral inlets name, size, station, and elevation shown				
Y.	Design HGL should be minimum of 12" below local depression lip of inlets and maximum of 12" freeboard for open channel				

Check #1 _____ Check #2 _____ Check #3 _____
 N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

WATER QUALITY BASIN PLAN CHECKLIST		1st Check	2nd Check	3rd Check	Comments
A.	Title Block per General Requirements, Sec. I. WQ Basin plan can be part of Rough Grading, Precise Grading, or Storm Drain plans				
	1. WDID number has been issued and attached to the Rough Grading, Precise Grading, and Storm Drain Plans, and F-WQMP has been submitted to LD Storm Water Management Group. The F-WQMP ID # is issued when the F-WQMP is approved and should be noted on each plan sheet.				
	2. The Water Quality Basin shall be designed for VBMP only in accordance with the City’s Storm Water Quality Best Management Practice, Volume Based BMP Design Handbook (WQMP Manual), and in accordance with the Riverside County Water Quality Management Plan for Urban Runoff, dated July 24, 2006				
	3. The Geometric Design shall follow the Water Quality Basin Civil Design Guidelines available on the City’s website under the Grading section of “online forms”				
	4. The Planting and Irrigation Design shall follow the Water Quality Basin Planting and Irrigation Design Guidelines available on the City’s website				
	5. Infiltration rate shall be per the City’s Volume Based BMP Design Handbook POA/HOA Maintained System manual: ASTM D3385 Double-Ring Infiltrometer test				
B.	Water Quality Basin design shall show, but not limited to, the following items:				
	1. North arrow, properly oriented				
	2. 4” bar scale, 1” = 20’ or larger for large project and 1” = 10’ for smaller project, unless otherwise prior approved. No odd # scales.				
	3. Include all construction notes and quantities on sheet 1. Show applicable “Notes” on each sheet where callout is used.				
	4. Complete boundary information, lot numbers, easements, POA/HOA Maintenance note and lot line annotations				
	5. Show all applicable details and sections per design guidelines.				
	6. Dimensions and horizontal control				
	7. Show grading elevations, slopes (3:1 max.), adjacent P.E.’s, and TC elevations				
	8. Show pipe material, sizes, inverts, and on site drainage structures				

WATER QUALITY BASIN PLAN CHECKLIST (continued)					
9.	Details of spillways, & outlet structures, forebay, headwalls, trash rack. Spillway shall be 12” lower than the berm between the aftbay and sand filter system. HGL of mainline storm drain shall not exceed outlet pipe invert.				
10.	Details of spillways, & outlet structures, forebay, headwalls, trash rack. Spillway shall be 12” lower than the berm between the aftbay and sand filter system. HGL of mainline storm drain shall not exceed outlet pipe invert.				
11.	Retaining walls are not allowed in Water Quality Basin. Show perimeter wall, access ramp (10% max. and 15’ wide min.), and toe of slope protection details.				
12.	Show basin bottom elevation and water surface elevation based on VBMP				
13.	Provide details of all structures not standards of Moreno Valley, RCFC/WCD, or Caltrans. For manufactured products, submit Specification literature and include applicable manufacturer’s specifications and details on plan sheets.				

STREET PLAN AND PROFILE CHECKLIST		1st Check	2nd Check	3rd Check	Comments
A.	Title block per General Requirements				
B.	Show on the Street Improvement Plan, typical cross section width of each new street constructed and the width of additional pavement added to any existing street, plus 12' to 18' R&R construction per C.O.A or City Standard Plans				
C.	Vicinity map at 1:1000 with streets, street names, properly oriented north arrow				
D.	Scale: both horizontal and vertical. Horizontal scale is to be 1" = 40' in plan and profile sections, unless otherwise approved by the City. Vertical scales 1" = 4'				
E	Non-interference (will serve) letters from public utility companies received:				
	a. Cable company(ies)				
	b. Gas Company				
	c. Eastern Municipal Water District/BSMWD/ECSD				
	d. MVU				
	e. Southern California Edison				
	f. Verizon				
F.	Profile shall be on top half of sheet, and shall include:				
	1. Show 100' stationing along the profile with profile grid and datum elevations both sides. Line up plan and pro.				
	2. Show names and centerline station equation of intersection streets				
	3. Label and show stations and elevations at the beginning and end of all curb returns, vertical curves, horizontal curves, transition sections, grade breaks, and beginning and end of improvements. Denote existing elevations with parenthesis.				
	4. Label all profiles (i.e. L or R top of curb, S.D. invert, etc.). Name of street if more than one street.				
	5. Profile of existing centerlines. Show elevations every 50-100', if applicable.				
	6. Profile of existing ground at property lines. Show elevations every 50-100' if applicable.				
	7. For pavement match-up situations, show existing edge of pavement elevations every 50'				
	8. Profile and grades of finished centerlines				
	9. Profile and grades of all T.C.'s shown				
	10. Extend all profiles a minimum of 300' beyond limits of construction				
	11. Profile of future T.C. on both sides of street must be shown, even if only one side is being constructed				

STREET PLAN AND PROFILE CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
12.	Show connection with, or future design to, existing improvements, along with existing elevations. Show grade of existing improvements (may require going to nearest street intersections).				
13.	Proposed finished center line surface through to center line of intersection street				
14.	Slopes through intersection maximum 6%				
15.	Maximum superelevation rate called out and meets Caltrans requirements				
16.	T.C. and flow line elevations on tie-in curb must be shown				
17.	Indicate length of curb return and true length of horizontal curves, ¼ delta points and BCR/ECR stations/elevations, and in/out grades to be shown on all returns with elevations and P.I.'s are to be shown				
18.	If curbs are variable height, show T.C. elevations, flow line profile with grade, including ¼ delta points on curb return and P.I.'s				
19.	The minimum street grade is 1.0% unless prior approval is obtained from the City Engineer				
20.	Maximum grade break is 0.50%. Vertical curves required for larger grade breaks including at-curb return (no non-symmetrical V.C.). Where grade break is required, a 50' V.C. minimum at 2% max or 100' V.C. above a 2% grade break, shall be designed. V.C.s per C.T. HDM Figs. 201.4/5.				
21.	Tangent grades and P.I. Elevations and stations for vertical curves must be shown and BVC, EVC, length				
22.	Top of curb profiles, including curb return. Rate of grade shown on profiles to be based on centerline stationing rather than true length of curbs, except for curb returns, cul-de-sacs and knuckles.				
23.	Vertical curves, including tangent grades, G1, G2, B.V.C., E.V.C., length P.V.I. station and elevation, and elevations every 25'. Indicate resultant design speed of the vertical curve.				
24.	Elevations of curb returns at E.C.R. and B.C.R. locations (only plan views) - both TC's and F.L.'s				
25.	Identification of existing improvements showing City's plan file numbers				
26.	Utility line crossings and substructures type, size, station which could interfere with road and other underground construction with disposition notes. Indicate pot-holing for correct locations on the plan files.				
27.	Curb height transitions				
28.	Do elevations in profile and plan section match?				

STREET PLAN AND PROFILE CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
	29. Do profiles match typical section? TC elevation correct delta (above or below) center line elevations.				
	30. Have sufficient elevations been shown to verify that ‘grade-to-drain’ areas work, and are limits of grading shown?				
	31. Compare design to existing plans, if any				
G.	Plan view shall include:				
	1. Existing improvements shown (dashed or screened) and included in legend				
	2. Improvements to be constructed indicated with construction notes, dark/solid line type, included in legend				
	3. Approved street names				
	4. Station equations at all intersections				
	5. Correct benchmark (verified by City)				
	a. Bearings of all streets shown. Radial bearings on centerline of driveway approaches, all catch basins, etc., in horizontal curve.				
	b. Each Street Improvement Plan shall have a construction traffic control plan and a striping and signing plan included and numbered as part of the Street Improvement Plan				
	c. Refer to City Standard Plans for Signing, Striping and Traffic Control requirements				
	d. Plan review of Signing, Striping and Traffic Control portion of Street Improvement Plans will be performed by Transportation Division. Plan submittal and distribution, however, is via the Land Development Division.				
	e. Stationing to conform with stationing on any existing plans on file. New stationing shall increase west to east (north to south, per City Std. MVS1-160A-0), left to right, except where street ends in westerly or southerly dead-end or cul-de-sac.				
	f. Identical stationing and elevations on consecutive sheets. (match lines clearly shown and sheet number referenced) (plan and profile)				
	6. Stationing all B.C.R.’s & E.C.R.’s, B.C. & E.C. of all curves, PRC, & PCC				
	7. Stations at beginning and end of improvements and at center of driveway approaches, if applicable, catch basins, under sidewalk drains, etc.				
	8. Stations at each 100’ marked on all construction centerlines and aligned with profile. Tick marks every 50’.				

STREET PLAN AND PROFILE CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
9.	Curb return and radii (City Std. MVS1-160A-0) and property line cut-backs (City Std. MVS1-165-0) to agree with City's Standard Plans and approved tentative map				
10.	Access ramps at all curb returns where sidewalk is required. (Must meet ADA standards). Detail of ramp required for 2' differential between E.C.R. and B.C.R.				
11.	Curb return data (delta, tangent, radius and length)				
12.	Curb curve data table				
13.	All dimensions shown in plan view (R/W to R/W, R/W to center line, curb to curb, curb to center line, sidewalk, parkway, etc.)				
14.	Smooth off-site improvement transitions to exist. Clearly label (station and elevations) all joins.				
15.	Existing storm drain lines, pipelines, irrigation lines or structures, power poles, trees or fire hydrants, etc., in right-of-way, or immediately adjacent to right-of-way, and notes as to their disposition, in encroaching, must be shown				
16.	Local Depression details showing top of curb elevations and curb height, width transitions and elevation's at each corner of pad				
17.	All existing and proposed utilities to be shown, labeled, legend and dimensioned				
18.	Show existing, proposed and future right-of-way improvement widths				
19.	Lot lines, frontage distances and lot numbers are the same as the record map. Label property and map boundaries lines.				
20.	All drawing references must be noted on plan				
21.	Show details of all improvements if not per City Standard Plans or C.T., Riverside County, etc. For all standard improvements, show Standard Drawing number via construction note. Check standard drawings for those dimensions to match those shown on plan.				
22.	Show all water valves or manholes to be constructed and/or adjusted to grade				
23.	Show existing street lights in vicinity on both sides of the streets. New street lights to be located and stationed per City Stds. MVLT 400A-0 and MVLT 400B-0.				

	STREET PLAN AND PROFILE CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
	24. Typical sections for all streets in conformance to City Standard Plans. Show existing, future and proposed improvements on section as they would appear looking up-station from the street. Identify right-of-way lines. For new streets, give offsets from level line to crown and T.C. Show range of slopes on existing and match-in-paving. Provide traffic index, design speed, R-value. Label as private or public. Stations range if street section varies. Include and type/class of AC/AB. Show as full ½ street construction and one travel lane opposite street tie.				
	25. Cross-slopes computed to edge of pavement (including City’s standard 3/8” lip of A.C. paving) and within minimum and maximum ranges, as established by City Std. MVSI-160A-0, to match existing roadway as being designed. Cross sections every 50’ of existing streets (R/W to R/W) to a minimum of 300’; beyond project limits must be submitted. For street widening of existing streets provide on separate grid paper. Show existing center line elevations, existing elevations at join, existing cross slope proposed cross slope, lip and TC elevation.				
	26. Show flow line elevations on all B.C.R.’s and E.C.R.’s, and on the flow line of cross gutters at 3 points				
	27. 100’ tangent between reverse or compound curves (except local streets)				
	28. Minimum tangent distance at intersection (50’ local, 100’ collector)				
	29. Barricades for temporary dead end streets (per City Stds. MVLT-416A-0 & MVLT-416B-0)				
	30. 10’ x 10’ grid provided for major intersections				
	31. Intersection spacing per City Std. MVSI-160C-0. Minimum intersection angle 90 degrees plus or minus 5 degrees, per City Std. MVSI-160A-0.				
	32. Any trench repair per City Stds. MVSI-132A-0 - MVSI-132D-0				
	33. Show top-of-curb and flow line elevations at begin/end of all improvements. Indicate existing elevations with parentheses.				
	34. Dead end streets require special traffic control signing and access control				
	35. 2’ wide at 0.10’ deep grinding onto edge of pavement is provided where being matched, geo-grid to be placed 12” each side of overlap				
	36. Limits of all paving removals or overlays, existing and proposed pavements shall be stationed and delineated via unique hatches as shown in legend				

STREET PLAN AND PROFILE CHECKLIST (continued)		1st Check	2nd Check	3rd Check	Comments
37.	Pavement transitions for on-coming traffic per City or Caltrans taper and out-going traffic at 5:1 taper. Type L markers, 10' center to center along taper. Major streets may require longer taper.				
38.	Show existing or proposed flows coming into or out of new improvements and show how these flows are to be directed				
39.	Drainage transitions from one curb height or type to another shall be stationed. Typical cross-sections may be required.				
40.	If curb & gutter are not required, a pavement edge taper per MVSI-130-0 is required at edge of local, collector, and all other street classifications with new pavement				
41.	Street signs located properly (Street name signs conform to City's standard requirements)				
42.	Stop signs required at all major intersections with painted stop bar and "STOP", per Caltrans Standard Plan A24D, A24E, City Stds. MVLT- 412-0, MVLT-431-0, & MVLT-432-0, and MUTCD				
43.	Street sweeping "No Parking" signs indicated on plans. Refer to City Standard for sign and placement requirements.				
44.	If cut or fill is necessary beyond project boundaries or at the end of a street, a letter of permission or slope easement from the adjacent property owner is required				
45.	Minimum 150' centerline radius on all local streets. Centerline radii for major and secondary arterials shall be based on City Std. MVSI-160C-0.				
46.	Cul-de-sac dimensions shall conform to City Stds. MVSI-163A-0 & MVSI-163B-0. Knuckles per City Std. MVSI-162-0.				
47.	Street structural sections shall be determined by a soils test following rough grading unless otherwise determined by the City (Show City minimum on plans.) Minimum structural section per City Std. MVSI-100A-0. Include on typical section. Include class of AC/AB.				
48.	Add note indicating traffic index on each street to be constructed. See traffic index per standard drawings.				
49.	Show street center line station for all driveway locations (Unless noted to be shown on the precise grading plan). Driveway width shall be the same width of the garage opening.				
50.	No cross gutters across on major streets				
51.	Do improvement plans conform to Conditions of Approval?				
52.	Are improvement plans consistent with grading plans, map, etc.?				
53.	Cost Estimate – Do quantities match sheet 1? Current spreadsheet costs?				

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	STREET PLAN AND PROFILE CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
	54. Check to see if project is adjacent to streets shown on the 5-Year Plan for Arterial Street Pavement Rehabilitation exhibit				
	55. Check to see if project is adjacent to streets shown on the 5-Year Plan for Citywide Local Streets Pavement Rehabilitation exhibit				

Check #1 _____ Check #2 _____ Check #3 _____
 N/A = Not Applicable ✓ = Complete O = Incomplete or unacceptable

SEWER AND WATER SYSTEM PLAN CHECKLIST		1st Check	2nd Check	3rd Check	Comments
A.	Plans shall be designed according to, and all construction shall comply with, Eastern Municipal Water District standards				
B.	Plan format shall comply with the requirements of the City, including the title block, per City Std. MVS1-168A-0				
C.	Vicinity map				
D.	Properly oriented north arrow				
E.	Index map (multiple page plan set)				
F.	“Declaration of Engineer of Record”				
G.	Add sewer and water lateral note for driveway construction				
H.	Water system plans will not be signed by the City until signature from Eastern Municipal Water District has been obtained				
I.	Engineer of record’s signature, stamp, and date in the appropriate block on originals when submitted for signature (registration number correct and in effect)				
J.	Street name(s) and station range in title block, on each sheet				
K.	Check all lines for conflicts and crossing separation elevations				
L.	Check for fire hydrant separation / distances to each hydrant				
M.	Check for excess water zone valves or lack of valves				
N.	Check for thrust blocks or restraints at pipe junctions and bends along the water lines				
O.	Check to make sure the lines are not within medians				
P.	Check the depth of the water and sewer for future interference with other utilities (i.e. storm drain systems)				
Q.	Check overall design to ensure consistency with acceptable City standards for street design				
R.	<p>Add the following note to EMWD sewer and water plans:</p> <p>THE CITY ENGINEER’S APPROVAL OF THESE PLANS IS NOT FOR THE TECHNICAL ADEQUACY OF THE SEWER AND WATER SYSTEMS BUT RATHER FOR THE LIMITED PURPOSE OF ENSURING PIPE LOCATION, TRENCHING, AND ROADWAY REPAIR WITHIN THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE CITY’S STANDARDS, PRACTICES, POLICIES, AND PROCEDURES.</p>				

	SEWER AND WATER SYSTEM PLAN CHECKLIST (continued)	1st Check	2nd Check	3rd Check	Comments
S.	<p>Add the following signature block on top of the main title block for the Fire Prevention Bureau:</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p><i>MORENO VALLEY FIRE PREVENTION BUREAU</i></p> <p><i>BY: _____ DATE: _____</i></p> <p><i>I CERTIFY THAT THE DESIGN OF THE WATER SYSTEM IS IN ACCORDANCE WITH THE REQUIREMENTS PRESCRIBED BY THE MORENO VALLEY FIRE PREVENTION BUREAU</i></p> </div>				

	SIGNING, STRIPING, AND TRAFFIC CONTROL PLAN CHECKLIST (TYPICALLY A SUBSET OF STREET PLAN)	1st Check	2nd Check	3rd Check	Comments
A.	Number of sets submitted _____				
B.	Send copy to Transportation for review and approval (as necessary)				
C.	Title block per City requirements, City Std. MVSII-168A-0				
D.	Index map (multiple page plan set)				
E.	Vicinity map				
F.	Properly oriented north arrow on all sheets of plan set				
G.	Title page shall contain general notes and details:				
	1. City Standard Plans, Section 4				
	2. Signature block for City Traffic Engineer				
	3. Any other agency (i.e., Caltrans) to review or approve plan?				
H.	Identify disposition of existing signs (i.e., remain, remove, salvage, etc.) via construction notes				
I.	Warning, guide and regulatory signs shall be in conformance with the latest edition of Caltrans Specifications				
J.	Temporary construction signing and striping in conformance with the most current edition of the MUTCD, OSHA requirements and Caltrans Specifications				
K.	Striping in conformance with the most current edition of Caltrans Specifications, Section 84, "Traffic Stripes and Pavement markings", as well as with City Standard Plans				
L.	Identification of appropriate State Standard Detail for striping; show "Detail 9, etc."				
M.	Label turn pocket lengths, flare lengths, transition rates and taper lengths				
N.	Identify B.C., E.C., and angle points in striping consistent with street improvement plans				
O.	Identify type, size, and location of street name signs with street station				
P.	Provide detail of non-standard signs that may be needed				
Q.	Bikeways, pedestrian trails and equestrian trails, if required, in conformance with the City's master plan for those improvements.				
R.	"Declaration of Engineer of Record" (if stand-alone plans)				
S.	Engineer of records signature, stamp and date in appropriate block on originals when submitted for signature.				

GENERAL SIGNAL DESIGN GUIDELINES CHECKLIST (Traffic Signal Plan to be separate from Signing & Striping Plan, but submitted together) (continued)		1st Check	2nd Check	3rd Check	Comments
A.	Number of sets submitted _____ 1. Send copy to Transportation for review and approval				
B.	Title block per City requirements				
C.	Index map (multiple page plan set)				
D.	Vicinity map				
E.	Properly oriented north arrow on all sheets of plan set				
F.	Scale-1: = 20'				
G.	Signature block for City Traffic Engineer (all sheets) 1. Any other agency to review or approve plan?				
H.	Signal phasing shall be phase 2 FNBT, Phase 4 FEBT, Phase 6 FSBT and phase 8 FWBT with appropriate left turn phasing correspond				
I.	Poles shall be 2.5' behind curb: exact location to be determined by engineer in field				
J.	Exact location of utilities shall be determined prior to finalizing signal plans				
K.	Second check print will be submitted with 3 copies. City staff will submit second check prior to all utilities and notify designer with results.				
L.	Basic signal layout shall conform with Caltrans Chapter 9, except if otherwise noted				
M.	There shall be one pull box per pole				
N.	There shall be three major conduit runs (two across minor street, one across major street)				
O.	PV heads shall only be used if absolutely necessary, and only with the approval of the City Traffic Engineer				
P.	Signal controller cabinet and electrical enclosure shall be white				
Q.	Left turn lanes shall have four 6 x 6 loops and through lanes shall have two 6 x 6 loops each 10' apart, 3' into crosswalk. Advance loops for through lanes shall be 6 x 6.				
R.	Illuminated street markers shall be Irvine Brown with City assigned address numbers, and shall comply with City Standard Plans				
S.	The following schedules shall be furnished: Conductor, Sensor, Pole, and Phasing				
T.	Luminaries shall be HPSV, 250 watts				
U.	Designer to furnish notes as necessary				

	GENERAL SIGNAL DESIGN GUIDELINES CHECKLIST (Traffic Signal Plan to be separate from Signing & Striping Plan, but submitted together.) (continued)	1st Check	2nd Check	3rd Check	Comments
V.	City will furnish Standard Special Provisions. The engineer will be provided with a paper copy to use during the design process.				
W.	All signal plans shall be designed using a CADD system and the City shall be furnished a copy on a CD				
X.	“Declaration of Engineer of Record”				
Y.	Engineer of record’s signature, stamp and date in appropriate block on originals when submitted for signature				
Z.	Signal & Striping Plans are part of the street improvement plan (unless approved to be submitted as separate plans)				

NOTE: The forgoing are general guidelines. Additional requirements may be necessary as determined by the City’s Traffic Engineer.