



Civil Improvement Plans Checklist

Background

The City of North Las Vegas strives to provide the development community with adequate information to ensure the successful completion of any project in the City. To aid in the submittal of a complete, thorough civil improvement plan package, the following checklist has been compiled to assist the design engineer. This checklist focuses on requirements specific to the City of North Las Vegas. When preparing civil plans, the engineer will still be required to adhere to all local criterion and guidelines as set forth in the City of North Las Vegas Municipal Code and Planning Commission conditions of approval and the *Uniform Standard Drawings for Public Works' Construction Off-site Improvements* for Clark County Area, Nevada. **In order to have a complete civil improvement plan set for submittal to the City, this checklist must be completed and included with the submittal package for the plan set.** Incomplete submittals will not be accepted at the front counter.

Checklist

MISCELLANEOUS REQUIREMENTS

- Planning Commission Conditions of Approval
- Developer Questionnaire
- Civil Improvement Plan Submittal Application and applicable fees
- Technical Drainage Study approval letter
- Traffic Study approval letter
- Geotechnical Report
- NDOT permit required? (See current NDOT State Maintained Highways document)
- Completed Bond and Fees Estimate - bond amounts must match quantities on the plans
- All offsite improvements MUST be designed and bonded with the first phase of development
- If grading is proposed on adjacent parcels, notarized permission to grade letters from all impacted land owners must be received prior to plan approval.
- Coordinate with and identify City CIP projects and show the improvements on the plans
- All Dry Utility signatures must be acquired prior to submittal of mylar plans to the City
- Plan sheets must be 24"x36"

SPECIAL REQUIREMENTS FOR UTILITY SUBMITTALS

- Hydraulic Network Analysis (Upon approval of the HNA the engineer shall email a pdf to appropriate staff)
- Digital Submittal (CD) of HNA in EPA NET format for projects 40 acres or greater
- Water Usage form with initial application for all Commercial / Industrial developments
- Provide mechanical restrained joint calculations, stamped and signed

Checklist (cont.)

COVER AND/OR NOTE SHEET

- CNLV general notes
- Project Name
- CNLV and Dry Utility Approval blocks
- Engineer's seal in accordance with NRS 625 and NAC 625
- Benchmark checked to match CNLV book
- Basis-of-bearing
- Abbreviations and Legend
- CNLV project number located in the lower right hand corner of each plan sheet (will be assigned after initial submittal of the civil plans)
- Sheet Index shown and checked to see that sheet names and numbers match
- Owner's name and address
- Developer's name and address
- Vicinity map showing project location with north arrow
- Gross acreage of the parcel(s) and acreage to be disturbed if different.
- List of Quantities
- Cut and Fill Quantities
- Assessor's Parcel Number
- Number of units/lots
- Utility services and provider
- Geotechnical Report information - geotechnical report must be less than one year old
- Print sizes L80 or greater

HORIZONTAL CONTROL AND FIRE ACCESS PLAN

- Engineers Seal in accordance with NRS 625 and NAC 625
- CNLV project number located in the lower right hand corner of each plan sheet (will be assigned after initial submittal of the civil plans)
- Adjacent project plans denoted on the plan sheets – provide names, improvements (existing and proposed) and line work
- Show roadway easements for commercial driveways, commercial sidewalk easement, pedestrian access easements, and public utility easements being created based on proposed plan whether granted by separate document or map
- 5' Public Utility Easement adjacent to all rights-of-way surrounding the project
- All pertinent line and curve data must be tabled
- Property line stations
- Prominent back of curb locations (i.e. PC, PCC, PT, BCR, etc) must be shown via station and offset from street centerline
- Existing survey monuments used to construct the project must be identified on the plan
- Required monumentation shall be protected in place, or installed, or removed and replaced per the applicable Clark County Standard Drawing. Additionally, all required monumentation surrounding the project, existing or proposed, must be bonded.
- Fire hydrant locations; location of Fire Riser Room
- Fire Department Connection (FDC) locations

Checklist (cont.)

HORIZONTAL CONTROL AND FIRE ACCESS PLAN (CONT.)

- Fire hydrants shown 500 feet maximum spacing along the fire lane for residential, 300 feet for industrial/commercial, and 1000 feet where not require for structures to provide for transportation hazards. Spacing may be increased by 100 feet if all structures within the development have fire sprinklers. No increase is allowed for transportation hazard spacing.
- All hydrants must be at least 6 feet away from residential driveways, power poles, or light standard, and 15 feet from commercial driveways curb return.
- Fire hydrants must be stationed with streetlights shown to verify there are no conflicts.
- A fire hydrant is required within 300 feet of each residential property, as measured along the street from the hydrant to the property line furthest from the hydrant, at a right angle to the street
- A minimum of 3 feet of clear space is required around the entire circumference of all fire hydrants
- Fire hydrants located on the same level as the driving surface must be protected by bollards that comply with Fire Code Section 8001.11.3
- Fire hydrants must be located along fire access lanes, a minimum of 4 feet and a maximum of 7 feet from back of curb. Detail must be provided.
- When automatic fire sprinkler protection is required, the Fire Department Connection (FDC) shall be located on the address side of the building, adjacent to the fire access lane with no obstructions and located within 100 feet of a fire hydrant. Yard type FDC's shall be labeled with the address of the building(s) served.
- Fire access routes shaded with all radii labeled. Fire routes must meet the following minimum requirements:
 - Be a minimum of 24-feet wide with a minimum inside turning radius of 28 feet and outside turning radius of 52 feet and
 - Dead-ends that exceed 150-feet must have a clear turnaround with a diameter of 91 feet to the back of curb for residential (92 feet if using roll curb) and 105 feet for commercial developments
 - Be provided to within 150 feet of all exterior ground floor walls “as the hose lays” around obstructions
 - Be an all-weather surface capable of supporting the weight of apparatus
 - Two means must be provided for groups of 25 or more residential dwelling units
 - The grade must not exceed 12%.
 - Angles of approach and departure must not exceed 6% for 25 feet before or after the grade change
- Call out areas where red-painted curb is required. Signage is required as discussed below:
 - Signage shall be posted at the two ends and as required to provide a maximum separation of 100 feet between signs
 - Signage shall state “No Parking. Fire Lane.” A detail of which must be included.
- Denote where gates are planned to cross fire access lanes. These locations must include a note stating “Gate shall be 24 feet clear opening width, electric, and equipped with AVI loop opening system”
 - Must have a back up battery in case of normal power loss
 - AVI loop shall be located 10 feet measured perpendicular to the face of the access gate along the route of arrival, 10 feet from the public right-of-way, and be marked with a green reflective marker on the access lane

Checklist (cont.)

HORIZONTAL CONTROL AND FIRE ACCESS PLAN (CONT.)

- For residential development where a secondary “emergency access only” entrance is being provided, the following applies:
 - Must be paved or provide a “suitable alternative” such as approved pavers
 - Must be a minimum of 24 feet in width
 - Have an electric gate with AVI loops and battery back up (manual gate with Knox box on both sides or Knox padlock accessible from both sides is acceptable in single family DETACHED home subdivisions)
 - Provide a driveway from the perimeter street that meets the standards of CCASD 224, if the sidewalk is offset from the curb and gutter or 226.S1 if the sidewalk abuts the curb and gutter.
 - The following notes must be provided for the applicable situation:
 - ▶ For Manual Gate: “Gate shall be 24 feet clear opening width with Knox box on both sides or Knox padlock accessible from both sides”
 - ▶ For Electric Gate: “Gate shall be 24 feet clear opening width with AVI loop opening system”

Utility Sheets

- Engineer’s seal in accordance with NRS 625 and NAC 625
- Print sizes L80 or greater
- Call Before U Dig note/ Call Before You Overhead
- Key Map
- North arrow (pointing upward or to the right) and bar scale (1”=40’ maximum)
- CNLV project number located in the lower right hand corner of each plan sheet (will be assigned after initial submittal of the civil plans)
- Approved street names and identification as public or private
- Identify NDOT right-of-way
- Street widths
- Driveway locations
- Lot numbers and unit/building numbers where applicable
- Adjacent project plans denoted on the plan sheets – provide names, improvements (existing and proposed) and line work
- Wastewater demand computation table
- Design of the utilities must follow all requirements set forth by the Utilities Department, the Uniform Design and Construction Standards for Potable Water Systems (latest edition), and Design and Construction Standards for Wastewater Collection Systems (latest edition)
- Master Utility Plan
- Existing and proposed utility laterals and services. Make sure none of these are located within bus turnouts.
- All buildings require a separate meter

Checklist (cont.)

UTILITY SHEETS (CONT.)

- Asphalt patches shown and labeled with note, which states: **THE SAWCUT LINES AND LIMITS OF A.C. REMOVAL AND REPLACEMENT SHALL BE DETERMINED BY A CNLV CONSTRUCTION SERVICES INSPECTOR; A.C. SHALL BE REPLACED BY MECHANICAL MEANS. TRENCH BACKFILL MATERIAL SHALL BE SAMPLED, DESIGNED, TESTED AND CERTIFIED PER CNLV TRENCH BACKFILL POLICY.**
- Show separated sidewalk, if required by CNLV Municipal Code or Planning Commission conditions of approval
- Look for locations of existing dry utility facilities (power poles, utility boxes, transformers, etc) and make sure that they are located behind back of future curb and not within proposed driveways and bus turn outs or in conflict with proposed utilities.
- Approval blocks for Fire Prevention located in the lower right corner of the plans
- All Nevada Energy easements, appurtenances, lines and poles must be shown and shall be located entirely within the perimeter landscape area of this development. Distribution lines, existing or proposed, shall be placed underground if impacted by the proposed development of the parcel or if the pole impedes upon the proper ADA clearances for sidewalk. Under no circumstances will new down guy wires be permitted.
- Project specific utility notes and the CNLV Utility Disclaimer ("City of North Las Vegas Utility Department Disclaimer: A statement of understanding between the City of North Las Vegas Utility Department (City) and any and all subsequent users of information obtained herefrom: The plans and supporting information is furnished by the City, and is accepted/used by the recipient with the understanding that the City makes no warranties, express or implied, concerning the accuracy, completeness, reliability, or suitability of said plans or any supporting data and further understands that all users are acting at their own risk. The City shall be under no liability whatsoever resulting from any use of this information. This information should not be relied upon as the sole basis for existing water and/or sewer locations. The Engineer shall check and verify all dimensions and locations of existing utilities.")
- Existing dry utilities and appurtenances (except for SWG) relocated behind curb
- Show all existing easements and recorded document information that created it
- Show public utility easements proposed with this project, whether granted by separate document or map
- Show loading pad easement (5'x25') at back of CAT bus turnout
- Show dimension of rights-of-way and common elements
- Existing and proposed water and sewer facilities with dimensions, labels, and identification as public or private with ownership denoted
- Finished Floor Elevations
- Fire flow requirements and building information for each structure
 - Maximum square footage of proposed buildings
 - Type of construction
 - Maximum area separated by 4 hour rated walls for commercial/industrial sites
 - Occupancy group of each building in accordance with the Building Code
 - Height of each building
 - Number of stories
 - Whether the buildings have fire sprinklers
 - Resultant fire flow in accordance with Fire Code Appendix III-A
 - Allowable fire flow reductions:
 - ▶ 50% for buildings with fire sprinklers up to 2 stories.

Checklist (cont.)

UTILITY SHEETS (CONT.)

- ▶ 25% for building with fire sprinklers 3 stories or greater in height, high-rises, and buildings stocking high-piled combustibles and/or flammable/combustible liquids or hazardous materials in excess of exempt amounts
 - ▶ Minimum required fire flow for commercial/industrial buildings is 1500 gallons per minute at 20 psi
 - ▶ For industrial/commercial buildings, separating the building into fire areas using 4 hour rated walls with no openings and a 30 inch parapet is allowed. The location of the walls must be shown on the plans.
- The following structures must have fire sprinklers:
 - Buildings with an area of 5,000 square feet or greater
 - All R-1 and R-2 Occupancy per the Building Code, regardless of size
 - All Group S Occupancy per the Building Code, regardless of size
 - When fire sprinklers are required for an R-3 Occupancy per the Building Code and the supply is by a combined domestic and fire water service, a minimum 1-inch meter shall be installed.
 - A 1-hour rated fire sprinkler room with exterior door is required unless a yard type or wall mounted Post Indicator Valve (PIV) is provided for sprinkler valve control.
 - Location of all fire hydrants
 - Where more than one building is protected by a common fire protection water supply and where more than one building on that water supply requires a fire pump to achieve the minimum pressure requirements for a sprinkler system, a minimum of two fire pumps shall be installed to supply the private fire protection loop. Each fire pump shall be provided with its own individual tie-in to the city water supply.
 - Fire Department Connection supply piping shall be rated for at least 200 psi.
 - Sectional valves must be provided on the underground piping so that no more than two fire hydrants are out of service due to a break in the water supply pipe.
 - Two sources of water supply are required for every group of four or more fire hydrants and/or sprinkler underground lead-ins.

TRAFFIC (MUST BE SEPARATE SHEET)

- Engineer's seal in accordance with NRS 625 and NAC 625
- CNLV project number located in the lower right hand corner of each plan sheet (will be assigned after initial submittal of the civil plans)
- Signature block for City Traffic Engineer located in the lower right hand corner
- North arrow (pointing upward or to the right) and bar scale (1"=40' maximum)
- Full compliance with ALL requirements set forth in the Traffic Study Acceptance Letter
- Adjacent project plans denoted on the plan sheets – provide names, improvements (existing and proposed) and line work
- Call Before U Dig/Call Before You Overhead note
- Legend correctly shown to match plans (can be on cover, note or detail sheet)
- Construction Notes must call out the appropriate Clark County Area Uniform Standard Drawing (CCAUSD)
- Show traffic control and improvements a minimum of 500 feet in each of direction, including existing driveways on both sides of the roadway

Checklist (cont.)

TRAFFIC (CONT.)

- Place permanent striping on permanent improvements. Temporary striping on permanent asphalt will not be permitted unless deemed necessary due to right-of-way restrictions or other significant issues. Additional asphalt and striping may be needed to reconcile the lane lines and eliminate sawtooth pavement transitions.
- Approved street names and identification as public or private
- Denote all NDOT right-of-way
- Street widths
- Show existing power poles
- Show separated sidewalk, where required
- Sidewalk ramps (CCAUSD 235)
- Minimum five (5) foot wide unobstructed sidewalk; streetlight location per CCAUSD 320
- Show loading pad dedication (5'x25') at back of CAT bus turnout (CCAUSD 234.2)
- Show dimension of rights-of-way and common elements
- Minimum right-of-way clearly depicted at intersections per CCAUSD 201
- 0 inch lip driveways allowed on internal residential streets only and must be identified as such
- Show existing and proposed signs. Call out the type, street station and offset distance
- Speed limit (R2-1) 18"x24"; Subdivisions posted at 25mph at all entrance
- STOP signs (R1-1) at all commercial driveways; less than 80' ROW R1-1 to be 30"; greater than or equal to 80' ROW R1-1 to be 36"; 4-way stop not allowed without engineering study
- Street name signs (D3); approaching 80' or greater ROW to be 12" tall otherwise 9" tall per CCAUSD 250
- NO OUTLET signs (W14-2a) install 2 back to back on R1-1/D3 assembly with arrows pointing toward no outlet
- NO PARKING (R7-1APR) on streetlight pole and show direction of arrows on plan; required on all 80' or greater ROW
- Valley gutters not permitted across 80' or greater ROW. Gutters per CCAUSD 228
- End of road slopes: 6:1 max if traversable, if not, provide Type III barricade with two R11-2 ROAD CLOSED signs; use advance warning signs – DEAD END (W14-1) or PAVEMENT ENDS (W8-3)
- Parallel slopes and road side embankments must conform to AASHTO Roadside Design Guide, latest edition. NOTE: Drainage Study requirements DO NOT supercede AASHTO requirements
- Vertical curves required for grade breaks greater than or equal to 1%
- Provide School Sign legend with MUTCD 2009 codes
- All school speed limit signs are 35"x48"
- School flasher pole with sign and luminaire (CCAUSD 745); school flasher signal assemblies (CCAUSD 747, 741 and 742); school flasher conduit and wiring details
- Proposed walking paths, crosswalks, and school signage must be surveyed and shown in plan view
- Use of fluorescent yellow green is acceptable if it conforms to the MUTCD
- Centerline intersection stationing

Checklist (cont.)

TRAFFIC (CONT.)

- Existing and proposed street light stationing and watts (CCAUSD 320); circuit designators if calling out multiple circuits. Each service is to be clearly identified and have a unique number identifier. Each circuit of each service (max 2) must be identified as "A" or "B"
- When relocating streetlight circuit, continuity must be maintained without splicing. Pull boxes shall not be used for splicing.
- Minimize the number of pull boxes. Pull boxes MUST be used when there are 3 conduits connected and a streetlight is NOT in the vicinity; if there is more than 300'-500' between streetlights; or if there are more than four 90-degree bends in the conduit
- Streetlight capacity verification required when connecting new streetlights to existing service points
- Install street light and foundation per CCAUSD 314, 320, and 321
- 15' mast arms shall be used at all bus turn outs and right turn lanes (CCAUSD 316)
- Street light conduit and service points(onsite/private circuits to be separate from offsite/public circuits)
- Service pedestal: 125/200 AMP pad mount service pedestal (CCAUSD 730, 331, 332.S1, and 335.S1)
- Provide pull boxes for all conduits 5' prior to end of improvements / sidewalk
- All empty conduit must have pull wire (CCAUSD 889)
- Call out 2" streetlight conduit with 2-#4 and 1-#8 THW copper conductors
- Connect to existing 1-1/4" or 2" conduit using a 3 ½ pull box
- Intercept existing 1-1/4" or 2" streetlight conduit with proposed empty conduit (pull wire only) and connect using a 3 ½ pull box (for future emergency backup lighting)
- No streetlight conduit to be provided in undeveloped areas. Conduit must be protected by sidewalk
- Conduit must be stubbed and capped (with pull wire only) 5' past the property line or to the opposite side of ROW for future streetlight connections (CCAUSD 889)
- Conduit crossing ROW intersections must be placed under the valley gutter or in the same location if a valley gutter is not provided
- Conduit crossing only at intersections. Conduit crossing T intersections will only be allowed on 60' or less ROW
- All conduit bends for traffic signals and interconnect lines shall have PVC coated rigid conduit bends with a minimum radius of 24"
- 80'x80'/80'x100'/100'x100' and greater intersections require future signal details on the plan
- Deviation from CCAUSD requires streetlighting study
- Streetlight clearance at overhead high voltage power lines must be a minimum of 10'
- Non-standard poles (less than 30') must be approved by CNLV (CCAUSD 313)
- Streetlights must be 1 foot from the BCR at intersections. Streetlights shall be a minimum of 6 feet from the BCR at driveways (CCAUSD 222.1, 300 series)
- Streetlights to be a minimum of 3 feet from drop inlets
- Block wall behind sidewalk must be notched a minimum of 1.5 feet x 3 feet for streetlight clearance and a concrete pad shall be installed per CCAUSD 320.1

Checklist (cont.)

TRAFFIC (CONT.)

- NDOT breakaway poles required for posted speeds greater than 55 mph on NDOT ROW
- If trenching near a signalized intersection is proposed, the plan must show existing conduit and loop detectors, if applicable
- 3" PVC fiber optic conduit on 80-foot ROW (both sides) and 4" PVC fiber optic conduit on 100-foot or greater ROW (both sides); a #8 green conductor and 72 strand single mode fiber shall be installed in all empty conduit' P30 pull boxes with "FIBER OPTIC" inscribed on the lid; Type 200 splice vault shall be used where trunk lines meet at intersections
- Show any FAST and/or CNLV fiber optic interconnect cable to be impacted and/or installed
- Drive aisle labeled with a minimum width of 24 feet
- Sight distance triangles (CCAUSD 201.2) with dimensions
- Commercial developments fronting 80' and greater ROW driveway widths must be a minimum of 32 feet wide, lip to lip with curb return radii of 25 feet ingress and 15 feet egress
- Commercial developments fronting less than 80' ROW driveway widths must be a minimum of 28 feet wide, lip to lip, with curb return radii of 25 feet ingress and 15 feet egress
- All utilities must be a minimum of 6 feet away from the end of the curb return (CCAUSD 222.1)
- All driveways are to be constructed per CCAUSD 222.1 and 225 unless otherwise approved by the City Traffic Engineer
- Gated entrances must be set back a minimum of 50 feet from the lip of gutter to the call box. Separate lane for visitor traffic. 48 foot radius turn-around.
- Existing and proposed pavement markings (including bike routes) and proposed match to existing pavement markings, including approaching legs of intersections
- Bus turnouts
- Flared intersections per CCAUSD 201.1. Added right turn lane (CCAUSD 246) must include dimensions and R3-7R signs. Forced right turn land (CCAUSD 246.6) must include dimension of drop and storage lane and R3-7R signs.
- Show detail of turn lane legends and dimensions
- Crosswalk per CCAUSD 254
- Call out Type 4 lane lines (CCAUSD 244.1)
- Medians: Must be constructed with an additional lane in the opposing direction by the first developer in along 100' or greater ROW; 4' width or matching opposing; nose marking per CCAUSD 248; if driveway exists opposing a median island, the entire island is to be painted yellow with reflective paint; line approaching centerline markings to right of island (200' minimum adjustment, show detail); post K-71 flexpost bollards in lieu of R4-7 sign; must be constructed per CCASD 218 – TACK ON NOT PERMITTED
- Property access per Title 17.24.040
- Street intersections shall be offset a MINIMUM of 200' per Title 16.20.050
- Closing pavement transitions; 200' minimum; OMR-3R spaced at 35' OC on 80' ROW or greater and 25' OC on 60' ROW or less; 8" white painted edge line on closing tapers; 4" white painted edge line on open tapers and straight sections

Checklist (cont.)

TRAFFIC (CONT.)

- Merging tapers to comply with MUTCD section 3B
- Type I centerline transition to Type II centerline; provide details (CCAUSD 245); paint is not acceptable
- Reverse curve; show design speed, radius, and length of curve
- Master street lighting for master plan/multi-phase projects
- Access roads must be a minimum of 32' wide per CCAUSD 209 with 4" white painted edge line 4' from edge of pavement. Type I centerline per CCAUSD 244
- If adjacent to North 5th, must design and construct ultimate street section per CNLV approved typical section.
- If applicable, add note "NDOT Encroachment Permit required for all work done within State Right-of-way)
- For emergency access or homes facing 60' streets, CCAUSD 226.S1 must be used
- Removal of existing striping may include milling and overlay
- If at an intersection where the City is constructing a signal, check plans against City design
- Look for locations of existing dry utility facilities and make sure that they are located behind back of future curb and not within proposed driveways and bus turn outs
- Table/List of public and private traffic quantities - must match Bond & Fee Estimate
- Print sizes L80 or greater

PLAN AND PROFILE SHEETS

- North arrow (pointing upward or to the right) and bar scale (1"=40' maximum)
- Engineer's seal in accordance with NRS 625 and NAC 625
- CNLV project number located in the lower right hand corner of each plan sheet (will be assigned after initial submittal of the civil plans)
- Adjacent project plans denoted on the plan sheets – provide names, improvements (existing and proposed) and line work
- Approved street names and identified as public or private
- Denote NDOT right-of-way
- Intersection design shown for all four quadrants
- Refer to North Neighborhood Study for proposed FG at undeveloped intersections
- Plan view above profile
- Line and curve data for the segment shown on the plan view
- Call Before U Dig/Call before you Overhead note; FAST
- Benchmark
- Rights-of-way and sidewalks labeled and dimensioned
- Where matching into existing streets, a minimum of 200' of the existing street must be shown on the plan view and profile. Where vertical curves exist or longer transitions per MUTCD are required the plan and profile of the street shall be extended.
- Centerline street stationing at 50 foot intervals and at pc/pt, grade breaks, etc.
- At centerline street intersections provide station equation
- Existing ground in profile shown and labeled
- Limits of scarping and existing contours (extend contours a minimum of 100-feet beyond project limits) shown on the plan view

Checklist (cont.)

PLAN AND PROFILE SHEETS (CONT.)

- Proposed profile shown and labeled as FG or TC
- Street slopes labeled (0.4% min) – if 0.4% cannot be provided because of existing conditions, drop inlets every 100-feet and storm drain will need to be provided.
- Utility crossings shown and checked to meet location, separation and cover requirements. Provide invert elevation and top of pipe for all proposed crossings
- Sewer pipe size, length, and material labeled
- Sewer line bearings labeled when not parallel with centerline
- Sewer slopes labeled
- Sewer connection to existing labeled
- New water mains 8-inch and larger
- Depict computed lengths of mechanical restrained joint calculations on profile
- Existing water and sanitary sewer, as required by Utilities Department
- Manhole number, station, rim, and inverts labeled (minimum 0.2' drop checked for sanitary sewer)
- Storm drain shown with type, size, length, HGL, and slope
- All storm drain laterals shall be profiled
- Sawcuts of existing asphalt labeled
- Asphalt patching construction note added: **“THE SAWCUT LINES AND LIMITS OF A.C. REMOVAL AND REPLACEMENT SHALL BE DETERMINED BY A CNLV CONSTRUCTION SERVICES INSPECTOR.”**
- Street sections w/ pavement thickness (for bonding purposes) sections shall be a minimum of: 100-foot ROW = 6” AC over 20” Type II; 80-foot ROW 5” = AC over 14” Type II; 60-foot ROW = 4” AC over 12” Type II; 48-foot ROW and private streets = 2” AC over 10” Type II). Actual sections will be determined at the time of construction.
- Add this note to the sheet showing the typical sections: **“THE OFF-SITE PAVEMENT SECTIONS SHOWN ON THE PLANS ARE FOR REFERENCE ONLY. THE ACTUAL SECTION MUST BE DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 401 USING THE AASHTO MODEL. UPDATED SECTIONS MUST BE BASED ON TRAFFIC COUNTS PROVIDED BY THE CITY AND R-VALUE TEST RESULTS PERFORMED SUBSEQUENT TO GRADING.”**
- 2% minimum cross slope
- Sidewalk ramps w/ A & B dimensions
- Overpave shown and labeled, where required (overpave for 60-foot ROW is 9 feet)
- Pavement transitions at end of construction (length per MUTCD)
- Adjacent existing or future conditions (verify they are shown accurately by cross checking with plans)
- Vertical curves shown and labeled, where needed
- Cul-de-sacs checked for a minimum 1% slope from HP to all adjacent edge of ac at lip of gutter locations
- Crown transition shown and stationed
- Valley gutter shown and labeled, including FL’s (must be constructed to opposite spandrel if first development at intersection, with erosion protection provided at the terminus)
- Intersection grading checked (1% in VG from midpoint of BCR)

Checklist (cont.)

PLAN AND PROFILE SHEETS (CONT.)

- TC's, FL's, HP's, and FG's
- Median island design must be shown, when required, and must be constructed per CCASD 218 – TACK ON ISLANDS NOT PERMITTED. First development in along 100-foot streets must construct the median and one lane on the opposite side (all 100-foot or greater streets – landscaping required; separate application must be submitted to Public Works - The developer's landscape architect should contact Public Works at 633-2312, for landscaping requirements prior to designing the landscape plan(s) for the median. Final approval of the civil improvement plans will not be acquired prior to approval of the landscaping plans.)
- When median island landscaping is required, provide meter and backflow along the perimeter street and sleeve to median island for irrigation purposes
- First development in along 80-foot streets must construct the full half street, including the two-way left turn lane and one permanent travel lane on the opposite side
- Look for locations of existing dry utility facilities and make sure that they are located behind back of future curb and not within proposed driveways and bus turn outs
- Print sizes L80 or greater

GRADING PLANS

- Engineer's seal in accordance with NRS 625 and NAC 625
- Benchmark
- Call Before U Dig note
- Geotechnical report number and engineer, date. Verify that the report is less than one year old.
- Legend correctly shown to match plans
- CNLV project number located in the lower right hand corner of each plan sheet (will be assigned after initial submittal of the civil plans)
- Approval block for Development and Flood Control Manager located in the lower right corner
- North arrow (pointing upward or to the right) and bar scale (1"=40' maximum)
- Full compliance with ALL requirements set forth in the Traffic and Drainage Study Acceptance Letters
- Adjacent project plans denoted on the plan sheets – provide names, improvements (existing and proposed) and line work
- Intersection design shown for all four quadrants
- Refer to North Neighborhood Study for proposed FG at undeveloped intersections
- If required, location and details of BMP for parking lot low impact development
- Approved street names and identification as public or private
- Denote NDOT right-of-way
- Lot numbers and unit/building numbers where applicable
- Centerline intersection stationing
- Sidewalk ramps w/ A & B dimensions
- Sections at all property lines showing elevational relationship, property line, and any existing and/or proposed walls

Checklist (cont.)

GRADING PLANS (CONT.)

- Details and sections referenced or shown
- 2% minimum roadway crown cross slope
- Street slopes labeled (0.4% min)
- Top of Curbs (TC), Flow Lines (FL), High Points (HP), and Finish Grade (FG) elevations shown in appropriate intervals to adequately grade the site.
- Finish floor and pad elevations
- For residential lots, 1% minimum lot drainage swales with Type A drainage and high point elevations; show all lot dimensions
- Scarps and/or retaining walls (retaining wall height must not exceed 6' and must meet all requirements of Title 17 – see drainage study check list)
- Provide top of footing and top of retaining wall elevations
- Perimeter wall footing detail (schematic only, no structural design) – must use offset footing to allow the wall to be ON the property line.
- Cul-de-sacs checked for a minimum 1% slope from HP to all adjacent edge of ac at lip of gutter locations
- Valley gutter shown and labeled, including FL's –verify positive drainage across the driveway or intersection
- Adjacent pad/building elevations and spot grades adjacent to site (both existing/future conditions)
- Existing contours shown at 1-foot interval and labeled (extending 100' beyond property lines)
- Edge conditions checked to make sure water doesn't pool - scarps required? Notarized permission to grade?
- Overpave and pavement transitions (lengths per MUTCD)
- Vertical curves, where needed
- Provide a barrier to prevent vehicular access to unpaved areas
- Sight distance triangles shown and labeled
- Flood zones and BFE's shown when site is impacted by a floodzone. CLOMR/LOMR required.
- 32' access road shown, when required
- Sidewalk underdrains shown when required. Nuisance flows must be conveyed under sidewalk
- Median design shown for 100-foot or greater right-of-way
- Proposed and existing easements with dimensions, elevations, and typical sections
- Pavement section shown on typical street sections
- Elevations (top of curb, flow line, and crown line) at project boundaries, limits of construction, PC's, PT's, grade breaks, and lot line extensions
- Locations of faults and fissures – residential structures must be offset from these geological features by 5 feet; commercial structures may indemnify the City in writing. Indemnification letter must be received and approved prior to approval of plans.
- Show existing power poles. Distribution poles may NOT be replaced if impacted by the development. Lines must be placed underground.
- Show drainage easements, existing and proposed; whether granted by separate document or map

Checklist (cont.)

GRADING PLANS (CONT.)

- Show loading pad easement (5'x25') at back of CAT bus turnout
- Show dimension of rights-of-way and common elements
- Label common elements and limited common elements as such
- Show separated sidewalk, where required
- Check all grading and verify that low points are not proposed and that positive drainage is not hindered
- Look for locations of existing dry utility facilities and make sure that they are located behind back of future curb and not within proposed driveways and bus turn outs
- Print sizes L80 or greater