

**PROJECT NEON
PHASE 1
30% SUBMITTAL MASTER COMMENT FORM**

DISCIPLINE: Roadway
REVIEWER: Randy Fultz (CLV)
COMMENTS RECEIVED ON: March 31, 2011

PROJECT LEVEL: 30%

NO.	VOL. NO.	SHEET/ PAGE NO.	REVIEW COMMENTS	*TYPE	INITIALS	DESIGNER RESPONSE
1		Sheets 2AR, 35, and 36	<p>The RTC and the City of Las Vegas recently completed a Unified Planning Work Program (UPWP) planning study for East Charleston Boulevard. One of the recommendations of the UPWP study was to increase the sidewalks to 10-feet due to the high pedestrian volumes in the corridor. It is requested that Charleston Boulevard within the limits of Project Neon be designed to include 10-foot sidewalks on both sides from Desert Lane to the UPRR to match the study recommendations. Also, the sidewalk on the south side of Charleston Boulevard should be extended west to Desert Lane. The plans show it stopping near the Grand Central Overpass.</p>		(CH2M)	<p>THE SIDEWALK WIDTHS AND LOCATIONS ON CHARLESTON ARE BEING STUDIED.</p> <p>A CONCEPT FOR A 10 FOOT SIDEWALK ALONG THE NORTH SIDE OF CHARLESTON, INCLUDING CONNECTING WALKWAYS TO GRAND CENTRAL-WESTERN WAS PROVIDED DURING A JULY, 2011 MEETING WITH NDOT, THE CITY AND RTC. AS A RESULT OF THAT MEETING, A CONCEPT TO PROVIDE A 5 FOOT SIDEWALK ON THE SOUTH SIDE OF CHARLESTON IS BEING INVESTIGATED. THE SOUTH SIDE IN PHASE 1 (UNDER THE EXISTING I-15 OVERCROSSING) IS SUBJECT TO WIDTH AND STRUCTURAL LIMITATIONS THAT MAKE PROVIDING A SIDEWALK ON THE SOUTH DIFFICULT.</p>
2		Sheets 30, 31	<p>The area north of Charleston Boulevard and west of 1-15 is within the Downtown Centennial Plan and the City is currently in the process of adding the land south of Charleston Boulevard into the plan as well. The improvements along Grand Central Parkway and Western Avenue should be designed to comply with the standards set therein, see web link: http://www.lasvegasnevada.gov/files/LasVegasDowntownCentennialPlan.pdf</p> <p>The typical roadway cross section in the plan includes offset 10-foot sidewalks, 5-foot amenity zone with street trees, enhanced street lighting and other improvements at the intersections and driveways.</p>		(CH2M)	<p>A 20' MULTI USE PATH IS BEING PROVIDED FROM IRON HORSE TO THE WALL STREET CUL-DE-SAC ALONG THE EAST SIDE. THIS ALIGNS WITH THE PLANNED PED BRIDGE CROSSING OVER CHARLESTON. PROVIDING A BIKE LANE SOUTH OF THESE LIMITS IS SUBJECT TO FUTURE IMPROVEMENTS AND WILL REQUIRE ADDITIONAL R/W ON PROPERTIES NOT CURRENTLY IMPACTED. TO PROVIDE A BIKE LANE TO THE NORTH WILL REQUIRE IMPACTS TO GOV'T CENTER PROPERTY AND IS OUTSIDE THE LIMITS OF THE PROJECT.</p>

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3		Sheet 11, 12, 13, 30, and 31	<p>Desert Lane between Oakey and Charleston Boulevard should be revised to include bicycle lanes adjacent to I-15. Also, Grand Central Parkway/Western Avenue should include bicycle lanes from the Clark County Government Center to Wyoming Avenue. All bicycle lanes for the project including Alta Drive should be done in accordance to Uniform Standard Drawing Number 244.5, see web link below.</p> <p><i>http://rtcsonthernnevada.com/mpo/streets/Files/VolumeI/Adobe/244.5.pdf</i></p>		(CH2M)	<p>DESERT LANE: DESIGN HAS BEEN UPDATED TO INCLUDE BIKE LANES ON BOTH SIDES OF THE ROADWAY OAKEY TO CHARLESTON.</p> <p>GRAND CENTRAL – WESTERN: A 20' MULTI USE PATH IS BEING PROVIDED FROM IRON HORSE TO THE WALL STREET CUL-DE-SAC ALONG THE EAST SIDE. THIS ALIGNS WITH THE PLANNED PED BRIDGE CROSSING OVER CHARLESTON. PROVIDING A BIKE LANE SOUTH OF THESE LIMITS IS SUBJECT TO FUTURE IMPROVEMENTS AND WILL REQUIRE ADDITIONAL R/W ON PROPERTIES NOT CURRENTLY IMPACTED. TO PROVIDE A BIKE LANE TO THE NORTH WILL REQUIRE IMPACTS TO GOV'T CENTER PROPERTY AND IS OUTSIDE THE LIMITS OF THE PROJECT.</p>

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**PROJECT NEON
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DISCIPLINE: Flood Control Comments

REVIEWER: Randy Fultz (CLV)

PROJECT LEVEL: 30%

COMMENTS RECEIVED ON: March 31, 2011

Please Note: These comment/responses have been replaced by 5/01/2011 comments below:

NO.	VOL. NO.	SHEET/ PAGE NO.	REVIEW COMMENTS	*TYPE	DESIGNER RESPONSE
1			The assumption that the Sahara Avenue CCRFCD system is in place is no longer valid following the 40% reduction of the 2010 CCRFCD 10-year CIP. As a result, the Sahara Avenue system can only be constructed to Eastern Avenue in the next 10 years. An agreement with NDOT may be necessary to advance this project or to provide construction of a detention basin at the southwest corner of Oakey Boulevard and I-15. The City would then reimburse NDOT for the construction of such a facility when CCRFCD funds become available.		
2			The Project NEON 30% Design, Phase I Improvement Plans include the relocation of existing Clark County Regional Flood Control District (CCRFCD) Master Plan (MPU) facilities to accommodate the proposed Phase I improvements. The costs associated with relocating these storm drain facilities is a cost to Project NEON and needs to be covered within the appropriate interlocal contracts for the project.		
3			The improvement plans need to address the City of Las Vegas review comments to the Project NEON 30% Report for Phase I Drainage Design, dated March 2, 2011, with the next design submittal.		
4A		Sheets 12, 81 & D9	<p>Based upon the 30% plans, the Phase I Drainage Design Report needs to be updated to incorporate added adjacent off site drainage flows to show the impacts of the proposed roadway modifications adjacent to I-15. The updated Phase I Drainage Design Report needs to discuss the drainage impacts of the direct connect roadway to the Managed Lane Ramps, Desert Lane, the Alta I Bonneville ramp, and the Western Avenue/Grand Central Parkway connection for the 100-year events during both the existing interim and fully developed conditions as called out below.</p> <p>a) Sheet 12, 81 and D9 The Desert Lane (DLI) improvements between Oakey and Charleston Boulevard includes a roadway sag on Desert Lane (DL I) near Station 26+08. Size the proposed inlets to convey the 100-year flow and convey the 1000-year flows from the roadway sag into the existing CCRFCD Waldman Lateral facility. Provide expanded drainage</p>		

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			design to address flow impacts and include the information with the next submittal of the Phase I Drainage Design Report.		
4B		Sheets 13, 34, 81 & D10	b) ——— Sheet 13, 34, 81 and D10 The Desert Lane (DL) improvements between Oakey and Charleston Boulevard include a roadway sag low point on Desert Lane (DL) near Station 33+50 at the intersection with Ellis Avenue. Identify the grading and improvement transitions between the existing improvements and the proposed DL I improvements. There is an existing 15-inch storm drain at this intersection that conveys flows south and east to the existing CCRFCD Master Plan facility. Show the facility and provide an expanded drainage design to address the 100-year flow impacts that includes the flows within Ellis Avenue. Include the updated information with the next submittal of the Phase I Drainage Design Report.		ROADWAY/DRAINAGE WILL WORK TO COORDINATE THE SAG LOCATION AND POTENTIAL REMOVAL OF THE LOW POINT.
4C		Sheets 15, 71, D12 & DP8	e) ——— Sheet 15, 71, D12 and DP8 The Northbound Off Ramp from I-15 to Alta/Bonneville includes a roadway sag on the Off Ramp south of the intersection with Alta / Bonneville. This low point is below existing and surrounding grades and does not drain. Inlets must be provided at the low point for the 100-year flow and overflow areas for the 100-year flow as necessary. Provide expanded drainage design to address flow impacts and include the information with the next submittal of the Phase I Drainage Design Report.		ROADWAY/DRAINAGE WILL WORK TO COORDINATE THE SAG LOCATION AND POTENTIAL REMOVAL OF THE LOW POINT.
4D		Sheets 30, 73 & 026	d) ——— Sheet 30, 73 and 026 The design of the direct connect roadway to the I-15 Managed Lane Ramps west of Western Avenue includes a roadway sag near Station 12+50. This low point is below existing and surrounding grades and is impacted by the interim flows along the Western Avenue corridor. The preliminary HEC-RAS analysis included in the Drainage Design Report shows the existing Water Surface Elevation (WSE) about 5-feet deep at this proposed sag location. Provide expanded drainage design to address how the 100-year flow will be collected and conveyed, and discuss how the I-15 Managed Lane Ramps will function with these higher flows until such a time as the upstream CCRFCD MPU facilities are constructed (See comment 3). Identify the needed upstream MPU facilities necessary to protect the Managed Lane Ramps and include this updated information with the next submittal of the Phase I Drainage Design Report.		DUE TO THE PROFILE OF I-15, RAISING THE ACCESS ROAD FURTHER IS NOT POSSIBLE AND REMOVAL FROM THE FLOODPLAIN CAN NOT BE DONE WITH THIS PHASE. THE ROADWAY/DRAINAGE SYSTEM WILL BE COORDIANATED TO REMOVE AS MUCH PONDING AS POSSIBLE, UNTIL THE SUBSEQUENT NEON PHASED DRAINAGE FACILITIES RESOLVE THE FLOOD LEVELS IN THE AREA
4E		Sheets 30, 74 & 026	e) ——— Sheet 30, 74 and 026 The Western Avenue/Grand Central Parkway improvements provides a roadway sag low point at the touch down near W GC Station 26+47. Collect and convey the 100-year flows from the roadway sag point. Revise the inlet collection system to use the County Std. 412A inlet. Provide expanded drainage design information to address flow impacts and include the information with the next submittal of the Phase I		ROADWAY/DRAINAGE WILL WORK TO COORDINATE THE SAG LOCATION.

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			Drainage Design Report.		
5		Sheets 36, 82, 83 & 032	The proposed inlets need to be sized for the flow impacts at the sag points.		
6		Sheets 38 & 034	The proposed Type D inlets need to be revised to C D Inlets per County Std. 412A. Verify the need to reconstruct the existing inlet on the south side of Bonneville west of the Mall entry.		
7		Sheets D8 & DP9	The existing inlets along Oakey Boulevard west of Desert Lane need to be connected into the relocated storm drain.		
8		Sheets D9, D10, U9, U10 & U30	The existing storm drain at the intersection of Desert Lane and Ellis Avenue is not shown on the plans. This 15-inch RCP storm drain is located within existing drainage easements shown on the U Sheets. The intersection improvements will need to accommodate the drainage facility and may need to be upgraded to meet criteria. Show the facility and provide an expanded drainage design to address flow impacts and include the information with the next submittal of the Phase I Drainage Design Report.		ROADWAY/DRAINAGE WILL WORK TO COORDINATE THE SAG LOCATION AND POTENTIAL REMOVAL OF THE LOW POINT.
9		Sheets D9 & DP17	The proposed storm drain has inlets that appear to be below the top of the RCB that they are connecting into. Verify the system hydraulics to show that the system will function during the 100-year event. Provide expanded drainage design information to address flow impacts with the next submittal of the Phase I Drainage Design Report.		
10		Sheet D13	The proposed channel along the west side of I 15, north of Alta/Bonneville, needs to be sized to convey additional 100-year surface flows reaching this location from the existing low point within Martin Luther King Boulevard. Provide an update to the Phase I Drainage Design Report that addresses the revised 100-year flow impacts to this proposed channel facility.		
11		Sheets DD1, DD2 & DD3	Show the proposed flowline location and the minimum cross slope for the proposed channel sections.		
12		D Sheets	The City of Las Vegas does not allow County Std. 414, Type D inlets. Replace all Type D inlets with County Std. 412A, C D Inlets.		
13		DP Sheets	Provide the Q, HGL and Design flow rate for the proposed storm drain systems. Provide additional profile sheets to include the entire storm drain system and laterals. Show the utilities on the storm drain profiles. Reference the corresponding D Sheet numbers.		

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14		D & DD Sheets	The plans reference details that were not yet provided. Provide the referenced details and include the complete the Detail Sheets with the next submittal.		
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PROJECT NEON PHASE 1 30% SUBMITTAL MASTER COMMENT FORM

DISCIPLINE: Sanitary Sewer Comments
 REVIEWER: Randy Fultz (CLV)
 COMMENTS RECEIVED ON: March 31, 2011

PROJECT LEVEL: 30%

Please Note: These comment/responses have been replaced by 5/01/2011 comments below:

NO.	VOL. NO.	SHEET/ PAGE NO.	REVIEW COMMENTS	*TYPE	DESIGNER RESPONSE
1		Plans	Provide sheets with CLV General Notes, CLV Sewer Notes and Quantities Table for all proposed CLV sewer and storm drain facilities.		
2		Sheet U6	Extend one of the [2.1] call out arrows in Sahara east of I-15 to point to the sewer line running east in the Sahara median, one of the arrows is pointing at the water line.		
3		Sheet U8	Existing sewer manhole on the 10" sewer line in Oakey at MLK at approximate station "OW" 19+00 shall be adjusted to final grade, change callout note # [2.1] to (2.5). (Sheets U8 & U29) The proposed sanitary sewer manhole in MLK located 12' left of station "DL1" 14+65 shall be constructed in manner that it is rotated so that the manhole rim and cover is not within the curb and gutter area.		
4		Sheet U9	Construct proposed sewer manholes outside of paved areas or in landscaped areas per SD-4.		
5		Sheet U10	Provide stationing numbers for location line on the south side of Charleston Boulevard. The two sanitary sewer manholes (ssmh) being removed and replaced in MLK north of Charleston shall be 60" due to the change in sewer line direction within the ssmh per section 2.2.9 of the DCSWCS.		
6		Sheet U11	Sewer manhole with existing bend located at Hastings and MLK proposed for removal and replacement shall be 60" per DCSWCS 2.2.9.		
7		Sheet U12	Existing ssmh located adjacent 10 station "MLK2" 31 +20 may be in conflict with proposed retaining wall on the east side of MLK north of Oakey.		
8		Sheet U29	Existing sewer manhole located on west side of MLK at approximate station 19+ 10 shall be adjusted to final grade per SD-5.		
9		Sheet U35	60" sanitary sewer manholes are required at manholes numbered 5, 6, 7, 8, & 10 in "San Sewer Construction Notes". Sanitary Sewer Manholes numbered 12, 13 in the "San Sewer Construction Notes" require 72" sewer manholes.		
10		Sheet U37	"T Lock" lined or approved equal corrosion protected manhole required at "W GC" 26+62.18 1.95 Rt. Corrosion protection is required in slope changes of greater than 4%. Consider revising proposed sewer slopes to provide a flow velocity of less than		

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			10 feet per second when pipe is 75% full, specifically in proposed sewer sections "W GC" 26+00.6 thru 27+83.82. 60" sanitary sewer manhole required at "W GC" 31+11.39-29.33' Lt. Minimum 5 feet clearance (outside wall to outside wall) required between existing 2" gas line and proposed sewer manhole at station "SJ" 16+72.20-32' Lt.		
11		Sheet U41	Is the sewer relocation in MLK necessary between Oakey Boulevard and the City of Las Vegas Fire Station? There appears to be no connections from the west and proposed sewer location is closer to the proposed drainage structure. The proposed sewer line requires reinforced concrete encasement per SD-14 in areas where top of pipe to final grade is less than 5 feet. A sanitary sewer manhole is required at the slope change where proposed sewer ties to existing. The proposed slopes for the sewer line in MLK are substandard, redesign to provide a minimum of 0.4% slope. Use C900 PVC between ssmh "DL1" 12+90 and "DL1" 10+24 for added protection of waterline below sanitary sewer.		
12		Sheet U42	The plans propose to use SDR-21 PVC for the proposed "removed and replaced" sewer section in Charleston Boulevard, is SDR-21 being used for its load strength. SDR-21 is not on the CCWRD approved materials and may not be available in 30"		

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DISCIPLINE: Traffic Comments

REVIEWER: Randy Fultz (CLV)

PROJECT LEVEL: 30%

COMMENTS RECEIVED ON: March 31, 2011 (Replace with updates: 4/27/11)

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1			<p>The area north of Charleston Boulevard and west of I-15 is within the Downtown Centennial Plan and the City is currently in the process of adding the land south of Charleston Boulevard into the plan as well. The improvements along Grand Central Parkway and Western Avenue should be designed to comply with the standards set therein, see web link: http://www.lasvegasnevada.gov/files/LasVegasDowntownCentennialPlan.pdf</p> <p>The typical roadway cross section in the plan includes offset 10-foot sidewalks, 5-foot amenity zone with street trees, landscaped medians with palms, along with the Black Ameron Decorative Streetlight Poles to meet the Downtown Centennial Plan Standards.</p>		LH Roadway (CH2)	<p>A 20' MULTI USE PATH IS BEING PROVIDED FROM IRON HORSE TO THE WALL STREET CUL-DE-SAC ALONG THE EAST SIDE. THIS ALIGNS WITH THE PLANNED PED BRIDGE CROSSING OVER CHARLESTON. PROVIDING A BIKE LANE SOUTH OF THESE LIMITS IS SUBJECT TO FUTURE IMPROVEMENTS AND WILL REQUIRE ADDITIONAL R/W ON PROPERTIES NOT CURRENTLY IMPACTED. TO PROVIDE A BIKE LANE TO THE NORTH WILL REQUIRE IMPACTS TO GOV'T CENTER PROPERTY AND IS OUTSIDE THE LIMITS OF THE PROJECT.</p>

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2			<p>There is also a plan to connect on-street bike lanes and/or off-street bike paths between Oakey and Alta. For the segment north of the Iron Horse/Mall signal, the City desires a 10-foot off-street bicycle path along the RTC and County frontage on Grand Central Parkway to provide connectivity between Oakey and Bonneville Avenue to the Downtown Transit Center. Please evaluate options to extend an on-street or off-street bike path to the southern limits of the project (at least to the Managed Lanes intersection) and adjust the right of way footprints accordingly. At the April 7, 2011 meeting it was discussed that the pedestrian and bicycle improvements could be combined along the east side of the Grand Central/Western bridge to reduce costs</p>		LH Roadway (CH2)	<p>A 20' MULTI USE PATH IS BEING PROVIDED FROM IRON HORSE TO THE WALL STREET CUL-DE-SAC ALONG THE EAST SIDE. THIS ALIGNS WITH THE PLANNED PED BRIDGE CROSSING OVER CHARLESTON. PROVIDING A BIKE LANE SOUTH OF THESE LIMITS IS SUBJECT TO FUTURE IMPROVEMENTS AND WILL REQUIRE ADDITIONAL R/W ON PROPERTIES NOT CURRENTLY IMPACTED. TO PROVIDE A BIKE LANE TO THE NORTH WILL REQUIRE IMPACTS TO GOV'T CENTER PROPERTY AND IS OUTSIDE THE LIMITS OF THE PROJECT.</p>
3			<p>The RTC and the City of Las Vegas recently completed a Unified Planning Work Program (UPWP) planning study for East Charleston Boulevard. One of the recommendations of the UPWP study was to increase the sidewalks to 10-feet due to the high pedestrian volumes in the corridor. The north side of Charleston Boulevard is within the Downtown Centennial Plan and the south half will soon be within the plan. The City desires Charleston Boulevard between I-15 and the UPRR to also be landscaped similar to Grand Central Parkway as it is a gateway into the Downtown area. Charleston Boulevard should also include, offset 10-foot sidewalks, 5-foot amenity zone with street trees, landscaped medians with palms, and Black Ameron Decorative Streetlight Poles. Also, the sidewalk on the south side of Charleston Boulevard should be extended west to Desert Lane. The 30% plans show it stopping near the Grand Central Overpass</p>		LH Roadway (CH2)	<p>THE SIDEWALK WIDTHS AND LOCATIONS ON CHARLESTON ARE BEING STUDIED.</p> <p>A CONCEPT FOR A 10 FOOT SIDEWALK ALONG THE NORTH SIDE OF CHARLESTON, INCLUDING CONNECTING WALKWAYS TO GRAND CENTRAL-WESTERN WAS PROVIDED DURING A JULY, 2011 MEETING WITH NDOT, THE CITY AND RTC. AS A RESULT OF THAT MEETING, A CONCEPT TO PROVIDE A 5 FOOT SIDEWALK ON THE SOUTH SIDE OF CHARLESTON IS BEING INVESTIGATED. THE SOUTH SIDE IN PHASE 1 (UNDER THE EXISTING I-15 OVERCROSSING) IS SUBJECT TO WIDTH AND STRUCTURAL LIMITATIONS THAT MAKE PROVIDING A SIDEWALK ON THE SOUTH DIFFICULT.</p>

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4			<p>Desert Lane between Oakey and Charleston Boulevard should be revised to include bicycle lanes and sidewalks from beginning to end. Also, Grand Central Parkway/Western Avenue should include bicycle lanes from the Clark County Government Center to Wyoming Avenue. The city has plans to add bike lanes on Shadow north of Charleston and the addition of bike lanes on Desert Lane would allow a north/south connection on the west side of the freeway between Oakey and Alta via Shadow to Ellis to Desert Lane. All bicycle lanes for the project including Alta Drive should be done in accordance to Uniform Standard Drawing Number 244.5, see web link: http://www.rtc.southernnevada.com/mpo/streets/Files/VolumeI/Adobe/244.5.pdf</p>		<p>LH Roadway (CH2)</p>	<p>DESERT LANE: DESIGN HAS BEEN UPDATED TO INCLUDE BIKE LANES ON BOTH SIDES OF THE ROADWAY OAKEY TO CHARLESTON.</p>
5			<p>The Alta Drive improvements west of Martin L. King Boulevard are not included as part of the Phase I plans. Please inform us when these improvements on Alta Drive between MLK and Shadow Lane will be constructed by NDOT as was previously agreed.</p>		<p>LH Roadway (CH2)</p>	<p>THESE IMPROVEMENTS ARE CURRENTLY INCLUDED IN PHASE 3.</p>
6			<p>There is a concern that the narrowing of Martin L. King Boulevard south of Alta Drive in Phase I will increase traffic to Shadow Lane. Please submit the traffic model for this operation to review the volumes that might be pushed to Shadow Lane. Depending on the additional traffic volumes, added intersection improvements might be warranted at Shadow/Charleston and Shadow/Alta.</p>		<p>DC Traffic (CH2)</p>	<p>PHASE 1 TRAFFIC HAS BEEN DISTRIBUTED WITHOUT AFFECTING OPERATIONS ON SHADOW LANE</p>

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7			<p>It has been requested for many years that NDOT include in Project Neon an improvement for the southbound to westbound offramp at Sahara which is a high crash location due to a very bad weave between "free flow" offramp traffic and westbound Sahara traffic weaving across the offramp traffic to turn right to go northbound on Rancho. Some type of improvement should be done by this Phase 1 project due to the construction work that will be occurring on MLK and Charleston. We feel that almost certainly this movement will increase and further cause it to breakdown. We foresee the need to detour traffic to Sahara during a lot of the Project Neon construction phases so it is best to get this movement fixed as an early item so the ramp can be used to detour traffic when needed. A possible solution is making this ramp dual rights with a signal phase. CH2MHill traffic staff would need to work with FAST to evaluate how to fit this phase on the Sahara coordination plan, the solution may be difficult but needed.</p>		<p style="text-align: center;">DC Traffic (CH2)</p>	<p style="text-align: center;">NDOT DECISION</p>
8			<p>A specific request from Councilwoman Tarkanian is that all remnant parcels be treated with a "finished aesthetically pleasing" look. Please ensure locations like Charmast, Loch Lomond and along Desert Lane get this treatment.</p>		<p style="text-align: center;">DC Traffic (CH2)</p>	<p style="text-align: center;">RIGHT OF WAY ISSUE</p>
9			<p>There are driveways that connect to the existing MLK today between Oakey Avenue and Charleston Boulevard. Since this segment of Martin L. King Boulevard is part of NDOT right-of-way, it should be determined if these driveways were ever permitted and if not, the residents be contacted to advise them accordingly if they will still be approved. Finally, if they are approved, ensure all driveways are maintained by NDOT.</p>		<p style="text-align: center;">DC Traffic (CH2)</p>	<p style="text-align: center;">RIGHT OF WAY ISSUE</p>

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10			The Desert Lane connection at Ellis in its present geometric design is not acceptable. It will create a conflict with the heavily used ambulance parking lot. We provided a sketch for a possible solution during the April 7, 2011 Project Neon meeting.		LH Roadway (CH2)	THE PROPERTIES BETWEEN DESERT LAND AND I-15 ARE TO BE ACQUIRED BY THE PROJECT. THE DESERT LANE DESIGN HAS BEEN REVISED ACCORDINGLY.
11			Will NDOT take the property located at 1524 Ellis Avenue? If not, leaving this house wedged between the new Desert Lane and Charmast would seem very undesirable.		LH Roadway (CH2)	THIS PROPERTY WILL BE ACQUIRED BY THE PROJECT. THE DESERT LANE DESIGN HAS BEEN REVISED ACCORDINGLY.
12			With the northbound off-ramp at Charleston, dual left storage should be extended if possible. Recent counts shows this movement may be as high as 600 during am peak. Try to extend to station 795 if possible; appears this ramp should also have at least 300' of signalized <i>dual rights</i> with a demand of near 600 during AM peak and due to close proximity of loop traffic to control weaving.		DC Traffic (CH2)	NOT ENOUGH WIDTH IS AVAILABLE TO ACCOMMODATE 2 LEFTS, 2 THROUGHS AND 2 RIGHTS. AGREED THAT ELNGTHS OF LEFT AND RIGHT TURN LANES SHOULD BE MAXIMIZED.
13			It appears many overhead sign structures will be needed to assign lane directions. For example on the northbound off-ramp at Charleston and for many of the movements heading to/from the Grand Central Parkway loops so they get in proper lane. Overhead signs are costly but the changes to directions are significant and warrant them.		DC Traffic (CH2)	ALREADY INCLUDED IN SIGNING PLANS

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14			<p>There are concerns with the overall operation of the Phase 1 southbound off-ramp at Charleston and the approaching southbound MLK traffic that must weave with it. Please submit the CORSIM model of this operation to review the volumes in the report. The City recently counted the southbound MLK traffic and the southbound off-ramp traffic and the volumes are alarming: southbound MLK sees a peak volume south of Pinto Lane of near 1000 vph during numerous hours of the day both weekdays and weekends; the southbound offramp sees a peak of about 700vph and these volumes will not operate well under the current plan. Please examine signalizing the ramp to implement a "metered" operation much like it used to operate except we will not have to deal with the northbound phase. Project Neon will need many detours during construction phases and one option will be to detour folks off at MLK/US95 and have them take MLK down to the Charleston Boulevard southbound onramp. This happens today anytime there is an accident on US95 south to I-15 south ramp and for that reason, we really need this weave to work under what will be expected a near daily high volume demand. Depending on what the analysis shows, more right-of-way may be needed along the west side of MLK north of Charleston to improve lane geometrics/capacity to control queues.</p>		<p style="text-align: center;">DC Traffic (CH2)</p>	<p style="text-align: center;"><i>2020 MODEL WILL BE PROVIDED TO THE CITY</i></p>
15			<p>There should be a pedestrian phase somewhere across Charleston Boulevard between Commerce and MLK. By removing the signal at the old Grand Central Parkway alignment this leaves a large gap for pedestrian crossings. Some options are a pedestrian phase that runs with the southbound GCP to westbound Charleston dual rights or a pedestrian phase along the east leg of the northbound off ramp. The new grade separation is great but our experience has been that pedestrian will not walk 300' to cross 100', they will instead just run across.</p>		<p style="text-align: center;">DC Traffic (CH2)</p>	<p style="text-align: center;"><i>NDOT DECISION, BUT I WOULD RECOMMEND AGAINST IT</i></p>
16			<p>Please show how the east leg at Grand Central Parkway /Bonneville aligns with new west leg layout and maximize storage at station 14 for westbound to southbound lefts at Martin L. King Boulevard and Bonneville Avenue.</p>		<p style="text-align: center;">LH Roadway (CH2)</p>	<p style="text-align: center;"><i>LEO HEUSTON – ROADWAY: TRAFFIC/ROADWAY WILL WORK TO MAXIMIZE STORAGE FOR THE WB LEFT TURN POCKETS</i></p>

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17			The new Alta Drive offramp may trigger need for "worm" island at full movement opening to east. It is suggested that NDOT have their Safety staff check opening for crashes and if crashes exist today may need worm island.		DC Traffic (CH2)	???
18			Martin L. King Boulevard northbound showed 800 vph at 3pm stopped at the southbound offramp stop bar. The concern is that all this traffic will now use Grand Central Parkway and load up the single northbound left at Bonneville Avenue or at Symphony Park Way to get back on MLK. Please submit an analysis for this relocated traffic (about 7000 vehicles per day based on recent count), since there are not any proposed changes to these single lefts. The other "new route" could be Shadow Lane but the multi-way at Pinto Lane may fail. If the intent is to send traffic that route, you will need to signalize Pinto/Shadow; if you send it to Charleston/Rancho you will need a westbound exclusive right turn added. Whatever is decided, it would appear that the project may need some supporting improvements included as part of the "traffic rerouting" associated with the loss of northbound MLK between Wall and Alta		DC Traffic (CH2)	WILL BE SHOWN IN THE CORSIM ANALYSES. THE NB MOVEMENT ON GCP, AT BONNEVILLE, IS BEING MODELED AS 2 LEFTS, A THROUGH, AND A SHARED THROUGH/RIGHT AND FUNCTIONS AT LOS D IN THE PM.
19			The segment of Martin L. King Boulevard north of Hastings on the west side can be a heavily parked area in the evening. Since this segment of road is planned to have parking removed, we believe the removal of parking requires approval by City Council as our city code only allows the City Traffic Engineer to remove a short segment of parking. NDOT may want to initiate a "parking study" to determine just how much parking occurs at night and depending on your findings, use that info in your justification to remove the parking or to come up with an alternative that saves the parking. Of course, in Phase 2 the issue becomes moot but until that time, parking will be a challenge for these very high density apartments.		DC Traffic (CH2)	???
20			Add sidewalk from Charleston Boulevard north to the turn-around for the Downtown Connector BR T to provide connectivity for pedestrians going north towards the Mall.		LH Roadway (CH2)	DESIGN IS BEING REVISED ACCORDINGLY

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21			The drive aisle on the north side of the new Alta Drive off-ramp at Bonneville Avenue appears to need some striping, signage, and median work to properly assign allowable movements (i.e. no left out) and that might require some easements to construct the markings, etc.		LH Roadway (CH2)	DESIGN IS BEING REVISED ACCORDINGLY. THE MEDIAN ON ALTA HAS BEEN EXTENDED FROM EXISTING TO BLOCK THE LEFT OUT MOVEMENT FROM THE DRIVEWAY
22			Since the Alta Drive Bridge under I-15 is being replaced in Phase 1, why is Phase 1 not providing dual lefts eastbound and westbound at Alta/MLK as well as an eastbound exclusive right to maximize this intersections capacity to handle all of the detouring traffic that it will see over the life of Project Neon? Again, as noted in prior comments, with the loss of northbound MLK, it is likely that eastbound Alta to northbound MLK might also see a huge increase in demand from drivers now forced to exit the hospital district via either Shadow Lane or Desert Lane and these folks will likely want to use MLK to continue north. The single left today is already near failing. Again, to handle all of the detours, Phase 1 should probably get whatever right-of-way is needed and construct the changes to Alta Drive between Rancho and Grand Central Parkway to make it 6 lanes as was required in the original US95 EIS and further identified in the Project Neon EIS. We know it is needed ultimately but will be needed more so for maximizing options during construction detours for the life of the Neon phases.		LH Roadway (CH2)	THE CONFIGURATION OF ALTA EAST OF MLK IS CONTROLLED BY THE EXISTING ALTA WEST OF THE INTERSECTION AND RIGHT OF WAY ON THE WEST SIDE OF THE INTERSECTION IS NOT PART OF PHASE 1; IT IS INCLUDED IN PHASE 3. INCORPORATING THE PHASE 3 DESIGN INTO PHASE 1 IS CURRENTLY BEING CONSIDERED.
23			Ensure that the Wall Street cul-de-sac has appropriate lighting.		DC Traffic (CH2)	WILL BE LIT TO CITY/COUNTY STANDARDS

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24			Ensure a fiber optic interconnect system is included down to the Oakey/Western intersection so that the Western/Grand Central Parkway corridor can be coordinated with the new demands coming from the managed lanes interchange.		DC Traffic (CH2)	NDOT DECISION
25			Evaluate signal head visibility for both the eastbound and westbound Charleston Boulevard movements at the I-15 northbound offramp due to the new Grand Central Parkway bridge as well as the existing Charleston Boulevard overpass which may affect the Grand Central Parkway bridge type selection to minimize structure depth to provide appropriate line of site to the signal		DC Traffic (CH2)	THESE ARE TYPICAL ISSUES ENCOUNTERED AT TIGHT DIAMOND INTERCHANGES. THE FINAL DESIGN WILL PROVIDE ADEQUATE VISIBILITY
26			At the outlet mall signal, please provide a northbound Grand Central Parkway exclusive right to the Iron Horse remnant, if right-of-way exists. The parcel will likely develop and we would rather not have the road torn up again to have an exclusive right built by the future developers.		LH Roadway (CH2)	ADDITIONAL R/W DOES NOT EXIST TO PROVIDE TURN POCKET.
27			The Charleston/Desert intersection appears to show an opening for northbound lefts. This should be designed and operated as a fire emergency exit only with a fire signal if appropriate.		LH Roadway (CH2)	TRAFFIC/ROADWAY WILL COORDINATE THE DESIGN

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28			<p>The Phase 1 plans show an eastbound Charleston Boulevard to southbound I-15 on ramp thru/right lane. With the size of this right turn movement, please explain why this phase is not providing a long exclusive right eastbound ideally starting at the McDonalds driveway to the west? This is a significant source of congestion today and this phase should provide this right turn lane to maximize operations. The design would ideally provide an overhead sign for this 4th lane "I-15 southbound ONLY".</p>		<p style="text-align: center;">DC Traffic (CH2)</p>	<p style="text-align: center;">WOULD REQUIRE ADDITIONAL RIGHT-OF-WAY</p>
29			<p>After the Project Neon meeting on April 7, 2011, we reviewed the plans one more time based on our discussions. In particular, we have added several comments that need to be addressed for handling all of the detour traffic during the various Neon Phases. We would like NDOT to set up a meeting to discuss these items further as some of the detour/traffic rerouting "improvements" may require right-of-way. The improvements could be "nearly permanent" as it could be 5-15 years before Phase 2 is ever completed to lessen their needs.</p>		<p style="text-align: center;">DC Traffic (CH2)</p>	<p style="text-align: center;">DETOUR ROUTE IMPROVEMENTS ARE BEYOND THE 60% TRAFFIC SCOPE</p>

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DISCIPLINE: Flood Control Comments

REVIEWER: Randy Fultz (CLV)

PROJECT LEVEL: 30%

COMMENTS RECEIVED ON: March 31, 2011 (Replace with updates: 4/27/11)

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1			The assumption that the Sahara Avenue CCRFCD system is in-place is no longer valid following the 40% reduction of the 2010 CCRFCD 10-year CIP. As a result, the Sahara Avenue system can only be constructed to Eastern Avenue in the next 10 years. An agreement with NDOT may be necessary to advance this project or to provide construction of a detention basin at the southwest corner of Oakey Boulevard and I-15. The City would then reimburse NDOT for the construction of such a facility when CCRFCD funds become available.		JG Drainage (CH2)	The assumption that the Sahara Avenue system is in-place has been removed from the Phase 1 analysis. Phase 1 will be designed such that the existing flow conditions will not be adversely impacted. Inclusion of additional MPU facilities into the project scope would need to be worked out between NDOT and CLV.
2			The Project NEON 30% Design, Phase I Improvement Plans include the relocation of existing Clark County Regional Flood Control District (CCRFCD) Master Plan (MPU) facilities to accommodate the proposed Phase I improvements. The costs associated with relocating these storm drain facilities is a cost to Project NEON and needs to be covered within the appropriate interlocal contracts for the project.		JG Drainage (CH2)	Relocation of the existing storm drain facilities as part of the current Phase I scope will be at NDOT's cost.
3			The improvement plans need to address the City of Las Vegas review comments to the Project NEON - 30% Report for Phase I Drainage Design, dated March 2, 2011, with the next design submittal.		JG Drainage (CH2)	The Intermediate Drainage Design Report and Intermediate Plans (60% design) will address the City's comments on the 30% Design

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4			Based upon the 30% plans, the Phase I Drainage Design Report needs to be updated to incorporate added adjacent off-site drainage flows to show the impacts of the proposed roadway modifications adjacent to I-15. The updated Phase I Drainage Design Report needs to discuss the drainage impacts of the direct connect roadway to the Managed Lane Ramps, Desert Lane, the Alta / Bonneville ramp, and the Western Avenue / Grand Central Parkway connection for the 100-year events during both the existing interim and fully developed conditions as called out below.		JG Drainage (CH2)	The Intermediate Drainage Design Report will include additional discussion of drainage impacts for Phase I
4a		a) Sheet 12, 81 and D9	The Desert Lane (DLI) improvements between Oakey and Charleston Boulevard includes a roadway sag on Desert Lane (DLI) near Station 26+08. Size the proposed inlets to convey the 100-year flow and convey the 100-year flows from the roadway sag into the existing CCRFCD Waldman Lateral facility. Provide expanded drainage design to address flow impacts and include the information with the next submittal of the Phase I Drainage Design Report		JG Drainage (CH2)	Local roadways will be designed to meet RTC spread and V*D criteria for 10-yr and 100-yr storm events. Additional design details as necessary will be included in the Intermediate Drainage Design Report.
4b		b) Sheet 13, 34, 81 and D10	The Desert Lane (DLI) improvements between Oakey and Charleston Boulevard include a roadway sag low point on Desert Lane (DLI) near Station 33+50 at the intersection with Ellis Avenue. Identify the grading and improvement transitions between the existing improvements and the proposed DLI improvements. There is an existing I5-inch storm drain at this intersection that conveys flows south and east to the existing CCRFCD Master Plan facility. Show the facility and provide an expanded drainage design to address the 100-year flow impacts that includes the flows within Ellis Avenue. Include the updated information with the next submittal of the Phase I Drainage Design Report.		JG Drainage (CH2)	Additional grading details will be provided for the 60% submittal. Local roadways will be designed to meet RTC spread and V*D criteria for 10-yr and 100-yr storm events.

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4c		c) Sheet 15, 71, D12 and DP8	The Northbound Off-Ramp from I-15 to Alta/Bonneville includes a roadway sag on the Off-Ramp south of the intersection with Alta/Bonneville. This low point is below existing and surrounding grades and does not drain. Inlets must be provided at the low point for the 100-year flow and overflow areas for the 100-year flow as necessary. Provide expanded drainage design to address flow impacts and include the information with the next submittal of the Phase I Drainage Design Report.		JG Drainage (CH2)	Modifications will be made to the off-ramp for the 60% design. Ramps to be designed for the 25-yr event and analyzed for 100-yr event to maintain the existing condition drainage patterns.
4d		d) Sheet 30, 73 and D26	The design of the direct connect roadway to the I-15 Managed Lane Ramps west of Western Avenue includes a roadway sag near Station 12+50. This low point is below existing and surrounding grades and is impacted by the interim flows along the Western Avenue corridor. The preliminary HEC-RAS analysis included in the Drainage Design Report shows the existing Water Surface Elevation (WSE) about 5-feet deep at this proposed sag location. Provide expanded drainage design to address how the 100-year flow will be collected and conveyed, and discuss how the I-15 Managed Lane Ramps will function with these higher flows until such a time as the upstream CCRFCD MPU facilities are constructed (See comment 3). Identify the needed upstream MPU facilities necessary to protect the Managed Lane Ramps and include this updated information with the next submittal of the Phase I Drainage Design Report.		JG Drainage (CH2) LH Roadway (CH2)	Revisions to the 30% design in this area will be analyzed for the Intermediate Drainage Design Report. The 100-yr storm event flows would be analyzed to ensure that the existing condition drainage patterns are maintained as a result of the improvements. RTC drainage criteria would be used for this roadway. DUE TO THE PROFILE OF I-15, RAISING THE ACCESS ROAD FURTHER IS NOT POSSIBLE AND REMOVAL FROM THE FLOODPLAIN CAN NOT BE DONE WITH THIS PHASE. THE ROADWAY/DRAINAGE SYSTEM WILL BE COORDIANATED TO REMOVE AS MUCH PONDING AS POSSIBLE, UNTIL THE SUBSEQUENT NEON PHASED DRAINAGE FACILITIES RESOLVE THE FLOOD LEVELS IN THE AREA
4e		e) Sheet 30, 74 and D26	The Western Avenue / Grand Central Parkway improvements provides a roadway sag low point at the touch down near W-GC Station 26+47. Collect and convey the 100-year flows from the roadway sag point. Revise the inlet collection system to use the County Std. 412A inlet. Provide expanded drainage design information to address flow impacts and include the information with the next submittal of the Phase I Drainage Design Report.		JG Drainage (CH2)	Revisions to the 30% design in this area will be analyzed for the Intermediate Drainage Design Report. The 100-yr storm event flows would be analyzed to ensure that the existing condition drainage patterns are maintained as a result of the improvements. RTC drainage criteria would be used for this roadway.

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5		Sheet: 36, 82, 83, and D32	The proposed inlets need to be sized for the flow impacts at the sag points.		JG Drainage (CH2)	Inlet design will be updated for the Intermediate Drainage Design Report.
6		Sheet: 38 and D34	The proposed Type D inlets need to be revised to CD Inlets per County Std. 412A. Verify the need to reconstruct the existing inlet on the south side of Bonneville west of the Mall entry.		JG Drainage (CH2)	Revisions will be made to Inlet Type for the next submittal.
7		Sheet: D8 and DP9	The existing inlets along Oakey Boulevard west of Desert Lane need to be connected into the relocated storm drain.		JG Drainage (CH2)	Revisions will be made for the next submittal.
8		Sheet: D9, DIO, U9, UIO and U30	The existing storm drain at the intersection of Desert Lane and Ellis Avenue is not shown on the plans. This 15-inch RCP storm drain is located within existing drainage easements shown on the U Sheets. The intersection improvements will need to accommodate the drainage facility and may need to be upgraded to meet criteria. Show the facility and provide an expanded drainage design to address flow impacts and include the information with the next submittal of the Phase I Drainage Design Report.		JG Drainage (CH2)	Existing storm drain will be added to the plans and analysis included in the Intermediate Drainage Design Report.
9		Sheet D9 and DPI7	The proposed storm drain has inlets that appear to be below the top of the RCB that they are connecting into. Verify the system hydraulics to show that the system will function during the 100-year event. Provide expanded drainage design information to address flow impacts with the next submittal of the Phase I Drainage Design Report.		JG Drainage (CH2)	Will be analyzed for the next submittal.

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10		Sheet D13	The proposed channel along the west side of I-15, north of Alta / Bonneville, needs to be sized to convey additional 100-year surface flows reaching this location from the existing low point within Martin Luther King Boulevard. Provide an update to the Phase I Drainage Design Report that addresses the revised 100-year flow impacts to this proposed channel facility.		JG Drainage (CH2)	This channel would be designed for the 50-yr storm event flows per NDOT criteria and analyzed for the 100-yr to verify that existing condition drainage patterns are maintained.
11		Sheet DDI, DD2 and DD3	Show the proposed flowline location and the minimum cross slope for the proposed channel sections.		JG Drainage (CH2)	Will be included with the next submittal.
12		D Sheets	The City of Las Vegas does not allow County Std. 414, Type D inlets. Replace all Type D inlets with County Std. 412A, C D Inlets.		JG Drainage (CH2)	Revisions to the Inlet Type will be incorporated.
13		DP Sheets	Provide the Q, HGL and Design flow rate for the proposed storm drain systems. Provide additional profile sheets to include the entire storm drain system and laterals. Show the utilities on the storm drain profiles. Reference the corresponding D Sheet numbers.		JG Drainage (CH2)	Profile sheets will be updated to include additional information for the 60% design level.
14		D and DD Sheets	The plans reference details that were not yet provided. Provide the referenced details and include the complete the Detail Sheets with the next submittal.		JG Drainage (CH2)	Additional details as necessary will be included in the next submittal.

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**PROJECT NEON
PHASE 1**

30% SUBMITTAL MASTER COMMENT FORM

DISCIPLINE: Sanitary Sewer Comments

REVIEWER: Randy Fultz (CLV)

PROJECT LEVEL: 30%

COMMENTS RECEIVED ON: March 31, 2011 (Replace with updates: 4/27/11)

<i>NO.</i>	<i>VOL. NO.</i>	<i>SHEET/PAGE NO.</i>	<i>REVIEW COMMENTS</i>	<i>*TYPE</i>	<i>INITIALS</i>	<i>DESIGNER RESPONSE</i>
1		Plans	Provide sheets with CL V General Notes, CL V Sewer Notes and Quantities Table for all proposed CL V sewer and storm drain facilities.		JG Drainage (CH2)	Additional information will be provided with the next submittal.
2		Sheet No. U6	Extend one of the [2.1] call out arrows in Sahara east off I-15 to point to the sewer line running east in the Sahara median, one of the arrows is pointing at the water line.		JG Drainage (CH2)	Sheet will be revised as noted.
3		Sheet No. U8	Existing sewer manhole on the 10" sewer line in Oakey at MLK at approximate station "OW" 19+00 shall be adjusted to final grade, change callout note # [2.1] to (2.5). (Sheets U8 & U29) The proposed sanitary sewer manhole in MLK located 12' left of station "DLI" 14+65 shall be constructed in manner that it is rotated so that the manhole rim and cover is not within the curb and gutter area.		JG Drainage (CH2)	Sheet will be revised as noted.
4		Sheet No. U9	Construct proposed sewer manholes outside of paved areas or in landscaped areas per SD-4.		JG Drainage (CH2)	Will be revised as necessary. Reference to SD-4 added.
5		Sheet No. UIO	Provide stationing numbers for location line on the south side of Charleston Boulevard. The two sanitary sewer manholes (ssmh) being removed and replaced in MLK north of Charleston shall be 60" due to the change in sewer line direction within the ssmh per section 2.2.9 of the DCSWCS.		JG Drainage (CH2)	Reference to sewer design sheets will be clarified for this location. Manhole will be revised as noted.

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6		Sheet No. U11	Sewer manhole with existing bend located at Hastings and MLK proposed for removal and replacement shall be 60" per DCSWCS 2.2.9.		JG Drainage (CH2)	Sheet will be revised as noted.
7		Sheet No. U12	Existing ssnrh located adjacent to station "MLK2" 31 +20 may be in conflict with proposed retaining wall on the east side of MLK north of Oakey.		JG Drainage (CH2)	Sewer facility will be relocated to avoid conflict.
8		Sheet No. U29	Existing sewer manhole located on west side of MLK at approximate station 19+10 shall be adjusted to final grade per SD-5.		JG Drainage (CH2)	Will be revised as noted.
9		Sheet No. U35	60" sanitary sewer manholes are required at manholes numbered 5, 6, 7, 8, & 10 in "San Sewer Construction Notes". Sanitary Sewer Manholes numbered 12, 13 in the "San Sewer Construction Notes" require 72" sewer manholes.		JG Drainage (CH2)	Manholes sizes will be revised as noted
10		Sheet No. U37	"T-Lock" lined or approved equal corrosion protected manhole required at "W-GC" 26+62.18 1.95 Rt. Corrosion protection is required in slope changes of greater than 4%. Consider revising proposed sewer slopes to provide a flow velocity of less than 10 feet per second when pipe is 75% full, specifically in proposed sewer sections "W-GC" 26+00.6 thru 27+83.82. 60" sanitary sewer manhole required at "W-GC" 31 + 11.39-29.33' Lt. Minimum 5 feet clearance (outside wall to outside wall) required between existing 2" gas line and proposed sewer manhole at station "SJ" 16+72.20-32'Lt.		JG Drainage (CH2)	Corrosion protection will be specified. Slopes will be modified if possible, since constrained by tie-in to existing facilities. 5-ft clearance requirement noted.

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11		Sheet U41	Is the sewer relocation in MLK necessary between Oakey Boulevard and the City of Las Vegas Fire Station? There appears to be no connections from the west and proposed sewer location is closer to the proposed drainage structure. The proposed sewer line requires reinforced concrete encasement per SD-14 in areas where top of pipe to final grade is less than 5 feet. A sanitary sewer manhole is required at the slope change where proposed sewer ties to existing. The proposed slopes for the sewer line in MLK are substandard, redesign to provide a minimum of 0.4% slope. Use C900 PVC between ssrnh "DL1" 12+90 and "DL1" 10+24 for added protection of waterline below sanitary sewer.		JG Drainage (CH2)	Sewer relocation is necessary to accommodate the relocation of the MPU facility to the west. Concrete encasement requirement will be used if less than 5-ft cover. 0.2-ft drop through manholes will be removed to increase mainline slope as discussed with CLV-CSP. C900 PVC will be considered as design progresses.
12		Sheet U42	The plans propose to use SDR-21 PVC for the proposed "removed and replaced" sewer section in Charleston Boulevard, is SDR-21 being used for its load strength. SDR-21 is not on the CCWRD approved materials and may not be available in 30"		JG Drainage (CH2)	Pipe material will be investigated further and coordinated with CLV Collections System Planning.

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**PROJECT NEON
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30% SUBMITTAL MASTER COMMENT FORM**

DISCIPLINE: Drainage

REVIEWER: Robert Welch (CLV)

PROJECT LEVEL: 30%

COMMENTS RECEIVED ON: March 2, 2011

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1			The Clark County Regional Flood Control District's Master Plan facilities provide the required protection for Project Neon. Phase I of Project Neon includes relocation of a portion of the existing Master Plan Facilities while maintaining the existing overland flow patterns without negatively impacting the adjacent properties. This allows for the phased development of Project NEON and allows for the planning sequence needed to determine the timing of Clark County Regional Flood Control District's Master Plan facilities that provide the ultimate drainage protection for Project NEON. The critical drainage impacts to Phase I are along the Western Avenue corridor on the east side of 1-15 between 1-15 and the UPRR from Oakey Boulevard north to Charleston Boulevard.		JG Drainage (CH2)	This is a statement by the CLV regarding the project. No response is provided.
2			The City requests an exhibit and cost estimate that identifies the Project Neon storm drain facilities that could be eliminated with the construction of the CCRFCD Sahara Storm Drain Project that were identified within the Draft Project Management Plan.		JG Drainage (CH2)	Offsite drainage improvements proposed with Phase I have been designed to perpetuate existing condition drainage patterns and to geometrically accommodate the roadway footprint. With the exception of the overland flows along Western Avenue, Phase I offsite improvements would be required regardless of completion of the CCRFCD Sahara Storm Drain Project. The CCRFCD Sahara project would potentially eliminate overland flows in Western Avenue and eliminate the need for the ditch grading Along the UPRR (Sheet D26, Offsite Note 1). Costs associated with this earthen graded ditch are negligible with respect to the overall costs of phase I drainage improvements.

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3			It is believed that the Sahara MPU facility and/or other design alternative facilities will need to be constructed before the widening of 1-15 south of Oakey Boulevard. Provide a detailed explanation of the implementation of these facilities.		JG Drainage (CH2)	The subject Phase 1 30% drainage design is not dependant on the Sahara MPU facility (as discussed above). Future phases of Project NEON will require mitigation of offsite flows such that ultimate condition 2008 MPU flows are established. A detailed discussion of project phasing –vs- MPU build out requirements can be provided.
4			The provided 30% design proposes improvements that will modify the existing drainage patterns. The concept design will provide grading mitigation adjacent to the railroad north of Oakey toward Charleston to offset the reduced flow area due to the Phase I improvements. The preliminary HEC-RAS analysis supports this design concept		JG Drainage (CH2)	This is a statement by the CLV regarding the proposed drainage design. No response is provided.
5			The analysis presented is "comparative" in nature and is acceptable in concept for the 30% review. The HEC-RAS analysis must be updated with the next design phase. The HEC-RAS analysis needs to include the topographic mapping used for design and cross sections. A detailed HEC-RAS analysis is needed to support the more detailed design information required for the next Phase I design submittal. Provide an electronic copy of the HEC-RAS analysis for review.		JG Drainage (CH2)	The HEC-RAS cross sections were developed based on mapping and DTM data provided by NDOT. Mitigation as provided in the 30% design is somewhat conservative (routing additional flows north and reducing overtopping of the UPRR in order to verify the concept is feasible. It is understood that more detailed analysis and design will be needed to more accurately perpetuate existing flow patterns. An electronic copy of the HEC-RAS Analysis can be provided to the CLV for review.

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6			The report discusses that flow within the Western Avenue corridor overtops the railroad in the existing condition. The report proposes to revise the location of the overtopping flows. The next design submittal needs to provide a detailed analysis of the overtopping flows and the impacts to the parcels to the east. Flood Control recommends that the overtopping flow patterns remain the same. Any changes to the location of the overtopping flows will have a negative impact to the east and these proposed changes would also require UPRR review and approval.			Mitigation as provided in the 30% design is somewhat conservative (routing additional flows north and reducing overtopping of the UPRR in order to verify the concept is feasible. It is understood that more detailed analysis and design will be needed to more accurately perpetuate existing flow patterns.
7			The City is currently reviewing design alternatives to the construction of the Sahara Avenue MPU facilities to reduce impacts and costs along the Sahara alignment from west of 1-15 to the Boulder Highway. These alternatives include the construction of a Detention Basin on the west side of 1-15 north of Sahara Avenue. The development of the 30% Plans, for Future Phases, needs to review and accommodate the design alternative selected.		JG Drainage (CH2)	It is understood that continued coordination between Project NEON and the City of Las Vegas is required, including any developments in the design of the selected alternative for the Sahara Avenue MPU facility.
8			The Offsite Facility and Flow Exhibits (Appendix B.1) include an existing condition with the Sahara MPU facility in place. If the identified Sahara A venue MPU facility and/or any other alternative MPU facility is constructed, the Future Phases must clearly identify the facility construction needed with each phase to collect the flow and convey it into the Sahara MPU or other appropriate MPU System for it to correctly function. This must include sufficient collection facilities upstream to make the facility function		JG Drainage (CH2)	It is understood that phasing of Project NEON (beyond Phase I) is dependant of completion of the Sahara system (or alternative) and adequate interception of flows (either interim or permanent) to convey flows into the Sahara MPU facility. Development of these system requirements, in conjunction with continued development of Project NEON is necessary.

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9			The design report needs to address when the various Phases will need the Sahara MPU or other appropriate System to be constructed for the Phases to properly function		JG Drainage (CH2)	Neon Phase I can be constructed without completion of the Sahara MPU facility. Further development of MPU requirements versus phasing is anticipated as the project develops.
10			Section 3.5.5 of the report identified a local 100-year basin contributing flow to the freeway ditch system that did not include the complete flow area impacting this segment of 1-15. The area must be expanded as Martin Luther King (MLK) Boulevard drainage has a low point at the basin boundary that impacts the 100- year flow along the freeway ditch. The existing storm drain within MLK is only a local facility and does not contain the 100-year flows at the low point. Review and revise the basin and flows accordingly.		JG Drainage (CH2)	This basin has been re-assessed to include tributary area west of MLK. For analysis, it is conservatively assumed that the entirety of the runoff from this basin will drain overland to the proposed I-15 ditch (Q100=102 cfs). This ditch has been oversized with a 12' wide bottom to accommodate maintainance access and has enough capacity to convey the revised offsite flows.
11			Section 4.4.3 identifies that the Managed Lane direct connection to Western Avenue will be below grade. It appears that the roadway will be below the top of the RCB's that this road drainage will connect to; creating a ponding condition that will make the roadway unserviceable. Additionally this Managed Lane connection will be impacted by the interim drainage from the Western Avenue corridor. Review and revise the design to make the Managed Lane connections usable.		JG Drainage (CH2)	The ponding condition for the Managed Land "AR" is a result of existing condition overland flows along the Western Corridor. The "AR" profile has been revised to lessen ponding during a 100-year storm, however this condition will not be alleviated until upstream MPU facilities are constructed.
12			Section 4.4.6 identified a low point at the start of the elevated roadway connection between Western and Grand Central Parkway. The next design submittal needs to address the ultimate 100-year flows impacting the low point and convey them into the proposed system.		JG Drainage (CH2)	The existing Western Avenue profile will remain the same, south of the Grand Central Parkway Bridge approach. Based on the proposed ditch grading west of the UPRR (proposed to mitigate fill within the inundation area along the Western corridor), the water surface elevation at the beginning of the Western Approach should remain unaltered. It is understood, however, that additional refinement to the analysis and design associated with the Western inundation is needed as design is advanced.

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13			The plans need to show the Q and HGL on the DP Sheets. Label the design storm for each facility.		JG Drainage (CH2)	Q, HGL and design storm have been added to profiles where detailed analysis has been performed. Several facilities have been designed to replace conveyance area and detailed calculations have not been performed at this 30% level of design.
14			The DP Sheets need to reference the corresponding Plan Sheets.		JG Drainage (CH2)	Roadway low points along the elevated freeway (isolated from offsite flows) will utilize onsite drainage systems to ensure NDOT/FHWA 25-year criteria are met. The Profile for the Access Road "AR" is discussed in the response to comment 11.
15			Various Plan and Profile sheets show proposed grades that are creating low points. See Sheets DP-8, DP-14 and DP-17 as examples. These areas must be adequately addressed with future submittals.			Roadway low points along the elevated freeway (isolated from offsite flows) will utilize onsite drainage systems to ensure NDOT/FHWA 25-year criteria are met. The Profile for the Access Road "AR" is discussed in the response to comment 11.
16			Review the storm drain connections to make sure that the lateral connections are less than 90-degrees to the main line		JG Drainage (CH2)	The majority onsite storm drain layouts are conceptual and will be further refined as design is advanced, including elimination of storm drain connections less than 90-degrees.
17			The Outlet Mall on the east side of I-IS, north of Charleston, has two multistory parking garages that are not shown on the plans. Add the structures to verify design impacts, if any.		JG Drainage (CH2)	The northerly parking structure (near Bonneville) has been surveyed at the footprint is now shown on the plans. This structure is located approximately 46' from the proposed NDOT R/W line and will not be impacted by proposed drainage improvements. The southerly structure has not been surveyed, however no work to the existing Freeway Channel RCB is proposed in this area and drainage improvements are not anticipated to impact this structure. It is anticipated that the footprint of this structure will be surveyed at later stages of design and potential impacts will be verified.

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