Littlejohn

Memorandum

DATE:	September 22, 2014	**PROJECT NO.:**	20140151
TO:	Mr. Jim Williams, City Manager		
FROM:	Brent Lacy, AICP, Dir., Transportation Planning		
CC:	Mr. Verl Emrick, George Kramer, AICP Dir. Planning, John Jones, Project Manager		
SUBJECT:	Maitland City Centre – Conceptual Parking Garage Plan Review		

Introduction

Littlejohn was retained by the City of Maitland to conduct a preliminary review of the proposed parking garage associated with the proposed Maitland City Centre and URC development proposals.

The garage plans were reviewed with focus on the functional design, access and circulation systems and connectivity to internal and external streets.

Maitland City Centre Garage

Review Areas

Three (3) considerations were identified and multiple locations considered under the considerations. The considerations were:

1. US 17-92 ingress and egress
2. Circulation turning radii, and
3. Design dimensions

Of these three, the design dimensions included the speed ramp slope and the at-grade non-garage parking area canoes were factors in the recommendations listed at the end of this memorandum.

US 19-92 Ingress and Egress

Access management rules will apply for the connections to US 17-92 (see attached Figure locations A1 & A2), a US Highway and under FDOT jurisdiction. The spacing on US 17-92 for the right-in and right-out driveway design and the sight distance requirements were reviewed. The findings regarding the concept plan were as follows:

1. The spacing appears to meet the FDOT requirements and the elimination of the multiple curb cuts that exist while replacing them with just the two connection drives will serve to reduce conflict points on US 17-92, thus improving the risk factors for crashes.
2. The final design should include analyses for sight distance criteria using the posted speed on US 17-92 to develop the "sight triangle" for the exit drive. All landscape and streetscape materials should be placed outside of this triangle to maintain a clear line of vision to the north for the existing vehicles.
3. The combined pair of one-way exit drives prior to the actual connection to US 17-92 should be reviewed and proper stop control and use of driveway mirrors to reduce the risk of on-site collisions should be considered. An open garage wall at this location along the east ground floor

of the garage should be evaluated and included to provide a "line of sight" for vehicles exiting from the interior of the garage.

Circulation Turning Radii
A number of turning radius concerns was identified in the garage review. These are each shown on the attached figure as B1-B4. The specific concerns that should be addressed in the final design are listed below.

B1, B3 & B4
The curb radius at these locations appears to be less than desirable and will create difficulty in maneuvering within and exiting the garage. A minimum of a 20-foot radius should be applied at these locations with 25-foot desirable.

B2
The design of the garage and the near 90-degree turn as shown is extremely constrained and will introduce the potential for wall and car damage from miscalculated turns. The circulation isle should be expanded and the 20-foot minimum turning radius applied here or the garage corner pulled back to provide a proper width for the turn.

Design Dimensions
Three (3) locations (C1 – C3) were also noted where the garage and site dimensions could be modified to provide improvements to the ramp and circulation system. These are:

1. By expanding the width of the garage (north-south axis) the ramp slope/grade could be reduced from 14% as shown to a grade closer to 10 % which is desirable.
2. The expansion of the garage and the retail units on the ground floor along the north wall could be accommodated up to 3 feet it appears by reducing the parking canoes (C2 and C3) and making a minor shift in the access drive location (A2). The skew created at the internal intersection should not be so significant as to present an issue.

Summary & Recommendations
Based on the findings listed above, we recommend the following design evaluations and modifications for the proposed MCC garage. Based on previous discussion with ACi Architects, we believe that these modifications can be made without significant changes to the building or garage designs.

1. Modify all corner curbs to reflect a minimum of a 20-foot radius
2. Evaluate and design the access drives to/from US 17-92 to meet all sight distance requirements
3. Consider modifications to the plan that will reduce the speed ramp grade from 14% to a point nearer 10 %, and most importantly
4. Modify the design of the plan to eliminate the turning movement constraints at the NW corner of the garage indicated on the attached figure at B2.

Finfrock Municipal Garage

Review Areas
The primary areas of review for this garage were:

1. Access drive design on West Horatio Avenue
2. Internal aisle width and circulation system, and
3. Handicap space provisions

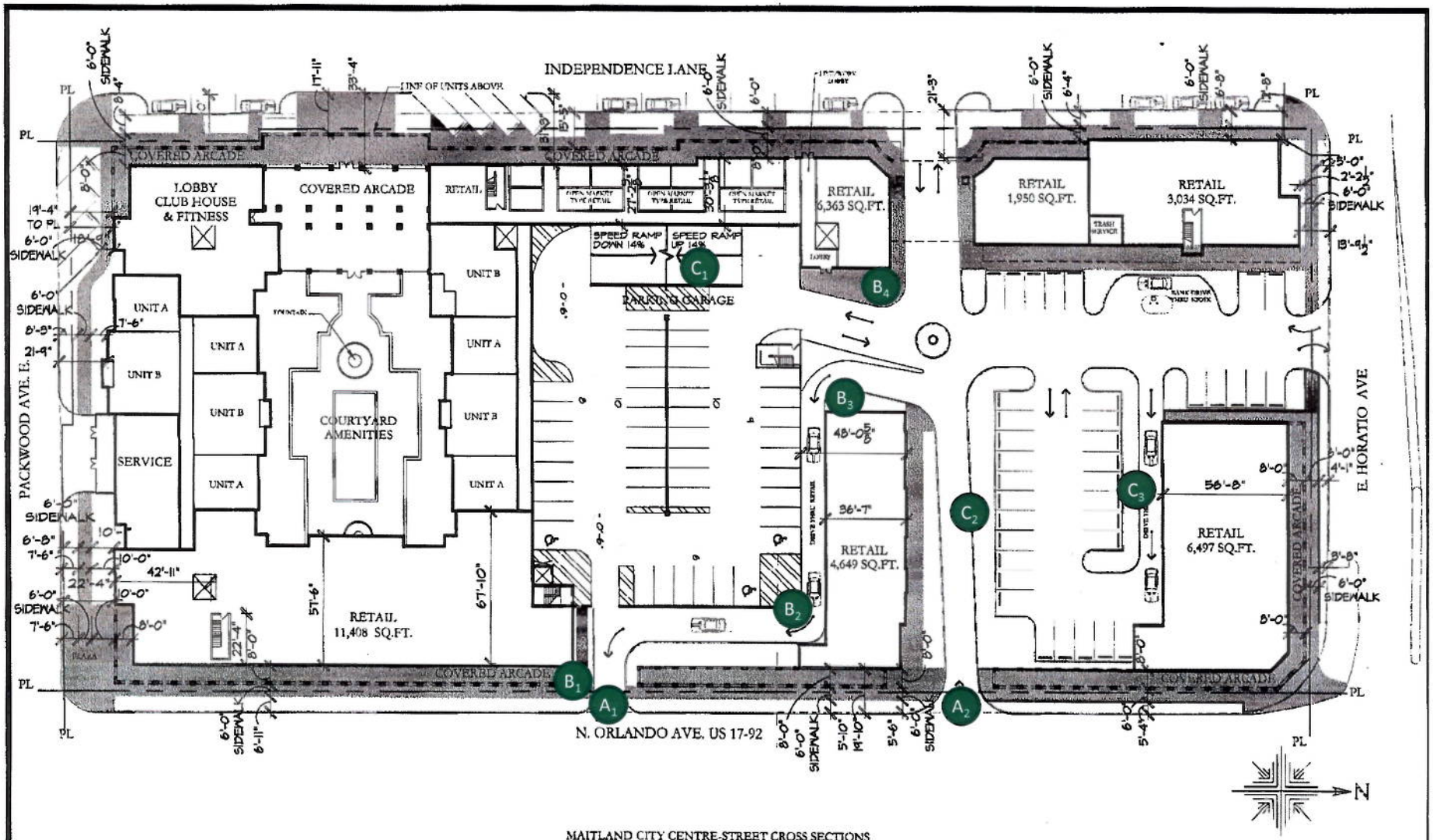
Access Drive Design
The access drive at West Horatio Avenue is designed without consideration for parking revenue collection facilities although a reasonable length for vehicle queuing is shown. However, attention will be needed to the amount of open wall the garage offers for sight distance as vehicles exit the garage. As shown on the current plan (07-28-14) the exiting vehicle will need to straddle the sidewalk to obtain visual clearance for oncoming traffic. This will impact pedestrian flow. Additionally, the bulb-out and parallel parking on West Horatio (west side of the north garage wall) may violate the required sight distance.

There is apparently only one (1) access point provided for the garage and with the potential of well above 300 spaces, this may not offer sufficient capacity for peak exiting periods without extended delays and queuing within the garage. Also, with the occurrence of an internal incident at the single access drive, the lack of an alternate exit point can be detrimental to occupant safety and general utilization.

Internal Aisle & Circulation
The garage aisle width dimensions are generally industry standard. Space depth and width appear to meet standards and the travel lanes would therefore be satisfactory. Reduction in these widths and lengths would be possible but would potentially impact construction/erection techniques and also the garage costs.

Handicap Space Provisions
The minimum number of spaces for the garage is indicated on the plan (Alternative 2) is 332 spaces. There are only four (4) handicapped spaces shown on the first floor of the garage (ground level) but two (2) spaces per level are included at the elevators on the 2nd and 3rd floors. This equates to a 2.5% ration and meets the industry standard.

Summary & Recommendations
Overall, the parking garage is designed to standard and has limited to no circulation, aisle, or space type issues. However, the single access drive could be problematic and the design for any access drive must be developed to minimize the potential conflicts with pedestrians and to also maintain proper clearance for sight distance of exiting vehicles.



MAITLAND CITY CENTRE-STREET CROSS SECTIONS
CONCEPTUAL TECHNICAL DRAWINGS
GROUND LEVEL
1" = 40'-0"

AC7

MAITLAND MIXED-USE
RETAIL-RESIDENTIAL STUDY