

AGENDA
Cascade Charter Township Planning Commission
Monday, September 12, 2016
7:00 pm
Cascade Library Wisner Center
2870 Jacksmith Ave. SE

- ARTICLE 1. Call the meeting to order
Record the attendance**
- ARTICLE 2. Pledge of Allegiance to the flag**
- ARTICLE 3. Approve the current Agenda**
- ARTICLE 4. Approve the Minutes of the August 15, 2016 meeting**
- ARTICLE 5. Acknowledge visitors and those wishing to speak to non-agenda items.
(Comments are limited to five minutes per speaker.)**
- ARTICLE 6. Case # 16:3305 Cascade Hospitality
Public Hearing
Property Address: 5405 28th St Ct.
Requested Action: The applicant is requesting to amend the Spruce Meadows P.U.D. to allow a new hotel.**
- ARTICLE 7. Any other business**
- ARTICLE 8. Adjournment**

Meeting format

- | | |
|---|---|
| 1. Staff Presentation | <i>Staff report and recommendation</i> |
| 2. Project presentation- | <i>Applicant presentation and explanation of project</i> |
| a. PUBLIC HEARINGS | |
| i. Open Public Hearing. | <i>Comments are limited to five minutes per speaker; exception may be granted by the chair for representative speakers and applicants</i> |
| ii. Close public hearing | |
| 3. Commission discussion – | <i>May ask for clarification from applicant, staff or public</i> |
| 4. Commission decision - Options | |
| a. Table the decision | <i>d. Approve with conditions</i> |
| b. Deny | <i>e. Recommendation to Township Board</i> |
| c. Approve | |

MINUTES
Cascade Charter Township
Planning Commission
Monday, August 15, 2016
7:00 P.M.

ARTICLE 1. Chairman Waalkes called the meeting to order at 7:00 P.M.
Members Present: Katsma, Lewis, Mead, Pennington, Rissi, and Sperla
Members Absent: Robinson (E) and Williams (E)
Others Present: Community Development Director, Steve Peterson and those listed on the sign in sheet.

ARTICLE 2. **Pledge of Allegiance.**

ARTICLE 3. **Approve the current Agenda.**

Motion was made by Member Mead to approve the Agenda. Supported by Member Lewis. Motion carried 7 to 0.

ARTICLE 4. **Approve the Minutes of the August 8, 2016 Meeting.**

Motion was made by Member Rissi to approve the Minutes as presented. Supported by Member Pennington. Motion carried 7 to 0.

ARTICLE 5. **Acknowledge visitors and those wishing to speak to non-agenda items.**

No visitors who were present wished to speak about non-agenda items.

ARTICLE 6. **Case #16:3324 Bob Verburg**
Property Address: 6915 Cascade

Requested Action: The Applicant is requesting site plan approval for a 700 sq. ft. addition.

Director Peterson stated that the Applicant wants to construct a new addition on to the building to accommodate additional car storage. This project will also include the removal of the existing 573 sq. ft. shed to the north. Neither project will increase the amount of impervious space since the area is paved now. Because the site is in the B1 zoning district and due to the fact that the addition is valued at over \$60,000, the design requirements of the B1 zone must also be met. The owner has already asked and received three variances to accommodate this addition (a front setback of 16 feet, a mansard roof style, and a combination of wrought iron fencing in front and vinyl coated chain link in the back). The Township Engineer has reviewed the plans and does not require any changes.

Director Peterson recommends approval of the site plan addition with the condition they obtain an SESC from the Kent County Road Commission.

Chairman Waalkes asked the Applicant to come forward with any comments.

Applicant did not come forward with any comments.

Motion was made by Member Rissi to approve the site plan addition with the condition that they obtain an SESC from the Kent County Road Commission. Motion was supported by Member Lewis. Motion was carried 7 to 0.

ARTICLE 7. Case #16-3321 Growney Mixed Use P.U.D. Amendment

Property Address: 2899 Thornapple River Drive

Requested Action: The Applicant is requesting a base plan review to rezone property at 2899 Thornapple River from B-1, and add it to the Thornapple Hilltop P.U.D.

Director Peterson stated that Applicant (G Place LLC) is requesting Basic Plan Review in order to construct a new mixed use building. This building would include about 5,000 sq. ft. of retail/restaurant space with 7 residential units.

The building is designed at 35 feet tall, an exception of 5 feet. The B1 zone allows for 30 feet tall for mixed use projects that include residential units. The developer should provide a prospective of the building from Thornapple River Drive, because at a height of 35 feet it would be important to understand how the building would look.

The B1 zoning district allows for up to 9 units per acre, this would come to 8 units per acre. As the current Master Plan designation for this property is Village Commercial, he feels this project is a reflection of the current B1 zoning district. This project includes a path to the north connecting to the residential uses in the Thornapple Hilltop PUD. It also shows a sidewalk along Thornapple River Drive. This sidewalk would ultimately provide a connection to Cascade Road. This pedestrian connection would be consistent with the Master Plan.

The storm water design for the site will need to meet Cascade's storm water ordinance. The developer has also been working on plans to address sewer and water to accommodate the project. These will all need to be approved prior to scheduling the Planning Commission public hearing.

Director Peterson feel that before proceeding to the Preliminary Development Plan Review (Public Hearing), he recommends that the following issues be addressed:

1. The Applicant provide the required site plan information;
2. Provide elevation drawings of all proposed buildings;
3. Revise the site plan to include the necessary storm water information;
4. Revise the plans to provide the required sewer and water system as approved by the Township Engineer;
5. Provide a sidewalk along the Thornapple River Drive frontage that is at least 7 feet wide; and
6. Supply the township with building prospective drawings from Thornapple River Drive.

Chairman Waalkes asked the Applicant to come forward with any comments.

Jack Barr of Nederveld came forward to clarify a couple of issues regarding the storm water and a gap between the condo project to the north and this project. Both which have been addressed.

Ken Dixon of Dixon Architecture came forward to discuss the building itself. The street facing façade, aesthetics, café and outdoor seating, the residential (rental) units, retail area and the reasoning behind the height of 35 feet.

A brief discussion commenced mostly with regard to issues of setback, parking, type of residential units, slope, retaining wall issues, and elevation drawings.

No action was required at this time.

ARTICLE 8. Case #16:3318 Wolverine Building Group

Property Address: 5505 52nd Street

Requested Action: The Applicant is requesting site plan approval for a 30,000 sq. ft. warehouse addition.

Director Peterson stated that the Applicant is requesting site plan approval in order to construct a 30,000 sq. ft. addition to the building. The building conforms to the setback, building height and parking regulations of the Meadowbrooke PUD zoning district. No new access is being created to serve the site, no new landscaping is needed and the only lighting plan they propose complies with the township regulations. The Township Fire Department has reviewed and approved the plan and the Gerald R. Ford Airport has been made aware of the project and has indicated only the need for construction permits. The Meadowbrooke Review Board has reviewed and approved the project. Also, the Applicant will need to obtain a SESC permit from the Kent County Road Commission prior to grading. With that said, the site plan does not meet the Cascade Township storm water ordinance.

The original building was approved in 2002 and is part of the larger Grooters development. During that process the developer placed the areas outside the building and parking area in a conservation easement. While this is generally a good practice, one of the results of this is that the storm sewer system that was originally designed and approved by the engineer has not been maintained and no longer functions as originally designed. As a result, the neighbor to the west has experienced some storm water problems coming from this site. The Applicant has a couple of options. Modification of the conservation easement, redesign the storm sewer system problem, or possibly the modification of the wetland pond along 52nd. The MDEQ inspected the site on August 10, 2016 and indicated the items that needed to be addressed.

After discussions with the Cascade Township attorney regarding this project, it was decided that the site plan should not be approved without the existing problem being corrected. As a matter of fact, even if the Applicant were to decline to do the project, the township would need to pursue the owner fixing the site to the satisfaction of the township engineer.

Director Peterson recommends that the Planning Commission deny or table the case until the site plan can be addressed to the satisfaction of the Township Engineer and MDEQ. Chairman Waalkes asked the Applicant to come forward with any comments.

Mr. Mike Kelly of Wolverine Building Group came forward to give comments with regard to the storm water issues. The conservation easement is regulated by the State. Cascade Township is asking them to maintain the storm water system and the MDEQ is telling them emphatically that they cannot go into the conservation easement to maintain it without going through a lengthy process. The runoff from the new building will run into two ponds that were created to handle a 60,000 sq. ft. building addition. The conservation easement has nothing to do with this project. He stated the owner may feel the need to leave Cascade if this project cannot be approved.

Member Sperla inquired if they could get permission from the MDEQ to maintain the system. Mr. Kelly stated that they didn't realize this was an issue until the planning staff informed him during this process. He feels water from the northeast development and the L3 neighbors are every bit guilty of contributing to the problem as anyone.

Mr. Justin Longstreth of Moore & Bruggink then came forward and gave a historical overview of the property layout from 2003 regarding the storm sewer system draining into the conservation easement. This issue is a neighborhood issue, not one owner's issue.

Discussion followed about the storm water issue, specifically that the storm water ponds do drain into the conservation easement, possible modification of the conservation agreement, and if there is a way around the issue without dealing with the MDEQ. Consensus from the Planning Commission was that the applicant has not explored alternatives to address the issues.

Member Meade asked if there was ever any communication, since the 2004 conservation easement, by the MDEQ to the owner that the criteria was not met. Mr. Longstreth did state during conversation that the process to try to amend the conservation agreement could take up to 18 months and then it has to go to Lansing. It is pretty tough to get Lansing to make changes to and/or disturb a functioning wetland. So after months of waiting, there would be no guarantee Lansing would approve the amendment.

Mr. Scott Steiner from Rhoades McKee came forward on behalf of neighbor L3 stating L3 is directly impacted by this decision. L3 feels there are ways to do this and asks that the issue be tabled so that all options can be explored.

Motion was made by Member Sperla to table the matter to allow the applicant time to develop a plan to address the storm water and wetland issues with the site to the satisfaction of the Township and MDEQ. Motion was supported by Member Rissi. Motion carried 7 to 0.

ARTICLE 9. Any other business.

There was no other business.

ARTICLE 10. Adjournment.

**Motion was made by Member Lewis to adjourn. Supported by Member Katsma.
Motion carried 7 to 0. The meeting was adjourned at 8:10 p.m.**

Respectfully submitted,
Scott Rissi, Secretary

STAFF REPORT

TO: Cascade Charter Township Planning Commission
FROM: Steve Peterson, Community Development Director
REPORT DATE: August 25, 2016
MEETING DATE: September 12, 2016
CASE: #16-3305/Cascade Hospitality – Spruce Meadows

GENERAL INFORMATION

- A. **Applicant:** Cascade Hospitality
- B. **Status of Applicant:** Owner
- C. **General Location:** North and east of Meijer.
- D. **Requested Action:** Amend the Spruce Meadows PUD to allow for new hotel.
- E. **Existing Zoning on Subject Parcels:** Spruce Meadows P.U.D.
- F. **Zoning on Adjoining Parcels:**
 - N – PUD 81
 - S – ES
 - E – PUD 26
 - W – PUD 25
- G. **Parcel Size:** Approximately 3.2 acres
- H. **Existing Land Use on Subject Parcel:** Vacant
- I. **Adjacent Area Land Uses:**
 - North - YMCA
 - East - Commercial
 - South - Hotel
 - West - Office

STAFF ANALYSIS

- A. The applicant is requesting Preliminary Plan Review in order to construct a new hotel.
- B. The site was originally approved for a hotel. However only the foundation was built. That foundation must now be removed and the new hotel does not fit in the exact footprint so they are asking for a few changes to the PUD Ordinance in order to fit the new hotel.
- C. The changes to the PUD are:

	Current PUD	Proposed PUD	Comments
Building height	35 feet or 3 stories whichever is less	40 feet and 4 stories	The adjacent ES zone allows for 48 feet tall buildings.
Number of rooms	100 rooms	114	The number of rooms was limited to address setbacks.
Rear setback	58 feet	51 feet	The current rear setback was established to protect the previous residential area to the north.
Side bufferyard	20 feet	10 feet	They are able to install the required number of plantings within smaller bufferyard.
Front bufferyard	20 feet	15 feet	Same as above

- D. One of the big drivers of the current regulations was the fact that the area to the north was zoned residential. Now that the YMCA has developed the area to the north, those concerns are no longer present.
- E. Given the number of exceptions to the PUD staff felt it was more appropriate to proceed with the PUD amendment process rather than seeking variances.
- F. The Master Plan designation for this property is General commercial but is bounded on the south and west by Highway commercial. The general commercial designation is our typical 28th St commercial and the highway commercial is more reflective of the Expressway service zoning district. Other than the additional 5 feet of building height (which would be allowed in the ES zone) the project is in line with the general commercial designation. The fact that the Highway commercial designation is adjacent to the property and the residential use to the north is no longer a possibility, the blending of the two master plan designation would seem appropriate.
- G. Traffic would be dispersed through the existing access to Kraft and 28th St. The Township Board has already asked the KCRC to address the paving issues on Kraft Ave and the KCRC is already planning on improvements to the Kraft and 28th St intersection. The KCRC has also indicated that they will be looking into possible improvements to Spaulding and Burton intersection. Current traffic counts for these roads show that they are under their capacity.
- H. The Township engineer has reviewed the plan and approved them.

I. Standards

Section 16.03 of the Zoning Ordinance requires that a Planned Unit Development must demonstrate that:

Standard	Staff Comment
Granting of the Planned Unit Development rezoning will result in a recognizable and substantial benefit to the ultimate users of the project and to the community, where such benefit would otherwise be unfeasible or unlikely to be achieved.	The property is already zoned PUD. The changes they are asking for are consistent with the master plan.
In relation to underlying zoning, the proposed type and density of use shall not result in a material increase in the need for public services, facilities and utilities, and shall not place a material burden upon the subject or surrounding land or property owners and occupants or the natural environment	The type of use and density is consistent with the master plan would not result in a material increase in the need for public services.
The proposed development shall be compatible with the General Development Plan of the Township, and shall be consistent with the intent and spirit of this Chapter	The project is consistent with the master plan
In relation to underlying zoning, the proposed development shall not result in an unreasonable negative economic impact upon surrounding properties	The underlying zoning/use of the area is commercial and the amendment to allow the hotel with a few minimal exceptions for height, setbacks and landscaping would not result in an unreasonable negative economic impact
The proposed development shall contain at least as much green area and usable open space as would otherwise be required by this Ordinance with respect to the most dominant use in the development	Although some of the bufferyards are smaller than required by the underlying zoning and the original plan, they have been able to plant the same required plantings as would have been required.
The proposed development shall be under single ownership or control such that there is a single person or entity having responsibility for completing the project in conformity with this Ordinance. This provision shall not prohibit a transfer of ownership or control, upon due notice to the Planning Director of the Township	Although there are other owners in the PUD, this project only involves one property in the PUD.

Staff Recommendation

Staff recommends approval of the plan. Once approved, we will put together the P.U.D. ordinance amendments with the applicant for your review so you can make a recommendation to the Township Board.

Attachments: Application
 Site plan
 Master plan excerpts
 Current approved site plan



CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan
49546-7140

PLANNING & ZONING APPLICATION

APPLICANT: Name: Cascade Lodging, Inc.
Address: 5401 28th St. Ct. SE
City & Zip Code Grand Rapids, MI 49546
Telephone: 616-889-0127
Email Address: matt@grandhospitality.net

OWNER: * (If different from Applicant)
Name: Same as above
Address: _____
City & Zip Code: _____
Telephone: _____
Email Address: _____

NATURE OF THE REQUEST: (Please check the appropriate box or boxes)

- | | | | |
|-------------------------------------|-----------------------------|--------------------------|---------------------------------|
| <input type="checkbox"/> | Administrative Appeal | <input type="checkbox"/> | Administrative Site Plan Review |
| <input type="checkbox"/> | Deferred Parking | <input type="checkbox"/> | P.U.D. – Rezoning * |
| <input checked="" type="checkbox"/> | P.U.D. – Site Condominium * | <input type="checkbox"/> | Rezoning |
| <input checked="" type="checkbox"/> | Site Plan Review * | <input type="checkbox"/> | Sign Variance |
| <input type="checkbox"/> | Special Use Permit | <input type="checkbox"/> | Subdivision Plat Review * |
| <input type="checkbox"/> | Zoning Variance | <input type="checkbox"/> | Other: _____ * |

** Requires an initial submission of 5 copies of the completed site plan*

BRIEFLY DESCRIBE YOUR REQUEST:**

Amend Meijer's, Inc/Romano's PUD and Preliminary Site Plan for 4-story hotel with 102 rooms and 103 parking spaces

(**Use Attachments if Necessary)

-SEE OTHER SIDE-



September 8, 2016
Project No. G080322

Mr. Steve Peterson
Cascade Charter Township
2865 Thornhills Avenue, SE
Grand Rapids, MI 49546-7192

Re: Holiday Inn Express & Suites
Site Plan Review

Dear Steve:

We have reviewed the site plan for Holiday Inn Express & Suites, located at 5375-28th Street Court, prepared by Bud Design and Engineering Services, Inc. The current site plan and the basis of this review are dated August 4, 2016. The proposed project is a new 4-story hotel.

Stormwater and Drainage

Flood Control

The proposed project is a new development, so all improvements shall comply with the requirements of the Cascade Charter Township (Township) Stormwater Ordinance (SWO). The site is located in Stormwater Management Zone B, which requires detention of the 25-year storm event. The SWO also requires the first 0.5 inch of stormwater runoff be detained and released over a 24-hour period.

Stormwater runoff from the site drains to the Kent County Drain Commissioner (KCDC) Patterson Drain and regional detention pond, located on the north side of I-96. The site ties into an existing storm sewer lateral located onsite and; therefore, does not need to be reviewed and permitted again by the KCDC. Onsite stormwater detention is not required because the site drains to the regional detention pond.

Water Quality Control

The SWO requires the first 0.5 inch of stormwater runoff be detained and infiltrated where conditions permit, or released over a 24-hour period. The applicant is proposing to install a mechanical vortex separator unit at the outlet from the site to capture and store sediment, trash, and debris. Calculations were provided showing the vortex unit is adequately sized for the site. This requirement has been satisfied.

Stormwater Runoff

The applicant provided stormwater calculations to size the onsite storm sewer system. All stormwater runoff from the impervious areas of the site will discharge to the Patterson Drain regional detention pond.



Drainage Plan

The applicant has submitted drawings, calculations, and additional documentation as required in the SWO Section 2.03, Drainage Plan. Please refer to the included checklist for items and comments on each item. Please note a maintenance agreement is required before construction begins. The agreement should be submitted to the Township for review. The maintenance agreement and plan should include at a minimum cleaning of catch basin sumps.

Utilities

An 8-inch public water main and easement is proposed for the site and will need to be reviewed and permitted by the City of Grand Rapids. 4-inch domestic water service and 6-inch fire protection will service the building. An existing 6-inch sanitary sewer lateral will be extended to the building. City permits will be required for the water and sanitary sewer connections prior to construction taking place.

Soil Erosion and Sedimentation Control

Soil Erosion and Sedimentation Control (SESC) measures are provided on the plan drawings. The applicant has included silt fence along the limits of disturbance, silt sacks in new catch basins, and a construction tracking mat at the entrance to the site. SESC falls under the review and approval of the Kent County Road Commission and a permit is required before construction can begin. The SESC measures indicated on the drawings appear appropriate given the expected work.

Summary

The proposed stormwater design meets the Township SWO requirements for new developments. The applicant will need to apply for and obtain a number of permits (SESC, water, and sanitary sewer from the City) prior to beginning construction. We recommend approval of the site plan from an engineering standpoint.

If you have any questions or require additional information, please contact me at 616.464.3786 or nrtorrey@ftch.com.

Sincerely,

FISHBECK, THOMPSON, CARR & HUBER, INC.

A handwritten signature in black ink, appearing to read "N. Torrey", is positioned above the printed name.

Nathan R. Torrey, PE

jlk
Attachment
By email



Cascade Charter Township

Storm Water Ordinance, Ordinance 7 of 2002, as amended by Ordinance No. 2 of 2008, 5/14/2008

Reviewing Engineer Comments are Italicized

OK – Received and Acceptable

NA – Not Applicable

NR – Not Received, Needs Follow-up, See Comments

Holiday Inn Express

Drainage Plan Checklist

- OK (1) Location of the development site and water bodies that will receive storm water runoff
All stormwater runoff from the site discharges to the Kent County Drain Commissioner (KCDC) storm sewer (Patterson Drain) and regional detention pond.
- OK (2) Existing and proposed topography of the development site, including the alignment and boundary of the natural drainage courses, with contours having a maximum interval of one foot (using USGS datum). The information shall be superimposed on the pertinent Kent County soil map
Existing and proposed contours have been provided. Soil map information is not required for this project.
- OK (3) Development tributary area to each point of discharge from the development
A drainage plan showing tributary areas was provided.
- OK (4) Calculations for the final peak discharge rates
Applicant provided peak discharge rates for the onsite 10-year storm event.
- OK (5) Calculations for any facility or structure size and configuration
The applicant provided calculations for the onsite storm sewer system.
- OK (6) Drawing showing all proposed storm water runoff facilities with existing and final grades
The applicant provided calculations for the onsite storm sewer system.
- OK (7) The sizes and locations of upstream and downstream culverts serving the major drainage routes flowing into and out of the development site. Any significant off-site and on-site drainage outlet restrictions other than culverts should be noted on the drainage map
Significant offsite flows were not identified by the applicant.
- OK (8) An implementation plan for construction and inspection of all storm water runoff facilities necessary to the overall drainage plan, including a schedule of the estimated dates of completing construction of the storm water runoff facilities shown on the plan and an identification of the proposed inspection procedures to ensure that the storm water runoff facilities are constructed in accordance with the approved drainage plan
A construction schedule was included on the plans.
- OK (9) Plan to ensure the effective control of construction site storm water runoff and sediment track-out onto roadways
The SESC measures shown on the plan appear appropriate given the expected work. SESC falls under the review and approval of the KCRC and a permit is needed before construction can begin.



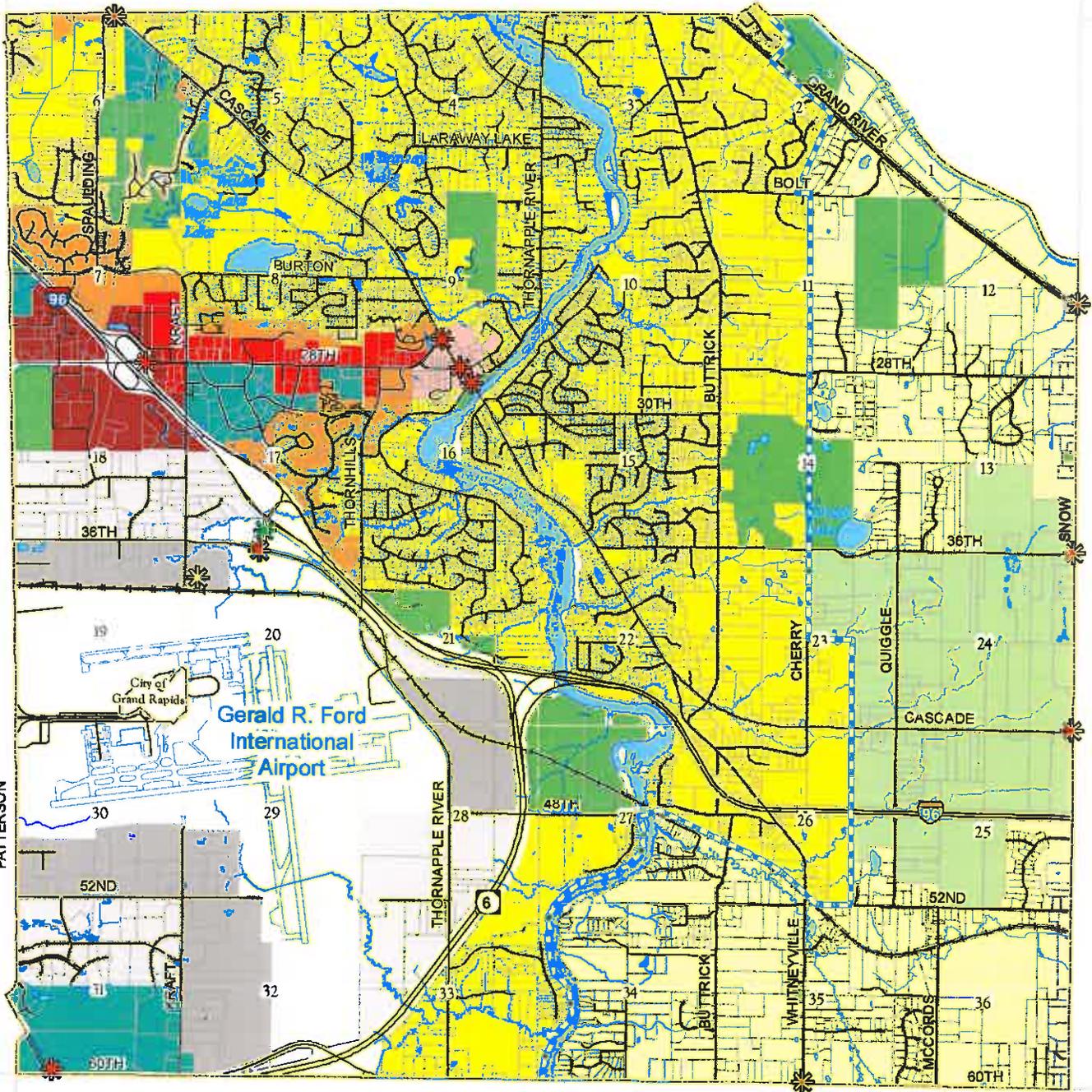
- OK (10) Drawings, profiles, and specifications for the construction of the storm water runoff facilities reasonably necessary to ensure that storm water runoff will be drained, stored, or otherwise controlled in accordance with this ordinance
The applicant provided calculations and design details for construction of the onsite storm sewer system.
- NR (11) Maintenance agreement, in form and substance acceptable to the Township, for ensuring maintenance of any privately owned storm water runoff facilities. The maintenance agreement shall include the developer's written commitment to provide routine, emergency, and long-term maintenance of the facilities and, in the event that the facilities are not maintained in accordance with the approved drainage plan, the agreement shall authorize the Township to maintain any on-site storm water runoff facility as reasonably necessary, at the developer's expense
Maintenance agreement was not provided and is required.
- OK (12) Name of the engineering firm and the registered professional engineer that designed the drainage plan and that will inspect final construction of the storm water runoff facilities
- NA (13) All design information must be compatible for conversion to Grand Valley Regional Geographic Information System (REGIS)
This is a privately owned system and will not be uploaded to REGIS.
- OK (14) Other information necessary for the Township to verify that the drainage plan complies with the Township's design and performance standards for drains and storm water management systems

Ada Twp

City of Kentwood

Lowell Twp

Caledonia Twp



Cascade Charter
Township
Kent County, Michigan

Map 15
Future Land Use

Legend

- Gateway Feature
- Park 'n' Ride
- Rail Station
- Utility Service Area

- Farmland Preservation
- Rural Residential
- Suburban Residential
- Community Residential
- Village Commercial
- General Commercial
- Highway Commercial
- Mixed Use
- Heavy Industrial
- Light Industrial
- Community Facility / Golf Course



WISCONSIN
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Williams & Works
Engineers Planners Surveyors
 414.224.4100 phone • 414.224.1861 faxline
 941 Duane Avenue NW • Grand Rapids, MI 49503

April 22, 2009

The village commercial area is intended to be a walkable commercial district, where architectural style is paramount, but not rigid. Low shrubbery, picket fences and other features should be in place along the roadway to delineate the use and create interest for pedestrians.

Location: The village commercial land use category is located at the heart of Cascade Charter Township where Cascade Road, 28th Street and the Thornapple River converge. It is not the intent of this land use category to expand beyond the current commercially-zoned properties along Cascade Road.

Desired Uses and Densities: Desired uses include retail commercial, personal service establishments, eating and drinking establishments, financial institutions, and convenience stores with or without fuel stations. Residential uses are also planned, including above retail or office uses. Townhome, retirement centers, assisted living, and other elderly care facilities are also recommended. Other uses should be phased out and encouraged to locate to a more automobile-oriented commercial corridor. Residential densities would be 6-8 dwelling units to the acre. Pedestrian/bicycle circulation plans should be prepared for new development that includes access from sidewalks and non-motorized paths to any building entry. Bicycle racks are encouraged. Traffic calming, crosswalk demarcations, countdown walk signs, plantings and signage are encouraged at 28th Street and Cascade Road at the Village to create a sense of place for shopping, strolling, biking, and walking. Water and sewer must be available for development in this land use category. Additionally, any natural features should be preserved and protected in projects located in the village commercial land use area. The Township hopes that the village commercial area is served by mass transit in the future.

GENERAL COMMERCIAL

Description: This land use designation is intended to provide goods and services to meet the needs of the immediate neighborhood and the larger region. Facilities will be developed in harmony with the area's natural features and in a scale and form to encourage pedestrian access and to minimize auto-pedestrian conflicts. Cross-access easements and access roads will be encouraged to reduce the proliferation of curb-cuts. In addition, landscape standards and signage limitations will be utilized to promote attractive and functional developments. The current three acre minimum lot area requirement may be reduced for projects that incorporate certain green/eco-friendly building technologies, or provide a specific amount of green space, such as 35%.

Location: The general commercial land use designation includes properties fronting 28th street from Cascade Village west to the Township boundary.

Desired Uses: Uses include retail, office, personal services, professional services, automobile repair, convenience stores with or without fuel pumps, drive-through establishments, eating and drinking establishments, fitness centers, financial institutions, automobile sales, and other similar uses. Water and sewer must be available for development in this land use category. Additionally, any natural features should be preserved and protected in projects located in the general commercial land use area. The Township hopes that the general commercial area is served by mass transit in the future.

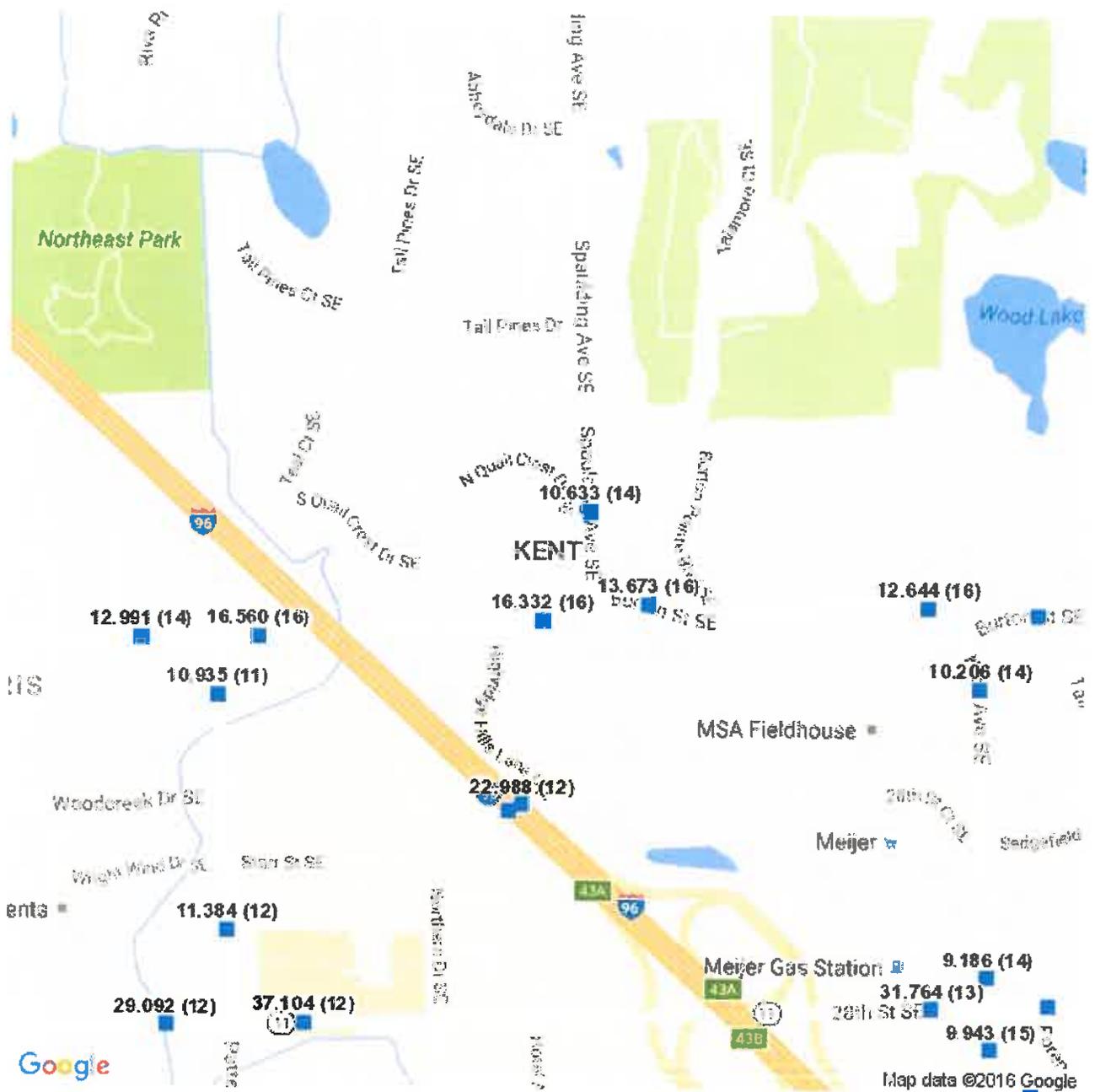
HIGHWAY COMMERCIAL

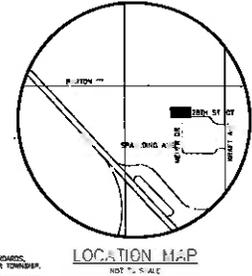
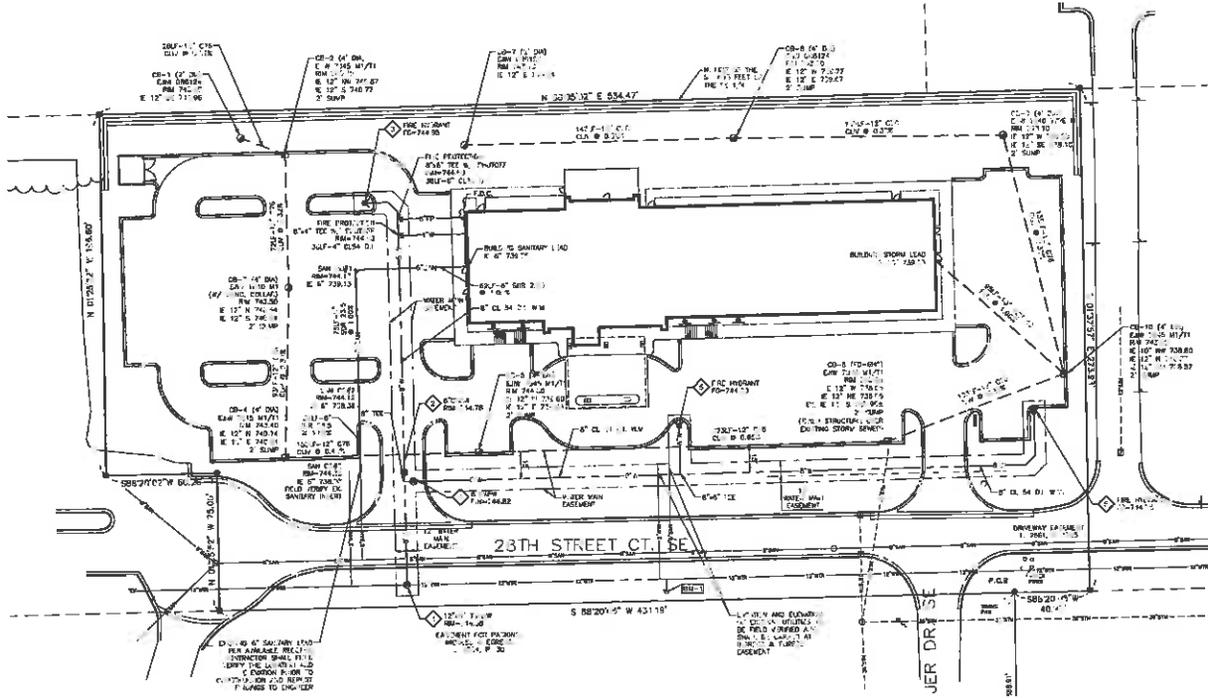
Description: The highway commercial land use category calls for more intense land uses in terms of traffic generation and building height. This use would include hotels, eating and drinking establishments, and convenience shopping capturing consumers from the region. Multi-story development, up to 5-stories, may be permitted based on locational factors. Additional height in excess of 5-stories may be considered in areas with elevation differences along the highway, while less height may be appropriate in areas where the highway commercial land use abuts residential uses. Maximum floor area may also be restricted to encourage taller buildings.

Careful planning and design should occur with any new mixed use or large-scale commercial projects to ensure that traffic safety and on-site traffic flow is considered, appropriate access management techniques have been incorporated into site planning and building height would not interfere with Federal Aviation Administration requirements or other height requirements of the Gerald R. Ford International Airport. Minimum lot area requirements could be reduced for projects that incorporate certain green/eco-friendly building technologies at the time of site plan review, or provide a minimum amount of green space, such as 35%. Architectural standards are appropriate to ensure buildings over 3 stories incorporate step-backs, vertical and horizontal design elements, and varied building materials to minimize bulk and massing.

Location: This use is located west and east of the I-96 interchange along 28th street.

Desired Uses: Desired uses include hotels, eating and drinking establishments, convenience shopping, fitness centers, and offices. Water and sewer must be available for development in this land use





Bud Design & Engineering, Inc.
10000 E. 10th Street
Suite 100
Kalamazoo, MI 49001
Tel: 268-1111
Fax: 268-1112

GENERAL NOTES

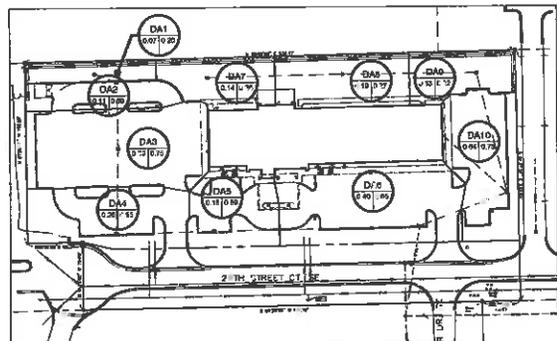
1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT STANDARDS, SPECIFICATIONS AND GENERAL CONDITIONS OF GENERAL CONTRACTOR FOR ALL SANITARY, WATER AND STORM INSTALLATIONS.
2. SHIP TOLERANCE SHALL BE SUBMITTED BY THE UNDERGROUND CONTRACTOR FOR ALL SANITARY, WATER AND STORM INSTALLATIONS.
3. CONTRACTOR SHALL MAINTAIN RECORD "AS-BUILT" PLANS AFTER CONSTRUCTION.
4. MAINTAIN A MINIMUM HORIZONTAL SEPARATION BETWEEN WATER SERVICE AND ANY OTHER UTILITY OF 18" (SEE THE MINIMUM CLEARANCE CLEARANCE CRITERIA WHICH HAVE A SEWER SHALL BE 18" INCHES).
5. NO CONCRETE, FORM WATER, CONSTRUCTION WATER, COMPOST, OR DRAINAGE OR OTHER MATERIALS SHALL BE ALLOWED TO ENTER ANY SANITARY SERVICE INSTALLATION.
6. REFER TO PLUMBING PLAN TO VERIFY BUILDING UTILITY CONNECTION LOCALITIES. SITE UTILITY LOCATIONS TO REMAIN 3' OUTSIDE OF BUILDING.
7. SANITARY CLEANOUTS ATTACHABLE TO BE 200# 142-80, OR OTHERWISE APPROVED CLEANOUT.
8. THE LOCATION AND SIZE OF THE UNDERGROUND UTILITY SERVICES SHALL BE DETERMINED AND NOTIFIED BY THE UTILITY COMPANY.
9. MAINTAIN A MIN. 12" OF BURY TO FINISHED GRADE FOR WATER MAIN AND WATER SERVICE.
10. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS TO EXISTING ROADWAYS AS A RESULT OF CONSTRUCTION ACTS.
11. UNDERGROUND SHALL FIELD VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES FROM TO TO SURROUNDING AND REPORT ALL FINDINGS TO THE CLIENT.

PERMITS/NOTICES

1. BUILDING ADDRESS SHALL BE POSTED AND MADE FROM 28TH STREET OF SE.
2. THE DEPARTMENT OF HEALTH SHALL BE 5'-HIGH SIGN WITH 30-SECOND SIGN.
3. "NO PARKING" SHALL BE POSTED IN LOCATION AS DIRECTED BY THE DEPARTMENT.

STORM MANAGEMENT

1. KENT COUNTY DRIVE (MAY 1997) COPY OF THE REVENUE FROM MANAGEMENT SYSTEM AND ROAD DESIGN, P.E. "ROADS OF THE FUTURE" BY AN OAKLAND DISTRICT 8.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO THE COUNTY FOR THE STORM SEWER OUTLET FOR THE SITE. YOU WILL BE REQUIRED TO FORM OR COVER FROM OUR OFFICE. YOU WILL NEED TO NOTIFY KENT COUNTY TOWNSHIP ROADWAY OPERATIONS DIVISION.
3. IN AN EMERGENCY SITUATION, YOU SHALL MAINTAIN TOWNSHIP P.E. OF FLOOD PROTECTED FROM THE APPROVAL OF THE TOWNSHIP ENGINEERING DEPARTMENT (SEE 11) VERIFY THE REQUIREMENTS OF THE TOWNSHIP STORMWATER OPERATIVE.



DRAINAGE AREAS

Drainage Area	Area (Total sq. ft.)	Permeable Area (sq. ft.)	Impervious Area (sq. ft.)	C.P. (ft.)	C.S. (ft.)	C.F. (ft.)	C.R. (ft.)
DA1	1219.29	779.29	440.00	0.19	0.20	0.07	0.20
DA2	302.44	192.81	109.63	0.20	0.20	0.11	0.20
DA3	1787.28	1048.69	738.59	0.20	0.20	0.20	0.20
DA4	111.11	468.00	356.89	0.20	0.20	0.20	0.20
DA5	1861.05	1268.60	592.45	0.20	0.20	0.20	0.20
DA6	1748.07	1279.30	468.77	0.20	0.20	0.20	0.20
DA7	8212.81	5883.45	2329.36	0.20	0.20	0.20	0.20
DA8	3262.20	2482.20	780.00	0.20	0.20	0.20	0.20
DA9	889.45	548.00	341.45	0.20	0.20	0.20	0.20
DA10	2777.38	2088.00	689.38	0.20	0.20	0.20	0.20
Total	21,821.82	14,821.82	7,000.00	0.20	0.20	0.20	0.20

SANITARY USE CALCULATIONS

PROPOSED BUILDINGS	AREA	UNIT FACTOR	REQUIREMENTS
SHEDS	114	0.25 units per room	28.50
Hotel	300	3 units / 1000 sq. ft.	90.00
Total			118.50

POPULATION EQUIVALENT = 215
 POPULATION = 101.5 Persons
 AVERAGE FLOW RATE = 88 Gallons per capita per day
 APPROXIMATE FLOW = 18,535.00 GPD
 PEAK FACTOR = 4
 PEAK FLOW = 74,140.00 GPD = 0.88 CFS @ (1.00045) = 0.73

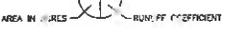
STORM SEWER CALCULATIONS

$Q_s = C \cdot I \cdot A$
 $Q_s = A \cdot 1.4866 \cdot C \cdot I \cdot R^{0.77} \cdot S^{0.48}$
 $I = 1/100 (0.01)$ for 48-year return period
 $C (Imp = 0.80 / Cimp = 0.20)$

AREA NO.	FROM	TO	AREA A	COEFF. C	AREA TOTAL	COEFF. C	TIME IN	TIME T	FLOW	PIPE CAP.	PIPE LENGTH	PIPE DIA.	PIPE SLOPE	VEL. FULL	TIME FLOW	RHM ELEV.	RHM LOW	RHM HIGH	LOW END	LOW END	SOBBY BLK		
DA1	1	2	0.07	0.20	0.01	0.07	0.20	0.01	16.00	4.38	0.013	0.08	2.02	12	0.32%	2.57	0.17	743.00	743.00	742.83	740.96	740.97	
DA2	2	3	0.11	0.19	0.08	0.10	0.20	0.09	16.17	4.20	0.013	0.41	2.02	12	0.32%	2.57	0.47	743.00	743.00	742.52	740.77	740.54	
DA3	3	4	0.30	0.58	0.67	0.30	0.58	0.67	16.84	4.21	0.013	1.08	2.02	12	0.32%	2.57	0.60	743.00	743.00	742.23	741.54	740.54	
DA4	4	5	0.28	0.55	0.14	0.42	0.63	0.33	18.24	4.24	0.013	2.25	2.21	108	12	0.25%	2.24	0.90	743.00	743.00	741.74	741.18	740.04
DA5	5	6	0.15	0.29	0.11	0.22	0.63	0.64	18.24	4.18	0.013	2.43	2.87	223	12	0.85%	3.85	1.02	744.00	743.00	741.08	739.20	738.05
DA7	7	8	0.14	0.26	0.04	0.14	0.26	0.04	18.00	4.29	0.013	0.16	2.02	147	12	0.32%	2.57	0.95	743.10	743.10	742.02	741.42	740.24
DA8	8	9	0.19	0.27	0.05	0.24	0.27	0.06	18.56	4.27	0.013	0.38	2.02	147	12	0.32%	2.57	0.95	743.10	743.10	741.32	740.71	739.07
DA9	9	10	0.13	0.22	0.03	0.16	0.22	0.12	18.81	4.18	0.013	0.60	2.02	135	12	0.32%	2.57	0.88	743.10	743.00	740.91	740.05	739.19
DA10	10	8	0.04	0.73	0.47	1.10	0.23	0.86	17.79	4.59	0.013	2.39	2.82	103	12	0.20%	3.21	0.54	743.00	743.00	739.95	739.23	738.87
DA6	6	EX	0.40	0.85	0.20	2.02	0.29	1.48	18.32	4.04	0.013	3.99	8.03	10	12	2.87%	7.89	0.21	743.00	743.00	739.21	736.14	737.85

DRAINAGE AREAS

SCALE: 1" = 60'



DRAINAGE AREA KEY

THE LOCATION OF THE DRAINAGE AREAS SHOWN ON THIS PLAN IS BASED ON THE DATA PROVIDED BY THE CLIENT. THE ENGINEER HAS CONDUCTED VISUAL INSPECTIONS OF THE SITE AND HAS FOUND NO EVIDENCE OF ANY OTHER DRAINAGE AREAS.

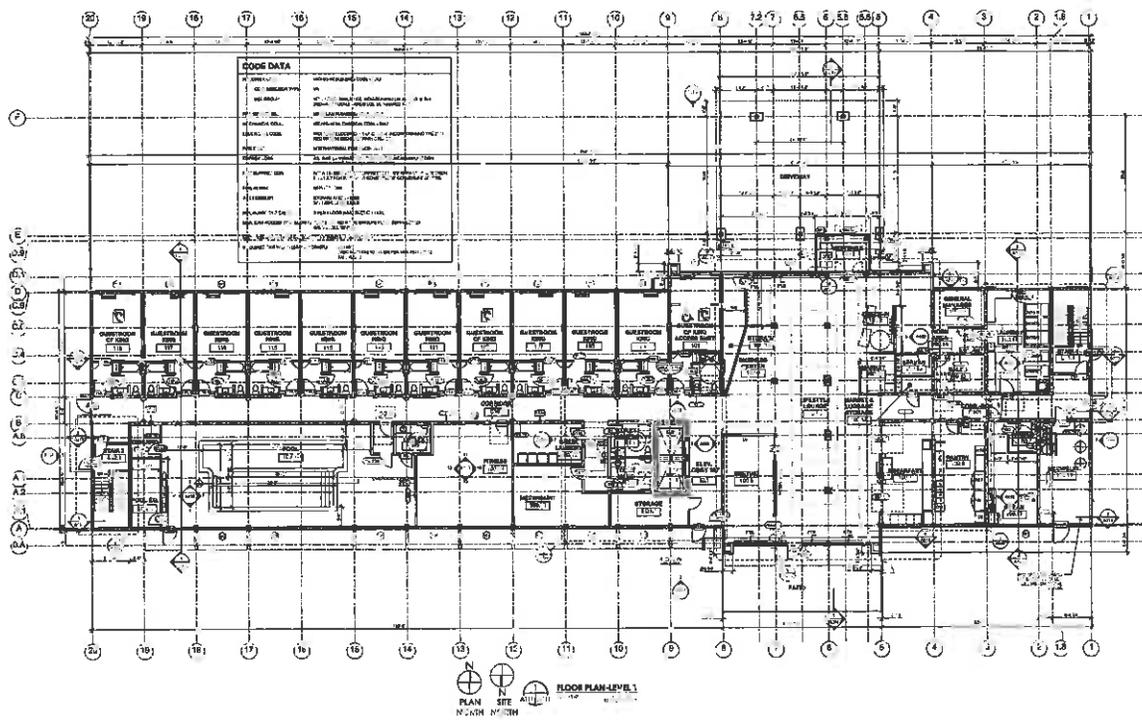
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ISSUED FOR	DATE
DRP	08/08/20
DRM	08/08/20
DRS	08/08/20
DRP	08/08/20
DRM	08/08/20
DRS	08/08/20
DRP	08/08/20
DRM	08/08/20
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811
 Know what's below.
 Call before you dig.



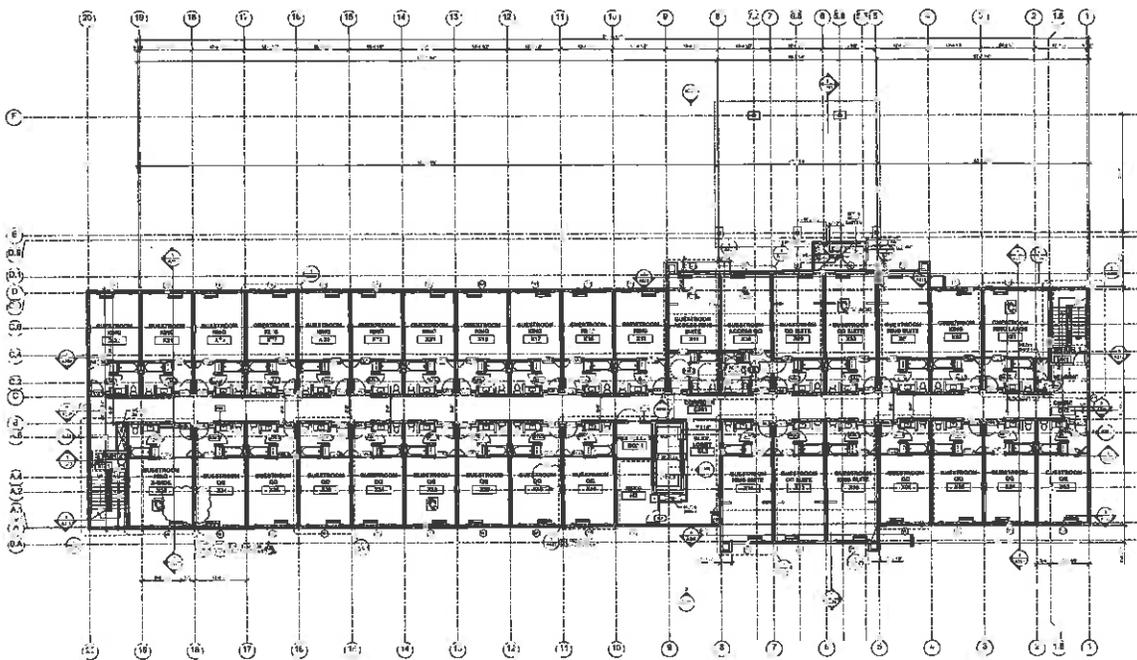
C5.0





HOLIDAY INN EXPRESS & SUITES
 1000 WEST STREET
 CALICUT, TEXAS, TX

A111



PLAN NORTH
 SITE NORTH
 FLOOR PLAN-TYPICAL LEVEL LEVELS

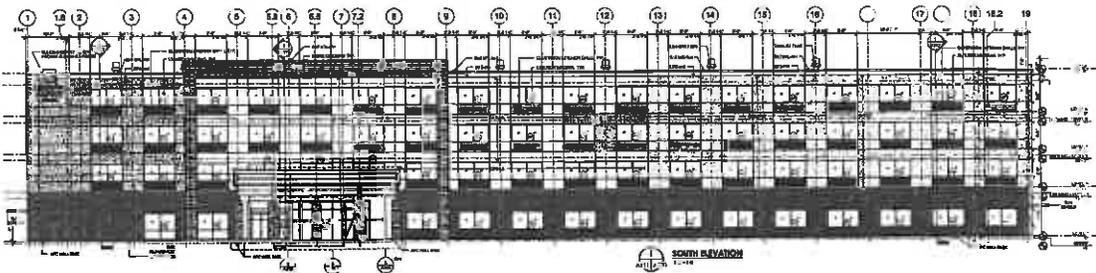

HOLIDAY INN EXPRESS & SUITES
 4000 W. 10th Street
 Columbus, Tennessee, TN

PROJECT NO. 1000000000
 SHEET NO. A112
 DATE 10/10/10

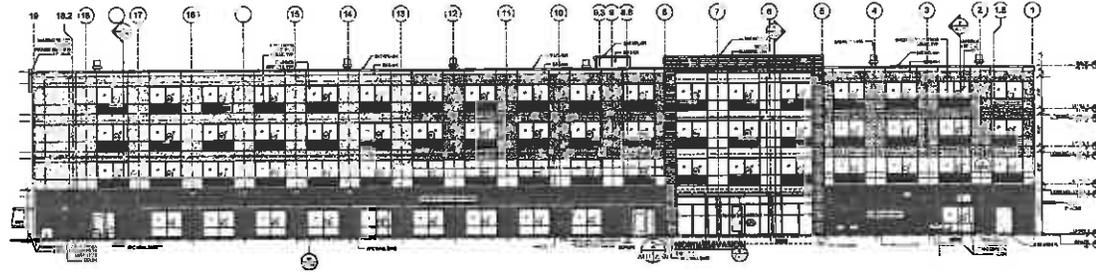
A112

GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE BUILDING CODES AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
3. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ARCHITECT AND LOCAL AUTHORITIES.
4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
5. ALL UTILITIES SHALL BE PROTECTED AND DEEPER THAN THE FINISHED GRADE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL EXISTING UTILITIES AND STRUCTURES.
7. ALL FOUNDATION WORK SHALL BE DONE IN ACCORDANCE WITH THE FOUNDATION SPECIFICATIONS.
8. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE CONCRETE SPECIFICATIONS.
9. ALL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH THE STEEL SPECIFICATIONS.
10. ALL MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE DONE IN ACCORDANCE WITH THE RESPECTIVE SPECIFICATIONS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL EXISTING CURBS, SIDEWALKS, AND DRIVEWAYS.
12. ALL EXTERIOR FINISHES SHALL BE DONE IN ACCORDANCE WITH THE EXTERIOR FINISH SPECIFICATIONS.
13. THE CONTRACTOR SHALL MAINTAIN A NEAT AND SAFE WORK SITE AT ALL TIMES.
14. ALL MATERIALS SHALL BE STORED PROPERLY AND PROTECTED FROM THE ELEMENTS.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL EXISTING LANDSCAPE AND PLANTING.
16. ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL EXISTING UTILITIES AND STRUCTURES.
18. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE BUILDING CODES AND SPECIFICATIONS.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
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SOUTH ELEVATION



NORTH ELEVATION



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 6875 MAIN STREET
 CHARLOTTE, NORTH CAROLINA 28217

ARCHITECT: [Firm Name]
 PROJECT NO.: [Project Number]
 SHEET NO.: **A200**

