



CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan 49546-7140

NOTICE OF PUBLIC MEETING VIA VIDEO CONFERENCE

In accordance with Executive Order 2020-154, which declares that public bodies subject to the Open Meetings Act can use telephone and/or video conferencing technology to meet and conduct business during the ongoing COVID-19 pandemic, the Cascade Charter Township Board of Trustees will conduct a regular meeting on Wednesday, August 26, 2020 at 7pm utilizing the Zoom video conferencing platform, for the purpose of conducting official business while complying with the Governor's "Stay Safe, Stay Home" executive orders and the Michigan Department of Health and Human Services recommendations designed to help prevent the spread of COVID-19. For up-to-date information regarding the ongoing public health crisis, please visit:

<http://www.Michigan.gov/coronavirus> or <http://www.CDC.gov/coronavirus>

INSTRUCTIONS FOR ACCESS AND PARTICIPATION

Meeting ID: 846 2436 4548

Please click the link below to join the webinar:

<https://us02web.zoom.us/j/84624364548>

iPhone one-tap :

US: +13017158592,,84624364548#

or

+13126266799,,84624364548#

Telephone:

(for higher quality, dial a number based on your current location):

+1 312 626 6799

or +1 929 205 6099

or +1 346 248 7799

or +1 669 900 6833

or +1 253 215 8782

or +1 301 715 8592

International numbers available: <https://us02web.zoom.us/j/84624364548>

Members of the public with disabilities may utilize the Michigan Relay System (7-1-1) to participate in the meeting. If other aids or services are needed for individuals with disabilities please contact the Township Deputy Clerk, Padley Gallagher, at pgallagher@cascadetwp.com or 616-949-1500 at least 24 hours prior to the meeting

PUBLIC PARTICIPATION

Members of the public will be able to listen to and view all discussion by the Township Board and all official materials for this meeting prepared for the Township Board will be included in the meeting packet and available to the public on the Township website www.cascadetwp.com Individuals will be permitted to speak during public comment periods in accordance with the Township Remote Public Meeting Procedure Policy.

If you would like to contact the Cascade Township Board about any matter, on the agenda or otherwise, please do so via email at the addresses below a minimum of 8 hours prior to the meeting. If you wish comments to be read into the public record during the public comment period, you must indicate so and draft communication that can be read in the allotted 3-minute timeframe.

Supervisor Rob Beahan: rbeahan@cascadetwp.com

Clerk Sue Slater: sslater@cascadetwp.com

Treasurer Ken Peirce: kpeirce@cascadetwp.com

Trustee Jim Koessel: jkoessel@cascadetwp.com

Trustee Jack Lewis: jlewis@cascadetwp.com

Trustee Tom McDonald: tmdonald@cascadetwp.com

Trustee John Shipley: jshipley@cascadetwp.com

Manager Ben Swayze: bswayze@cascadetwp.com

**AGENDA
CASCADE CHARTER TOWNSHIP
REGULAR BOARD MEETING**

Wednesday, August 26, 2020
7:00 P.M.

Expected Meeting Procedures

1. During public comments you may speak on any item not noted on the agenda for a public hearing.
2. Please limit comments to 3 minutes per person and the Board may or may not choose to respond.
3. Please limit your comments to a specific issue.
4. Please turn OFF cellular phones.

- Article 1. Call to Order, Roll Call**
- Article 2. Pledge of Allegiance to the Flag**
- Article 3. Approval of Agenda**
- Article 4. Presentations**
- Article 5. Public Comments-Anything on the Agenda not scheduled for a public hearing. (limit comments to 3 minutes)**
- Article 6. Approval of Consent Agenda**
- a. Receive and File Minutes
 1. Township Board Meeting Minutes – June 10, 2020
 2. Township Board Meeting Minutes – June 24, 2020
 3. Township Board Meeting Minutes – July 8, 2020
 4. Township Board Meeting Minutes – July 22, 2020
 5. Township Board Meeting Minutes – August 12, 2020
 - b. Receive and File Education Requests
 1. Stephanie Fast – Grand Valley State University
- Article 7. Financial Actions**
- Article 8. Unfinished Business**
- 044-2020 Consider Approval of Honeysuckle PUD. (roll call)**
- Article 9. New Business**
- 045-2020 Consider Resolution for Street Light Request at Bridgewater Dr. & Hillsboro Ave. (roll call)**
- 046-2020 Consider Approval of Golden Valley Phase Two. (roll call)**
- 047-2020 Consider Approval of Agreement for the Renovation of 5920 Tahoe Dr. (roll call)**
- Article 11. Public Comments – Any comments...whether it is on the Agenda or not. (limit comments to 3 minutes)**
- Article 12. Manager Comments**

Article 13. Board Member Comments

Article 14. Adjournment

**MINUTES OF THE
CASCADE CHARTER TOWNSHIP
REGULAR BOARD MEETING**

Wednesday, May 27, 2020
7:00 P.M.

- Article 1.** Supervisor Beahan called the meeting to order.
Present: Supervisor Beahan, Clerk Slater, Treasurer Peirce, Trustees Koessel, McDonald, and Shipley.
Absent: Trustee Lewis
Also Present: Manager Swayze and Assistant Township Manager Fast.
- Article 2.** Supervisor Beahan led the Pledge of Allegiance.
- Article 3.** **Approval of Agenda**
Motion was made by Trustee Shipley and supported by Trustee Koessel to approve the Agenda as presented. Motion carried unanimously by roll call vote.
- Article 4.** **Presentations**
- Article 5.** **Public Comments-Anything on the Agenda not scheduled for a public hearing. (limit comments to 3 minutes)**
Tim Enbody – 3621 Goodwood Dr.—addressed the board about the noise ordinance complaint from the previous board meeting.
Lynn Afendoulis— Introduced herself and addressed the board that she is running for Congress in the 3rd Congressional District.
Glenn Smith— Addressed the board about reviewing the noise ordinance to restrict noise further.
- Article 6.** **Approval of Consent Agenda**
a. Receive and File Reports
 1. Treasurers Report – January 2020
b. Receive and File Minutes
 1. Downtown Development Authority Board – January 21, 2020
Motion was made by Trustee Shipley and supported by Clerk Slater to approve the Consent Agenda as presented. Motion carried unanimously by roll call vote.
- Article 7.** **Financial Actions**
- Article 8.** **Unfinished Business**
- Article 9.** **New Business**
- 019-2020** **Consider Approval of Purchase of a Specialty Vehicle used for Patient Care/Rescue and Wildland Firefighting.**
Motion was made by Trustee McDonald and Supported by Trustee Koessel. Motion carried unanimously by roll call vote.
- 020-2020** **Consider Approval of Hiring Viridis Design to Design a Master Plan for the Lower Village.**
Motion was made by Trustee Shipley and Supported by Trustee McDonald. Motion carried unanimously by roll call vote.

021-2020 **Consider Tentative Preliminary Approval of BDR Custom Homes Subdivision – 1370 Buttrick Ave.**
Motion was made by Trustee Shipley and Supported by Trustee Koessel. Motion carried with a vote of 5 to 1. All in favor: Supervisor Beahan, Treasurer Peirce, and Trustees Koessel, Shipley, and McDonald. Opposed: Clerk Slater.

022-2020 **Consider Direction on Noise Ordinance Request.**
Motion was made by Trustee Shipley and was not supported. Motion to table the meeting and add it to the Board Meeting on June 10, 2020 was made by Clerk Slater and supported by Trustee McDonald.

Article 11. Public Comments – Any comments...whether it is on the Agenda or not. (limit comments to 3 minutes)
Erin Goward—Addressed the board about amending the ordinance regarding farm animals to include residential parcels less than three acres.
Glenn Smith—Expressed his appreciation of the board to consider the noise ordinance review.

Article 12. Manager Comments
Manager Swayze offered the following comment:

- Reviewed the changes in the COVID-19 Executive Order as they pertain to the Township departments and the opening plan.
- Addressed the board about the finishing up of the Cemetery construction.
- The Schoolhouse project will be starting up again next week after having stopped for COVID-19.
- The Gypsy Moth program will be moving forward next week.

Article 13. Board Member Comments
Trustee Shipley offered the following comment:

- Thanked everyone for attending the meeting.
- Very pleased with the grass coming up in the cemetery.

Article 14. Adjournment

Motion was made by Treasurer Peirce and supported by Clerk Slater to adjourn. Motion carried unanimously.

Meeting adjourned at 8:07 p.m.

Respectfully submitted,

Padley Gallagher
Deputy Clerk

Approved by:

Susan B. Slater, Clerk

DRAFT

**MINUTES OF THE
CASCADE CHARTER TOWNSHIP
REGULAR BOARD MEETING**

Wednesday, June 10, 2020
7:00 P.M.

- Article 1.** Supervisor Beahan called the meeting to order.
Present: Supervisor Beahan, Clerk Slater, Treasurer Peirce, Trustees Koessel, McDonald, and Shipley.
Absent: Trustee Lewis
Also Present: Manager Swayze, DDA Manager Korhorn, Community Development Manager Peterson, and Assistant Township Manager Fast.
- Article 2.** Supervisor Beahan led the Pledge of Allegiance.
- Article 3.** **Approval of Agenda**
Motion was made by Trustee Shipley and supported by Trustee Koessel to approve the Agenda as presented. Motion carried unanimously by roll call vote.
- Article 4.** **Presentations**
- Article 5.** **Public Comments-Anything on the Agenda not scheduled for a public hearing. (limit comments to 3 minutes)**
Glenn Smith – 3651 Goodwood Dr – Addressed the board about the review of the noise ordinance and his concerns.
Tim Enbody – 3621 Goodwood Dr. – Addressed the board about the review of the noise ordinance and his concerns.
Jeff Coffey – Thornapple Brewing Company – Voiced his support for outdoor seating in parking lots and sidewalks during this time.
- Article 6.** **Approval of Consent Agenda**
- a. Receive and File Reports
 - 1. Inspectors Report – May 2020
 - 2. DDA Annual Report—2019
 - 3. KCDA 2019 Annual Report
 - 4. Total Wine LCC Review
 - b. Receive and File Various Meeting Minutes
 - 1. Township Board Meeting Minutes—April 20, 2020
 - 2. Township Board Meeting Minutes—April 22, 2020
 - 3. Township Board Meeting Minutes—May 13, 2020
 - 4. Township Board Meeting Minutes—May 27, 2020
 - 5. Planning Commission Minutes—May 18, 2020
 - c. Receive and File Communications
 - 1. Charter Communications
 - 2. Kent County Road Commission
- Motion was made by Trustee Shipley and supported by Trustee Koessel to approve the Consent Agenda. Motion carried unanimously.
- Article 7.** **Financial Actions**
- a. Consider Approval of January 2020 Payrolls, Payables and Transfers.
 - b. Consider Approval of February 2020 Payrolls, Payables and Transfers.
 - c. Consider Approval of March 2020 Payrolls, Payables and Transfers.
 - d. Consider Approval of January 2020 financial reports.
 - e. Consider Approval of February 2020 financial reports.

f. Consider Approval of March 2020 financial reports.
Motion was made to approve all Financial Actions by Treasurer Peirce and Supported by Trustee Shipley. Motion carried unanimously.

Article 8. Unfinished Business

022-2020 Consider Direction on Noise Ordinance Review.
Motion was made by Trustee Koessel and supported by Trustee Shipley to take item off table. Motion carried unanimously by roll call vote.

Motion was made by Trustee Koessel and supported by Trustee Shipley to refer item to the Planning Commission. Motion carried unanimously by roll call vote.

Article 9. New Business

023-2020 Consider Approval of Resolution to Request an Amendment to Industrial Facilities Exemption Certificate 2019-080.

- a. Motion to open public hearing was made by Trustee Koessel and supported by Trustee Shipley.
Motion to close public hearing was made by Trustee Koessel and supported by Trustee Shipley.
- b. Motion was made by Trustee Shipley and supported by Clerk Slater for Approval of Resolution to Request an Amendment to Industrial Facilities Exemption Certificate 2019-080. Motion carried unanimously by roll call vote.

024-2020 Consider Resolution Revoking Industrial Facilities Exemption Certificate 2013-199.

- a. Motion to open public hearing was made by Trustee McDonald and supported by Trustee Shipley.
Motion to close public hearing was made by Trustee McDonald and supported by Trustee Shipley.
- b. Motion was made by Trustee Koessel and supported by Trustee Shipley to Consider Resolution Revoking Industrial Facilities Exemption Certificate 2013-199. Motion carried unanimously by roll call vote.

025-2020 Consider Improvements to Cascade Recreational Park Dog Park.

Motion to approve was made by Trustee McDonald and Supported by Trustee Koessel. Motion carried unanimously by roll call vote.

026-2020 Consider Approval of Amendment of Various parts of the Roundhill Portion of the Sentinel Pointe Planned Unit Development.

- a. Motion to open public hearing was made by Trustee Koessel and supported by Trustee Shipley.
Motion to close public hearing was made by Trustee Koessel and supported by Trustee Shipley.
- b. Motion to approve was made by Trustee McDonald and Supported by Trustee Shipley. Motion carried unanimously by roll call vote.

027-2020 **Consider Approval of Funny Business Contract Changes.**
Motion to approve was made by Trustee Koessel and Supported by Trustee Shipley. Motion carried unanimously by roll call vote.

028-2020 **Consider Approval of Resolution Establishing an Administrative Site Plan Review Process for Temporary Outdoor Food and Beverage, Retail, Recreation, and Other Similar Uses Due to Coronavirus Pandemic.**
Motion to approve was made by Trustee Shipley and Supported by Trustee McDonald. Motion carried unanimously by roll call vote.

Article 11. Public Comments – Any comments...whether it is on the Agenda or not. (limit comments to 3 minutes)

Article 12. Manager Comments

Manager Swayze offered the following comments:

- Everything went well for the Audit thanks to Senior Accountant, Liz.
- Beginning June 15, there will be a big resurfacing project going on for about a month.
- Gypsy Moth Spray two weeks prior was very successful.
- The Governor has lifted the Stay at Home Order, but still has a lot of restrictions in place. We are beginning to open the parks in small steps.
- The Library will be open for curbside pickup beginning next week.
- Township hall will open to the public next week.
- Event on Saturday at 10am to Recognize and Dedicate the Ryan Marsman Memorial Pathway at Thornapple Covenant Church.

Article 13. Board Member Comments
No Board Member Comments.

Article 14. Adjournment

Motion was made by Treasurer Peirce and supported by Clerk Slater to adjourn. Motion carried unanimously.

Meeting adjourned at 8:33 p.m.

Respectfully submitted,

Padley Gallagher
Deputy Clerk

Approved by:

Susan B. Slater, Clerk

**MINUTES OF THE
CASCADE CHARTER TOWNSHIP
REGULAR BOARD MEETING**

Wednesday, June 24, 2020
7:00 P.M.

- Article 1.** Supervisor Beahan called the meeting to order.
Present: Supervisor Beahan, Clerk Slater, Treasurer Peirce, Trustees Koessel, McDonald, and Shipley.
Absent: Trustee Lewis
Also Present: Manager Swayze and Assistant Township Manager Fast.
- Article 2.** Supervisor Beahan led the Pledge of Allegiance.
- Article 3. Approval of Agenda**
Motion was made by Trustee Shipley and supported by Trustee McDonald to approve the Agenda as presented. Motion carried unanimously.
- Article 4. Presentations**
- Article 5. Public Comments-Anything on the Agenda not scheduled for a public hearing. (limit comments to 3 minutes)**
- Article 6. Approval of Consent Agenda**
a. Receive and File Various Meeting Minutes
1. DDA Meeting Minutes—May 19, 2020
2. Planning Commission Minutes—June 1, 2020
Motion was made by Trustee Koessel and supported by Trustee Shipley to approve the Consent Agenda as presented. Motion carried unanimously.
- Article 7. Financial Actions**
a. Consider Approval of April 2020 Payrolls, Payables and Transfers.
Motion was made to approve the April 2020 Payrolls, Payables and Transfers by Trustee Koessel and Supported by Trustee Shipley. Motion carried unanimously.
b. Consider Approval of April 2020 Financial Reports.
Motion was made to approve the April 2020 Financial Reports by Trustee Koessel and Supported by Trustee Shipley. Motion carried unanimously.
- Article 8. Unfinished Business**
- Article 9. New Business**
029-2020 Consider Approval of Resolution for Streetlight Request at Thornapple River Dr. and Tanglewood Dr.
Motion to approve was made by Trustee Koessel and Supported by Trustee Shipley. Motion carried unanimously by roll call vote.
030-2020 Consider Final Approval of the Thornapple Pointe Subdivision.
Motion to approve was made by Trustee Shipley and Supported by Clerk Slater. Motion carried unanimously by roll call vote.

031-2020

Consider Approval of Fiscal Year 2019 Audit and Comprehensive Annual Financial Report.

Motion to approve was made by Trustee Koessel and Supported by Trustee Shipley. Motion carried unanimously by roll call vote.

Article 11. Public Comments – Any comments...whether it is on the Agenda or not. (limit comments to 3 minutes)

Mandy Bolter—Kent County Commissioner—Wanted to give the board an update on the CARES funding and how the funds are being dispersed from the county to individual jurisdictions and small businesses.

Article 12. Manager Comments

Manager Swayze offered the following comments:

- Updated the board on the operations plan for reopening the Township.
- Wished everyone a happy Fourth of July.
- Governor extended the State of Emergency so they will continue to hold virtual meetings through July.

Article 13. Board Member Comments

John Shipley Offered the Following comment:

- Thanked people for listening.

Treasurer Peirce offered the following comment:

- Complimented the Board for its excellent fiscal responsibility even through the hard times we've had this year.

Trustee Koessel offered the following comment:

- Wanted to make people aware that the Dam is not in disrepair, and wanted to be able to push that information out to the public.

Trustee McDonald offered the following comment:

- Added to the comments about the Dam being in good shape.
- The finance committee did an awesome job in the audit.

Article 14. Adjournment

Motion was made by Treasurer Peirce and supported by Trustee McDonald to adjourn. Motion carried unanimously.

Meeting adjourned at 7:33 p.m.

Respectfully submitted,

Padley Gallagher
Deputy Clerk

Approved by:

Susan B. Slater, Clerk

**MINUTES OF THE
CASCADE CHARTER TOWNSHIP
REGULAR BOARD MEETING**

Wednesday, July 8, 2020
7:00 P.M.

- Article 1.** Supervisor Beahan called the meeting to order.
Present: Supervisor Beahan, Clerk Slater, Treasurer Peirce, Trustees Koessel, McDonald, and Shipley.
Absent: Trustee Lewis
Also Present: Manager Swayze, Community Development Manager Peterson, Fire Chief Magers, Building Inspector Wilson, and Assistant Township Manager Fast.
- Article 2.** Supervisor Beahan led the Pledge of Allegiance.
- Article 3.** **Approval of Agenda**
Motion was made by Trustee Shipley and supported by Clerk Slater to approve the Agenda as presented. Motion carried unanimously.
- Article 4.** **Presentations**
- Article 5.** **Public Comments-Anything on the Agenda not scheduled for a public hearing. (limit comments to 3 minutes)**
Jeff Carpenter – 5016 Sequoia – Addressed the board about his support for the Thornapple River Special Assessment District Improvements.
- Article 6.** **Approval of Consent Agenda**
- Article 7.** **Financial Actions**
- Article 8.** **Unfinished Business**
- Article 9.** **New Business**
- 032-2020** **Consider Acceptance of the 2020 Cascade Fire Department ISO Public Protection Classification Report.**
Motion to approve was made by Clerk Slater and supported by Trustee Shipley. Motion carried unanimously by roll call vote.
- 033-2020** **Consider Approval of Outdoor Gathering Permit for Academy of Music in Grand Rapids.**
Motion to approve was made by Clerk Slater and supported by Trustee Koessel. Motion carried unanimously by roll call vote.
- 034-2020** **Consider Resolution of “Declaration of Intent to Make Public Improvements; Tentative Designation of the Special Assessment District; Notice of Public Hearing” for Thornapple River Special Assessment District No. 1.**
Motion to approve was made by Trustee Shipley and supported by Trustee McDonald. Motion carried unanimously by roll call vote.

035-2020 Consider Appointments to Various Boards and Commissions.
Motion to approve was made by Trustee Koessel and supported by Trustee Shipley. Motion carried unanimously by roll call vote.

036-2020 Consider Amendment to Kraft Street Partners Ordinance for the Construction of a Dental Office.
a. Motion to open public hearing was made by Trustee Koessel and supported by Trustee Shipley.
Motion to close public hearing was made by Trustee Koessel and supported by Trustee Shipley.
b. Motion was made by Clerk Slater and supported by Trustee Shipley for Approval of Amendment to Kraft Street Partners Ordinance for the Construction of a Dental Office. Motion carried unanimously by roll call vote.

Article 11. Public Comments – Any comments...whether it is on the Agenda or not. (limit comments to 3 minutes)

Article 12. Manager Comments
Assistant Township Manager Fast offered the following comments on behalf of Manager Swayze:

- Next week will be the beginning of the pathway improvements which will cause full shutdowns for certain roads for short times while the pathways are worked on. Information will be available on closures and construction on the Township website and Facebook page.

Article 13. Board Member Comments
Clerk Slater offered the following comment:

- Wished Supervisor Beahan a Happy Birthday.
Trustee Shipley
- Thanked everyone for listening in on the meeting and can't wait to get back to meeting in person.

Article 14. Adjournment

Motion was made by Treasurer Peirce and supported by Clerk Slater to adjourn. Motion carried unanimously.

Meeting adjourned at 7:50 p.m.

Respectfully submitted,

Padley Gallagher
Deputy Clerk

Approved by:

Susan B. Slater, Clerk

**MINUTES OF THE
CASCADE CHARTER TOWNSHIP
REGULAR BOARD MEETING**

Wednesday, July 22, 2020
7:00 P.M.

- Article 1.** Supervisor Beahan called the meeting to order.
Present: Supervisor Beahan, Clerk Slater, Treasurer Peirce, Trustees Koessel, McDonald, Lewis, and Shipley.
Absent: None
Also Present: Manager Swayze, Community Development Manager Peterson, and Assistant Township Manager Fast.
- Article 2.** Supervisor Beahan led the Pledge of Allegiance.
- Article 3.** **Approval of Agenda**
Motion was made by Trustee Shipley and supported by Clerk Slater to approve the Agenda as presented. Motion carried unanimously.
- Article 4.** **Presentations**
- Article 5.** **Public Comments-Anything on the Agenda not scheduled for a public hearing. (limit comments to 3 minutes)**
- Article 6.** **Approval of Consent Agenda**
a. Receive and File Reports
1. Thomapple Club LLC Review
2. Inspectors Report – June 2020
Motion was made by Trustee Koessel and supported by Trustee McDonald to approve the Consent Agenda as presented. Motion carried unanimously by roll call vote.
- Article 7.** **Financial Actions**
a. Consider Approval of May 2020 Financial Reports
Motion was made by Trustee Koessel and supported by Trustee Shipley to approve the May 2020 Financial Reports. Motion carried unanimously
b. Consider Approval of June 2020 Financial Reports
Motion was made by Trustee Shipley and supported by Trustee Koessel to approve the June 2020 Financial Reports. Motion carried unanimously
c. Consider Approval of May 2020 Payables, Payroll, and Transfers.
Motion was made by Clerk Slater and supported by Treasurer Peirce to approve the May 2020 Payables, Payroll, and Transfers. Motion carried unanimously
d. Consider Approval of June 2020 Payables, Payroll, and Transfers.
Motion was made by Trustee Shipley and supported by Trustee Koessel to approve the June 2020 Payables, Payroll, and Transfers. Motion carried unanimously
- Article 8.** **Unfinished Business**

Article 9. New Business

037-2020

Consider Approval for Pathway #2 and #3 Contract.

Motion to approve was made by Trustee McDonald and Supported by Trustee Shipley. Motion carried unanimously by roll call vote.

Article 11. Public Comments – Any comments...whether it is on the Agenda or not. (limit comments to 3 minutes)

Article 12. Manager Comments

Manager Swayze offered the following comment:

- The Township Hall operations are the same as they have been since mid-June. Operating at about 50% capacity in person, everyone else is working from home.
- Passport offices will remain closed to keep traffic through the office at a minimum as people are already coming in for Elections and Taxes.
- First round of reimbursement requests are starting to be granted. About \$360,000 was given to us for Public Safety wages from the grant. The next round of reimbursements will be from the County for direct costs from the pandemic. We anticipate applying for another \$150,000-\$200,000 from the next round of reimbursements because of lost income.
- Cemetery Project is well underway and completed by the fall.

Article 13. Board Member Comments

Trustee Shipley offered the following comment:

- Thanked everyone for listening in to the meeting.

Trustee Koessel offered the following comment:

- Mentioned a comment he received from a neighbor about the possibility of patrolling Bridgewater or putting up a speed limit sign near the school.

Clerk Slater offered the following comment:

- Addressed the board about the two new hires in the clerk's office for help with the election.

Trustee McDonald offered the following comment:

- Wanted to share with the public that they have not created any ordinances in secret as a response to some rumors.

Article 14. Adjournment

Motion was made by Treasurer Peirce and supported by Clerk Slater to adjourn. Motion carried unanimously.

Meeting adjourned at 7:22 p.m.

Respectfully submitted,

Padley Gallagher
Deputy Clerk

Approved by:

Susan B. Slater, Clerk

**MINUTES OF THE
CASCADE CHARTER TOWNSHIP
REGULAR BOARD MEETING**

Wednesday, August 12, 2020

7:00 P.M.

- Article 1.** Supervisor Beahan called the meeting to order.
Present: Supervisor Beahan, Clerk Slater, Treasurer Peirce, Trustees Koessel, McDonald, Lewis, and Shipley.
Absent: None
Also Present: Assistant Township Manager Fast and Community Development Manager Peterson.
- Article 2.** Supervisor Beahan led the Pledge of Allegiance.
- Article 3.** **Approval of Agenda**
Motion was made by Trustee Shipley and supported by Trustee Lewis to approve the Agenda as presented. Motion carried unanimously by roll call vote.
- Article 4.** **Presentations**
- Article 5.** **Public Comments-Anything on the Agenda not scheduled for a public hearing. (limit comments to 3 minutes)**
Scott Noto—Kent County Circuit Court Candidate—Introduced himself and his family to the board.
- Article 6.** **Approval of Consent Agenda**
a. Receive and File Reports
1. Inspectors Report - July 2020
2. Kent County Sheriff's Department East Precinct (First Quarter)
3. Kent County Sheriff's Department East Precinct (Second Quarter)
Motion was made by Trustee Shipley and supported by Clerk Slater to approve the Consent Agenda as presented. Motion carried unanimously by roll call vote.
- Article 7.** **Financial Actions**
- Article 8.** **Unfinished Business**
034-2020 Consider Resolution of "Declaration of Intent to Make Public Improvements; Tentative Designation of the Special Assessment District; Notice of Public Hearing for the Thornapple River Special Assessment District.
Motion was made by Trustee Koessel and Supported by Trustee Shipley to table item 034-2020 for the September 9, 2020 Township Board Meeting. Motion carried unanimously.
- Article 9.** **New Business**
038-2020 Consider Approval of Adventure Race in Peace Park.
Motion was made for approval by Trustee Shipley and Supported by Trustee McDonald. Motion carried unanimously.
039-2020 Consider Approval of Noise Ordinance Request from May 13, 2020 Board Meeting.

Motion was made by Trustee Koessel and supported by Clerk Slater to send item 039-2020 to the Planning Commission for review and direction. Motion carried unanimously.

040-2020 Consider Approval of Amendment to the 2020 Local Road Improvements.

Motion was made for approval by Trustee Shipley and Supported by Trustee Koessel. Motion carried unanimously.

041-2020 Consider Resolution of “Declaration of Intent to Make Public Improvements; Tentative Designation of the Special Assessment District; Notice of Public Hearing” For Laraway Lake Special Assessment District No. 1.

Motion was made by Trustee Shipley and Supported by Trustee McDonald to table item 041-2020 for the September 9, 2020 Township Board Meeting. Motion carried unanimously.

042-2020 Consider Approval of Hope Network Transportation Services Contract.

Motion was made for approval by Trustee Shipley and Supported by Trustee McDonald. Motion carried unanimously.

043-2020 Consider Approval of COVID-19 Hazard Pay for Certain Township Employees.

Motion was made for approval by Trustee Koessel and Supported by Trustee McDonald. Motion carried unanimously.

044-2020 Consider Approval of Re-zone of 17 Acres to PUD to Allow for Thirteen Single Family Home Sites.

a. Motion to open public hearing was made by Trustee Koessel and supported by Trustee McDonald.

Motion to close public hearing was made by Trustee McDonald and supported by Trustee Koessel.

b. Motion was made by Trustee Shipley and supported by Clerk Slater to have staff revisit and table for future meeting. Motion carried unanimously.

Article 11. Public Comments – Any comments...whether it is on the Agenda or not. (limit comments to 3 minutes)

Article 12. Manager Comments

Article 13. Board Member Comments

Article 14. Adjournment

Motion was made by Treasurer Peirce and supported by Clerk Slater to adjourn. Motion carried unanimously.

Meeting adjourned at 8:07 p.m.

Respectfully submitted,

Padley Gallagher
Deputy Clerk

Approved by:

Susan B. Slater, Clerk

DRAFT



Cascade Charter Township Education Reimbursement Request Form

Conditions for Reimbursement:

1. Individual courses or courses that are part of a degree, licensing or certification program must be related to the employee's current job duties or a foreseeable future position in the organization in order to be eligible for educational assistance.
2. Cascade Charter Township will reimburse employees for approved registration and tuition for work related courses taken through college or schools accredited by regional accreditation associations.
3. Some electives that an employee may be required to complete for a degree may be unrelated to their particular job or government in general, and are therefore not covered by this assistance policy.

This form must be completed by the employee and approved by the Township Board before the course is taken in order to qualify for reimbursement.

Name: Stephanie Fast Application Date: 8/11/2020

Name of Educational Institution: Grand Valley State University

Name of Proposed Course:

Foundations of Public Service: This course includes a history of ideas about public service; a definition and analysis of the governmental sector, the nonprofit sector, and their intersection; a study of classic and contemporary debates within the public service field; and an examination of how public-serving organizations adapt to changing environments.

Cost of Course \$ 2,073.00 Account # _____

Applicant: *Stephanie Fast*
Signature

Approvals:

Department Head: *Ben Swan*
Signature

8/18/2020
Date

Township Manager: *Ben Swan*
Signature

8/18/2020
Date

Clerk: _____
(Signature Indicates Township Board Approval)

Date

- Original to Personnel File
- 1 Copy to Applicant
- 1 Copy to Accounting

Township Board Memorandum

To: Cascade Charter Township Board
From: Steve Peterson, Community Development Director
Subject: #18-3450/Honeysuckle PUD
Meeting date: August 26, 2020

At the Public hearing on August 12, 2020 the Township Board tabled the matter over concern regarding the amount of site work that has already taken place. Although, the work that has been done is not in violation of any ordinance the Township Board asked that the work be reviewed by our engineer and the Kent County Road Commission.

The Developer has provided a survey of the work and provided "as-built" plans to our engineer for review. Our engineer has reviewed the work and his email dated 8/19/2020 is attached. In addition, the KCRC has reviewed what was done and his email is attached dated 8/17/2020.

In addition to the inspections reports from the KCRC and the Township engineer I have also included the staff report from the August 12, 2020 meeting for your review.

Attachments: Township Engineer email dated 8/19/2020
KCRC email dated 8/17/2020
Staff Report from 8/12/2020

Steve

From: Berrevoets, Mike <mberrevoets@fishbeck.com>
Sent: Wednesday, August 19, 2020 10:16 AM
To: Steve
Cc: Torrey, Nate
Subject: FW: Honeysuckle Hill
Attachments: 161728E_Pond Volume AB.pdf; 161728-S01-Utl-AB.pdf; 161728-S02-GRD-AB.pdf

Steve,

We reviewed the as-built drawings that were sent by Exxel Engineering.

A few items to note:

1. The storm sewer has been placed and some of the as-built inverts are off by a few inches from the proposed plan. That may seem like a concern initially, but it is pretty typical for storm sewer to not be constructed exactly per the plan just based on field tolerances. The pipe slope changes slightly but that wouldn't effect the functionality of the system. Minor changes are expected and we do not have a concern with what was constructed because it is storm sewer. (Sanitary sewer would potentially be different depending on the grades and minimum slope requirements)
2. The detention pond berm is not high enough as they have acknowledged below. This will need to be corrected and a revised as-built submitted for Township records.
3. The site plan showed a new swale/ditch on the east side to pick up off-site drainage. This either has not been constructed yet or they didn't collect as-built survey of the area. This is a requirement of site plan approval and will need to be constructed. The developer should be required to provide an as-built plan of this area once the work is completed.

Thanks,

Mike Berrevoets, PE | Vice President/Senior Civil Engineer
Fishbeck | w: 616.464.3927 | c: 616.299.2126 | Fishbeck.com

From: Jeff Van Laar <jvanlaar@exxelengineering.com>
Sent: Monday, August 17, 2020 3:32 PM
To: Berrevoets, Mike <mberrevoets@fishbeck.com>
Cc: Steve <Steve@cascadetwp.com>; Mike Berg (mberg@dykemaexcavators.com) <mberg@dykemaexcavators.com>; Don De Groot <ddegroot@exxelengineering.com>
Subject: RE: Honeysuckle Hill

Mike,

Attached are the Honeysuckle Hill as-built plans along with a copy of a pond volume verification. The contours on sheet 1 represent the as-built contours and the contours on the grading plan are the design contours, for reference.

It should be noted that the berm near the outlet structure was low a maximum of 6", as noted in the outlet cross-section view. Mike Berg will have this raised up to meet the required 706 berm grade. The emergency overflow at the east end of the pond did have the correct elevations on it.

If you have any questions, please feel free to contact Mike Berg or myself.

Thanks,
Jeff Van Laar

From: Mike Berg <mberg@dykemaexcavators.com>
Sent: Monday, August 17, 2020 10:52 AM
To: Jeff Van Laar <jvanlaar@exxelengineering.com>
Subject: FW: Honeysuckle Hill

From: Steve [<mailto:Steve@cascadetwp.com>]
Sent: Monday, August 17, 2020 10:46 AM
To: Berrevoets, Mike <mberrevoets@fishbeck.com>
Cc: mberg@dykemaexcavators.com
Subject: RE: Honeysuckle Hill

He said he would be sending directly to you today

Steve

From: Berrevoets, Mike <mberrevoets@fishbeck.com>
Sent: Monday, August 17, 2020 10:44 AM
To: Steve <Steve@cascadetwp.com>
Subject: RE: Honeysuckle Hill

Thanks. Did Mike Berg send anything yet as far as an "as-built"?

Mike Berrevoets, PE | Vice President/Senior Civil Engineer

Steve

From: Beck, David <dbeck@kentcountyroads.net>
Sent: Monday, August 17, 2020 10:25 AM
To: Steve
Cc: mberg@dykemaexcavators.com
Subject: Honeysuckle Hill

Steve,

I am contacting you per request of Mike Berg in reference of Honeysuckle Hill, KCRC permit #2019-040721, plan #19-031. Based on our field inspection Thursday 8/13/20, the concrete curb and gutter drive entrance has been satisfactorily completed. The driveway approach areas within our ROW still need to be paved. We currently hold a \$20,000 bond to ensure the paving will be completed prior to the release of the bond.

The other item that was inspected at the same time was the catch basin tie-in work required for the detention pond outlet pipe. The catch basin inspected is located approximately 380ft south of the new drive entrance on the east side of Buttrick Ave. It was witnessed that the catch basin had been cored per plan to accommodate the 15 inch detention pond outlet pipe. The 15 inch storm sewer pipe was installed inside the catch basin and appeared to be properly "mudded" in place. Any questions, please advise.



KCRC

Dave Beck

Permit Manager
o. (616) 242.6901 ext. 2992 | f. (616) 336.4397
dbeck@kentcountyroads.net

Kent County Road Commission
1500 Scribner Avenue NW, Grand Rapids, MI 49504
kentcountyroads.net

STAFF REPORT

TO: Cascade Charter Township Board
FROM: Steve Peterson, Community Development Director
REPORT DATE: July 31, 2020
MEETING DATE: August 12, 2020
CASE: #18-3450/ Honeysuckle Hill

GENERAL INFORMATION

- A. Applicant: Dykema LP
1730 Three Mile Rd NE
Grand Rapids MI 49505
Telephone: 363-6895
Email: mberg@dykemaexcavators.com
- B. Status of Applicant: Owner/developer
- C. General Location: The property is located on the south side of 48th st just west of Whitneyville Ave.
- D. Requested Action: Rezone approximately 17 Acres to PUD to allow for 13 single family home sites.
- E. Existing Zoning on Subject Parcels: R1, Residential
- F. Zoning on Adjoining Parcels: R1, Residential
- G. Parcel Size: two properties totaling Approximately 17 acres
- H. Existing Land Use on Subject Parcel: Vacant
- I. Adjacent Area Land Uses:
- | | | |
|-------|---|-------------|
| North | - | I-96 |
| East | - | Residential |
| South | - | Railroad |
| West | - | Residential |

STAFF ANALYSIS

- A. The applicant is requesting Final Approval in order to rezone approximately 17 acres for a Planned Unit Development called Honeysuckle Hill. This request would allow for a total of 13 single-family home sites.
- B. The property is zoned R1, single-family, and is Master Planned Suburban Residential, which is essentially the same.
- C. The applicant has drawn a test plan showing how the property could be developed with 13 lots using a combination of six lot splits and PUD rezoning for seven lots.
- D. After review by the Planning Commission, the Township required that they rezone the entire project as one site condominium rather than have a combination of lot splits and site condominium lots. We also required that the plan be revised to remove any storm water detention system from lots and place it in the common open space.
- E. The development is designed using the 25% open space method. This requires a minimum lot size of 40,000 sq ft. However, because lots 1,2 and 5 have been revised to eliminate the detention system from the lot area they are under the 40,000 sq ft.
- F. The lots range in size from 35,813 sq ft to 38,605. This is the only exception that they are asking for and if not approved they could simply include the detention areas in the lots and meet the requirement.
- G. The development will be served by wells and septic. The applicant has received approval from the KCHD. The property is located in the sewer water service area so an agreement to participate in the SAD would be appropriate to include the PUD ordinance.
- H. The open space that is being provided is located along the railroad and in the NE corner of the project adjacent to the nearest homes which are off from Whitney Pines (a small private drive on from 48th st).
- I. The developer has received approval for the street name and location of the curb cut from the KCRC. The engineer has approved the design of the road.
- J. Access for all of the lots will be from the private street only, no access will be granted to Buttrick or 48th st.
- K. No sidewalks are planned for the project, and would not connect to any planned or future pathways.
- L. This area is zoned R1 but does not include any street lights and the Planning Commission is not recommending them given the location of the subdivision.
- M. The developer has not indicated the minimum size for the homes. In the R1 zone we require a minimum of 1,300 sq ft for a one story and a 1,600 sq ft for a two story.5700 an
- N. Traffic counts on Buttrick ave and 48th are 918 and 5,700 respectively. According to the KCRC a two lane road has the capacity for about 10,000 cars. A 13 unit single family subdivision would add about 130 trips to the current traffic count.

O. The Planning Commission has recommended approval of the PUD rezoning and the attached PUD Ordinance as written.

P. **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 R1 and the developer has shown how they could meet our requirement for 13 lots as a combination of a subdivision and lot splits. Allowing a couple of smaller lots to avoid issues with the detention system and having it all under one subdivision would make for a much cleaner subdivision.
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 development is very similar to the surrounding projects and being consistent with the underlying zoning 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	met.
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	met

Staff Recommendation

Staff recommends approval of the plan.

Attachments

Site plan
PUD Ordinance



CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan
49546-7140

PLANNING & ZONING APPLICATION

APPLICANT: Name: Dykema LP (owner of 41-19-26-300-005)
Address: 1730 Three Mile Road, NE
City & Zip Code Grand Rapids, MI 49505
Telephone: 616-363-6895
Email Address: mberg@dykemaexcavators.com

OWNER: * (if different from Applicant)
Name: Eugene Raab (owner of 41-19-26-300-007)
Address: 4612 Poinsettia Ave SE
City & Zip Code: Grand Rapids, MI 49508
→ Telephone: 616-534-6014
→ 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 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:**

(**Use Attachments if Necessary)
-SEE OTHER SIDE-

LEGAL DESCRIPTION OF PROPERTY:**

See site plan

(**Use Attachments if Necessary)

PERMANENT PARCEL (TAX) NUMBER: 41-19 -26-300-005 & 41-19-26-300-007

ADDRESS OF PROPERTY: 4862 and 4870 Buttrick

PRESENT USE OF THE PROPERTY: Vacant

NAME(S) & ADDRESS(ES) OF ALL OTHER PERSONS, CORPORATIONS, OR FIRMS HAVING A LEGAL OR EQUITABLE INTEREST IN THE PROPERTY:

Name(s)

Address(es)

SIGNATURES

I (we) the undersigned certify that the information contained on this application form and the required documents attached hereto are to the best of my (our) knowledge true and accurate. I (we) also agree to reimburse the Cascade Charter Township for all costs, including consultant costs, to review this request in a timely manner. I (we) understand that these costs may also include administrative reviews which may occur after the Township has taken action on my (our) request.

I (we) the undersigned also acknowledge that the proposed project does not violate any known property restrictions (i.e. plat restrictions, deed restrictions, covenants, etc.)

Eugene Raab

Owner – Print or Type Name
(*If different from Applicant)

* Eugene Raab 3/7/2018

Owner's Signature & Date
(*If different from Applicant)

James A. Dykema

Applicant – Print or Type Name

James A. Dykema

Applicant's Signature & Date

PLEASE ATTACH ALL REQUIRED DOCUMENTS NOTED IN THE PROCESS REVIEW SHEET – THANK YOU

Rev. 7/24/14

Steve

From: Strunk, John <jstrunk@kentcountyroads.net>
Sent: Friday, April 20, 2018 8:37 AM
To: Steve
Subject: Buttrick Ave

Steve – The proposed Dykema Exc. private street development on the east side of Buttrick Ave. south of 48 th Street has an approved location by the KCRC, and an approved name of “Honeysuckle Hill Court – PVT”.



KCRC

John R. Strunk
Certification Engineer, Commercial Driveways
(616) 242.6901 ext. 6913
jstrunk@kentcountyroads.net

Kent County Road Commission
1500 Scribner Avenue NW, Grand Rapids, MI 49504-3299
kentcountyroads.net

CASCADE CHARTER TOWNSHIP
Ordinance # of 2020
AN ORDINANCE TO AMEND THE CASCADE CHARTER TOWNSHIP
ZONING ORDINANCE AND ZONING MAP TO ESTABLISH THE
HONEYSUCKLE
PLANNED UNIT DEVELOPMENT PROJECT.

Cascade Charter Township (the "Township") Ordains:

Section I. An Amendment to the Cascade Charter Township Zoning Ordinance.

The application received from HH LLC (hereinafter referred to as the "Developer") for Planned Unit Development designation for the proposed Honeysuckle Planned Unit Development Project (hereinafter referred to as the "Project") was recommended by the Cascade Charter Township Planning Commission for approval at the _____, 2020 Planning Commission meeting. The Project is recommended for rezoning from R1, Single Family Residential to PUD, Planned Unit Development, thus permitting a site condominium development. This action requires an amendment to the Cascade Charter Township Zoning Ordinance and Zoning Map to incorporate the Planning Commission's recommendations and the Cascade Charter Township Board of Trustees' action on the _____, 2020.

Section II. Legal Description.

The legal description of the Project is made up of the following:

4862 Buttrick Ave - N 660 FT OF THAT PART NW 1/4 SW 1/4 LYING E OF CL OF BUTTRICK AVE EX E 300 FT * SEC 26 T6N R10W 9.08 ACRES.

4870 Buttrick Ave - THAT PT NW 1/4 SW 1/4 LYING NLY OF PM RR R/W & ELY OF CL OF BUTTRICK AVE EX N 660 FT * SEC 26 T6N R10W 8.50 A.

Section III. General Provisions.

The following provisions shall hereby apply to the Project, in addition to those provisions outlined in Chapter 16 of the Cascade Charter Township Zoning Ordinance (Ordinance No. 11 of 1988, as amended).

Section IV. Purpose.

The Project occupies approximately 17 acres of land in the Township. The Project will be a site condominium development containing 13 single-family site condominium units. Approximately 25% of the property is to be preserved as open space. This technique has been chosen by the

Developer to give it and the eventual owners of each unit more control over the Project's aesthetics and appearance. This development technique provides the Developer with the ability to develop the Project in a manner to meet market expectations where more traditional mechanisms such as creating subdivision plats do not.

The regulations contained herein are established to define the procedures necessary to ensure high quality development in the Project. Additionally, they are designed to achieve integration of this development with adjacent land uses.

Section V. Approval Limitations.

- A. The provisions of this Ordinance/Ordinance amendment ("this Ordinance") are not intended as a substitute for the Cascade Charter Township Zoning Ordinance and the General Development Plan, nor do they in any way relieve the Developer from obtaining all approvals and permits required by the Township, except as otherwise expressly provided herein. In the event that a development issue or site plan element is not expressly addressed by this Ordinance, the specifications and requirements of the Cascade Charter Township Zoning Ordinance shall apply. Furthermore, all other applicable Cascade Charter Township ordinances shall still govern the Project where applicable.
- B. Except as expressly otherwise provided herein, the Developer and his assigns must meet all applicable provisions, ordinance requirements, and regulations of Cascade Charter Township, as well as federal and state law, and must obtain all necessary approvals from state and county governmental agencies that are required for construction, operation, or use.
- C. This PUD approval is expressly contingent upon all conditions of approval herein remaining fully effective and valid. If any condition imposed herein is determined to be illegal or contrary to law as a result of a successful legal challenge by the Developer or its assigns, or any other party, the Township reserves the right to review the entire Project under the PUD provisions of the Cascade Charter Township Zoning Ordinance, and further, to withdraw its approval of this PUD if the Township finds that, absent the effect of any condition imposed herein, the PUD no longer meets the standards for PUD approval contained in the Zoning Ordinance.
- D. All conditions contained herein and in the final approved site plan shall be binding upon the Developer, as well as its successors, tenants and assigns. The conditions may be modified or amended only pursuant to a formal amendment of the PUD approval, approved site plan, and ordinance amendment. The Project must be constructed and operated, and all properties therein used, in strict compliance with the PUD approval (including this Ordinance and the final approved site plan), and no deviations can occur without prior formal written approval by the Township. So-called minor deviations shall not occur unilaterally by the Developer or its successors, tenants, or assigns. Any deviation without prior formal written approval by the Township will constitute a violation of this Ordinance and the Cascade Charter Township Zoning Ordinance.

- E. This approval document shall be recorded with the Kent County Register of Deeds by the Developer prior to construction occurring on site and shall run with and bind the lands involved. Copies of this recorded document shall be supplied by the Developer to the Cascade Charter Township Clerk.**
- F. Failure to comply with the site plan or any condition of approval herein shall be deemed to be both a nuisance per se and a violation of the Cascade Charter Township Zoning Ordinance.
- G. Prior to recording a copy of this document as specified in Section V(E) hereof, the Developer shall type the following statement onto the end of this document (or add an additional page to the document) as follows, and shall sign and date the same:**

“I, James Dykema, have fully read the above PUD ordinance amendment, understand its provisions and fully agree with all requirements and conditions contained in the same, on behalf of myself and my assigns, successors and transferees in and to the property involved.”

Section VI. Site Condominium Documents and Plans.

- A. Specific controls relating to architectural elements, common elements of the site condominium project, construction materials, size and space requirements, improvements and out buildings, specific prohibitions and rules of conduct shall be governed by site condominium bylaws and master deed. These restrictions shall become part of this Ordinance by reference.
- B. The Project shall be developed exactly in accordance with the site plan approved and signed by the Township. The site plan shall indicate where each building envelope will be located and shall provide appropriate measurements demonstrating compliance with Section 16.11(2) of the Zoning Ordinance. Engineering plans and documents relating to utilities, topography, drainage, and the survey of the Project shall be reviewed and approved by the Township Engineer. Approval of these documents shall be based upon their meeting the requirements of Section 16.11(4) of the Zoning Ordinance and also meeting recognized, acceptable engineering standards and practices. Once it has been determined that the plans have met Township requirements, the Township Engineer shall sign and mark these plan documents as “Approved,” and forward them to the Developer. Only approved plan documents shall be recorded with the appropriate county and state agencies.
- C. The number of building sites may be reduced or consolidated within the Project only after the review by and written approval of the Township Planning Department. The proposed changes to the site/survey plan to reduce or consolidate building sites shall be reviewed by the Planning Department to ensure compliance with the Cascade Charter Township Zoning Ordinance, this PUD Ordinance, and any other requirements. Once approved by the Planning Department, the amended

site/survey shall then be recorded with the Kent County Register of Deeds Office and the appropriate state agencies by the Developer at his cost. A copy of the recorded site/survey plan shall be forwarded to the Planning Department, so that accurate files regarding the development can be maintained.

Section VII. Permitted Uses.

The permitted uses for the Honeysuckle PUD are as follows:

- A. Single Family Residences.
- B. Accessory buildings customarily incidental to a single family residence, subject to the provisions of Section 4.08 and 4.09 of the Cascade Charter Township Zoning Ordinance, as it may be amended.
- C. Signs. All signs for the Project shall conform with Section 6.02 of the Cascade Charter Township Sign Ordinance (Ordinance 14 of 1997, as amended).

Section VIII. Design Guidelines, Requirements and Limitations.

The Project shall be developed in exact accordance with the site plan approved by the Township. No alterations, expansions or additions may occur as to the Project without a formal amendment to this Ordinance, unless expressly otherwise authorized herein.

- A. Maximum Number of Residential Units - The maximum number of single-family detached site condominium units within the Project shall be limited to thirteen (13) units.
- B. Maximum Building or Structure Height - 35 feet or 2½ stories whichever is the less.
- C. Setback Requirements

All site condominium buildings and structures shall meet the following minimum setback requirements:

- 1. Front Yard Setback: 35 feet
- 2. Side Yard Setback: minimum of 10 feet with both sides totaling at least 25 feet
- 3. Rear Yard Setback: 25 feet.

- D. Minimum Floor Area

Each dwelling on a site condominium unit shall contain a minimum of:

- 1. One Story & Bi-Level – 1,300 square feet on the main floor, top floor of a bi-level, finished livable area above grade level, exclusive of garages, decks, porches and breezeways.

2. Two Story – 1,600 square feet, with a minimum of 800 square feet on the first floor, finished livable area above grade level, exclusive of garages, decks, porches and breezeways.
- E. All access shall be from the new private road. No individual lot shall be permitted access to Buttrick Ave or 48th St.

Section IX. Private Street Development.

- A. The Developer shall submit a street construction, maintenance, and pavement plan consistent with Section 16.11(4)(f) of the Zoning Ordinance. The Developer may establish private streets to serve the Project provided the roads are constructed in accordance with the “Cascade Charter Township Engineering Design Requirements and Standards for Private Streets” and the following specifications:
1. The road grades shall not exceed a six percent (6%) grade. All grades shall be sufficient to allow safe ingress/egress of emergency vehicles.
 2. The private streets shall be posted with signs stating the street names. These signs shall be consistent with Kent County Road Commission standards and requirements and shall be installed at the Developer’s cost.
 3. Any private street shall intersect any public road at a 90 degree angle.
 4. Copies of any permits required by the Kent County Road Commission to connect the private street to any public road shall be provided to the Township Planning Department by the Developer.
- B. In accordance with Section G of the “Cascade Charter Township Engineering Design Requirements and Standards for Private Streets,” the Developer of the Project shall provide a disclosure statement on all property deeds to all owners of the private street, all those who utilize the private street and all persons securing a building permit to construct a building or structure served by the private street, by applying for and securing a building permit for construction of a building or structure that utilizes the private street, all such persons shall use the private street at their own risk and the Township (and its employees, officials, and agents) shall not be responsible for any aspect of the private street.
- C. In accordance with Section I of the “Cascade Charter Township Engineering Design Requirements and Standards for Private Streets,” it shall be the responsibility of the Developer and its successors or the individual property owners to fully maintain and keep the private access street in good repair at all times and to ensure that snow and ice is removed in a timely fashion during the winter.

- D. No combustible building materials may be erected on the Project until a temporary access road is constructed to within 100 feet of the furthest point of a structure. Such road shall be a minimum 18 feet wide and be able to support 20 tons on a single axle with dual wheels and standard road tires.

Section X. Temporary Buildings.

No structure of a temporary nature; trailer, tent or construction shack shall be constructed, placed or maintained within the Project except accessory to and during construction of any building or infrastructure improvement.

Section XI. Utilities.

- A. Water and Septic – The individual units in the Project will be served by individual private wells and individual private septic systems. Such systems shall be designed, installed, and maintained pursuant to all applicable requirements of the Kent County Health Department and the state of Michigan.
- B. The developer has also agreed to participate in a Special Assessment District to extend sewer and water along their frontage and into their development.
- C. Stormwater Drainage - All proposed stormwater drainage facilities shall be reviewed and approved by the Township Engineer, and the Kent County Drain Commissioner's office, and the Michigan Department of Environmental Quality (if it has jurisdiction) prior to the development of the Project. The Developer shall provide the Township Planning Department with copies of all correspondence and permits received from the Kent County Drain Commissioner and the Michigan Department of Environmental Quality regarding stormwater disposal.
- D. The Developer shall provide all necessary easements within the Project for telephone, electricity, gas and cable television to the appropriate utility provider without cost. Said easements shall be recorded with the Kent County Register of Deeds and be provided to each utility provider for their records.

Section XII. Soil Erosion Control Requirements.

The Developer shall submit a soil erosion control plan showing all temporary and permanent soil erosion control measures to be taken before, during, and after construction on the Project. This plan shall be reviewed and approved by the Township Engineer prior to commencing any excavation on the site.

Section XIII. Performance Guarantee.

To ensure compliance with this Ordinance and any conditions herein, the Township may require reasonable performance guarantees to ensure completion of improvements such as, but not limited to, landscaping, drainage, lighting, roads, and utilities. The Township Board, Engineer, or Planning Department may require such guarantees at any time they deem reasonably necessary to

ensure completion of the improvements. The form (including the bank or surety involved), duration, and amount of the performance guarantee as shall be approved by the Township.

Section XIV. Permanent Common Open Space.

The permanent common open space area is to remain in its present undeveloped state in perpetuity. To ensure this occurs, the following regulations shall apply to the permanent common open space area:

- A. No buildings, structures, fences, or driveways shall be erected, constructed or placed within the common open space area. All improvements shown on the approved site plan dated _____, may encroach into this area provided they are consistent with the development plan for this Project.

Section XV. The Gerald R. Ford International Airport.

Within the recorded Master Deed, the Developer shall expressly disclose in writing that the Project is located in the vicinity of the Gerald R. Ford International Airport and that there may be noise, vibration, and property valuation impacts associated with such location.

Section XVI. Consistency of the Master Deed and/or Deed Restrictions/Covenants with the PUD Approval.

If the Project will be a condominium project (in whole or in part), the master deed (and attachments) shall be reviewed and approved by the Township Attorney prior to final recording to ensure consistency with this Ordinance. If some or all of the Project will be governed by deed restrictions/restrictive covenants apart from a condominium master deed, such deed restrictions/restrictive covenants shall be reviewed and approved by the Township Attorney before recording to ensure consistency with this Ordinance.

Section XVII. Consistency With Planned Unit Development (PUD) Standards.

The rezoning to Planned Unit Development will result in a recognizable benefit to the ultimate users of the Project and to the community. Current and future residents will recognize the benefits of a residential development that offers a low-density land use.

In relation to the underlying zoning (R1) the Township finds the Project will not result in a material increase in the need for public services, facilities and utilities and will not place a material burden upon the subject property and the surrounding properties. The Project is not anticipated to cause undo impact to the stormwater drainage of the surrounding area. All stormwater and soil erosion control plans have been approved by the Township Engineer and the appropriate County and State agencies.

The Project has been determined by the Township to be compatible with the 2019 Comprehensive Plan of the Township and with the spirit and intent of the Planned Unit Development Chapter of the Zoning Ordinance. The Project has been determined to be a "Residential" use, which is consistent with the Cascade Township Comprehensive Plan.

The Township finds the Project will not result in an unreasonable negative economic impact upon surrounding properties.

The Township finds the Project to have at least the same amount of green areas and usable open space than would typically be required by the Township Zoning Ordinance.

Finally, the Township recognizes the Project will be under single ownership or control. The Township recognizes that the Developer or its assigns will retain ownership and control of the Premises until a majority of the site condominium units are purchased for single family residential purposes.

Section XVIII. Effective Date.

This Ordinance shall become effective seven (7) days after publication of the ordinance, or a summary thereof, in *The Grand Rapids Press*, a newspaper of general circulation within Cascade Charter Township.

The foregoing Ordinance was offered for adoption by Board Member _____, supported by Board Member _____. The roll call vote being as follows:

YEAS:

NAYS:

ABSENT:

ABSTAIN:

Sue Slater

Cascade Charter Township Clerk

CERTIFICATION

I hereby certify the foregoing to be a true copy of an Ordinance adopted at a Regular Meeting of the Cascade Charter Township Board on the ____th day of ____ 2020.

Sue Slater

Cascade Charter Township Clerk

“I, James Dykema, have fully read the above PUD ordinance amendment, understand its provisions and fully agree with all requirements and conditions contained in the same, on behalf of the company and its assigns, successors and transferees in and to the property involved.

By: _____

James Dykema

Date

August 6, 2019
Project No. 170168

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

Re: Honeysuckle Hill
Site Plan Review

Dear Steve:

We have reviewed the site plan for Honeysuckle Hill, prepared by Exxel Engineering, Inc. The development is located at the southeast corner of the intersection between 48th Street and Buttrick Avenue, parcel addresses 4862 and 4870 Buttrick Avenue. The current site plan and basis of this review are dated June 6, 2019. The proposed project is a 13-unit site condominium PUD project with a private road. The site is in the Thornapple River watershed, sub-drainage district Cascade Southeast.

Stormwater and Drainage

Flood Control

The Cascade Charter Township Storm Water Ordinance (SWO), Section 1.04, states the ordinance shall apply to all development that requires any permit for work which will alter the stormwater drainage characteristics of the development site. The site is located in Stormwater Management Zone A, which requires retention of the 100-year storm event and infiltration to the greatest extent possible. Where soil conditions or other factors do not allow for adequate infiltration, the SWO requires detention of the 25-year storm event with a controlled release and a direct connection for stormwater runoff for the 100-year storm event, or detention of the 100-year storm event. The SWO also requires the first 0.5-inch of stormwater runoff be detained and released over a 24-hour period (Water Quality Control) and the 2-year storm event release rate be limited to 0.05 cfs/acre (Bank Erosion Control).

The proposed stormwater management design is to collect stormwater runoff from the site in a retention basin located at the southwest corner of the site, the natural stormwater collection area of the site. The applicant provided two soil borings and two infiltration tests at the proposed retention basin location. The soil borings indicated a mix of clay and sand beneath the retention basin. The infiltration test results were 2.0 inches/hour and 12.0 inches/hour. At the location of the 12 inches/hour test result, 2-feet below the infiltration test is a 4-foot layer of clay that would hinder the basin's ability to effectively infiltrate stormwater. The applicant stated it is anticipated some infiltration will occur in the retention basin, however the clay layers throughout the basin will create longer retention times and limit the long-term performance of the basin if designed solely for infiltration. Therefore, the basin was designed as a stormwater detention basin with outlet control structure.

The detention basin is designed for the 100-year storm event with a restricted release rate of 0.13 cfs/acre for the onsite developed area. The detention basin discharges to the existing storm sewer in Buttrick Avenue. The applicant provided calculations showing the 100-year peak flow rate in the Buttrick Avenue storm sewer will not increase as a result of the proposed development.

An area of offsite drainage enters the site from the east. The offsite drainage area is approximately 15 acres. Offsite drainage should be routed around onsite stormwater facilities and detention basins when possible. However, with this site, in order to route offsite flows around the detention basin would take a large amount of earthwork and tree removal and was found to be not practical. Therefore, the applicant proposed to route offsite flows through the detention basin. The detention basin was designed to store the offsite 25-year storm event in addition to the onsite



100-year storm event. Offsite flows are conveyed to the detention basin in a drainage channel separate from the onsite storm sewer system. This is an acceptable approach to accommodate the offsite flows. The proposed stormwater management design is in accordance with the SWO.

Water Quality Control and Bank Erosion 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, and the 2-year storm event release rate be limited to 0.05 cfs/acre. The proposed stormwater detention basin is designed with an outlet control structure to restrict flows based on the above criteria. The applicant provided stormwater calculation for design of the outlet control structure. The proposed design is in accordance with the SWO.

Stormwater Runoff

The applicant provided stormwater calculations to size the detention basin and onsite storm sewer system. All stormwater runoff from the new private drive and developed portion of the site will drain to the detention basin. Therefore, the site will not see an increase in rate of stormwater leaving the site.

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 attached 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 maintenance of the detention basin and cleaning of catch basin sumps.

Private Street Requirements

The proposed private street is required to meet the design standards outlined in the Township Ordinance for private streets. FTCH reviewed the proposed private road for right-of-way width, road and travel lane width, road grade, pavement cross section including aggregate base and subbase design, stormwater drainage, etc. The proposed private road was found to meet the requirements outlined in the Township Ordinance for private streets. The Kent County Road Commission (KCRC) will permit the new driveway.

Utilities

The residential lots will have onsite water wells and septic systems for each lot subject to approval by Kent County Health Department (KCHD). A permit from KCHD will be required prior to construction of the houses.

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 and inlet protection at catch basins. 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.

Mr. Steve Peterson
Page 3
August 6, 2019



Summary

The proposed stormwater management design meets the Township SWO requirements for new developments. The applicant will need to apply for and obtain several permits (SESC, KCHD, and KCRC) prior to 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 name of the signatory.

Nathan R. Torrey, PE

jlk

Attachment

By email

cc: Michael L. Berrevoets, PE – FTCH



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

Honeysuckle Hill

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 is collected in an onsite detention basin. The detention basin discharges to the storm sewer in Buttrick Avenue.

- 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.

- OK (3) Development tributary area to each point of discharge from the development
Stormwater calculations and tributary areas were provided by the applicant.

- OK (4) Calculations for the final peak discharge rates
The applicant provided calculations for design of the onsite storm sewer system, detention basins and outlet control structures.

- OK (5) Calculations for any facility or structure size and configuration
Stormwater runoff calculations were provided by the applicant.

- OK (6) Drawing showing all proposed storm water runoff facilities with existing and final grades
The applicant provided a utility plan showing all proposed stormwater runoff facilities.

- 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
A 15-acre offsite drainage area enters the site from the east. Offsite flows will be routed through the site and detention basin.

- 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 and detention basins.
- 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

KENT COUNTY HEALTH DEPARTMENT

ENVIRONMENTAL HEALTH
700 Fuller Avenue N.E.
Grand Rapids, Michigan 49503-1918
Phone: 616-632-6900
Fax: 616-632-6892
Email: KCEHmail@kentcountymi.gov
Website: www.accesskent.com



Adam London, RS, MPA
Administrative Health Officer

May 17, 2019

Michael Berg
Dykema L.P.
1730 3 Mile Rd NE
Grand Rapids, MI 49505

RE: **Proposed Honeysuckle Hill Site Condominium, Units 1-13**
Single Family Residential
Cascade Charter Township

Dear Mr. Berg:

The Environmental Health Division of the Kent County Health Department (KCHD) has completed its review of the submittal for the Proposed Honeysuckle Hill Site Condominium. This review was conducted in accordance with Michigan Land Division Act PA 288 of 1967 Section 560.105.

Prior to issuing a final approval, we request the following statements be incorporated into the Master Deed and Bylaws. Please supply a copy of the Master Deed and Bylaws for Health Department review prior to recording.

WASTEWATER DISPOSAL SYSTEMS

- The Kent County Health Department (KCHD) will require site evaluations prior to issuing septic system permits. Applications to obtain approval from KCHD, must include a lot development plan drawn to scale that will locate the dwelling, drives and right-of-ways, utilities, unit boundary lines, building site and proposed septic location. As part of the application, KCHD may require a topographical map showing existing and proposed contours. Contour intervals shall not exceed two (2) feet. Individuals may wish to obtain site evaluation approvals prior to purchasing units.
- Utilities, buildings, drives, or other structures that may interfere with the installation and operation of the on-site sewage disposal system shall not be permitted within the designated initial and replacement sewage disposal areas as indicated on the permit issued by KCHD.
- Site modification in the area of the initial and replacement wastewater disposal systems may be required by KCHD. Site modification would typically include soil removal and backfill with approved washed sand (2NS) otherwise known as "cut-down" type sewage disposal systems or the addition of sand fill above the existing ground surface otherwise known as a "low pressure dose mound".
- Designated initial and replacement sewage disposal areas shall not be located within any drainage way and must be isolated a minimum of 100 feet from any perennial surface water drains, 50 feet from any water well, 25 feet from foundation walls containing subsurface drains, 25 feet from storm sewer catch basins, 10 feet from solid storm sewers and open drains, 10' from unit boundaries, easement, or right-of-way.

Continued on Page 2

WATER SYSTEMS

- Individual water supply systems will be permitted on a unit solely to provide water for domestic consumption at the residence, for irrigation purposes, swimming pools, or other nondomestic uses on the unit.
- A permit from KCHD is required prior to the installation or major repair of any on-site water supply. As part of the application, KCHD may require a site plan of the property upon which the water supply is or will be located. Required features may include property boundaries, elevations, buildings, sewage disposal system, surface water bodies, wells, underground fuel storage tanks, chemical storage areas, driveways, and other significant details.
- All wells installed for private water supply must penetrate an adequate protective continuous clay overburden of at least ten (10) feet. This overburden is to be located greater than twenty-five (25) feet below the ground surface. A test well on Unit 11, drilled to a depth of 177 feet, found a suitable clay barrier with adequate water quality and quantity.
- All wells are to be grouted in accordance with the Michigan Department of Environmental Quality water well grouting requirements.
- Except as otherwise approved by KCHD, all wells must be located on the unit being served, horizontally isolated 50 feet from sources of contamination including any component of the septic system, septic tanks, and sewage lift vaults. All wells must be 10 feet from property boundaries, buried sewers, easements, right-of-way, and building drains.
- It will be the responsibility of the co-owner to install and maintain the water supply system in good order and working condition and comply with all applicable governmental regulations and neither the developer nor the association will have any responsibility with respect to the same.
- Due to elevated levels of hardness and iron, water treatment systems may be necessary. Discharge of said water treatment system backwash cannot be directed into the building sewer, septic tanks, or disposal areas. The owner of each unit shall make provisions for a separate drainage system to properly dispose of water treatment system backwash.

KCHD requests that this portion (well/septic language) of the document not be recorded until approved and stamped by this office. Upon receipt of the approved, recorded document (well/septic language), final Health Department approval can be granted. If you have any questions, please contact me at 616-204-2375.

Sincerely,



Jason E. Buck, REHS
Sanitarian Specialist
Environmental Health Division















cc: Steve Peterson, Cascade Charter Township Planner
Jeff Van Laar, Exxel Engineering

Cascade Charter Township

Kent County, Michigan October 2018

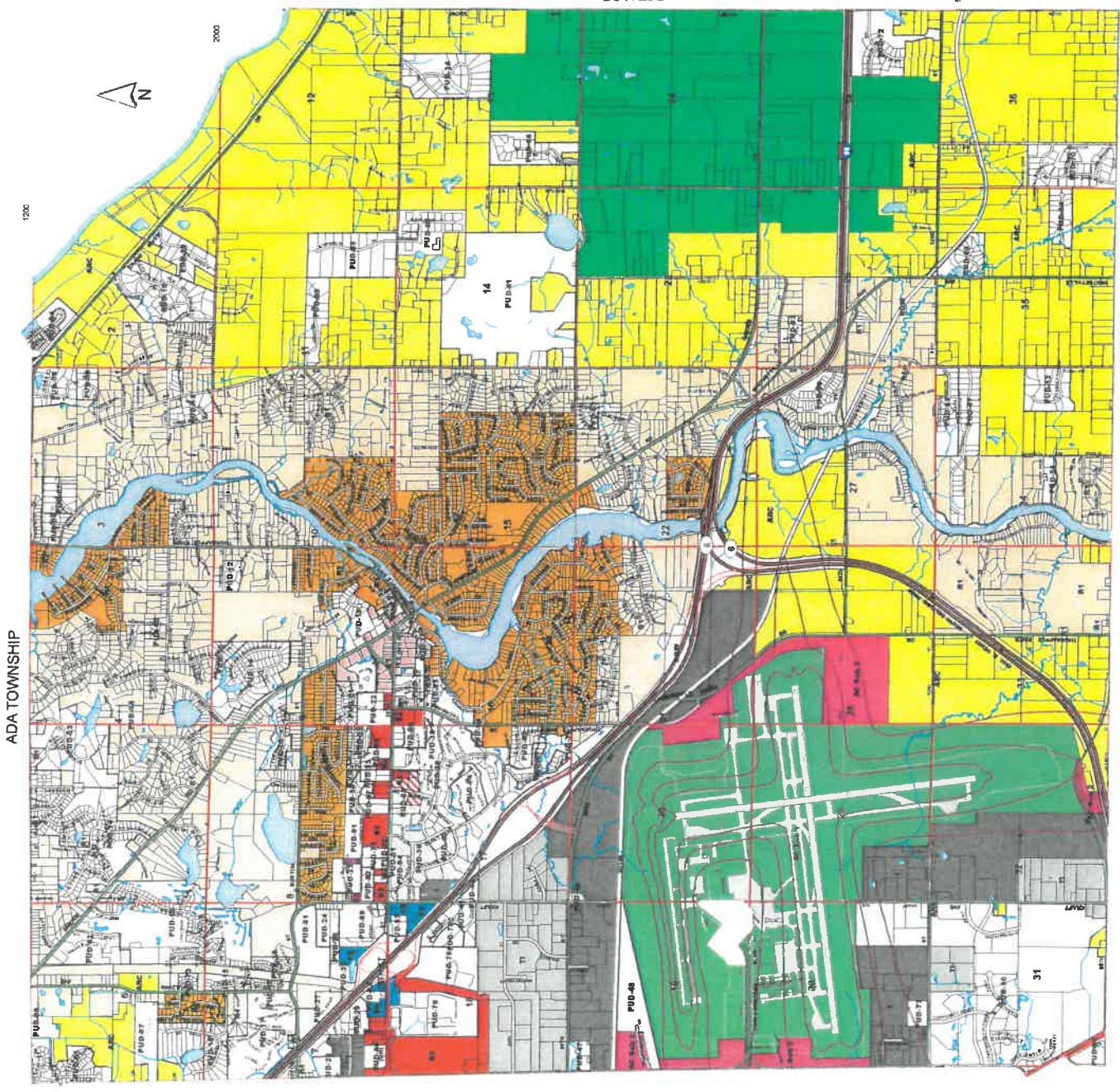
Official Zoning Ordinance Map

Legend

- | | | | |
|---|---|---|--|
|  | FP, Farmland Preservation |  | B2, General Business |
|  | ARC, Agriculture Rural Conservation |  | B1, Village Business |
|  | T1, Transitional Industrial |  | ES, Expressway Service |
|  | I, Industrial |  | O, Office |
|  | R1 |  | Airport Commerce Sub Zone 1 |
|  | R2 |  | Airport Commerce Sub Zone 2 |
|  | conditional rezoning 2788 Orange Ave. 3/14/18 |  | Contemplanal Park Overlay Zoning District
P.U.D.#8, P.U.D.#6, P.U.D.#8 and #2 |

Planned Unit Development List

- | | |
|--|--|
| 1-Eastmont Meadows - #2 of 1992, #6 of 1999 | 50-Meadowbrook Business Park - #2 of 1998, #10 of 2003 |
| 2-Golfway Office Park - #6 of 1999 | 51-Ridgebrook Creek - #2 of 1995 |
| 3-Timmonon North - #10 of 1988, #6 of 1994 | 52-Edgely Country Estates - #16 of 1990, #6 of 2001 |
| 4-Fountain Estates - #4 of 1991 | 53-Signature Inns - #15 of 1997 |
| 5-Timbers - #2 of 1991 | 54-Ada Moorings - #13 of 2003 |
| 6-Birchfield Acres - #13 of 1993, #6 of 1998 | 55-Sheridan Pointe - #6 of 1984, #1 of 2018 |
| 7-Wynfield - #15 of 1992 | 56-Olen |
| 8-Loreal Pines - #6 of 1991 | 57-Caravale Village #7 - #17 of 1995 |
| 9-Old Elm - #24 of 1994 | 58-Thompson Manor - #2 of 1988, #2 of 2004 |
| 10-Highgrove - #23 of 1984 | 59-Bellmount Falls - #11 of 1999 |
| 11-Thunder Canyon Estates - #7 of 1991 | 60-Whispering Willows - #1 of 1999 |
| 12-Rivewood #10 of 1993 | 61-Quail Ridge - #7 of 1989 |
| 13-Cascadia Lakes Plat #2 of 1996, #1 of 1997 | 62-Thompson Meadows - #6 of 1999 |
| 14-Cascadia Lakes - #10 of 1995, #19 of 1999 | 63-Hunter's Way - #10 of 2000, #1 of 2001 |
| 15-Walmark - #10 of 1997, #6 of 2003 | 64-Lural Ridge - #14 of 2000 |
| 16-Tall Pines - #16 of 1994 | 65-Strubridge Estates - #6 of 2001 |
| 17-Coast Crest - #2 of 1993, #12 of 1995 | 66-Bloomington Hill - #7 of 2001 |
| 18-Burton Pointe - #14 of 1990, #6 of 1996 | 67-East Impulse - #1 of 2004, #6 of 2004, #6 of 2017 |
| 19-Thompson Centre - #3 of 1992, #1 of 2001 | 68-Caravale Mixed Use - #2 of 2002, #16 of 2003 |
| 20-Cascadia Christian Church - #15 of 1994 | 69-McJannet/Romano - #11 of 2002 |
| 21-Glenridge - #6 of 1985, #9 of 2000 | 70-Summerstar - #12 of 2002 |
| 22-Cascadia East - 1976 | 71-Belen Automotive - #16 of 2002 |
| 23-Chatham Woods - 1972 | 72-Clear Meadow - #3 of 2003 |
| 24-MVP - #10 of 2006 | 73-Park Place Condominium - #11 of 2003 |
| 25-Home Design Center - #6 of 1988, #3 of 1983 | 74-Manchester Woods Estates - #3 of 2004 |
| 26-Spruce Meadows - #4 of 1984, #1 of 2007 | 75-Cascadia Pointe - #4 of 2004 |
| 27-Highridge - #4 of 1985, #15 of 2000 | 76-Waterfall Shoppes - #9 of 2004 |
| 28-Patterson Ice Center - #10 of 1994 | 77-Spree Realty - #10 of 2004 |
| 29-198 Office Park - #11 of 1984, #12 of 1987 | 78-Glenwood Hills Office Park #3 - #9 of 2004 |
| 30-Sports and Recreation - #4 of 1995 | 79-Cascade Engineering Corp Office - #14 of 2004 |
| 31-Burger King - 1981 | 80-Ribell Development - #2 of 2005, #7 of 2017 |
| 32-Enterprise - #6 of 1988, #20 of 2000 | 81-YVCA - #7 of 2014 |
| 33-Thompson Land Company - 1979 | 82-Karl St Partners - #6 of 2005 |
| 34-Crestwood Hills - #4 of 1997 | 83-Anderson Woods - #9 of 2005 |
| 35-Summit - #11 of 1980, #5 of 1999 | 84-Grainhouse |
| 36-Holo - #13 of 1995 | 85-Burwood - #2 of 2006 |
| 37-Kithens By Stephanie - #13 of 1989 | 86-Oak Harbor Preserve - #6 of 2017 |
| 38-Northern Benefita - #15 of 1995 | 87-Anderson Woods Phase II and III - #11 of 2006 |
| 39-Carnival Park - 1973, #9 of 2013 | 88-Spree #3 of 2007 |
| 40-Summit Senior Living - #12 of 2005 | 89-Strubridge Valley - #4 of 2007 |
| 41-Glenwood Hills - #5 of 1996 | 90-Sable Valley - #2 of 2013 |
| 42-Joseph Padell - #6 of 1997 | 91-Redwood - #6 of 2013 |
| 43-Thompson Estates - #9 of 1989, #7 of 1998 | 92-Cherry Hill - #12 of 2014 |
| 44-Hearthorn - #6 of 1991 | 93-Thompson Hilltop - #1 of 2015 |
| 45-Meadowood Trails - #5 of 1988, #9 of 1998 | 94-Peters Broad - #2 of 2015 |
| 46-Groves 38th St - #14 of 1992 | 95-5005 Roadrunner - #3 of 2015 |
| 47-Patterson 38th St - #6 of 1989 | 96-Leisure Living - #4 of 2017 |
| 48-KCRC Facility - #7 of 1989 | 97-Cascade One - #10 of 2017 |
| 49-LeTourneau - #6 of 1989 | |



ADA TOWNSHIP

LOWELL TOWNSHIP

CALEDONIA TOWNSHIP

CITY OF KENTWOOD

TOWNSHIP BOARD MEMORANDUM

To: Cascade Charter Township Board
From: Sandra Korhorn, DDA/Economic Development Director *SKK*
Subject: Consider Resolution for Streetlight request at Bridgewater Dr. & Hillsboro Ave.
Meeting Date: August 26, 2020

We received a streetlight request from the Cascade Acres Neighborhood Association. They would like a light installed on a vacant lot at the corner of Bridgewater Dr. and Hillsboro Ave. They indicated this corner is where the kids wait for the bus in the morning and it is quite dark. They felt that with a light it would be safer and it would help traffic be able to see the kids.

The Township submitted a request to have Consumers Energy review this intersection. Consumers Energy authorized this request and sent the paperwork to the Township.

The light will be installed at the northeast corner of Bridgewater Dr. and Hillsboro Ave and will be facing Bridgewater Dr. The neighborhood association reviewed the plans from Consumers and would like to continue with the streetlight installation. The neighborhood association will be responsible for the annual streetlight usage bill.

In the past, the Township has approved similar streetlight installations and has paid the \$100.00 cost for the installation of the light. The residents, or in this case, the neighborhood association, will then pick up the annual cost for the light usage.

Attached is a resolution for your consideration.

**AUTHORIZATION FOR CHANGE IN STANDARD STREETLIGHTING CONTRACT
Form 547**

Consumers Energy is hereby authorized as of the 24th day of July, 2020, by the Township Board of the Charter Township of Cascade to make changes, as listed below, in the streetlighting system(s) covered by the existing Standard Streetlighting Contract between the Company and the Charter Township of Cascade dated October 23, 2018.

Lighting Type:
General Unmetered Experimental Lighting Rate GU-XL

Number of Luminaires	Nominal Watts	Luminaire Type	Fixture Type	Fixture Style	Install Remove	Location
1	54	LED	Cobrahead	Cutoff	Install	NE Corner of Bridgewater Dr. SE and Hillsboro Ave. SE

Notification Number: 1052999142
Work Order Number:

Except for the changes in the streetlighting system(s) as herein authorized, all provisions of the aforesaid Standard Lighting Contract dated October 23, 2018, shall remain in full force and effect.

CASCADE CHARTER TOWNSHIP

By: Susan B. Slater
Its: Township Clerk

Kent County, Michigan
Cascade Charter Township
Resolution # of 2020

Resolved, that it is hereby deemed advisable to authorize Consumers Energy Company to make changes in the lighting service as provided in the Standard Lighting Contract between the Company and the Charter Township of Cascade, dated October 23, 2018, in accordance with the Authorization for Change in Standard Lighting Contract dated July 24, 2020 heretofore submitted to and considered by this Board; and

Resolved, further, that Ben Swayze, the Township Manager or Susan Slater, the Township Clerk are authorized to execute such authorization for change on behalf of the Township.

STATE OF MICHIGAN)

County Kent) ss
Charter Township of Cascade)

I, Susan Slater, Clerk of the Charter Township of Cascade, do hereby certify that the foregoing resolution was duly adopted by the Board of said municipality, at the meeting held therein on the 26th day of August, 2020.

Dated: August 26, 2020

Susan B. Slater
Cascade Charter Township Clerk



A CMS Energy Company

CEM Support Center

Consumers Energy, CEM Support Center, Lansing Service Center, Rm. 122, 530 W. Willow St., P.O. Box 30162 Lansing, MI 48909-7662

July 28, 2020

NOTIFICATION #:
1052999142

CASCADE TOWNSHIP
2865 THORNHILLS AVE SE
GRAND RAPIDS, MI 49546-7140

REFERENCE: 1516 HILLSBORO AVE, GRAND RAPIDS

Dear Valued Customer,

Thank you for contacting Consumers Energy for your energy needs. Please note the Notification Number above and include it on any correspondence you send. Please note the Account Number, located above the Account Name on your invoice, when submitting payment.

Enclosed for approval and signature is the original Authorization for Change and Resolution covering the replacement and/or installation of streetlight(s). In conjunction with the work, a non-refundable payment of \$100.00 per luminaire is required.

A monthly energy charge associated with this lighting installation for 1 Luminaire(s) is approximately \$7.96. This charge is subject to change based on current rates. After the installation is complete, you will begin receiving a separate monthly bill for the above energy charge. You are responsible for the final restoration.

The estimated cost for your energy request is as follows:

Non Refundable Agreement for Installation of Electric Facilities:

Winter Construction Costs:	\$	-
Installation Charge (\$100.00 per Luminaire):	\$	100.00
Additional Costs		
Total Estimated Cost:	\$	100.00
Less Prepayment Received:	\$	-
Total Estimated Cost Due:	\$	100.00

Please sign and return the original Authorization for Change and Resolution in the enclosed self-addressed envelope or email to: POBoxCEServiceRequest@cmsenergy.com. Payment in full is required before the installation can be scheduled for construction.

Please review all attached materials carefully and direct inquiries for your request to:

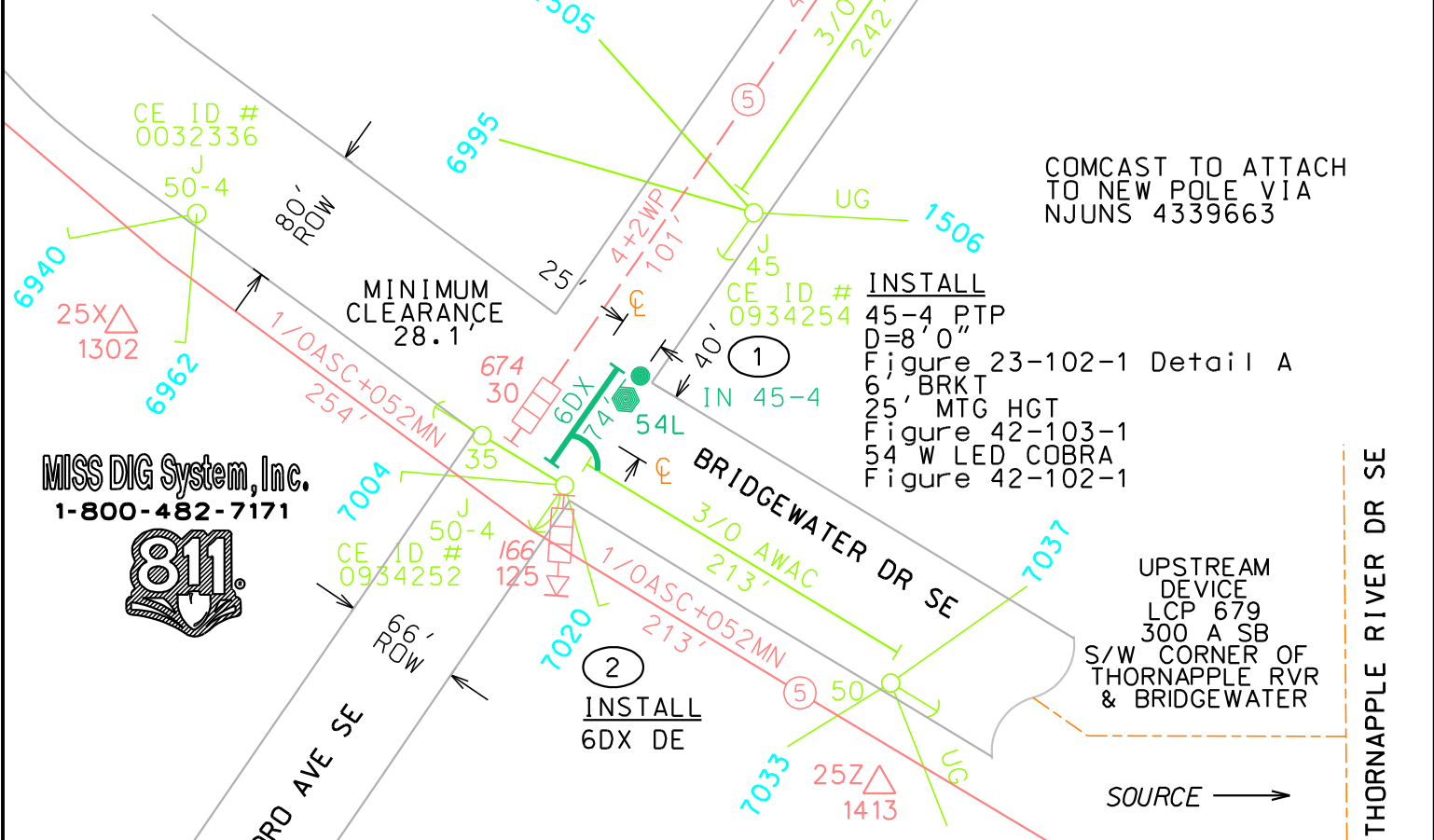
Daniel Hoeksema at 517-513-9725

CONSUMERS ENERGY CONTACTS

DEPARTMENT	NAME	NUMBER	ALTERNATE
DESIGNER	Matthew Huizing	616-916-0227	
COORDINATOR	Kristen Greenwood	844-316-9537	269-969-8521

CASCADE TWP
 CONTRACT ACCOUNT
 #10000373306
 49506 STREET LIGHT RD

KENT CO
 CASCADE TWP
 T06 R10 SEC.04



COMCAST TO ATTACH
 TO NEW POLE VIA
 NJUNS 4339663

INSTALL
 45-4 PTP
 D=8'0"
 Figure 23-102-1 Detail A
 6' BRKT
 25' MTG HGT
 Figure 42-103-1
 54 W LED COBRA
 Figure 42-102-1

UPSTREAM
 DEVICE
 LCP 679
 300 A SB
 S/W CORNER OF
 THORNAPPLE RVR
 & BRIDGEWATER



REASON FOR WORK:
 TOWNSHIP REQUEST FOR LIGHT
 AT CORNER FOR BUS STOP.

NOTIFICATION
1052999142
ORDER NUMBER

<p>A CMS Energy Company ELECTRIC</p>	DESIGNED BY MHUIZING	DATE 06/26/20	HILLSBORO AVE AND BRIDGEWATER, STLT For: CASCADE TOWNSHIP 1516 HILLSBORO AVE
	APPROVED BY	DATE	
SHEET 1 OF 1		SCALE 1"=100'	

-CONSTRUCTION CERTIFICATION- Work was constructed as Engineered or Changed as Indicated. All Salvageable Material Was Returned to Stores. Signed _____ in Direct Charge of Work Dates: Started _____ Completed _____ MISS DIG NUMBER: _____ DATE: _____	TLM NUMBER	# OF RODS	OHMS	CONSTRUCTION MEASURE NUMBER		
	0610041404			100005889532		
	SUBSTATION	WD NO.		ORDER TYPE	MAINTENANCE ACTIVITY TYPE	DESIGN NUMBER
	CASCADE	1126		ECNC	STL	11151510
CIRCUIT	CKT NO.	LCP NO.	STAKED	YES	NO	
CASCADE	02	0682	TREES	YES	NO	

STAFF REPORT

TO: Cascade Charter Township Board
FROM: Steve Peterson, Community Development Director
REPORT DATE: August 17, 2020
MEETING DATE: August 26, 2020
CASE: #20-3594/ Golden Valley Phase 2

GENERAL INFORMATION

- A. Applicant: Don Kamphuis
6115 28th St
Grand Rapids MI 49546
Telephone: 291-4070
Email: dank@kpc4.com
- B. Status of Applicant: Owner
- C. General Location: The property is located on the north east corner of Thornapple River Dr and 60th.
- D. Requested Action: develop into 15 detached single-family site condominium project.
- E. Existing Zoning on Subject Parcels: R1
- F. Zoning on Adjoining Parcels: R1/ARC
- G. Parcel Size: Approximately 34 acres
- H. Existing Land Use on Subject Parcel: Vacant
- I. Adjacent Area Land Uses: Residential

STAFF ANALYSIS

1. The applicant is requesting Final Preliminary Plan approval. The development would allow for the second phase of the Golden Valley Subdivision.

2. The project was originally introduced to the Township as one phase of 27 units. When the KCHD did not approve the second half of the development the developer proceeded with only the west half or Phase 1.
3. Now that the developer has all of the approvals for the second phase, they are seeking Final Tentative approval.
4. The property is zoned R1, and is Master Planned as Suburban Residential.
5. The applicant has drawn a plan showing how the property developed with 15 lots using no open space. This method requires a minimum of 80,000 sq ft per lot. The lots range in size from just over 80,000 sq ft to 157,980 sq ft.
6. The development will be served by wells and septic. This has been approved by the KCHD.
7. Since the project is inside the utility service area, we have typically required that they agree to participate in a Special Assessment District for future water and sewer. We already have this agreement for Phase I.
8. The applicant is attempting to do this subdivision "by-right" and therefore does not need to rezone the property.
9. When phase 1 was approved we did not require the roads to connect but did require a pedestrian connection between the phases. This connection was to be built prior to the occupancy of any homes in phase 2.
10. The most recent traffic counts for this area have Thornapple River Dr and 60th St with counts of 6,700 and 1,900 respectively. KCRC indicates that two lane road have the capacity of 10,000 trips. Adding 15 homes would equal about 150 trips a day.
11. There are no projects in the Capital Improvement Plan that would be activated as a result of this project.
12. Township engineer has reviewed and approved phase 2.

13. The development will be utilizing new private streets. The township engineer has approved the private street plans. The KCRC has issued permit for the location of the new roads.
14. They will have to enter into an agreement for maintenance of the storm water system.
15. As with all of our residential developments, the developer will be required to install an airport recognition statement in the deed restrictions.

STAFF RECOMMENDATION

Staff believes this project meets the requirements for Final preliminary approval of our subdivision ordinance and is consistent with the Master Plan. Staff Recommends approval of the plan with the following conditions:

1. Copy of the proposed deed restrictions, including the airport recognition statement and sewer and water SAD agreement.

If you approve the plan, the development will go before the Township Board for Final preliminary approval.

Attachments: Site Plan
 KCHD letter
 Fishbeck letter



CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan
49546-7140

PLANNING & ZONING APPLICATION

APPLICANT: Name: Golden Valley Development Attn: Dan Kamphuis

Address: 2828 Kraft Avenue SE; Suite 165

City & Zip Code Grand Rapids, Mi 49512

Telephone: 616-291-4070

Email Address: dank@gvdl.com

OWNER: * (If different from Applicant)

Name: _____

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 type="checkbox"/> P.U.D. – Site Condominium *	<input type="checkbox"/> Rezoning
<input type="checkbox"/> Site Plan Review *	<input type="checkbox"/> Sign Variance
<input type="checkbox"/> Special Use Permit	<input checked="" 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:**

Requesting tentative and final preliminary plat approval for phase 2 of Golden Valley Estates Site Condominium.

(**Use Attachments if Necessary)

-SEE OTHER SIDE-

LEGAL DESCRIPTION OF PROPERTY:**

See enclosed

(**Use Attachments if Necessary)

PERMANENT PARCEL (TAX) NUMBER: 41-19 -33-400-055

ADDRESS OF PROPERTY: 7069 60th Street

PRESENT USE OF THE PROPERTY: Nursery/Vacant

**NAME(S) & ADDRESS(ES) OF ALL OTHER PERSONS, CORPORATIONS, OR FIRMS HAVING A LEGAL OR
EQUITABLE INTEREST IN THE PROPERTY:**

Name(s)

Address(es)

<hr/>	<hr/>
<hr/>	<hr/>

SIGNATURES

I (we) the undersigned certify that the information contained on this application form and the required documents attached hereto are to the best of my (our) knowledge true and accurate. I (we) also agree to reimburse the Cascade Charter Township for all costs, including consultant costs, to review this request in a timely manner. I (we) understand that these costs may also include administrative reviews which may occur after the Township has taken action on my (our) request.

I (we) the undersigned also acknowledge that the proposed project does not violate any known property restrictions (i.e. plat restrictions, deed restrictions, covenants, etc.)

Owner – Print or Type Name
(*If different from Applicant)

Dan Kamphuis
Applicant – Print or Type Name

* _____
Owner’s Signature & Date
(*If different from Applicant)

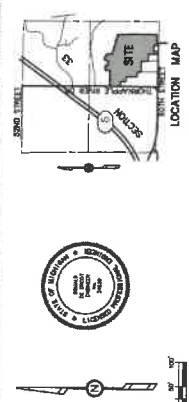
Applicant’s Signature & Date

PLEASE ATTACH ALL REQUIRED DOCUMENTS NOTED IN THE PROCESS REVIEW SHEET – THANK YOU

PROPOSED SITE CONDOMINIUM - PHASE 2
GOLDEN VALLEY ESTATES RE. BOTH STREET AND THORNAPPLE RIVER DR.
 FOR 8150 SQUARE FEET (SITE 200)
 GRAND RAPIDS, MI 49508

IN PART OF THE SE 1/4 SECTION 15, T34N, R19W,
 CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN

Green Engineering, Inc.
 1000 1/2 MI. N. STATE ST. GRAND RAPIDS, MI 49503
 PH: (616) 781-1111



SCALE: 1" = 100'
 7' CONTOUR INTERVAL

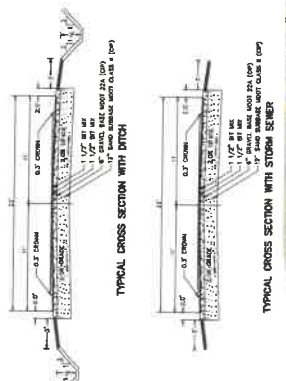
- 1. PROPOSED IMPROVEMENTS INDICATED BY DIMENSION
- 2. EXISTING PROPOSED EXISTING ELEVATION
- 3. 3" DEPTH STORM DRAIN
- 4. 6" DIA. STORM DRAIN (COURT 1/4" DIA.)

GENERAL NOTES:
 1. SEE ALL NOTES ON PHASE 1 PLANS.
 2. THE PROPOSED IMPROVEMENTS SHALL BE INSTALLED AND MAINTAINED AT THE OWNER'S RISK AND EXPENSE.
 3. THE PROPOSED IMPROVEMENTS SHALL BE INSTALLED AND MAINTAINED AT THE OWNER'S RISK AND EXPENSE.
 4. THE PROPOSED IMPROVEMENTS SHALL BE INSTALLED AND MAINTAINED AT THE OWNER'S RISK AND EXPENSE.
 5. THE PROPOSED IMPROVEMENTS SHALL BE INSTALLED AND MAINTAINED AT THE OWNER'S RISK AND EXPENSE.
 6. THE PROPOSED IMPROVEMENTS SHALL BE INSTALLED AND MAINTAINED AT THE OWNER'S RISK AND EXPENSE.
 7. THE PROPOSED IMPROVEMENTS SHALL BE INSTALLED AND MAINTAINED AT THE OWNER'S RISK AND EXPENSE.

1. All proposed improvements shall be installed in accordance with the Michigan Department of Transportation (MDOT) Standard Specifications for Road and Bridge Construction, 2010 Edition, and the Michigan Department of Transportation (MDOT) Standard Specifications for Waterways, Harbors and Docks, 2010 Edition.
2. All proposed improvements shall be installed in accordance with the Michigan Department of Transportation (MDOT) Standard Specifications for Road and Bridge Construction, 2010 Edition, and the Michigan Department of Transportation (MDOT) Standard Specifications for Waterways, Harbors and Docks, 2010 Edition.
3. All proposed improvements shall be installed in accordance with the Michigan Department of Transportation (MDOT) Standard Specifications for Road and Bridge Construction, 2010 Edition, and the Michigan Department of Transportation (MDOT) Standard Specifications for Waterways, Harbors and Docks, 2010 Edition.
4. All proposed improvements shall be installed in accordance with the Michigan Department of Transportation (MDOT) Standard Specifications for Road and Bridge Construction, 2010 Edition, and the Michigan Department of Transportation (MDOT) Standard Specifications for Waterways, Harbors and Docks, 2010 Edition.
5. All proposed improvements shall be installed in accordance with the Michigan Department of Transportation (MDOT) Standard Specifications for Road and Bridge Construction, 2010 Edition, and the Michigan Department of Transportation (MDOT) Standard Specifications for Waterways, Harbors and Docks, 2010 Edition.
6. All proposed improvements shall be installed in accordance with the Michigan Department of Transportation (MDOT) Standard Specifications for Road and Bridge Construction, 2010 Edition, and the Michigan Department of Transportation (MDOT) Standard Specifications for Waterways, Harbors and Docks, 2010 Edition.
7. All proposed improvements shall be installed in accordance with the Michigan Department of Transportation (MDOT) Standard Specifications for Road and Bridge Construction, 2010 Edition, and the Michigan Department of Transportation (MDOT) Standard Specifications for Waterways, Harbors and Docks, 2010 Edition.

Unit	Unit Square Feet
13	80727
14	80000
15	80147
16	80815
17	80854
18	80072
19	137366
20	90280
21	108923
22	88177
23	81044
24	80106
25	81062
26	90519
27	157980

Stationing	Elevation	Description
1+00	12.50	Point of Beginning
1+10	12.50	Point of Beginning
1+20	12.50	Point of Beginning
1+30	12.50	Point of Beginning
1+40	12.50	Point of Beginning
1+50	12.50	Point of Beginning
1+60	12.50	Point of Beginning
1+70	12.50	Point of Beginning
1+80	12.50	Point of Beginning
1+90	12.50	Point of Beginning
2+00	12.50	Point of Beginning
2+10	12.50	Point of Beginning
2+20	12.50	Point of Beginning
2+30	12.50	Point of Beginning
2+40	12.50	Point of Beginning
2+50	12.50	Point of Beginning
2+60	12.50	Point of Beginning
2+70	12.50	Point of Beginning
2+80	12.50	Point of Beginning
2+90	12.50	Point of Beginning
3+00	12.50	Point of Beginning
3+10	12.50	Point of Beginning
3+20	12.50	Point of Beginning
3+30	12.50	Point of Beginning
3+40	12.50	Point of Beginning
3+50	12.50	Point of Beginning
3+60	12.50	Point of Beginning
3+70	12.50	Point of Beginning
3+80	12.50	Point of Beginning
3+90	12.50	Point of Beginning
4+00	12.50	Point of Beginning
4+10	12.50	Point of Beginning
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7+80	12.50	Point of Beginning
7+90	12.50	Point of Beginning
8+00	12.50	Point of Beginning
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8+80	12.50	Point of Beginning
8+90	12.50	Point of Beginning
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10+60	12.50	Point of Beginning
10+70	12.50	Point of Beginning
10+80	12.50	Point of Beginning
10+90	12.50	Point of Beginning



THORNAPPLE RIVER DRIVE

GOLDEN VIEW DR. (PVT.)

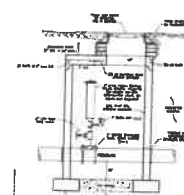
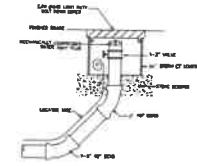
GOLDEN VIEW CT. (PVT.)

GOLDEN HOLLOW DR. (PVT.)

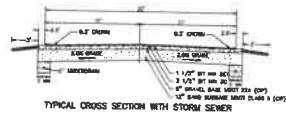
60TH STREET

- SHEET INDEX :**
1. COVER SHEET
 2. GOLDEN VIEW DR.
 3. GOLDEN VIEW CT.
 4. GOLDEN HOLLOW DR.
 5. SANITARY FORCEMAIN
 6. GRADING AND SOIL EROSION
 7. GRADING AND SOIL EROSION
 8. GRADING AND SOIL EROSION

SCALE: 1" = 100'



- GENERAL NOTES:**
1. ALL 4" DIA. VARD DRAINS (VD) SHALL HAVE 2" DEEP RAMP AND USE 1/2" GRID DRAIN.
 2. ALL 4" DIA. VARD DRAINS (VD) SHALL HAVE 2" DEEP RAMP AND USE 1/2" GRID DRAIN.
 3. ALL 4" DIA. VARD DRAINS (VD) SHALL HAVE 2" DEEP RAMP AND USE 1/2" GRID DRAIN.
- CATCH BASINS:**
1. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 2. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 3. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 4. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 5. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 6. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
- TERMINAL CLEANOUT DETAIL:**
1. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 2. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 3. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 4. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 5. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 6. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
- MANHOLE DETAIL:**
1. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 2. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 3. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 4. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 5. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
 6. ALL 4" DIA. CATCH BASINS (CB) SHALL BE CONCRETE OR METAL.
- STANDARD AIR RELEASE VALVE - MANHOLE FROM NORTH KENT SEWER AUTHORITY**



PLANS PREPARED UNDER THE SUPERVISION OF:

811

Know what's below. Call before you dig.

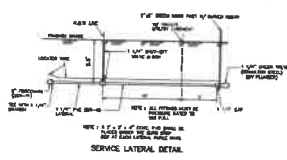
RECOMMENDED PROFESSIONAL ENGINEER, REG. NO.: 34620



COVER SHEET
GOLDEN VALLEY ESTATES
 FOR: DAN KAMPFERS
 2828 HIGHT AVENUE SE (STE. 185)
 GRAND RAPIDS, MI 49512
 IN: PART OF SECTION 33 & 34, T4N, R10W,
 CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN

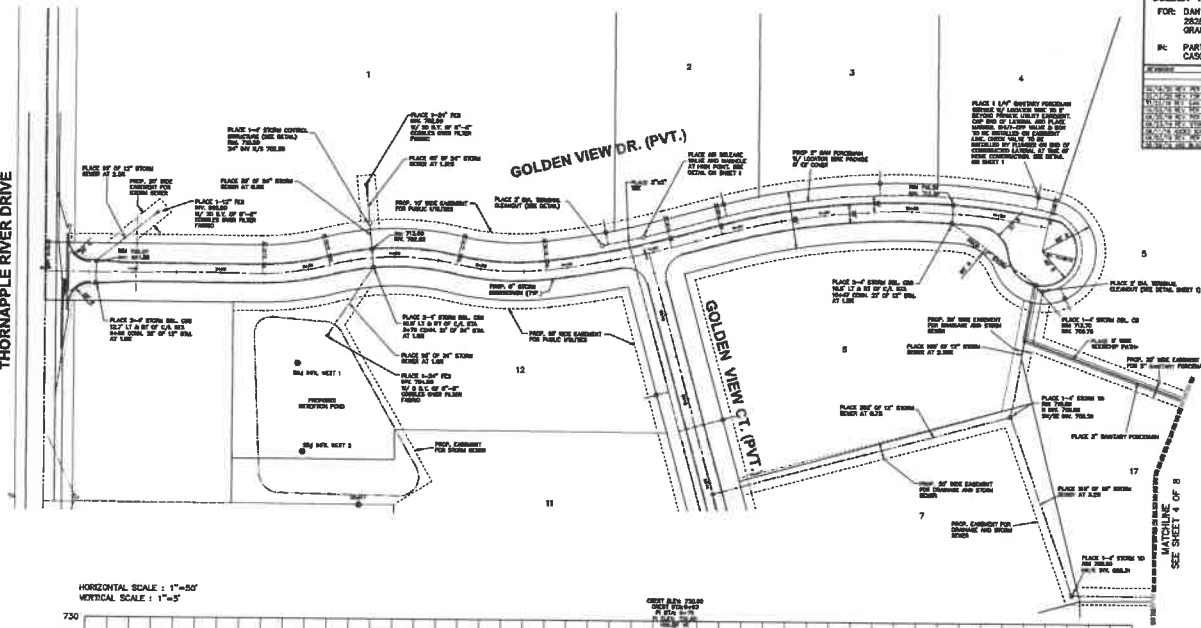
excel engineering, inc.
 11111 22ND AVENUE SE, SUITE 100
 GRAND RAPIDS, MI 49512
 TEL: (616) 782-1111 FAX: (616) 782-1112
 WWW.EXCEL-ENGINEERING.COM

DATE: 01/15/2010
 SHEET: 1 OF 8



1/15/2010 10:00 AM

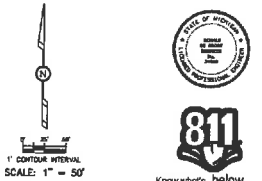
THORNAPPLE RIVER DRIVE



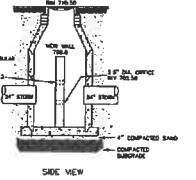
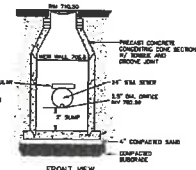
GOLDEN VIEW DRIVE (PVT.)
GOLDEN VALLEY ESTATES
 FOR: DAN KAMPHUIS
 2535 KRAFT AVENUE SE (ETC. 163)
 GRAND RAPIDS, MI 49512
 IN: PART OF SECTION 33 & 34, T8N, R10W,
 CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN

Scale Engineering, Inc.
 22100 Grand Rapids, MI 49508
 Phone: (616) 941-5200
 Fax: (616) 941-5201
 Email: info@scaleeng.com

DATE: 08/11/11
 APPROVED BY: [Signature]
 PROJECT NO.: 11-001
 SHEET NO.: 11-001-01

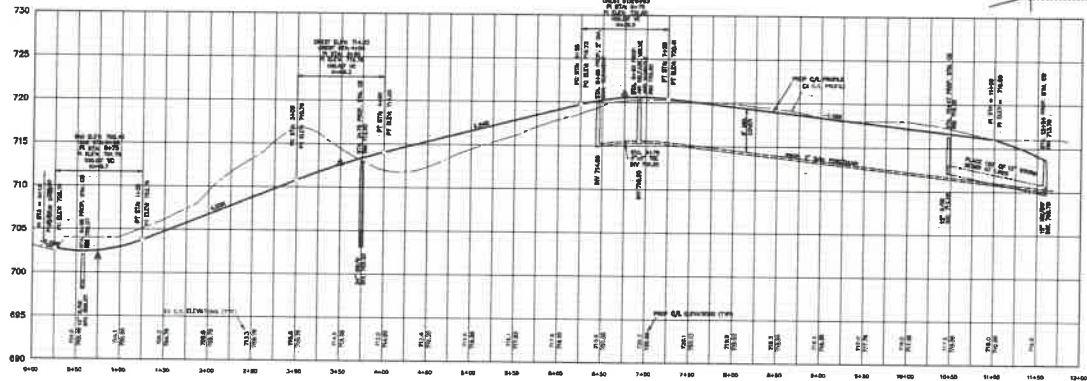


Know what's below.
 Call before you dig.

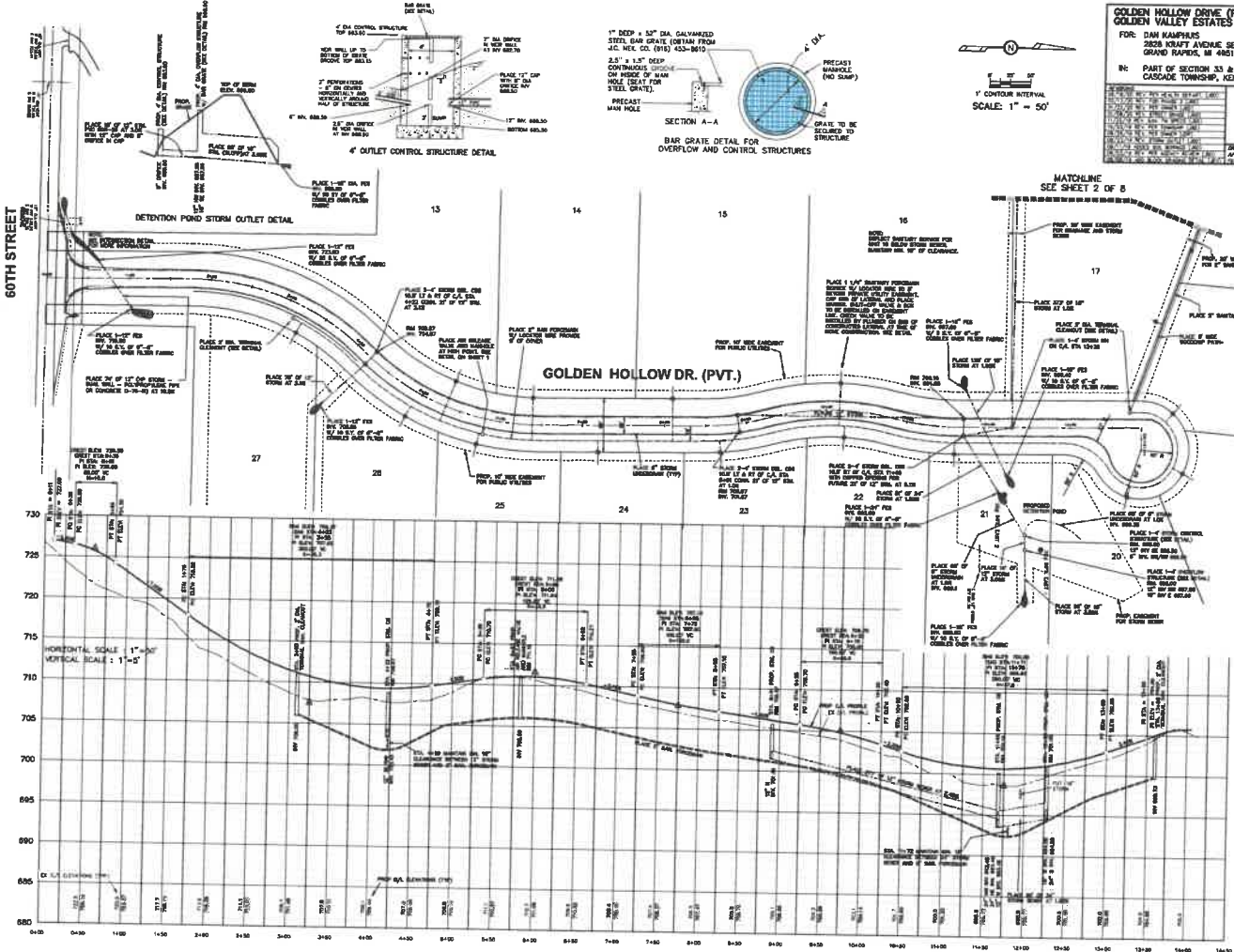


POUND CONTROL STRUCTURE DETAIL

HORIZONTAL SCALE: 1"=50'
 VERTICAL SCALE: 1"=5'



Scale Engineering, Inc. 22100 Grand Rapids, MI 49508 Phone: (616) 941-5200 Fax: (616) 941-5201 Email: info@scaleeng.com

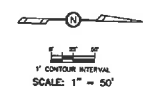


**GOLDEN HOLLOW DRIVE (PVT.)
GOLDEN VALLEY ESTATES**
FOR: DAN KAMPHUIS
2828 KRAFT AVENUE SE (STE. 165)
GRAND RAPIDS, MI 49515

IN: PART OF SECTION 33 & 34, T24N, R10W,
CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN

DATE: 11/11/14	PROJECT: 14-008	SHEET: 4 of 8
DESIGNER: J. J. JONES	PROJECT: 14-008	

excel engineering, inc.
125 Center St., Grand Rapids, MI 49503
Phone: 616-941-1111



NOTICE: ALL OPERATIONS ARE PART OF A CONSTRUCTION PROJECT. THE OPERATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. THE OPERATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. THE OPERATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

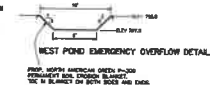
11/11/14 JJJ

THORNAPPLE RIVER DRIVE

GOLDEN VIEW DR. (PVT.)

GOLDEN VIEW CT. (PVT.)

- SOIL EROSION CONTROL MEASURES**
1. TOTAL AREA OF MEASUREMENT - 10.0 ACRES
 2. ALL SOIL EROSION CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO THE START OF ANY GRADING
 3. INSPECT AND MAINTAIN ALL TEMPORARY SOIL EROSION CONTROLS AFTER EACH SIGNIFICANT RAINFALL EVENT UNTIL THE SITE HAS BEEN PERMANENTLY STABILIZED.
 4. ALL NON PAVED AREAS TO BE TOPSOILED (1" MIN) AND RETEED.
 5. PLACE SILT FENCE AS SHOWN ON PLAN AND PER DETAIL.
 6. PROTECT ALL NEW AND EXISTING EXPOSED EARTH WITH EROSION SACKS AND ROCKING MATS PER DETAIL. AFTER SACKS ARE REMOVED, ALL STRUCTURES TO BE COVERED WITH TOPSOIL.



NO.	DESCRIPTION	DATE
1	PREPARED BY	11/11/11
2	CHECKED BY	11/11/11
3	APPROVED BY	11/11/11
4	DATE OF REVISION	
5	DESCRIPTION OF REVISION	
6	BY	
7	DATE	
8	DESCRIPTION	
9	BY	
10	DATE	
11	DESCRIPTION	
12	BY	
13	DATE	
14	DESCRIPTION	
15	BY	
16	DATE	
17	DESCRIPTION	
18	BY	
19	DATE	
20	DESCRIPTION	

811
Know what's below.
Call before you dig.

SCALE: 1" = 50'
1. CONTOUR INTERVAL (25')
2. CONTOUR INTERVAL (EXCEL. TOPO)

GRADING AND SOIL EROSION CONTROL PLAN
GOLDEN VALLEY ESTATES

FOR: DAN KAMPHERS
2020 SQUAT AVENUE SE (SITE 185)
GRAND RAPIDS, MI 49512

RE: PART OF SECTION 33 & 34, T10N, R10W,
CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN

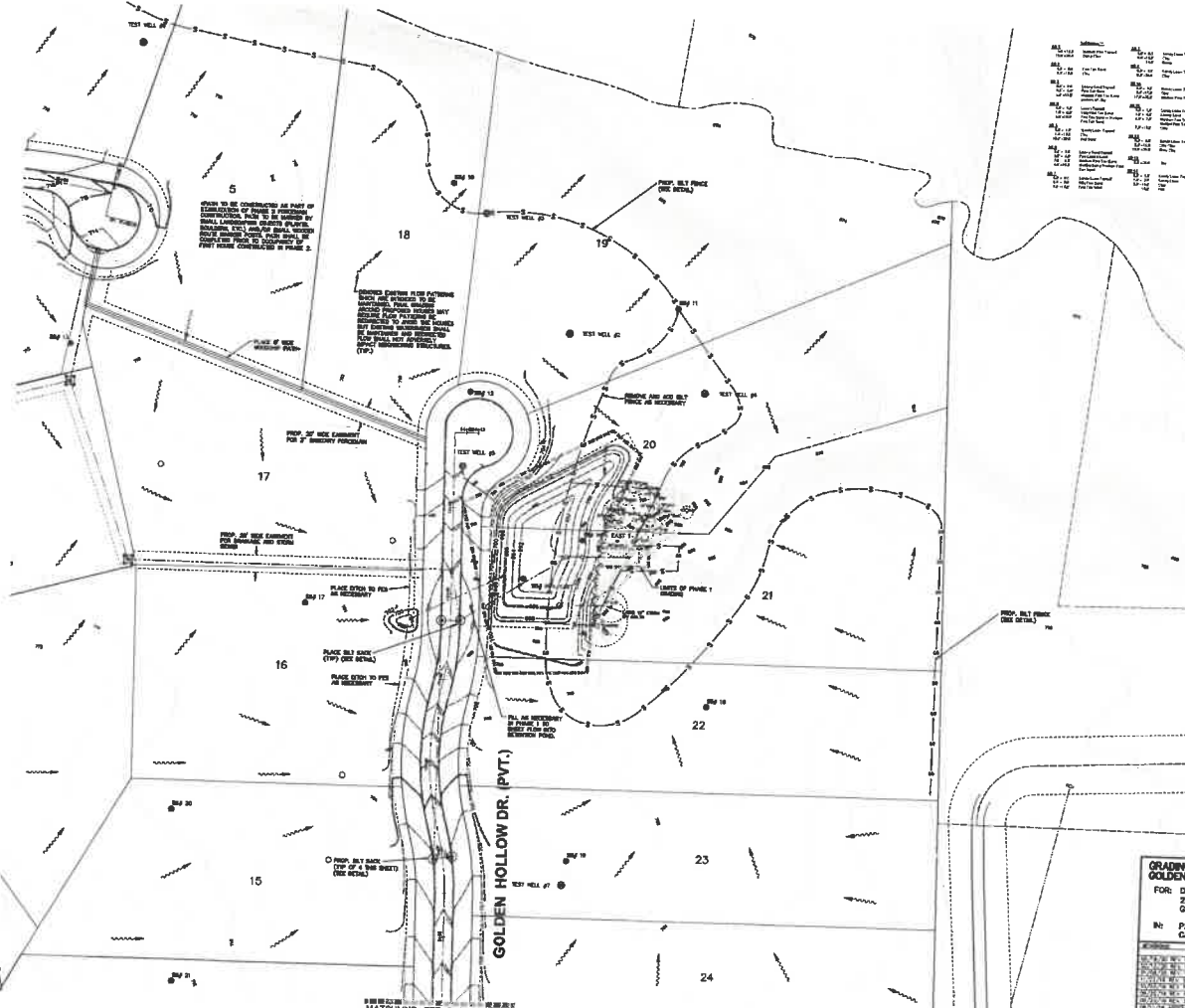
Site engineering, Inc.
planning - engineering - surveying
1100 S. STATE ST. N.W. GRAND RAPIDS, MI 49503
PH: 516-1111 FAX: 516-1112

DATE: 11/11/11
SCALE: 1" = 50'
SHEET: 8 OF 8

NO.	DESCRIPTION	DATE
1	PREPARED BY	11/11/11
2	CHECKED BY	11/11/11
3	APPROVED BY	11/11/11
4	DATE OF REVISION	
5	DESCRIPTION OF REVISION	
6	BY	
7	DATE	
8	DESCRIPTION	
9	BY	
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18	BY	
19	DATE	
20	DESCRIPTION	

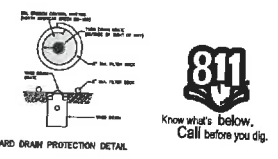
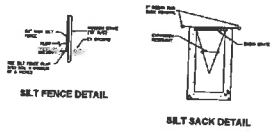
NO.	DESCRIPTION	DATE
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2	CHECKED BY	11/11/11
3	APPROVED BY	11/11/11
4	DATE OF REVISION	
5	DESCRIPTION OF REVISION	
6	BY	
7	DATE	
8	DESCRIPTION	
9	BY	
10	DATE	
11	DESCRIPTION	
12	BY	
13	DATE	
14	DESCRIPTION	
15	BY	
16	DATE	
17	DESCRIPTION	
18	BY	
19	DATE	
20	DESCRIPTION	

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NO.	DESCRIPTION	AMOUNT	UNIT	DATE
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- SOIL EROSION CONTROL NOTES:**
1. TOTAL AREA OF DISTURBANCE = 165 ACRES
 2. ALL SOIL EROSION CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO THE START OF ANY GRADING.
 3. SAFETY AND SANITARY ALL TEMPORARY SOIL EROSION CONTROLS AFTER EACH SIGNIFICANT RAINFALL EVENT UNTIL THE SITE HAS BEEN PERMANENTLY ESTABLISHED.
 4. ALL SOIL PAVED AREAS TO BE REPOLEED (1" MIN.) AND SEEDS.
 5. PLACE SILT FENCE AS SHOWN ON PLAN AND PER DETAIL.
 6. PLACE SILT SACKS AS SHOWN ON PLAN AND PER DETAIL.
 7. PROTECT ALL NEW AND EXISTING UTILITY LINES WITH STRONG BLOCKS AND BRIMS WHEN SET OR EXPOSED, AFTER SACKS ARE BARRICADED, ALL FINISHES TO BE CHECKED OUT.



811
Know what's below.
Call before you dig.

SCALE: 1" = 50'
± FOOTING INTERVAL (DGS)
± CONTOUR INTERVAL (DOSE, TOPO)

GRADING AND SOIL EROSION CONTROL PLAN
GOLDEN VALLEY ESTATES
FOR: DAN KAMRINGS
2828 WRAFT AVENUE SE (STE. 165)
GRAND RAPIDS, MI 49512

IN: PART OF SECTION 33 & 34, T4N, R10W,
CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN

excel engineering, inc.
planning • engineering • surveying
P.O. BOX 100, GRAND RAPIDS, MI 49501
PHONE: (616) 941-1111 FAX: (616) 941-1112

DATE: 11/11/11
DRAWN BY: J. H. HARRIS
CHECKED BY: J. H. HARRIS
SCALE: AS SHOWN
SHEET: 7 OF 8

KENT COUNTY HEALTH DEPARTMENT



ENVIRONMENTAL HEALTH
700 Fuller Avenue N.E.
Grand Rapids, Michigan 49503-1918
Phone: 616-632-6900
Fax: 616-632-6892
Email: KCEHmail@kentcountymi.gov
Website: www.accesskent.com

Adam London, RS, MPA
Administrative Health Officer

May 27, 2020

Mr. Daniel Kamphuis
2828 Kraft Ave SE, Suite 165
Grand Rapids, MI 49512

**RE: Onsite Community Wastewater System
Single Family Residential
Proposed Golden Valley Estates Phases 1 and 2, Units 1 – 27
Cascade Charter Township, Kent County, Michigan**

Dear Mr. Kamphuis:

The Kent County Health Department (KCHD) received a final set of construction plans and cover letter with a basis of design for the proposed Golden Valley Estates, Phase 1 and 2, Units 1 - 27 wastewater collection and dispersal system on May 26, 2020. This Department's review is limited to the subsurface dispersal system only. The community septic tank effluent pumping system (STEP) and dosing tank will be reviewed by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) under a separate Part 41, Sewerage System Permit. Operation of the wastewater system will be subject to a Part 31, Groundwater Discharge Permit.

KCHD accepts the proposed basis of design utilizing a STEP collection system and subsurface drain bed system with timed dosed pressure distribution. The peak wastewater flow of 8,100 gallons per day has been supported by wastewater flow monitoring from similar communities. The plans demonstrate a peak daily wastewater flow from 27 units to be 300 gallons per unit per day.

Plans specify a soil loading rate of 1.5 gallons per day per square foot. This application rate exceeds the Michigan Criteria for Subsurface Sewage Disposal prescribed loading rate of 0.5 gpd/sq. ft. The system designer has proposed use of an alternative wastewater disposal system utilizing a proprietary linear geotextile sand filter (GSF) manufactured by Eljen Corporation. EGLE has accepted use of Eljen GSF modules in a trench configuration at 1.5 gpd/sq ft. A copy of this memo is enclosed with the permit.

Test pits observed by this Department, EGLE staff, and your consultant have found variable soils in the selected dispersal area. Underlying slowly permeable soils and seasonal soil saturation were observed in the northeast downslope area of the replacement dispersal area. The presence of the limiting layer and the scale of the treatment works warranted a request for a groundwater mounding analysis. A simple model was used to demonstrate the groundwater mounding is a possible condition in the replacement area. Rather than completing a full mounding analysis with actual soil transmissivity and permeability testing, your consultant has requested to use the prescribed soil loading and linear loading rates from Table 4.2 of the Draft Michigan Criteria for Onsite Wastewater Treatment under a variance to the current criteria. This Department requested that EGLE Onsite Wastewater Program staff assist with reviewing proposal to utilize the Draft Criteria. The variance to use the Eljen GSF and the linear loading rates from the Draft Criteria was offered by EGLE Onsite Wastewater on May 12, 2020.

Continued...

Page 2

Proposed Golden Valley Estates, Phases 1 and 2, Units 1 – 27

A complete set of construction plans was received on May 26, 2020. The plans appear to meet the intent of the Draft Michigan Criteria for Onsite Wastewater Treatment and the Sewage Disposal Regulations for Kent County, Michigan. KCHD has issued the enclosed permit with the understanding that the system will be installed in accordance with all applicable rules and regulations under the supervision of KCHD and the System Designer.

The approval of the subsurface dispersal system does not supersede needs to obtain other permits from EGLE or the local building authority. It would appear necessary to obtain an electrical permit to extend service to the new dosing tanks and control panel. There is also the need to complete the application for a Part 41 Sewerage System Permit.

Please pay attention and follow the attached permit inspection schedule. Allow a 48-hour notice or more to guarantee prompt inspections. No changes can be made to this permit without approval of the system designer and this Department. Please feel free to call me at 616-204-2375 or email at jason.buck@kentcountymi.gov with any questions.

Sincerely,



Jason Buck, REHS
Sanitarian Specialist

Enclosures: Onsite Wastewater Disposal Facility Permit
 Copy of Community Wastewater Plans from Exxel Engineering
 EGLE Memo Regarding Eljen GSF Modules

cc: Don De Groot, P.E., Exxel Engineering, Inc. (email)
 Jeff Van Laar, P.E., Exxel Engineering, Inc. (email)
 Regina Young, REHS, EGLE (email)
 Keith Zahn, P.E., EGLE (email)



Kent County Health Department
Water Supply/ Waste-Water Disposal Facility Permit
 Environmental Health Division 616-632-6900 FAX 616-632-6892 700
 Fuller Avenue NE, Grand Rapids, MI 49503

Location/Address: 5800 Thornapple River Dr SE (parent)
 City, Village, or Twp.: Cascade Charter Township Subdivision & Lot No.: Golden Valley Estates, Phase 1 and 2
 Owner: Daniel Kamphuis c/o: Exxel Engineering Phone No: 616-942-9166
 Address: 2828 Kraft Ave SE, Suite 165 City: Grand Rapids State: MI Zip Code: 49512
 Perm. Parcel No.: 41-19-33-400-052 (parent) E-mail address: dank@gvd1.com

This permit authorizes the construction, repair, enlargement, or relocation of a well/sewage disposal facility in accordance with plans and information contained in the approved application submitted to the Kent County Health Department on 5/21/2020. Work authorized by this permit shall be subject to any special conditions or requirements as noted on the permit and shall comply with all requirements of the Water Supply Regulations and/or Sewage Disposal Regulations of Kent County. It shall be unlawful for any well/sewage disposal facility constructed, repaired, enlarged, or relocated under authority of this permit to be placed in operation without prior approval by the Kent County Health Department. This permit is valid for two years from the date of issuance and is not transferable to any person or location. No work shall be commenced or continued either before the permit is issued or after the permit has expired.

Building Information: New Repair House Multi Family Commercial gal/day flow
 No. Of Bedrooms:

Water Supply Well Details

Well Type: Domestic Type III Public Irrigation
 Test Well Other

ISOLATION REQUIREMENTS:

- Feet from on-site sewage disposal system(s)
- Feet from storm/sanitary sewer lines
- Feet from overhang of building
- Feet from sewage sump
- Feet from fuel storage tank(s)
- Feet other (specify)
- Feet from footing drains

INSPECTIONS REQUIRED:

RESTRICTIONS:

- Minimum depth in feet
- Grout
- Well Abandonment required
- Nitrate area - well may be required to be drilled to a deeper depth to assure safe drinking water.
- Flowing well area
- 10' Continuous protective clay barrier greater than 25'
- Other:

Refer to Pages:

Comments:

Individual site wells
 Construction permits required for each unit.

Waste-Water Facility Details

Isolation Requirements:

- 100 Ft. from water well(s) 25 Ft. from basement wall(s)
- 100 Ft. from surface water(s) 10 Ft. from lot lines
- 100 Ft. Other Subsurface drains
- Ft. Other

Aggregate and Cover Requirements

- Inches of soil cover over stone Inches of stone above pipe
- Inch diameter of pipe Inches of stone below pipe

Soil Texture: Varies, see attached logs

Septic Tank Requirement:

Number of Tanks:

Tank Capacity: gallons gallons

Pump Chamber Capacity: 4000 gallons

Drain field:

Drain Bed:

Base Area	Sq.Ft.	Base Area	5400	Sq.Ft.
Side Area	Sq.Ft.	Side Area		Sq.Ft.
Total Trench	Sq.Ft.	Total	5400	Sq.Ft.
Width Total	Ft.	44	Ft. X 284	Ft.
Linear Ft.		No. of Laterals	24	
Of Trench	Ft.			

Comments:

300 Gal/Day/Unit x 27 Units = 8100 gpd
 Soil loading rate = 1.5 gpd/sq ft
 Linear loading rate = 5.0 gpd/ft
 See attached plans from Exxel Engineering (5/19/2020)
 See Page 2 for required inspections
 Additional Part 41 Permit from EGLE is required

Final Inspections are Required.

Water Well Requirements: Water sample results and well log are required for final approval. Please contact this office to schedule an inspection prior to consumption of the well water. **Waste Water Disposal Requirements (Septic System):** Contact this office before 9 am for a final inspection prior to backfilling.

See Attached Sketch For Location Details and Additional Information.

Signature of Sanitarian: Jason E. Buck, REHS

Date Issued: 5/26/2020



INSPECTION SCHEDULE FOR COMMUNITY SEPTIC SYSTEMS

Address: 5800 Thornapple River Dr. SE, Cascade Charter Township, Kent County, Michigan

Owner: Daniel Kamphuis

System Designer: Don DeGroot P.E., Exxel Engineering, Inc.

Jeff Van Laar P.E., Exxel Engineering, Inc.

Community: Proposed Golden Valley Estates, Phases 1 and 2 (Units 1 – 27)

The construction of this Community Wastewater Treatment and Effluent Dispersal System must be inspected in the following sequence. Health Department to be notified when all indicated components are ready for inspection. Proceeding to the next step of construction shall not occur until this Department has checked off approval of condition.

1. Preconstruction meeting onsite.

- Location of distribution area staked out and site has been surveyed
- Installer has sourced an approved supply of specified system sand
- Approval of any required changes done with system designer and Health Department

2. First Inspection

- Soils are approved for excavation. No precipitation is forecast during proposed construction timeline.
- Site has been prepared and approved by this Department for fill
- Dosing chambers have passed watertightness test standard ASTM-1227c. To be completed by others.

3. Second Inspection

- Distribution area cut / fill meets quality and quantity requirements

4. Third Inspection

- Distribution area cut / fill meets quality and quantity requirements

5. Forth Inspection

- Eljen Modules and Distribution network completed
- Distribution network has been flushed
- Alternating valve at appropriate elevation and flushed

CONTINUED ON NEXT PAGE

Address: 5800 Thornapple River Dr. SE, Cascade Charter Township, Kent County, Michigan

Owner: Daniel Kamphuis

System Designer: Don DeGroot P.E., Exxel Engineering, Inc.

Jeff Van Laar P.E., Exxel Engineering, Inc.

Community: Proposed Golden Valley Estates, Phases 1 and 2 (Units 1 – 27)

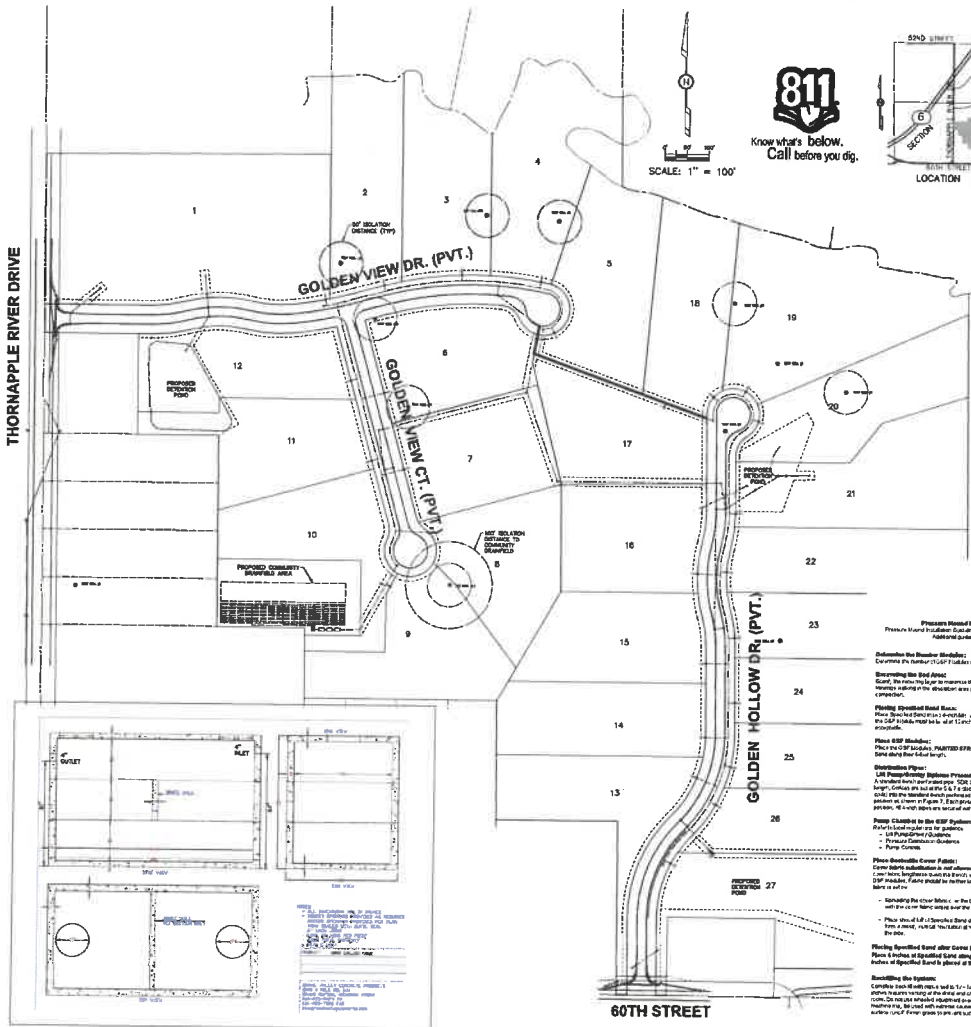
6. Fifth Inspection

- Test of control panel and alternating valve operation.
- Completion of system (fabric, sand back fill, topsoil and seed) and backfill of tanks
- Final cover meets grading requirements (risers accessible, valve boxes, erosion control measures, etc.)

6. Final Approval

- Maintenance with qualified service provider agreement
- Approval of Part 41 Sewerage Permit from EGLE
- Statement from System Designer that system was installed per approved plans

THORNAPPLE RIVER DRIVE



SCALE: 1" = 100'



- Notes:**
1. **Grade of Cuts:**
 - 20% slope maximum to be 8:1 minimum.
 - Based on existing MSL and surface between 4 daily feet of 300 gpd/day/acre wet ground and existing MSL and SLL.
 - 20% slope to 300 gpd/day/acre x 27 acres = 5,400 gpd/day
 2. **Drainfield Design:**
 - Design to allow a minimum 6 inches to thickness of Subsurface Storage Drains through the site at 8:1 maximum slope.
 - 27 acres x 300 gpd/day/acre = 8,100 gpd/day
 - Design rate = 1.5 gpd/acre/ft x 27 acres = 40.5 gpd/acre/ft x 27 acres = 1,103 gpd/acre/ft
 - Driveway area = 4,500 gpd/day = 1.8 gpd/acre/ft x 2,500 sq ft = 4,500 gpd/day
 - Driveway area to be excavated to 4 inches below existing finish grade.
 - Total trench length required = 5,100 gpd/day = 1.8 gpd/acre/ft x 2,833 sq ft = 5,100 gpd/day
 - Total trench length required = 28,000 feet or 0.53 miles.
 - Driveway will be 18" above finished ground and high-water alarm required with sufficient pump capacity at pump(s) 4.4 gpm at 2.8. 2.8. 2.8. 2.8.
 - Each trench to be spaced roughly 5' through site for a total of 2,800 gpd/day/acre or 1,103 gpd/day/acre. A volume of 400 gpd/day/acre results in 87.5 gpd/acre/foot and 2.87 gpd/acre/foot for each 8" pipe 300' length.
 - Based on 300 gpd/day/acre at 400 gpd/day/acre the pump on this plan will be 4.1 inches with 22.5 volume of pump off this location.
 - Additional approval shall be under required prior to construction.
 3. **Storm MSL:**
 - Storm MSL to be indicated with horizontal elevating points and other 2-2000 gpm/acre based on storage. Quantity amount to 400-500 gpd/day based on 2000 gpm/acre. Storm MSL shall be 2.0' above existing MSL. Storm MSL shall be 2.0' above existing MSL. Storm MSL shall be 2.0' above existing MSL. Storm MSL shall be 2.0' above existing MSL.
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- Planned Residential Building Siting and Foundation:**
 Plans of Proposed Residential Building Siting and Foundation shall be submitted to the Health Department and the Michigan Department of Environmental Quality for review and approval.
- Stormwater Management:**
 Stormwater management shall be provided for the entire site. Stormwater shall be collected and conveyed to the drainage system. Stormwater shall be collected and conveyed to the drainage system. Stormwater shall be collected and conveyed to the drainage system. Stormwater shall be collected and conveyed to the drainage system.
- Other Notes:**
 The contractor shall be responsible for obtaining all necessary permits and approvals. The contractor shall be responsible for obtaining all necessary permits and approvals. The contractor shall be responsible for obtaining all necessary permits and approvals. The contractor shall be responsible for obtaining all necessary permits and approvals.

PLANS PREPARED UNDER THE SUPERVISION OF:

DAN KRAMER
 REGISTERED PROFESSIONAL ENGINEER, REG. NO. 34829

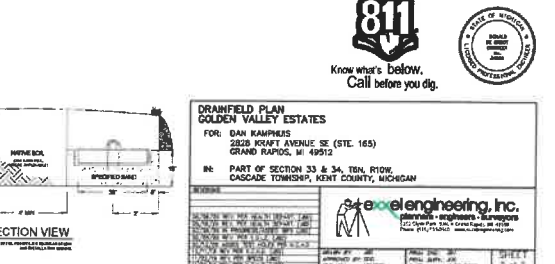
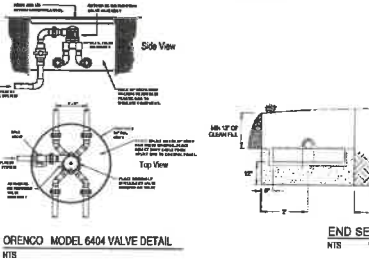
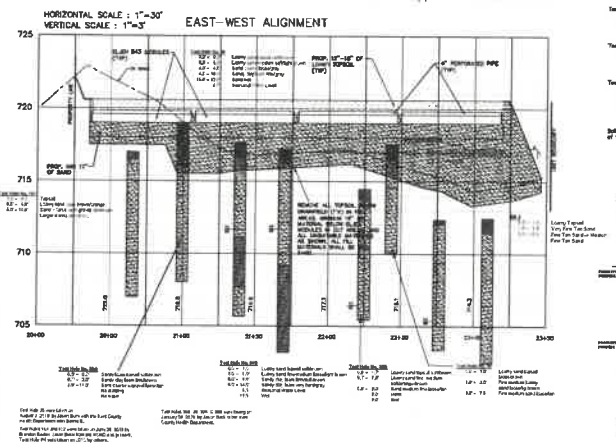
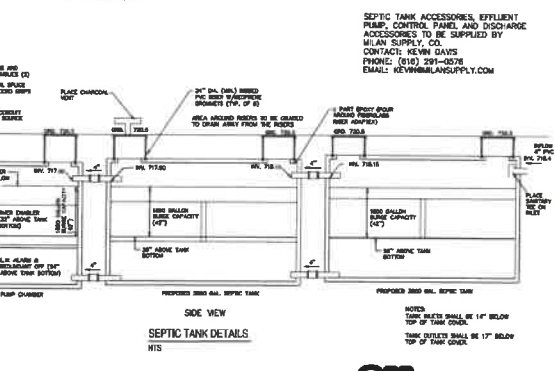
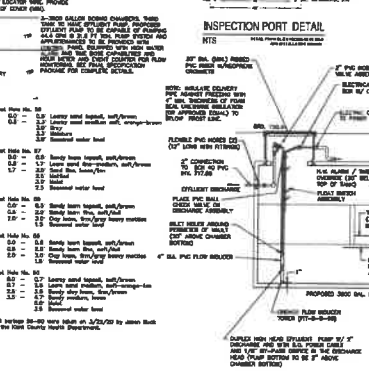
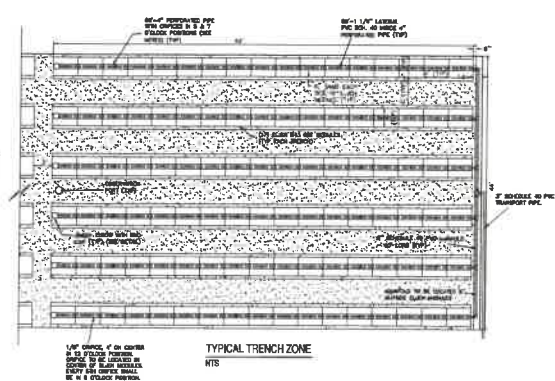
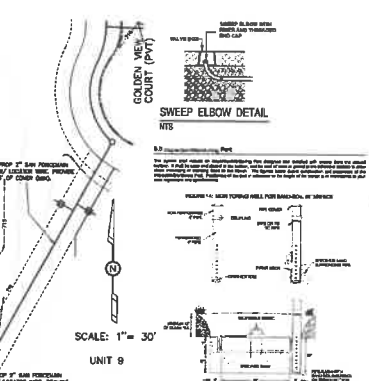
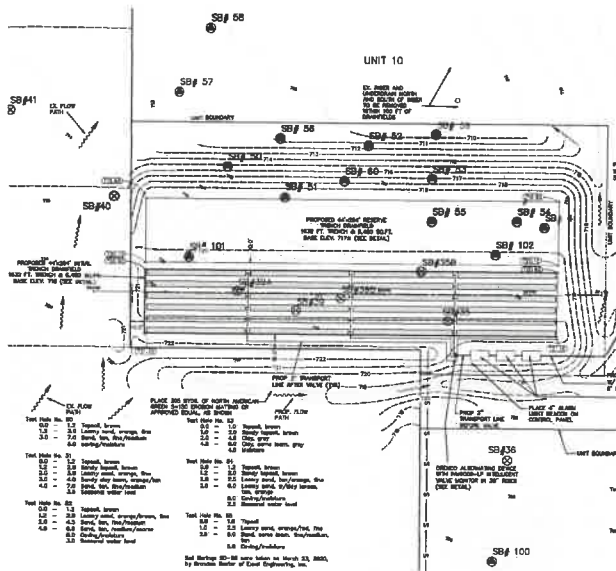
COVER SHEET - DRAINFIELD PLAN
GOLDEN VALLEY ESTATES
 FOR: DAN KRAMER
 2828 KRAFT AVENUE SE (STE. 155)
 GRAND RAPIDS, MI 49512

IN: PART OF SECTION 33 & 34, T8N, R10W, CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN

excel engineering, inc.
 1111 1/2 WEST 10TH AVENUE, S.W.
 GRAND RAPIDS, MI 49503
 TEL: 616-725-2000 FAX: 616-725-2001
 WWW.EXCEL-ENG.COM

DATE: 10/15/10
 SCALE: AS SHOWN
 SHEET 1 of 3

10/15/10 10:00 AM



DRAINFIELD PLAN
GOLDEN VALLEY ESTATES
FOR: DAN KAMPHUIS
2828 KRAFT AVENUE SE (STE. 165)
GRAND RAPIDS, MI 49512
ON: PART OF SECTION 33 & 34, TEN, R10W,
CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN

excel engineering, inc.
civil & mechanical engineers • 422 higgins
1221 operon rd., grand rapids, mi 49508
phone: 616.941.1100 • www.exceleng.com



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT
LANSING



REBECCA A. HUMPHRIES
DIRECTOR

December 15, 2010

Mr. Jim Donlin
Vice President
Eljen Corporation
125 McKee Street
East Hartford, Connecticut 06108

SUBJECT: Eljen Geotextile Sand Filter

You have requested that the Department of Natural Resources and Environment (DNRE), Environmental Resource Management Division (ERMD), provide a technical review of the above-subject proprietary alternative treatment for potential application in Michigan. Please be advised that this office functions only in a review and not an approval capacity with respect to proprietary products. In Michigan, individual local health departments approve the use of proprietary products for single and two family homes in accordance with the requirements of their respective local regulations. For other subsurface systems treating sanitary wastewater with flows up to 10,000 gallons per day, however, the ERMD does administer application of the Michigan Criteria for Subsurface Sewage Disposal. Additionally this office provides technical guidance for alternative methods of sewage treatment in accord with our administrative rules for the subdivision of land. The comments that follow should be viewed only in the context of these two program areas. With this thought in mind, please consider the following comments:

System Description and Testing

The overall Eljen Geotextile Sand Filter (GSF) treatment system consists of a number of natural and man made components that are assembled to accomplish treatment of septic tank effluent to better than secondary standards prior to final application to natural soils or fill. At the heart of the system is the GSF module that consists of a bound assemblage of vertical plastic layers wrapped in geotextile fabric. This produces treated effluent that is discharged into a specified sand layer that surrounds the bottom and sides of the module.

You have provided the results of third party testing accomplished at the Massachusetts Alternative Septic System Test Center in accordance to the National Sanitation Foundation Standard 40 protocol. Testing was accomplished for each of three effluent distribution methods, including demand dosed, time pressure dosed, and gravity. In all cases, median effluent carbonaceous biochemical oxygen demand and total suspended solids values were below 10 milligrams per litre.

Application under the Michigan Criteria

Your transmittal to this office and subsequent discussion has resulted in the following application rate table being proposed by Eljen Corporation (Eljen) for acceptance under the Michigan Criteria:

Table 1: Proposed B43 & A42 Trench and Bed Soil Application Rates

SOIL PERMEABILITY MIN/INCH	SOIL TYPE	TRENCH MAXIMUM APPLICATION RATE GPD/FT'	BED MAXIMUM APPLICATION RATE GPD/FT'
<10	Coarse Sand, Medium sand	2.0	1.5
10 - 20	Fine Sand, Loamy Sand	1.5	1.0
20 - 30	Sandy Loam, Very Fine Sand	1.0	NOTE
30 - 45	Loam, Sandy Clay Loam	0.5	
45 - 60	Silt Loam, Sandy Clay Loam, Clay Loam		

*NOTE: Underground sewage disposal not approved per MI DEQ

In general, the soil application rates in this table request a doubling of application rates as compared with conventional pipe/stone systems receiving septic tank effluent. This table does suggest a reduced loading for bed systems and exclusion in usage for finer textured soils. Please be advised that we are supportive of the table subject to the following:

- The application rates are to be based upon bottom area only calculated based upon the width of the specified sand under the module. Based upon the typical details you have provided, this would be 4 feet for a B43 module and 3 feet for an A42 module.
- With regard to the method of effluent distribution, ERMD would be supportive of distribution by gravity for systems with low flows less than 1000 gallons per day. For all other systems, timed pressure dose is recommended to maximize treatment efficiencies and longevity.

Pressure Sand Mound Applications

ERMD is supportive of the possible use of GSF modules in pressure mound applications. As mounds themselves are constructed of specified sand, the main issue becomes the number of GSF modules needed based upon flow, and geometry of their placement. With time dosed pressure mounds we are supportive of a maximum bottom area loading rate for coarse to medium sand as discussed above. Module placement

Mr. Brian Parker

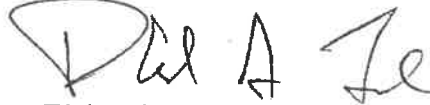
3

December 15, 2010

within the mound would be established as part of the site-specific mound design completed in accord with established pressure mound technical guidance.

Should you require further information, please contact me via telephone; falardeaur@michigan.gov; or DNRE, P.O. Box 30241, Lansing, Michigan, 48909-7741

Sincerely,

A handwritten signature in black ink, appearing to read "Richard A. Falardeau". The signature is stylized and cursive.

Richard A. Falardeau, P.E., Chief
On-Site Wastewater Unit
Solid Waste and Land Application Section
Environmental Resource Management Division
517-241-1345

August 3, 2020
Project No. 170168

Steve Peterson, AICP
Community Development Director
Cascade Charter Township
2865 Thornhills Avenue, SE
Grand Rapids, MI 49546

Golden Valley Estates, Phase 2 Site Plan Review

Dear Steve:

We have reviewed the site plan for Golden Valley Estates, prepared by Exxel Engineering, Inc. The development is located at the northeast corner of the intersection between 60th Street and Thornapple River Drive. The current site plan and basis of this review are dated May 19, 2020. The proposed project is a 27-lot site condominium development with private streets. This site plan review is for Phase 2 of the development, Lots 13 – 27. Phase 2 includes the construction of private street Golden Hollow Drive. The site is in the Thornapple River watershed, subdrainage district GRFIA Southeast.

Stormwater and Drainage

Flood Control

The Cascade Charter Township Storm Water Ordinance (SWO), Section 1.04, states the ordinance shall apply to all development that requires any permit for work which will alter the stormwater drainage characteristics of the development site. The site is primarily located in Stormwater Management Zone A, which requires retention of the 100 year storm event and infiltration to the greatest extent possible. Where soil conditions or other factors do not allow for adequate infiltration, the SWO requires detention of the 25 year storm event with a controlled release and a direct connection for stormwater runoff for the 100 year storm event, or detention of the 100 year storm event. The SWO also requires the first 0.5 inch of stormwater runoff be detained and released over a 24 hour period (Water Quality Control) and the 2 year storm event release rate be limited to 0.05 cfs/acre (Bank Erosion Control).

The proposed stormwater management design is to collect stormwater runoff from the site in three detention ponds. Two detention ponds were approved and constructed in Phase 1 of the development. Based on soil boring findings and infiltration test results, stormwater infiltration was not feasible. The detention basins were designed for the 25-year storm event and a restricted release rate of 0.13 cfs/acre. The detention basins discharge to an existing creek on the north and east side of the development.

The proposed stormwater management design is in accordance with the SWO.

Water Quality Control and Bank Erosion 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, and the 2 year storm event release rate be limited to 0.05 cfs/acre. The detention basins constructed in Phase 1 were designed with an outlet control structure to restrict flows based on the above criteria. The applicant provided stormwater calculations for design of the outlet control structures. The proposed design is in accordance with the SWO.

Stormwater Runoff

The applicant provided stormwater calculations to size the detention basins and onsite storm sewer system. All stormwater runoff from the new private streets and developed portion of the site will drain to the detention basins. Therefore, the site will not see an increase in rate of stormwater leaving the site.

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 attached 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 maintenance of the detention basins and cleaning of catch basin sumps.

Private Street Requirements

The proposed development has three private streets, two of which were constructed in Phase 1; Golden View Drive and Golden View Court. Golden Hollow Drive will be constructed in Phase 2. FTCH reviewed the proposed private streets in accordance with the Township Ordinance for private streets, including right of way width, road and travel lane width, road grade, pavement cross section including aggregate base and subbase design, stormwater drainage, etc.

The Kent County Road Commission (KCRC) will permit the new private drive approach on 60th Street. The applicant provided correspondence with the KCRC that they agree with the driveway locations as shown.

The Township Ordinance requires private streets to not exceed a maximum grade of 6 percent. The site plan shows Golden Hollow Drive has a 7 percent grade as it enters the site off 60th Street. The Planning Commission, upon recommendation of the Township Engineer, may allow a maximum grade of up to 8 percent if it is reasonably determined that certain safety and accessibility requirements are met.

The applicant stated they believe the road design to be safe as the distance of 7 percent grade is limited to less than 120 feet and there is an area of 2 percent grade at the intersection with 60th Street. This grade is traversable by emergency vehicles and others and ingress and egress to the development is not hindered by the road grades. The grade at Lot 27 will be less than 6 percent and will not affect entry to that driveway. The proposed 7 percent grade is acceptable.

Utilities

A community wastewater dispersal system is proposed for the development. The wastewater system will include a 3-inch sanitary sewer force main and community drain field. Permits from the Kent County Health Department (KCHD) and Michigan Department of Environment, Great Lakes, and Energy (EGLE) will be required for the community wastewater dispersal system prior to construction. The residential lots will have onsite water wells.

Summary

The proposed stormwater management design for Phase 2 of the development meets the Township SWO requirements for new developments. The applicant will need to apply for and obtain several permits (SESC, KCHD, EGLE and KCRC) prior to 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 ntorrey@fishbeck.com.

Sincerely,



Nathan R. Torrey, PE
Senior Civil Engineer

Attachment
By email

Copy: Michael L. Berrevoets, PE – Fishbeck

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

Golden Valley Estates, Phase 2

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 is collected in three onsite detention basins. The detention basins discharge to an existing creek on the north and east side of the development. Two of the detention basins were constructed in Phase 1 of the development.
- 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.
- OK (3) Development tributary area to each point of discharge from the development
Stormwater calculations and tributary areas were provided by the applicant.
- OK (4) Calculations for the final peak discharge rates
The applicant provided calculations for design of the onsite storm sewer system, detention basins and outlet control structures.
- OK (5) Calculations for any facility or structure size and configuration
Stormwater runoff calculations were provided by the applicant.
- OK (6) Drawing showing all proposed storm water runoff facilities with existing and final grades
The applicant provided a utility plan showing all proposed stormwater runoff facilities.
- 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
Offsite drainage areas were not indicated 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 and detention basins.
- 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



CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan 49546-7140

Date: August 26, 2020
To: Supervisor Beahan and Township Board Members
From: Ben Swayze, Township Manager
Subject: Agreement for the Renovation of 5920 Tahoe Drive

FACTS:

In December 2019 the Township purchased the facility at 5920 Tahoe Drive to renovate for the new Cascade Township Hall. This purchase was made after several studies done by the Township and reflected a combination of the best fiscal and operational option for the Township. The purchase was made for \$1.4 million with a combination of General and Building Department funds.

In early 2020, the Township approved the 5-phase proposal with Progressive AE to provide architectural, engineering and construction services for the project. With Township Staff, Progressive AE worked through the programming, design, construction documentation and bidding portions of the project. The process culminated with the reception of bids in July.

Attached for your review are:

- Updated Total Construction & Project cost summary from Progressive AE
- Copy of Township Hall Design package
- (Individual bid documents are available upon request)

ANALYSIS & CONCLUSIONS:

The total construction cost, bid at \$887,600 (\$74.34 per square foot) is higher than the original anticipated construction costs of \$500,000 to \$600,000. Reasons for these increased costs include:

- Additional Ramp & Restroom Modifications to become ADA complaint
- New & more efficient lighting package
- HVAC upgrades for new office layout/additional offices
- Operable partition in large conference area
- New ceilings
- Larger service counter
- Fire suppression modifications due to new office layouts
- Additional night deposit facilities

Given the increase in costs over the original estimate, the Township Staff worked with Progressive AE to develop a list of project modifications that could potentially be made to reduce the overall cost of the projects. Alternatives that were identified included:

<u>Reduction</u>	<u>Scope Change</u>
\$15k - \$30k	Existing carpet and ceiling will remain where possible Remove conference room operable partition
\$25k - \$40k	Remove conference room hospitality station Remove new office and developed shared workspace plan
\$30k - \$50k	Remove existing divided offices from 5-4
\$10k - \$20k	Remove portions of new light fixture package Millwork reduction in service area, print room, etc...

Township staff presented these options, as well as pros and cons, to the Finance and Personnel Committee at their August meeting. Township staff also discussed significant issues that went into the design process:

Project Bidding: The Township had successful bidder turnout for all categories and realized favorable financial contractor bids

Project Programming: During the design process, Township staff worked with the design team to only include the essential programming that enables staff to efficiently deliver services to Township residents. No additional amenities were included in the project.

Building Renovation: The current design reflects the minimum appropriate renovation to effectively use the newly acquired building

Energy Efficiency: The light fixture replacement package designed into the project will have efficiency/value that will be realized through energy savings in future electric bills

Real Estate Investment: As a Township owned asset, the project is appropriately scoped for adequate investment to ensure property value for Township residents

Pandemic Planning: The creation of enclosed offices and longer patron counters in the design supports a safe work environment for staff and visitors

After considering the pros and cons of the potential scope reductions, the Personnel and Finance Committee have recommended that the Township Board approve the project as bid and designed.

FINANCIAL CONSIDERATIONS:

At this meeting the Township Board is considering the following costs:

- **Construction Costs \$887,600** – These costs would be divided between the General Fund and the Building Fund on a 68.7% to 31.3% split based on the square footage usage of the building
- **Contingency Costs \$88,800** – Funds that would be reserved for the project as a contingency. Could only be utilized through a change order approved by the Township Board. Source of funds would be based on the change order, but more than likely would follow the same split.

- **AE Design Services and Fees \$72,818.75** – These funds have already been authorized and a majority have already been spent, remaining funds would be spent if approved. Same split.
- FFE, Audio/Visual and moving fees would be approved in a separate action item.

Between the General Fund and Building Fund, \$3.5 million has been allocated for this project, including the \$1.4 million already spent on the facility.

RECOMMENDED ACTION:

Consider the recommendation from the Personnel/Finance Committee to approve the Construction and contingency portions of the 5920 Tahoe Renovation project and authorize the Township Manager to execute an agreement on behalf of the Township.

Total Construction & Project Costs



To: Benjamin Swayze
 Email: bswayze@cascadetwp.com
 From: Dan Grover
 Email: groverd@progressiveae.com

Date: 7/9/2020
 Project: Cascade Township
 Location: Grand Rapids, Michigan
 Project Number: 60846005
 Estimator: Dan Grover

Progressive AE has proposed the following opinion of probable cost for the project listed and the cost associated. This opinion of probable cost is subject to the terms, provisions and scope described herein.

Cascade Township Hall Renovations	Estimated Square Foot:	11,940
	Estimated Site Acreage:	-
<hr/>		
Construction Cost (Div. 02 through Div. 28)	\$	717,100.00
Construction Site Development (Div. 31 through Div. 34)		included above
<hr/>		
General Conditions	\$	103,100.00
General Requirements	\$	67,400.00
Potential Construction Cost		= \$ 887,600.00
Construction Costs Sqft		= \$ 74.34
<hr/>		
Contingency		
Contingency - Design	\$	-
Contingency - Construction	\$	88,800.00
Escalation - Beyond Calendar Year	\$	-
Total Construction (with Contingency) Cost		= \$ 976,400.00
Construction (with Contingency) Costs Sqft		= \$ 81.78
<hr/>		
Owner Held Contracts		
Ceramic Tile Purchase Order	\$	5,520.63
A/E Design Services and Fees	\$	72,818.75
Security/Access Control Systems (an allowance of \$7,500 is included in costs above for hardware upgrades)	\$	-
Audio/Visual Systems (new TV's, projectors, etc..costs to be included in final procurement number)	\$	-
Furniture (Including Sales Tax, Delivery and Installation) **Estimated at this time. Final price TBD	\$	92,000.00
Total Project Cost		= \$ 1,146,739.38
Project Costs Sqft		= \$ 96.04

Project Clarifications

- 1 Total construction costs includes a 10% construction contingency.
- 2 We have not included any costs for building permit fees. We were notified by Charter Township on July 8, 2020 that our building permit was ready for pick up and that there was a \$0 charge due to it being for themselves.
- 3 The construction costs presented include construction costs and "soft costs" i.e. General Conditions, Profit, insurance fees.
- 4 These costs excludes demolition, removal, or disposal of hazardous or contaminated materials.
- 5 The probable cost assumes work to take place during "normal" daylight working hours, excluding weekends and holidays.
- 6 General condition costs are based on 19 weeks of total construction.

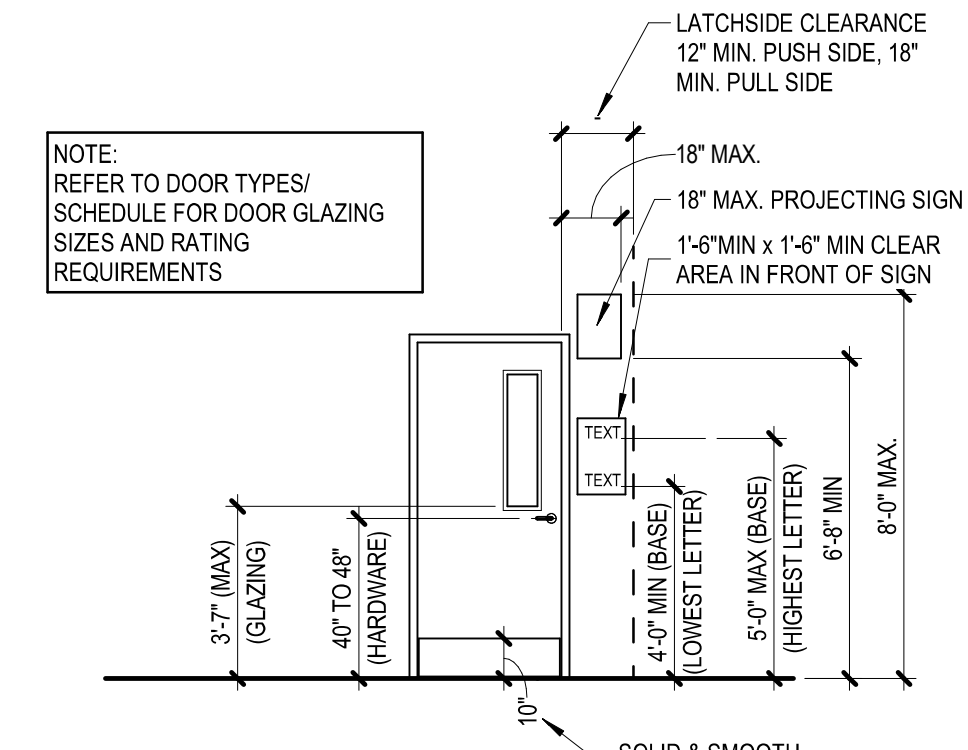
General Conditions/General Requirements

- 1 General Conditions/General Requirements are the costs incurred during a project that typically involve the daily oversight and supervision of Trade Contractors, Material Deliveries and Jobsite Safety and Security. These are typically the costs of managing and running the construction project
 On-site Superintendent time, estimated up to 40 hours per week during construction (estimated at 19 weeks)
 Project Manager time, estimated up to 8 hours per week during construction (estimated at 19 weeks)
 Administrative Assistant during construction, estimated up to 4 hours per week during construction (estimated at 19 weeks) - issuing contracts, purchase orders, etc....
 Plan Reproduction Costs - Blueprints
 Travel Expenses - fuel/mileage
 Payment and Performance Bond Costs, construction overhead and fee

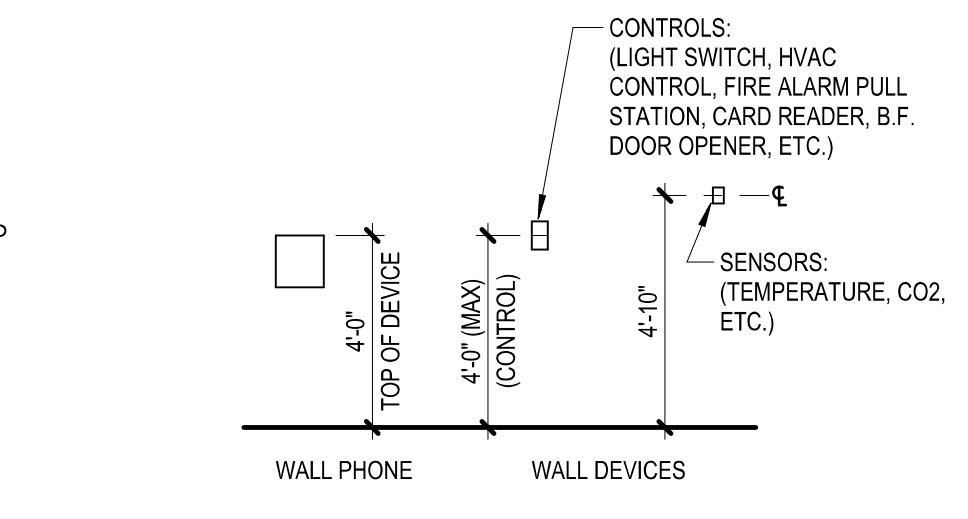
Progressive SPR has prepared the Cost Estimate for this project, and we request that it be treated as "Confidential" and not copied or distributed for any reason other than evaluation for this project. This document has been prepared by Progressive AE as an Instrument of Service, and Progressive AE shall retain all common law, statutory and other reserved rights, including the Copyright thereto.

CASCADE CHARTER TOWNSHIP TOWNSHIP HALL RENOVATION

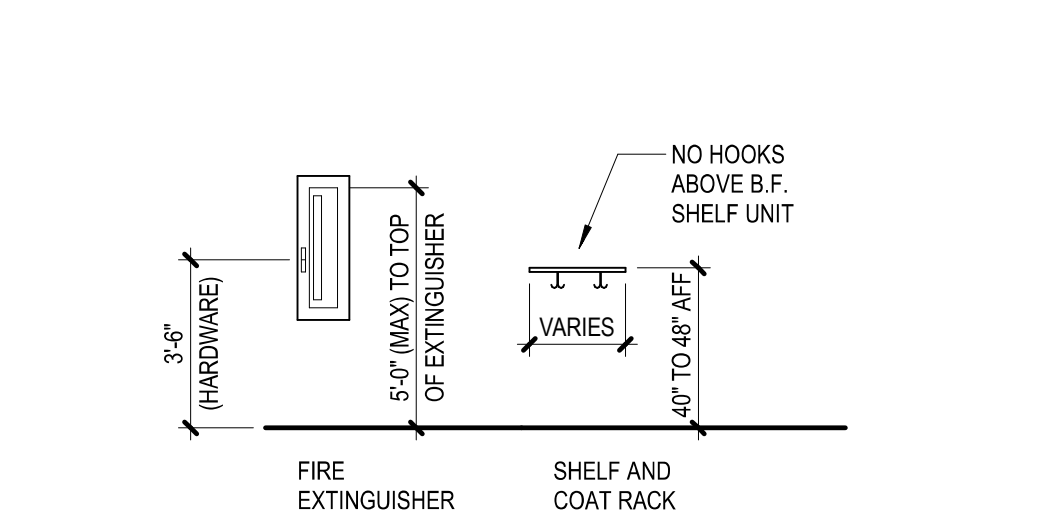
5920 TAHOE DR. SE
GRAND RAPIDS, MI 49456



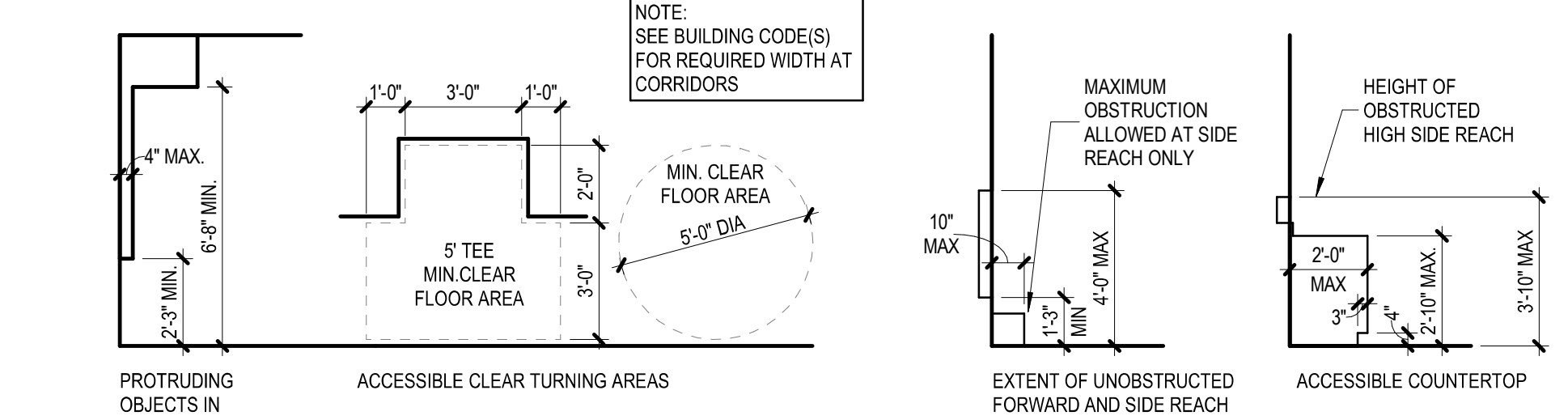
B4 DOORWAY FEATURES
1/4" = 1'-0"



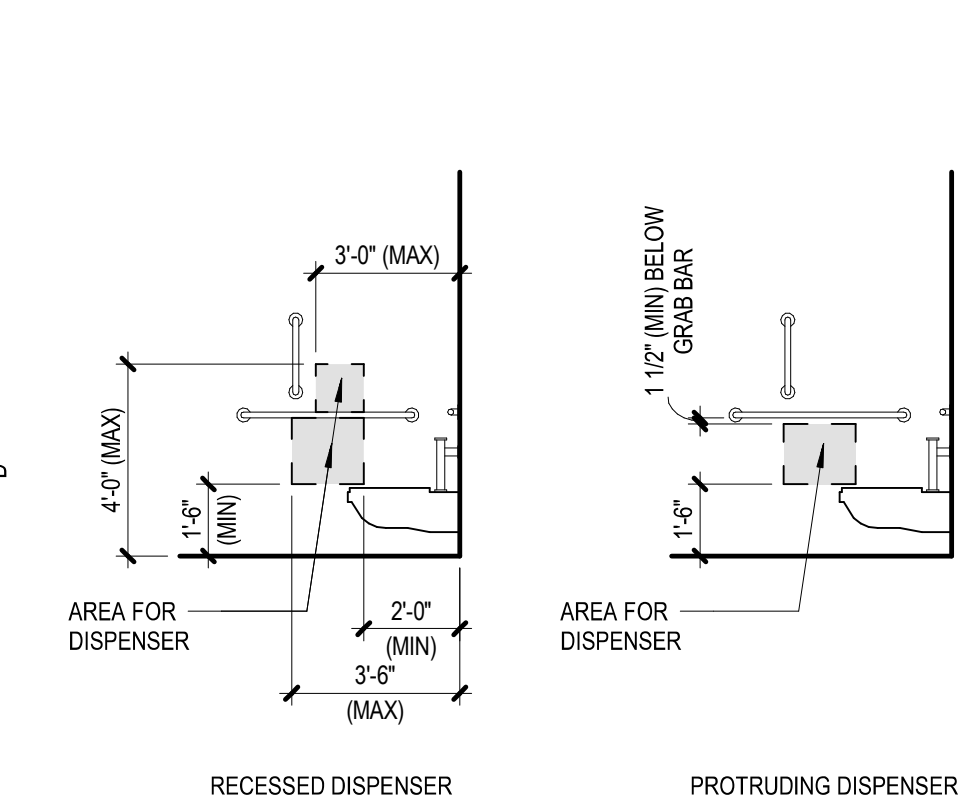
C7 MISCELLANEOUS DEVICES
1/4" = 1'-0"



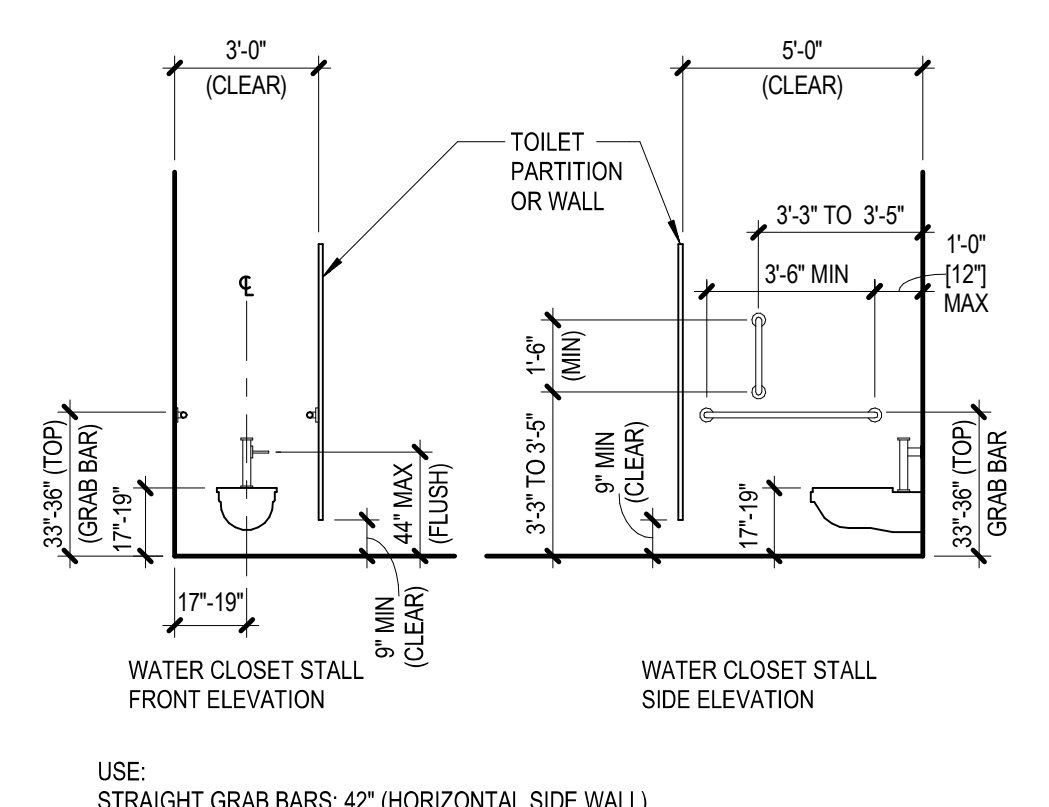
C6 MISC. ACCESSORIES
1/4" = 1'-0"



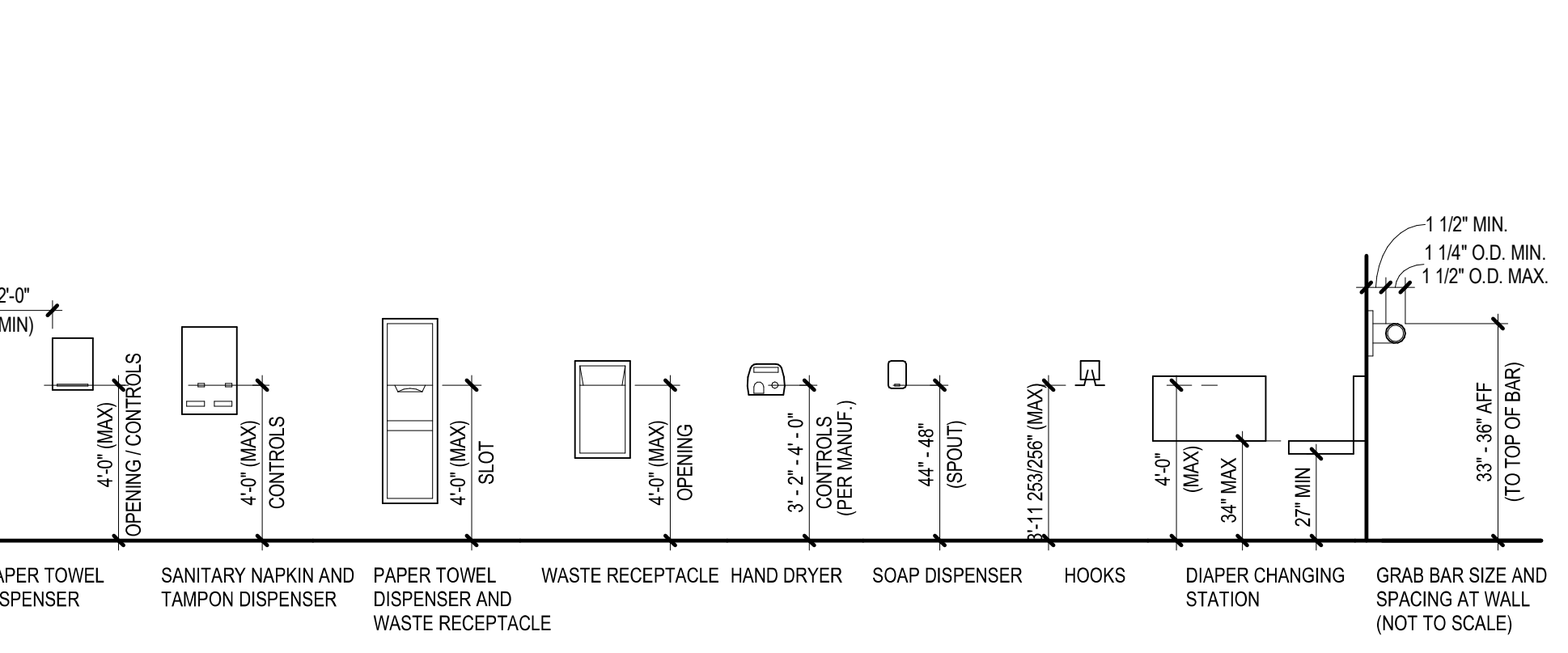
C4 ACCESSIBLE CLEARANCES
1/4" = 1'-0"



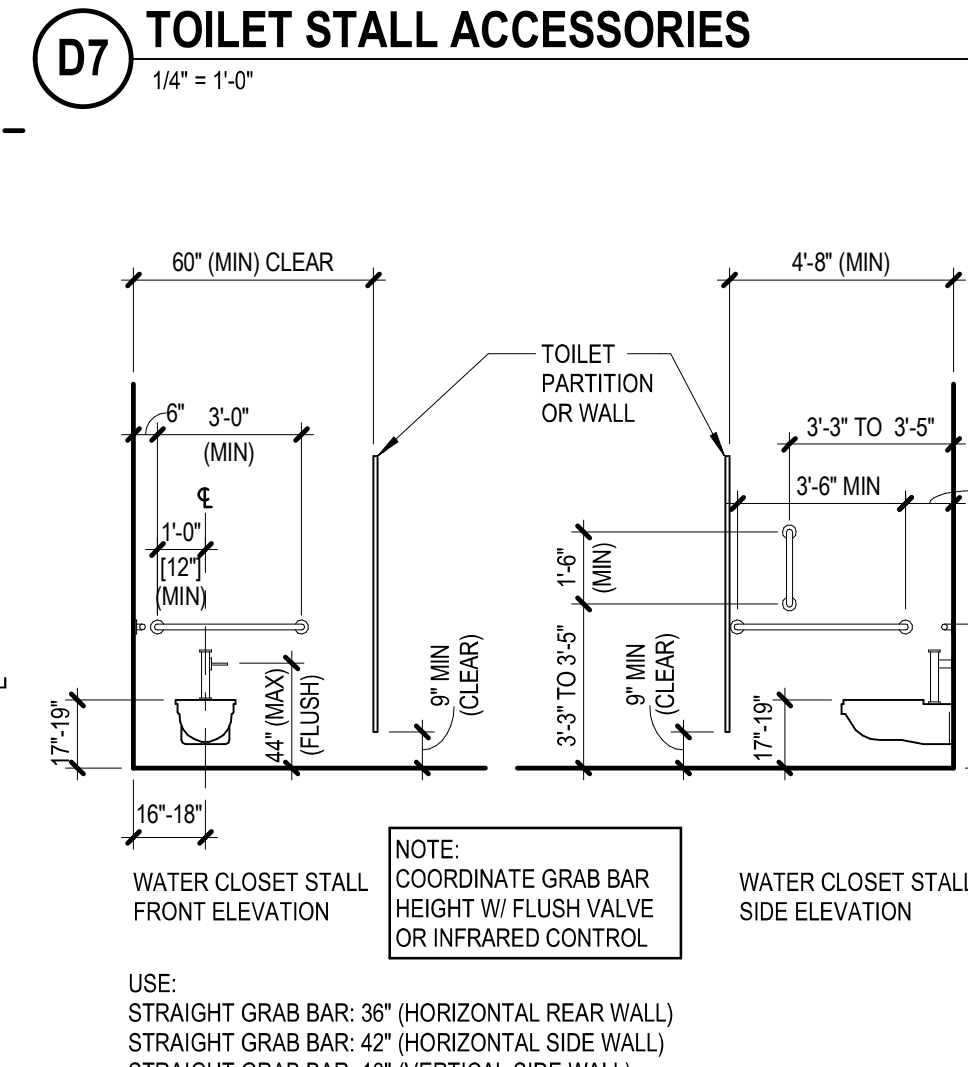
D7 TOILET STALL ACCESSORIES
1/4" = 1'-0"



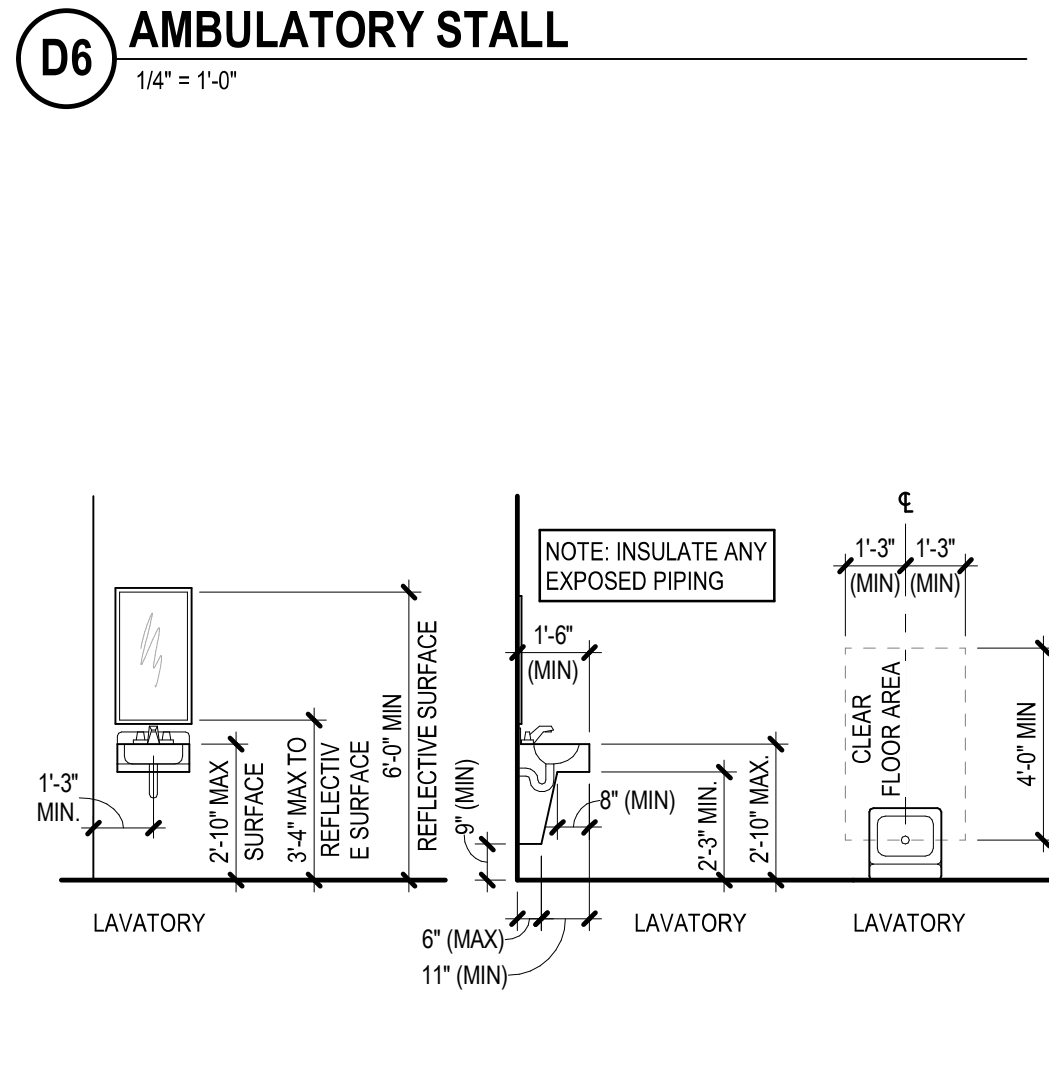
D6 AMBULATORY STALL
1/4" = 1'-0"



D4 TOILET ROOM ACCESSORIES
1/4" = 1'-0"



E7 WALL MOUNTED WATER CLOSET
1/4" = 1'-0"



E4 PLUMBING FIXTURES
1/4" = 1'-0"

PROGRESSIVE AE GENERAL ABBREVIATIONS	
A/C	AIR CONDITIONING
AV	AUDIO / VIDEO, AUDIO / VISUAL
ACC	ACCESSIBLE, ACCESSIBILITY
ACM	ALUMINUM COMPOSITE PANELS
ACP	ACOUSTICAL CEILING PANELS
ACT	ACTUAL
ADA	AMERICANS WITH DISABILITIES ACT
AF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
ARCH	ARCHITECT, ARCHITECTURAL
AUTO	AUTOMATIC
BIT	BITUMINOUS
BLDG	BUILDING
BLKG	BLOCKING
BO	BOTTOM OF
BRG	BEARING
CAB	CABINET, CABINERY
CCTV	CLOSED-CIRCUIT TELEVISION
CFI	CONTRACTOR FURNISHED / CONTRACTOR INSTALLED
CFI	CONTRACTOR FURNISHED / OWNER INSTALLED
CFM	COLD FORMED METAL FRAMING
CG	CORNER GUARD
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR, CLEARANCE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS, CONTINUATION
COORD	COORDINATE
CPT	CARPET
CR	CARD READER
CSMT	CASEMENT
CTR	CENTER
CTV	CABLE TELEVISION
D	DEEP, DEPTH
DEFS	DIRECT-APPLIED EXTERIOR FINISH SYSTEM
DEG	DEGREE(S)
DEMO	DEMOLISH, DEMOLITION
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DIAM	DIAMETER
DIA	DIAGONAL
DIM	DIMENSION, DIMENSIONAL
DIST	DISTANCE
DV	DIVISION, DIVIDE
DN	DOWN
DR	DOOR, DRIVE
DTL	DETAIL
DW	DISHWASHER
DWG	DRAWING(S)
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENG	ENGINEER
EO	EDGE OF
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE(D)
EWC	ELECTRIC WATER COOLER
EXT	EXISTING
EXTER	EXTERIOR
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FFE	FINISHED FLOOR ELEVATION
FO	FACE OF
FRT	FIRE RETARDANT TREATED
FT	FOOT, FEET
FTG	FOOTING
FURN	FURNITURE
FV	FIELD VERIFY
GA	GAGE, GAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR, GENERAL CONTRACT
GYP	GYPSUM
HD	HEAVY DUTY
HW	HARDWARE
HM	HOLLOW METAL
HORZ	HORIZONTAL
HT	HEIGHT
HVAC	HEATING / VENTILATION / AIR CONDITIONING
ID	INSIDE DIAMETER
IMP	INSULATED METAL PANEL
IN.	INCH
INS	INSULATE, INSULATION
INT	INTERIOR
J-BOX	JUNCTION BOX
LAV	LAVATORY
LEED	LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN
LH	LEFT HAND, LEFT HANDED
LT	LITE, LIGHT
LVL	LAMINATED VENEER LUMBER
LVT	LUXURY VINYL TILE
MATL	MATERIAL(S)
MAX	MAXIMUM
MCM	METAL COMPOSITE MATERIAL
MECH	MECHANICAL
MFR	MANUFACTURER, MANUFACTURED
MIN	MINIMUM
MSC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTL	METAL
NEC	NATIONAL ELECTRIC CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NOM	NOMINAL
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFICI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFICI	OWNER FURNISHED, OWNER INSTALLED
OH	OVERHEAD
OH	OVERHEAD DOOR
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
PERF	PERFORATE, PERFORATED
PERP	PERPENDICULAR
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PNT	PAINT, PAINTED
PREM	PREFINISHED
PRELIM	PRELIMINARY
QT	QUARRY TILE
QTY	QUANTITY
R	RISER
RD	ROOF DRAIN, ROAD
REF	REFRIGERATOR
REQ	REQUIRED, REQUIREMENT
REV	REVISION, REVISION
RH	RIGHT HAND, RIGHT HANDED
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RTU	ROOF TOP UNIT
SCHED	SCHEDULE
SH	SHOWER
SIM	SIMILAR
SIP	STRUCTURAL INSULATED PANEL
SOG	SLAB ON GRADE
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SQ	SQUARE
STC	SOUND TRANSMISSION COEFFICIENT
STD	STANDARD
STOR	STORAGE
STR	STRUCTURAL
T	TREAD
T&G	TONGUE AND GROOVED
TEMP	TEMPORARY
THK	THICK, THICKNESS
TO	TOP OF
TYP	TYPICAL
UC	UNDER COUNTER
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL, VERTICALLY
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WP	WORK POINT, WORKING POINT
WT	WEIGHT

PROGRESSIVE AE GENERAL SYMBOLOGY	
DRAWING TITLES	
PLAN TITLE	
DRAWING TITLE	
DRAWING SCALE	
PLAN CALLOUT / SECTION / ELEVATION TITLE	
DRAWING NUMBER	
DRAWING TITLE	
DRAWING SCALE	
DRAWING REFERENCE	
REVISION SYMBOLS	
PREVIOUS REVISION NUMBER (CLOUD HIDDEN)	
ACTIVE REVISION NUMBER (MAY NOT MATCH BULLETIN #)	
CLOUDED AREA OF REVISION	
LOCATION SYMBOLS	
BUILDING SECTION	
DIRECTION OF SECTION	
DRAWING NUMBER	
SHEET NUMBER	
WALL SECTION	
DIRECTION OF SECTION	
DRAWING NUMBER	
SHEET NUMBER	
END OF SECTION INDICATOR	
DETAIL SECTION	
DRAWING NUMBER	
SHEET NUMBER	
DIRECTION OF SECTION, END OF SECTION INDICATOR	
EXTERIOR ELEVATION	
DIRECTION OF ELEVATION	
DRAWING NUMBER	
SHEET NUMBER	
INTERIOR ELEVATION	
DETAIL NUMBER(S)	
DRAWING NUMBER	
SHEET NUMBER	
DIRECTION OF ELEVATION	
CALLOUT REFERENCE	
DRAWING NUMBER	
SHEET NUMBER	
REFERENCE (SIM, OPP)	
DRAWING EXTENTS	
MATCHLINE	
MATCHLINE	
MATCHLINE	
DRAWING NUMBER	
3D VIEW REFERENCE	
DRAWING NUMBER	
SHEET NUMBER	
DRAWING REFERENCE FOR CONTINUATION	
DATUM SYMBOLS	
NEW COLUMN GRID	
LEVEL	
FLOOR LEVEL	
HEIGHT	
EXISTING COLUMN GRID	
SPOT ELEVATION	
100' - 0"	
TAGS	
ROOM TAG	
NAME	
NUMBER	
AREA	
DOOR TAG	
MARK	
RESTROOM ACCESSORY TAG	
MARK	
WINDOW TAG	
MARK	
CEILING TAG	
NOTE (AS REQUIRED)	
HEIGHT AFF	
SYMBOLS	
BREAK LINE	

DRAWING INDEX	
GENERAL	TITLE DRAWING
TD001	CODE COMPLIANCE PLAN
G101	
CIVIL	SITE PLAN
C100	
STRUCTURAL	STRUCTURAL PLANS
S101	
ARCHITECTURAL	DEMOLITION PLAN
AD101	DEMOLITION RCP
A101	FLOOR PLAN
A111	REFLECTED CEILING PLAN
A121	FINISH PLAN
A131	FURNITURE AND EQUIPMENT PLAN
A401	ENLARGED PLANS AND DETAILS
A411	INTERIOR ELEVATIONS
A601	DOOR SCHEDULE, ELEVATIONS, AND DETAILS
PLUMBING	GENERAL PLUMBING INFORMATION
P001	FIRST FLOOR PLUMBING PLAN
P101	
MECHANICAL	GENERAL MECHANICAL INFORMATION
M001	FIRST FLOOR HVAC PLAN
MP101	FIRST FLOOR HYDRONICS PLAN
ELECTRICAL	ELECTRICAL NOTES AND ABBREVIATIONS
ES01	FIRST FLOOR DEMOLITION PLAN
EP101	FIRST FLOOR POWER AND SYSTEMS PLAN
EL101	FIRST FLOOR LIGHTING PLAN

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CODE SUMMARY

- APPLICABLE CODES:
- BUILDING CODES:
 - MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS (MRCEB) 2015
 - MICHIGAN BUILDING CODE (MBC) 2015
 - MICHIGAN BARRIER FREE DESIGN LAW P.A. 1 OF 1966 AND 2009 (ICC/ANSI A117.1)
 - MECHANICAL CODES:
 - MICHIGAN MECHANICAL CODE (MMC) 2015
 - MICHIGAN PLUMBING CODE (MPC) 2015
 - ELECTRICAL CODE:
 - MICHIGAN ELECTRICAL CODE 2017 (MICHIGAN ELECTRICAL CODE PART 8 INCORPORATING NATIONAL ELECTRICAL CODE 2017)
 - EXISTING BUILDING DATA:
 - USE: OFFICE BUILDING; USE GROUP B (MBC 304.1) - NO CHANGE TO EXISTING USE
 - CONSTRUCTION: TYPE III-B (MBC 602.2) - EXISTING TO REMAIN
 - CLASSIFICATION OF WORK: ALTERATION - LEVEL 3 (MRCEB 504.1)
 - AUTOMATIC FIRE SUPPRESSION:
 - FACILITY NOT SPRINKLERED (MBC 903.3.1.1)
 - FIRE EXTINGUISHERS: REQUIRED (MBC 906.1, NO. 1)
 - BUILDING HEIGHT: NO CHANGE TO BUILDING HEIGHT
 - BUILDING AREA: NO CHANGE TO BUILDING AREA
 - WORK AREA PERCENTAGE: >50%
 - MIN TYPE 3B CONSTRUCTION REQUIREMENTS (MBC T-401.1, UNO):
 - PRIMARY STRUCTURAL FRAME: 0-HR
 - EXTERIOR BEARING WALLS: 2-HR
 - INTERIOR BEARING WALLS: 0-HR
 - EXTERIOR NON-BEARING WALLS: 0-HR
 - INTERIOR NON-BEARING WALLS: 0-HR
 - FLOOR CONSTRUCTION: 0-HR
 - ROOF CONSTRUCTION: 0-HR
 - OCCUPANT LOAD FOR EGRESS PURPOSES (MBC T-1004.1.2):
 - USE AND OCCUPANCY: EXISTING SINGLE OCCUPANT FACILITY (NO CHANGE)
 - BUSINESS: 100 GSF/100 (NO CHANGE)
 - OCCUPANT LOAD: 124
 - MEANS OF EGRESS REQUIREMENTS:
 - MAX TRAVEL DISTANCE: 200 FT. (MBC T-1017.2)
 - MAX COMMON PATH OF TRAVEL: 75 FT. (MBC T-1006.2.1)
 - EGRESS WIDTH (PER OCCUPANT):
 - STAIR: 0.2' (MBC 1005.3.1)
 - OTHER COMPONENTS - DOORS: 0.2' (MBC 1005.3.2)
 - MIN STAIR WIDTH: 44" (MBC 1009.3)
 - MIN CORRIDOR WIDTHS: 44" (MBC T-1020.2)
 - MAX DEAD END CORRIDOR: 20 FT. (MBC 1020.4)
 - REMOVEDNESS OF EXITS: 1/2 DIAGONAL (MBC 1007.1.1)
 - PLUMBING FIXTURE REQUIREMENTS (MPC T-403.1):
 - PLUMBING FIXTURES: NO CHANGE IN OCCUPANT LOAD

CODE LEGEND

- EXIT/EXIT ACCESS WITH CAPACITY SERVED
 - DIRECTION OF EGRESS INCLUDING SECONDARY EXIT/EXIT ACCESS
 - OCCUPANT LOAD OF SPACE AND BASIS FOR CALCULATION
XXXXXX SF
 - DOOR RATING
 - REQUIRED (CLEAR) EGRESS WIDTH (32" MIN)
PROVIDED (CLEAR) EGRESS WIDTH
 - FIRE EXTINGUISHER LOCATION (RELOCATE EXISTING)
 - PATH OF TRAVEL
 - DASHED LINE INDICATES EXTENT OF BUSINESS OCCUPANT LOAD (GROSS SF)/100
- NOTE: PROVIDE IDENTIFICATION FOR RATED/SMOKE TIGHT WALLS AS REQUIRED BY MBC 703.7 IN ACCESSIBLE CONCEALED SPACES. REFER TO SPECIFICATION SECTION 07 0533 FOR ADDITIONAL INFORMATION.

FIRST FLOOR CODE COMPLIANCE PLAN

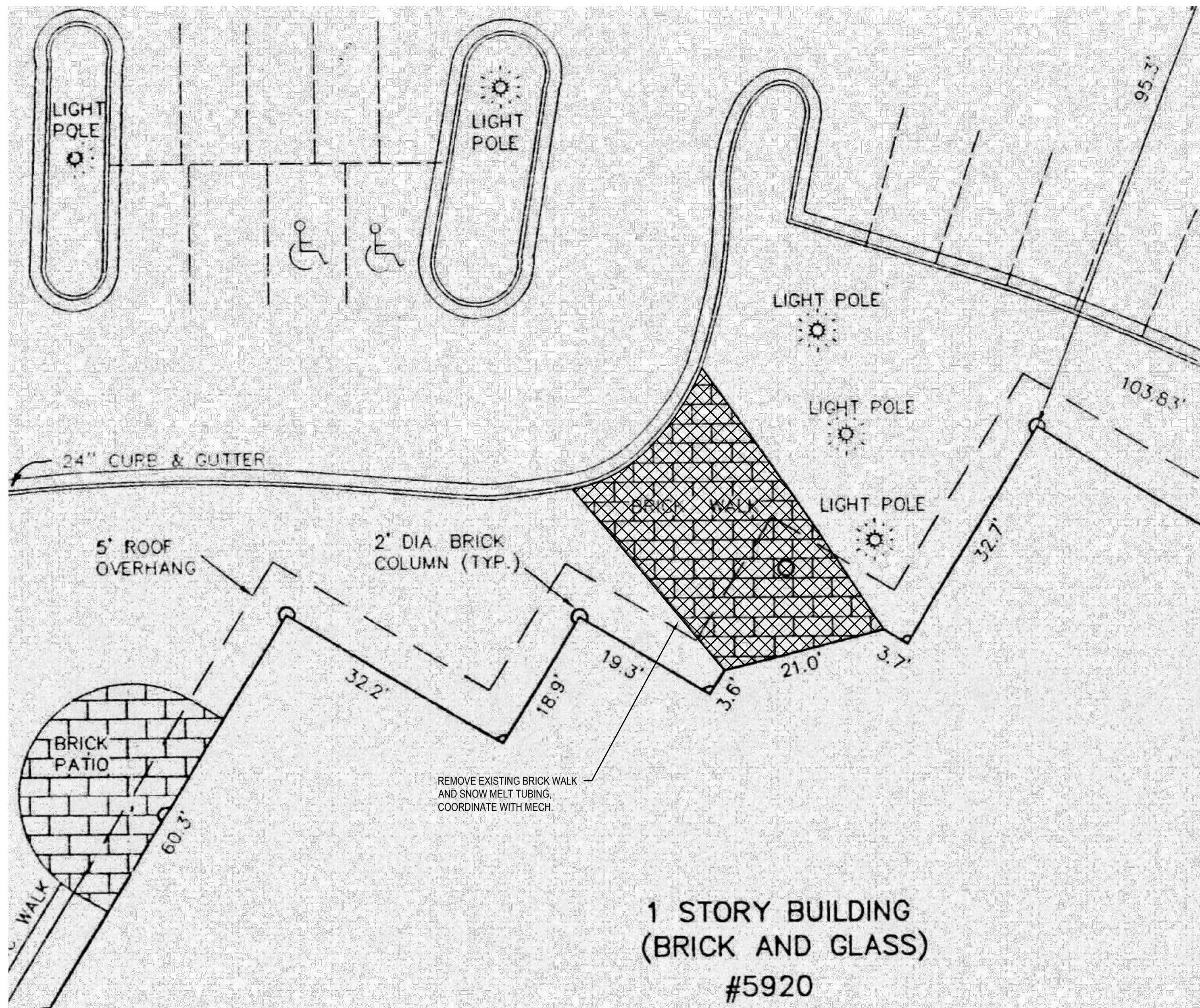
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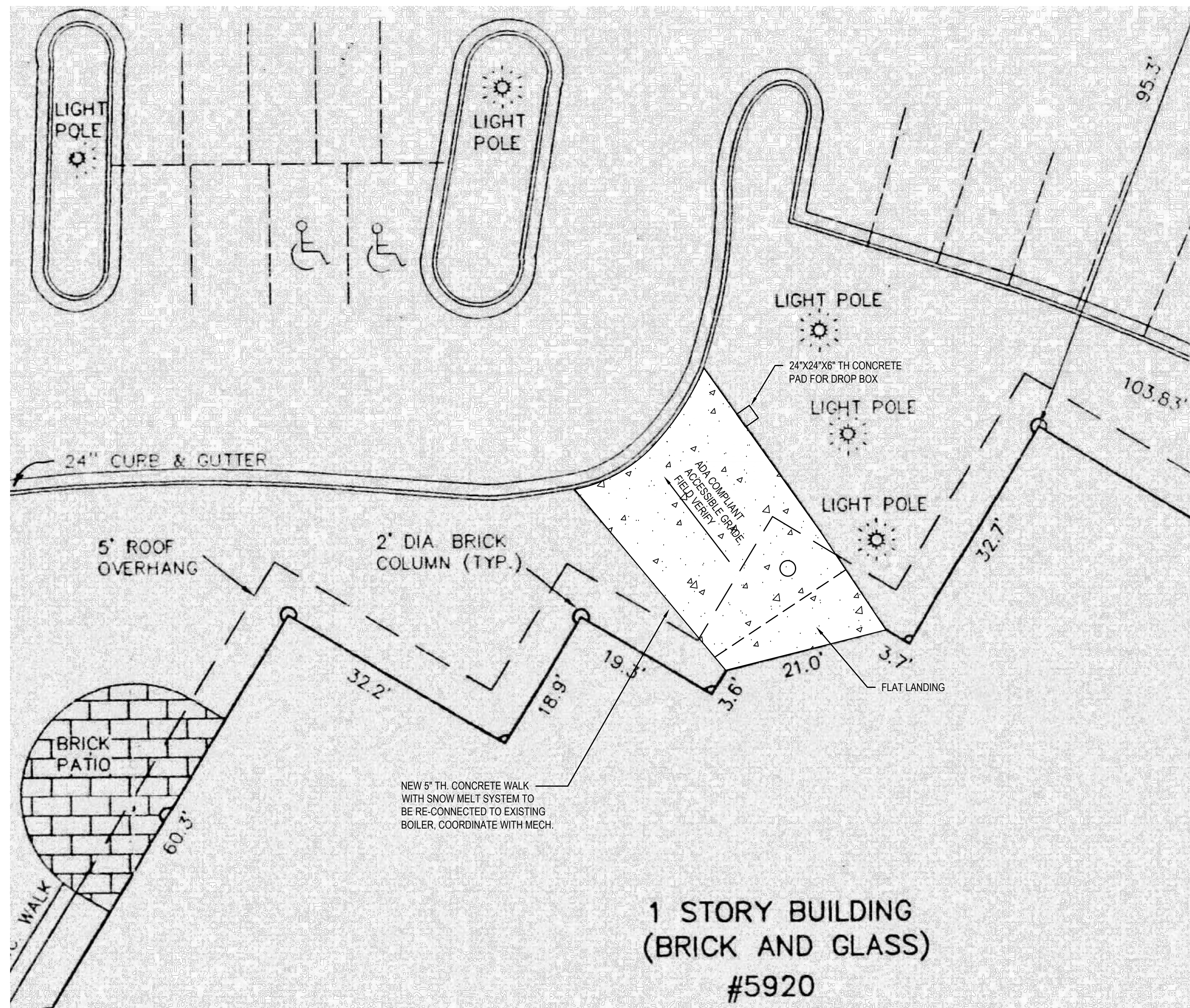
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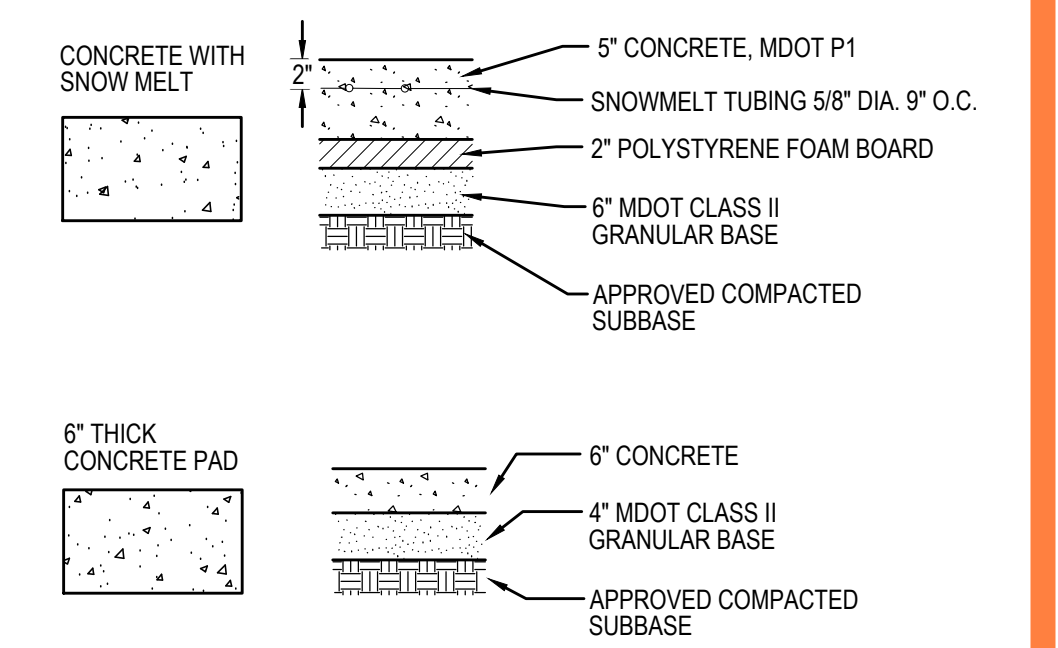


1 SITE DEMOLITION PLAN
 1"=10'
 0 10'



1 SITE LAYOUT PLAN
 1"=10'
 0 10'

PAVEMENT LEGEND



GENERAL NOTES

- ALL MATERIAL SPECIFICATIONS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH ALL APPLICABLE MUNICIPAL AGENCIES.
- CONTRACTOR'S MANNER AND METHOD OF INGRESS AND EGRESS WITH RESPECT TO THE PROJECT AREAS SHALL IN NO WAY PROHIBIT OR DISTURB NORMAL PEDESTRIAN OR VEHICULAR TRAFFIC IN THE VICINITY AND IS SUBJECT TO REGULATION AND WRITTEN APPROVAL OF APPROPRIATE GOVERNING AGENCIES.

SITE CLEARING AND DEMOLITION NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE DEMOLITION AND CLEARING REQUIREMENTS.
- NO BURYING OF CLEARED OR DEMOLITION MATERIAL SHALL BE ALLOWED ON SITE.
- REMOVE SIDEWALK AS INDICATED ON THE DRAWINGS. ALSO, REMOVE ALL DEBRIS FROM WITHIN CONSTRUCTION LIMITS ON SITE. ALL DEMOLITION MATERIALS SHALL BE REMOVED FROM THE SITE AND, UNLESS OTHERWISE NOTED, DISPOSED OF IN A MANNER ACCEPTABLE TO CASCADE TOWNSHIP.
- THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL PERMITS AND FEES FOR THIS WORK.
- CONTRACTOR TO CALL 811 AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO CONFIRM LOCATION OF EXISTING UTILITIES.
- CONTRACTOR MUST RESTORE AND REPAIR ANY EXISTING CONDITIONS DISTURBED BY CONSTRUCTION TO CONDITION EQUAL TO OR BETTER THAN BEFORE CONSTRUCTION BEGAN. PATCH PAVEMENT IN KIND IF REQUIRED.
- SAWCUT FULL DEPTH ALL EDGES OF PAVEMENT TO BE REMOVED.
- ALL GROUND AREAS DISTURBED BY CONSTRUCTION TO BE TOPSOILED AND SEEDDED PER THE SITE LANDSCAPE PLAN UNLESS SHOWN OTHERWISE ON PLANS.

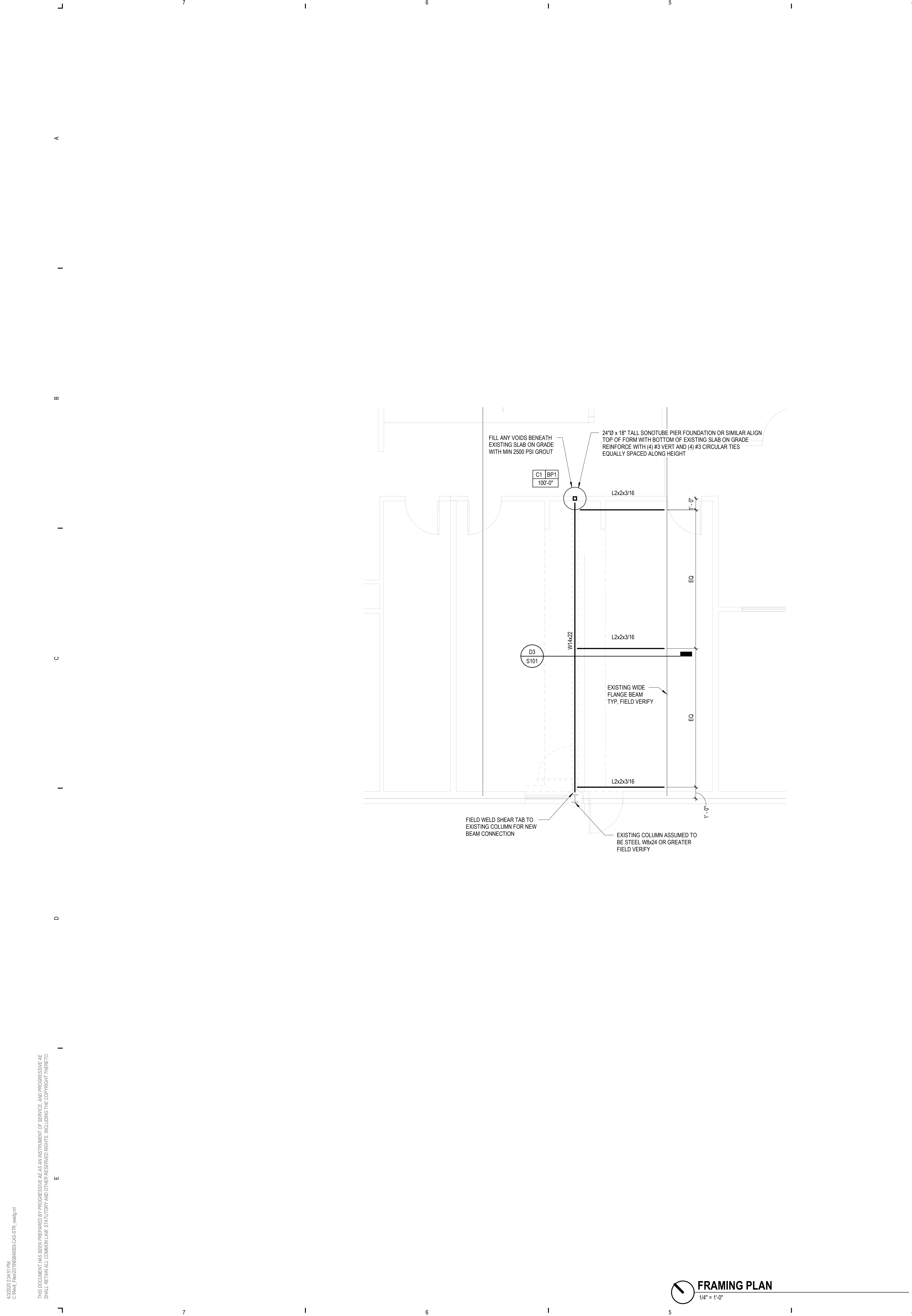
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TOWNSHIP HALL RENOVATION

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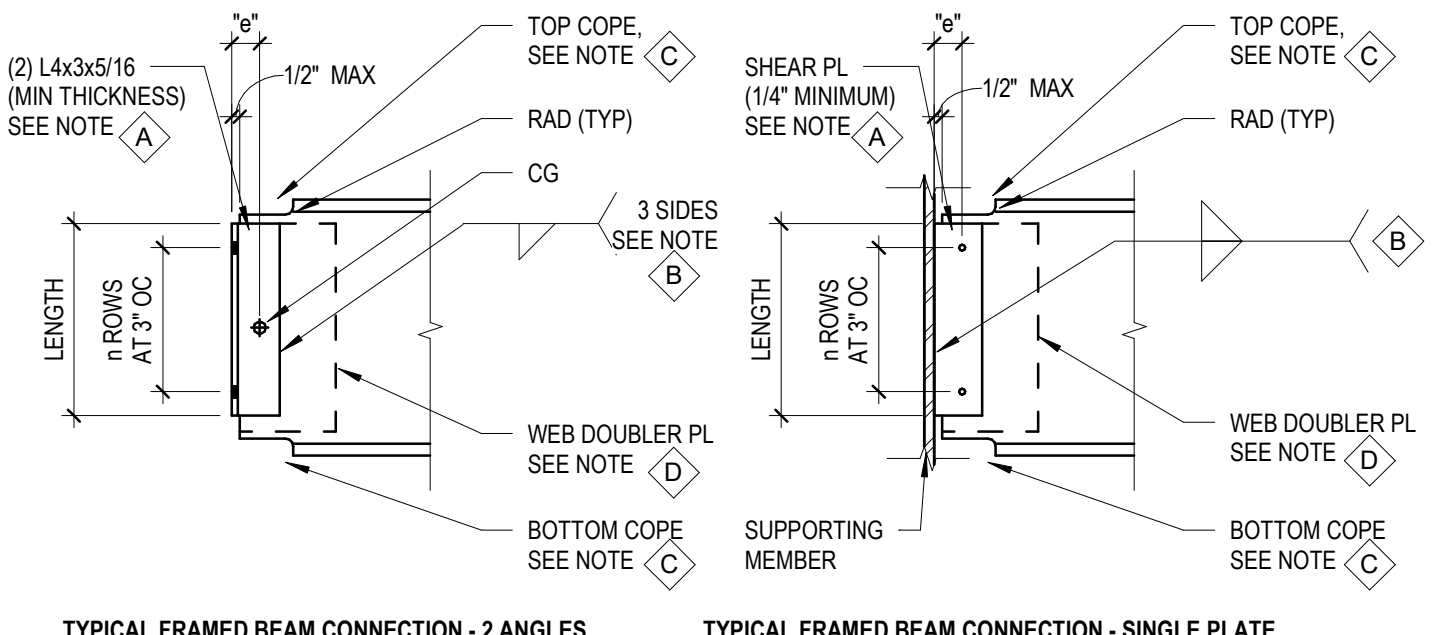
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 DRAWN BY: DCM
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FRAMING PLAN
1/4" = 1'-0"



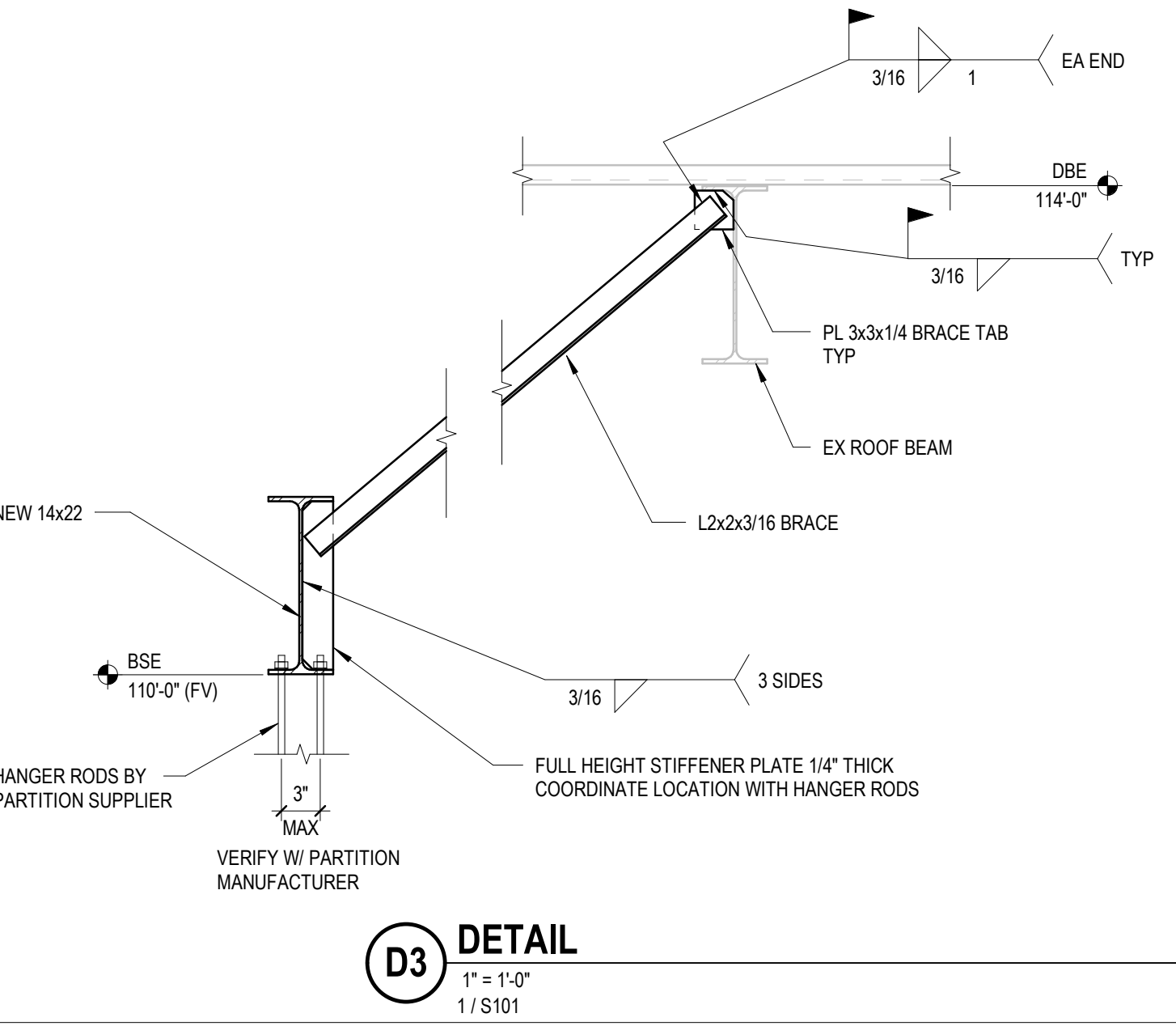
- NOTES:**
- CONNECTIONS ABOVE ARE FOR PICTORIAL REPRESENTATION ONLY AND MAY NOT BE INCLUSIVE. WEB EXTENSION PLATES, STIFFENERS, ETC SHALL BE ADDED TO FACILITATE CONNECTION LENGTH REQUIRED AT NO ADDITIONAL COST.
 - DESIGN BEAM CONNECTIONS FOR ADDITIONAL STRESSES DUE TO AXIAL LOAD TRANSFER (PRYING ACTION) WHERE INDICATED IN PLAN.
 - CONNECTIONS ABOVE SHALL BE DESIGNED TO DEVELOP A MIN END REACTION OF 12 KIPS.
 - CONNECTIONS SHALL BE DESIGNED SUCH THAT ALL ADDITIONAL STRESSES DUE TO ECCENTRICITY SHALL BE DEVELOPED BY THE CONNECTION AND NOT INDUCE ANY ADDITIONAL STRESSES INTO SUPPORTING MEMBERS.
 - IN ADDITION TO THE REACTION INDICATED, WEB BOLTS MUST BE DESIGNED FOR THE MOMENT IN THE BOLT GROUP CREATED AS A RESULT OF THE FORCE TRANSFER FROM THE CONNECTING MEMBER TO THE SUPPORTING MEMBER.
- A** THICKNESS AND LENGTH OF ANGLES OR SHEAR PLATE AND NUMBER OF BOLTS SHALL BE DESIGNED FOR THE REACTION INDICATED USING THE CORRESPONDING ECCENTRIC "E" DISTANCE CALCULATED FOR THE CONNECTION LAYOUT AND VERIFYING ALL APPLICABLE LIMIT STATES.
- B** LENGTH AND SIZE OF WELD SHALL BE DESIGNED FOR THE REACTION INDICATED INCLUDING ANY ADDITIONAL STRESSMENTS CREATED IN THE LOAD TRANSFER FROM THE CONNECTING MEMBER TO THE SUPPORTING MEMBER.
- C** BEAM COPES SHALL BE PROVIDED AS NECESSARY TO FACILITATE CONNECTION FIT-UP. CAPACITIES OF MEMBERS W/ COPES (TOP OR TOP & BOTTOM) SHALL BE ANALYZED TO DETERMINE THE CRITICAL LIMIT STATE DUE TO THE REDUCED SECTION INCLUDING BUT NOT LIMITED TO BUCKLING OR YIELDING OF THE WEB.
- D** WEB DOUBLER PLATES OR STIFFENERS (NOT SHOWN) SHALL BE PROVIDED AS NECESSARY TO DEVELOP THE REACTION INDICATED AND FOR REGIONS OF OVER-STRESS AS DESCRIBED IN NOTE **C**.

B3 TYPICAL STEEL CONNECTIONS
1" = 1'-0"

CONCRETE MATERIALS AND MIX DESIGN SCHEDULE					
STRUCTURAL ELEMENT	ACI EXPOSURE CLASS	MAX W/C RATIO	f' _c (PSI)	AIR-ENTRAINMENT REQUIRED (SEE NOTE 3)	REMARKS
INTERIOR SLAB ON GRADE	F0	0.5	4000	NO	-
INTERIOR FOOTINGS	F0	0.5	4000	NO	-

NOTES:

- FINAL MIX DESIGN TO BE BY THE CONCRETE SUPPLIER FOLLOWING THIS TABLE AS A MINIMUM.
- SEE REINFORCED CONCRETE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- SEE ACI 318 FOR AIR ENTRAINMENT RECOMMENDATIONS BASED ON EXPOSURE TYPE AND MAXIMUM AGGREGATE SIZE.



D3 DETAIL
1" = 1'-0"
1/1 S101

COLUMN SCHEDULE		
MARK	SIZE	COMMENTS
C1	HSS3-12x3-1/2x1/4	

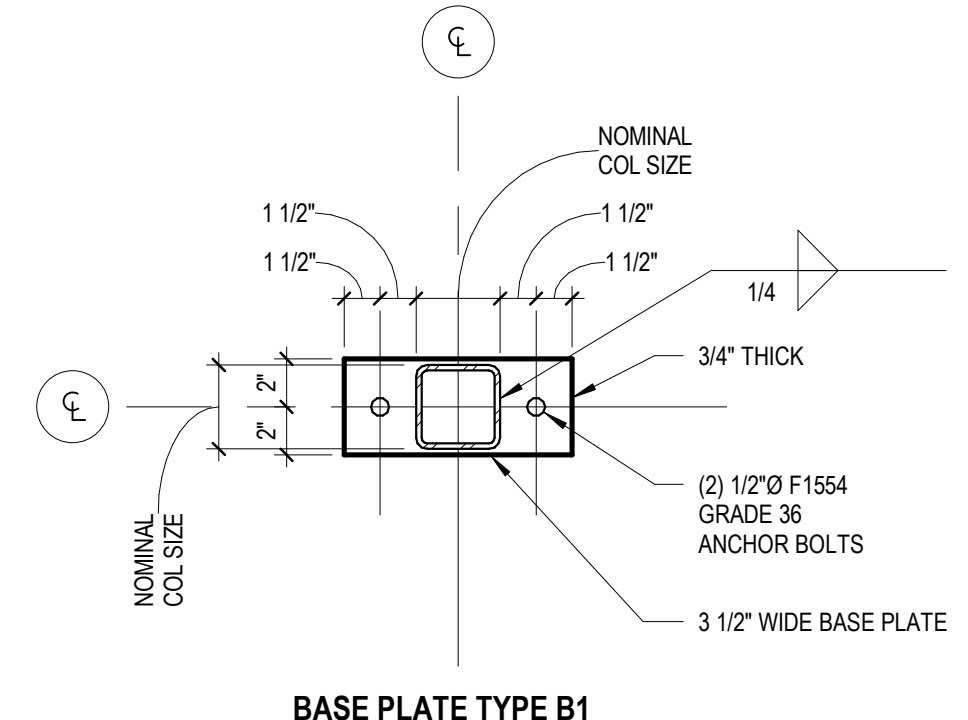
- GENERAL NOTES**
- THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS AND MATERIALS INDICATED ON THE DRAWINGS AND FOR THE LIVE LOADS INDICATED IN THE DESIGN CRITERIA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGING, BRACING, SHEETING AND SHORING, ETC.
 - COORDINATE THESE DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL DRAWINGS.
 - ANY ALTERATION TO A STRUCTURAL ITEM OR MEMBER SHALL BE APPROVED BY THE ENGINEER OF RECORD.

- FOUNDATION NOTES**
- PRIOR TO THE PLACEMENT OF CONCRETE FOR THE BUILDING FOUNDATIONS, THE CONTRACTOR SHALL EMPLOY THE SERVICES OF A CERTIFIED TESTING AGENCY TO VERIFY THE SOIL REQUIREMENTS OUTLINED IN THE PLANS AND SPECIFICATIONS. VALUES THAT DO NOT MEET OR EXCEED THOSE INDICATED SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD FOR RESOLUTION.
 - NO FOUNDATIONS OR SLABS SHALL BE POURED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE, OR LOOSE MATERIAL.

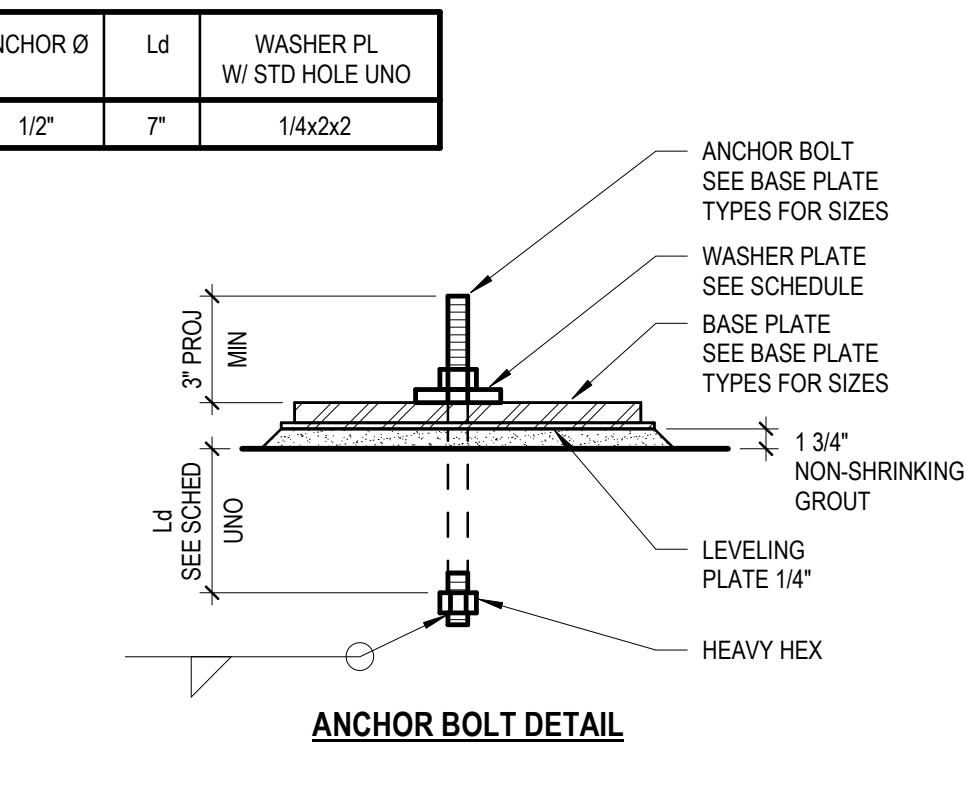
- REINFORCED CONCRETE**
- CONCRETE SHALL HAVE THE UNIT WEIGHT AND THE MINIMUM COMPRESSIVE STRENGTHS (f'_c) AT 28 DAYS AS SHOWN ON THE CONCRETE MATERIALS SCHEDULE. THE CONTRACTOR SHALL SUBMIT MIX DESIGNS WITH SUBSTANTIATING STRENGTH TEST DATA FOR REVIEW FOR EACH MIX DESIGN USED PER SPECIFICATION REQUIREMENTS PRIOR TO CONCRETE PLACEMENT.
 - NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.
 - MIXING, TRANSPORTING AND PLACING OF CONCRETE SHALL CONFORM TO ACI-301, LATEST EDITION.
 - ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI-318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND CONTRACT SPECIFICATIONS. WHEN THERE IS A CONFLICT BETWEEN ACI AND SPECIFICATIONS, THE MORE STRINGENT SHALL GOVERN.
 - CONCRETE REINFORCEMENT BARS SHALL BE DEFORMED AND CONFORM TO ASTM A615, GRADE 60. REINFORCING BARS SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT, UNLESS INDICATED ON THE CONTRACT DOCUMENTS. ALL LAPS SHALL BE TENSION SPLICES UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL

- STEEL MATERIALS SCHEDULE**
- | STRUCTURAL ELEMENT | MINIMUM YIELD STRENGTH F _y (ksi) | REMARKS |
|---|---|---------------------|
| BEAMS, GIRDERS, ALL W-SHAPES | 50 | ASTM A572 ASTM A992 |
| PLATES, ANGLES, CHANNELS, ALL OTHERS | 36 | ASTM A36 |
| TYPICAL ANCHOR BOLTS | 36 | ASTM F1554 GRADE 36 |
| HOLLOW STRUCTURAL SECTIONS (HSS) - SQUARE & RECTANGULAR | 50 | ASTM A500 GRADE C |
- STRUCTURAL STEEL ROLLED SHAPES AND PLATES SHALL CONFORM TO THE MATERIALS SCHEDULE. DIMENSIONS AND PROPERTIES SHALL BE IN ACCORDANCE TO ASTM A6.
 - ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GRADE 36, UNLESS NOTED OTHERWISE.
 - CONNECTION BOLTS FOR STRUCTURAL STEEL MEMBERS SHALL BE 3/4" A325-N, UNLESS NOTED OTHERWISE, AND SHALL CONFORM TO ASTM A325. NUTS SHALL CONFORM TO ASTM A983. WASHERS SHALL CONFORM TO ASTM F436. CONNECTION BOLTS SHALL HAVE A HARDENED WASHER PLACED UNDER THE ELEMENT TO BE TIGHTENED.
 - DETAILING OF STRUCTURAL STEEL CONNECTIONS MUST BE CONSISTENT WITH RECOGNIZED, PUBLISHED METHODS SUCH AS IN THE AISC MANUAL OF STEEL CONSTRUCTION, OR THE AISC DETAILING FOR STEEL CONSTRUCTION MANUAL.
 - STANDARD FRAMING CONNECTIONS SHALL BE DETAILED BY THE CONTRACTOR IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION. CONNECTIONS SHALL BE DESIGNED TO DEVELOP A MINIMUM UNFACTORED END REACTION OF 12.0 KIPS.
 - ALL MEMBERS AND CONNECTIONS ON THE CONTRACT DRAWINGS AND CONNECTIONS FOR ANY PORTION OF THE STRUCTURE NOT SHOWN SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER, LICENSED IN THE PROJECT STATE AND SUBMITTED FOR REVIEW AND SHOWN ON THE SHOP DRAWINGS.
 - STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS AISC 360-10, AND THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AISC 303-10.
 - WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE AWS D1.1. ELECTRODES FOR SHOP AND FIELD WELDS SHALL BE CLASS E70XX. ALL WELDING SHALL BE DONE BY QUALIFIED, CERTIFIED WELDERS PER THE ABOVE STANDARD.
 - ALL WELDS NOT INDICATED SHALL BE A MINIMUM OF 1/4" ALL AROUND UNLESS NOTED OTHERWISE.
 - THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.



BASE PLATE TYPE B1



ANCHOR BOLT DETAIL

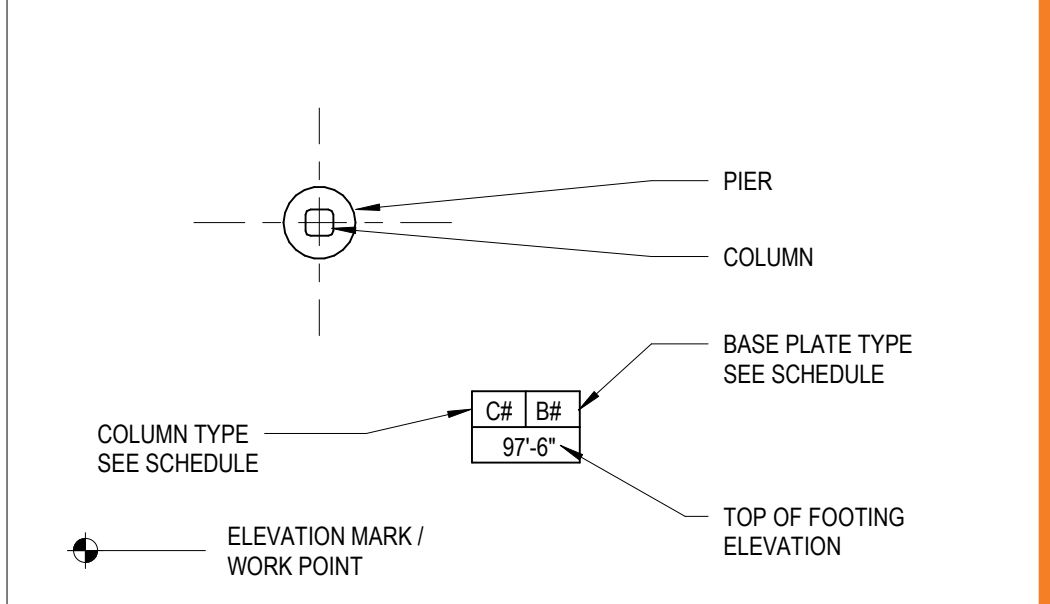
C2 TYPICAL ANCHOR BOLT DETAIL
1" = 1'-0"

STRUCTURAL DESIGN CRITERIA	
1. ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE MICHIGAN BUILDING CODE, 2015 EDITION.	
2. DEAD LOAD MISC	25 PLF
3. LIVE LOAD OPERABLE PARTITION	10 PSF
4. WIND LOAD INTERIOR HORIZONTAL LOAD	5 PSF
5. SEISMIC LOAD SEISMIC RISK CATEGORY SDS SD1 SITE CLASS IMPORTANCE FACTOR DESIGN CATEGORY RESPONSE MOD FACTOR ANALYSIS PROCEDURE	II 0.077 0.070 D 1.00 B 2.5 EQUIVALENT LATERAL FORCE
6. SOIL ASSUMED ALLOWABLE BEARING	2000 PSF

EXISTING BUILDING/DEMOLITION NOTES

- STRUCTURAL LAYOUT INCLUDING DIMENSIONS, ELEVATIONS AND STRUCTURAL SIZES FOR THE EXISTING BUILDING WERE ASSUMED BASED ON LIMITED SITE PHOTOS AND ARCHITECTURAL PLANS. EXISTING CONDITIONS MUST BE INVESTIGATED BY ENGINEER OF RECORD TO CONFIRM PROPOSED DESIGN AND SHALL BE VERIFIED BY CONTRACTOR. IF ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND THE AS-BUILT CONDITIONS ARE DISCOVERED, NOTIFY THE ENGINEER OF RECORD IMMEDIATELY.
- COORDINATE DEMOLITION OF ALL STRUCTURE WITH THESE DRAWINGS, ARCHITECTURAL, DEMOLITION, AND EXISTING DRAWINGS.
- CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING BUILDING DURING NEW CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY OR PERMANENT SHORING OF EXISTING STRUCTURE DURING CONSTRUCTION.
- FOR EXISTING BUILDINGS CONSTRUCTED PRIOR TO 1923, EXISTING STRUCTURAL STEEL SHALL BE TESTED FOR GRADE AND WELDABILITY PRIOR TO ANY FIELD WELDING TAKING PLACE. IF TEST DEMONSTRATES STEEL IS NOT ACCEPTABLE, CONTACT THE ENGINEER OF RECORD FOR RESOLUTION.

STRUCTURAL SYMBOL LEGEND



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PROFESSIONAL: GOR
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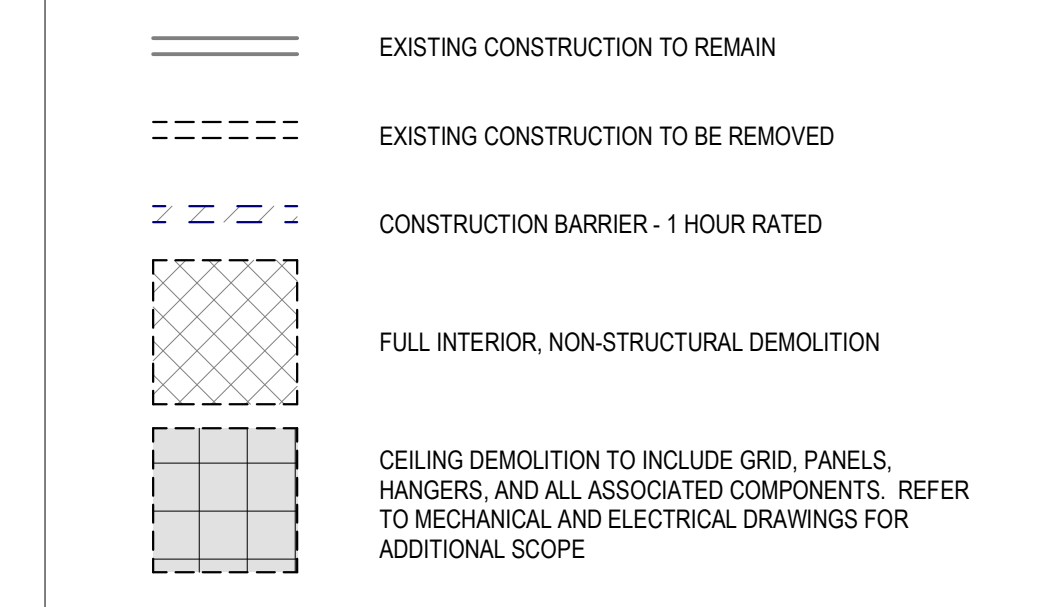
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STRUCTURAL PLANS
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DEMOLITION NOTES AND LEGEND

- EXISTING BUILDING CONDITION BASED ON OWNER PROVIDED DRAWINGS AND LIMITED FIELD VERIFICATION. VERIFY EXACT CONDITIONS IN FIELD. SHOULD DISCREPANCIES OCCUR, NOTIFY ARCHITECT FOR CLARIFICATIONS.
- BEGINNING WORK INDICATES THAT THE CONTRACTOR HAS ACCEPTED AND VERIFIED EXISTING CONDITIONS.
- COORDINATE DEMOLITION WITH ALL CONTRACTORS WORKING IN AREAS BEING RENOVATED.
- DURING DEMOLITION, PROTECT ALL ADJACENT CONSTRUCTION TO REMAIN.
- ANY ASBESTOS CONTAINING MATERIALS THAT ARE ENCOUNTERED ARE TO BE REMOVED BY THE OWNER.
- REFER TO CIVIL, STRUCTURAL, MECHANICAL, AND ELECTRICAL FOR ITEMS TO BE REMOVED NOT SHOWN HERE.
- COORDINATE THE RETURN AND STORAGE OF ALL ITEMS DESIGNATED AS SALVAGE WITH OWNER.
- PROVIDE TEMPORARY SHORING AND/OR STAGING OF THE DEMOLITION WORK.
- MANY OF THE MASONRY WALLS OF THIS BUILDING ARE LOAD-BEARING. COORDINATE DEMOLITION OF ALL WALLS OR PORTIONS OF WALLS FOR NEW OPENINGS WITH STRUCTURAL DOCUMENTS AND EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR SHORING ALL STRUCTURE SUPPORTED BY BEARING WALLS PRIOR TO REMOVAL.
- COORDINATE CONSTRUCTION BARRIER LOCATIONS, NOISY DEMOLITION / CONSTRUCTION, AND WORK NOTED "INTERMITTENT" WITH OWNER.
- HATCHED AREAS OF FULL NON-STRUCTURAL DEMOLITION (AS INDICATED BELOW) REMOVE ALL WALLS, DOORS, FLOORING, CEILING, FIXTURES, MILLWORK, EQUIPMENT, ETC. UNLESS NOTED OTHERWISE. OWNER TO REVIEW SALVAGEABLE ITEMS FOR POTENTIAL RE-USE.



DEMOLITION PLAN KEYNOTES

NUMBER	NOTE
D01	REMOVE WALL OR PORTION OF WALL AS SHOWN
D02	REMOVE DOOR, FRAME AND HARDWARE
D03	REMOVE DOOR, FRAME AND HARDWARE. SALVAGE FOR REUSE/RELOCATION.
D04	REMOVE EXISTING FINISH FLOORING AND WALL BASE
D05	REMOVE CASEWORK AND ASSOCIATED COMPONENTS
D12	REMOVE EXISTING GLASS PARTITION, TYP.
D13	REMOVE SECURITY KEYPAD. SALVAGE FOR REUSE/RELOCATION.
D14	REMOVE EXISTING WOOD STOREFRONT DOOR, FRAME, HARDWARE, AND SIDELIGHT
D15	REMOVE EXISTING ALUMINUM STOREFRONT
D16	EXISTING ELECTRICAL PANEL TO REMAIN
D17	REMOVE EXISTING BRICK PAVERS AND SNOWMELT TUBING IN PREPARATION FOR NEW SLOPED WALK AND SNOWMELT.
D19	REMOVE EXISTING WALL COVERING
D20	REMOVE TOILET, GRAB BARS, AND ACCESSORIES. SALVAGE FOR REUSE/RELOCATION.



FIRST FLOOR DEMOLITION PLAN
1/8" = 1'-0"

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TOWNSHIP HALL RENOVATION

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DEMOLITION PLAN
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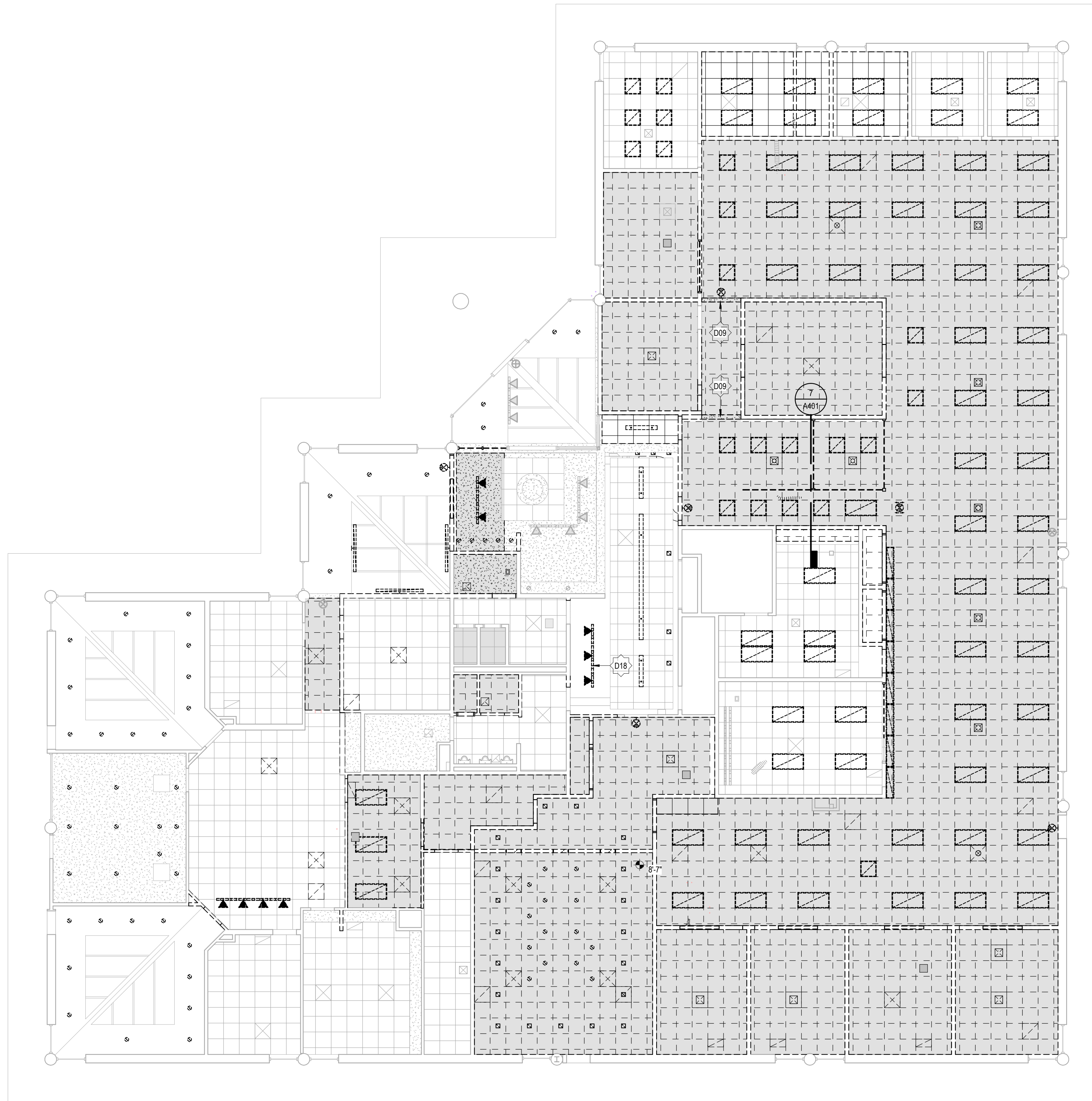
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 **FIRST FLOOR REFLECTED CEILING PLAN**
1/8" = 1'-0"

DEMOLITION RCP
AD111

FILE NUMBER 60846005
PROJECT MANAGER LEW
PROFESSIONAL JFR
DRAWN BY JFR
CHECKED BY

REVISIONS
NO. DATE DESCRIPTION

ISSUANCE
50% CONSTRUCTION DOCUMENTS
4/3/2020

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**NOT FOR
CONSTRUCTION**

5601 TAHOE DR. SE
GRAND RAPIDS, MI 49506

CASCADE CHARTER TOWNSHIP
TOWNSHIP HALL RENOVATION

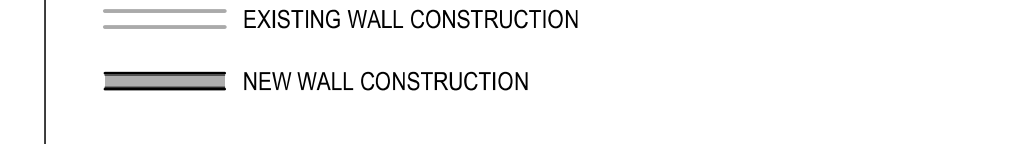
progressive | ae

1811 4 Mile Rd. N.E. Grand Rapids, MI 49525 616.361.7264 www.progressiveae.com

GENERAL NOTES

- DO NOT SCALE DRAWINGS.
- FINISH FLOOR ELEVATION = 100'-0". REFER TO CIVIL DRAWINGS FOR SITE DATUM ELEVATION EQUIVALENT.
- EXISTING BUILDING CONDITIONS BASED ON OWNER PROVIDED DRAWINGS AND LIMITED FIELD VERIFICATION. VERIFY EXACT CONDITIONS IN FIELD. SHOULD DISCREPANCIES OCCUR, NOTIFY ARCHITECT FOR CLARIFICATIONS.
- BEGINNING WORK INDICATES THAT THE CONTRACTOR HAS ACCEPTED AND VERIFIED EXISTING CONDITIONS.
- REFER TO CODE COMPLIANCE DRAWING(S) FOR LOCATIONS OF RATED ASSEMBLIES AND CODE SUMMARY.
- ABBREVIATIONS, TYPICAL MOUNTING DIMENSIONS, AND ANNOTATION SYMBOLS ARE SHOWN ON GENERAL INFORMATION DRAWINGS.
- WALL DIMENSIONS ARE TO FACE OF MASONRY, FACE OF CONCRETE, FACE OF STUDS, COLUMN CENTERLINE AS SHOWN OR EXISTING CONSTRUCTION UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE PERPENDICULAR AND PARALLEL, UNLESS NOTED OTHERWISE.
- PATCH ALL DISTURBED SURFACES WITH MATERIALS TO MATCH ADJACENT SURFACE CONSTRUCTION.
- PROVIDE APPROVED SMOKE/FIRESTOPPING ASSEMBLIES AT ALL MECHANICAL AND ELECTRICAL PENETRATIONS THROUGH FIRE RATED AND SMOKE RESISTANT PARTITIONS IDENTIFIED ON CODE COMPLIANCE DRAWINGS.
- OWNER FURNISHED EQUIPMENT IS SHOWN LIGHT DASHED FOR REFERENCE ONLY. REFER TO EQUIPMENT DRAWINGS FOR ADDITIONAL INFORMATION.
- REFER TO INTERIORS FOR FINISHES INCLUDING WALL PROTECTION ITEMS.

LEGENDS



INTERIOR PARTITION TAG LEGEND

CORE MATERIAL	CORE SIZE (NOMINAL)			
	S	W	C	H
S - STEEL STUDS	0	7/8"		
V - WOOD STUDS	1	1 5/8"		
C - CONCRETE	2	2 1/2"	2x (flat)	2 1/2"
M - MASONRY	3	3 5/8"		
H - CH / SHAFTWALL	4	4"	2x4	4"
	5	6"	2x6	6"
	6	6"	2x6	6"
	7	8"	2x8	8"
	8	8"	2x8	8"
	10	10"	10"	10"
	11	12"	12"	12"
	12			

INTERIOR PARTITION TYPE SUFFIXES

- A 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TO DECK (OR HARD CEILING WHERE IT OCCURS)
- B 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TO 6" ABOVE CEILING (OR HARD CEILING WHERE IT OCCURS)
- C 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TAGGED SIDE TO DECK AND OTHER SIDE TO 6" ABOVE CEILING (OR HARD CEILING WHERE IT OCCURS)
- D 5/8" GYPSUM BOARD ON ROOM SIDE ONLY; EXTEND TO DECK
- E 5/8" GYPSUM BOARD ON ROOM SIDE ONLY; EXTEND TO 6" ABOVE CEILING (OR HARD CEILING WHERE IT OCCURS)
- F1 (1) LAYER 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TO DECK ABOVE; 1 HR RATED UL DESIGN #445
- F2 (2) LAYERS 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TO DECK ABOVE; 2 HR RATED UL DESIGN #419
- F3 (3) LAYERS 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TO DECK ABOVE; 3 HR RATED UL DESIGN #419
- H1 (1) LAYER 5/8" GYPSUM BOARD ON ROOM SIDE; 1" SHAFT LINER TO DECK ABOVE ON OTHER SIDE; 1 HR RATED UL DESIGN #415-A
- H2 (2) LAYERS 5/8" GYPSUM BOARD ON ROOM SIDE; 1" SHAFT LINER TO DECK ABOVE ON OTHER SIDE; 2 HR RATED UL DESIGN #415-B
- H3 (3) LAYERS 5/8" GYPSUM BOARD ON ROOM SIDE; 1" SHAFT LINER TO DECK ABOVE ON OTHER SIDE; 3 HR RATED UL DESIGN #415-G
- K SAME AS _____ EXCEPT SPECIAL IMPACT RESISTANT GYPSUM BOARD
- L SAME AS _____ EXCEPT WITH LEAD-LINED GYPSUM BOARD ASSEMBLY - REFER TO DETAILS
- M DECORATIVE CMU SAME AS _____ TO STRUCTURE UND - REFER TO ELEVATIONS AND DETAILS FOR SPECIFICS
- P PARTIAL HEIGHT WALL SAME AS _____ (SEE PLAN FOR HEIGHT AFF)
- R _____ RATED MASONRY WALL PER UL DESIGN #
- S1 ACOUSTICAL STUD ASSEMBLY WITH SOUND DEADENING GYPSUM BOARD OVER RESILIENT CHANNELS (ONE SIDE) AND ACOUSTICAL SEALANT, TOP AND BOTTOM

KEYNOTES

NUMBER	NOTE
A01	EDGE OF CEILING/BULKHEAD ABOVE
A06	PATCH FINISH AT WALL REMOVAL TO MATCH ADJACENT
A08	SECURE DROP BOX
A10	OPERABLE PARTITION - BASIS OF DESIGN: HUFCOR 631
A11	MULL-T-OVER END CAP AT EXISTING MULLION
A12	INFILL TO MATCH EXISTING



FLOOR PLAN 1/8" = 1'-0"

CASCADE CHARTER TOWNSHIP TOWNSHIP HALL RENOVATION NOT FOR CONSTRUCTION

ISSUANCE
50% CONSTRUCTION DOCUMENTS
4/3/2020

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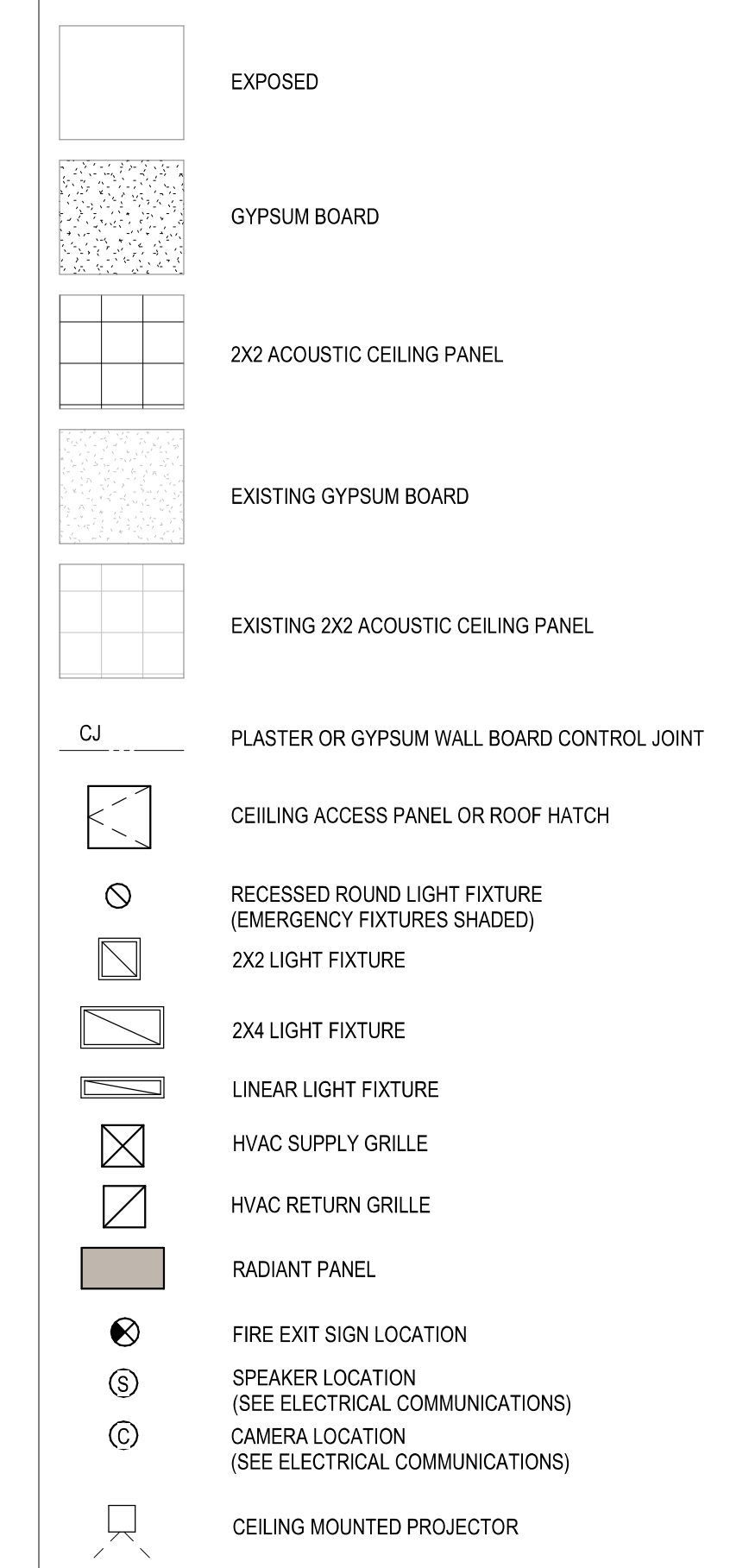
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REFLECTED CEILING PLAN LEGEND

1. ALL CEILING GRIDS ARE TO BE CENTERED IN ROOM / AREA OR ALIGNED WITH ADJACENT ROOM / AREA AS INDICATED, UNLESS NOTED OTHERWISE.
2. CEILING HEIGHTS INDICATED ARE DIMENSIONED FROM THE FINISHED FLOOR BELOW.
3. ALL LIGHT FIXTURES, SPRINKLER HEADS, RETURN AIR GRILLES AND SUPPLY AIR GRILLES ARE TO BE LOCATED IN THE CENTER OF THE CEILING PAD, UNLESS NOTED OTHERWISE.
4. COORDINATE MECHANICAL, ELECTRICAL AND FIRE PROTECTION TO ASSURE PROPER CLEARANCES AND LAYOUT.
5. MECHANICAL, ELECTRICAL AND FIRE PROTECTION CONTRACTORS TO PROVIDE ACCESS PANELS IN CEILINGS AS REQUIRED FOR MAINTENANCE OF EQUIPMENT. COORDINATE SIZE AND LOCATIONS OF ACCESS PANELS TO MINIMIZE QUANTITIES. CONTRACTOR IS REQUIRED TO PROVIDE LAYOUT TO ARCHITECT FOR REVIEW PRIOR TO INSTALLATION, UNLESS NOTED OTHERWISE.



KEYNOTES

NUMBER	NOTE
A07	ALIGN/EXTEND NEW CEILING AND GRID TO EXISTING/ADJACENT
A10	OPERABLE PARTITION - BASIS OF DESIGN: HUFVOR 631
A13	COVE LIGHTING, REFER TO ELECTRICAL

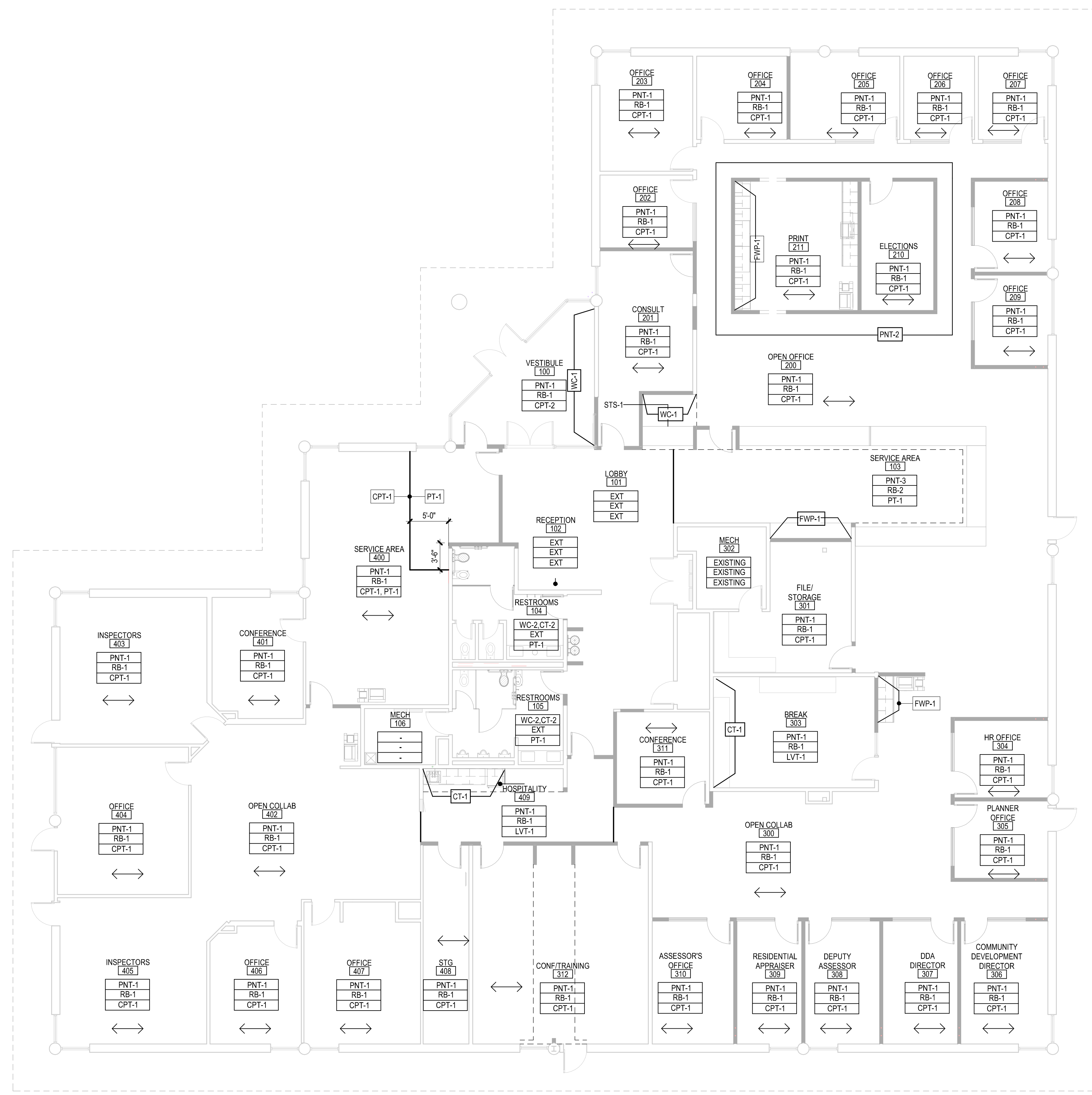
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FIRST FLOOR REFLECTED CEILING PLAN
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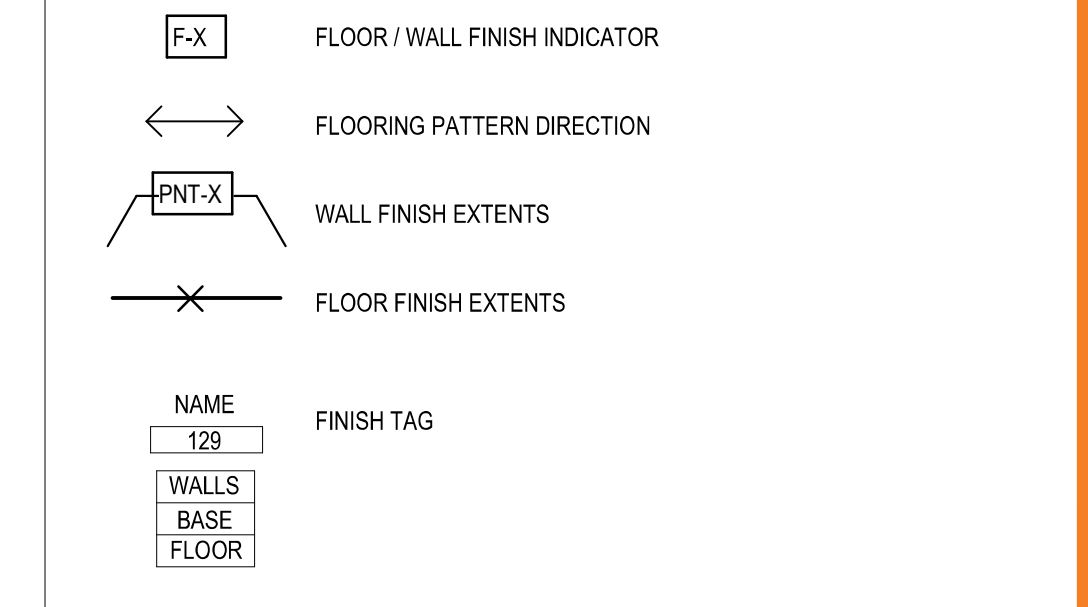
FINISH MATERIAL LIST						
MARK	TYPE	MANUFACTURER	STYLE / PATTERN / FINISH	SIZE	COLOR	NOTES
10 FLOORS						
CPT-1	CARPET	SHAW CONTRACT	RELIEF TILE / VERTICAL LAYERS/ RELIC	9' X 36"	RELIC - 50518	
LVT-1	LUXURY VINYL TILE	MANNINGTON COMMERCIAL	SCORED MIXED MONOLITHIC/ LIGHT	6' X 48"	LIGHT - MIX301	
PT-1	PORCELAIN TILE	EDIMAX	SANDS	MATCH EXISTING	GREYSAND	8-10 WEEKS LEAD TIME AND IS MADE IN ITALY
20 BASE						
PT-2	PORCELAIN TILE	EDIMAX	SANDS	4"	GREYSAND	MATCH EXISTING BASE IN LOBBY
RB-1	RUBBER BASE	JOHNSONITE	469	4"	MYSTIFY CG - 469	
RB-3	RUBBER BASE	JOHNSONITE	STRAIGHT	4"	STERLING SILVER	
30 WALLS						
CT-1	CERAMIC WALL TILE	VIRGINIA TILE CERAMIC TILE INTERNATIONAL	EXPRESSION MOSAIC, HEXAGON MATTE	1"	DAYLIGHT MATTE	BACK SPLASH IN BREAK AREAS
CT-2	CERAMIC WALL TILE	MATCH EXISTING RESTROOM WALL TILE				RESTROOMS
PNT-1	PAINT	SHERWIN WILLIAMS		NA	MODERNE WHITE/ 258-C6	
PNT-2	PAINT	SHERWIN WILLIAMS		NA	MINDFUL GRAY/ 244-C2	
PNT-3	PAINT	MATCH EXISTING		MATCH EXISTING		MATCH EXISTING WALL PAINT
WC-1	WALL COVERING	CARNEGIE XOREL		NA	6423-807	
WC-2	WALL COVERING	VINYL WALL COVERING				RESTROOMS
40 CEILING						
ACT-1	MATCHING EXISTING			2'X2'		
GWB-1	GYPSUM WALL BOARD					PAINTED TO EXISTING GWB CEILING
50 CASEWORK						
PL-1	PLASTIC LAMINATE	WILSONART	HD LAMINATE/ AEON SCRATCH RESISTANCE	NA	17013K-57 - WEBB OAK	CABINETS
PL-2	PLASTIC LAMINATE	METAL-ART	633-GLAZED FINISH	NA	POLISHED TITANIUM	PANELS
PL-3	PLASTIC LAMINATE	NEVEMAR	TEXTURED	NA	S6012-T - NEUTRAL GRAY	
STS-1	QUARTZ	STILESTONE	SUEDE / N-BOOST	NA	ETERNAL CALACATTA GOLD	COUNTERTOPS
WD-1	WOOD					STAINED TO MATCH DARK WOOD DOOR STAIN IN THE LOBBY
60 MISCELLANEOUS						
GF-1	GLASS FILM	3M	DUSTED CRYSTAL GLASS FILM	48"		
ST-1	STAIN					MATCH DARK WOOD DOOR STAIN IN THE LOBBY
TP-1	TOILET PARTITION	BOBRICK	COMPACT LAMINATE DURA LINE SERIES	DOOR AND PANEL H: 72" CLEARANCE FROM FLOOR: 4 5/16"	17013K-57 - WEBB OAK	APPLIED TO PARTITIONS



FINISH GENERAL NOTES

- GENERAL
 - REPAIR ALL EXISTING MATERIALS SCHEDULED TO REMAIN, USING OWNER'S ATTIC STOCK. IF NO ATTIC STOCK EXISTS, USE NEW MATERIAL TO MATCH EXISTING.
- FLOORING:
 - INSTALL FLOORING MATERIAL IN DIRECTION INDICATED ON FINISH PLAN. UNLESS NOTED OTHERWISE.
 - PROVIDE A CEMENTITIOUS COMPOUND BETWEEN FLOOR MATERIALS OF DIFFERENT THICKNESS. FEATHER FLOOR FOR SMOOTH TRANSITION.
 - USE ALUMINUM TILE TRANSITION STRIPS BETWEEN ALL FLOORING TRANSITION TYPES IN YOUR PROJECT HERE
- BASE:
 - TYPICAL BASE PROFILE AT CARPET SHALL BE STRAIGHT, EXCEPT WHERE OTHERWISE INDICATED.
 - TYPICAL BASE PROFILE AT RESILIENT FLOORING SHALL BE COVE, EXCEPT WHERE OTHERWISE INDICATED.
- WALLS:
 - PAINT FIRE EXTINGUISHER CABINETS TO MATCH ADJACENT WALL COLOR, UNLESS STAINLESS STEEL OR BRUSHED ALUMINUM FINISH
 - REPAINT ENTIRE WALL SECTION WHERE DEMOLITION OCCURS TO PROVIDE THE BEST FINISH LOOK. COLOR TO MATCH ADJACENT WALL, EXCEPT WHERE OTHERWISE INDICATED.
 - PROVIDE GLASS FILM GL-1 AT ALL INTERIOR GLAZING. INSTALL 24" AFF.
- EXPOSED COLUMNS:
 - PAINT ALL EXPOSED COLUMNS. COLOR TO BE TO MATCH EXISTING EXPOSED CEILING
- BULKHEADS:
 - PAINT BULKHEAD FACE TO MATCH ADJACENT WALL COLOR, EXCEPT WHERE OTHERWISE INDICATED.
- DOORS AND FRAMES:
 - EXISTING INTERIOR WOOD DOORS/FRAME/CASING WITH LIGHT OAK STAIN TO BE REFINISHED TO MATCH, DARK OAK STAIN ON DOORS IN LOBBY.
 - ALL NEW WOOD DOORS AND FRAMES TO MATCH EXISTING DOORS IN LOBBY.
 - FRAME COLOR TRANSITION TO TAKE PLACE AT INSIDE CORNER OF STOP-ON DOOR SIDE.
- DIFFUSERS AND COVERS:
 - PAINT WALL DIFFUSER AND AIR GRILLE COVERS TO MATCH ADJACENT WALL.

FINISH PLAN LEGEND



KEYNOTES

NUMBER	NOTE

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FINISH PLAN
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TOWNSHIP HALL RENOVATION
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 PROJECT MANAGER LEW
 PROFESSIONAL JLH
 DRAWN BY JLH
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FINISH PLAN
A121

7 6 5 4 3 2

A

B

C

D

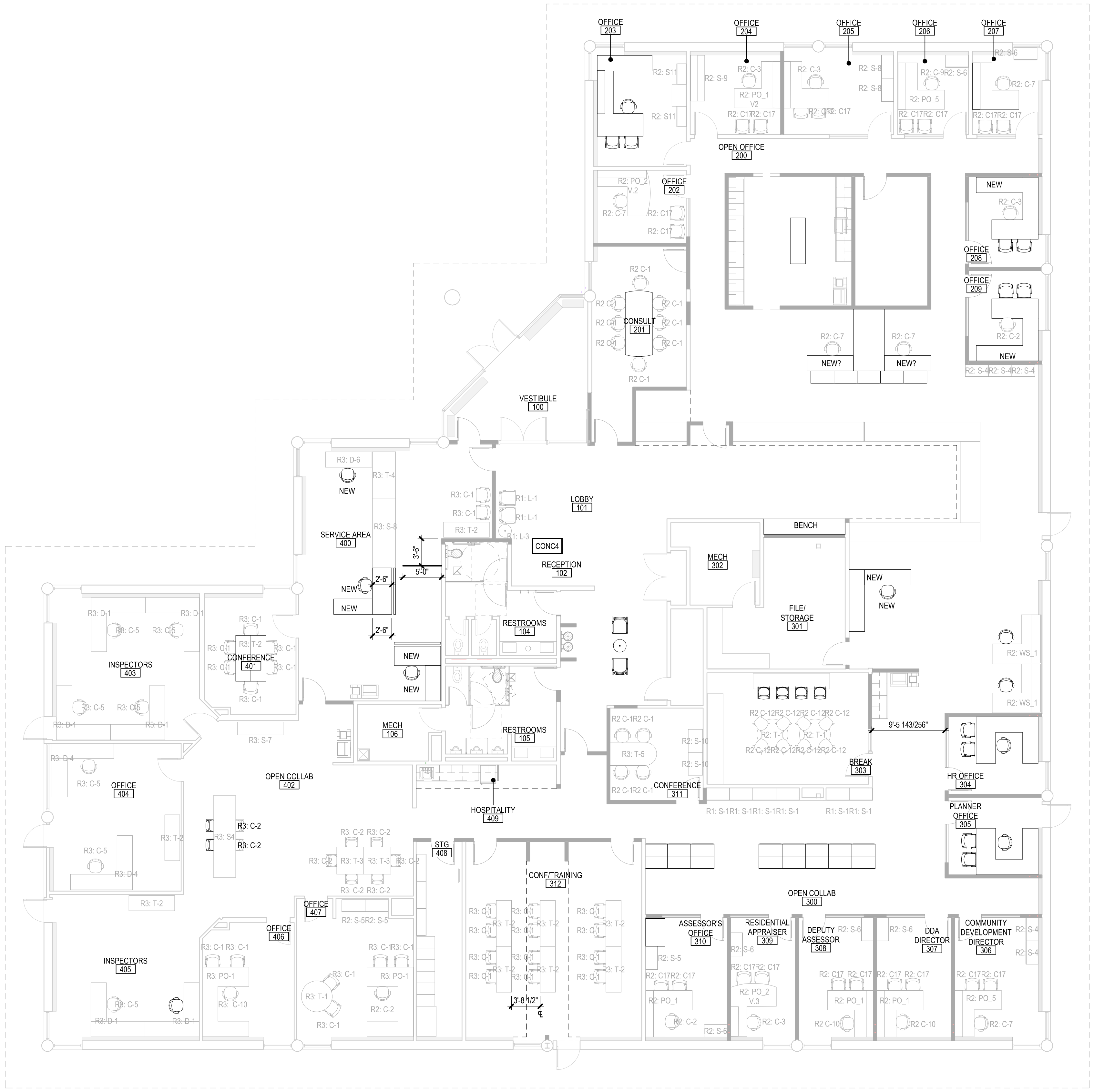
E

F

G

H

7 6 5 4 3 2



FURNITURE PLAN
1/8" = 1'-0"

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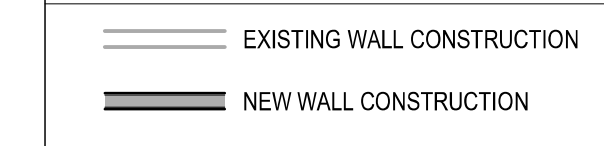
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PROFESSIONAL JLH
DRAWN BY JLH
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LEGENDS



INTERIOR PARTITION TAG LEGEND

CORE MATERIAL	CORE SIZE (NOMINAL)			
	S	W	C	H
S - STEEL STUDS	0	7/8"		
W - WOOD STUDS	1	1 5/8"		
C - CONCRETE	2	2 1/2"	2x (Rd)	2 1/2"
M - MASONRY	3	3 5/8"		
H - CH1 SHAFTHALL	4	4"	2x4	4" 4"
ACUSTICAL INSULATION	5			
PROVIDE ACUSTICAL INSULATION AT TAGGED LOCATIONS	6	6"	2x6	6" 6"
PARTITION TYPE SUFFIX	7	8"	CPMF	2x8 8" 8"
REFER TO SCHEDULE BELOW	8			
	9			
	10			10" 10"
	11			
	12			12" 12"

INTERIOR PARTITION TYPE SUFFIXES

- A 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TO DECK (OR HARD CEILING WHERE IT OCCURS)
- B 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TO 6" ABOVE CEILING (OR HARD CEILING WHERE IT OCCURS)
- C 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TAGGED SIDE TO DECK AND OTHER SIDE TO 6" ABOVE CEILING (OR HARD CEILING WHERE IT OCCURS)
- D 5/8" GYPSUM BOARD ON ROOM SIDE ONLY; EXTEND TO DECK
- E 5/8" GYPSUM BOARD ON ROOM SIDE ONLY; EXTEND TO 6" ABOVE CEILING (OR HARD CEILING WHERE IT OCCURS)
- F1 (1) LAYER 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TO DECK ABOVE; 1 HR RATED UL DESIGN #415
- F2 (2) LAYERS 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TO DECK ABOVE; 2 HR RATED UL DESIGN #419
- F3 (3) LAYERS 5/8" GYPSUM BOARD ON BOTH SIDES; EXTEND TO DECK ABOVE; 3 HR RATED UL DESIGN #419
- H1 (1) LAYER 5/8" GYPSUM BOARD ON ROOM SIDE; 1" SHAFT LINER TO DECK ABOVE ON OTHER SIDE; 1 HR RATED UL DESIGN #415-A
- H2 (2) LAYERS 5/8" GYPSUM BOARD ON ROOM SIDE; 1" SHAFT LINER TO DECK ABOVE ON OTHER SIDE; 2 HR RATED UL DESIGN #415-B
- H3 (3) LAYERS 5/8" GYPSUM BOARD ON ROOM SIDE; 1" SHAFT LINER TO DECK ABOVE ON OTHER SIDE; 3 HR RATED UL DESIGN #415-G
- K SAME AS _____ EXCEPT SPECIAL IMPACT RESISTANT GYPSUM BOARD
- L SAME AS _____ EXCEPT WITH LEAD-LINED GYPSUM BOARD ASSEMBLY - REFER TO DETAILS
- M DECORATIVE CMU SAME AS _____ TO STRUCTURE UNO - REFER TO ELEVATIONS AND DETAILS FOR SPECIFICS
- P PARTIAL HEIGHT WALL SAME AS _____ (SEE PLAN FOR HEIGHT AFF)
- R RATED MASONRY WALL PER UL DESIGN #
- G1 ACUSTICAL STUD ASSEMBLY WITH SOUND DEADENING GYPSUM BOARD OVER RESILIENT CHANNELS (ONE SIDE) AND ACUSTICAL SEALANT, TOP AND BOTTOM

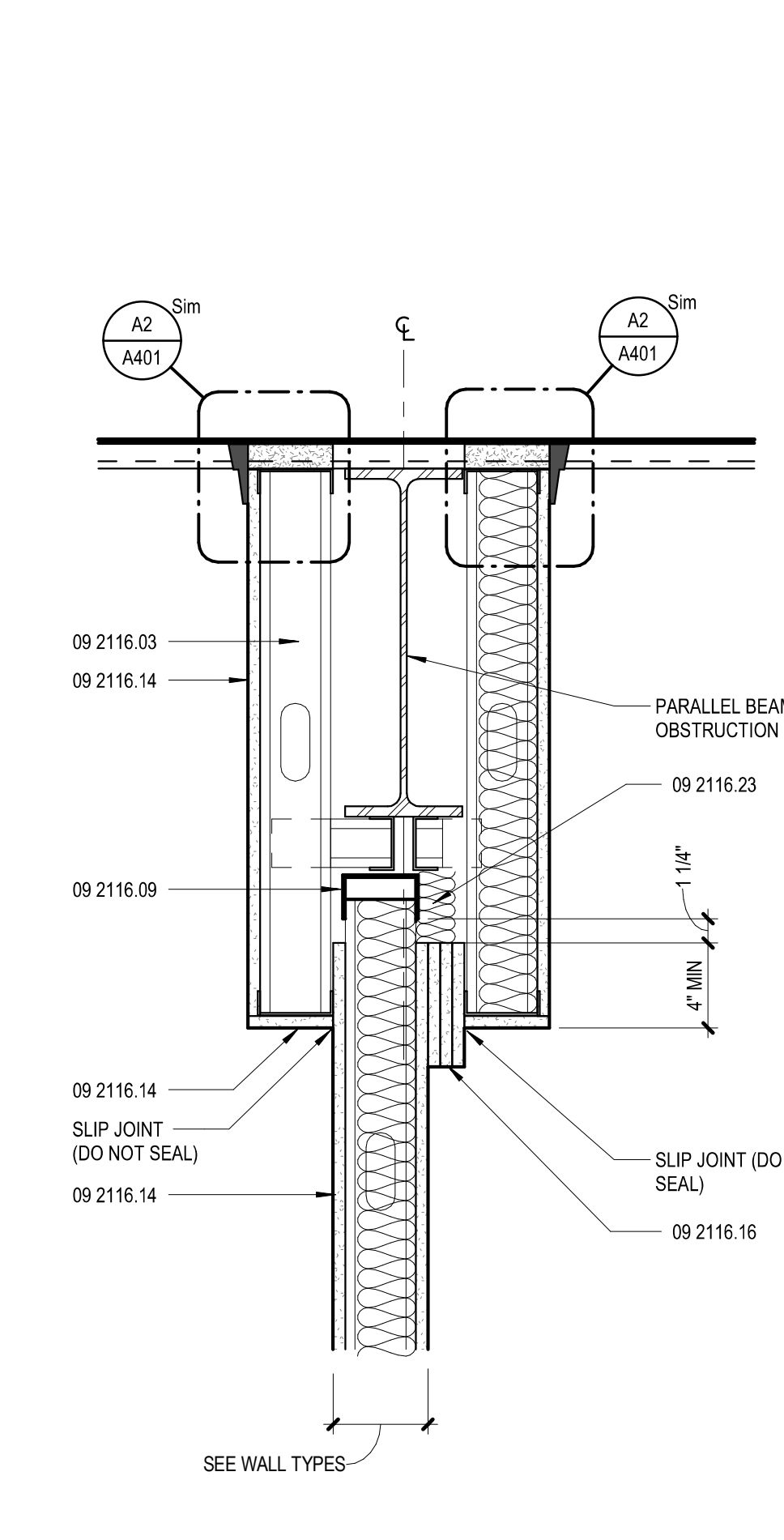
TOILET ACCESSORIES

MARK	MODEL	MANUFACTURER	DESCRIPTION
G1	B-490 36"	Bobrick	36" Grab Bar
G3	B-490 42"	Bobrick	42" Grab Bar

KEYNOTES

NUMBER	NOTE
05 3100.01	STEEL ROOF DECK
07 2100.02	BATT INSULATION WITHOUT INTEGRAL VAPOR RETARDER
09 2116.03	3/8" METAL STUD FRAMING
09 2116.09	DEFLECTION TRACK
09 2116.14	5/8" GYPSUM WALLBOARD
09 2116.16	ADDITIONAL LAYERS OF GYPSUM BOARD AS REQUIRED TO FILL GAP
09 2116.23	ACUSTIC INSULATION
A13	COVE LIGHTING, REFER TO ELECTRICAL

A2 HEAD OF WALL DETAIL
1/2" = 1'-0"
C2 / A401



C3 TOP OF PARTITION AT JOIST
1 1/2" = 1'-0"

C2 TOP OF PARTITION AT BEAM
1 1/2" = 1'-0"

C4 TYPICAL WORK SURFACE
1 1/2" = 1'-0"

C6 ADA SINK BASE SECTION
1 1/2" = 1'-0"
A2 / A411

E3 SERVICE AREA 103 DETAIL
1/2" = 1'-0"
1 / A101

E6 SERVICE AREA 103 DETAIL
1/2" = 1'-0"
1 / A101

E2 ENLARGED RESTROOM PLAN
1/4" = 1'-0"
1 / A101

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INTERIOR ELEVATION GENERAL NOTES

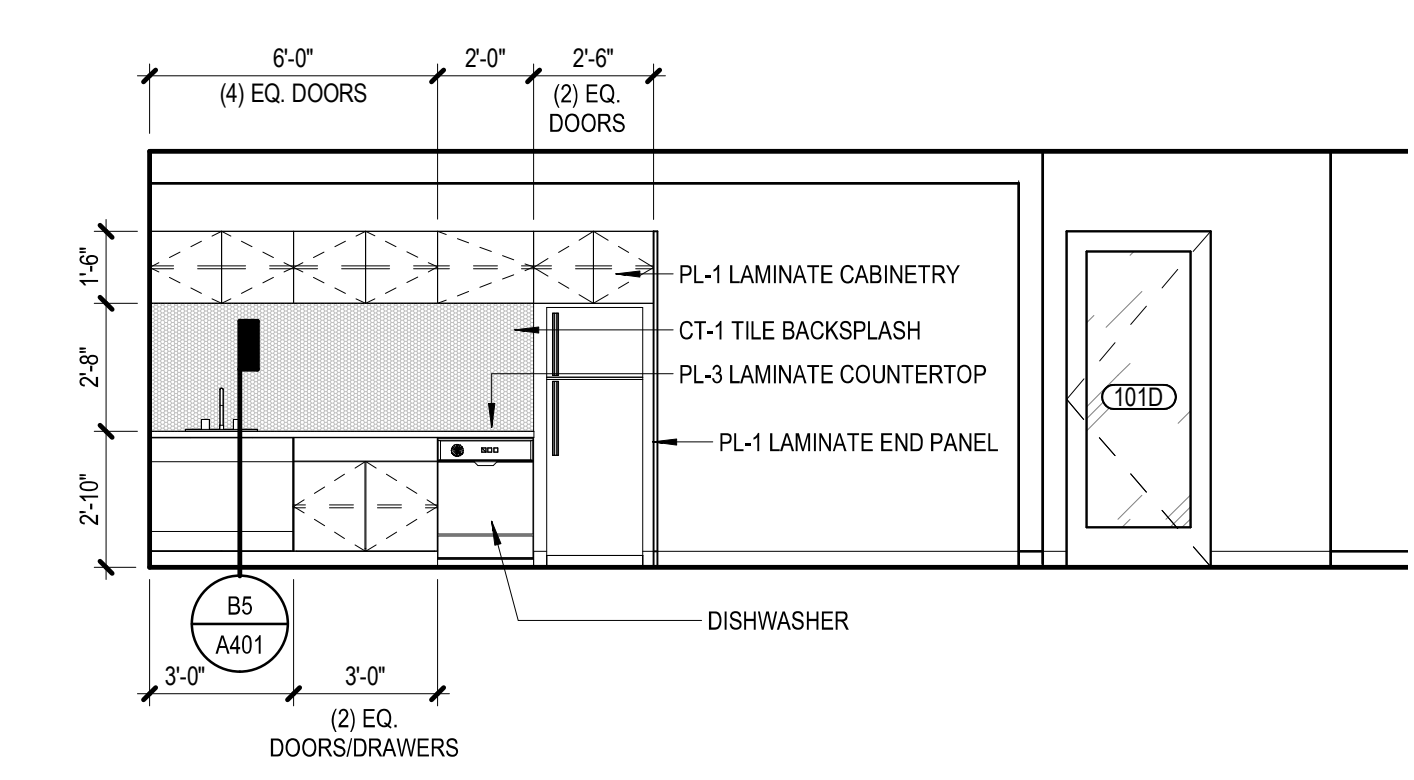
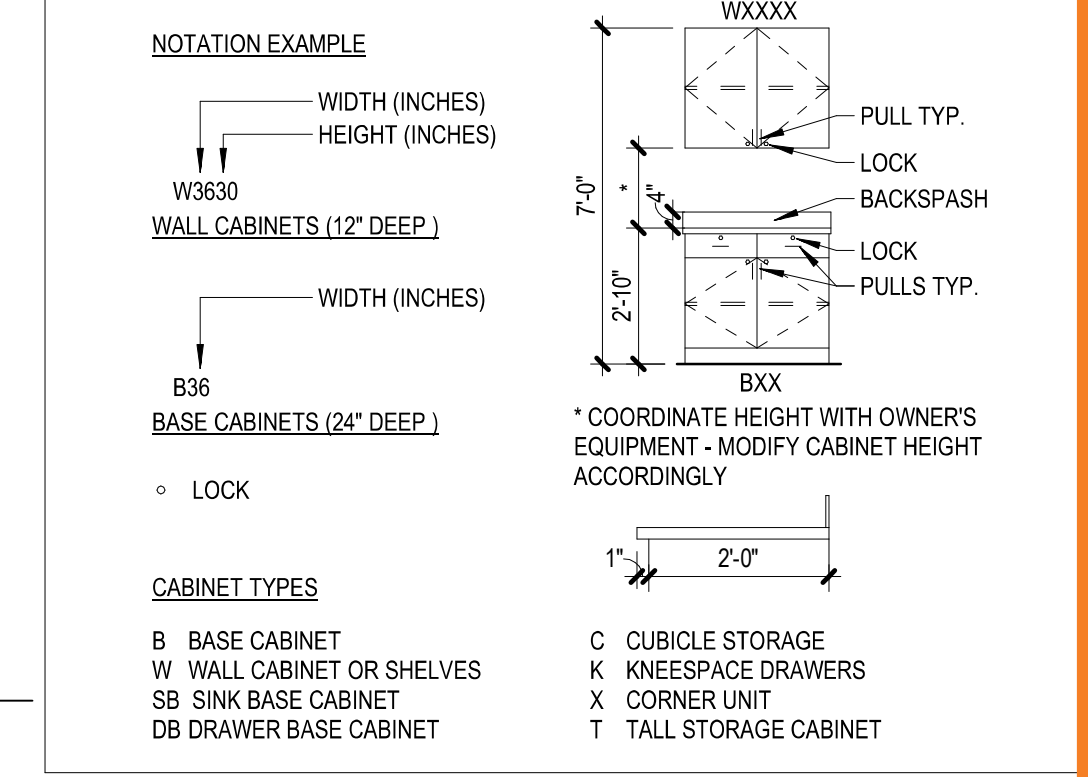
REFER TO DRAWING A131 FOR FINISH MATERIAL LIST AND DETAILED FINISH INFORMATION.

KEYNOTES

NUMBER	CARD READER	NOTE
A09		

CABINET LEGEND

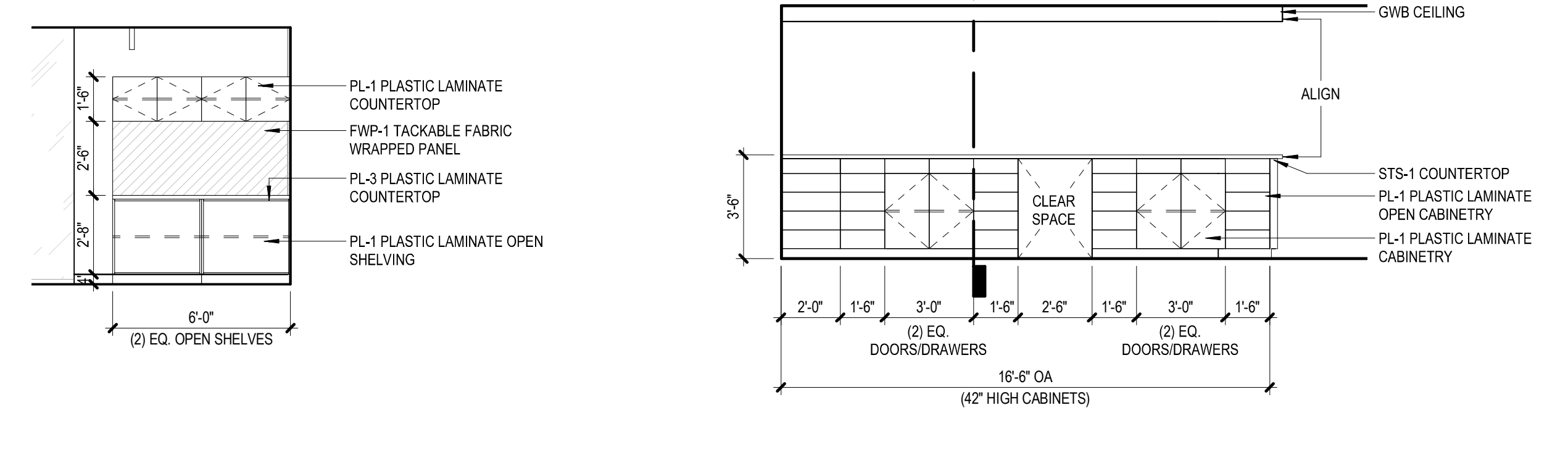
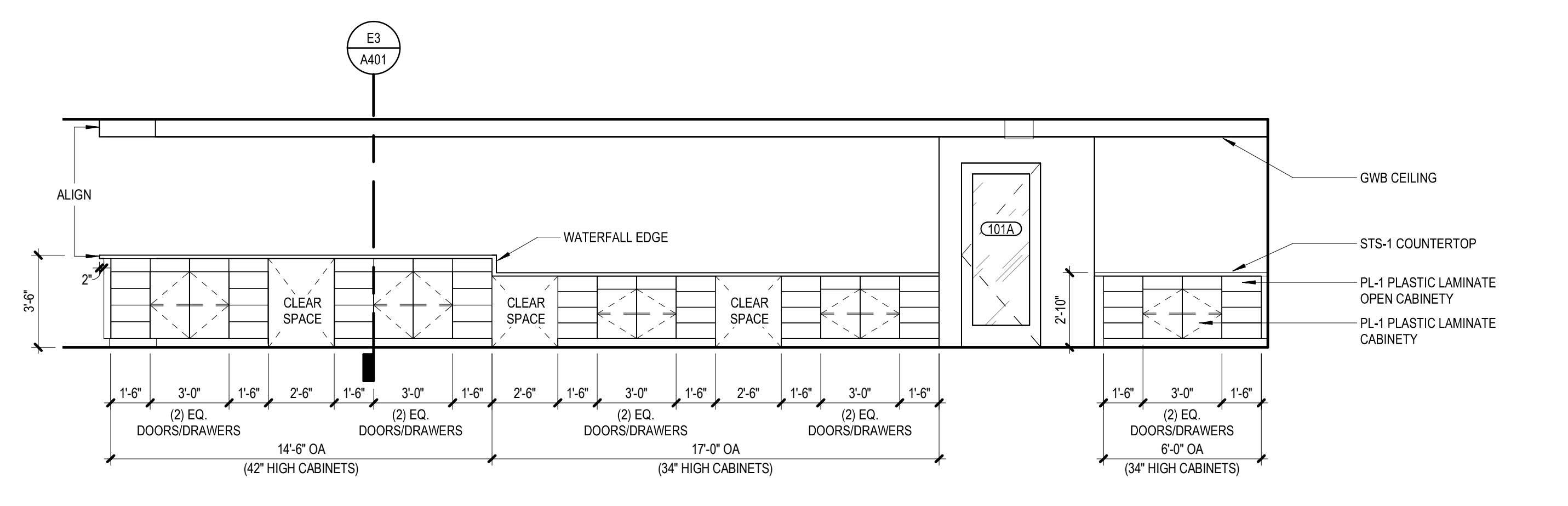
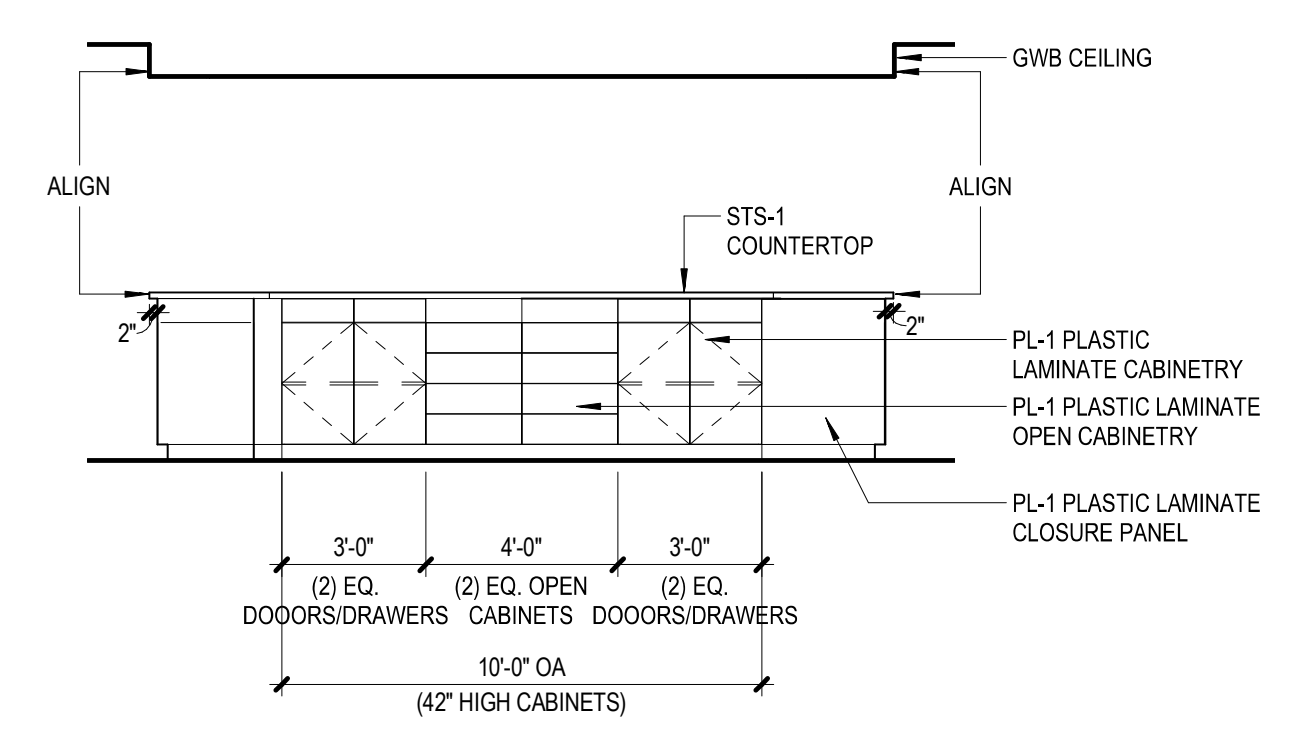
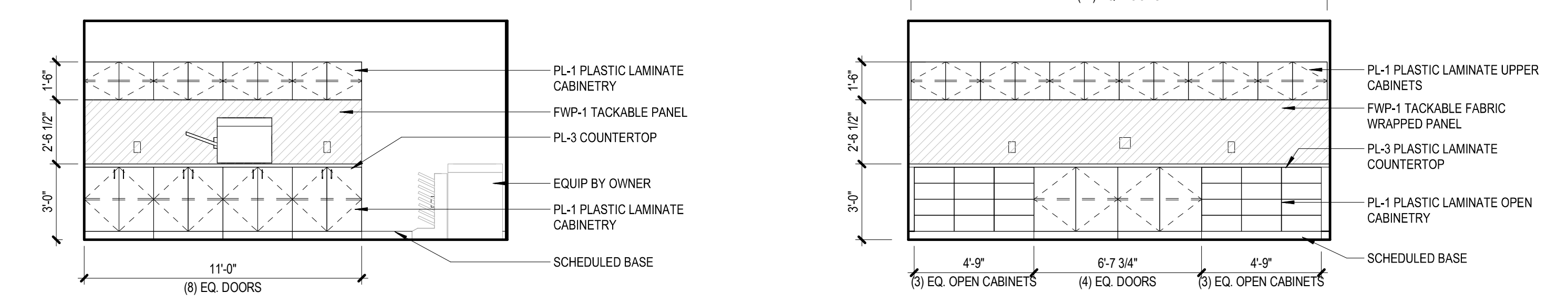
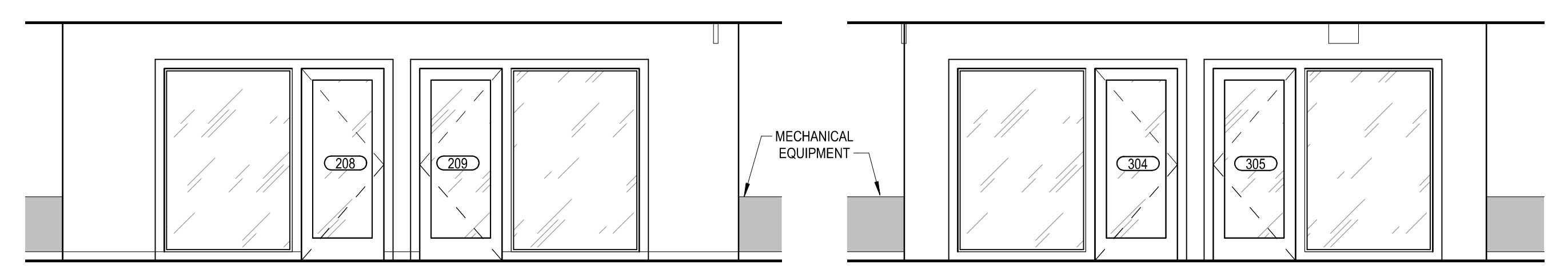
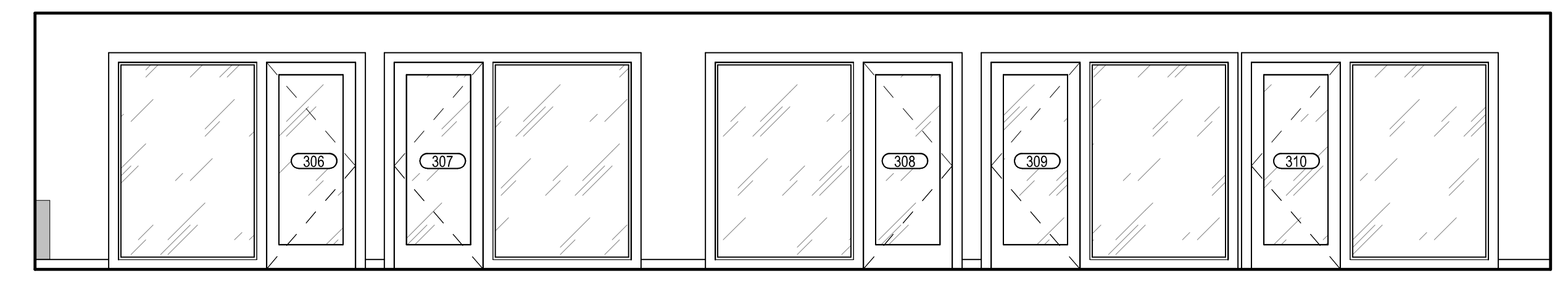
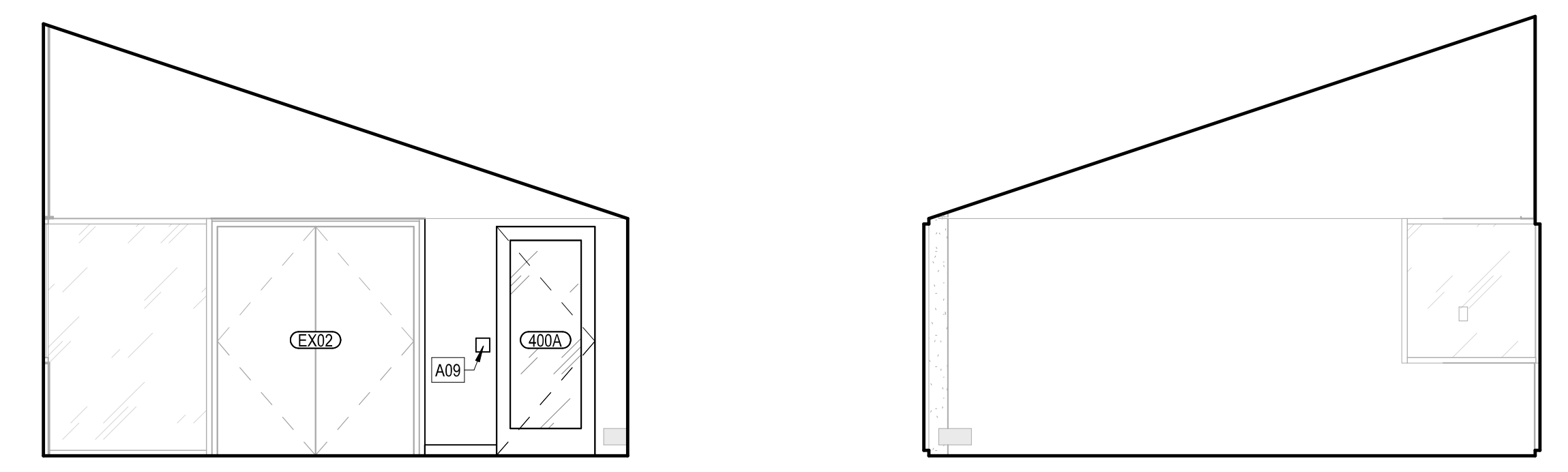
- ALL SHELVES ARE ADJUSTABLE, EXCEPT WHERE NOTED
- PROVIDE EQUAL SIZED FILLER PANELS AT CABINET ELEVATIONS, MAXIMUM 6"
- PROVIDE FINISH BASE AT ALL BASE CABINETS TO MATCH ADJACENT WALL, UNLESS NOTED OTHERWISE
- PROVIDE SEALANT AT BOTTOM, TOP AND ENDS OF BACKSPLASH



A2 INT ELEV - HOSPITALITY 409
1/4" = 1'-0"
1/1 A101

A4 INT ELEV - CONF/TRAINING
1/4" = 1'-0"
1/1 A101

A6 INT ELEV - RECEPTION
1/4" = 1'-0"
E2 / A401

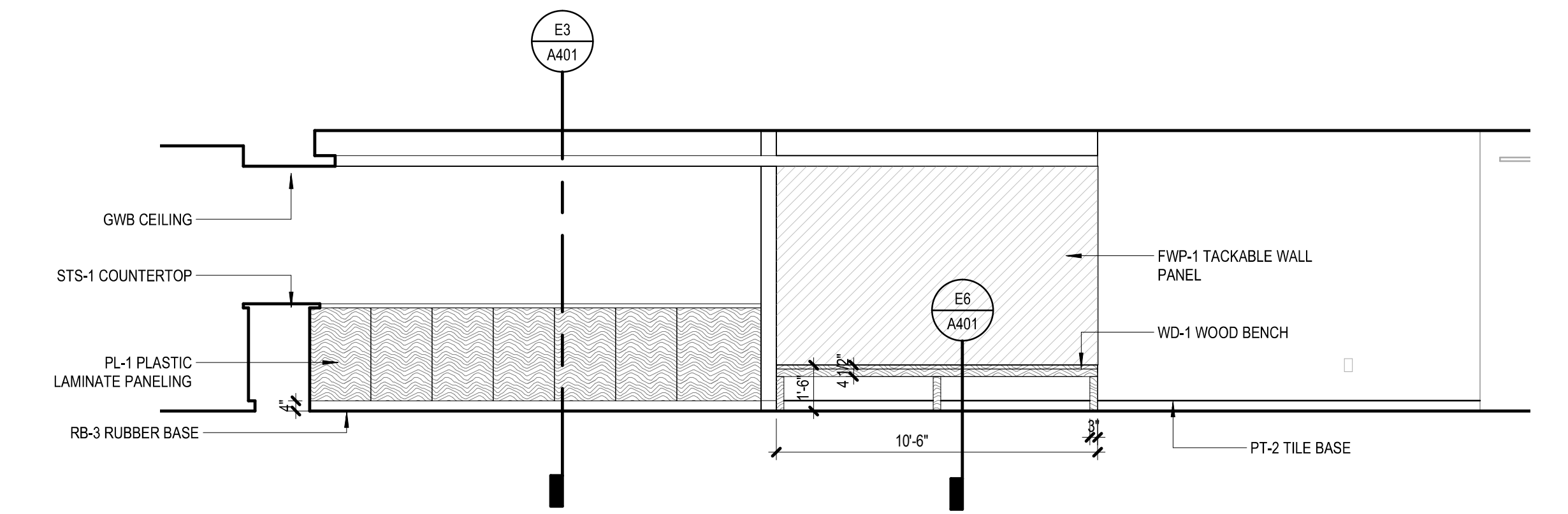
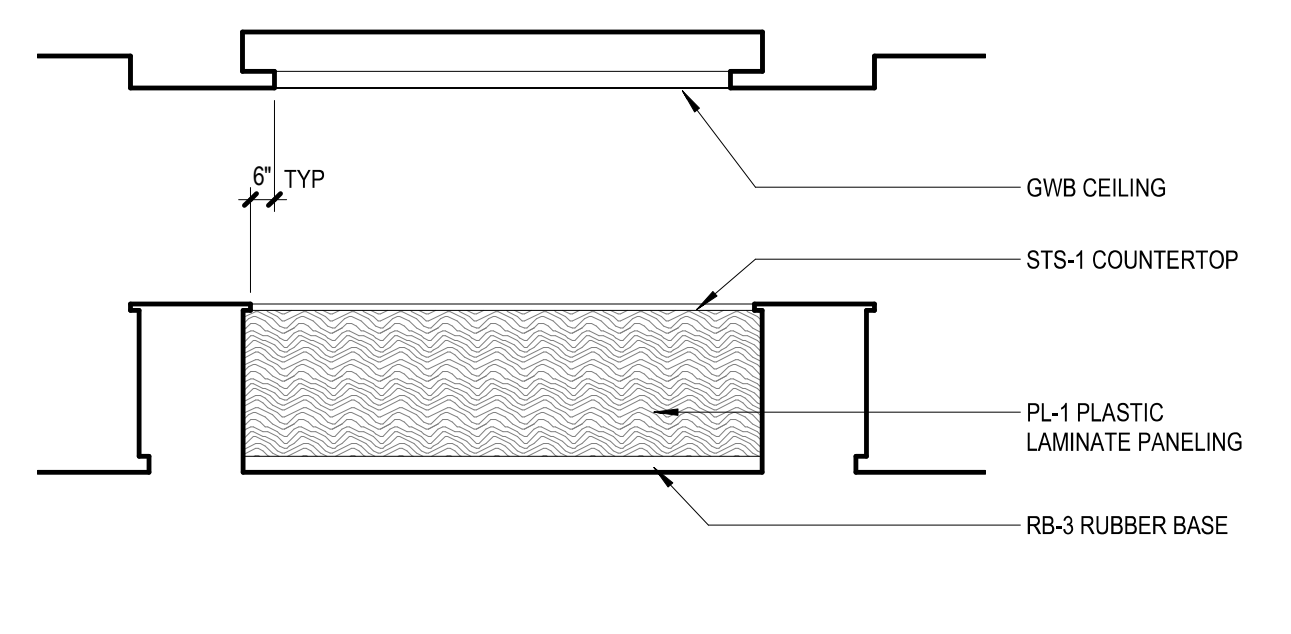
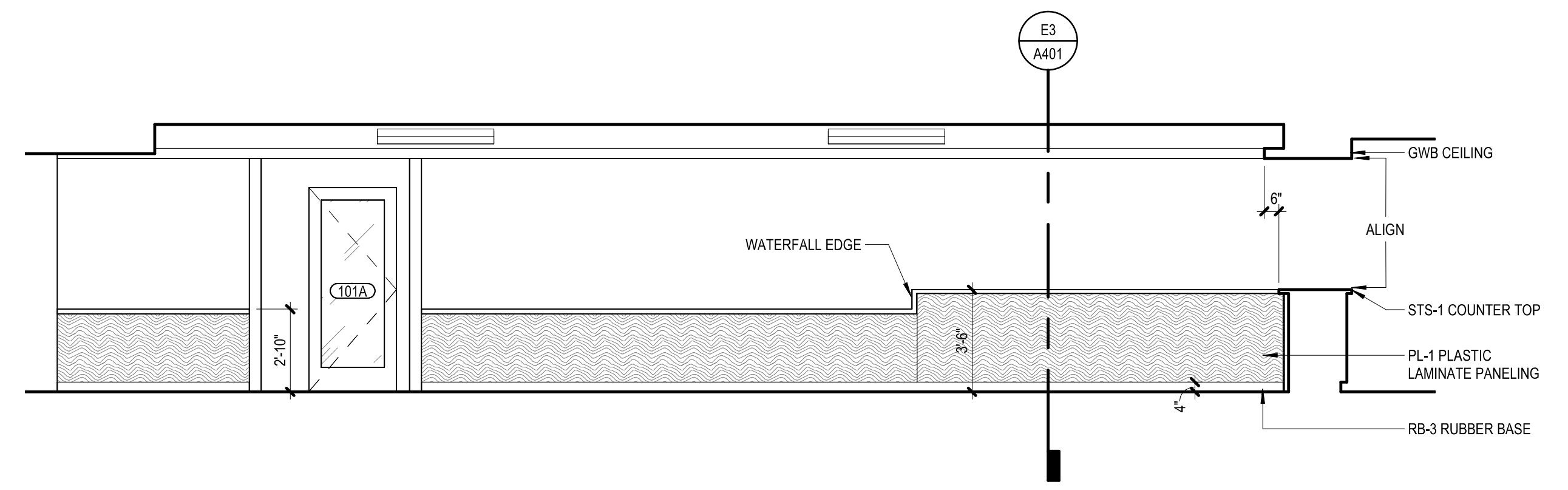


D7 INT ELEV - PRINT STATION
1/4" = 1'-0"
1/1 A101

D6 INT ELEV - SERVICE AREA 2A
1/4" = 1'-0"
1/1 A101

D4 INT ELEV - SERVICE AREA 3A
1/4" = 1'-0"
1/1 A101

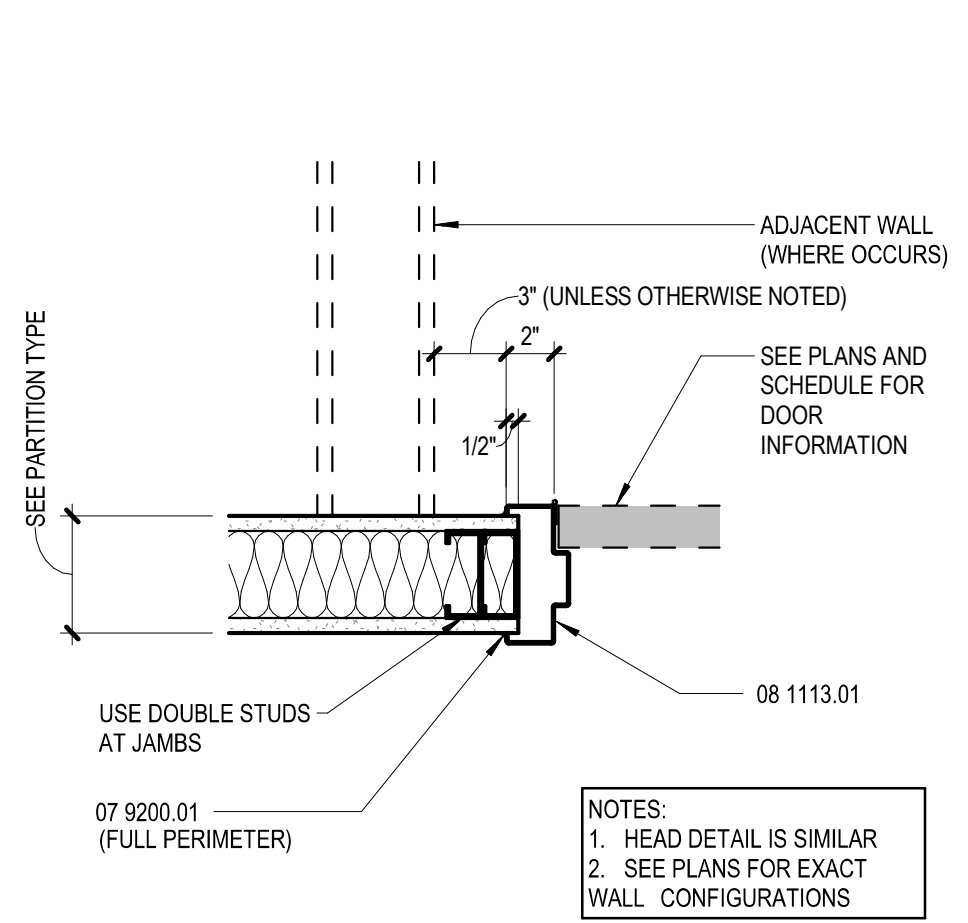
D1 INT ELEV - SERVICE AREA 1A
1/4" = 1'-0"
1/1 A101



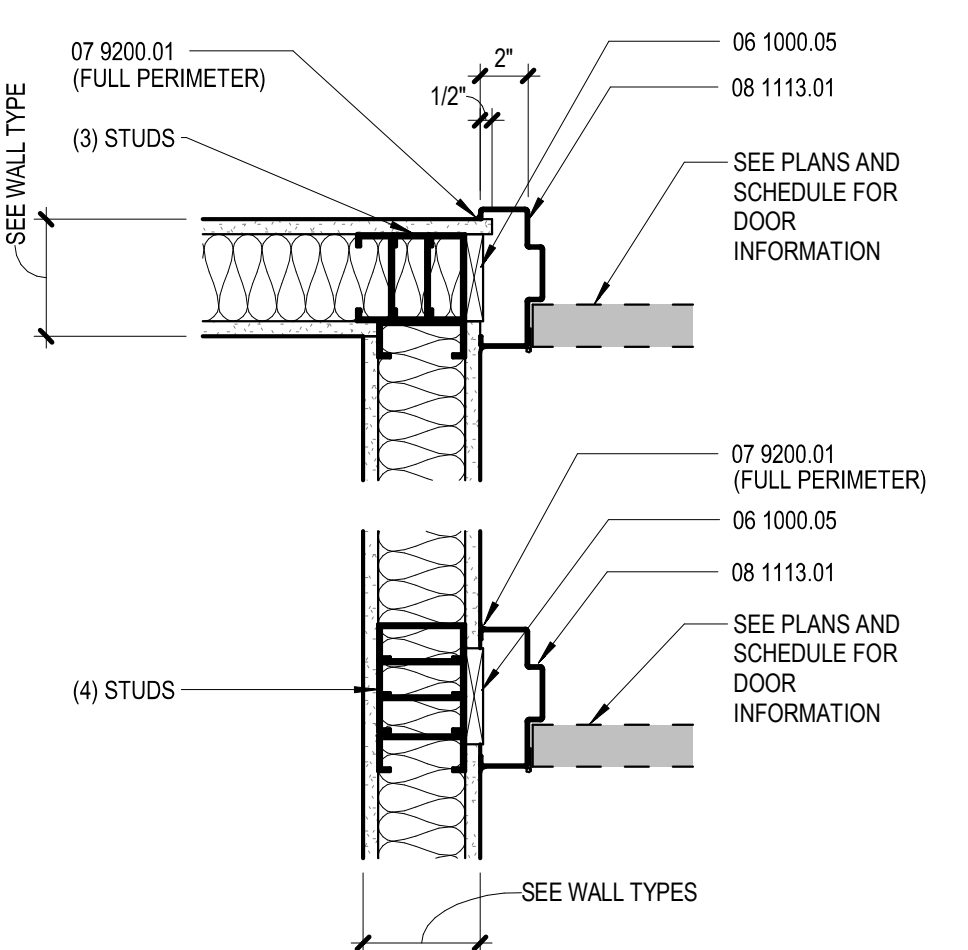
E6 INT ELEV - SERVICE AREA 1E
1/4" = 1'-0"
1/1 A101

E4 INT ELEV - SERVICE AREA 3E
1/4" = 1'-0"
1/1 A101

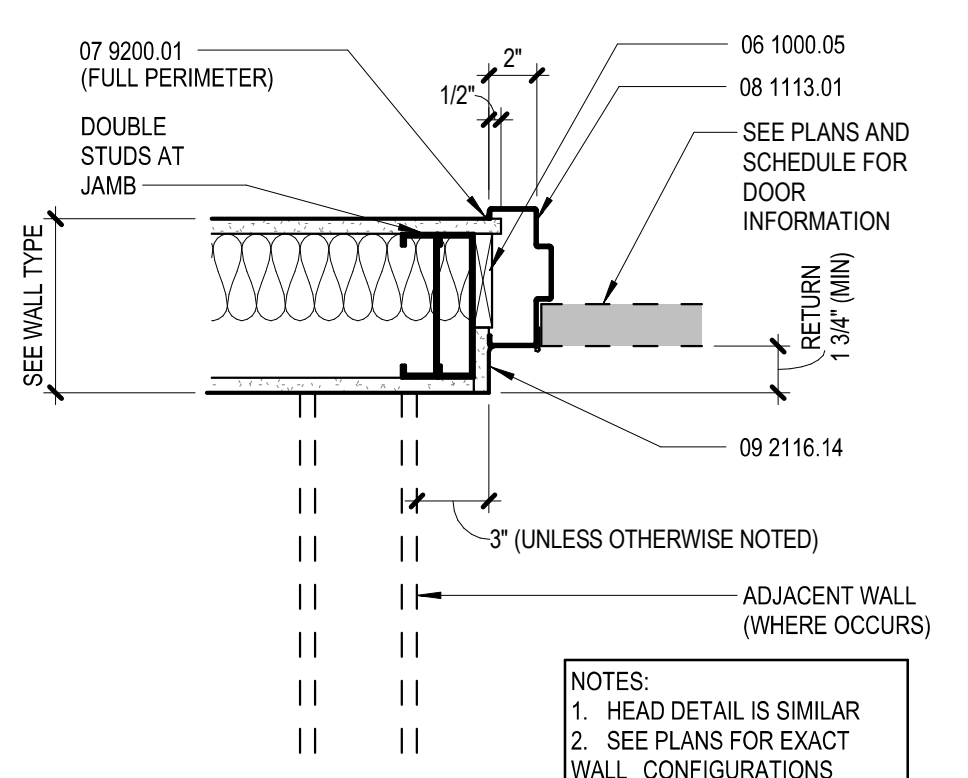
E1 INT ELEV - SERVICE AREA 1E
1/4" = 1'-0"
1/1 A101



A3 INTERIOR HOLLOW METAL FRAME
1 1/2" = 1'-0"



B3 INTERIOR HOLLOW METAL FRAME
1 1/2" = 1'-0"



C3 INTERIOR HOLLOW METAL FRAME
1 1/2" = 1'-0"

KEYNOTES

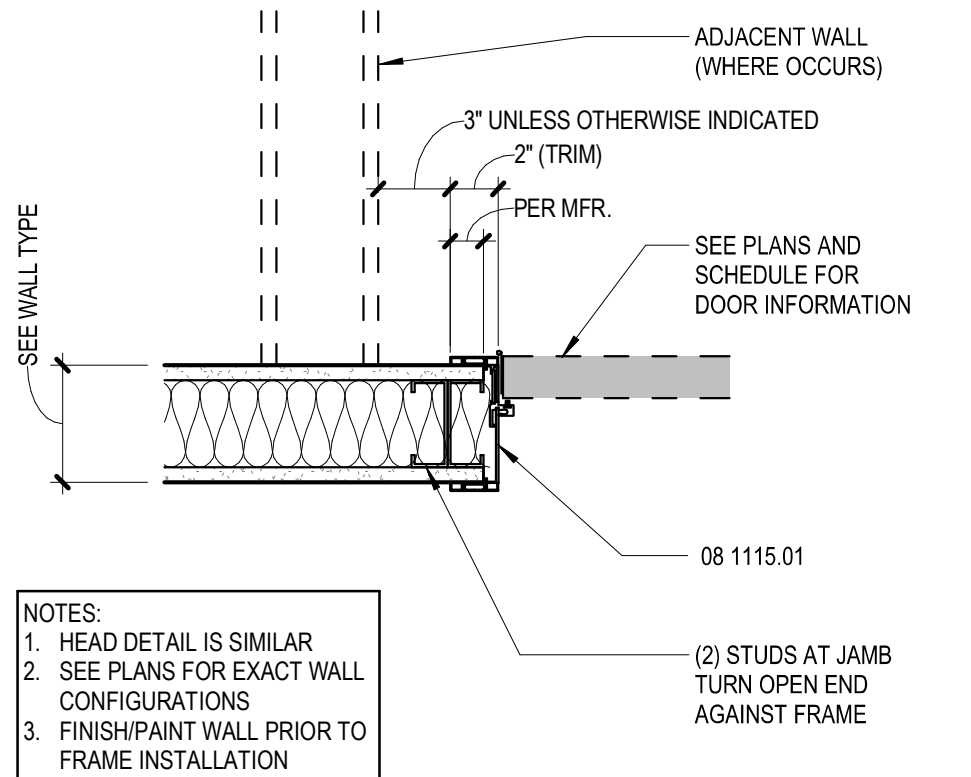
NUMBER	NOTE
06 1000.05	WOOD BLOCKING
07 9200.01	PERIMETER SEALANT
08 1113.01	HOLLOW METAL FRAME
08 1115.01	INTERIOR ALUMINUM ADJUSTABLE FRAME
08 1116.01	ALUMINUM FRAME
09 2116.14	5/8" GYPSUM WALLBOARD

DOOR SCHEDULE

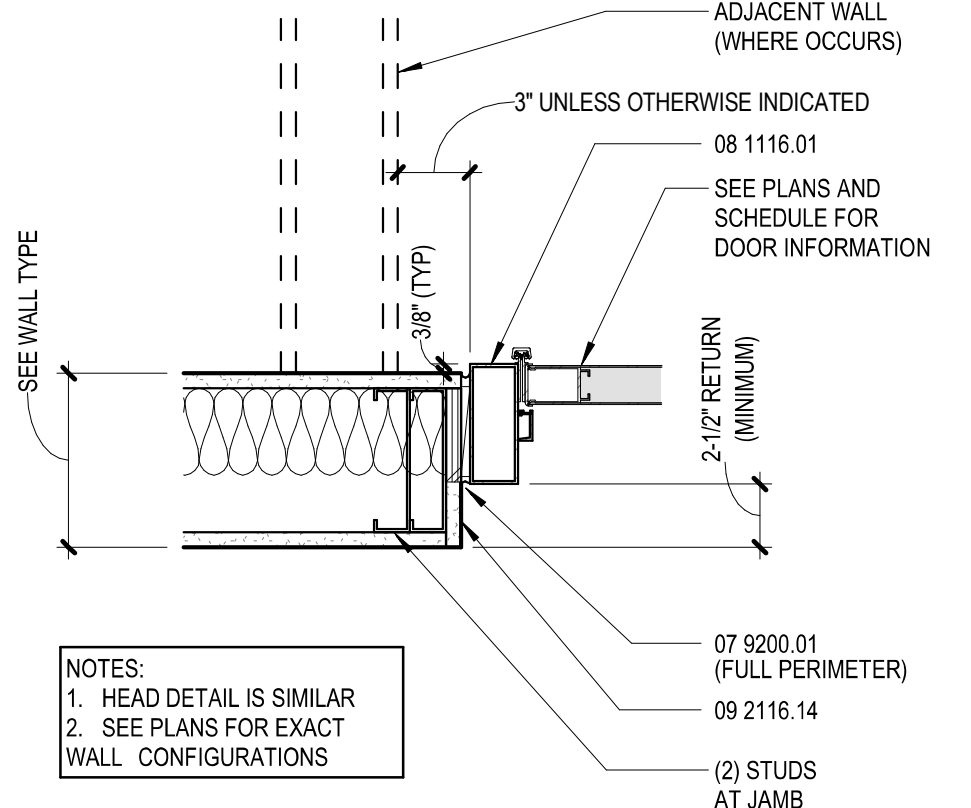
MARK	ROOM NAME	DOOR			FRAME			HDW	NOTES
		WIDTH	HEIGHT	TYPE	MATERIAL	TYPE	MATERIAL		
FIRST FLOOR									
101A		3'-0"	7'-0"	FG	WD	S	ALUM	09	
101B	LOBBY	3'-0"	7'-0"	FG	WD	S	ALUM	01	
101C	LOBBY	3'-0"	7'-0"	FG	WD	S	ALUM	02	
101D	LOBBY	3'-0"	7'-0"	FG	WD	S	ALUM	08	
201A	CONSULT	3'-0"	7'-0"	FG	WD	S	ALUM	06	
201B	CONSULT	3'-0"	7'-0"	FG	WD	S	ALUM	03	
208	OFFICE	3'-0"	7'-0"	FG	WD	S	ALUM	03	
209	OFFICE	3'-0"	7'-0"	FG	WD	S	ALUM	03	
210	ELECTIONS	3'-0"	7'-0"	FG	WD	S	ALUM	03	
301	FILE/STORAGE	3'-0"	7'-0"	FG	WD	S	ALUM	06	
304	HR OFFICE	3'-0"	7'-0"	FG	WD	S	ALUM	03	
305	OPEN COLLAB	3'-0"	7'-0"	FG	WD	S	ALUM	03	
306	COMMUNITY DEVELOPMENT DIRECTOR	3'-0"	7'-0"	FG	WD	S	ALUM	03	
307	OPEN COLLAB	3'-0"	7'-0"	FG	WD	S	ALUM	03	
308	DEPUTY ASSESSOR	3'-0"	7'-0"	FG	WD	S	ALUM	03	
309	OPEN COLLAB	3'-0"	7'-0"	FG	WD	S	ALUM	03	
310	OPEN COLLAB	3'-0"	7'-0"	FG	WD	S	ALUM	03	
311	CONFERENCE	3'-0"	7'-0"	FG	WD	S	ALUM	03	
312	CONFTRAINING	3'-0"	7'-0"	FG	WD	S	ALUM	04	
312A	OPEN COLLAB	3'-0"	7'-0"	FG	WD	S	ALUM	04	
400A	VESTIBULE	3'-0"	7'-0"	FG	WD	S	ALUM	10	
400B	SERVICE AREA	3'-0"	7'-0"	FG	WD	S	ALUM	05	
400C	SERVICE AREA	3'-0"	7'-0"	FG	WD	S	ALUM	08	
406	STG	3'-0"	7'-0"	FG	WD	S	ALUM	06	
EX01		6'-0"	7'-0"	F	HM	S	HM	12	
EX02	VESTIBULE	6'-0"	7'-0"	F	HM	S	HM	12	
EX03		3'-0"	7'-0"	FG	WD	S	ALUM	11	
EX04		3'-0"	7'-0"	FG	WD	S	ALUM	11	
EX05		3'-0"	7'-0"	FG	WD	S	ALUM	11	
EX06		3'-0"	7'-0"	FG	WD	S	ALUM	11	
EX07		3'-0"	7'-0"	FG	WD	S	ALUM	11	
EX08		3'-0"	7'-0"	FG	WD	S	ALUM	11	
EX09	MECH	3'-0"	7'-0"	FG	WD	S	ALUM	07	
EX10	LOBBY	3'-0"	7'-0"	FG	WD	S	ALUM	07	
EX11		3'-0"	7'-0"	FG	WD	S	ALUM	07	

DOOR SCHEDULE, DOOR TYPE, AND FRAME TYPE NOTES

- EXISTING DOOR AND FRAME (HARDWARE MODIFICATIONS ONLY)
- NEW DOOR IN EXISTING FRAME
- REUSE EXISTING (MASONRY) OPENING
- MODIFIED (MASONRY) OPENING
- 2" PIVOT OFFSET
- FULL (170 DEGREE) SWING
- 3/4" UNDERCUT
- DOUBLE EGRESS
- REMOVABLE MULLION
- DOUBLE ACTING
- EXIT ONLY
- DOOR EDGE PROTECTION - SEE INTERIORS
- DOOR FRAME PROTECTION - SEE INTERIORS
- LEAD LINED
- RESCUE FUNCTION
-
-
-
- CARD ACCESS
- AUTO OPERATOR WITH PUSH BUTTON(S)
- MAGNETIC HOLD OPEN
- AUTOMATIC ENTRANCE
- DELAYED EGRESS
- REMOTE OPERATOR
-
-
- 1/2" TEMPERED GLAZING
- TEMPERED GLAZING (SIZE 2)
- LAMINATED GLAZING (SIZE 1)
- LAMINATED GLAZING (SIZE 2)
- INSULATED DOOR GLAZING (TYPE 1)
- INSULATED DOOR GLAZING (TYPE 2)
- WINDOW FILM (INTERIOR FINISH #)
- WINDOW FILM (INTERIOR FINISH #)
-
- STAINLESS STEEL BOTTOM RAIL
- STAINLESS STEEL TOP RAIL
- STAINLESS STEEL PATCH FITTING
- STAINLESS STEEL LADDER PULL
- OVERHEAD SECTIONAL DOOR (SEE SPEC SECTION 08)
- OVERHEAD COILING DOOR (SEE SPEC SECTION 08)
- FOLDING FIRE PARTITION (08)
-
-

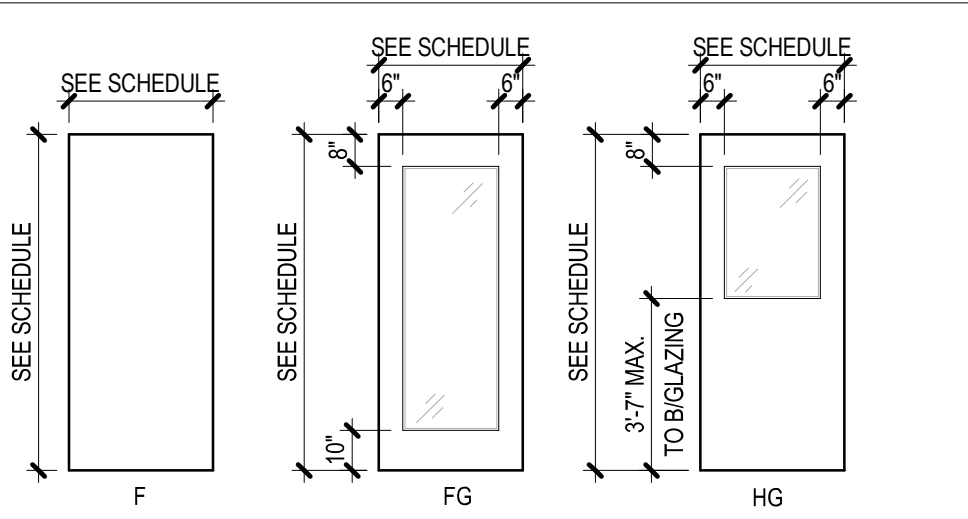


B2 ADJUSTABLE INTERIOR ALUMINUM FRAME
1 1/2" = 1'-0"

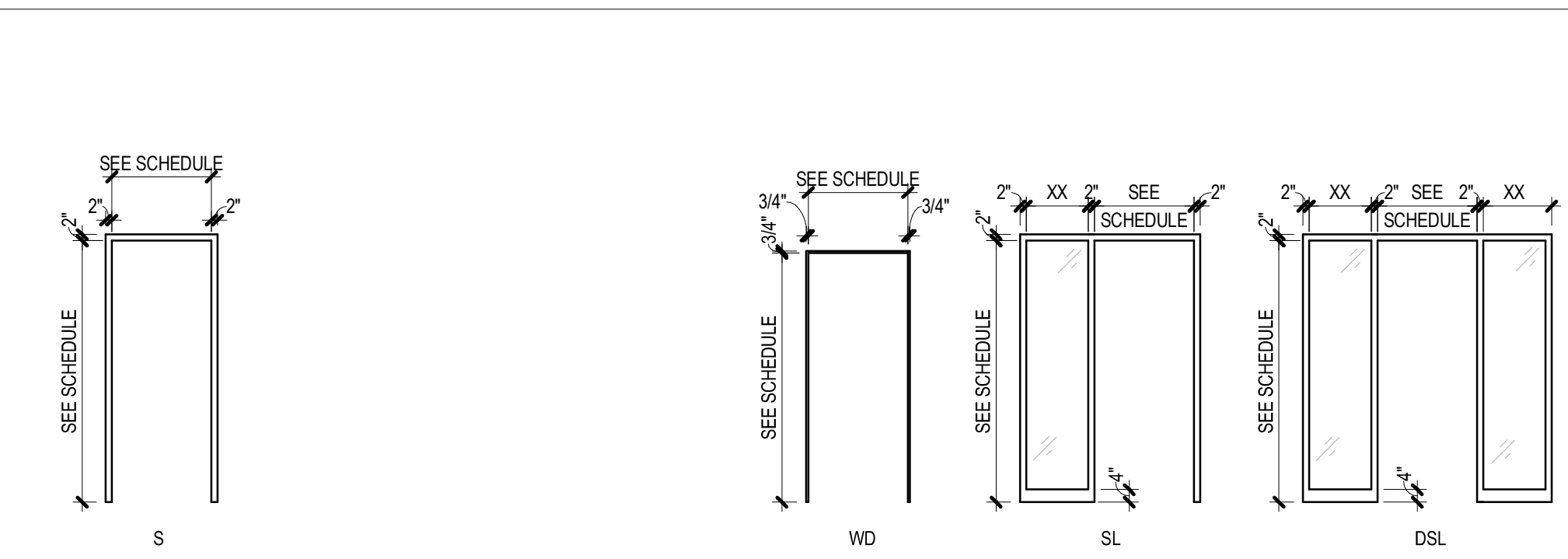


C2 INTERIOR ALUMINUM FRAME
1 1/2" = 1'-0"

DOOR TYPES



FRAME TYPES MODIFY PER PROJECT



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ABBREVIATIONS - PLUMBING

Table listing plumbing abbreviations such as AC (AIR COMPRESSOR), ADA (AMERICANS WITH DISABILITIES ACT), AW (ACID WASTE), B (BOILER), CB (CATCH BASIN), etc.

PLUMBING SYMBOLS

Table of plumbing symbols including symbols for valves (ANGLE RELIEF VALVE, CHECK VALVE), gauges (PRESSURE GAUGE), and other components.

PLUMBING GENERAL NOTES

- 1. COORDINATE ROUTING OF PIPING WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS.
2. COMPLY WITH ALL APPLICABLE LOCAL AND STATE CODES.
3. PROVIDE TRAP SEAL PROTECTION ON ALL FLOOR DRAINS, FLOOR SINKS AND HUB DRAINS SUBJECT TO EVAPORATION. INSTALL PER MANUFACTURERS RECOMMENDATIONS.

PLUMBING DEMOLITION NOTES

- 1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE AND/OR REGULATORY AGENCIES, CODES AND REGULATIONS FOR NEW WORK.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR WORK WITH OTHER TRADES AND WITH THE CONSTRUCTION MANAGER.

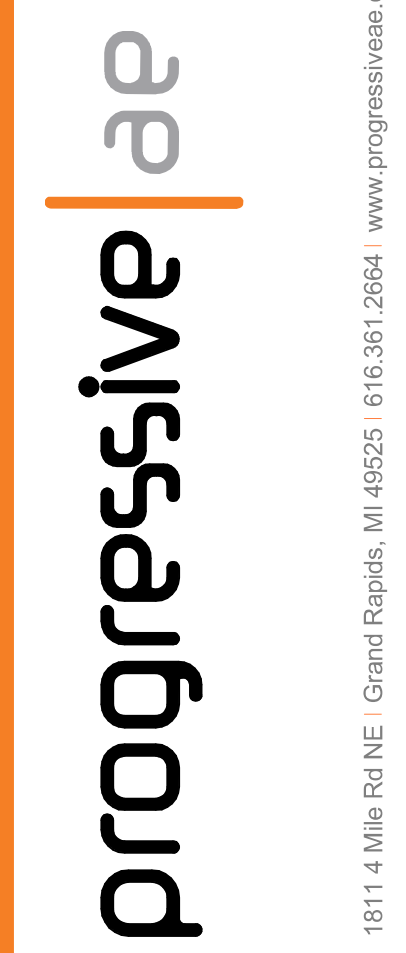
PLUMBING SYMBOLOGY

Table mapping line styles to plumbing materials: CW (COLD WATER), HW (HOT WATER), SAN (SANITARY WASTE), ST (STORM), AV (ACID WASTE VENT), V (SANITARY VENT), G (NATURAL GAS), EX (EMERGENCY POWER), CA (COMPRESSED AIR).

PHASING

Table defining line styles for existing and demolition: solid line for EXISTING - LINE THICKNESS OVERRIDE, dashed line for DEMOLITION - LINE STYLE AND THICKNESS OVERRIDE.

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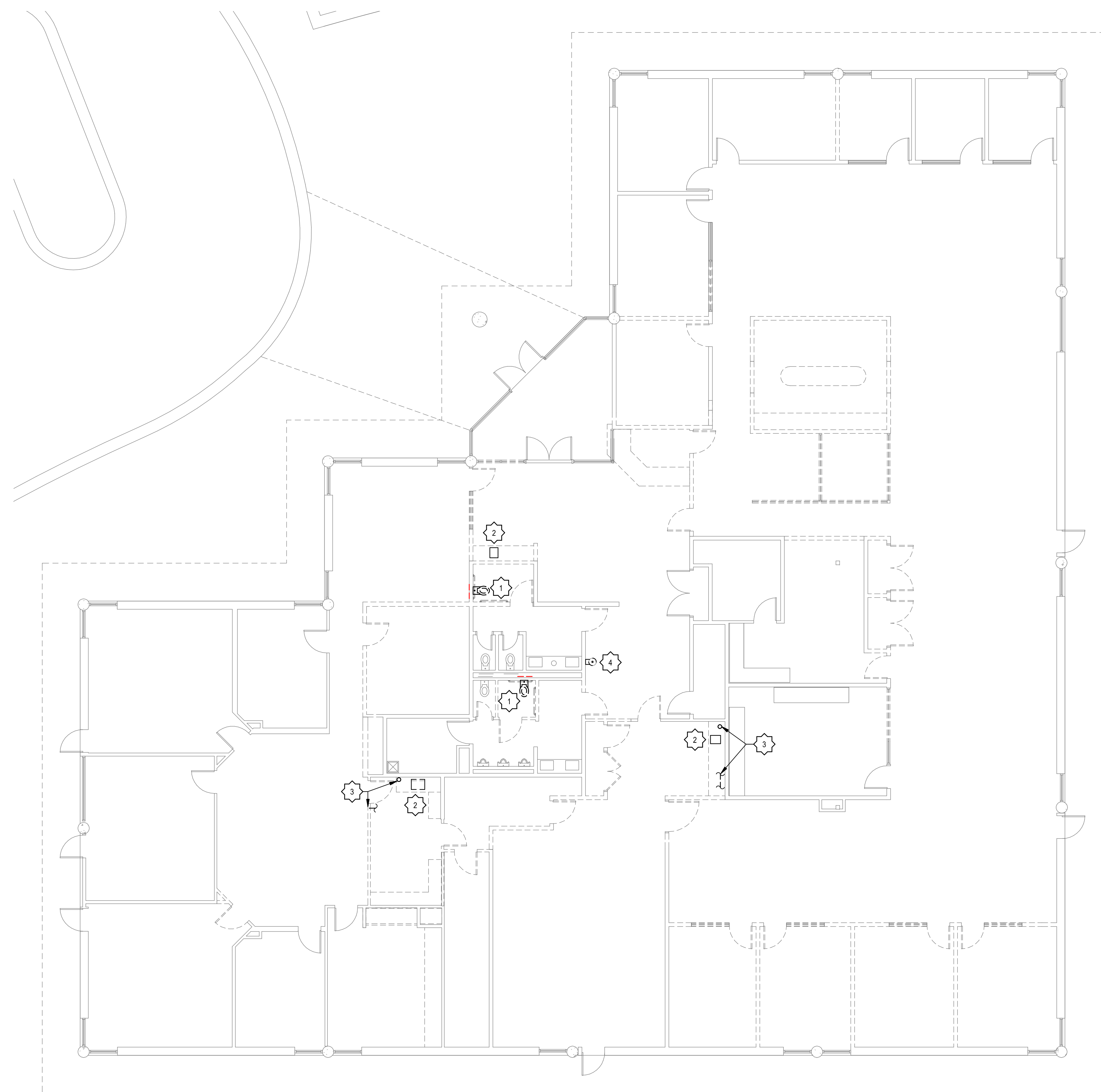
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GENERAL PLUMBING INFORMATION
P001

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FIRST FLOOR PLUMBING DEMOLITION PLAN
1/8" = 1'-0"

- ### PLUMBING DEMOLITION KEYNOTES
1. REMOVE EXISTING WATER CLOSET, ASSOCIATED CARRIER, COLD WATER SUPPLY PIPING, SANITARY AND VENT PIPING. CAP SANITARY PIPING BEHIND WALL SURFACE. PREPARE COLD WATER AND VENT PIPING FOR NEW CONNECTION NEARBY.
 2. REMOVE EXISTING SINK, ASSOCIATED PIPING, FILTER, COLD WATER, HOT WATER, SANITARY, VENT PIPING AND ACCESSORIES COMPLETELY. CAP COLD WATER, HOT WATER AND VENT PIPING AT NEARBY MAIN. CAP SANITARY LEVEL WITH FINISHED FLOOR.
 3. REMOVE EXISTING 3/8" COLD WATER PIPING AND STUB OUT. CAP COLD WATER PIPING AT NEARBY MAIN.
 4. REMOVE EXISTING DRINKING FOUNTAIN. PREPARE FOR CONNECTION TO NEW ELECTRIC WATER COOLER.

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TOWNSHIP HALL RENOVATION

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FIRST FLOOR
PLUMBING
DEMOLITION
PLAN
PD101

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5560 TAHOE DR SE
GRAND RAPIDS, MI 49406

7 6 5 4 3 2 1

A

B

C

D

E

F

G

H

7 6 5 4 3 2 1



- 7 PLUMBING KEYNOTES**
1. INSULATE EXISTING SINK DRAIN & TRAP ASSEMBLY TO MEET ADA REQUIREMENTS.
 2. INSTALL NEW WATER CLOSET IN LOCATION INDICATED. PROVIDE/INSTALL NEW WALL CARRIER AND CONNECT TO EXISTING SANITARY NEARBY. RECONNECT NEARBY EXISTING COLD WATER AND VENT PIPING.
 3. CONNECT NEW 1/2" HOT WATER, 1/2" COLD WATER, 1 1/4" VENT AND 3" SANITARY TO EXISTING PIPING LOCATED WITHIN ADJACENT RESTROOM.
 4. PROVIDE/INSTALL NEW ELECTRIC WATER COOLER. CONNECT TO EXISTING DOMESTIC COLD WATER, SANITARY AND VENT PIPING.

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FIRST FLOOR PLUMBING PLAN
P101

FIRST FLOOR PLUMBING PLAN
 1/8" = 1'-0"

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7 6 5 4 3 2 1

A

B

C

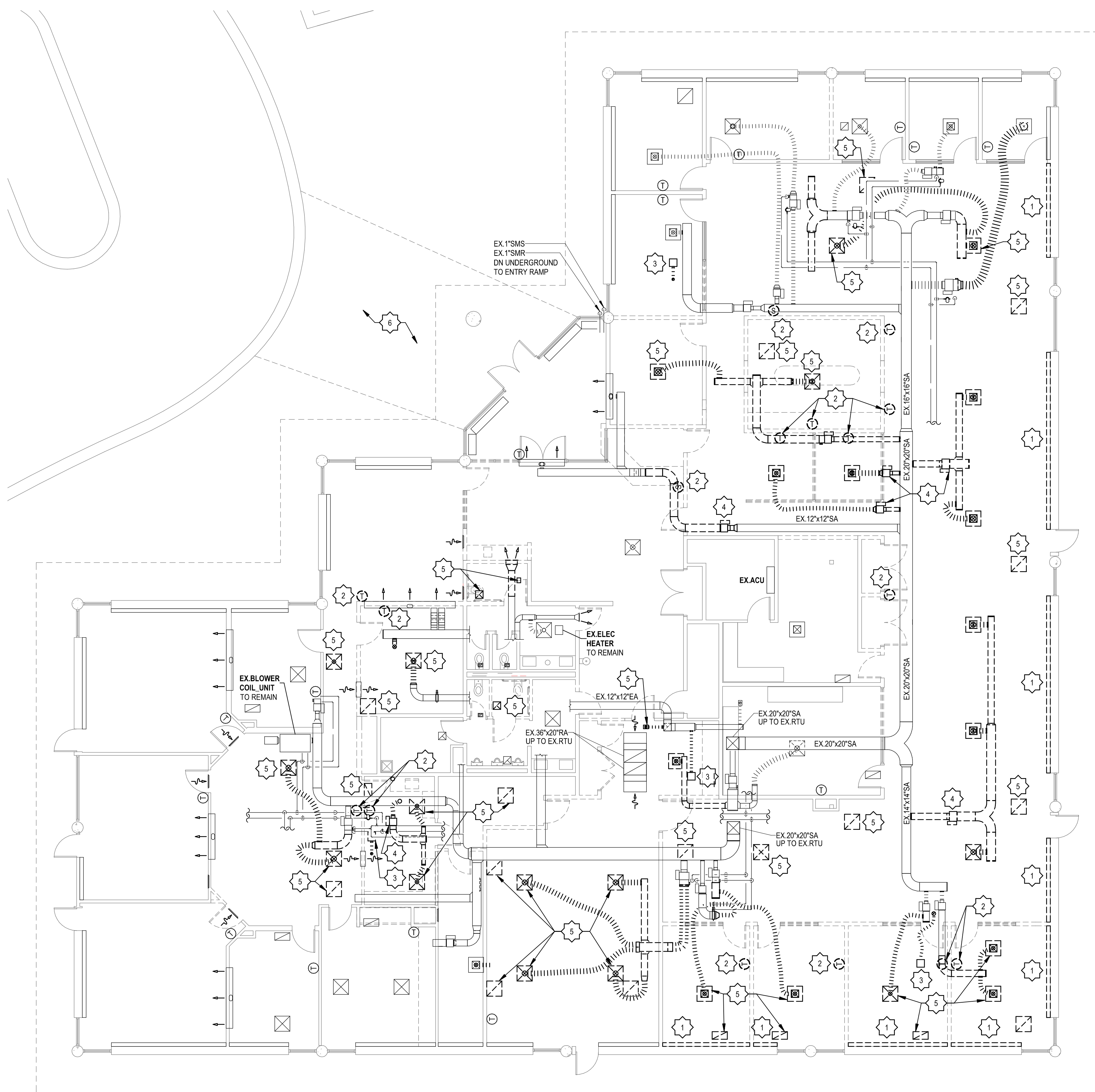
D

E

7 6 5 4 3 2 1

MECHANICAL DEMOLITION KEYNOTES

1. REMOVE EXISTING PERIMETER RADIANT FINNED TUBE AND ENCLOSURE, ASSOCIATED PIPING, CONTROLS AND ACCESSORIES COMPLETELY. CAP EXISTING PIPING FLUSH WITH FINISHED FLOOR.
2. REMOVE EXISTING TEMPERATURE SENSOR. CONTRACTOR MAY REUSE EXISTING CONTROL WIRING IN NEW WORK PHASE WHERE POSSIBLE.
3. REMOVE EXISTING CEILING MOUNTED EXHAUST FAN, ASSOCIATED DUCTWORK, HANGERS, CONTROLS AND ACCESSORIES COMPLETELY. IF EXHAUST IS DUCTED UP THROUGH ROOF, INSULATE AND CAP ROOF PENETRATION WATER-TIGHT. CAP TO MATCH ROOF COLOR.
4. REMOVE EXISTING TERMINAL UNIT, ASSOCIATED DUCTWORK, SUPPLY DIFFUSERS, HANGERS, CONTROLS AND ACCESSORIES COMPLETELY.
5. REMOVE EXISTING DIFFUSER, ASSOCIATED DUCTWORK, HANGERS AND ACCESSORIES COMPLETELY. CAP BRANCH DUCTWORK AT MAIN UNLESS TAP IS REUSED FOR NEW WORK PHASE.
6. REMOVE EXISTING SNOWMELT PIPING AND INSULATION BENEATH ENTRY WALKWAY. REMOVE SNOWMELT SENSOR AND RELATED CONTROLS.



FIRST FLOOR MECHANICAL DEMOLITION PLAN
1/8" = 1'-0"

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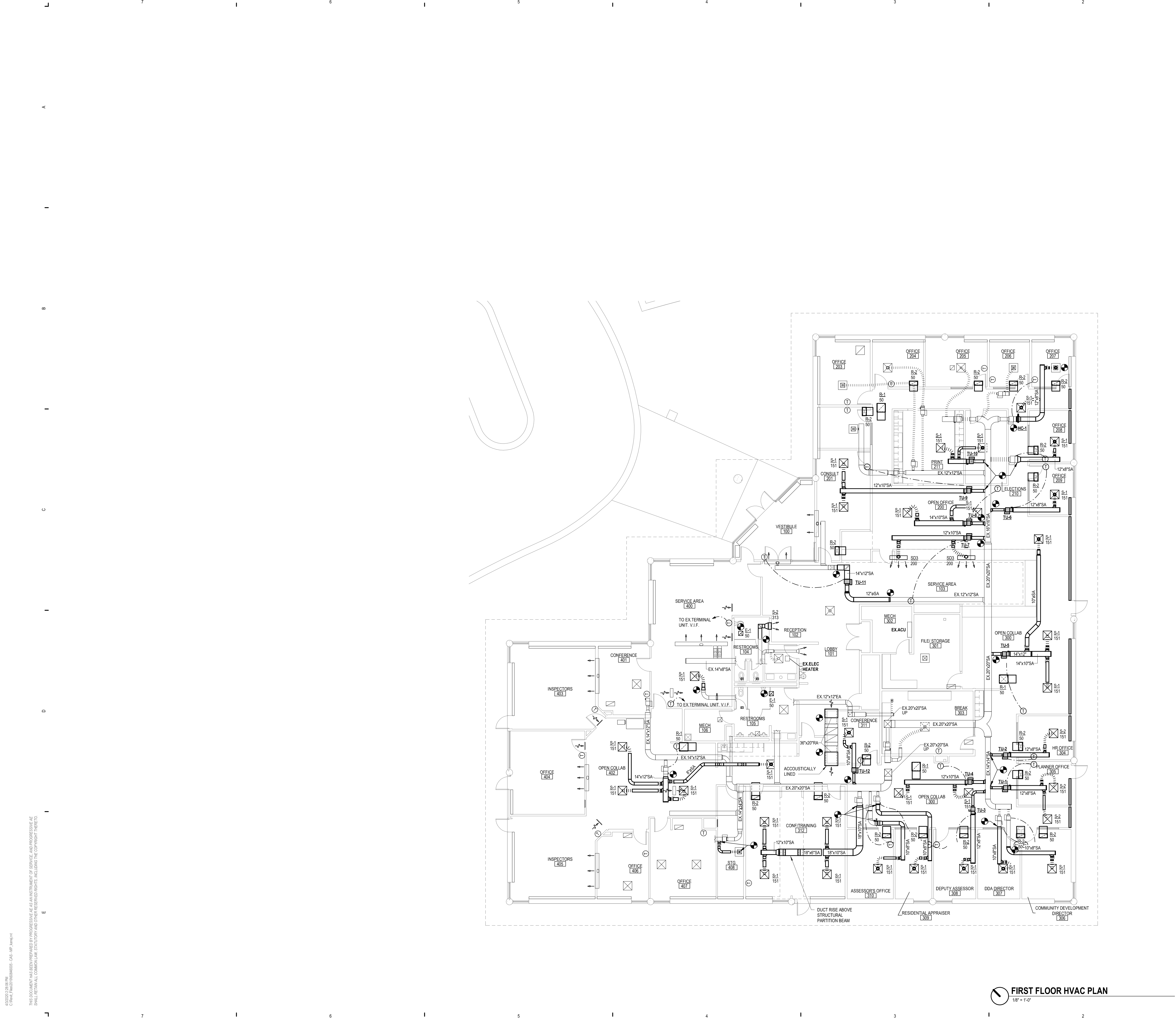
FIRST FLOOR MECHANICAL DEMOLITION PLAN
MD101

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FIRST FLOOR HVAC PLAN
1/8" = 1'-0"

MECHANICAL KEYNOTES

1. ADD NOTES HERE

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MECHANICAL KEYNOTES

- 1. INSTALL NEW SNOWMELT PIPING IN AREA INDICATED. REUSE EXISTING PIPE MANIFOLD. INSTALL SNOWMELT TUBING SPACED AT 8" ON CENTER PRESSURE TEST SYSTEM PRIOR TO FILLING. FLUSH ALL DISTRIBUTION SNOWMELT TUBING TWO TIMES BEFORE FINAL SYSTEM FILL. CLEAN ALL STRAINERS AFTER EACH SYSTEM FLUSH. PROVIDE PRE-MIXED 40% GLYCOL SOLUTION TO FILL THE ENTIRE SYSTEM. INSTALL 2" (MIN. R-10) 30 PSI RATED INSULATION BOARD UNDER TUBING IN PEDESTRIAN TRAFFIC AREAS.

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FIRST FLOOR HYDRONICS PLAN
1/8" = 1'-0"

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ELECTRICAL ABBREVIATIONS

A	AMPERES
AAC	ABOVE ACCESSIBLE CEILING
AC	AIR COMPRESSOR
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADO	AUTOMATIC DOOR OPENER
AFG	ABOVE FINISH GRADE
AFI	ARC FAULT CIRCUIT INTERRUPTER
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMPL	AMPLIFIER
ANNUN	ANNUNCIATOR
AP	ACCESS PANEL
APPROX	APPROXIMATE
AS	AMP SWITCH
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BATT	BATTERY
BF	BARRIER FREE
BFG	BELOW FINISHED GRADE
BMS	BUILDING MANAGEMENT SYSTEM
BO	BOTTOM OF DEVICE
BSMT	BASEMENT
C	CONDUIT
CAB	CABINET
CAP	CAPACITY
CATV	COMMUNITY ANTENNA TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED-CIRCUIT TELEVISION
CF	CEILING FAN
CFI	COMPACT FLUORESCENT
CH	CABINET HEATER
CKT	CIRCUIT
CL	CENTERLINE
CLR	CLEAR CLEARANCE
CMFR	COMPRESSOR
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CONN	CONNECT, CONNECTED, CONNECTION
CONV	CONNECTOR
CP	CIRCULATING PUMP
CR	CARD READER
CT	COOLING TOWER
CT	CURRENT TRANSFORMER
CU	COPPER
DEPT	DEPARTMENT
DET	DETAIL
DISC	DISCONNECT
DIST	DISTRIBUTION
DL	DEAD LOAD
DR	DAMPEN
DR	DOOR SWITCH
DT	DOUBLE THROW
DW	DISHWASHER
DWH	DOMESTIC WATER HEATER
EF	EXHAUST FAN
EHC	ELECTRIC HEATING COIL
EH	ELECTRIC INFARED HEATER
ELEC	ELECTRIC, ELECTRICAL
LEV	ELEVATOR
EM	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
ES	ELECTRICAL STRIKE
EW	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXP	EXPLOSION PROOF
F	FAHRENHEIT
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FDR	FEEDER
FDS	FUSED DISCONNECT SWITCH
FXT	FUTURE
FL	FLUORESCENT
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR, FLOORING
FMC	FLEXIBLE METAL CONDUIT
FSB	FLAT SCREEN BOX
FU	FUSE
FURN	FURNISH, FURNISHED
GALV	GALVANIZED
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT CIRCUIT PROTECTOR
GND	GROUND
GRMC	GALVANIZED RIGID METAL CONDUIT
HG	HOSPITAL GRADE
HQA	HAND-OFF AUTOMATIC
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HSPK	HOUSEKEEPING PAD
HTG	HEATING
HTP	HEAT PUMP
HTR	HEATER
HTR	HEATER
HUM	HUMIDIFIER
HV	HIGH VOLTAGE
HWP	HYDRONIC WATER PUMP
IBC	INTERNATIONAL BUILDING CODE
IC	INTERRUPTING CAPACITY
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
IR	INFRARED
JBOX	JUNCTION BOX
KO	KNOCKOUT
KS	KEY SWITCH

ELECTRICAL ABBREVIATIONS

KV	KILOVOLT
KVA	KILOVOLT-AMPERES
KVAR	KILOVOLT-AMPERES REACTIVE
KW	KILOWATTS
KWH	KILOWATT-HOURS
LED	LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN
LP	LIGHT POLE
LT	LITE, LIGHT
LV	LIGHTING
LV	LOW VOLTAGE
M	MOMENTARY CONTACT
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MD	MOTION DETECTOR
MDC	MAIN DISTRIBUTION CENTER
MECH	MECHANICAL
MFS	MAIN FUSED DISCONNECT SWITCH
MH	MANHOLE
MIC	MICROPHONE
ML	MAGNETIC DOOR LOCK
MLO	MAIN LUGS ONLY
MMS	MANUAL MOTOR STARTER
MOA	MULTIOUTLET ASSEMBLY
MOP	MAXIMUM OVERCURRENT PROTECTION
MS	MAGNETIC STARTER
MSBD	MAIN SWITCH BOARD
MT	MOULT
MTR	MOTOR, MOTORIZED
MTS	MANUAL TRANSFER SWITCH
NC	NORMALLY CLOSED
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEF	NONFUSED
NFDS	NONFUSED DISCONNECT SWITCH
NL	NIGHT-LIGHT
NO	NORMALLY OPEN
NPF	NORMAL POWER FACTOR
OH	OVERHEAD
OHD	OVERHEAD DOOR
OL	OVERLOAD
P	PUMP
PA	PUBLIC ADDRESS
PB	PULL BOX
PE	PNEUMATIC ELECTRIC
PED	PEDESTAL
PERF	PERFORATE, PERFORATED
PF	PUMP - FIRE PROTECTION
PH	PHASE
PV	POST INDICATING VALVE
PNL	PANEL
PP	POWER POLE
PR	PROJECTOR
PROJ	PROJECTOR
PRV	POWER ROOF VENTILATOR
PTZ	PAN TILT ZOOM
PVC	POLYVINYL CHLORIDE
PR	POWER
RA	RETURN AIR
RAF	RETURN AIR FAN
RECEPT	RECEPTACLE
RIO	ROUGH-IN ONLY
RMC	RIGID METAL CONDUIT
RNM	RIGID NONMETALLIC CONDUIT
RT	RAINTIGHT
RTU	ROOFTOP UNIT
S/S	START/STOP PUSHBUTTONS
SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SEC	SECONDARY
SECT	SECTION
SHT	SHEET
SM	SURFACE MOUNTED
SM	SOLID METAL
SP	SPARE
SPD	SURGE PROTECTIVE DEVICE
SPKR	SPEAKER
SS	STAINLESS STEEL
SSW	SELECTOR SWITCH
STA	STATION
STOR	STORAGE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRY, SYMMETRICAL
SYS	SYSTEM
TEL	TELEPHONE
TERM	TERMINAL
TL	TWIST LOCK
TOD	TOP OF DEVICE
TR	TAMPER RESISTANT
TTC	TELEPHONE TERMINAL CABINET
TU	TERMINAL UNIT
TV	TELEVISION
TVTC	TELEVISION TERMINAL CABINET
UV	UNIT VENTILATOR
UC	UNDER CABINET
UE	UNDERGROUND ELECTRICAL
UG	UNDERGROUND
UH	UNIT HEATER
UV	UNDERGROUND TELEPHONE
UV	ULTRA VIOLET
V	VOLT
VA	VOLT-AMPERES
VTD	VIDEO DISPLAY TERMINAL
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WG	WIRE GUARD
WH	WATER HEATER
WHP	WEATHERPROOF
XFER	TRANSFER
XFMR	TRANSFORMER
Ø	PHASE

DATA SYMBOL LEGEND

RACEWAY & RACEWAY BY	DEVICE BY	INSTALLED BY	WIRED BY	SYMBOL	DESCRIPTION	HEIGHT TO MIDDLE OF DEVICE (U.N.O.)
E				▽	E - ELECTRICAL CONTRACTOR X - OTHERS	
E	E	E	E	▽	DATA/PHONE OUTLET, 3/4" TO ACCESSIBLE CEILING OR CABLETRAY	18"
E	E	E	E	▽	ABOVE COUNTERTOP DATA/PHONE OUTLET, MOUNT 4" ABOVE BACKSPASH OR	46"
E	E	E	E	▽	MULTIOUTLET WIREMOLD ASSEMBLY, MOUNT 4" ABOVE BACKSPASH OR PROVIDE DATA OUTLETS AS SHOWN ON DRAWING	46"
E	E	E	E	▽	FLOOR DATA/PHONE OUTLET	
E	E	E	E	▽	CEILING DATA/PHONE OUTLET	
E	X	X	E	WAP CLG	CEILING WIRELESS ACCESS POINT	
E	X	X	X	TV	TELEVISION OUTLET	18"
E	E	E	E	▽	CLOCK	84"
E	X	X	X	AV	INTERCOM OUTLET LOCATION	46"
E	X	X	X	AV	INTERCOM - AUDIO/VISUAL	46"
E	X	X	E	⊙	SPEAKER (WALL OR CEILING MT.)	84"
E	E	E	E	⊙	SOUND MASKING EMITTER (WALL OR CEILING MT.)	84"
E	X	X	X	⊙	VOLUME CONTROL	46"
E	X	X	X	⊙	MICROPHONE OUTLET	18"
E	X	X	X	⊙	PROJECTOR CONTROL OUTLET	18"
E	M	M	E	⊕	HUMIDISTAT	46"
E	M	M	E	⊕	THERMOSTAT	46"
E	X	X	X	⊕	OUTLET IN FLOOR (MICROPHONE SHOWN)	

FIRE ALARM SYMBOL LEGEND

RACEWAY & RACEWAY BY	DEVICE BY	INSTALLED BY	WIRED BY	SYMBOL	DESCRIPTION	HEIGHT TO MIDDLE OF DEVICE (U.N.O.)
E					E - ELECTRICAL CONTRACTOR M - MECHANICAL CONTRACTOR X - OTHERS	
E	E	E	E	P	WALL PULLSTATION DEVICE	46"
E	E	E	E	V	WALL AUDIO/VISUAL DEVICE (CANDELAS NOTED)	90"
E	E	E	E	V	WALL VISUAL DEVICE (CANDELAS NOTED)	90"
E	E	E	E	V	WALL AUDIO STATION	90"
E	E	E	E	V	CEILING AUDIO/VISUAL DEVICE (CANDELAS NOTED)	
E	E	E	E	V	CEILING VISUAL DEVICE (CANDELAS NOTED)	
E	E	E	E	FB	CEILING AUDIO STATION	
E	E	E	E	SD	WALL SMOKE DETECTOR	WITHIN 12" OF CEILING
E	E	E	E	SD	WALL AUDIO/VISUAL SMOKE DETECTOR	WITHIN 12" OF CEILING
E	E	E	E	SD	WALL COMBO SMOKE/CO DETECTOR	WITHIN 12" OF CEILING
E	E	E	E	HD	WALL HEAT DETECTOR	90"
E	E	E	E	SD	CEILING SMOKE DETECTOR	
E	E	E	E	SD	CEILING AUDIO/VISUAL SMOKE DETECTOR	
E	E	E	E	SD	CEILING COMBO SMOKE/CO DETECTOR	
E	E	E	E	HD	CEILING HEAT DETECTOR	
E	E	E	E	DR	DUCT SMOKE DETECTOR (RETURN SIDE)	
E	E	E	E	DS	DUCT SMOKE DETECTOR (SUPPLY SIDE)	
E	X	X	E	FS	SPRINKLER FLOW SWITCH	
E	X	X	E	TS	SPRINKLER VALVE TAMPER SWITCH	
E	E	E	E	MH	WALL MAGNETIC HOLD OPEN	80"
E	E	E	E	RT	REMOTE TEST SWITCH	46"
E	E	E	E	FP	FIRE FIGHTER TELEPHONE	46"
E	E	E	E	FACP	FIRE ALARM CONTROL PANEL	80"
E	E	E	E	FAMP	FIRE ALARM ANNUNCIATOR PANEL	46"
E	E	E	E	NAC	FIRE ALARM NAC PANEL	46"

LIGHTING SYMBOL LEGEND

RACEWAY & RACEWAY BY	DEVICE BY	INSTALLED BY	WIRED BY	SYMBOL	DESCRIPTION	HEIGHT TO MIDDLE OF DEVICE (U.N.O.)
E					E - ELECTRICAL CONTRACTOR M - MECHANICAL CONTRACTOR X - OTHERS	
E	E	E	E	OSD	SINGLE POLE SWITCH	46"
E	E	E	E	3W	3-WAY SWITCH	46"
E	E	E	E	4W	4-WAY SWITCH	46"
E	E	E	E	DM	DIMMER SWITCH	46"
E	E	E	E	OS	OCCUPANCY SENSOR SWITCH	46"
E	E	E	E	MCS	MOMENTARY CONTACT SWITCH	46"
E	E	E	E	T	TIMER SWITCH	46"
E	E	E	E	OSD	COMBINATION: OCCUPANCY SENSOR / 0-10V DIMMER SWITCH	46"
E	E	E	E	MCS	COMBINATION: MOMENTARY CONTACT SWITCH / 0-10V DIMMER SWITCH	46"
E	E	E	E	CF	COMBINATION: LIGHT SWITCH / CEILING FAN CONTROLLER	46"
E	E	E	E	LVS	LIGHTING CONTROL SYSTEM PUSH BUTTON STATION	46"
E	E	E	E	OSD	DUAL RELAY OCCUPANCY SENSOR SWITCH	46"
E	E	E	E	K	KEYED SWITCH	46"
E	E	E	E	GTD	GENERATOR TRANSFER DEVICE	
E	E	E	E	OS	CEILING OCCUPANCY SENSOR - DUAL TECHNOLOGY TYPE	
E	E	E	E	LS	CEILING LIGHT LEVEL SENSOR	
E	E	E	E	PC	PHOTOCELL	
E	E	E	E	⊙	POLE MOUNTED LIGHT (TYPE DENOTED)	PER SCHED
E	E	E	E	⊙	WALL MOUNTED LIGHT (TYPE DENOTED)	AS NOTED
E	E	E	E	⊙	RECESSED LIGHT (TYPE DENOTED)	
E	E	E	E	⊙	SURFACE LIGHT (TYPE DENOTED)	
E	E	E	E	P1 ⊙ P2	SUSPENDED DR PENDING LIGHT (TYPE DENOTED)	
E	E	E	E	⊙	INDUSTRIAL LIGHT (TYPE DENOTED)	
E	E	E	E	⊙	TRACK AND TRACK LIGHT (TYPES DENOTED)	AS NOTED
E	E	E	E	⊙	EMERGENCY DOUBLE HEAD WALL LIGHT (TYPE DENOTED)	96"
E	E	E	E	⊙	EXIT SIGN (TYPE DENOTED)	
E	E	E	E	⊙	LIGHT FIXTURE ON (EM) LIFE SAFETY OR CRITICAL BRANCH	AS NOTED

POWER SYMBOL LEGEND

RACEWAY & RACEWAY BY	DEVICE BY	INSTALLED BY	WIRED BY	SYMBOL	DESCRIPTION	HEIGHT TO MIDDLE OF DEVICE (U.N.O.)
E					E - ELECTRICAL CONTRACTOR M - MECHANICAL CONTRACTOR X - OTHERS	
E	E	E	E	⊕	SINGLE RECEPT ("EM" = EMERGENCY, "HG" = HOSPITAL GRADE, "TR" = TAMPER RESISTANT) 18"	
E	E	E	E	⊕	GFCI RATED SINGLE RECEPT	18"
E	E	E	E	⊕	ISOLATED GROUND SINGLE RECEPT	18"
E	E	E	E	⊕	SWITCHED SINGLE RECEPT	18"
E	E	E	E	⊕	DUPLEX RECEPT ("EM" = EMERGENCY, "HG" = HOSPITAL GRADE, "U" = CONNECTED TO UPS)	18"
E	E	E	E	⊕	GFCI RATED DUPLEX RECEPT	18"
E	E	E	E	⊕	ISOLATED GROUND DUPLEX RECEPT	18"
E	E	E	E	⊕	SWITCHED DUPLEX RECEPT (SPLIT-WIRE)	18"
E	E	E	E	⊕	US/DUPLEX RECEPT	18"
E	E	E	E	⊕	ABOVE COUNTERTOP DUPLEX RECEPT, MOUNT 4" ABOVE BACKSPASH OR 44"	
E	E	E	E	⊕	FOURPLEX RECEPT ("EM" = EMERGENCY, "HG" = HOSPITAL GRADE, "U" = CONNECTED TO UP 18"	
E	E	E	E	⊕	GFCI RATED FOURPLEX RECEPT	18"
E	E	E	E	⊕	ISOLATED GROUND FOURPLEX RECEPT	18"
E	E	E	E	⊕	SWITCHED FOURPLEX RECEPT (SPLIT-WIRE)	18"
E	E	E	E	⊕	ABOVE COUNTERTOP FOURPLEX RECEPT, MOUNT 4" ABOVE BACKSPASH OR 44"	
E	E	E	E	⊕	SPECIAL RECEPT OR CONNECTION, PROVIDE DIRECT POWER CONNECTION OR MATCHING RECEPTACLE AS REQUIRED, COORDINATE W EQUIPMENT MANUFACTURER	18"
E	E	E	E	⊕	MULTIOUTLET WIREMOLD ASSEMBLY, MOUNT 4" ABOVE BACKSPASH OR PROVIDE POWER RECEPTS AS SHOWN ON DRAWING	46"
E	E	E	E	⊕	FLOOR RECEPT (DUPLEX SHOWN)	
E	E	E	E	⊕	CEILING RECEPT (DUPLEX SHOWN)	
E	X	X	X	⊕	JUNCTION BOX (FLOOR, WALL, CEILING SHOWN)	AS NOTED
E	E	E	E	⊕	PUSH BUTTON STATION	46"
E	E	E	E	⊕	MOTOR HORSEPOWER RATED SWITCH	46"
E	E	E	E	⊕	FUSED SWITCH	46"
E	E	E	E	⊕	SAFETY DISCONNECT SWITCH (FUSED)	72"
E	EM	EM	E	VFD	COMBO MOTOR STARTER/DISCONNECT SWITCH (FUSED)	72"
E	EM	EM	E	VFD	VARIABLE FREQUENCY DRIVE	
E	EM	EM	E	⊕	SINGLE PHASE MOTOR (SEE SCHEDULE)	
E	EM	EM	E	⊕	THREE PHASE MOTOR (SEE SCHEDULE)	
E	E	E	E	⊕	CIRCUIT BREAKER PANEL	72"
E	E	E	E	⊕	POWER OR DISTRIBUTION PANEL	72"
E	E	E	E	⊕	SPECIAL CABINET (TYPE DENOTED)	72"
E	E	E	E	⊕	TRANSFORMER (TYPE DENOTED)	
E	E	E	E	⊕	GENERATOR (KVA DENOTED)	

WIRING SYMBOL LEGEND

RACEWAY & RACEWAY BY	DEVICE BY	INSTALLED BY	WIRED BY	SYMBOL	DESCRIPTION	HEIGHT TO MIDDLE OF DEVICE (U.N.O.)
E						



FIRST FLOOR DEMOLITION PLAN
1/8" = 1'-0"

- DEMOLITION GENERAL NOTES**
- A. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PHASES OF DEMOLITION AND CONSTRUCTION. COORDINATE WITH GENERAL CONSTRUCTION.
 - B. DISCONNECT AND REMOVE ALL ELECTRICAL DEVICES AND LIGHTING FIXTURES IN DEMOLITION AREAS UNLESS NOTED OTHERWISE.
 - C. DISCONNECT AND REMOVE ALL ELECTRICAL DEVICES IN WALLS TO BE DEMOLISHED. WALLS TO BE DEMOLISHED ARE SHOWN DASHED. DISCONNECT AND REMOVE ASSOCIATED CONDUIT AND WIRE BACK TO LAST REMAINING DEVICE. FURNISH AND INSTALL CONDUIT AND WIRE AS NECESSARY FOR CONTINUITY OF CIRCUITS TO ANY EXISTING DEVICES TO REMAIN. COORDINATE AND VERIFY REQUIREMENTS WITH NEW WORK IN AREA.
 - D. FURNISH AND INSTALL CONDUIT AND WIRE AS NECESSARY FOR CONTINUITY OF ANY FEEDERS OR BRANCH CIRCUITS ORIGINATING OUTSIDE THE DEMOLITION AREA THAT SERVES ANY ELECTRICAL EQUIPMENT OR DEVICES TO REMAIN AFTER DEMOLITION. MODIFY OR REPLACE AS REQUIRED.
 - E. FURNISH AND INSTALL CONDUIT AND/OR COMMUNICATIONS DATA WIRING AS NECESSARY FOR CONTINUITY OF ANY WIRING ORIGINATING OUTSIDE THE DEMOLITION AREA THAT SERVES ANY COMMUNICATIONS DATA EQUIPMENT OR DEVICES TO REMAIN AFTER DEMOLITION. MODIFY OR REPLACE AS REQUIRED.
 - F. DISCONNECT AND REMOVE LIGHT SWITCHES IN DEMOLITION AREAS AS NECESSARY TO ACCOMMODATE NEW DOOR CONFIGURATIONS.
 - G. DISCONNECT AND REMOVE ANY EXISTING ELECTRICAL DEVICES AND BACK BOXES AS NECESSARY WHERE NEW WALL CONSTRUCTION WILL INTERSECT AN EXISTING WALL. FURNISH AND INSTALL CONDUIT AND WIRE AS REQUIRED FOR CONTINUITY OF CIRCUIT(S).
 - H. FURNISH AND INSTALL BLANK COVER PLATES OVER ALL EXISTING UNUSED OPENINGS.

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FIRST FLOOR POWER AND SYSTEMS PLAN
1/8" = 1'-0"

POWER GENERAL NOTES

- A. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ALL ELECTRICAL ITEMS SHOWN ON THIS DRAWING.
- B. WHERE CONNECTED TO A 20A BRANCH CIRCUIT SUPPLYING AN INDIVIDUAL RECEPTACLE (SIMPLEX OR DUPLEX), THE RECEPTACLE SHALL BE RATED AT 20A.
- C. VERIFY LOCATIONS AND ROUGH-IN REQUIREMENTS OF ALL OWNER FURNISHED EQUIPMENT PRIOR TO ROUGH-IN.
- D. CONDUIT AND WIRE SHALL NOT BE INSTALLED BELOW FLOOR SLAB UNLESS INDICATED ON PLAN BY DASHED CONDUIT.
- E. ANY MODIFICATIONS TO THE NUMBER, SIZE, AND TYPE OF WIRES OR CONDUITS FROM THOSE INDICATED ON THIS DRAWING ARE PROHIBITED.
- F. CIRCUIT WIRING IS NOT SHOWN EXCEPT FOR SWITCHING INTENT OF FIXTURES AND CONTROL OF DEVICES.
- G. PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUITING AND SWITCHING SHOWN.
- H. CIRCUIT NUMBERS AT DEVICES CORRESPOND TO PANELBOARD BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL EQUIPMENT SCHEDULE.
- I. USE #14 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS LONGER THAN 75 FEET, UNLESS SPECIFICALLY INDICATED OTHERWISE. THIS SHALL BE REQUIRED FOR THE ENTIRE LENGTH OF THE CIRCUIT.

POWER KEYNOTES

- 1. 120VAC FEED TO DOOR POWER SUPPLY.

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FIRST FLOOR POWER AND SYSTEMS PLAN
EP101

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LIGHTING GENERAL NOTES

- A. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ALL ELECTRICAL ITEMS SHOWN ON THIS DRAWING.
- B. ALL RECESSED LIGHTING FIXTURES IN LAY-IN CEILINGS SHALL BE INSTALLED WITH 6' LONG FLEXIBLE METAL CONDUIT.
- C. ALL MOUNTING HEIGHTS FOR LIGHTING FIXTURES ARE TO THE BOTTOM OF THE FIXTURES UNLESS INDICATED OTHERWISE.
- D. SEE ARCHITECTURAL EXTERIOR ELEVATIONS FOR MOUNTING HEIGHTS OF EXTERIOR LIGHTING FIXTURES.
- E. CONDUIT AND WIRE SHALL NOT BE INSTALLED BELOW FLOOR SLAB UNLESS INDICATED ON PLAN BY DASHED CONDUIT.
- F. ANY MODIFICATIONS TO THE NUMBER, SIZE, AND TYPE OF WIRES OR CONDUITS FROM THOSE INDICATED ON THIS DRAWING ARE PROHIBITED.
- G. CIRCUIT WIRING IS NOT SHOWN EXCEPT FOR SWITCHING INTENT OF FIXTURES AND CONTROL OF DEVICES.
- H. PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUITING AND SWITCHING SHOWN.
- I. CIRCUIT NUMBERS AT DEVICES CORRESPOND TO PANELBOARD BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL EQUIPMENT SCHEDULE.
- J. USE #10 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS LONGER THAN 75 FEET, UNLESS SPECIFICALLY INDICATED OTHERWISE. THIS SHALL BE REQUIRED FOR THE ENTIRE LENGTH OF THE CIRCUIT.

LIGHTING KEYNOTES

- 1. REINSTALL DEMOLISHED TRACK LIGHTING.



FIRST FLOOR LIGHTING PLAN
1/8" = 1'-0"

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MOUNTING	LAMP	VOLT	WATT	MANUFACTURER	CATALOG NUMBER	APPROVED EQUAL	NOTE
PA	PENDANT 6" ROUND CYLINDER	PENDANT	LED	120 V	0 W	PRESCOLITE	LITERISTRY		
RA	RECESSED	RECESSED	LED	120 V	0 W	COLUMBIA	VERSIFY		
RB	2X2 RECESSED TROFFER	RECESSED	LED	120 V	0 W	COLUMBIA	VERSIFY		
RC	RECESSED DOWNLIGHT	RECESSED	LED	120 V	0 W	SPECTRUM	INFINUM		
RD	ADJUSTABLE RECESSED DOWNLIGHT	RECESSED	LED	120 V	0 W	SPECTRUM	A-SPEC		
WA	WALL MOUNTED LINEAR SURFACE FIXTURE	WALL MT @ X-X" AFF	LED	120 V	0 W	PEERLESS	ROUND 4 WALL ID		
WB	WALL PACK	WALL MT @ X-X" AFF	LED	120 V	9 W	COMPASS	CUSO		
XA	CEILING MOUNTED EXIT SIGN - SINGLE FACE	SURFACE/PENDANT	LED	120 V	3 W	LITHONIA	LOM-S-W-3-G-120/277-ELN-SD		
XB	CEILING MOUNTED EXIT SIGN - DOUBLE FACE	PENDANT	LED	277 V	3 W	LITHONIA	LOM-S-W-3-G-120/277-ELN-SD		
XC	WALL MOUNTED EXIT SIGN	WALL MOUNT	LED	120 V	3 W	LITHONIA	LOM-S-W-3-G-120/277-ELN-SD		

GENERAL NOTES:
A.

SCHEDULE NOTES:
1.

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FIRST FLOOR LIGHTING PLAN
EL101