City of West Allis

Meeting Agenda

Plan Commission

7525 W. Greenfield Ave.
West Allis, WI 53214

Wednesday, June 24, 2026 | **6:00 PM** | **City Hall, Room 128, 7525 W. Greenfield Ave.**

REGULAR MEETING

A. CALL TO ORDER

B. ROLL CALL

C. APPROVAL OF MINUTES

1. 26-0306 June 3, 2026 (draft minutes)

Attachments: June 3, 2026 (draft minutes)

D. NEW AND PREVIOUS MATTERS

2. 26-0301 Site, Landscaping, and Architectural Design Review for Storage Five West Allis, a proposed Light Industrial use, at 7840 W. Hicks St. (Tax Key No. 477-0142-000)

Attachments: 2 (SLA) Storage 5 - 7840 W Hicks St.

3A. 26-0302 Conditional Use Permit for Living Hope Lutheran Church, a proposed Religious Institution use, at 1337 S. 100 St.

3B. 26-0303 Site, Landscaping, and Architectural Design Review for Living Hope Lutheran Church, a proposed Religious Institution use, at 1337 S. 100 St. (Tax Key No. 444-0534-002).

Attachments: 3 (CUP & SLA)- LHL Church - 1337 S 100 St.

4. 26-0304 Site, Landscaping, and Architectural Design Review for Kwik Trip an existing Fuel Service Use at 10923 W. Lapham St. (Tax Key: 448-9979-014).

Attachments: 4 (SLA) Kwik Trip - 10923 W. Lapham St.

5. 26-0305 Project Tracking.

E. ADJOURNMENT

All meetings of the Plan Commission are public meetings. In order for the general public to make comments at the committee meetings, the individual(s) must be scheduled (as an appearance) with the chair of the committee or the appropriate staff contact; otherwise, the meeting of the committee is a working session for the committee itself, and discussion by those in attendance is limited to committee members, the mayor, other alderpersons, staff and others that may be a party to the matter being discussed.

NOTICE OF POSSIBLE QUORUM

It is possible that members of, and possibly a quorum of, members of other governmental bodies of the municipality may be in attendance at the above-stated meeting to gather information. No action will be taken by any governmental body at the above-stated meeting other than the governmental body specifically referred to above in this notice.

NON-DISCRIMINATION STATEMENT

The City of West Allis does not discriminate against individuals on the basis of race, color, religion, age, marital or veterans' status, sex, national origin, disability or any other legally protected status in the admission or access to, or treatment or employment in, its services, programs or activities.

AMERICANS WITH DISABILITIES ACT NOTICE

Upon reasonable notice the City will furnish appropriate auxiliary aids and services when necessary to afford individuals with disabilities an equal opportunity to participate in and to enjoy the benefits of a service, program or activity provided by the City.

LIMITED ENGLISH PROFICIENCY STATEMENT

It is the policy of the City of West Allis to provide language access services to populations of persons with Limited English Proficiency (LEP) who are eligible to be served or likely to be directly affected by our programs. Such services will be focused on providing meaningful access to our programs, services and/or benefits.

7525 W. Greenfield Ave.
West Allis, WI 53214

Meeting Minutes
Plan Commission

Wednesday, June 3, 2026 | **6:00 PM** | **City Hall, Room 128, 7525 W. Greenfield Ave.**

REGULAR MEETING (draft minutes)

A. CALL TO ORDER

The meeting was called to order at 6:02 p.m.

B. ROLL CALL

Present 7 - Wayne Clark, Brian Frank, Dan Devine, Brandon Reinke, David Raschka, Kathleen Dagenhardt, Eric Torkelson

Excused 2 - Jessica Katzenmeyer, Lisa Coons

Staff

Steve Schaer, Director of Planning & Zoning
Jack Kovnesky, Planner
Emily Wagner, Planner

Others Attending

Lisa Sullivan, Milwaukee County Supporting Small Businesses
Renae ReneAdan, Paleteria Yayo

C. APPROVAL OF MINUTES

1. 26-0226 April 22, 2026 (draft minutes)

Attachments: April 22, 2026 (draft minutes)

Clark moved to approve this matter, Torkelson seconded, motion carried.

D. NEW AND PREVIOUS MATTERS

2a. 26-0266 Conditional Use Permit for Paleteria Yayo, a proposed Food Production Use, at 5900 W. Burnham St.

Attachments: 2 CUP-SLA Paleteria Yayo

Items 2A & 2B were taken together.

Clark moved to approve this matter, Frank seconded, motion carried.

2b. 26-0267 Site, Landscaping, and Architectural Design Review for Paletería Yayo, a proposed Food Production use, at 5900 W. Burnham St. (Tax Key No. 455-0066-000)

Attachments: 2 CUP-SLA Paleteria Yayo

Items 2A & 2B were taken together.

Jack Kovnesky presented, outlining possible outdoor dining, along with a possible mural on the east side of the building. This property has been vacant for decades.

Recommendation: Common Council approval of the conditional use and approval of the Site, Landscaping, and Architectural Design Review for Paletería Yayo, a proposed Food Production Use, at 5900 W. Burnham St. (Tax Key No. 455-0066-000) subject to the following conditions:

Items 1-3 below to be satisfied before starting work:

Common Council approval of the Conditional Use Permit (Scheduled for June 16, 2026)

Any work done within the City Right of Way will require a Permit from Engineering. Additionally, any contractors will need to be licensed and bonded in the City. Contact Engineering Dept/Greg Bartelme at gbartelme@westalliswi.gov with questions.

Signage and lighting plans to be submitted for design review and permitting. Contact Planning and Zoning planning@westalliswi.gov with any questions.

Clark moved to approve this matter, Frank seconded, motion carried.

3. 26-0268 Project Tracking

Jack Kovnesky presented.

This matter was Discussed.

E. ADJOURNMENT

There being no other business, a motion was made by Clark, seconded by Reinke to adjourn at 6:15 p.m.

All meetings of the Plan Commission are public meetings. In order for the general public to make comments at the committee meetings, the individual(s) must be scheduled (as an appearance) with the chair of the committee or the appropriate staff contact; otherwise, the meeting of the committee is a working session for the committee itself, and discussion by those in attendance is limited to committee members, the mayor, other alderpersons, staff and others that may be a party to the matter being discussed.

NON-DISCRIMINATION STATEMENT

The City of West Allis does not discriminate against individuals on the basis of race, color, religion, age, marital or veterans' status, sex, national origin, disability or any other legally protected status in the admission or access to, or treatment or employment in, its services, programs or activities.

AMERICANS WITH DISABILITIES ACT NOTICE

Upon reasonable notice the City will furnish appropriate auxiliary aids and services when necessary to afford individuals with disabilities an equal opportunity to participate in and to enjoy the benefits of a service, program or activity provided by the City.

LIMITED ENGLISH PROFICIENCY STATEMENT

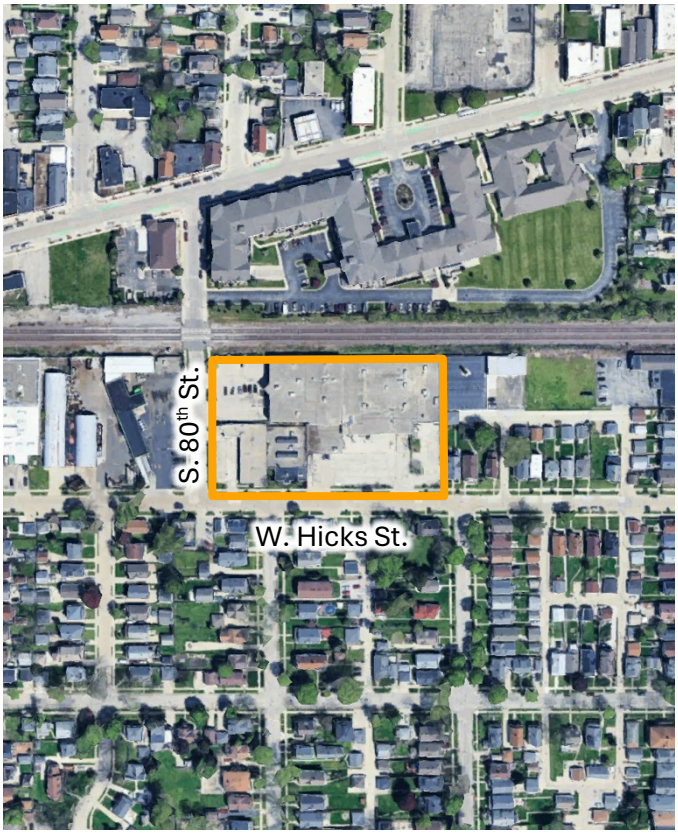
It is the policy of the City of West Allis to provide language access services to populations of persons with Limited English Proficiency (LEP) who are eligible to be served or likely to be directly affected by our programs. Such services will be focused on providing meaningful access to our programs, services and/or benefits.

STAFF REPORT
WEST ALLIS PLAN COMMISSION
Wednesday,
June 24, 2026 Room 128, 6:00 PM

2. Site, Landscaping, and Architectural Design Review for Storage Five West Allis, a proposed Light Industrial use, at 7840 W. Hicks St. (Tax Key No. 477-0142-000)

Overview and Zoning

Storage Five is proposing a new multi-story, 133,532 sq. ft. climate controlled self-storage business. The proposed business will renovate and expand an existing industrial building to accommodate the new self-storage facility.



The timeline for completion of the work is expected to take 12-18 months from the issuance of building permits.

Hours of Operation:

- Office: 9:30 a.m. – 6:00 p.m.
- Customer Access: 6:00 a.m. – 10:00 p.m.
- 24/7 Access is available but requires management approval

7840 W. Hicks St. is zoned I-1. In the I-1 zoning district, self-storage is considered a Light Industrial use which is Limited in the I-1 District. Limited Use Criteria permits self-storage if the lot is at least 2 acres and at least 20% of the lot is landscaped.

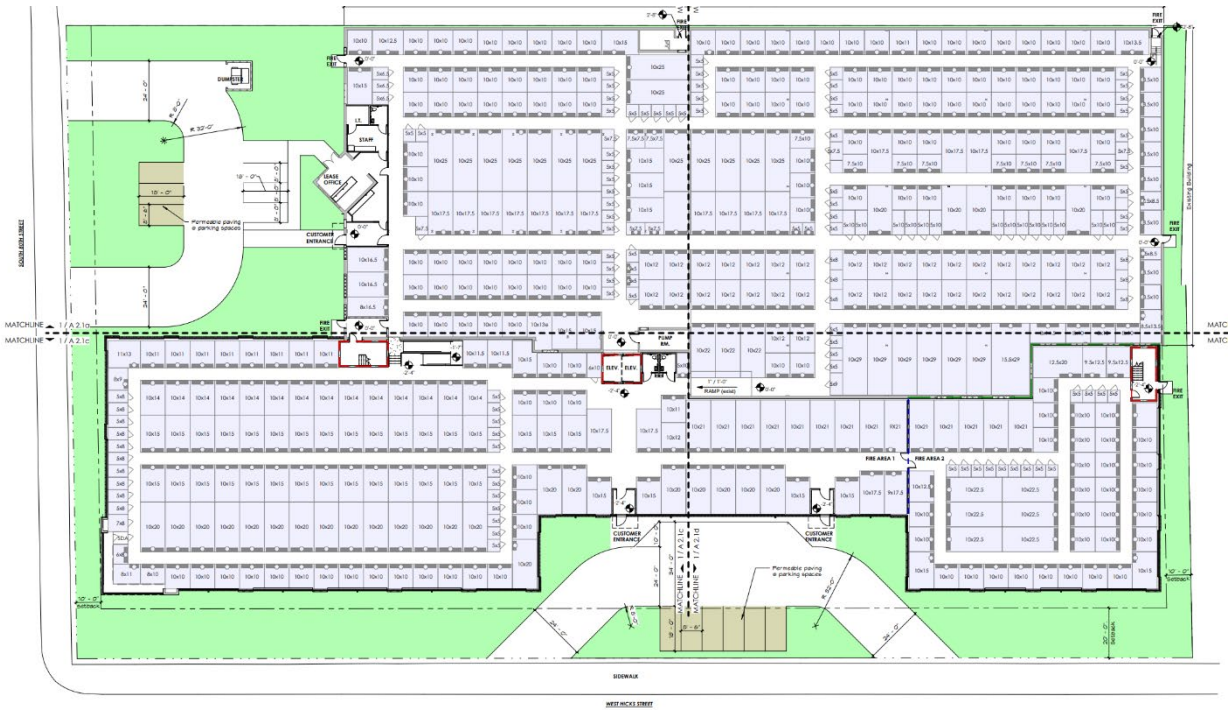
Site & Landscaping Plan

The proposal includes a plan to completely renovate and repurpose the existing industrial building on-site. The existing building has been expanded multiple times. The portion of the building to be repurposed is located on the northern portion of the lot. The new 2-story addition is to be located to the south of these existing areas. The proposed front setback of the addition is 26.3 ft and the side setback is 10 ft. Both setbacks meet the minimum setbacks required for the I-1 district. The maximum floor area ratio (FAR) for the building in the I-1 district is 1.5. The proposed FAR for this project is below that maximum at 1.17 FAR.

Site access is given off of both Hicks St and 80th St through a total of 4 driveways leading into two semi-circular drives. These semi-circular drives lead different entrances for the storage facility. Connected to these drives are parking areas. The total parking on site is 11 stalls, well below the maximum allowed. No bicycle racks were shown on the proposed plans. Per the gross square footage of the building, 10 bike racks are required. It is recommended that the bicycle racks are separated between the west and south entrances of the proposed facility.

Per Zoning Code regulations, a minimum of 20% of the lot is required to be landscaped/permeable for the Light Industrial use to be permitted. The project area is 114,426 sq. ft., which requires approximately 22,452 sq. ft. of landscaped/permeable area. The plans show the existing pervious area increasing from 7,900 sq. ft. to 22,452 sq. ft. through a combination of landscaping and permeable paving. This results in no net increase in total impervious area and satisfies the 20% minimum requirement.

The landscaping shown on the site primarily functions to aesthetically soften the building. A variety of bushes and shrubs line the perimeter of the public facing portions of the building. Additionally, the two permeable parking areas near the semi-circular driveways both are screened with shrubs and trees. The refuse area on site is also screened with trees in addition to fencing.



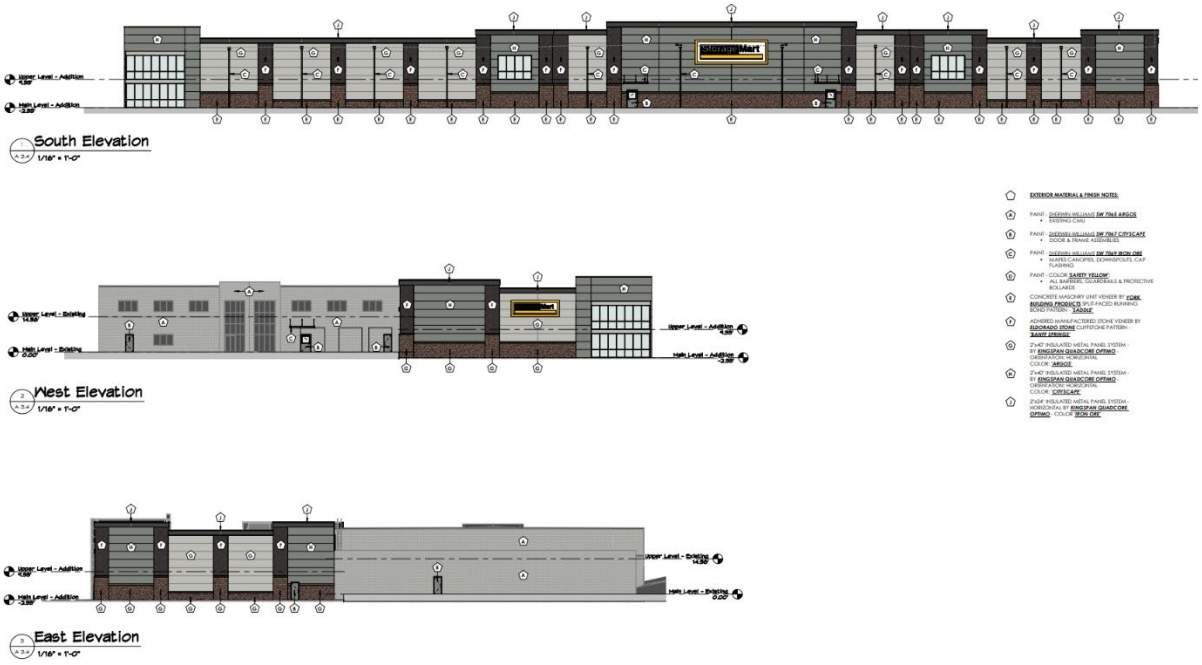
Architectural Plan

The submitted architectural elevations show a substantial exterior renovation of the existing industrial building and the construction of a new two-story addition. The updated plans include exterior material and finish notes, including painted existing CMU, painted door and frame assemblies, painted accessory items such as exposed gutters/downspouts and cap flashing, concrete masonry unit veneer, adhered manufactured stone veneer, and insulated metal panel systems in coordinated gray tones. The south elevation, which is the primary elevation visible from W. Hicks St., includes the greatest level of architectural treatment, with storefront-style glazing, brick/stone base elements, vertical masonry accents, horizontal metal paneling, varied parapet heights, entrance canopies, and wall plane/material changes to reduce the appearance of a long industrial façade.

The west elevation includes similar treatment near the customer entrance and addition, while portions of the existing building remain more utilitarian in appearance. The north and east elevations are less detailed and appear to retain existing wall area, which is less visible from the primary public frontages but should still be maintained in a finished condition.

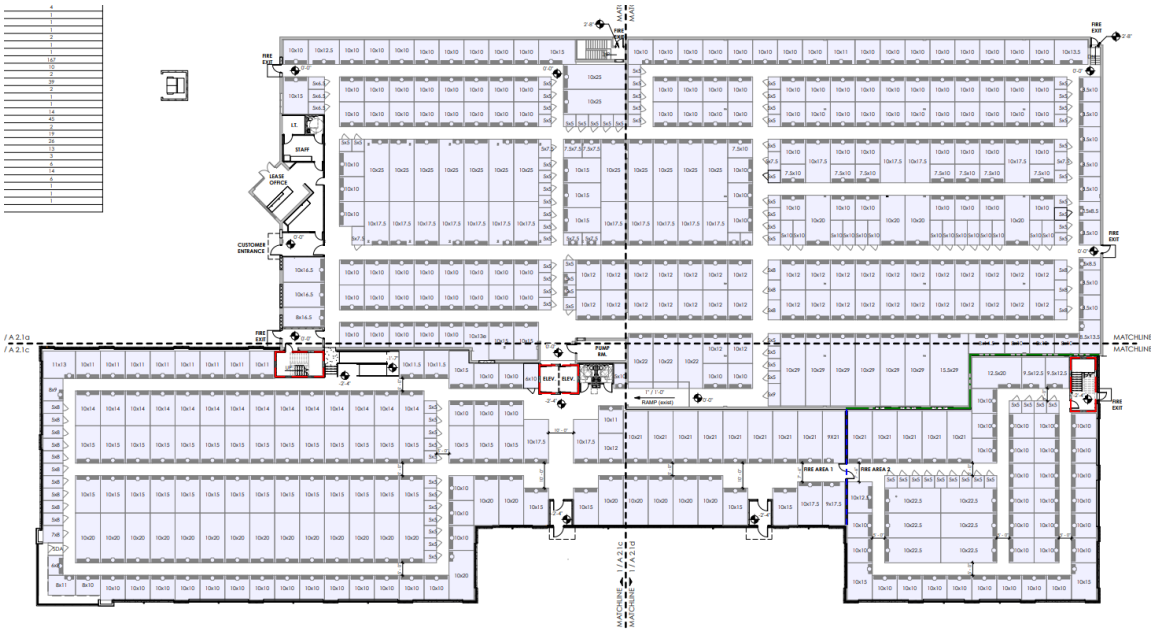
Staff notes that signage is shown on the elevations for general design intent. Final sign location, size, illumination, color, and style will require separate review through the sign permit process. Given the residential properties across W. Hicks St., staff recommends that final signage and

lighting be reviewed to ensure compliance with City standards and to limit unnecessary glare or visual impacts toward nearby residences.

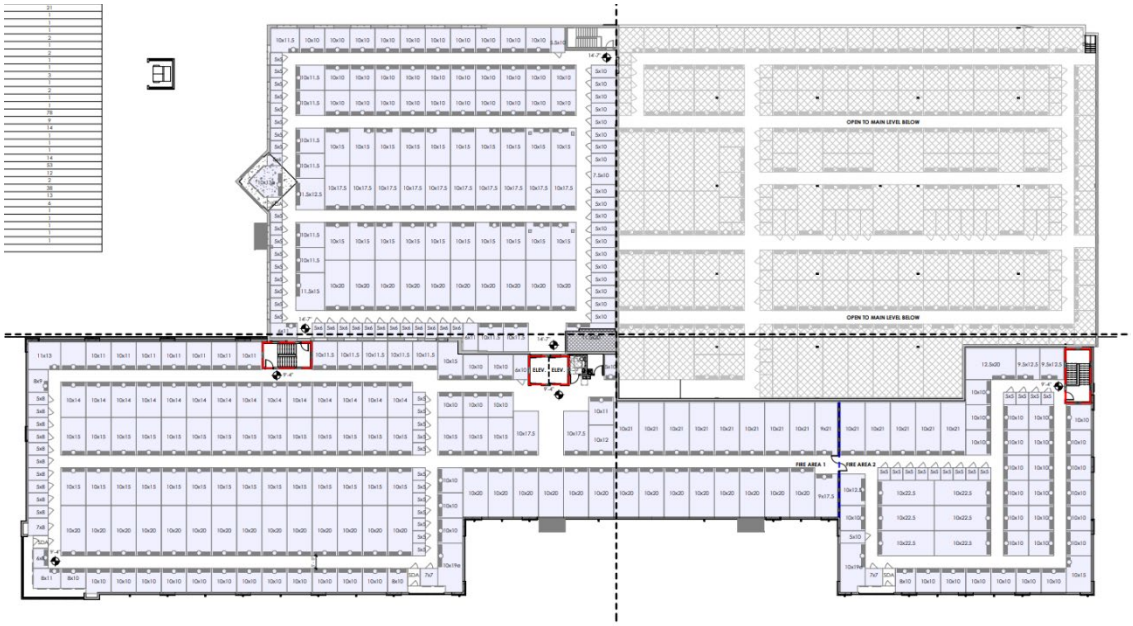


Floor Plan

The interior floor plan is designed to maximize the amount of climate-controlled storage space within the renovated building and new addition. A total of 884 storage units are shown across two levels, with 532 units on the main level and 352 units on the upper level. The main level includes customer entrances on the west and south sides, a leasing office on the west side, staff/support spaces, restrooms, storage corridors, and fire exits. The upper level is accessed by stairs and elevators located near the central customer circulation area. The plans also show a pump room and interior fire-area separation, with most of the upper level dedicated to storage units.



Composite Main Level Renovated Floor Plan
1/16" = 1'-0"



Composite Upper Level Renovated Floor Plan
1/16" = 1'-0"

RENOVATION NOTES

Public Comment

The applicant hosted a public neighborhood meeting for the project on June 18, 2026, from 4:00 p.m. to 8:00 p.m. The meeting was intended to provide the community with an opportunity to review the proposal and discuss questions directly with the project applicant.

Staff received public comments regarding the proposed redevelopment, including concerns about the proximity of the use to nearby residential properties, the overall fit of a self-storage facility near homes, and the potential for moving trucks or related customer traffic to travel through residential streets. Staff also received a nearby resident phone inquiry regarding the potential for moving truck traffic in the neighborhood.

In response to these comments, the applicant stated that self-storage is generally one of the quieter and less intensive uses allowed in the I-1 District and that most customers are expected to access the facility by personal vehicle. The applicant further stated that large moving trucks are expected to be rare, that smaller box truck activity is more common but still substantially less frequent than personal vehicle trips, and that customer visits vary widely, with some tenants visiting often and others visiting infrequently.

Staff recommends conditions related to final landscaping, lighting, signage, bicycle parking, and architectural details as shown on the approved plans. Any substantial modifications to site circulation or access arrangements shall be subject to staff review and approval.

Design Guidelines

The proposal is considered a significant redevelopment and is therefore subject to the City's Design Review Guidelines. Overall, staff finds that the project generally meets the intent of the applicable guidelines through the adaptive reuse of an existing industrial building, architectural enhancements, additional landscaping, permeable paving, and improved customer access and circulation. While a self-storage facility does not create the same level of street activity as commercial or mixed-use development, the proposal incorporates new entrances, storefront glazing, sidewalks, landscaping, and internalized vehicle circulation that improve the site's relationship to the public realm. The architectural improvements, including updated materials, wall treatments, canopies, and coordinated building elements, substantially enhance the appearance of the property.

See attached Plan Commission checklist for further reference.

Recommendation: Approve the Site, Landscaping, and Architectural Design Review for Storage Five West Allis, a proposed Light Industrial use, at 7840 W. Hicks St. (Tax Key No. 477-0142-000) subject to the following conditions:

1. All required building, occupancy, stormwater, and related permits shall be obtained prior to commencing work or occupying the facility.
2. Submittal of revised plans to the Planning & Zoning office showing the required bicycle parking spaces for 10 bicycles, preferably split between the west and south customer entrances where practical.
3. Final signage shall require separate review and approval through the sign permit process and shall comply with all applicable location, size, illumination, and design standards.
4. Final site, civil, landscaping, architectural, lighting, stormwater checklist, and utility plans shall be submitted for review and approval by the applicable City departments prior to permit issuance.
5. The applicant shall coordinate construction staging details with City staff and any complete any drive-way and right-of-way permits.

STAFF REPORT
WEST ALLIS PLAN COMMISSION
Wednesday, June 24th, 2026
City Hall, Room 128
6:00 PM

3A. Conditional Use Permit for Living Hope Lutheran Church, a proposed Religious Institution use at 1337 S. 100 St.

3B. Site, Landscaping, and Architectural Design Review for Living Hope Lutheran, an existing Religious Institution use, at 1337 S. 100 St. (Tax Key No. 444-0534-002).

Project Overview

Living Hope Lutheran Church is requesting a Level 2 Site, Landscaping and Architectural Design review and Board of Appeals review to approve the propsoed building renovations to their existing property located at 1337 S. 100 St. The property is zoned RA-3, and Religious Institutions are allowed in this district as Conditional Uses.

The entire scope of the project includes the following:

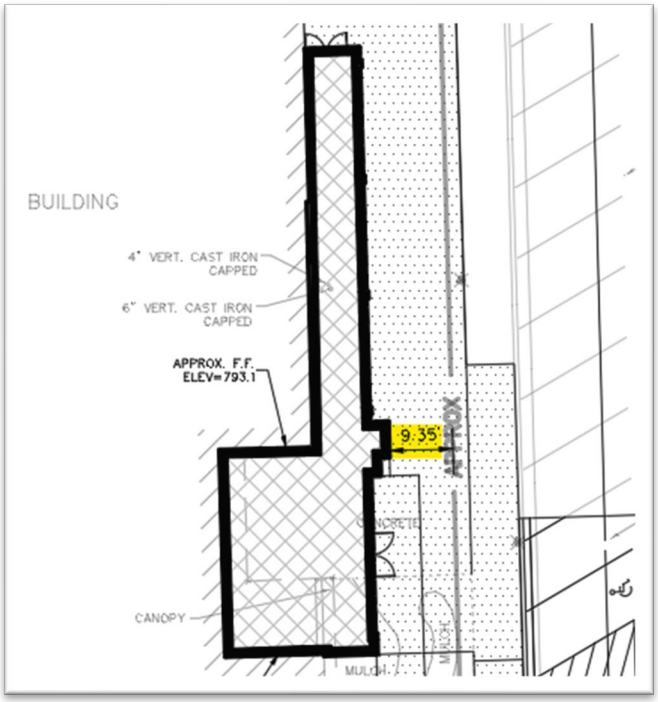
- 17,344 sq. ft. interior remodel of the first floor to convert the space from a school to a space more aligned with a church.
- A 1,200 sq. ft. canopy and vesibule to provide an enclosed ADA ramp between two sections of the building
- A steeple/tower addition to provide a stronger building presence along S. 100 St.

This property was formerly used as Living Hope Lutheran Church's school and daycare, meant to serve its congregation.The use of the building has altered over time with the relocation of the school to 2217 S. 99 th St., prompting the use of the building to shift toward a Religious Institution use.

Site and Landscaping Plans

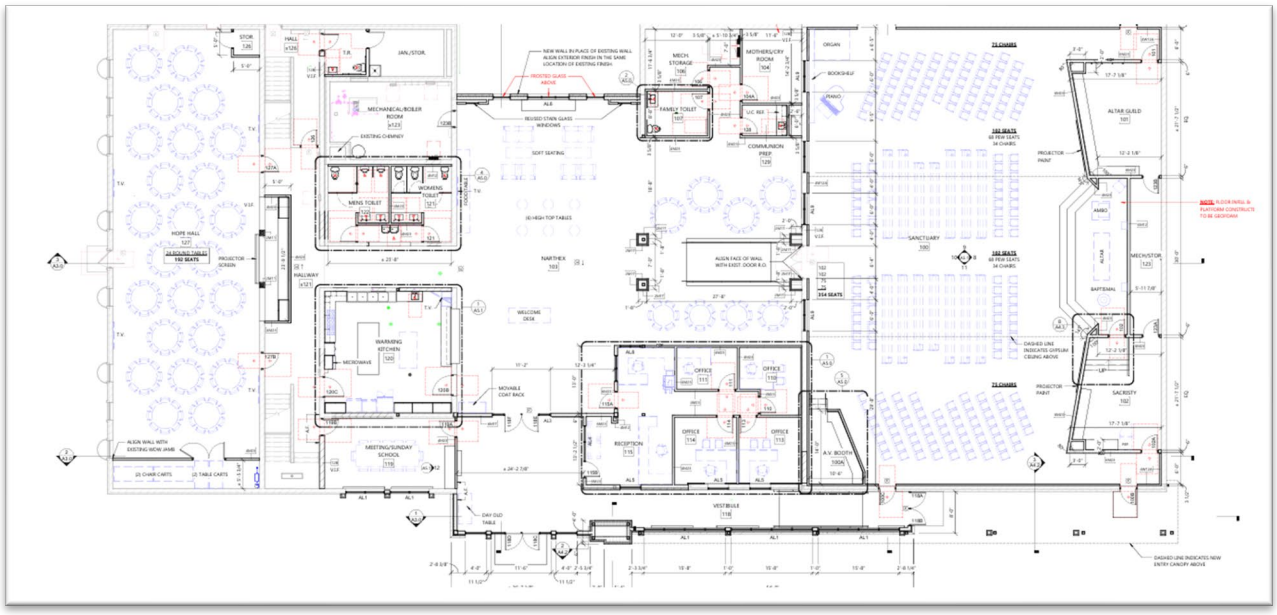
The primary building on site, which formerly was utilized as a school and daycare, is roughly 17,000 sq. ft. in area presently. The site plan for this project indicates the construction of a new, enclosed ADA ramp and vestibule addition to the front of the building abutting S 100th St., indicating an additional 1,200 sq. ft. of addition proposed through this project. The 1,200 sq.ft. ADA ramp vestibule must obtain an area variance to Sec 19.41 of the WAMC in order to be placed closer than 20 ft (the minimum front setback distance) from the front lot line of the property. If granted through the Board of Appeals, whose meeting

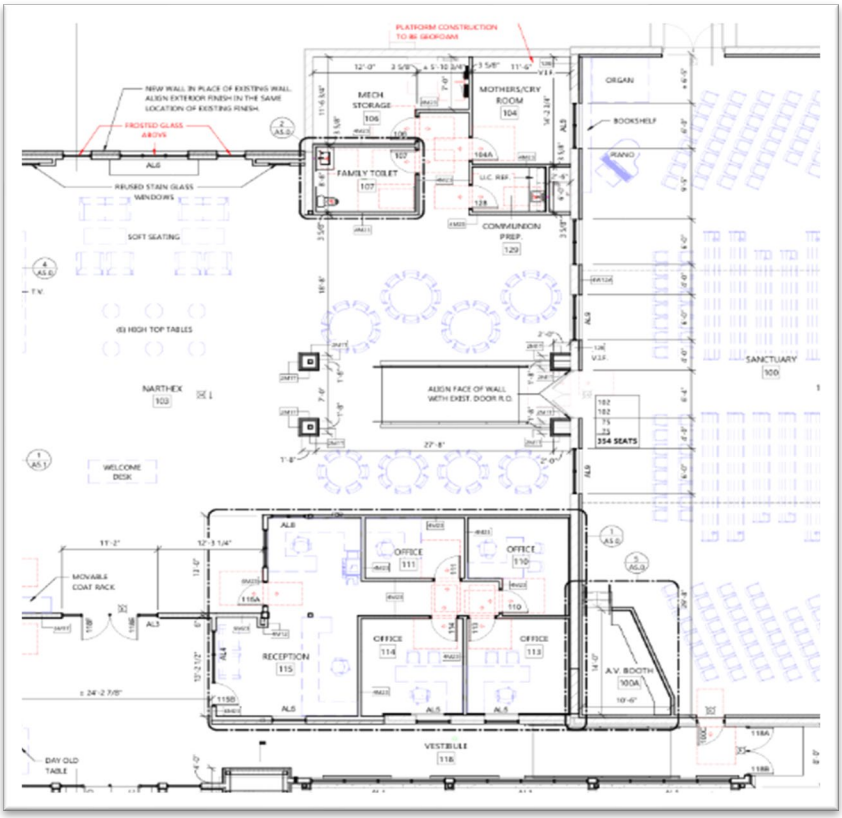
will be held on June 23rd prior to Plan Commission, the ADA ramp will be allowed to be located 9.35 ft from the front property line.



Other components of the site plan indicate 65 parking spaces directly serve this building, with some additional parking available on the adjoining lot where the church offices are located. There is also street parking along S. 100 St. A dumpster enlosure is shown toward the rear of the site and is screened with a 4-sided enclosure and gate on a concrete pad north of the main parking lot of this building. A small playset and playgound abut a wood retaining wall directly behind the back of the primary building, accompanied by a grass landscaped area and small wooded region just south of the playground. To the east of the playgound, a basketball hoop, planter, and concrete retaining wall are situated adjacent to the building. Intentionally curated landscaping is located along the easternmost wall of the primary building, fronting S. 100th St. While this site currently supports grass landscaping with mulched planter beds, existing features such as the southernmost tree and a small set of stairs will be removed to accommodate the new enclosed ADA ramp and vestibule. These plans also show that the existing water laterals will be capped and abandoned per City standards.

Floor Plan

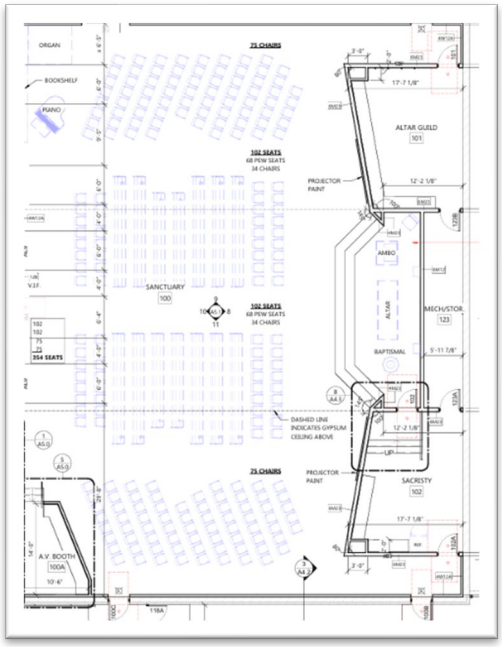


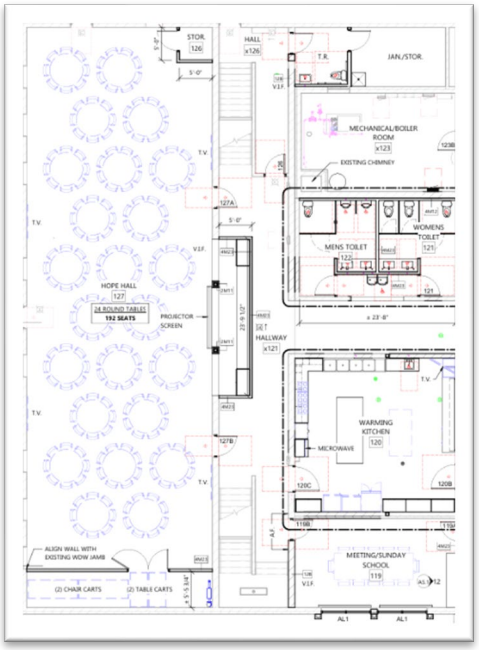


With the addition of the new enclosed ADA ramp and vestibule, the entrance to the building will differ compared to the past entryway. From the vesibule, the congregation will primarily enter through a large, reception area which will directly abut a reception office and four other assorted offices.

Another entrance will lead directly from the ADA ramp into the service room, where the former school gymnasium will be converted to accommodate 354 seats for the congregation in the sanctuary. Behind these seats, a piano, organ, and A.V. room will be placed. The seating in this room will face an altar, altar guild, sachristy, and a storage room. Two methods of egress to this room will be located to the western wall, one entrance through the vesibule will provide egress to the east, and another emergency exit is located along the same eastern wall.

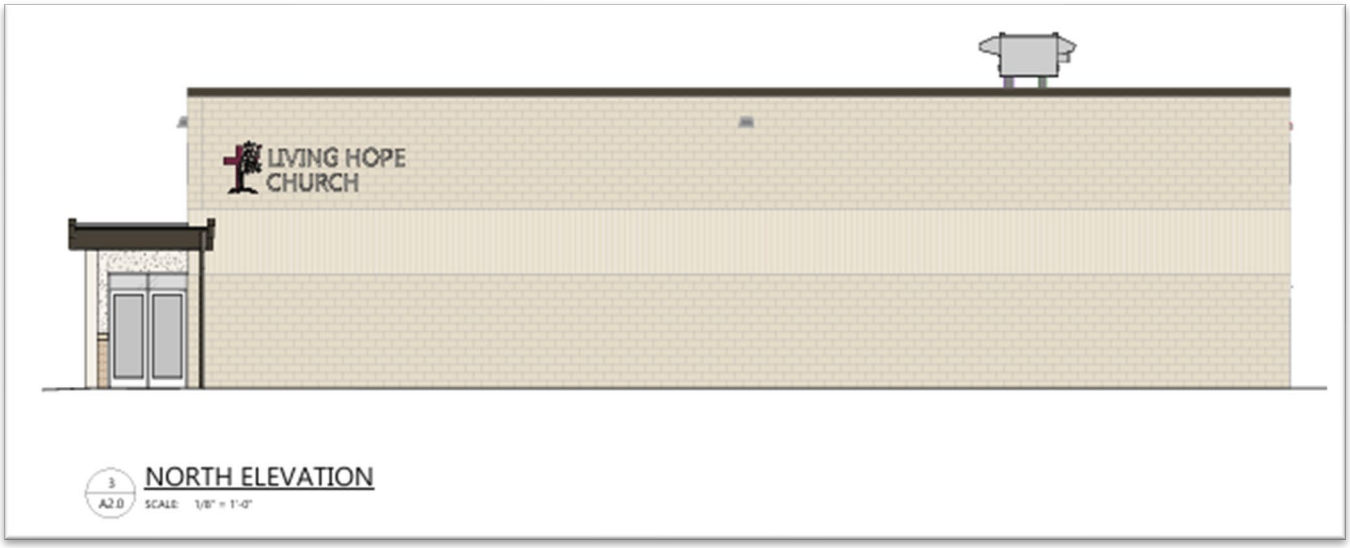
Directly south of the sanctuary, a storage room, family restroom, mothers/crying room, and communion prep. Room are located near some scattered seating arrangements. Toward the southern end of the building, several classrooms and existing, non-ADA compliant restrooms will be converted to a warming kitchen, Sunday School room, two new ADA-compliant restrooms, janitorial and storage rooms, and a large hall accomodating 192 seats for the congregation. No second floor plan has been submitted for review.



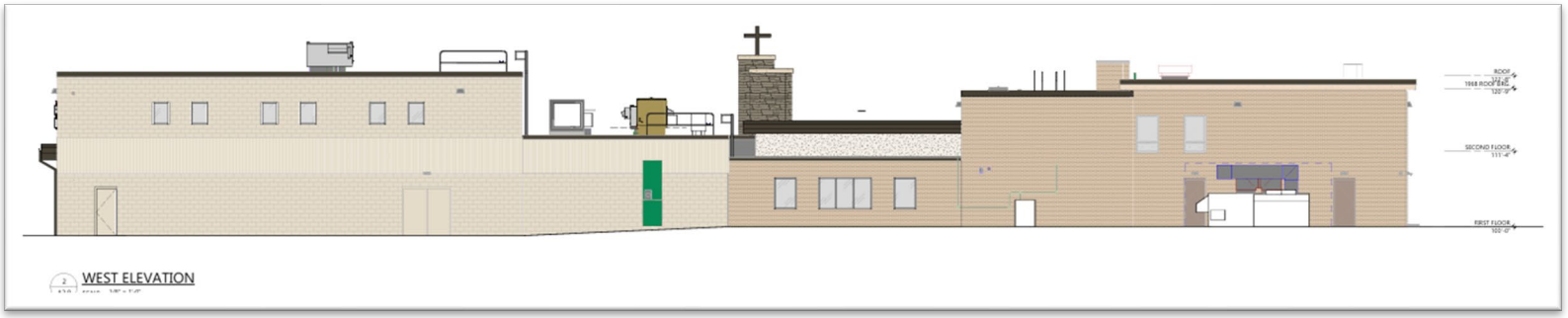


Architectural Elevations

Most of the architectural elevations details will remain the same as they historically have through servicing the school. An exterior material key was provided for new features on the site and include stone veneer, brick veneer, prefinished metal trim, engineered wood trim, cast stone sills, and EIFS. Staff note that EIFS is not an approved exterior finish material due to its lack of durability demonstrated over time. This material should be replaced with a different, higher quality exterior finish material.

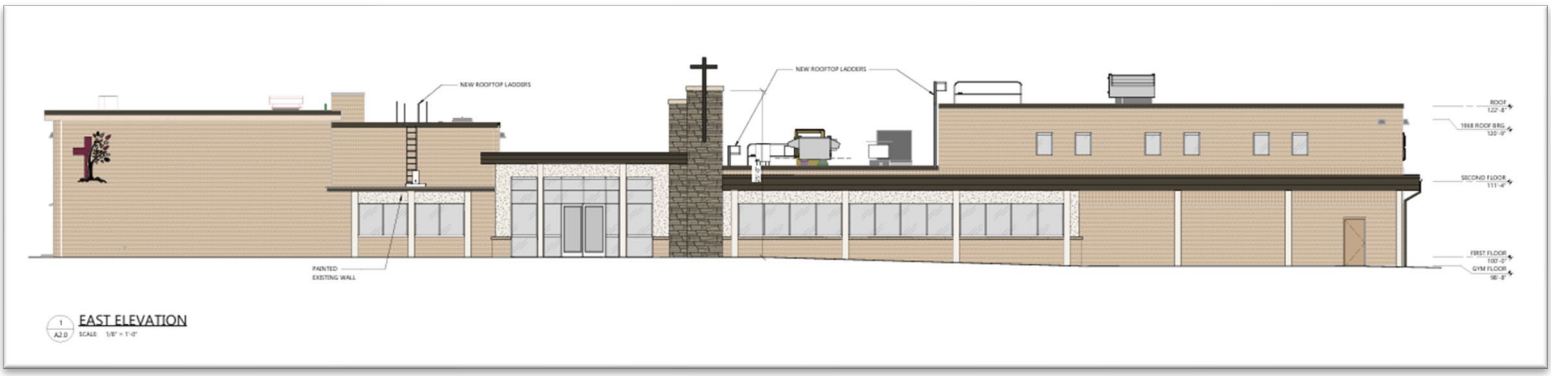


The north elevation will remain largely unchanged, with a new sign advertising the church indicated on this façade. The entrance to the ADA ramp and vestibule is shown on this plan.



The western elevation will remain the same as it has in the past, supporting four methods of egress to the playground area.

The south elevation will also remain largely unchanged, aside from showing a portion of the new ADA ramp and vesibule. One method of egress is provided on this plan.



The eastern elevation, directly fronting S. 100th St. will experience the greatest level of changes reflected on the architectural elevation plan. Here, the full length of the ADA ramp and vestibule is fully shown. Three new rooftop ladders are also shown, with a new tower created to establish a stronger presence for the building as a church. New signage is indicated on this plan.

Recommendation: Approval of Site**,** Landscaping, and Architectural Design Review for Living Hope Lutheran, an existing Religious Institution use, at 1337 S. 100 St. (Tax Key No. 444-0534-002) subject to the following conditions:

1. Conditional Use application submitted to the Planning Department for Common Council approval the change of the former School and Group Child Care uses of the building to accommodate the new Religious Institution use.
2. Revised Site, Landscaping, and Architectural plans submitted to show the following: a) submission of a second-floor plan for review by the Planning Department. b) The replacement of EIFS as a material indicated on the architectural elevation plans in favor of a durable, high-quality exterior finish material.
3. A stormwater checklist submitted and approved by the Engineering Department. Contact Robert Hutter, Assistant City Engineer at 414-587-1699.
4. Plan Review, Building Permit, and Change of Use submitted to the Commercial Construction Inspector. Contact Shelly Kerwin at 414-302-8412.

June 17, 2026

Project Narrative

Project: Living Hope Lutheran Church
1337 S 100th Street
West Allis, WI 53214

Living Hope Lutheran Church is requesting Level 2 Site, Landscaping & Architectural Design review and Board of Appeals review and approval for building renovations and site improvements to their existing property located at 1337 S 100th Street in the City of West Allis. The property is zoned RA-3 and an existing conditional use permit is in place.

Project scope includes a 17,344 sf interior remodel of the existing first floor of the building where they are currently using the existing gym space for worship. The interior remodel will transform the look of the interior of the existing gym to be more suitable, safer, and functional for worship and fellowship. Additionally, spaces where there are currently existing classrooms will be remodeled with the removal of walls to provide a large Narthex/ Lobby space for gathering. The existing toilet rooms will be remodeled to meet ADA accessibility requirements. Additional existing classrooms and storage space will be remodeled for a new kitchen to sever the proposed Hope Hall Room which is a remodeled space of three existing classrooms (along the south side of the building). The existing kitchen and toilet rooms will be removed and remodeled to create administration space and additional Narthex support space. As part of this project, there is a proposed approximate 1,200 sf canopy/ vestibule and steeple/ tower addition which will give the building a stronger presence along S. 100th Street and identify the building as a church instead of as a school which it once was.

The proposed addition will be located on the east side of the existing building and will encompass approximately 1,200 square feet. The project consists of the construction of a new enclosed vestibule and corridor that will provide a direct connection between the primary building entrance and the sanctuary entrance to the north. The vestibule and connecting walkway have been designed to improve ADA accessibility within the facility. This addition will allow for a safe and compliant route between the two entrances while maintaining a fully enclosed connection. The architectural design of the addition has been developed to complement the existing structure. Building materials and finishes, as illustrated in the submitted elevation drawings, will include stone and brick veneer selected to match the colors and character of the existing building. The addition will be visually cohesive and integrated with the current architecture. The total area of site disturbance associated with this project is approximately 0.03 acres. The proposed addition will enhance accessibility, safety, and usability of the building while maintaining consistency with the existing architectural aesthetic.

Relief is requested from municipal code section 19.42 Building Size and Location. The variance request meets the four (4) zoning variance requirements as noted below:

1. There are exceptional or unique conditions specific to the property that do not generally apply to other properties in the same zoning district.

- The property has a unique existing condition in that the building predates the current zoning code/ setback requirements. Additionally, the primary entrance and the sanctuary have different finish floor elevations, requiring an ADA compliant route for occupants to move between spaces. These combined factors create a constraint that is not typical of other properties in the zoning district. To provide a safe, ADA-compliant route, the addition must align with existing entrances. Because the building already encroaches into the required setback, there is no feasible way to construct this connection without further encroachment. The proposed 9.35-foot setback is therefore driven by the existing building placement and the need to create a safe and accessible connection, representing a condition unique to this property.

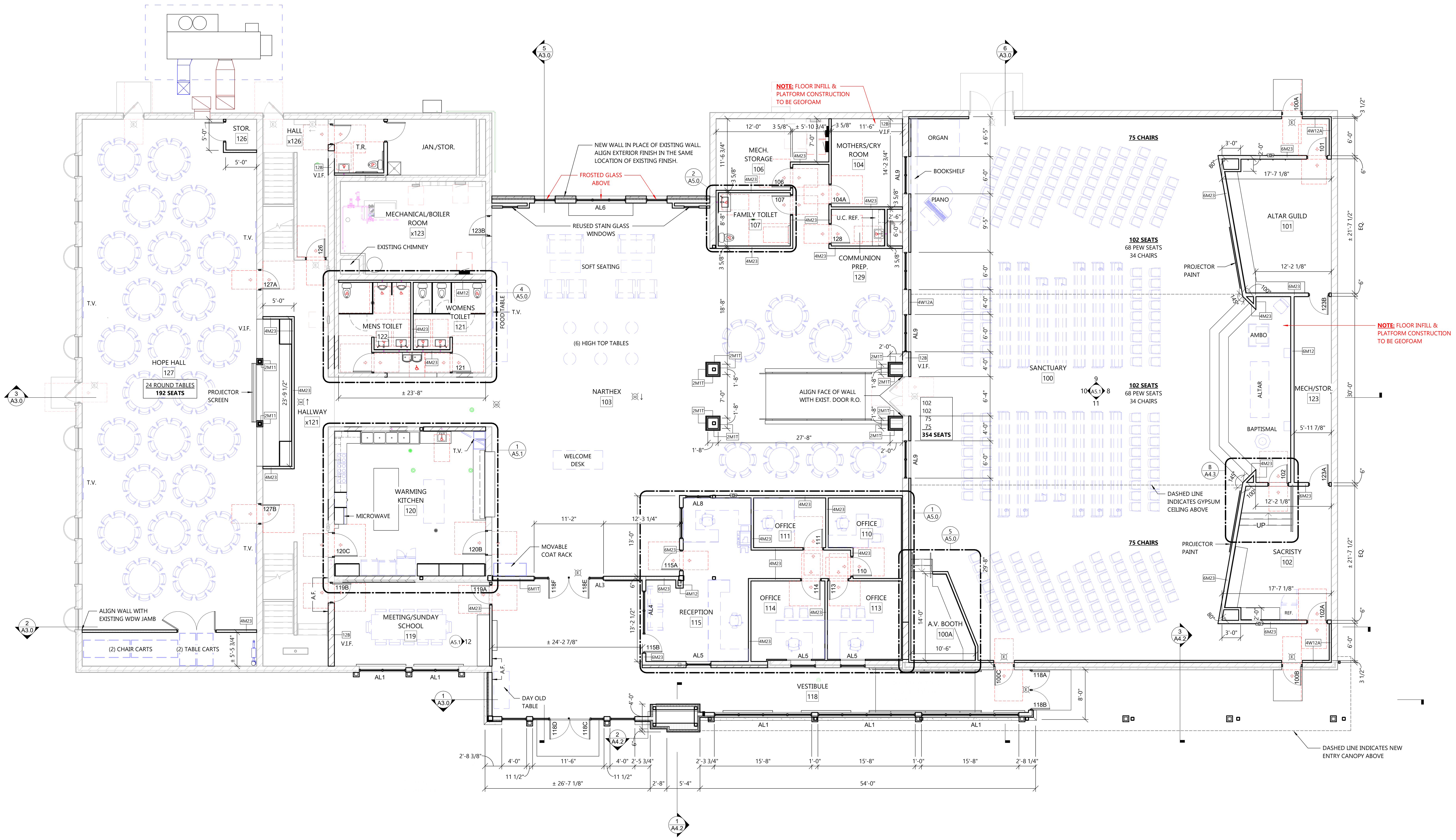
2. Without the variance, the property cannot be reasonably used in a manner consistent with the zoning code.
    - Without the variance, the property would be unable to provide an additional ADA-compliant accessible route between the main entrance and the sanctuary. The existing building's placement within the setback already limits available options for expansion. Strict compliance with the 20-foot setback would prevent proper alignment and grading of the walkway, making it impractical to construct a safe, accessible connection. As a result, members of the church that require ADA compliance would not have equitable access between key areas of the building, creating both safety concerns and noncompliance with accessibility standards. The variance is necessary to allow the property to function safely and reasonably for all users.

3. The variance will not be harmful to the public interest; nor will it negatively impact neighboring properties or undermine the intent of the zoning code.
    - The additional encroachment into the building setback is directly related to the new ADA ramp/ access corridor, thus making the building safer for the public. The addition is the minimum size necessary and is going over existing green space/ sidewalk and does not encroach on the public sidewalk therefore all public access remains the same and will not negatively impact the surrounding area. The proposed addition will match the existing structure and surrounding properties. The addition improves safe circulation within the building by providing a clearly defined, accessible route between entrances. It will not generate additional traffic, noise, or adverse impacts to neighboring properties. Because the variance supports improved safety and accessibility while maintaining consistency with the existing site conditions, it does not undermine the intent of the zoning code.

4. The hardship was not self-created by the property owner through actions such as subdividing, building, or altering the property.
    - The hardship is not self-created, as it originates from the existing placement of the building, which is already within the required 20-foot setback, and from the original layout that separates key building functions without an accessible connection. These conditions predate the current project. The property owner is seeking to address these limitations by improving safety and accessibility through the addition of an ADA-compliant connection. The need to encroach further into the setback is a direct result of working within the constraints of the existing structure, rather than any action taken by the current owner. The variance is

therefore necessary to correct an existing condition, not one that was self-imposed.

The proposed facility will operate as a church providing Bible Study and Sunday School classes. Hours of operation are Sunday from 7 AM – 1 PM, weeknights from 5 PM – 8 PM for Bible Study and various Bible Study classes, and Saturdays from 10 AM – 12 PM and 5 PM – 7 PM. Construction is anticipated to begin in November and is expected to be completed in early 2027. The estimated project cost is $4.5 million.



FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

0' 8' 16'

EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

CATALYST CONSTRUCTION

PROJECT INFORMATION

PROPOSED RENOVATION FOR:

LIVING HOPE CHURCH

1337 S. 100TH STREET • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES

FEB. 17, 2026
APRIL 6, 2026
APRIL 21, 2026
APRIL 30, 2026
MAY 26, 2026

NOT FOR CONSTRUCTION

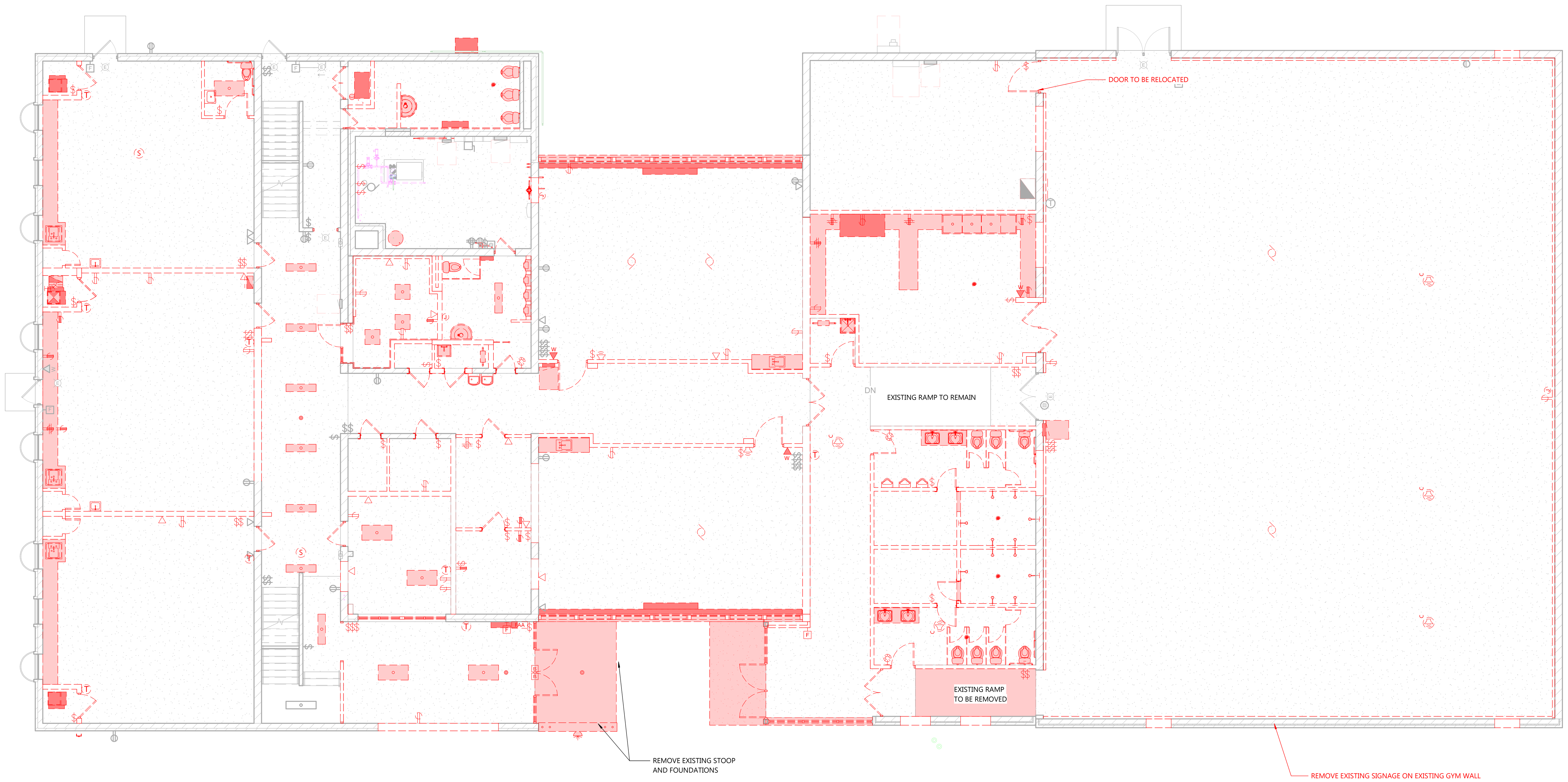
JOB NUMBER

250051500

SHEET NUMBER

A1.0

ARCHITECTURAL FIRST FLOOR PLAN



FIRST FLOOR DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

0' 8' 16'

SYMBOLS LEGEND

- EXISTING WALL TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- (1) HOUR FIRE RATED
- (2) HOUR FIRE RATED
- (3) HOUR FIRE RATED
- (4) HOUR FIRE RATED

SEE PLAN FOR ALL WALL WIDTHS

- EXISTING DOOR TO REMAIN
- EXISTING DOOR TO BE DEMOLISHED
- ### EXISTING DOOR TO BE RELOCATED - SEE FLOOR PLAN FOR NEW LOCATION

GENERAL NOTES

- NOTIFY EXCEL ENGINEERING OF ANY DISCREPANCIES BETWEEN EXISTING PLANS AND FIELD CONDITIONS BEFORE REMOVAL.
- REVIEW WITH THE OWNER WHICH ITEMS ARE TO BE TURNED OVER TO THE OWNER BEFORE STARTING DEMOLITION WORK. REMOVE ANY ITEM NOT WANTED BY THE OWNER AND DISPOSE OF IN THE PROPER AND LEGAL MANNER.
- REMOVE ALL WALLS SHOWN "HEAVY DASHED" OR RED. NOTIFY EXCEL ENGINEERING IF ANY OF THE WALLS ARE FOUND TO BE LOAD BEARING BEFORE REMOVAL.
- REMOVE ALL DOORS SHOWN "HEAVY DASHED" OR RED INCLUDING FRAME AND ALL HARDWARE AND ACCESSORIES.
- REMOVE ALL WINDOWS SHOWN "HEAVY DASHED" OR RED INCLUDING FRAME AND SILLS.
- REMOVE ALL MISC ITEMS SHOWN "HEAVY DASHED" OR RED. ***SHOULD TAG MISC ITEMS SO THEY UNDERSTAND WHAT THEY ARE REMOVING. IF MANY ITEMS, CAN CREATE A KEYNOTE.***
- CUT WALLS FOR INSTALLATION OF NEW ELECTRICAL RECEPTACLE AND SWITCH BOXES AND ASSOCIATED CONDUITS. SEE ELECTRICAL PLANS FOR LOCATIONS.
- CUT WALLS FOR INSTALLATION OF NEW BLOCKING OR BACKING IN EXISTING WALLS.
- NOT ALL NEW OPENINGS FOR MEP WORK ARE SHOWN IN WALLS AND FLOORS. PROVIDE ADDITIONAL OPENINGS NOT SHOWN FOR WORK. ***OPENINGS LARGER THAN APPROX 100 SQ IN. IN MASONRY, PRECAST, IMP WALLS SHOULD BE SHOWN.***
- PROVIDE TEMPORARY ENCLOSURES FOR KEEPING THE FACILITY IN OPERATION DURING CONSTRUCTION. ENCLOSURE SHALL BE A WALLED-IN DUST BARRIER (WATERPROOF WHERE EXPOSED TO THE EXTERIOR). PROVIDE MEP WORK TO KEEP THE FACILITY OPERATIONAL. SEE PLAN FOR ENCLOSURE LOCATIONS.
- MAINTAIN REQUIRED EGRESS PATHS AND SAFETY PRECAUTIONS FOR CONSTRUCTION IN EXISTING OCCUPIED BUILDING. ***CONSIDER HOW TO MAINTAIN EXITING DURING CONSTRUCTION.***

DEMO PLAN KEYNOTES

EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

CATALYST CONSTRUCTION

PROJECT INFORMATION

PROPOSED RENOVATION FOR:

LIVING HOPE CHURCH

1337 S. 100TH STREET • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES

NOV. 6, 2025
FEB. 17, 2026
MAY 26, 2026

NOT FOR CONSTRUCTION

JOB NUMBER

250051500

SHEET NUMBER

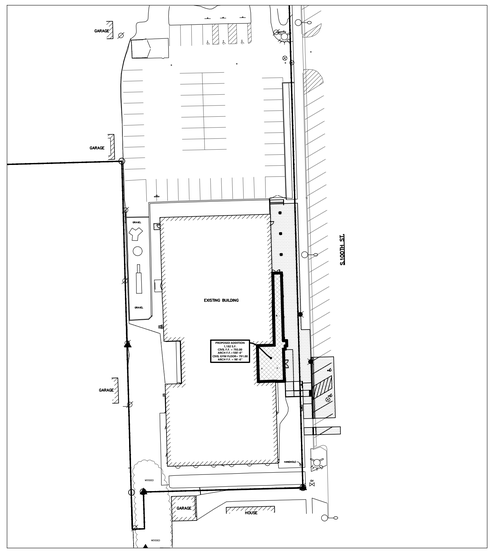
AD1.0

ARCHITECTURAL FIRST FLOOR DEMOLITION PLAN

PROPOSED RENOVATIONS FOR:

LIVING HOPE CHURCH

WEST ALLIS, WI



SITE PLAN OVERVIEW

SCALE: 1" = 50'

50' 0 50' 100'

NORTH

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511

TOLL FREE TELEFAX (414) 259-0947
TDD (FOR THE HEARING IMPAIRED)
1-800 542-2289

WISCONSIN STATUTE 182.0175 (1974)
REQUIRES MINIMUM OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE

PROJECT CONTACTS

CLIENT INFORMATION:

Catalyst Construction, Inc.
Contact: Eric Williams
833 E. Michigan Street, Suite 1000
Milwaukee, WI 53202-5618
Phone: (414) 727-6840
Email: ewilliams@catalystbuilds.com

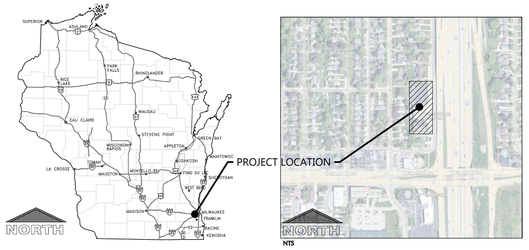
CIVIL:

EOR: Eric Drazkowski, P.E.
Contact: Zach Becker
Phone: (920) 926-9800
E-mail: zach.becker@excelengineer.com

CITY PLANNER:

Jack Kovnesky
Phone: (414) 302-8469
E-mail: JKovnesky@westallis.gov

LOCATION MAP



NTS

PROJECT NOTES

GENERAL PROJECT NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL WORK IN ROW PERMITS.

CONSTRUCTION STAKING SERVICES

CONSTRUCTION STAKING SHALL BE COMPLETED BY EXCEL ENGINEERING AS REQUESTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO CONTACT RYAN WILGREEN AT 920-926-9800 OR RYAN.W@EXCELENGINEER.COM TO GET STAKING PRICE TO INCLUDE IN BID TO OWNER. PAYMENT OF STAKING COSTS ABOVE AND BEYOND THE BASE PRICE DUE TO RESTAKING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR, NOT THE OWNER. CAD DRAWING FILES AND SURVEY CONTROL WILL NOT BE PROVIDED FOR STAKING PURPOSES.

SHEET INDEX

SHEETS BELOW INTENDED TO BE PRINTED IN: COLOR. REFER TO DIGITAL FORMAT DRAWINGS IF PRINTED GRAYSCALE TO ENSURE SCOPE CLARITY.

LEGEND

NOTE: ALL SYMBOLS SHOWN MAY NOT APPEAR ON DRAWINGS.

SYM.	IDENTIFICATION	SYM.	IDENTIFICATION
SPOT ELEVATIONS			
000.00	PROPOSED SPOT ELEVATIONS (FLOW LINE OF CURB UNLESS OTHERWISE SPECIFIED)	000.00 TC 000.00 FL	PROPOSED SPOT ELEVATIONS (TOP OF CURB, FLOWLINE OF CURB)
000.00 EG	EXISTING GRADE SPOT ELEVATIONS		
000.00 BG 000.00 FG	PROPOSED SPOT ELEVATIONS (REFERENCE R-WALL DETAIL) BG-FINISHED SURFACE GRADE AT BACK OF WALL FG-FINISHED SURFACE GRADE AT FRONT OF WALL	000.00 TW 000.00 BW	PROPOSED SPOT ELEVATIONS (TOP OF WALK, BOTTOM OF WALK @ FLOWLINE)
EXISTING SITE SYMBOLS			
	EXISTING SIGN		EXISTING UTILITY POLE
	EXISTING HANDICAP PARKING STALL		EXISTING UTILITY POLE WITH GUY WIRE
	EXISTING WATER VALVE IN BOX		EXISTING STREET LIGHT
	EXISTING WATER VALVE IN MANHOLE		EXISTING TELEPHONE PEDESTAL
	EXISTING WATER SERVICE VALVE		EXISTING ELECTRIC PEDESTAL
	EXISTING WELL		EXISTING ELECTRIC BOX
	EXISTING STORM CATCH BASIN		EXISTING FLOOD LIGHT
	EXISTING STORM CURB INLET		EXISTING TELEPHONE MANHOLE
	EXISTING SQUARE CATCH BASIN		EXISTING CABLE TV PEDESTAL
	EXISTING LIGHT POLE		EXISTING GAS VALVE
	1-1/4" REBAR SET WEIGHING 4.30 LB/FT.		EXISTING HEDGE
	3/4" REBAR SET WEIGHING 1.50 LB/FT.		EXISTING WOODED AREA
	1-1/4" REBAR FOUND		EXISTING MARSH AREA
	3/4" REBAR FOUND		EXISTING DECIDUOUS TREE WITH TRUNK DIAMETER
	2" IRON PIPE FOUND		EXISTING CONIFEROUS TREE
	1" IRON PIPE FOUND		EXISTING SHRUB
	SECTION CORNER		EXISTING STUMP
PROPOSED SITE SYMBOLS			
	PROPOSED SIGN		PROPOSED STORM FIELD INLET - ST FI
	PROPOSED HANDICAP PARKING STALL		PROPOSED LIGHT POLE
	PROPOSED WATER VALVE IN BOX		PROPOSED DRAINAGE FLOW
	PROPOSED WATER VALVE IN MANHOLE		PROPOSED APRON END SECTION
	PROPOSED WATER SERVICE VALVE		SOIL BORING
	PROPOSED WELL		CENTER LINE
	PROPOSED STORM CATCH BASIN - ST CB	CO	PROPOSED CLEANOUT
	PROPOSED STORM CURB INLET - ST CI	DSG	PROPOSED DOWNSPOUT TO GRADE
		DSR	PROPOSED DOWNSPOUT TO RISER
EXISTING LINETYPES			
	EXISTING CHAINLINK FENCE	POL	EXISTING POLISH SEWER AND MANHOLE
	EXISTING WOOD FENCE	P	EXISTING PROCESS SEWER AND MANHOLE
	EXISTING BARBED WIRE FENCE	CLW	EXISTING CLEAR WATER LINE
	EXISTING CURB AND GUTTER	FO	EXISTING UNDERGROUND FIBER OPTIC LINE
	EXISTING GUARD RAIL	E	EXISTING UNDERGROUND ELECTRIC CABLE
800	EXISTING GROUND CONTOUR	T	EXISTING UNDERGROUND TELEPHONE CABLE
ST	EXISTING STORM SEWER AND MANHOLE	G	EXISTING UNDERGROUND GAS LINE
SA	EXISTING SANITARY SEWER AND MANHOLE	OU	EXISTING OVERHEAD UTILITY LINE
W	EXISTING WATER LINE AND HYDRANT		RAILROAD TRACKS
	INTERIOR PROPERTY LINE		RIGHT-OF-WAY LINE
PROPOSED LINETYPES			
	PROPOSED CHAINLINK FENCE	POL	PROPOSED POLISH SEWER AND MANHOLE
	PROPOSED WOOD FENCE	P	PROPOSED PROCESS SEWER AND MANHOLE
	PROPOSED BARBED WIRE FENCE	CLW	PROPOSED CLEAR WATER LINE
	PROPOSED CURB AND GUTTER	FO	PROPOSED UNDERGROUND FIBER OPTIC LINE
	PROPOSED GUARD RAIL	E	PROPOSED UNDERGROUND ELECTRIC CABLE
800	PROPOSED GROUND CONTOUR	T	PROPOSED UNDERGROUND TELEPHONE CABLE
ST	PROPOSED STORM SEWER AND MANHOLE - ST MH	G	PROPOSED UNDERGROUND GAS LINE
SA	PROPOSED SANITARY SEWER AND MANHOLE - SAN MH	OU	PROPOSED OVERHEAD UTILITY LINE
W	PROPOSED WATER LINE AND HYDRANT		MATCHLINE
	PROPOSED PROPERTY LINE		GRADING/SEEDING LIMITS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION
CATALYST CONSTRUCTION

PROJECT INFORMATION

PROPOSED RENOVATION FOR:
LIVING HOPE CHURCH
1337 S. 100TH STREET • WEST ALLIS, WI 53214

PROFESSIONAL SEAL
ERIC DRAZKOWSKI
E-36401 27-2006
FOND DU LAC
WISCONSIN
05/29/26

PRELIMINARY DATES
MAY 26, 2026

NOT FOR CONSTRUCTION

JOB NUMBER
250051500

SHEET NUMBER
C0.1

CIVIL COVER SHEET

CIVIL SPECIFICATIONS

DIVISION 31 EARTH WORK

31 10 00 SITE CLEARING (DEMOLITION)

A. CONTRACTOR SHALL CALL DIGGER'S HOT LINE AND CONDUCT A PRIVATE UTILITY LOCATE AS REQUIRED TO ENSURE THAT ALL UTILITIES HAVE BEEN LOCATED BEFORE STARTING SITE DEMOLITION. DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
B. CONTRACTOR TO FIELD TELEVISE ALL EXISTING SANITARY AND STORM LATERALS THAT ARE SCHEDULED TO BE RE-USED AND/OR CONNECTED TO ON SITE AT TIME OF DEMOLITION. THE TELEVISING SHALL BE COMPLETED TO ENSURE THE EXISTING LATERAL(S) ARE FREE OF OBSTRUCTIONS AND IN SOUND STRUCTURAL CONDITION. TELEVISING OF THESE LATERAL(S) SHOULD BE COMPLETED AT BEGINNING OF CONSTRUCTION AND DESIGN ENGINEER SHALL BE NOTIFIED OF ANY PIPE OBSTRUCTIONS AND/OR STRUCTURAL DEFICIENCIES IMMEDIATELY AFTER COMPLETION OF FIELD TELEVISING.
C. DEMOLITION PLAN IS AN OVERVIEW OF DEMOLITION TO TAKE PLACE ON SITE. CONTRACTOR TO FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL REMOVE, REPLACE, OR DEMOLISH ALL ITEMS AS NEEDED DURING CONSTRUCTION.
D. CONTRACTOR TO PROTECT EXISTING IMPROVEMENTS THAT ARE SCHEDULED TO REMAIN. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPLACED AT CONTRACTORS EXPENSE.
E. ALL CONCRETE NOTED TO BE REMOVED SHALL BE REMOVED TO THE NEAREST CONTROL JOINT.

31 20 00 EARTH MOVING

A. CONTRACTOR SHALL CALL DIGGER'S HOT LINE AND CONDUCT A PRIVATE UTILITY LOCATE AS REQUIRED TO ENSURE THAT ALL UTILITIES HAVE BEEN LOCATED BEFORE STARTING EXCAVATION. DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
B. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT FOR ALL EXCAVATION, GRADING, FILL AND BACKFILL WORK AS REQUIRED TO COMPLETE THE GENERAL CONSTRUCTION WORK. ALL EXCAVATION AND BACKFILL FOR ELECTRICALS AND MECHANICALS ARE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTOR UNLESS OTHERWISE SPECIFIED IN THE BID DOCUMENTS.
C. ALL ORGANIC TOPSOIL INSIDE THE BUILDING AREA, UNDER PAVED AREAS, AND AT SITE FILL AREAS SHALL BE REMOVED. PROOF ROLL SUBGRADES BEFORE PLACING FILL WITH HEAVY PNEUMATIC-TIRED EQUIPMENT, SUCH AS A FULLY-LOADED TANDEM AXLE DUMP TRUCK, TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING. CONTRACTOR SHALL VERIFY TOPSOIL DEPTHS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REVIEW AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND ACCOUNT FOR EXISTING CONDITIONS PRIOR TO SUBMITTING BID FOR THE PROJECT. EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE DIRECTED IN THE PLANS OR BY LOCAL ZONING REQUIREMENTS.
D. PLACE AND COMPACT FILL MATERIAL IN LAYERS TO REQUIRED ELEVATIONS. UNIFORMLY MOISTEN OR AERATE SUBGRADE AND EACH SUBSEQUENT FILL OR BACKFILL LAYER BEFORE COMPACTION AS RECOMMENDED TO ACHIEVE SPECIFIED DRY DENSITY. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY, OTHERWISE SATISFACTORY SOIL MATERIAL THAT IS TOO WET TO COMPACT TO SPECIFIED DRY DENSITY.
E. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
F. COMPACT THE SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D 698, STANDARD PROCTOR TEST. FILL MAY NOT BE PLACED ON FROZEN GROUND AND NO FROZEN MATERIALS MAY BE USED FOR BACK FILL. APPLY THE MORE STRINGENT REQUIREMENTS WHEN COMPARING BETWEEN THE FOLLOWING AND THE GEOTECHNICAL REPORT.
    1. UNDER FOUNDATIONS - SUBGRADE, AND EACH LAYER OF BACKFILL OR FILL MATERIAL, TO NOT LESS THAN 98 PERCENT.
    2. UNDER INTERIOR SLAB-ON-GRADE WHERE GROUNDWATER IS MORE THAN 3 FEET BELOW THE SLAB - PLACE A DRAINAGE COURSE LAYER OF 3/4" CRUSHED STONE, WITH 5% TO 12% FINES, PER THICKNESS INDICATED ON FOUNDATION PLANS ON PREPARED SUBGRADE. COMPACT THE SUBGRADE AND DRAINAGE COURSE TO NOT LESS THAN 95 PERCENT.
    3. UNDER INTERIOR SLAB-ON-GRADE WHERE GROUNDWATER IS WITHIN 3 FEET OF THE SLAB SURFACE- PLACE A DRAINAGE COURSE LAYER OF CLEAN 3/4" CRUSHED STONE, WITH NO MORE THAN 5% FINES, PER THICKNESS INDICATED ON FOUNDATION PLANS ON PREPARED SUBGRADE. COMPACT THE SUBGRADE AND DRAINAGE COURSE TO NOT LESS THAN 95 PERCENT.
    4. UNDER EXTERIOR CONCRETE AND ASPHALT PAVEMENTS - COMPACT THE SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO NOT LESS THAN 95 PERCENT.
    5. UNDER WALKWAYS - COMPACT SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO NOT LESS THAN 95 PERCENT.
    6. UNDER LAWN OR UNPAVED AREAS - COMPACT SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL, TO NOT LESS THAN 85 PERCENT.
G. CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS. CONTRACTOR SHALL PROVIDE DOCUMENTATION OF PASSING DENSITY TESTING AND PROOF-ROLLING TO ENGINEER UPON COMPLETION. IT IS SUGGESTED THAT THE GEOTECHNICAL FIRM USED TO PERFORM THE SUBSURFACE SOIL INVESTIGATION BE ENGAGED FOR THE FIELD QUALITY CONTROL TESTS.
H. ALLOW THE TESTING AGENCY TO TEST AND INSPECT SUBGRADES AND EACH FILL OR BACKFILL LAYER. PROCEED WITH SUBSEQUENT EARTHWORK ONLY AFTER TEST RESULTS FOR PREVIOUSLY COMPLETED WORK COMPLY WITH REQUIREMENTS. PROVIDE ONE TEST FOR EVERY 2000 SQUARE FEET OF PAVED AREA OR BUILDING SLAB, ONE TEST FOR EACH SPREAD FOOTING, AND ONE TEST FOR EVERY 50 LINEAR FEET OF WALL STRIP FOOTING.
I. WHEN THE TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
J. THE BUILDING SITE SHALL BE GRADED TO PROVIDE DRAINAGE AWAY FROM THE BUILDING AS INDICATED ON THE PLANS. SITE EARTHWORK SHALL BE GRADED TO WITHIN 0.10' OF REQUIRED EARTHWORK ELEVATIONS ASSUMING POSITIVE DRAINAGE IS MAINTAINED IN ACCORDANCE WITH THE GRADING PLAN.

31 30 00 EROSION CONTROL

A. THE GRADING PLAN REFLECTS LESS THAN 1 ACRE OF DISTURBED AREA. THE SITE IS THEREFORE EXEMPT FROM WISCONSIN DEPARTMENT OF NATURAL RESOURCES NR 216 NOTICE OF INTENT REQUIREMENTS. THE DESIGN ENGINEER SHALL PREPARE AN EROSION CONTROL PLAN TO MEET NR 151.105 CONSTRUCTION SITE PERFORMANCE STANDARDS FOR NON-PERMITTED SITES.
B. EROSION AND SEDIMENT CONTROL IMPLEMENTED DURING CONSTRUCTION SHALL STRICTLY COMPLY WITH THE GUIDELINES AND REQUIREMENTS SET FORTH IN WISCONSIN ADMINISTRATIVE CODE (W.A.C.) NR 151, THE STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES RUNOFF MANAGEMENT PERFORMANCE STANDARDS. TECHNICAL STANDARDS PUBLISHED BY THE WISCONSIN DNR SHALL ALSO BE UTILIZED TO IMPLEMENT THE REQUIRED PERFORMANCE STANDARDS. THE METHODS AND TYPES OF EROSION CONTROL WILL BE DEPENDENT ON THE LOCATION AND TYPE OF WORK INVOLVED. ALL SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION, AND INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. BELOW IS A LIST OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES TO ACHIEVE THE PERFORMANCE STANDARDS REQUIRED.
    1. SILT FENCE SHALL BE PLACED ON SITE AT LOCATIONS SHOWN ON THE EROSION CONTROL PLAN. SILT FENCE SHALL ALSO BE PROVIDED AROUND THE PERIMETER OF ALL SOIL STOCKPILES THAT WILL EXIST FOR MORE THAN 7 DAYS. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1056 (CURRENT EDITION).
    2. STORM DRAIN INLET PROTECTION SHALL BE PROVIDED FOR ALL NEW AND DOWNSTREAM STORM CATCH BASINS AND CURB INLETS. TYPE B OR C PROTECTION SHOULD BE PROVIDED AND SHALL BE IN CONFORMANCE WITH WISCONSIN DNR TECHNICAL STANDARD 1060 (CURRENT EDITION).
    3. DUST CONTROL MEASURES SHALL BE PROVIDED TO REDUCE OR PREVENT THE SURFACE AND AIR TRANSPORT OF DUST DURING CONSTRUCTION. CONTROL MEASURES INCLUDE APPLYING MULCH AND ESTABLISHING VEGETATION, WATER SPRAYING, SURFACE ROUGHENING, APPLYING POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES, AND BARRIERS. SOME SITES MAY REQUIRE AN APPROACH THAT UTILIZES A COMBINATION OF MEASURES FOR DUST CONTROL. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1068 (CURRENT EDITION).
    4. THE USE, STORAGE, AND DISPOSAL OF CHEMICALS, CEMENT, AND OTHER COMPOUNDS AND MATERIALS USED ON SITE SHALL BE MANAGED DURING THE CONSTRUCTION PERIOD TO PREVENT THEIR TRANSPORT BY RUNOFF INTO WATERS OF THE STATE.
    5. CONTRACTOR SHALL PROVIDE AN OPEN AGGREGATE CONCRETE TRUCK WASHOUT AREA ON SITE. CONTRACTOR TO ENSURE THAT CONCRETE WASHOUT SHALL BE CONTAINED TO THIS DESIGNATED AREA AND NOT BE ALLOWED TO RUN INTO STORM INLETS OR INTO THE OVERLAND STORMWATER DRAINAGE SYSTEM. WASHOUT AREA SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION.
    6. TEMPORARY SITE RESTORATION SHALL TAKE PLACE IN DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE OR ON WHICH LAND DISTURBING ACTIVITIES WILL NOT BE PERFORMED FOR A PERIOD GREATER THAN 14 DAYS AND REQUIRES VEGETATIVE COVER FOR LESS THAN ONE YEAR. THIS TEMPORARY SITE RESTORATION REQUIREMENT ALSO APPLIES TO SOIL STOCKPILES THAT EXIST FOR MORE THAN 7 DAYS. PERMANENT RESTORATION APPLIES TO AREAS WHERE PERENNIAL VEGETATIVE COVER IS NEEDED TO PERMANENTLY STABILIZE AREAS OF EXPOSED SOIL. PERMANENT STABILIZATION SHALL OCCUR WITHIN 3 WORKING DAYS OF FINAL GRADING. TOPSOIL, SEED, AND MULCH SHALL BE IN GENERAL CONFORMANCE WITH TECHNICAL STANDARDS 1058 AND 1059 AND SHALL MEET THE SPECIFICATIONS FOUND IN THE LANDSCAPING AND SITE STABILIZATION SECTION OF THIS CONSTRUCTION DOCUMENT. ANY SOIL EROSION THAT OCCURS AFTER FINAL GRADING AND/OR FINAL STABILIZATION MUST BE REPAIRED AND THE STABILIZATION WORK REDONE.
    7. IF SITE DEWATERING IS REQUIRED FOR PROPOSED CONSTRUCTION ACTIVITIES, ALL SEDIMENT LADEN WATER GENERATED DURING THE DEWATERING PROCESS SHALL BE TREATED TO REMOVE SEDIMENT PRIOR TO DISCHARGING OFF-SITE OR TO WATERS OF THE STATE. FOLLOW ALL PROCEDURES FOUND IN TECHNICAL STANDARD 1061.
    8. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION WORK OR A STORM EVENT SHALL BE CLEANED UP BY THE END OF EACH WORKING DAY. DUST CONTROL REQUIREMENTS SHALL BE FOLLOWED PER WI DNR TECHNICAL STANDARD 1068 (CURRENT EDITION). FLUSHING SHALL NOT BE ALLOWED.
C. ALL EROSION CONTROL DEVICES SHALL AT A MINIMUM BE INSPECTED EVERY 7 CALENDAR DAYS OR EVERY 14 DAYS AND WITHIN 24 HOURS OF THE END OF A RAIN EVENT OF 0.5" OR MORE. MAINTENANCE SHALL BE PERFORMED PER WISCONSIN ADMINISTRATIVE CODE (W.A.C.) NR 151 STORMWATER MANAGEMENT TECHNICAL STANDARD REQUIREMENTS.
D. EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL THE AREA(S) SERVED HAVE ESTABLISHED VEGETATIVE COVER.
E. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL EROSION CONTROL PERMITS.

DIVISION 32 EXTERIOR IMPROVEMENTS

32 10 00 CONCRETE AND AGGREGATE BASE

A. CONTRACTOR TO PROVIDE CRUSHED AGGREGATE BASE AND CONCRETE WHERE INDICATED ON THE PLANS.
B. ALL AGGREGATE PROVIDED MUST COMPLY WITH SECTION 305 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. ALL AGGREGATE PLACED MUST BE COMPACTED TO AN AVERAGE DENSITY PER WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
C. DESIGN AND CONSTRUCTION OF ALL CAST-IN-PLACE EXTERIOR CONCRETE FLAT WORK SHALL CONFORM TO ACI 330R-08 & ACI 318-08.
D. EXTERIOR CONCRETE FLAT WORK CONSTRUCTION TO BE PROVIDED PER MORE STRINGENT REQUIREMENTS OF THE GEOTECHNICAL REPORT OR THIS SPECIFICATION. CONCRETE FLAT WORK CONSTRUCTION IS AS FOLLOWS:
    1. SIDEWALK CONCRETE - 4” OF CONCRETE OVER 4” OF 3/4” CRUSHED AGGREGATE BASE. CONTRACTION JOINTS SHALL CONSIST OF 1/8” WIDE BY 1” DEEP TOOLED JOINT WHERE INDICATED ON THE PLANS.
E. DESIGN MIXES SHALL BE IN ACCORDANCE WITH ASTM C94
    1. STRENGTH TO BE MINIMUM OF 4,500 PSI AT 28 DAYS FOR EXTERIOR CONCRETE.
    2. MAXIMUM WATER/CEMENT RATIO SHALL BE 0.45.
    3. SLUMP SHALL NOT EXCEED 4” FOR EXTERIOR CONCRETE FLAT WORK
    4. SLUMP SHALL BE 2.5” OR LESS FOR SLIP-FORMED CURB AND GUTTER
    5. SLUMP SHALL BE BETWEEN 1.5” TO 3” FOR NON SLIP-FORMED CURB AND GUTTER.
    6. ALL EXTERIOR CONCRETE SHALL BE AIR ENTRAINED WITH 4% TO 7% AIR CONTENT. NO OTHER ADMIXTURES SHALL BE USED WITHOUT APPROVAL OF EXCEL ENGINEERING, INC. CALCIUM CHLORIDE SHALL NOT BE USED.
    7. MAXIMUM AGGREGATE SIZE FOR ALL EXTERIOR CONCRETE SHALL BE 0.75 INCHES.
F. VERIFY EQUIPMENT CONCRETE PAD SIZES WITH CONTRACTOR REQUIRING PAD. PADS SHALL HAVE FIBERMESH 300 FIBERS AT A RATE OF 1.5 LBS/CU. YD. OR 6 X 6-W1.4 X W1.4 WELDED WIRE MESH WITH MINIMUM 1 INCH COVER. EQUIPMENT PADS SHALL BE 5.5 INCHES THICK WITH 1 INCH CHAMFER UNLESS SPECIFIED OTHERWISE. CONCRETE SHALL BE PROVIDED ON 6” OF 3/4” CRUSHED AGGREGATE BASE. COORDINATE ADDITIONAL PAD REQUIREMENTS WITH RESPECTIVE CONTRACTOR.
G. ALL CONCRETE FLAT WORK SURFACES AND CONCRETE CURB FLOWLINES SHALL BE CONSTRUCTED TO WITHIN 0.05' OF DESIGN SURFACE AND FLOWLINE GRADES ASSUMING POSITIVE DRAINAGE IS MAINTAINED IN ACCORDANCE WITH THE DESIGN PLANS.
H. CONCRETE FLAT WORK SHALL HAVE CONSTRUCTION JOINTS OR SAW CUT JOINTS PLACED AS INDICATED ON THE PLANS OR PER THIS SPECIFICATION. SAWCUTS SHALL BE DONE AS SOON AS POSSIBLE, BUT NO LATER THAN 24 HOURS AFTER CONCRETE IS PLACED. CONCRETE CURB AND GUTTER JOINTING SHALL BE PLACED EVERY 10' OR CLOSER (6' MIN.). IF CONCRETE PAVEMENT IS ADJACENT TO CONCRETE CURB, JOINTING IN THE PAVEMENT AND CURB SHALL ALIGN. ALL EXTERIOR CONCRETE SHALL HAVE A BROOM FINISH UNLESS NOTED OTHERWISE. A UNIFORM COAT OF A HIGH SOLIDS CURING COMPOUND MEETING ASTM C309 SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES. ALL CONCRETE IS TO BE CURED FOR 7 DAYS. EXTERIOR CONCRETE SHALL BE SEPARATED FROM BUILDINGS WITH CONTINUOUS 0.5 INCH FIBER EXPANSION JOINT AND/OR 0.25 INCH FIBER EXPANSION JOINT AT DECORATIVE MASONRY UNITS.
I. ALL REINFORCING BARS SHALL BE ASTM A615 GRADE 60. THICKNESS OF CONCRETE COVER OVER REINFORCEMENT SHALL BE NOT LESS THAN 3” WHERE CONCRETE IS DEPOSITED AGAINST THE GROUND WITHOUT THE USE OF FORMS AND NOT LESS THAN 1.5” FOR UP TO #5 BARS AND 2” FOR #6 TO #10 BARS IN ALL OTHER LOCATIONS. ALL REINFORCING SHALL BE LAPPED 48 DIAMETERS FOR UP TO #6 BARS, 62 DIAMETERS FOR #7 TO #9 BARS, 68 DIAMETERS FOR #10 BARS OR AS NOTED ON THE DRAWINGS AND EXTENDED AROUND CORNERS WITH CORNER BARS. PLACING AND DETAILING OF STEEL REINFORCING AND REINFORCING SUPPORTS SHALL BE IN ACCORDANCE WITH CRSI AND ACI MANUAL AND STANDARD PRACTICES. THE REINFORCEMENT SHALL NOT BE PAINTED AND MUST BE FREE OF GREASE/OIL, DIRT OR DEEP RUST WHEN PLACED IN THE WORK. ALL WELDED WIRE FABRIC SHALL MEET THE REQUIREMENTS OF ASTM A 1064. WELDED WIRE FABRIC SHALL BE PLACED 2” FROM TOP OF SLAB, UNLESS INDICATED OTHERWISE.
J. CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO SAMPLE MATERIALS, PERFORM TESTS, AND SUBMIT TEST REPORTS DURING CONCRETE PLACEMENT. TESTS WILL BE PERFORMED ACCORDING TO ACI 301. CAST AND LABORATORY CURE ONE SET OF FOUR STANDARD CYLINDERS FOR EACH COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIX EXCEEDING 5 CU. YD., BUT LESS THAN 25 CU. YD., PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. OR FRACTION THEREOF. PERFORM COMPRESSIVE-STRENGTH TESTS ACCORDING TO ASTM C 39. TEST TWO SPECIMENS AT 7 DAYS AND TWO SPECIMENS AT 28 DAYS. PERFORM SLUMP TESTING ACCORDING TO ASTM C 143. PROVIDE ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIX. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
K. PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. IN HOT, DRY, AND WINDY WEATHER, APPLY AN EVAPORATION-CONTROL COMPOUND ACCORDING TO MANUFACTURER'S INSTRUCTIONS AFTER SCREEDING AND BULL FLOATING, BUT BEFORE POWER FLOATING AND TROWELLING.
L. LIMIT MAXIMUM WATER-CEMENTITIOUS RATIO OF CONCRETE EXPOSED TO FREEZING, THAWING AND DEICING SALTS TO 0.45.
M. TEST RESULTS WILL BE REPORTED IN WRITING TO THE DESIGN ENGINEER, READY-MIX PRODUCER, AND CONTRACTOR WITHIN 24 HOURS AFTER TESTS. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING SERVICE, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH ON SITE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7-DAY TESTS AND 28-DAY TESTS.
N. CONTRACTOR TO PROVIDE 4” WIDE YELLOW PAINTED STRIPING FOR PARKING STALLS, TRAFFIC LANES, AND NO PARKING AREAS. YELLOW PAINT MARKINGS SHALL ALSO BE PROVIDED FOR H.C. ACCESSIBLE SYMBOLS, TRAFFIC ARROWS, AND TRAFFIC MESSAGES.

32 30 00 LANDSCAPING AND SITE STABILIZATION

A. TOPSOIL: CONTRACTOR TO PROVIDE A MINIMUM OF 6” OF TOPSOIL FOR ALL DISTURBED OPEN AREAS, OTHER THAN A LANDSCAPE ISLANDS SHALL BE PROVIDED WITH A MINIMUM OF 10” OF TOPSOIL. REUSE SURFACE SOIL STOCKPILED ON SITE AND SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF SITE SOURCES WHEN QUANTITIES ARE INSUFFICIENT. EXCAVATOR SHALL BE RESPONSIBLE FOR ROUGH PLACEMENT OF TOPSOIL TO WITHIN 1” OF FINAL GRADE PRIOR TO LANDSCAPER FINAL GRADING. LANDSCAPER TO PROVIDE PULVERIZING AND FINAL GRADING OF TOPSOIL. PROVIDE SOIL ANALYSIS BY A QUALIFIED SOIL TESTING LABORATORY AS REQUIRED TO VERIFY THE SUITABILITY OF SOIL TO BE USED AS TOPSOIL AND TO DETERMINE THE NECESSARY SOIL AMENDMENTS. TEST SOIL FOR PRESENCE OF ATRAZINE AND INFORM EXCEL ENGINEERING, INC. IF PRESENT PRIOR TO BIDDING PROJECT. TOPSOIL SHALL HAVE A PH RANGE OF 5.5 TO 8, CONTAIN A MINIMUM OF 5 PERCENT ORGANIC MATERIAL CONTENT, AND SHALL BE FREE OF STONES 1 INCH OR LARGER IN DIAMETER. ALL MATERIALS HARMFUL TO PLANT GROWTH SHALL ALSO BE REMOVED.
TOPSOIL INSTALLATION: LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 6 INCHES AND REMOVE STONES LARGER THAN 1” IN DIAMETER. ALSO REMOVE ANY STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND DISPOSE OF THEM OFF THE PROPERTY. SPREAD TOPSOIL TO A DEPTH OF 6” BUT NOT LESS THAN WHAT IS REQUIRED TO MEET FINISHED GRADES AFTER LIGHT ROLLING AND NATURAL SETTLEMENT. DO NOT SPREAD TOPSOIL IF SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET. GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN 0.05 FEET OF FINISHED GRADE ELEVATION.
B. SEEDED LAWNS:
    1. PERMANENT LAWN AREAS SHALL BE SEEDED WITH THE FOLLOWING MIXTURE: 65% KENTUCKY BLUEGRASS BLEND (2.0-2.6 LBS./1,000 S.F.), 20% PERENNIAL RYEGRASS (0.6-0.8 LBS./1,000 S.F.), 15% FINE FESCUE (0.4-0.6 LBS/1,000 S.F.). STRAW AND MULCH SHALL BE LAID AT 100LBS/1,000 S.F. FERTILIZE AS PER SOIL TEST OR APPLY 5-10-10 OR EQUIVALENT AT 5-6 LBS/1,000 S.F. SEE EROSION MATTING SPECIFICATIONS AS REQUIRED. ALL SITE DISTURBED AREAS NOT DESIGNATED FOR OTHER LANDSCAPING AND SITE STABILIZATION METHODS SHALL BE SEEDED AS PERMANENT LAWN. NO BARE TOPSOIL SHALL BE LEFT ONSITE. FOLLOW PROCEDURES FOUND IN WDNR TECHNICAL STANDARDS 1058 & 1059.
    2. ALL PERMANENT AND TEMPORARY STORM WATER CONVEYANCE SWALE BOTTOMS AND SIDE SLOPES SHALL BE SEEDED WITH THE FOLLOWING MIXTURE: 45% KENTUCKY BLUEGRASS (0.60 LBS./1000 S.F.), 40% CREEPING RED FESCUE (0.50 LBS./1,000 S.F.), AND 15% PERENNIAL RYEGRASS (0.20 LBS./1,000 S.F.). FERTILIZE AS PER SOIL TEST OR APPLY 5-10-10 OR EQUIVALENT AT 5-6 LBS./1,000 S.F. SEE EROSION MATTING SPECIFICATIONS AS REQUIRED. FOLLOW PROCEDURES FOUND IN WDNR TECHNICAL STANDARDS 1058 & 1059.
    3. ALL TEMPORARY SEEDING SHALL CONSIST OF THE FOLLOWING MIXTURE: 100% RYEGRASS AT 1.9 LBS./1,000 S.F. STRAW AND MULCH SHALL BE LAID AT 100 LBS./1,000 S.F. FERTILIZE AS PER SOIL TEST OR APPLY 5-10-10 OR EQUIVALENT AT 5-6 LBS./1,000 S.F. SEE EROSION MATTING SPECIFICATIONS AS REQUIRED. FOLLOW PROCEDURES FOUND IN WDNR TECHNICAL STANDARDS 1058 & 1059.
C. SEEDED LAWN MAINTENANCE: CONTRACTOR TO PROVIDE MAINTENANCE OF ALL LANDSCAPING FOR A PERIOD OF 90 DAYS FROM THE DATE OF INSTALLATION. AT THE END OF THE MAINTENANCE PERIOD, A HEALTHY, UNIFORM, CLOSE STAND OF GRASS SHOULD BE ESTABLISHED FREE OF WEEDS AND SURFACE IRREGULARITIES. LAWN COVERAGE SHOULD EXCEED 90% AND BARE SPOTS SHOULD NOT EXCEED 5”X5”. CONTRACTOR SHOULD REESTABLISH LAWNS THAT DO NOT COMPLY WITH THESE REQUIREMENTS AND CONTINUE MAINTENANCE UNTIL LAWNS ARE SATISFACTORY.
D. EROSION MATTING:
    1. CONTRACTOR TO PROVIDE EROSION CONTROL MATTING (NORTH AMERICAN GREEN S150) OR EQUIVALENT ON ALL SLOPES THAT ARE 4:1 AND GREATER. LAWN SEED SHALL BE PLACED BELOW MATTING IN ACCORDANCE WITH SEEDING REQUIREMENTS AND MANUFACTURER SPECIFICATIONS.
    2. CONTRACTOR TO PROVIDE EROSION MATTING (NORTH AMERICAN GREEN C125) OR EQUIVALENT IN ALL SWALE BOTTOMS AND SIDE SLOPES AS REQUIRED. LAWN SEED SHALL BE PLACED BELOW MATTING IN ACCORDANCE WITH SEEDING REQUIREMENTS AND MANUFACTURER SPECIFICATIONS.
E. ORGANIC MULCH: PROVIDE 3” MINIMUM THICK BLANKET OF SHREDDED HARDWOOD MULCH AT ALL PLANTING AREAS INDICATED ON THE LANDSCAPE PLAN. INSTALL OVER NON-WOVEN WEED BARRIER FABRIC. COLOR BY OWNER.
F. PLASTIC EDGING: INSTALL VALLEY VIEW INDUSTRIES BLACK DIAMOND LAWN EDGING TO SEPARATE ALL PLANTING BEDS FROM LAWN AREAS. EDGING TO BE 5.5” TALL WITH METAL STAKES INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

DIVISION 33 UTILITIES

33 10 00 SITE UTILITIES

A. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES ON SITE. CONTRACTOR TO VERIFY PIPE LOCATIONS, SIZES, AND DEPTHS AT POINT OF PROPOSED CONNECTIONS AND VERIFY PROPOSED UTILITY ROUTES ARE CLEAR (PER CODE) OF ALL EXISTING UTILITIES AND OTHER OBSTRUCTIONS PRIOR TO CONSTRUCTION. COSTS INCURRED FOR FAILURE TO DO SO SHALL BE THE CONTRACTORS RESPONSIBILITY.
B. CONTRACTOR TO FIELD TELEVISE ALL EXISTING STORM LATERALS THAT ARE SCHEDULED TO BE RE-USED AND/OR CONNECTED TO ON SITE. THE TELEVISING SHALL BE COMPLETED TO ENSURE THE EXISTING LATERAL(S) ARE FREE OF OBSTRUCTIONS AND IN SOUND STRUCTURAL CONDITION. TELEVISING OF THESE LATERAL(S) SHOULD BE COMPLETED AT BEGINNING OF CONSTRUCTION AND DESIGN ENGINEER SHALL BE NOTIFIED OF ANY PIPE OBSTRUCTIONS AND/OR STRUCTURAL DEFICIENCIES IMMEDIATELY AFTER COMPLETION OF FIELD TELEVISING
C. CLEANOUTS SHALL BE PROVIDED FOR THE STORM SERVICE AT LOCATIONS INDICATED ON THE UTILITY PLAN. THE CLEANOUT SHALL CONSIST OF A COMBINATION WYE FITTING IN LINE WITH THE SANITARY/STORM SERVICE WITH THE CLEANOUT LEG OF THE COMBINATION WYE FACING STRAIGHT UP. THE CLEANOUT SHALL CONSIST OF A (4” OR 6”) VERTICAL PVC PIPE WITH A WATER TIGHT REMOVABLE CLEANOUT PLUG. AN 8” PVC FROST SLEEVE SHALL BE PROVIDED. THE BOTTOM OF THE FROST SLEEVE SHALL TERMINATE 12” ABOVE THE TOP OF THE SANITARY LATERAL OR AT LEAST 6” BELOW THE PREDICTED FROST DEPTH, WHICHEVER IS SHALLOWER. THE CLEANOUT SHALL EXTEND JUST ABOVE THE SURFACE GRADE IN LAWN OR LANDSCAPE AREAS WITH THE FROST SLEEVE TERMINATING AT THE GRADE SURFACE. THE CLEANOUT SHALL EXTEND TO 4 INCHES BELOW SURFACE GRADE IN PAVED SURFACES WITH A ZURN (Z-1474-N) HEAVY DUTY CLEANOUT HOUSING PLACED OVER THE TOP OF THE CLEANOUT FLUSH WITH THE SURFACE GRADE. IN PAVED SURFACES, THE FROST SLEEVE SHALL TERMINATE IN A CONCRETE PAD AT LEAST 6” THICK AND EXTENDING AT LEAST 9” FROM THE SLEEVE ON ALL SIDES, SLOPING AWAY FROM THE SLEEVE. THE CLEANOUT HOUSING SHALL BE CONSTRUCTED PER MANUFACTURERS REQUIREMENTS.
D. ALL PROPOSED WATER PIPE SHALL BE IN ACCORDANCE WITH MATERIALS SPECIFIED IN TABLE A: ALLOWABLE PIPE MATERIAL SCHEDULE. 6' MINIMUM COVER SHALL BE PROVIDED OVER ALL WATER PIPING UNLESS OTHERWISE SPECIFIED.
E. ALL PROPOSED STORM PIPE SHALL BE IN ACCORDANCE WITH MATERIALS SPECIFIED IN TABLE A: ALLOWABLE PIPE MATERIAL SCHEDULE. ALL PROPOSED STORM PIPE BELOW BUILDINGS SHALL BE IN ACCORDANCE WITH MATERIALS SPECIFIED IN TABLE A: ALLOWABLE PIPE MATERIAL SCHEDULE. SEE UTILITY PLANS FOR ALL STORM PIPE MATERIAL TYPES TO BE USED. PIPE SHALL BE PLACED MIN. 8' HORIZONTALLY FROM FOUNDATION WALLS.
F. STORM, AND WATER UTILITY PIPE INVERTS SHALL BE CONSTRUCTED WITHIN 0.10' OF DESIGN INVERT ELEVATIONS ASSUMING PIPE SLOPE AND SEPARATION IS MAINTAINED PER THE UTILITY DESIGN PLANS AND STATE REQUIREMENTS.
G. SITE UTILITY CONTRACTOR SHALL RUN STORM SEWER FOR INTERNALLY DRAINED BUILDINGS TO A POINT WHICH IS A MAXIMUM OF 5' FROM THE EXTERIOR WALL OF THE FOUNDATION. SITE UTILITY CONTRACTOR SHALL RUN DOWNSPOUT LEADS TO BUILDING FOUNDATION AND UP 6” ABOVE SURFACE GRADE FOR CONNECTION TO DOWNSPOUT FOR ALL DOWNSPOUT TO RISER (DSR) CONNECTIONS. DOWNSPOUTS TO GRADE (DSG) SHALL BE PROVIDED WITH SPLASH BLOCKS AT THE DISCHARGE LOCATION. ALL DOWNSPOUT LOCATIONS SHOULD BE VERIFIED WITH ARCHITECTURAL PLANS AND DOWNSPOUT CONTRACTOR/GC PRIOR TO INSTALLATION OF DOWNSPOUT LEADS. DOWNSPOUT LEADS SHALL NOT UNDERMINE BUILDING FOUNDATIONS. SITE UTILITY CONTRACTOR SHALL RUN WATER SERVICE TO A POINT WITHIN THE FOUNDATION SPECIFIED BY THE PLUMBING PLANS. CONTRACTOR TO CUT AND CAP WATER SERVICE 12” ABOVE FINISHED FLOOR ELEVATION.
H. ALL UTILITIES SHALL BE INSTALLED WITH PLASTIC COATED TRACER WIRE (10 TO 14 GAUGE SOLID COPPER, OR COPPER COATED STEEL WIRE). PLASTIC WIRE MAY BE TAPED TO PLASTIC WATER OR SEWER PIPE. IF ATTACHED, THE TRACER WIRE SHALL BE SECURED EVERY 6 TO 20 FEET AND AT ALL BENDS. TRACER WIRE SHALL HAVE ACCESS POINTS AT LEAST EVERY 300 FEET. TRACER WIRE SHALL TERMINATE IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS AT GRADE OR IN TERMINATION BOX PER LOCAL/STATE REQUIREMENTS.
I. ALL UTILITIES SHALL BE INSTALLED PER STATE, LOCAL, AND INDUSTRY STANDARDS. WATER, SANITARY, AND STORM SEWER SHALL BE INSTALLED PER "STANDARD SPECIFICATION FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN". THE EXCEL ENGINEERING DESIGN ENGINEER SHALL BE RESPONSIBLE FOR OBTAINING STATE PLUMBING REVIEW APPROVAL (IF REQUIRED). THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL OTHER PERMITS REQUIRED TO INSTALL WATER, SANITARY AND STORM SEWER.
J. SEE PLANS FOR ALL OTHER UTILITY SPECIFICATIONS AND DETAILS.
K.

TABLE A: ALLOWABLE PIPE MATERIAL SCHEDULE

Utility	Material	Pipe Code	Fitting Code	Joint Code
Combined Domestic/Fire Service	C900 PVC	AWWA C900, ASTM D1785, ASTM D2241	AWWA C110, AWWA C153, ASTM D2464, ASTM D2466, ASTM D2467, ASTM D3311, ASTM F409, ASTM F1336, ASTM F1866	Joint: ASTM D3139 Integral Bell & Spigot Elastomeric Seal: ASTM F477

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

CATALYST
CONSTRUCTION

PROJECT INFORMATION

PROPOSED RENOVATION FOR:
LIVING HOPE CHURCH
1337 S. 100TH STREET • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 26, 2026

NOT FOR CONSTRUCTION

JOB NUMBER
250051500

SHEET NUMBER
C0.2

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excellengineer.com

COLLABORATION
CATALYST CONSTRUCTION

PROJECT INFORMATION

PROPOSED RENOVATION FOR:

LIVING HOPE CHURCH

1337 S. 100TH STREET • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 26, 2026

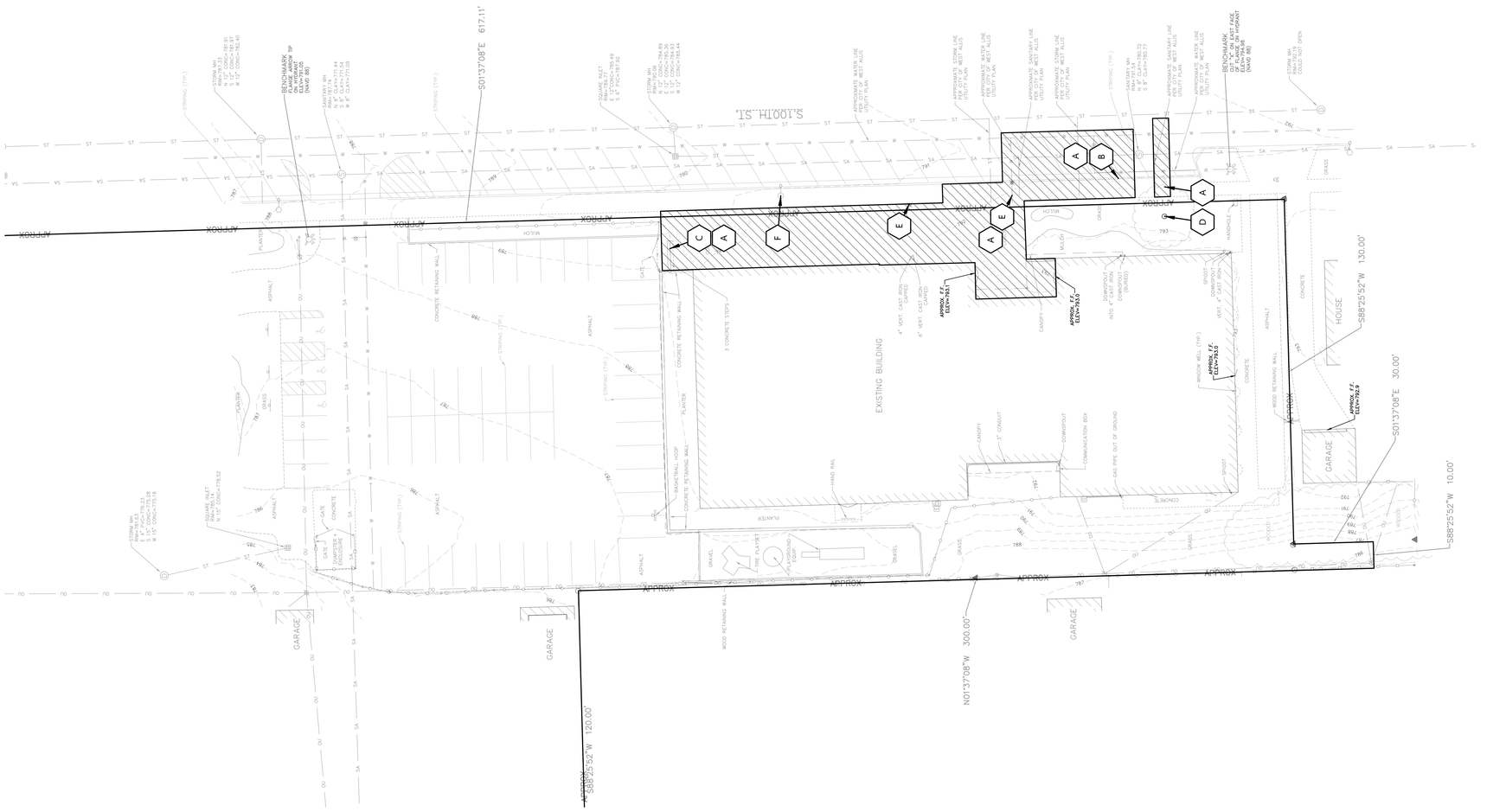
NOT FOR CONSTRUCTION

JOB NUMBER
250051500

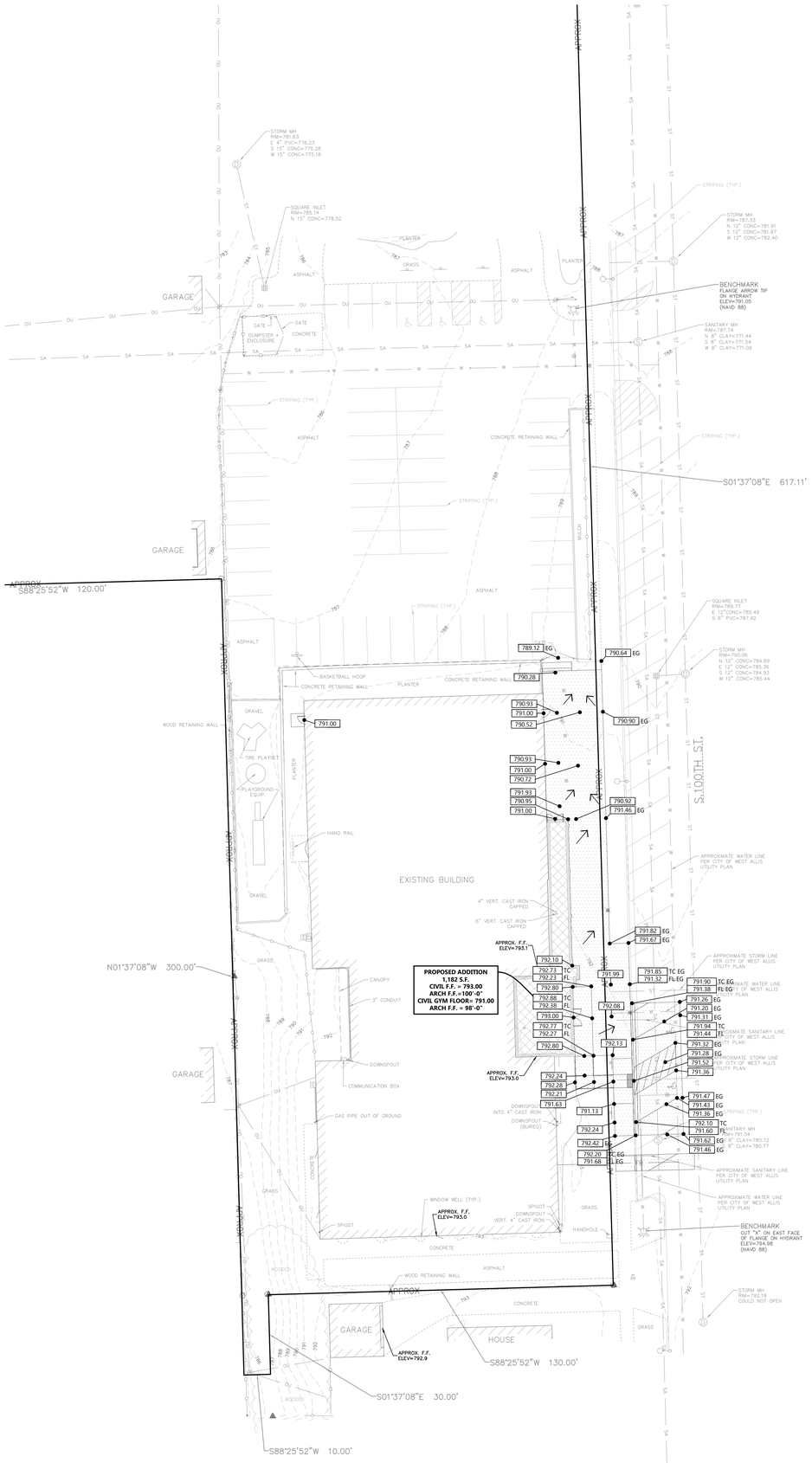
SHEET NUMBER
C1.0

KEYNOTES

A	SAWCUT AND REMOVE PAVEMENT
B	SAWCUT AND REMOVE CURB & GUTTER
C	SAWCUT AND REMOVE STAIRS
D	REMOVE TREE
E	CAP AND ABANDON EXISTING WATER LATERALS IN PLACE PER CITY STANDARDS
F	PROTECT



CIVIL EXISTING SITE AND DEMOLITION PLAN



EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

CATALYST CONSTRUCTION

PROJECT INFORMATION

PROPOSED RENOVATION FOR:

LIVING HOPE CHURCH

1337 S. 100TH STREET • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES

MAY 26, 2026

NOT FOR CONSTRUCTION

JOB NUMBER

250051500

SHEET NUMBER

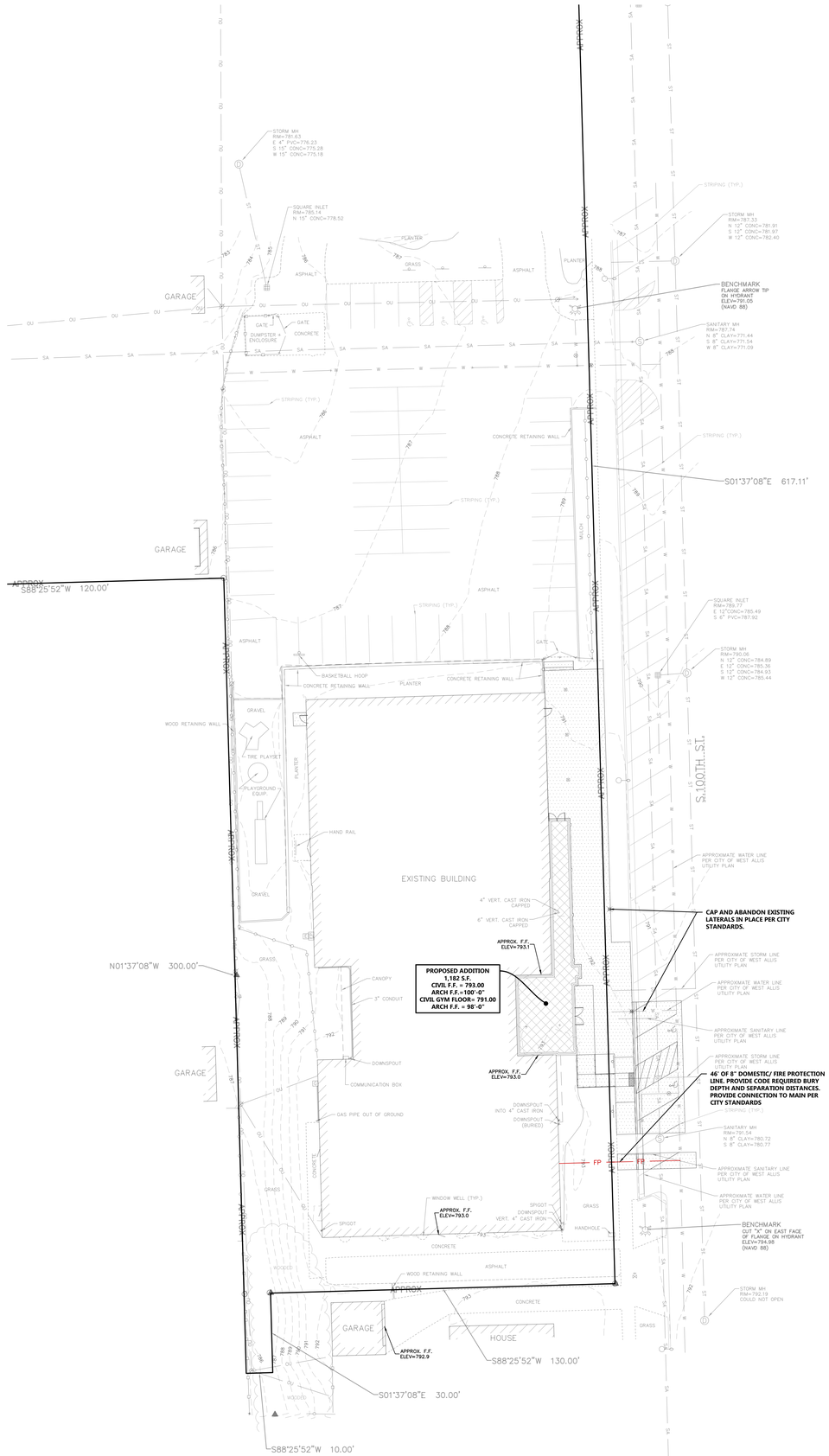
C1.2

SCALE: 1" = 20'

20' 0 20' 40'

NORTH

CIVIL GRADING AND EROSION CONTROL PLAN



SCALE: 1"= 20'

20' 0 20' 40'

NORTH

CIVIL UTILITY PLAN

EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

CATALYST CONSTRUCTION

PROJECT INFORMATION

PROPOSED RENOVATION FOR:

LIVING HOPE CHURCH

1337 S. 100TH STREET • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES

MAY 26, 2026

NOT FOR CONSTRUCTION

JOB NUMBER

250051500

SHEET NUMBER

C1.3

EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

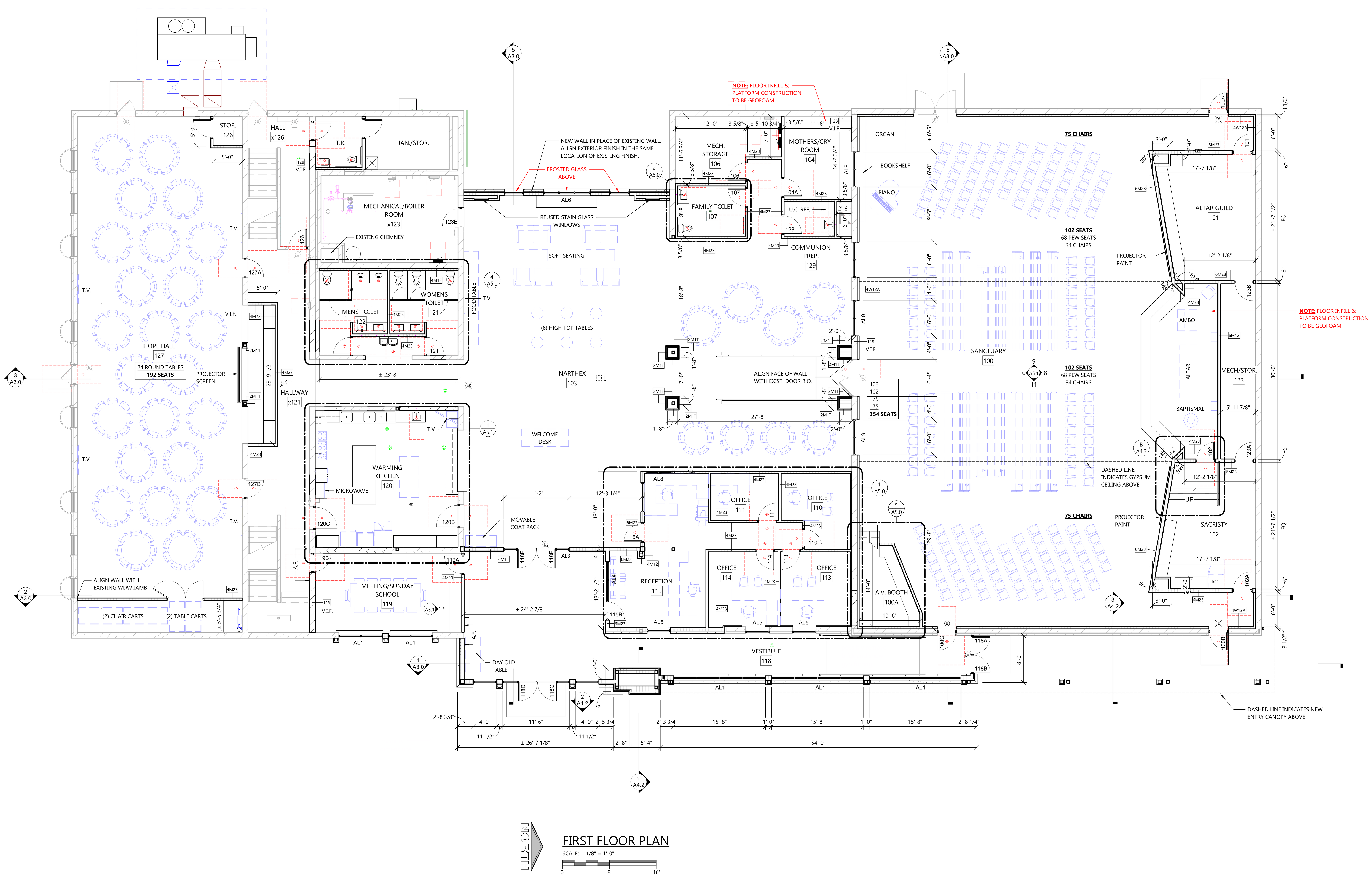
CATALYST CONSTRUCTION

PROJECT INFORMATION

PROPOSED RENOVATION FOR:

LIVING HOPE CHURCH

1337 S. 100TH STREET • WEST ALLIS, WI 53214



PROFESSIONAL SEAL

PRELIMINARY DATES

FEB. 17, 2026
APRIL 6, 2026
APRIL 21, 2026
APRIL 30, 2026
MAY 26, 2026

NOT FOR CONSTRUCTION

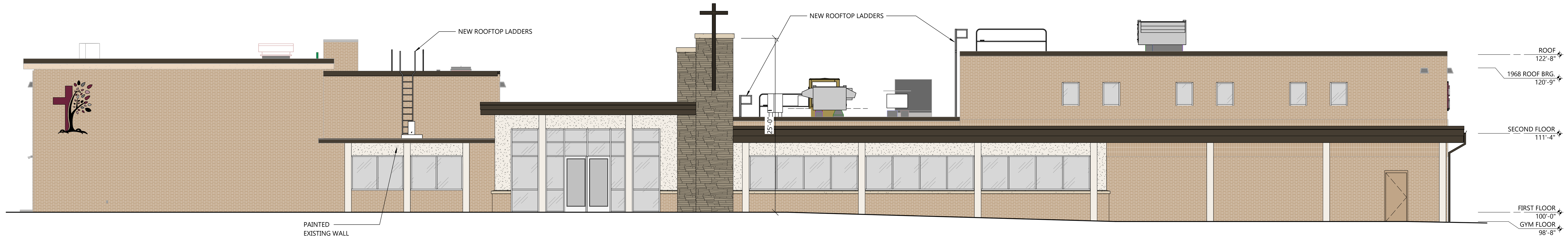
JOB NUMBER

250051500

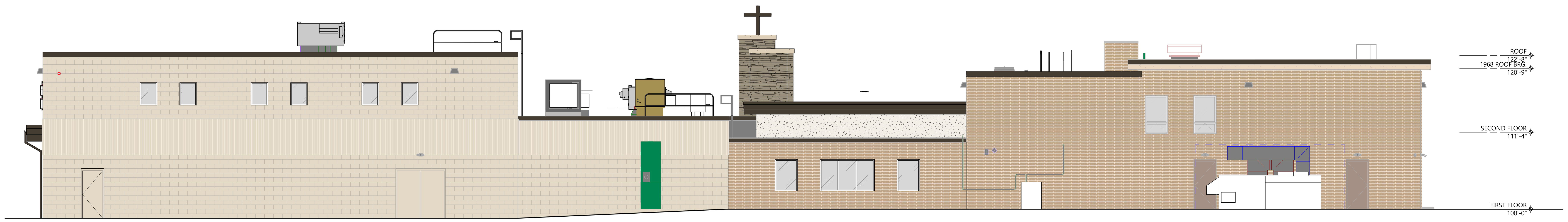
SHEET NUMBER

A1.0

ARCHITECTURAL FIRST FLOOR PLAN



1 A2.0 EAST ELEVATION
SCALE: 1/8" = 1'-0"

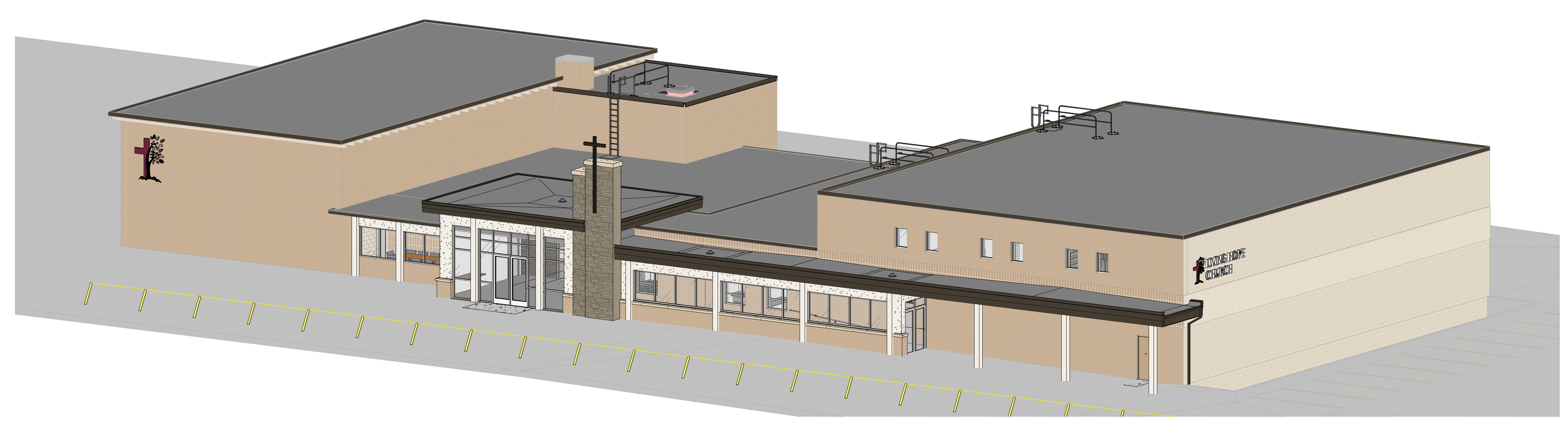


2 A2.0 WEST ELEVATION
SCALE: 1/8" = 1'-0"

3 A2.0 NORTH ELEVATION
SCALE: 1/8" = 1'-0"

AERIAL PERSPECTIVE LOOKING NORTH/WEST

4 A2.0 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



AERIAL PERSPECTIVE LOOKING SOUTH/WEST

EXTERIOR MATERIAL KEY

EIFS
TEXTURE: XXX
COLOR: XXX

STONE VENEER
MFR: BUECHEL STONE
COLOR: XXX

BRICK VENEER
SEE MASONRY VENEER SPEC

PREFIN. METAL TRIM
MFR: PAC-CLAD
COLOR: XXX

ENGINEERED WOOD TRIM
MFR: LP SMARTSIDE
COLOR: XXX
FINISH: SMOOTH OR CEDAR TEXTURED

CAST STONE SILL
MFR: STONECAST
COLOR: XXX

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION
CATALYST CONSTRUCTION

PROJECT INFORMATION

PROPOSED RENOVATION FOR:
LIVING HOPE CHURCH
1337 S. 100TH STREET • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES
FEB. 17, 2026
APRIL 30, 2026
MAY 26, 2026

NOT FOR CONSTRUCTION

JOB NUMBER
250051500

SHEET NUMBER
A2.0

ARCHITECTURAL EXTERIOR ELEVATIONS

STAFF REPORT
WEST ALLIS PLAN COMMISSION
Wednesday, June 24, 2026
Room 128, 6:00 PM

Watch: https://www.youtube.com/user/westalliscitychannel

4. Site, Landscaping, and Architectural Design Review for Kwik Trip an existing Fuel Service Use at 10923 W LAPHAM ST. (Tax Key: 448-9979-014).

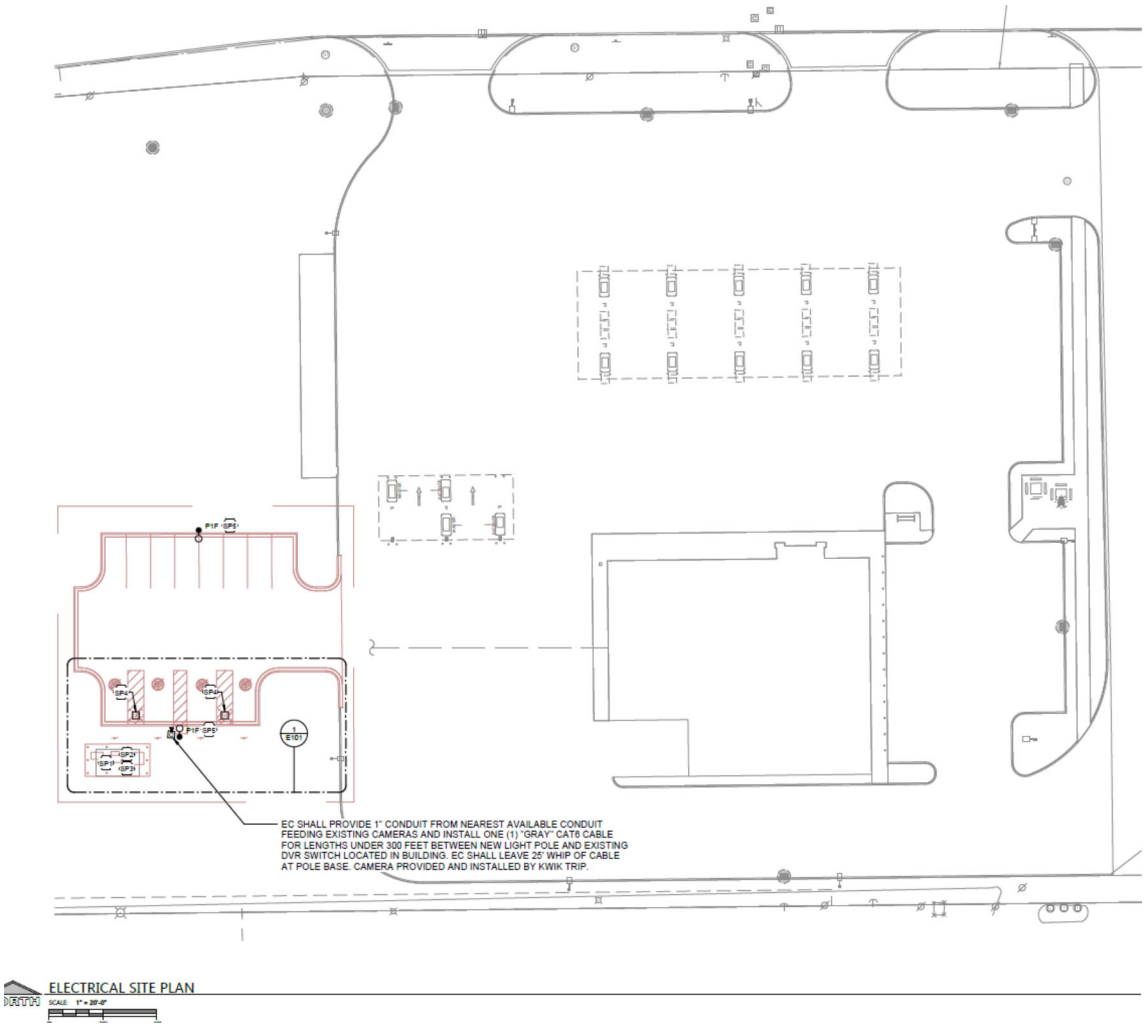
Overview and Zoning
Kwik Trip is proposing four electric vehicle charging stations on the west side of their property. This represents a site change to the plans approved in October of 2018, when Kwik Trips plans to demolish a old AMF Bowling Alley to develop their current site for a fuel station and store along with a car wash on the abutting property to the east fronting Hwy 100. Fuel stations are considered conditional uses and Kwik Trip was approved for their conditional use in 2018. The proposed EV charging stations represents a site modification and not a change in use, therefore the Plan Commission is tasked with reviewing the site, landscaping and design plans for the proposed updates.

The property is zoned C-3 commercial and the existing use will remain a convenience store and fuel gas station (now with some charging ports).

The project scope includes a 17,825 square feet proposed area of disturbance with an addition of 5,140 square feet of new impervious for the parking lot of 12 total parking stalls. Of these 12 parking stalls, 4 are designated for future EV charging stalls. This project will include 18" curb and gutter, curb cut and paint stripping with color to match parking stall striping.

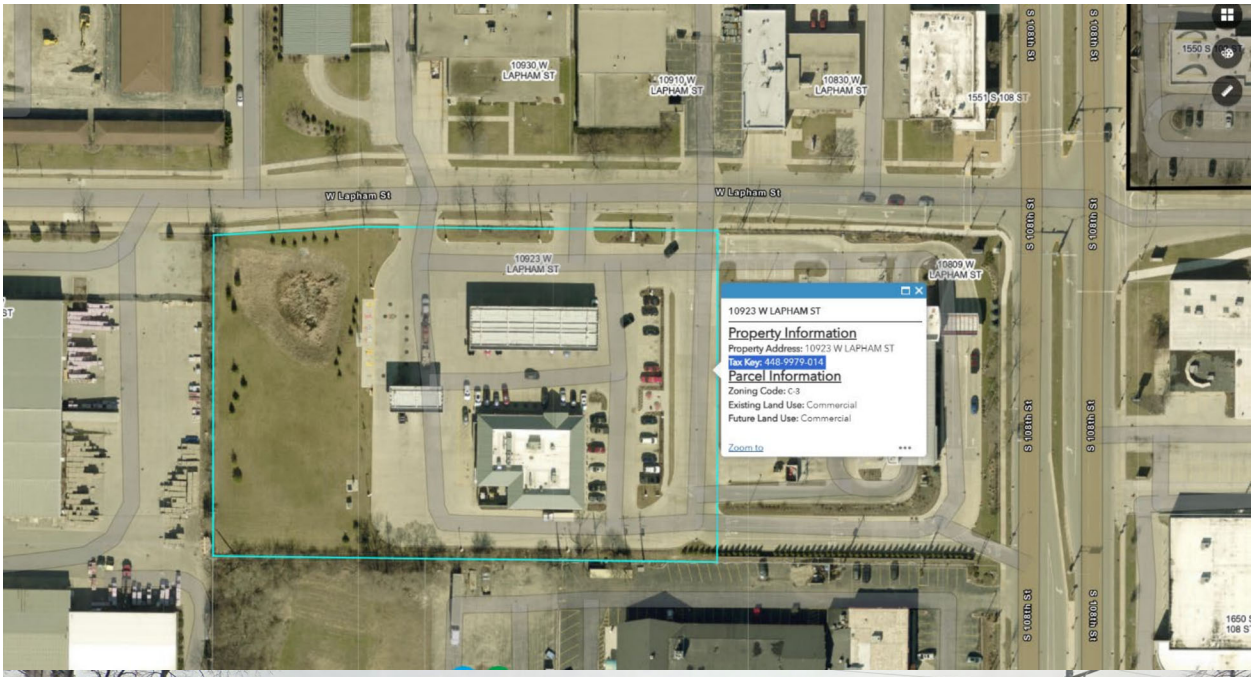
The proposed project will have an estimated completion date of November 1, 2026. Hours of operation are remain unchanged per their 2018 conditional use at 24 hours a day, seven days a week.

EV Charging - Kwik Trip has rolled out rapid charging across several Midwest locations, with more sites actively under construction (for example West Allis/store #1047). Operational and developing sites include: Ashland, WI: 316 East Lake Shore Drive (Store #110), Chippewa Falls, WI: 2884 128th St (Chipa Crossing), La Crosse, WI: 3020 Market Place (Store #762), Menomonie, WI: 2411 Oak Avenue (Store #593), Mount Horeb, WI: 9255 Ridgeview Rd (Store #1130), West Salem, WI: 1100 US-16 (Store #1048)



ELECTRICAL SITE PLAN

Station Charging Speeds: Up to 150kW when four vehicles are charging, or up to 400kW for a single vehicle. Connectors: Supports both CCS1 and NACS (Tesla) plugs. Cost: Rates fluctuate but typically start between $0.45 and $0.59 per kilowatt-hour (kWh). Amenities: Access to fee-free ATMs, clean restrooms, WiFi, and 24/7 groceries/dining. For real-time charger availability and live pricing, use the dedicated Kwik Charge app or check platforms like PlugShare before you visit. A full fast charge will cost roughly $18.90 to $24.78.


10930 W LAPHAM ST
10910 W LAPHAM ST
10830 W LAPHAM ST
1551 S 108 ST
W Lapham St
W Lapham St
10923 W LAPHAM ST
10809 W LAPHAM ST
S 108th St
S 108th St
10923 W LAPHAM ST
Property Information
Property Address: 10923 W LAPHAM ST
Tax Key: 448-9979-014
Parcel Information
Zoning Code: C-3
Existing Land Use: Commercial
Future Land Use: Commercial
Zoom to


KWIK TRIP #1047
Recently viewed
W Lapham St
W Lapham St
W Lapham St
W Lapham St
Layers
Google Maps

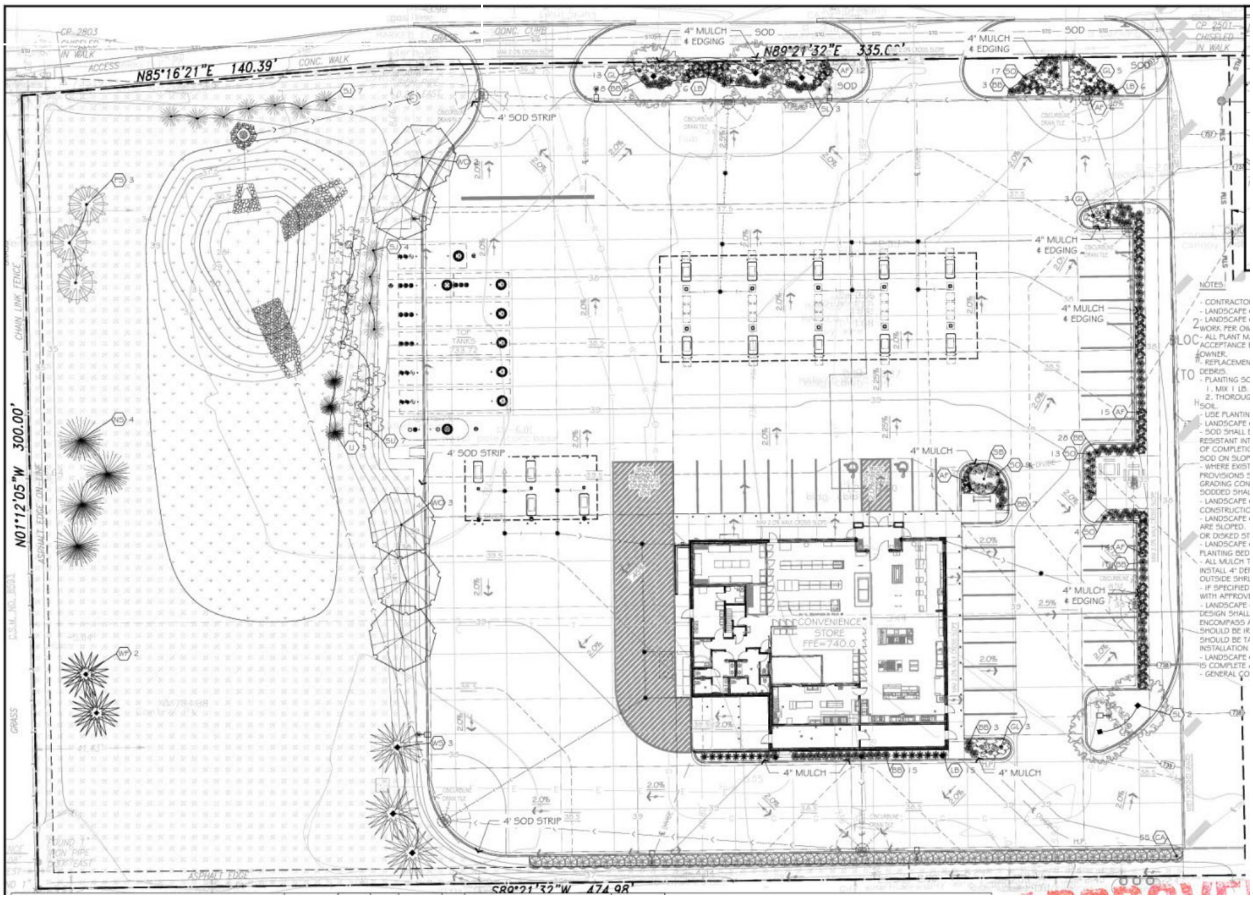
Site & Landscaping Plan

The plan submittal is included with this staff report. A basic site and civil engineering plan has been provided. Staff is recommending an update to the 2018 approved landscaping plan (below).

As part of the site alterations to add EV charging the new paved area will displace possibly up to four existing trees (white oak and white spruce) along the existing edge of pavement. Staff recommends a comparable replacement landscaping planting around the new charging area.

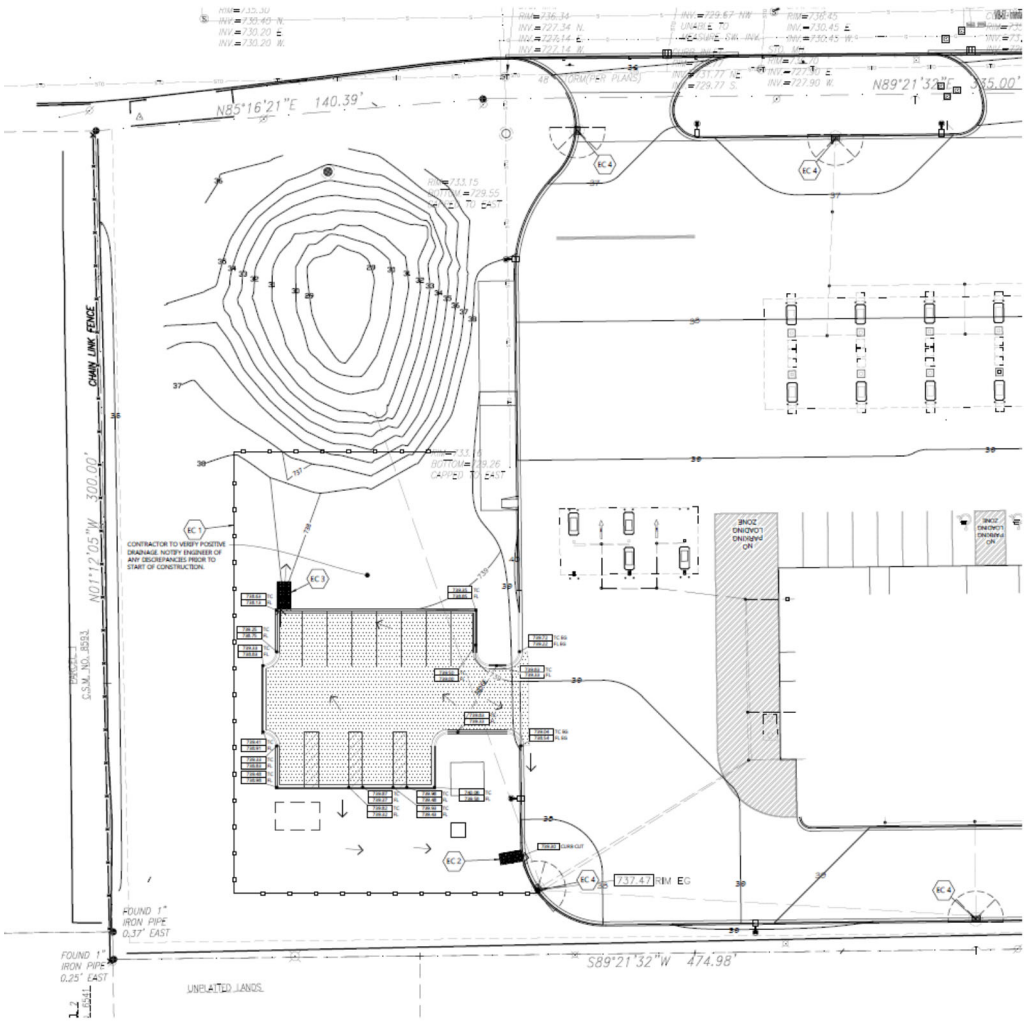
In addition, a stormwater management checklist is included as a condition of approval to determine if the added impervious area requires changes to the existing stormwater retention facility on site.

2018 Approved Landscape Plan



Lighting – two new 19-ft tall light poles are planned on each side of the charging area. A photometric plan has been provided.

Proposed EV Charging area



Recommendation: Site, Landscaping, and Architectural Design Review for Kwik Trip an existing Fuel Service Use at 10923 W LAPHAM ST. (Tax Key: 448-9979-014), subject to the following conditions:

1. Submit updated plans and details to the Planning & Zoning office to show (a) elevations of charging stations will need to show the height of all the controls and also bollard spacing for accessibility guidelines on the plans at time of building permit review; (b) As part of the site alterations to add EV charging the new paved area will displace three existing white oak trees and one white spruce tree along the existing edge of pavement. Staff recommends a comparable replacement landscaping planting around the new charging area.
2. Stormwater checklist - Documentation and approval showing compliance with the City of West Allis Storm water Management Ordinance, to be submitted to the Building Inspections and Neighborhood Services Department by a registered Civil Engineer.

3. Any update to the signage plans will require staff review for compliance and subject to permitting.

June 5, 2026

Project Narrative

Project: Kwik Trip Store #1047
10923 W Lapham St
West Allis, WI 53214

Kwik Trip, Inc is requesting a Site, Landscaping and Architectural Amendment review and approval for a proposed parking lot addition to their existing property located at 10923 W Lapham St in the City of West Allis. The property is zoned C-3 and the existing use is a convenience store and gas station and will remain as such in the proposed condition. The proposed project is a permitted use.

Project scope includes a 17,825 square feet proposed area of disturbance with an addition of 5,140 square feet of new impervious for the parking lot of 12 total parking stalls. Of these 12 parking stalls, 4 are designated for future EV charging stalls. This project will include 18” curb and gutter, curb cut and paint stripping with color to match parking stall striping.

The proposed project will have an estimated completion date of November 1, 2026. Hours of operation are 24 hours a day, seven days a week.

PROPOSED EV CHARGING ADDITION FOR
KWIK TRIP STORE #1047
WEST ALLIS, WI

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511

TOLL FREE TELEFAX (414) 259-0947
TDD (FOR THE HEARING IMPAIRED)
1-800 542-2289

WISCONSIN STATUTE 182.0175 (1974) REQUIRES MINIMUM OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

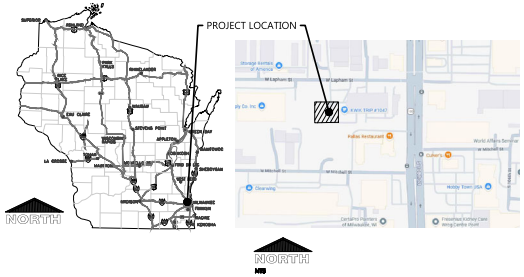
EXISTING CONDITIONS NOTE:
PREVIOUSLY PROPOSED PLANS USED AS EXISTING CONDITIONS. PRIOR TO CONSTRUCTION CONTRACTOR SHALL FIELD VERIFY ALL SITE IMPROVEMENTS, UTILITY LOCATIONS, INVERTS, SEIZES, ETC. NOTIFY ENGINEER OF ANY DISCREPANCIES. FAILURE TO NOTIFY ENGINEER SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR ANY DAMAGES AS A RESULT OF FAILURE TO FIELD VERIFY.

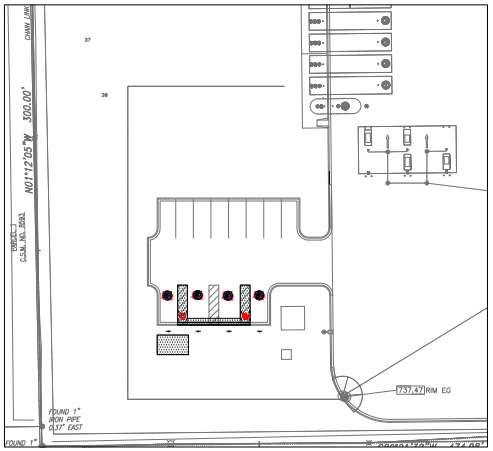
PROJECT CONTACTS

OWNER INFORMATION:
Kwik Trip
Contact: Rob Hansen/ Adam Schwartz
P.O. Box 2107
La Crosse, WI 54602-2107
Phone: (608) 793-5933
Email: RHansen@kwiktrip.com/ AMSchwartz@kwiktrip.com

CIVIL:
Eric Dradowski, P.E.
Contact: Zach Becker
Phone: (920) 926-9800
E-mail: zach.becker@excelengineer.com

LOCATION MAP





NORTH

SITE PLAN OVERVIEW
SCALE: 1"= 30'
30' 0 30' 60'

CIVIL SHEET INDEX

NUMBER	SHEET NAME / DESCRIPTION
C001	CIVIL COVER SHEET
C002	CIVIL SPECIFICATIONS
C020	EXISTING SITE AND DEMOLITION PLAN
C100	SITE OVERALL PLAN
C101	SITE PLAN
C200	GRADING & EROSION CONTROL PLAN
C201	ADA PLAN
C500	DETAILS

06/08/26

ELECTRICAL SHEET INDEX

NUMBER	SHEET NAME / DESCRIPTION
E000	TITLE SHEET
E001	GENERAL NOTES
E002	GENERAL NOTES
E100	SITE PLAN
E101	ENLARGED SITE PLAN
E102	SITE UNDERGROUND
E103	SITE UNDERGROUND CONDUIT SCHEDULE
E310	DETAILS - GENERAL
E311	DETAILS - GENERAL
E312	DETAILS - BRAVO SYSTEMS
E313	DETAILS - BRAVO SYSTEMS
E314	DETAILS - SPECIFICATION SHEETS & QR CODES
E600	POWER ONE-LINE DIAGRAM

06/08/26

EXCEL LEGEND

NOTE: ALL SYMBOLS SHOWN MAY NOT APPEAR ON DRAWINGS.

SYM.	IDENTIFICATION	SYM.	IDENTIFICATION
SPOT ELEVATIONS			
000.00	PROPOSED SPOT ELEVATIONS (FLOW LINE OF CURB UNLESS OTHERWISE SPECIFIED)	000.00TC 000.00FL	PROPOSED SPOT ELEVATIONS (TOP OF CURB, FLOWLINE OF CURB)
000.00EG	EXISTING GRADE SPOT ELEVATIONS		
000.00BG 000.00FG	PROPOSED SPOT ELEVATIONS (REFERENCE R-WALL DETAIL) BG-FINISHED SURFACE GRADE AT BACK OF WALL FG-FINISHED SURFACE GRADE AT FRONT OF WALL	000.00TW 000.00BW	PROPOSED SPOT ELEVATIONS (TOP OF WALK, BOTTOM OF WALK @ FLOWLINE)
PROPOSED SITE SYMBOLS			
	PROPOSED DRAINAGE FLOW	CO	PROPOSED CLEANOUT
	PROPOSED WATER VALVE IN BOX	DS	PROPOSED DOWNSPOUT
	PROPOSED WELL		PROPOSED APRON END SECTION
	PROPOSED LIGHT POLE		SOIL BORING
	PROPOSED STORM CATCH BASIN - ST CB		CENTER LINE
	PROPOSED STORM FIELD INLET - ST FI		PROPOSED HANDICAP PARKING STALL
	PROPOSED STORM CURB INLET - ST CI		PROPOSED SIGN
PROPOSED LINETYPES			
	PROPOSED PROPERTY LINE		INTERIOR PROPERTY LINE
ST	PROPOSED STORM SEWER AND MANHOLE - ST MH		RAILROAD TRACKS
SA	PROPOSED SANITARY SEWER AND MANHOLE - SAN MH	000	EXISTING GROUND CONTOUR
W	PROPOSED WATER LINE AND HYDRANT	000	PROPOSED GROUND CONTOUR
	PROPOSED CURB AND GUTTER	POL	PROPOSED POLISH SEWER AND MANHOLE
	GRADING/SEEDING LIMITS	P	PROPOSED PROCESS SEWER AND MANHOLE
	RIGHT-OF-WAY LINE	CLW	PROPOSED CLEAR WATER LINE
T	PROPOSED UNDERGROUND TELEPHONE CABLE	G	PROPOSED UNDERGROUND GAS LINE
	PROPOSED GUARD RAIL	E	PROPOSED UNDERGROUND ELECTRIC CABLE
FO	PROPOSED UNDERGROUND FIBER OPTIC LINE		

CIVIL COVER SHEET

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

PROJECT INFORMATION
PROPOSED EV CHARGING ADDITION FOR
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
C001

CIVIL SPECIFICATIONS

DIVISION 31 EARTH WORK

31 10 00 SITE CLEARING (DEMOLITION)

A. CONTRACTOR SHALL CALL DIGGER'S HOT LINE AND CONDUCT A PRIVATE UTILITY LOCATE AS REQUIRED TO ENSURE THAT ALL UTILITIES HAVE BEEN LOCATED BEFORE STARTING SITE DEMOLITION. DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
B. DEMOLITION PLAN IS AN OVERVIEW OF DEMOLITION TO TAKE PLACE ON SITE. CONTRACTOR TO FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL REMOVE, REPLACE, OR DEMOLISH ALL ITEMS AS NEEDED DURING CONSTRUCTION.
C. CONTRACTOR TO PROTECT EXISTING IMPROVEMENTS THAT ARE SCHEDULED TO REMAIN. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPLACED AT CONTRACTORS EXPENSE.
D. ALL CONCRETE NOTED TO BE REMOVED SHALL BE REMOVED TO THE NEAREST CONTROL JOINT.

31 20 00 EARTH MOVING

A. CONTRACTOR SHALL CALL DIGGER'S HOT LINE AND CONDUCT A PRIVATE UTILITY LOCATE AS REQUIRED TO ENSURE THAT ALL UTILITIES HAVE BEEN LOCATED BEFORE STARTING EXCAVATION. DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
B. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT FOR ALL EXCAVATION, GRADING, FILL AND BACKFILL WORK AS REQUIRED TO COMPLETE THE GENERAL CONSTRUCTION WORK. ALL EXCAVATION AND BACKFILL FOR ELECTRICALS AND MECHANICALS ARE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTOR UNLESS OTHERWISE SPECIFIED IN THE BID DOCUMENTS.
C. PLACE AND COMPACT FILL MATERIAL IN LAYERS TO REQUIRED ELEVATIONS. UNIFORMLY MOISTEN OR AERATE SUBGRADE AND EACH SUBSEQUENT FILL OR BACKFILL LAYER BEFORE COMPACTION AS RECOMMENDED TO ACHIEVE SPECIFIED DRY DENSITY. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY, OTHERWISE SATISFACTORY SOIL MATERIAL THAT IS TOO WET TO COMPACT TO SPECIFIED DRY DENSITY.
D. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
E. COMPACT THE SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D 698, STANDARD PROCTOR TEST. FILL MAY NOT BE PLACED ON FROZEN GROUND AND NO FROZEN MATERIALS MAY BE USED FOR BACK FILL. APPLY THE MORE STRINGENT REQUIREMENTS WHEN COMPARING BETWEEN THE FOLLOWING AND THE GEOTECHNICAL REPORT.
   1. UNDER FOUNDATIONS - SUBGRADE, AND EACH LAYER OF BACKFILL OR FILL MATERIAL, TO NOT LESS THAN 98 PERCENT.
   2. UNDER INTERIOR SLAB-ON-GRADE WHERE GROUNDWATER IS MORE THAN 3 FEET BELOW THE SLAB - PLACE A DRAINAGE COURSE LAYER OF 3/4" CRUSHED STONE, WITH 5% TO 12% FINES, PER THICKNESS INDICATED ON FOUNDATION PLANS ON PREPARED SUBGRADE. COMPACT THE SUBGRADE AND DRAINAGE COURSE TO NOT LESS THAN 95 PERCENT.
   3. UNDER INTERIOR SLAB-ON-GRADE WHERE GROUNDWATER IS WITHIN 3 FEET OF THE SLAB SURFACE- PLACE A DRAINAGE COURSE LAYER OF CLEAN 3/4" CRUSHED STONE, WITH NO MORE THAN 5% FINES, PER THICKNESS INDICATED ON FOUNDATION PLANS ON PREPARED SUBGRADE. COMPACT THE SUBGRADE AND DRAINAGE COURSE TO NOT LESS THAN 95 PERCENT.
   4. UNDER EXTERIOR CONCRETE AND ASPHALT PAVEMENTS - COMPACT THE SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO NOT LESS THAN 95 PERCENT.
   5. UNDER WALKWAYS - COMPACT SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO NOT LESS THAN 95 PERCENT.
   6. UNDER LAWN OR UNPAVED AREAS - COMPACT SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL, TO NOT LESS THAN 85 PERCENT.
F. CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS. CONTRACTOR SHALL PROVIDE DOCUMENTATION OF PASSING DENSITY TESTING AND PROOF-ROLLING TO ENGINEER UPON COMPLETION. ALLOW THE TESTING AGENCY TO TEST AND INSPECT SUBGRADES AND EACH FILL OR BACKFILL LAYER. PROCEED WITH SUBSEQUENT EARTHWORK ONLY AFTER TEST RESULTS FOR PREVIOUSLY COMPLETED WORK COMPLY WITH REQUIREMENTS. PROVIDE ONE TEST FOR EVERY 2000 SQUARE FEET OF PAVED AREA OR BUILDING SLAB, ONE TEST FOR EACH SPREAD FOOTING, AND ONE TEST FOR EVERY 50 LINEAR FEET OF WALL STRIP FOOTING.
G. WHEN THE TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
H. THE BUILDING SITE SHALL BE GRADED TO PROVIDE DRAINAGE AWAY FROM THE BUILDING AS INDICATED ON THE PLANS. SITE EARTHWORK SHALL BE GRADED TO WITHIN 0.10' OF REQUIRED EARTHWORK ELEVATIONS ASSUMING POSITIVE DRAINAGE IS MAINTAINED IN ACCORDANCE WITH THE GRADING PLAN.

31 30 00 EROSION CONTROL

A. THE GRADING PLAN REFLECTS LESS THAN 1 ACRE OF DISTURBED AREA. THE SITE IS THEREFORE EXEMPT FROM WISCONSIN DEPARTMENT OF NATURAL RESOURCES NR 216 NOTICE OF INTENT REQUIREMENTS. THE DESIGN ENGINEER SHALL PREPARE AN EROSION CONTROL PLAN TO MEET NR 151.105 CONSTRUCTION SITE PERFORMANCE STANDARDS FOR NON-PERMITTED SITES.
B. EROSION AND SEDIMENT CONTROL IMPLEMENTED DURING CONSTRUCTION SHALL STRICTLY COMPLY WITH THE GUIDELINES AND REQUIREMENTS SET FORTH IN WISCONSIN ADMINISTRATIVE CODE (W.A.C.) NR 151, THE STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES RUNOFF MANAGEMENT PERFORMANCE STANDARDS. TECHNICAL STANDARDS PUBLISHED BY THE WISCONSIN DNR SHALL ALSO BE UTILIZED TO IMPLEMENT THE REQUIRED PERFORMANCE STANDARDS. THE METHODS AND TYPES OF EROSION CONTROL WILL BE DEPENDENT ON THE LOCATION AND TYPE OF WORK INVOLVED. ALL SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION, AND INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. BELOW IS A LIST OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES TO ACHIEVE THE PERFORMANCE STANDARDS REQUIRED.
   1. SILT FENCE SHALL BE PLACED ON SITE AT LOCATIONS SHOWN ON THE EROSION CONTROL PLAN. SILT FENCE SHALL ALSO BE PROVIDED AROUND THE PERIMETER OF ALL SOIL STOCKPILES THAT WILL EXIST FOR MORE THAN 7 DAYS. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1056 (CURRENT EDITION).
   2. STORM DRAIN INLET PROTECTION SHALL BE PROVIDED FOR ALL NEW AND DOWNSTREAM STORM CATCH BASINS AND CURB INLETS. TYPE B OR C PROTECTION SHOULD BE PROVIDED AND SHALL BE IN CONFORMANCE WITH WISCONSIN DNR TECHNICAL STANDARD 1060 (CURRENT EDITION).
   3. DUST CONTROL MEASURES SHALL BE PROVIDED TO REDUCE OR PREVENT THE SURFACE AND AIR TRANSPORT OF DUST DURING CONSTRUCTION. CONTROL MEASURES INCLUDE APPLYING MULCH AND ESTABLISHING VEGETATION, WATER SPRAYING, SURFACE ROUGHENING, APPLYING POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES, AND BARRIERS. SOME SITES MAY REQUIRE AN APPROACH THAT UTILIZES A COMBINATION OF MEASURES FOR DUST CONTROL. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1068 (CURRENT EDITION).
   4. THE USE, STORAGE, AND DISPOSAL OF CHEMICALS, CEMENT, AND OTHER COMPOUNDS AND MATERIALS USED ON SITE SHALL BE MANAGED DURING THE CONSTRUCTION PERIOD TO PREVENT THEIR TRANSPORT BY RUNOFF INTO WATERS OF THE STATE.
   5. CONTRACTOR SHALL PROVIDE AN OPEN AGGREGATE CONCRETE TRUCK WASHOUT AREA ON SITE. CONTRACTOR TO ENSURE THAT CONCRETE WASHOUT SHALL BE CONTAINED TO THIS DESIGNATED AREA AND NOT BE ALLOWED TO RUN INTO STORM INLETS OR INTO THE OVERLAND STORMWATER DRAINAGE SYSTEM. WASHOUT AREA SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION.
   6. TEMPORARY SITE RESTORATION SHALL TAKE PLACE IN DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE OR ON WHICH LAND DISTURBING ACTIVITIES WILL NOT BE PERFORMED FOR A PERIOD GREATER THAN 14 DAYS AND REQUIRES VEGETATIVE COVER FOR LESS THAN ONE YEAR. THIS TEMPORARY SITE RESTORATION REQUIREMENT ALSO APPLIES TO SOIL STOCKPILES THAT EXIST FOR MORE THAN 7 DAYS. PERMANENT RESTORATION APPLIES TO AREAS WHERE PERENNIAL VEGETATIVE COVER IS NEEDED TO PERMANENTLY STABILIZE AREAS OF EXPOSED SOIL. PERMANENT STABILIZATION SHALL OCCUR WITHIN 3 WORKING DAYS OF FINAL GRADING. TOPSOIL, SEED, AND MULCH SHALL BE IN GENERAL CONFORMANCE WITH TECHNICAL STANDARDS 1058 AND 1059 AND SHALL MEET THE SPECIFICATIONS FOUND IN THE LANDSCAPING AND SITE STABILIZATION SECTION OF THIS CONSTRUCTION DOCUMENT. ANY SOIL EROSION THAT OCCURS AFTER FINAL GRADING AND/OR FINAL STABILIZATION MUST BE REPAIRED AND THE STABILIZATION WORK REDONE.
   7. IF SITE DEWATERING IS REQUIRED FOR PROPOSED CONSTRUCTION ACTIVITIES, ALL SEDIMENT LADEN WATER GENERATED DURING THE DEWATERING PROCESS SHALL BE TREATED TO REMOVE SEDIMENT PRIOR TO DISCHARGING OFF-SITE OR TO WATERS OF THE STATE. FOLLOW ALL PROCEDURES FOUND IN TECHNICAL STANDARD 1061.
   8. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION WORK OR A STORM EVENT SHALL BE CLEANED UP BY THE END OF EACH WORKING DAY. DUST CONTROL REQUIREMENTS SHALL BE FOLLOWED PER WI DNR TECHNICAL STANDARD 1068 (CURRENT EDITION). FLUSHING SHALL NOT BE ALLOWED.
C. ALL EROSION CONTROL DEVICES SHALL AT A MINIMUM BE INSPECTED EVERY 7 CALENDAR DAYS OR EVERY 14 DAYS AND WITHIN 24 HOURS OF THE END OF A RAIN EVENT OF 0.5" OR MORE. MAINTENANCE SHALL BE PERFORMED PER WISCONSIN ADMINISTRATIVE CODE (W.A.C.) NR 151 STORMWATER MANAGEMENT TECHNICAL STANDARD REQUIREMENTS.
D. EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL THE AREA(S) SERVED HAVE ESTABLISHED VEGETATIVE COVER.
E. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL EROSION CONTROL PERMITS.

DIVISION 32 EXTERIOR IMPROVEMENTS

32 10 00 CONCRETE AND AGGREGATE BASE

A. CONTRACTOR TO PROVIDE CRUSHED AGGREGATE BASE AND CONCRETE WHERE INDICATED ON THE PLANS.
B. ALL AGGREGATE PROVIDED MUST COMPLY WITH SECTION 305 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. ALL AGGREGATE PLACED MUST BE COMPACTED TO AN AVERAGE DENSITY PER WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
C. DESIGN AND CONSTRUCTION OF ALL CAST-IN-PLACE EXTERIOR CONCRETE FLAT WORK SHALL CONFORM TO ACI 330R-08 & ACI 318-08.
D. EXTERIOR CONCRETE FLAT WORK CONSTRUCTION TO BE PROVIDED PER MORE STRINGENT REQUIREMENTS OF THE GEOTECHNICAL REPORT OR THIS SPECIFICATION. CONCRETE FLAT WORK CONSTRUCTION IS AS FOLLOWS:
   1. SIDEWALK CONCRETE - 4" OF CONCRETE OVER 6" OF 3/4" CRUSHED AGGREGATE BASE.
      a. CONCRETE SHALL BE REINFORCED AS FOLLOWS:
         1) REINFORCEMENT SHALL MEET THE STANDARDS OF ASTM A-615, "SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT".
         2) CONCRETE SHALL UTILIZE #3 BAR 3' ON-CENTER FOR DEPTHS UP TO 6" AND #4 BAR 3' ON-CENTER FOR CONCRETE OVER 6" IN DEPTH.
         3) BAR: DEFORMED, EXCEPT THAT PLAIN BARS MAY BE USED FOR SPIRALS.
         4) MAIN REINFORCING BARS, OTHER BARS NOT LISTED ABOVE: GRADE 60
      b. CONTRACTION JOINTS SHALL CONSIST OF 1/8" WIDE BY 1" DEEP TOOLED JOINT WHERE INDICATED ON THE PLANS.
   2. HEAVY DUTY CONCRETE (TRUCK TRAFFIC) - 8" OF CONCRETE OVER 12" OF 3/4" CRUSHED AGGREGATE.
      a. CONCRETE SHALL BE STEEL REINFORCED AS FOLLOWS:
         1) REINFORCEMENT SHALL MEET THE STANDARDS OF ASTM A-615, "SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT".
         2) CONCRETE SHALL UTILIZE #3 BAR 3' ON-CENTER FOR DEPTHS UP TO 6" AND #4 BAR 3' ON-CENTER FOR CONCRETE OVER 6" IN DEPTH.
         3) BAR: DEFORMED, EXCEPT THAT PLAIN BARS MAY BE USED FOR SPIRALS.
         4) MAIN REINFORCING BARS, OTHER BARS NOT LISTED ABOVE: GRADE 60
      b. HEAVY DUTY CONCRETE JOINTING SHALL BE AS FOLLOWS:
         1) CONTRACTION JOINTS SHALL BE SAWCUT 1.5" IN DEPTH AND BE SPACED A MAXIMUM OF 15' ON CENTER

E. CONCRETE ACCESSORIES TO BE USED AS FOLLOWS. USE OF ACCESSORIES OTHER THAN LISTED REQUIRES OWNER APPROVAL:
   1. EXPANSION JOINT FILLER: NON-EXTRUDING RESILIENT BITUMINOUS TYPE, ASTM D 1751.
   2. CURING COMPOUND: ASTM C 309 TYPE 1 (ACCEPTABLE PRODUCTS ARE SPEC CHEM ECO-CURE OR EUCLID CHEMICAL TAMMSCUREWB)
   3. CURING AND SEALING COMPOUND: ASTM C1315, TYPE 1, CLASS B AND C WITH A MAXIMUM OF 700 GRAMS PER LITER OF VOC'S (WATER BASED ACRYLIC). ACCEPTABLE PRODUCTS ARE TK PRODUCTS TRI-COTE 26UV/EUCLID CHEMICAL SUPER DIAMOND CLEAR)
   4. BOND BREAKER: 4 MIL POLYETHYLENE FILM OR 15# BUILDING PAPER.
F. DESIGN MIXES SHALL BE IN ACCORDANCE WITH ASTM C94
   5. STRENGTH TO BE MINIMUM OF 4,500 PSI AT 28 DAYS FOR EXTERIOR CONCRETE.
   6. ALL CONCRETE SUBJECT TO FREEZING AND THAWING SHALL HAVE A MAXIMUM WATER/CEMENTITIOUS RATIO OF 0.45 (4500 PSI AT 28 DAYS OR MORE). ALL STEEL REINFORCED CONCRETE SUBJECTED TO BRACKISH WATER, SALT SPRAY OR DEICERS SHALL HAVE A MAXIMUM WATER/CEMENTITIOUS RATIO OF 0.40 (5000 PSI AT 28 DAYS OR MORE).
   7. SLUMP SHALL NOT EXCEED 4" FOR EXTERIOR CONCRETE FLAT WORK
   8. SLUMP SHALL BE 2.5" OR LESS FOR SLIP-FORMED CURB AND GUTTER
   9. SLUMP SHALL BE BETWEEN 1.5" TO 3" FOR NON SLIP-FORMED CURB AND GUTTER.
   10. ALL CONCRETE EXPOSED TO FREEZING AND THAWING AND/OR REQUIRED TO BE WATERTIGHT SHALL HAVE AN AIR CONTENT OF 4.5% TO 7.5%. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT IN ALL MEMBERS (AFTER PUMPING IF APPLICABLE). NO OTHER ADMIXTURES SHALL BE USED WITHOUT APPROVAL FROM EXCEL ENGINEERING, INC. & KWIK TRIP'S ENGINEERING TEAM. CALCIUM CHLORIDE SHALL NOT BE USED.
   11. READY-MIXED CONCRETE: ASTM C-94, EXCEPT WHERE "CONCRETE MIX DESIGN SCHEDULE TABLE" IS MORE RESTRICTIVE. SEE CONCRETE MIX DESIGN SCHEDULE IN THE PLANSET.
G. VERIFY EQUIPMENT CONCRETE PAD SIZES WITH CONTRACTOR REQUIRING PAD. PADS SHALL HAVE FIBERMESH 300 FIBERS AT A RATE OF 1.5 LBS/CU. YD. OR 6 X 6-W1.4 X W1.4 WELDED WIRE MESH WITH MINIMUM 1 INCH COVER. EQUIPMENT PADS SHALL BE 5.5 INCHES THICK WITH 1 INCH CHAMFER UNLESS SPECIFIED OTHERWISE. COORDINATE ADDITIONAL PAD REQUIREMENTS WITH RESPECTIVE CONTRACTOR.
H. ALL CONCRETE FLAT WORK SURFACES AND CONCRETE CURB FLOWLINES SHALL BE CONSTRUCTED TO WITHIN 0.05' OF DESIGN SURFACE AND FLOWLINE GRADES ASSUMING POSITIVE DRAINAGE IS MAINTAINED IN ACCORDANCE WITH THE DESIGN PLANS.
I. CONCRETE FLAT WORK SHALL HAVE CONSTRUCTION JOINTS OR SAW CUT JOINTS PLACED AS INDICATED ON THE PLANS OR PER THIS SPECIFICATION. SAWCUTS SHALL BE DONE AS SOON AS POSSIBLE, BUT NO LATER THAN 24 HOURS AFTER CONCRETE IS PLACED. CONCRETE CURB AND GUTTER JOINTING SHALL BE PLACED EVERY 10' OR CLOSER (6' MIN.). IF CONCRETE PAVEMENT IS ADJACENT TO CONCRETE CURB, JOINTING IN THE PAVEMENT AND CURB SHALL ALIGN. ALL EXTERIOR CONCRETE SHALL HAVE A BROOM FINISH UNLESS NOTED OTHERWISE. A UNIFORM COAT OF A HIGH SOLIDS CURING COMPOUND MEETING ASTM C309 SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES. ALL CONCRETE IS TO BE CURED FOR 7 DAYS. EXTERIOR CONCRETE SHALL BE SEPARATED FROM BUILDINGS WITH CONTINUOUS 0.5 INCH FIBER EXPANSION JOINT AND/OR 0.25 INCH FIBER EXPANSION JOINT AT DECORATIVE MASONRY UNITS.
J. ALL REINFORCING BARS SHALL BE ASTM A615 GRADE 60. THICKNESS OF CONCRETE COVER OVER REINFORCEMENT SHALL BE NOT LESS THAN 3" WHERE CONCRETE IS DEPOSITED AGAINST THE GROUND WITHOUT THE USE OF FORMS AND NOT LESS THAN 1.5" FOR UP TO #5 BARS AND 2" FOR #6 TO #10 BARS IN ALL OTHER LOCATIONS. ALL REINFORCING SHALL BE LAPPED 48 DIAMETERS FOR UP TO #6 BARS, 62 DIAMETERS FOR #7 TO #9 BARS, 68 DIAMETERS FOR #10 BARS OR AS NOTED ON THE DRAWINGS AND EXTENDED AROUND CORNERS WITH CORNER BARS. PLACING AND DETAILING OF STEEL REINFORCING AND REINFORCING SUPPORTS SHALL BE IN ACCORDANCE WITH CRSI AND ACI MANUAL AND STANDARD PRACTICES. THE REINFORCEMENT SHALL NOT BE PAINTED AND MUST BE FREE OF GREASE/OIL, DIRT OR DEEP RUST WHEN PLACED IN THE WORK. ALL WELDED WIRE FABRIC SHALL MEET THE REQUIREMENTS OF ASTM A 1064. WELDED WIRE FABRIC SHALL BE PLACED 2" FROM TOP OF SLAB, UNLESS INDICATED OTHERWISE.
K. CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO SAMPLE MATERIALS, PERFORM TESTS, AND SUBMIT TEST REPORTS DURING CONCRETE PLACEMENT. TESTS WILL BE PERFORMED ACCORDING TO ACI 301. CAST AND LABORATORY CURE ONE SET OF FOUR STANDARD CYLINDERS FOR EACH COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIX EXCEEDING 5 CU. YD., BUT LESS THAN 25 CU. YD., PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. OR FRACTION THEREOF. PERFORM COMPRESSIVE-STRENGTH TESTS ACCORDING TO ASTM C 39. TEST TWO SPECIMENS AT 7 DAYS AND TWO SPECIMENS AT 28 DAYS. PERFORM SLUMP TESTING ACCORDING TO ASTM C 143. PROVIDE ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIX. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
L. PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. IN HOT, DRY, AND WINDY WEATHER, APPLY AN EVAPORATION-CONTROL COMPOUND ACCORDING TO MANUFACTURER'S INSTRUCTIONS AFTER SCREEDING AND BULL FLOATING, BUT BEFORE POWER FLOATING AND TROWELLING.
M. TEST RESULTS WILL BE REPORTED IN WRITING TO THE DESIGN ENGINEER, READY-MIX PRODUCER, AND CONTRACTOR WITHIN 24 HOURS AFTER TESTS. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING SERVICE, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH ON SITE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7-DAY TESTS AND 28-DAY TESTS.
N. CONTRACTOR TO PROVIDE 4" WIDE YELLOW PAINTED STRIPING FOR PARKING STALLS, TRAFFIC LANES, AND NO PARKING AREAS. YELLOW PAINT MARKINGS SHALL ALSO BE PROVIDED FOR H.C. ACCESSIBLE SYMBOLS, TRAFFIC ARROWS, AND TRAFFIC MESSAGES.

32 30 00 LANDSCAPING AND SITE STABILIZATION

A. TOPSOIL: CONTRACTOR TO PROVIDE A MINIMUM OF 6" OF TOPSOIL FOR ALL DISTURBED OPEN AREAS, OTHER THAN A LANDSCAPE ISLANDS SHALL BE PROVIDED WITH A MINIMUM OF 10" OF TOPSOIL. REUSE SURFACE SOIL STOCKPILED ON SITE AND SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF SITE SOURCES WHEN QUANTITIES ARE INSUFFICIENT. EXCAVATOR SHALL BE RESPONSIBLE FOR ROUGH PLACEMENT OF TOPSOIL TO WITHIN 1" OF FINAL GRADE PRIOR TO LANDSCAPER FINAL GRADING. LANDSCAPER TO PROVIDE PULVERIZING AND FINAL GRADING OF TOPSOIL. PROVIDE SOIL ANALYSIS BY A QUALIFIED SOIL TESTING LABORATORY AS REQUIRED TO VERIFY THE SUITABILITY OF SOIL TO BE USED AS TOPSOIL AND TO DETERMINE THE NECESSARY SOIL AMENDMENTS. TEST SOIL FOR PRESENCE OF ATRAZINE AND INFORM EXCEL ENGINEERING, INC. IF PRESENT PRIOR TO BIDDING PROJECT. TOPSOIL SHALL HAVE A PH RANGE OF 5.5 TO 8, CONTAIN A MINIMUM OF 5 PERCENT ORGANIC MATERIAL CONTENT, AND SHALL BE FREE OF STONES 1 INCH OR LARGER IN DIAMETER. ALL MATERIALS HARMFUL TO PLANT GROWTH SHALL ALSO BE REMOVED.
   TOPSOIL INSTALLATION: LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 6 INCHES AND REMOVE STONES LARGER THAN 1" IN DIAMETER. ALSO REMOVE ANY STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND DISPOSE OF THEM OFF THE PROPERTY. SPREAD TOPSOIL TO A DEPTH OF 6" BUT NOT LESS THAN WHAT IS REQUIRED TO MEET FINISHED GRADES AFTER LIGHT ROLLING AND NATURAL SETTLEMENT. DO NOT SPREAD TOPSOIL IF SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET. GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN 0.05 FEET OF FINISHED GRADE ELEVATION.
B. SEEDED LAWNS:
   1. PERMANENT LAWN AREAS SHALL BE SEEDED WITH THE FOLLOWING MIXTURE: 65% KENTUCKY BLUEGRASS BLEND (2.0-2.6 LBS./1,000 S.F.), 20% PERENNIAL RYEGRASS (0.6-0.8 LBS./1,000 S.F.), 15% FINE FESCUE (0.4-0.6 LBS/1,000 S.F.). STRAW AND MULCH SHALL BE LAID AT 100LBS/1,000 S.F. FERTILIZE AS PER SOIL TEST OR APPLY 5-10-10 OR EQUIVALENT AT 5-6 LBS/1,000 S.F. SEE EROSION MATTING SPECIFICATIONS AS REQUIRED. ALL SITE DISTURBED AREAS NOT DESIGNATED FOR OTHER LANDSCAPING AND SITE STABILIZATION METHODS SHALL BE SEEDED AS PERMANENT LAWN. NO BARE TOPSOIL SHALL BE LEFT ONSITE. FOLLOW PROCEDURES FOUND IN WDNR TECHNICAL STANDARDS 1058 & 1059.
   2. ALL PERMANENT AND TEMPORARY STORM WATER CONVEYANCE SWALE BOTTOMS AND SIDE SLOPES SHALL BE SEEDED WITH THE FOLLOWING MIXTURE: 45% KENTUCKY BLUEGRASS (0.60 LBS./1000 S.F.), 40% CREEPING RED FESCUE (0.50 LBS./1,000 S.F.), AND 15% PERENNIAL RYEGRASS (0.20 LBS./1,000 S.F.). FERTILIZE AS PER SOIL TEST OR APPLY 5-10-10 OR EQUIVALENT AT 5-6 LBS./1,000 S.F. SEE EROSION MATTING SPECIFICATIONS AS REQUIRED. FOLLOW PROCEDURES FOUND IN WDNR TECHNICAL STANDARDS 1058 & 1059.
   3. ALL TEMPORARY SEEDING SHALL CONSIST OF THE FOLLOWING MIXTURE: 100% RYEGRASS AT 1.9 LBS./1,000 S.F. STRAW AND MULCH SHALL BE LAID AT 100 LBS./1,000 S.F. FERTILIZE AS PER SOIL TEST OR APPLY 5-10-10 OR EQUIVALENT AT 5-6 LBS./1,000 S.F. SEE EROSION MATTING SPECIFICATIONS AS REQUIRED. FOLLOW PROCEDURES FOUND IN WDNR TECHNICAL STANDARDS 1058 & 1059.
C. SEEDED LAWN MAINTENANCE: CONTRACTOR TO PROVIDE MAINTENANCE OF ALL LANDSCAPING FOR A PERIOD OF 90 DAYS FROM THE DATE OF INSTALLATION. AT THE END OF THE MAINTENANCE PERIOD, A HEALTHY, UNIFORM, CLOSE STAND OF GRASS SHOULD BE ESTABLISHED FREE OF WEEDS AND SURFACE IRREGULARITIES. LAWN COVERAGE SHOULD EXCEED 90% AND BARE SPOTS SHOULD NOT EXCEED 5"X5". CONTRACTOR SHOULD REESTABLISH LAWNS THAT DO NOT COMPLY WITH THESE REQUIREMENTS AND CONTINUE MAINTENANCE UNTIL LAWNS ARE SATISFACTORY.
D. TREES AND SHRUBS: FURNISH NURSERY-GROWN TREES AND SHRUBS WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPLANTING OR ROOT PRUNING. PROVIDE WELL-SHAPED, FULLY BRANCHED, AND HEALTHY LOOKING STOCK. STOCK SHOULD ALSO BE FREE OF DISEASE, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT. SEE THE LANDSCAPE PLAN FOR SPECIFIC SPECIE TYPE, SIZE, AND LOCATION.
E. TREE AND SHRUB INSTALLATION: EXCAVATE CIRCULAR PITS WITH SIDES SLOPED INWARD. TRIM BASE LEAVING CENTER AREA RAISED SLIGHTLY TO SUPPORT ROOT BALL. EXCAVATE PIT APPROXIMATELY THREE TIMES AS WIDE AS THE ROOT BALL DIAMETER. SET TREES AND SHRUBS PLUMB AND IN CENTER OF PIT WITH TOP OF BALL 1" ABOVE ADJACENT FINISHED GRADES. PLACE PLANTING SOIL MIX AROUND ROOT BALL IN LAYERS AND TAMP TO SETTLE MIX. WATER ALL PLANTS THOROUGHLY. PROVIDE TEMPORARY STAKING FOR TREES AS REQUIRED.
F. TREE AND SHRUB MAINTENANCE/WARRANTY: CONTRACTOR TO PROVIDE MAINTENANCE OF ALL LANDSCAPING FOR A PERIOD OF 90 DAYS FROM THE DATE OF INSTALLATION. MAINTENANCE TO INCLUDE REGULAR WATERING AS REQUIRED FOR SUCCESSFUL PLANT ESTABLISHMENT. CONTRACTOR TO PROVIDE 1 YEAR WARRANTY ON ALL TREES, SHRUBS, AND PERENNIALS.
G. MINERAL MULCH: PROVIDE 3" MINIMUM THICK BLANKET OF 1.5" MINIMUM TO 2.5" MAXIMUM CRUSHED DECORATIVE STONE AT ALL PLANTING AREAS INDICATED ON THE LANDSCAPE PLAN. INSTALL OVER NON-WOVEN WEED BARRIER FABRIC. COLOR BY OWNER
H. PLASTIC EDGING: INSTALL VALLEY VIEW INDUSTRIES BLACK DIAMOND LAWN EDGING TO SEPARATE ALL PLANTING BEDS FROM LAWN AREAS. EDGING TO BE 5.5" TALL WITH METAL STAKES INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

CONCRETE MIX DESIGN SCHEDULE TABLE

TYPE OF CONSTRUCTION	MIN 28 DAY COMPRESSIVE STRENGTH (PSI) (ASTM C39)	MAX SLUMP +/- 1" (ASTM C143) (C)	MAX AGGREGATE SIZE (INCH)	% AIR ENTRAINING +/- 1.5%	MAX W/C RATIO	MINIMUM CEMENTITIOUS MATERIALS PER CUBIC YARD	ADDITIONAL COMMENTS
FOOTINGS	3000	4 D	1-1/2	3% MAX	--	--	
FOUNDATION WALLS AND CANOPY FOOTINGS/PIERS	4500	4 D	1	6	0.45	--	
EXTERIOR SLABS, WALKS, AND CURBS	4500	4 D	1	6	0.45	520	(B) (D) (E) (F)
CMU BLOCK FILL	2500	7 D	3/8	--	--	--	(A) (F)

(A) MAXIMUM REPLACEMENT OF PORTLAND CEMENT WITH SUPPLEMENTARY CEMENTITIOUS MATERIALS BY WEIGHT IS; FLY ASH 40%, SLAG 60%. TOTAL REPLACEMENT OF PORTLAND CEMENT WITH SUPPLEMENTARY CEMENTITIOUS MATERIALS SHALL BE AT LEAST 40% (LESS THAN 40% AS APPROVED BY PROJECT ENGINEER) BUT NOT GREATER THAN 60%.

(B) MAXIMUM REPLACEMENT OF PORTLAND CEMENT WITH SUPPLEMENTARY CEMENTITIOUS MATERIALS BY WEIGHT IS; FLY ASH 20%, SLAG 30%. DESIGN STRENGTH AT TIME OF STEEL ERECTION AND BACKFILLING RESPECTIVELY. THIS TIME PERIOD IS 21 DAYS UNLESS DIRECTED OTHERWISE.

(C) SLUMP MAY BE INCREASED WHEN CHEMICAL ADMIXTURES ARE USED; PROVIDED THAT THE ADMIXTURE TREATED CONCRETE HAD THE SAME OR LOWER WATER-CEMENT RATIO AND DOES NOT EXHIBIT SEGREGATION POTENTIAL OR EXCESSIVE BLEEDING. CONCRETE MIXES SHALL BE PROPORTIONED TO ACHIEVE A MAXIMUM SLUMP OF 8" FOR CONCRETE CONTAINING HIGH RANGE WATER REDUCING ADMIXTURE AND 6" FOR CONCRETE CONTAINING A MID-RANGE WATER REDUCING ADMIXTURE. MIXES SHALL HAVE A WATER SLUMP OF 2"-3" (3" TO 4" FOR CONCRETE RECEIVING A "DRY-SHAKE" HARDENER). MAXIMUM OF 4" WATER SLUMP FOR ALL OTHER CONCRETE OR HIGHER SLUMPS MAY BE CONSIDERED AS LONG AS THEY ARE ACHIEVED THROUGH THE USE OF APPROPRIATE ADMIXTURE USAGE.

(D) HIGH EARLY STRENGTH CONCRETE TO BE SUPPLIED ONLY WHEN APPROVED BY KWIK TRIP.

(E) FOR COLD WEATHER CONDITIONS, SPECIFIED MINIMUM REPLACEMENT OF PORTLAND CEMENT MAY BE REDUCED BY UP TO 50% WITH PERMISSION OF OWNER.

(F) CONCRETE SUPPLIER AND FINISHER SHALL COORDINATE APPROXIMATE SET TIMES OF PROPOSED MIX DESIGN UNDER VARIOUS WEATHER CONDITIONS AND ADJUST MIX DESIGN AS NECESSARY TO ASSURE SET TIME IS ACCEPTABLE TO COMPLETE PLACING AND FINISHING OF SLAB IN A TIMELY MANNER. FOR COLD WEATHER CONCRETE, NON-CHLORIDE SET ACCELERATING ADMIXTURES MAY BE USED UPON APPROVAL OF ENGINEER. FOR HOT WEATHER CONCRETE SET RETARDING ADMIXTURES MAY BE USED UPON APPROVAL OF ENGINEER.

CIVIL SPECIFICATIONS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

PROJECT INFORMATION

PROPOSED EV CHARGING ADDITION FOR
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

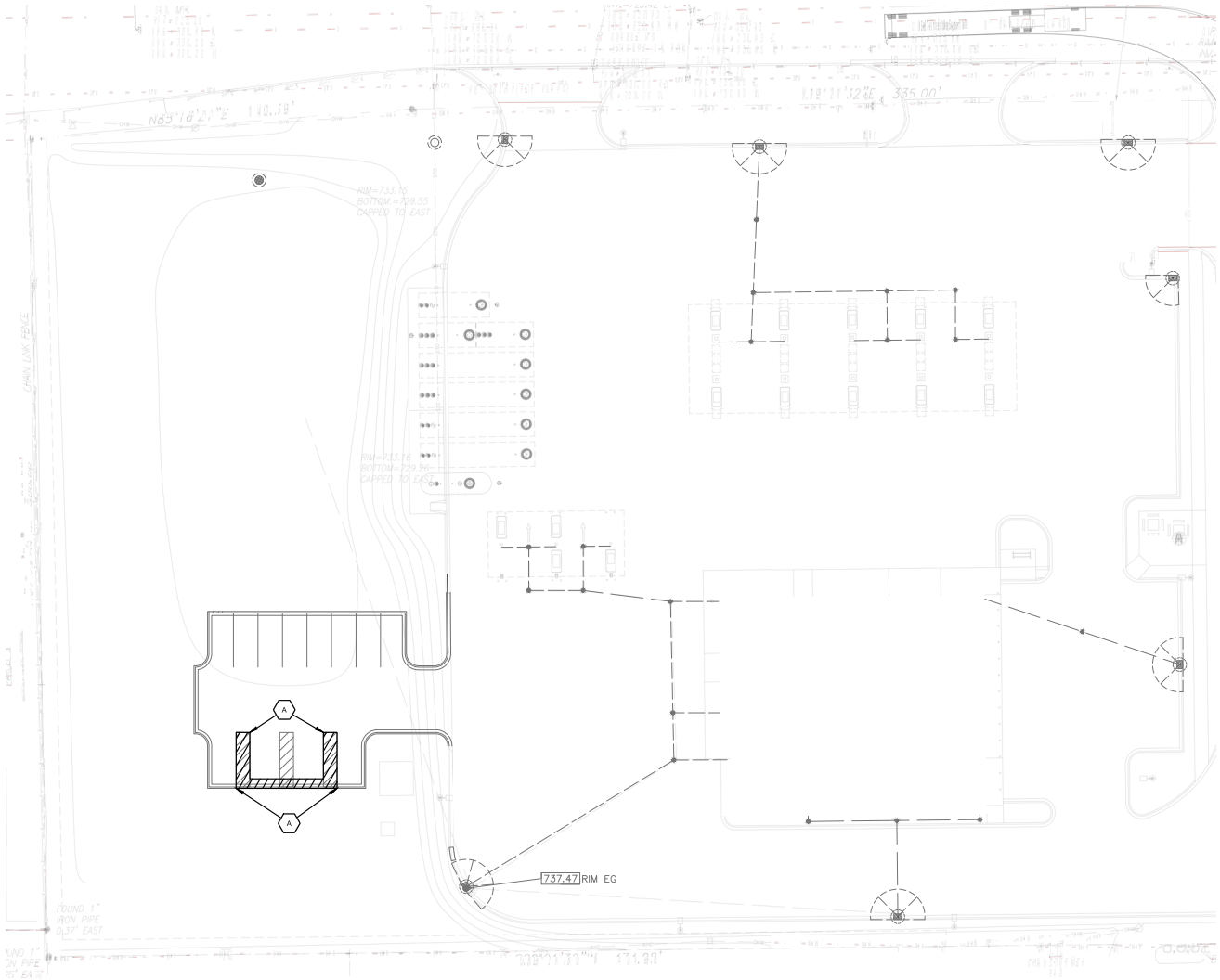
PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026

REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
C002



KEYNOTES	
A	SAWCUT AND REMOVE CURB
B	SAWCUT AND REMOVE PAVEMENT
C	PROTECT

SCALE: 1" = 20'

NORTH

CIVIL EXISTING SITE AND DEMOLITION PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP

KWIK STAR

PROJECT INFORMATION

PROPOSED EV CHARGING ADDITION FOR
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

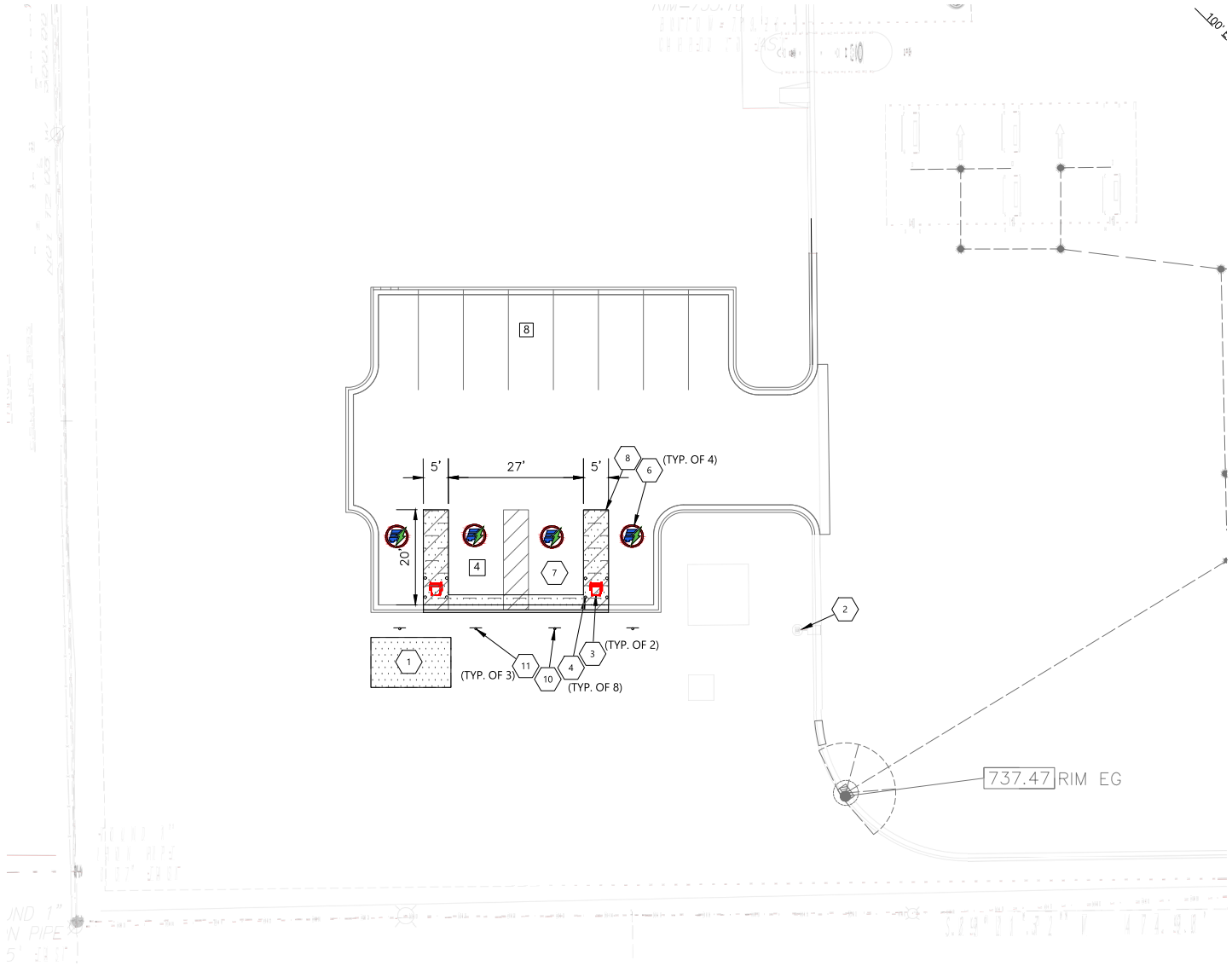
PRELIMINARY DATES
MAY 15, 2026

REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
C020

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920.926.9800
excelengineer.com
COLLABORATION
KWIK TRIP
KWIK STAR
PROJECT INFORMATION
PROPOSED EV CHARGING ADDITION FOR
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214
PROFESSIONAL SEAL
PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1
JOB NUMBER
26011350
SHEET NUMBER
C100
KEYNOTES
1 GAS EMERGENCY SHUT OFF
SCALE 1" = 20'
0
20
40
NORTH
CIVIL OVERALL SITE PLAN
737.47 RIM EG



PARKING SUMMARY:

STANDARD STALLS= 42
HANDICAP STALLS= 2
TRUCK PARKING STALLS= 0
FUEL CANOPY STALLS= 20
DIESEL CANOPY STALLS= 2
EV CHARGING STALLS= 4
EV CHARGING HANDICAP ACCESSIBLE= 2
EV CHARGING PORTS= 8
TOTAL STALLS= 70

KEYNOTES

1	CAST IN PLACE CONCRETE ELECTRICAL EQUIPMENT PAD (CONTRACTOR TO VERIFY FINAL LOCATION, EQUIPMENT LAYOUT, AND DESIGN PRIOR TO CONSTRUCTION) (ENSURE POSITIVE DRAINAGE AROUND EQUIPMENT AND PAD)
2	MOUNT SECURITY CAMERA TO LIGHT POLE
3	EV CHARGER WITH BRAVO FOUNDATION SYSTEM. SEE ELECTRICAL PLANS (CONTRACTOR TO VERIFY FINAL LOCATION & DESIGN PRIOR TO CONSTRUCTION)
4	6" CONCRETE BOLLARDS (TYP.) (SEE DETAIL)
6	EV STALL STRIPING
7	HANDICAP STALL
8	PAINT STRIPING (TYP). COLOR TO MATCH PARKING STALL STRIPING
10	HANDICAP SIGN PER STATE CODE (SEE DETAIL)
11	EV STALL SIGNAGE (SEE DETAIL)

LEGEND:

HATCH	PAVEMENT SECTION
	HEAVY DUTY CONCRETE= 8"
	SIDEWALK CONCRETE
	18" CURB & GUTTER (SEE DETAIL)

SCALE: 1"= 10'
10' 0 10' 20'
NORTH

CIVIL SITE PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

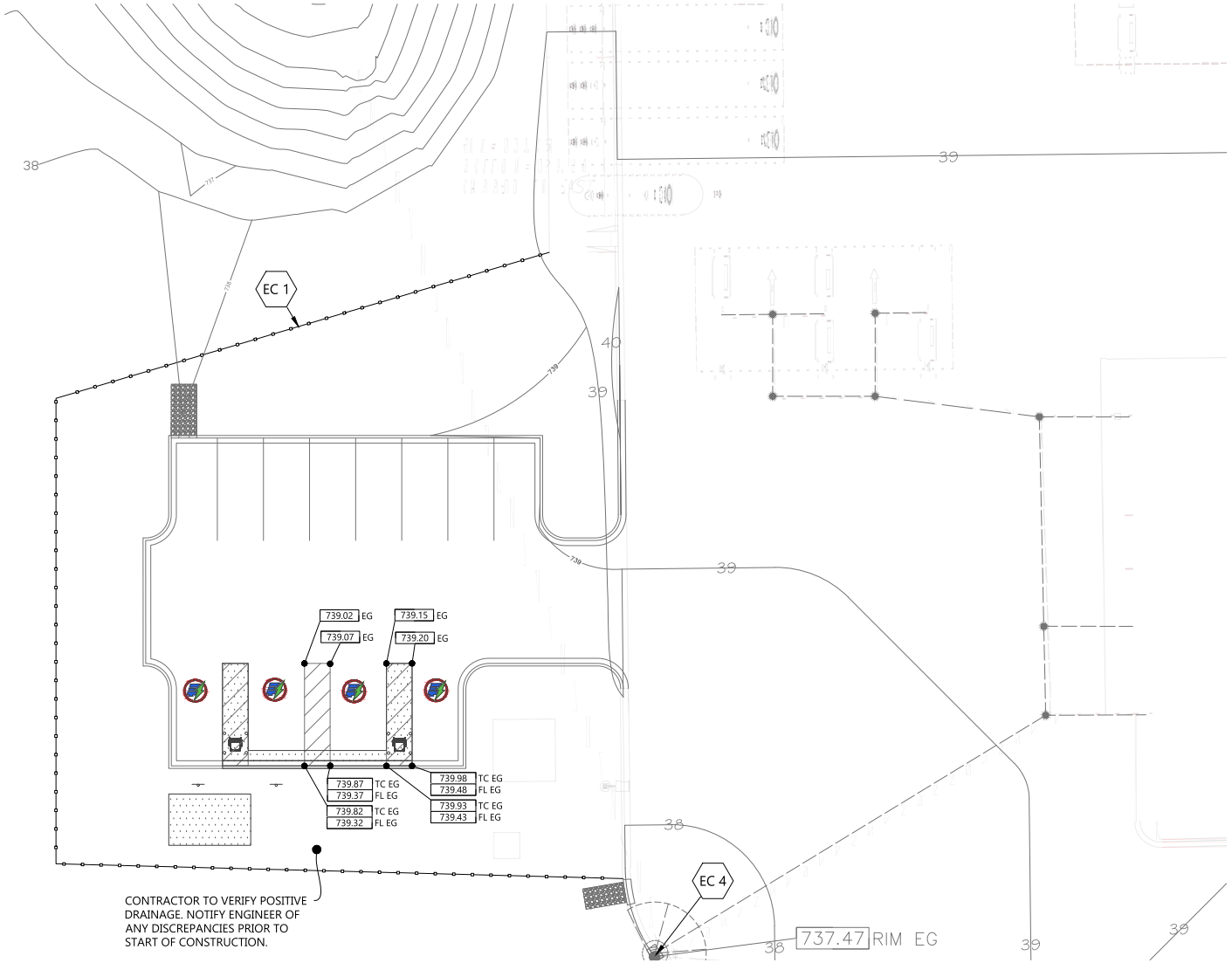
PROPOSED EV CHARGING ADDITION FOR
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
C101



GENERAL NOTES:

- HANDICAP STALL AND ACCESS AISLES SHALL NOT EXCEED A SLOPE OF 1.50% IN ANY DIRECTION. HANDICAP STALL & ACCESS AISLES SHALL CONFORM TO ADA REQUIREMENTS (CURRENT EDITION).
- ALL SIDEWALKS SHALL NOT EXCEED A MAXIMUM CROSS SLOPE OF 1.50% AND RUNNING SLOPE OF 4.50% UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR SHALL PROVIDE CONCRETE WASHOUT AS REQUIRED PER CODE. FINAL LOCATION TBD BY CONTRACTOR.
- CONTRACTOR SHALL PROVIDE TEMPORARY INLET PROTECTION FOR ALL CURB INLETS & CATCH BASINS ONSITE & OFFSITE IMMEDIATELY DOWNSTREAM OF THE PROJECT SITE PER LOCAL CODE.

KEYNOTES

EC 1	SILT FENCE
EC 4	INLET PROTECTION

SCALE: 1"= 10'

NORTH

CIVIL GRADING AND EROSION CONTROL PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

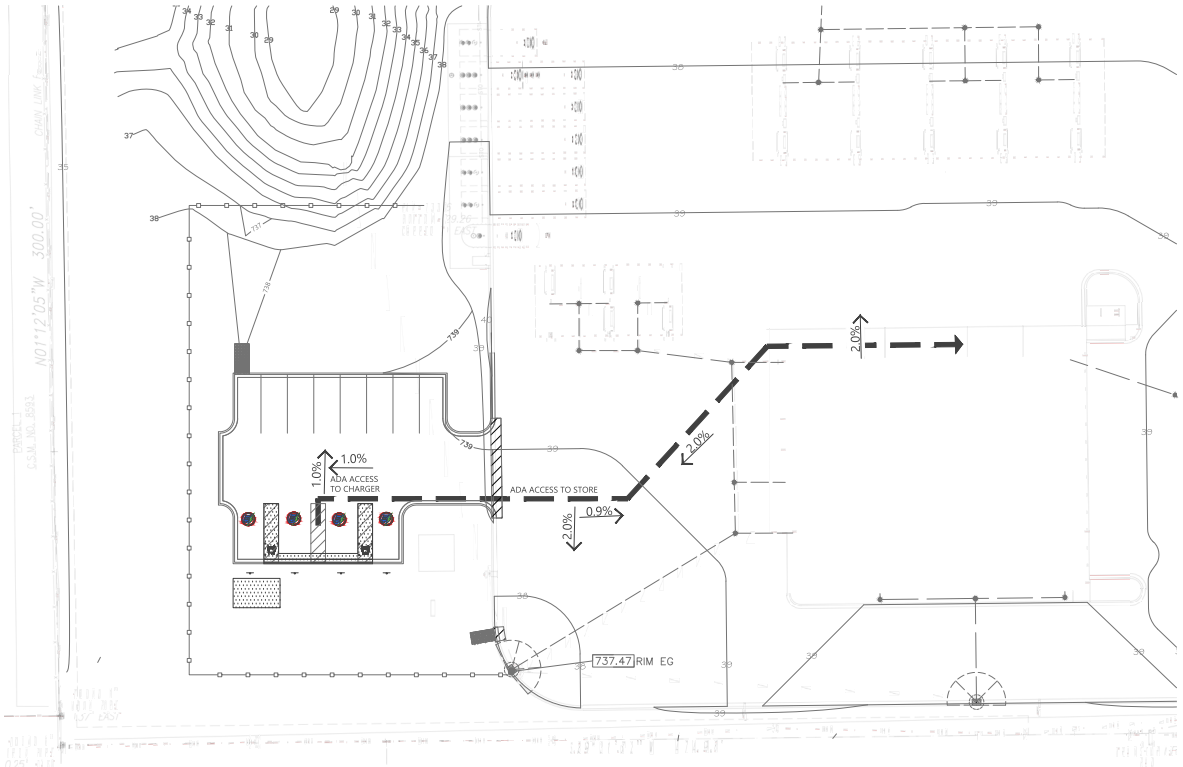
PROPOSED EV CHARGING ADDITION FOR
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
C200



SCALE: 1" = 20'

NORTH

CIVIL ADA PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP

KWIK STAR

PROJECT INFORMATION

PROPOSED EV CHARGING ADDITION FOR
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

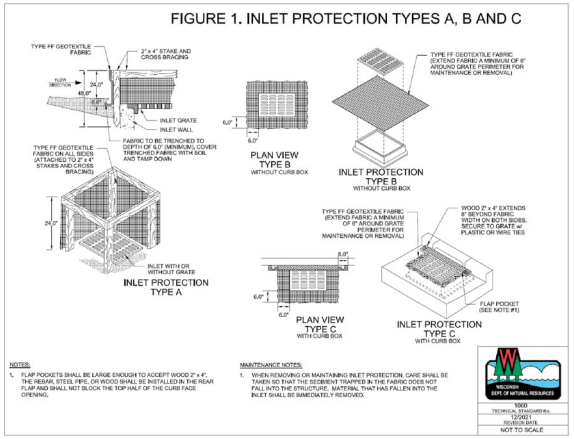
PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026

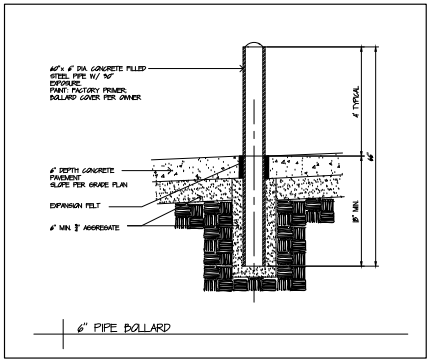
REVIEW SET #1

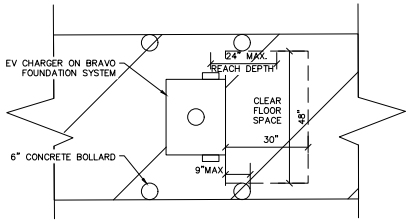
JOB NUMBER
260113500

SHEET NUMBER
C201

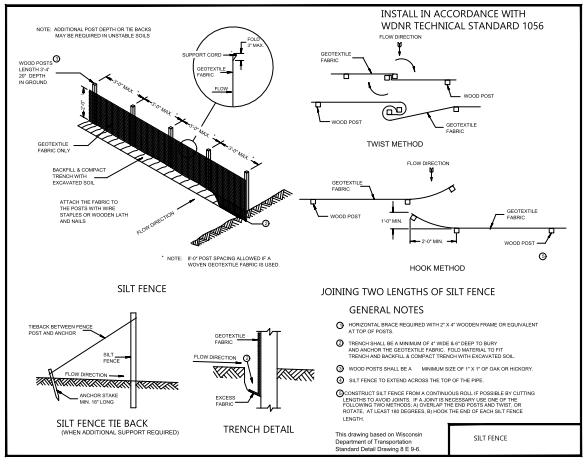


INLET PROTECTION DETAIL
NOT TO SCALE

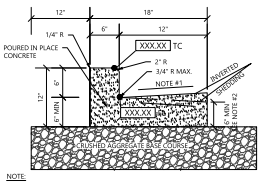




CHARGER AND BOLLARD DETAIL
NOT TO SCALE

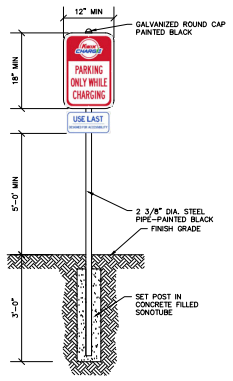


SILT FENCE - INSTALLATION DETAIL
NOT TO SCALE

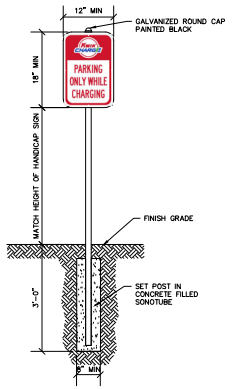


NOTE:
1. USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MIN. GUTTER THICKNESS IS MAINTAINED.
3. SEE SITE PLAN & GRADING PLAN FOR INVERTED & SHEDDING CURB LOCATIONS

18" CONCRETE CURB & GUTTER DETAIL
NOT TO SCALE



HANDICAP SIGNAGE W/ CONCRETE BASE
NO SCALE



EV CHARGING SIGN W/ CONCRETE BASE
NO SCALE

CIVIL DETAILS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION
KWIK TRIP
KWIK STAR

PROJECT INFORMATION
PROPOSED EV CHARGING ADDITION FOR
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
C500

ELECTRICAL SYMBOLS AND ANNOTATIONS:

(ALL SYMBOLS, DESIGNATIONS, ANNOTATIONS & ABBREVIATIONS SHOWN MAY NOT APPEAR ON DRAWINGS)

SYSTEMS

SYSTEMS NOTATIONS

- DATA — (4) — INDICATES NUMBER OF DATA PORTS AND CABLES (IF NONE SHOWN, BOX, CONDUIT, PULL STRING TO BE ROUGHED-IN)
- VOICE — (2) — INDICATES NUMBER OF VOICE PORTS AND CABLES (IF NONE SHOWN, BOX, CONDUIT, PULL STRING TO BE ROUGHED-IN)
- DATA AND VOICE — (3,1) — INDICATES NUMBER OF VOICE PORTS AND CABLES; INDICATES NUMBER OF DATA PORTS AND CABLES
- RAISED DATA - MOUNTED AT A SPECIFIC ELEVATION AFF TO CENTER OF DEVICE. ELEVATION NOTED ON PLAN ADJACENT TO SYMBOL.

DATA AND VOICE DEVICES

ALL DEVICES WALL MOUNTED AT 18" AFF TO CENTER OF DEVICE UNLESS NOTED OTHERWISE

- WAP — WIRELESS ACCESS POINT - WALL MOUNTED
- WAP — WIRELESS ACCESS POINT - CEILING MOUNTED
- TV — TV OUTLET BOX - WALL MOUNTED
- DICTATION COMMUNICATION OUTLET

DATA EQUIPMENT

- DATA RACK - FLOOR MOUNTED/FREE STANDING
- CLOCK - WALL MOUNTED
- CLOCK - CEILING MOUNTED

PAGING AND PUBLIC ADDRESS

- VOLUME CONTROL
- MICROPHONE - WALL MOUNTED
- PAGING SPEAKER - WALL MOUNTED
- SPEAKER - CEILING MOUNTED
- SPEAKER - WALL MOUNTED
- DCS — DIGITAL COMMUNICATION STATION
- PA — PAGING AMPLIFIER

RADIO AND CELLULAR PHONE

- ANTENNA - WALL MOUNTED
- ANTENNA - CEILING MOUNTED
- MOBILE/CELLULAR NETWORK REPEATER
- RR — RADIO REPEATER

CABLE TRAY

- WIRE BASKET TRAY
- LADDER TRAY

LIGHTING FIXTURES

FIXTURE NOTATIONS

- LIGHT FIXTURE
- A, 1-A-13, c — SWITCH SYSTEM DESIGNATION. BLANK INDICATES PORTION SWITCHED FROM LOCAL SWITCH OR OCCUPANCY SENSOR; CIRCUIT DESIGNATION (SEE SCHEDULE); PANEL DESIGNATION (SEE SCHEDULE); FIXTURE DESIGNATION (SEE SCHEDULE)
- SHADING INDICATES FIXTURE IS WIRED TO EMERGENCY LIGHTING CIRCUIT
- HATCHING INDICATES FIXTURE IS WIRED TO CRITICAL LIGHTING CIRCUIT
- HORIZONTAL LINE INDICATES LENS ORIENTATION
- SOLID FILLED CIRCLE INDICATES PENDANT FIXTURE
- EXIT SIGN NOTATION - PROVIDE NUMBER OF FACES AND ARROWS AS INDICATED ON PLAN AND SCHEDULE; INDICATES DIRECTIONAL ARROWS; SHADING INDICATES FACE — ONE SIDE SHADED INDICATES SINGLE FACE SIGN, TWO SIDES SHADED INDICATES DOUBLE FACE SIGN; INDICATES EGRESS LIGHT HEADS

FIXTURE TYPES

- 2x2 LIGHT FIXTURE - RECESSED
- 2x4 LIGHT FIXTURE - RECESSED
- LINEAR LIGHT FIXTURE - RECESSED
- 2x2 LIGHT FIXTURE - SURFACE
- 2x4 LIGHT FIXTURE - SURFACE
- LINEAR LIGHT FIXTURE - SURFACE
- LINEAR LIGHT FIXTURE - PENDANT
- LINEAR LIGHT FIXTURE - WALL MOUNTED
- SCONCE FIXTURE - WALL MOUNTED
- CYLINDRICAL PENDANT FIXTURE
- DOWNLIGHT FIXTURE - RECESSED
- DOWNLIGHT FIXTURE - SURFACE
- DIRECTIONAL DOWNLIGHT FIXTURE - RECESSED DIRECTIONAL ARROW SHOWN ON PLAN
- FLOODLIGHT FIXTURE
- REMOTE HEAD FIXTURE
- EMERGENCY LIGHT FIXTURE - CEILING MOUNTED
- POLE MOUNTED LIGHT FIXTURE - NUMBER OF HEADS AND ORIENTATION SHOWN ON PLAN
- BOLLARD LIGHT FIXTURE
- EXIT SIGN - CEILING MOUNTED
- EXIT SIGN - WALL MOUNTED
- EXIT SIGN - PENDANT

LIGHTING CONTROLS

CONTROLS NOTATIONS

- SWITCH — a, b — SWITCH SYSTEM DESIGNATION; SWITCH TYPE: 3 - 3-WAY, 4 - 4-WAY, P - WITH PILOT LIGHT, K - KEYED, T - TIMER, - SINGLE POLE (NO DESIGNATION)
- GENERIC LIGHTING CONTROL DEVICE — WC1 — DESIGNATION - REFER TO SCHEDULE

CONTROL TYPES

- SWITCH
- DIMMER SWITCH
- LIGHTING CONTROL DEVICE
- OCCUPANCY SENSOR - WALL MOUNTED
- DAYLIGHT SENSOR - WALL MOUNTED
- PHOTO CELL SENSOR - WALL MOUNTED
- DIGITAL TOUCHPAD LIGHTING CONTROL
- TIME CLOCK
- OS — OCCUPANCY SENSOR - CEILING MOUNTED
- DS — DAYLIGHT SENSOR - CEILING MOUNTED
- PC — PHOTO CELL SENSOR - CEILING MOUNTED
- LCP — LIGHTING CONTROL PANEL
- LIGHTING CONTROL RELAY

POWER

RECEPTACLE NOTATIONS

RECEPTACLE — H-2A.9 — CIRCUIT DESIGNATION; PANEL DESIGNATION (IF NONE SHOWN, REFER TO PLAN FOR PANEL BOUNDARIES); RECEPTACLE TYPE OR EQUIPMENT SERVED

- A - ARC FAULT INTERRUPTING, TAMPER RESISTANT
- AG - ARC FAULT INTERRUPTING, GFCI, TAMPER RESISTANT
- AP - TAMPER RESISTANT, ARC FAULT PROTECTION @ BREAKER
- CP - COPIER
- DISP - SINK DISPOSAL UNIT
- EWC - ELECTRIC WATER COOLER, GFCI @ AT CIRCUIT BREAKER
- GFB - PROTECTED BY GROUND FAULT BREAKER
- GFI - GROUND FAULT INTERRUPTOR
- GT - GFCI TAMPER RESISTANT
- GW - GFCI, WEATHER RESISTANT, IN-USE COVER
- GWT - GFCI, WEATHER RESISTANT, TAMPER RESISTANT, IN-USE COVER
- MCRV - MICROWAVE
- RFG - REFRIGERATOR, GFCI PROTECTION @ CIRCUIT BREAKER
- RTU - FACTORY MOUNTED IN ROOFTOP AC UNIT
- SS - SURGE SUPPRESSION
- T - TAMPER RESISTANT
- UC - UNDER CABINET
- UT - RECEPTACLE WITH USB CHARGING PORTS
- USB - TAMPER RESISTANT, USB CHARGING PORTS
- WR - WEATHER RESISTANT
- WRC - WEATHER RESISTANT, IN-USE COVER
- WT - WEATHER RESISTANT, TAMPER RESISTANT, IN-USE COVER

- HORIZONTAL LINE INDICATES COUNTERTOP RECEPTACLE - WALL MOUNTED AT 6" ABOVE COUNTERTOP OR COUNTER BACKSPLASH TO CENTER OF DEVICE. SEE PLANS FOR OUTLET TYPE
- XX" — DIAGONAL LINE INDICATES RAISED RECEPTACLE - WALL MOUNTED AT ELEVATION NOTED ON PLAN AFF TO CENTER OF DEVICE. SEE PLANS FOR OUTLET TYPE

POWER CONNECTION TYPES

ALL RECEPTACLES WALL MOUNTED AT 18" AFF TO CENTER OF DEVICE UNLESS NOTED OTHERWISE

- DUPLEX RECEPTACLE
- EMERGENCY CIRCUIT DUPLEX RECEPTACLE
- ISOLATED GROUND DUPLEX RECEPTACLE
- SPLIT WIRED DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- EMERGENCY CIRCUIT DOUBLE DUPLEX RECEPTACLE
- ISOLATED GROUND DOUBLE DUPLEX RECEPTACLE
- SPLIT WIRED DOUBLE DUPLEX RECEPTACLE
- SIMPLEX RECEPTACLE
- DUPLEX RECEPTACLE - CEILING MOUNTED
- DOUBLE DUPLEX RECEPTACLE - CEILING MOUNTED
- SIMPLEX RECEPTACLE - CEILING MOUNTED
- CORD REEL/DROP
- PROJECTOR OUTLET - INCLUDES DATA AND POWER WIRE(S)/CABLE(S)
- SURFACE RACEWAY
- FLOOR BOX
- F-1 — DESIGNATION - SEE SCHEDULE
- POKE THRU
- PT-1 — DESIGNATION - SEE SCHEDULE
- CEILING FAN
- POWER POLE
- PP-1 — DESIGNATION - SEE SCHEDULE
- JUNCTION BOX - CEILING MOUNTED
- JUNCTION BOX - WALL MOUNTED
- 44" — MOUNTING HEIGHT AFF TO CENTER OF DEVICE
- EST — EMERGENCY STOP PUSHBUTTON
- PUSHBUTTON SWITCH - START/STOP
- PUSHBUTTON DOOR OPENER

EQUIPMENT

POWER DISTRIBUTION

- PANEL - SURFACE MOUNTED
- PANEL - RECESSED
- SWITCHBOARD
- SWITCHGEAR
- TRANSFORMER
- METER
- CT — UTILITY CT METER CABINET - WALL MOUNTED
- CT — UTILITY CT METER CABINET - PAD MOUNTED
- UTILITY TRANSFORMER - PAD MOUNTED
- UTILITY SERVICE POWER POLE

OTHER EQUIPMENT

- G — GENERATOR
- GSCP — GENERATOR SET CONTROL PANEL
- ATS — TRANSFER SWITCH — ATS1 — DESIGNATION - REFER TO SCHEDULE
- UPS — UNINTERRUPTIBLE POWER SUPPLY — UPS1 — DESIGNATION - REFER TO SCHEDULE
- BUS DUCT - LENGTH NOTED ON PLAN
- WIREWAY / GUTTER - REFER TO PLAN
- VFD — VARIABLE FREQUENCY DRIVE
- EQUIPMENT/MOTOR STARTER
- NON-FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- EQUIPMENT CONNECTION — FR-32 — DESIGNATION - REFER TO SCHEDULE
- M — MOTOR CONNECTION — RF-2 — DESIGNATION - REFER TO SCHEDULE

GENERIC SYMBOLS AND ANNOTATIONS

- 1 — KEYED NOTE - DEMOLITION
- 1 — KEYED NOTE - NEW WORK
- BREAK LINE

UNDERGROUND RACEWAY ABBREVIATIONS:

XY 000.0

X	Y
B = BUILDING C = CARWASH F = FUEL DISPENSING S = SITE	P = POWER AND CONTROL - LINE VOLTAGE L = LOW VOLTAGE AND CONTROL D = DATA T = TANK MONITORING M = MISC.

SHEET INDEX

ELECTRICAL TITLE SHEET

EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP

KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATION FOR:

KWIK TRIP #1047

10923 W LAPHAM ST. • WEST ALLIS, WI

PROFESSIONAL SEAL

PRELIMINARY DATES

MAY 15, 2026

REVIEW SET #1

JOB NUMBER

260113500

SHEET NUMBER

E000

1. **GENERAL**
1.1. REFERENCES TO KWIK TRIP (KT) ALSO APPLIES TO KWIK STARS, KWIK SPIRITS, STOP N GOES, AND TOBACCO OUTLETS.
1.2. THE CONSTRUCTION SCHEDULE ON TITLE SHEET E000 SHALL BE STRICTLY ADHERED TO. FAILURE TO DO SO MAY RESULT IN MONETARY COMPENSATION FROM THE ELECTRICAL CONTRACTOR (EC) OR ELECTRICAL FUEL CONTRACTOR (EFC) AS SPECIFIED ELSEWHERE.
1.3. THESE GENERAL NOTES SHALL APPLY PROJECT WIDE UNLESS SPECIFICALLY NOTED OTHERWISE. FOLLOW SPECIFIC NOTES WHERE THEY APPLY.
1.4. KWIK TRIP INC. (OWNER) SHALL FURNISH ALL MATERIALS UNLESS SPECIFICALLY NOTED OTHERWISE. THIS IS DONE THROUGH A PO ISSUED TO EITHER GEXPRO OR VIKING ELECTRIC. THIS INCLUDES PANELS, DISCONNECTS, CONDUIT, WIRE, SPEAKERS AND AMPLIFIES ETC. CONTRACTOR SHALL ORDER MATERIAL AS NEEDED FROM THE ELECTRICAL SUPPLY HOUSE. SOME EQUIPMENT IS FURNISHED DIRECTLY BY KWIK TRIP AND WILL BE DELIVERED AS NOTED ON THE PROJECT SCHEDULE.
1.5. KWIK TRIP WILL PROVIDE TWO STORAGE PODS PER SITE IF SPACE IS AVAILABLE.
1.6. THE CONTRACTOR SHALL SUPPLY ALL LABOR REQUIRED FOR A COMPLETE CODE AND **CONSTRUCTION DOCUMENT COMPLIANT** INSTALLATION USING BEST PRACTICES. SEE "BEST PRACTICE" DEFINITION BELOW.
1.7. PRIORITY OF CONSTRUCTION DOCUMENTS IS PLANS OVER SPECIFICATIONS. IF CONFLICTS ARE SHOWN ON PLANS CONTACT THE PROJECT MANAGER.
1.8. USE CIVIL PLANS TO DETERMINE ALL EXTERIOR ELEVATIONS NOT BASED ON THE ARCHITECT'S FINISHED FLOOR ELEVATION (FFE) STARTING AT 100. NOTE THE ARCHITECTS USE OF 100 FOR FFE IS FOR REFERENCE. THE ACTUAL ELEVATION FOR FFE IS NOTED ON THE CIVIL PLANS.
1.9. SOME OF THESE NOTES WILL NOT APPLY TO REMODELING/ADDITION WORK.

2. **CODES**
2.1. IT IS THE CONTRACTORS RESPONSIBILITY TO FOLLOW ALL APPLICABLE CODES.
2.2. THE CONTRACTOR SHALL FOLLOW THE LATEST VERSION OF NFPA CHAPTER 70 (2023 NEC) UNLESS THE DIRECTION GIVEN IN THE LATEST VERSION IS IN DIRECT CONFLICT WITH THE ADOPTED VERSION.
2.3. IT IS RECOMMENDED THAT THE ELECTRICAL CONTRACTOR(S) MEET WITH THE AUTHORITY HAVING JURISDICTION (AHJ), ELECTRICAL INSPECTOR PRIOR TO THE PROJECT START-UP .
2.3.1. REVIEW INSPECTIONS THAT ARE REQUIRED.
2.3.2. REVIEW ANY/ALL LOCAL REQUIREMENTS.
2.3.2.1. VERIFY ANY RESTRICTIONS FOR MC CABLE USES THAT DIFFER FROM NEC.
2.4. EC SHALL PROVIDE PRIVATE UTILITY LOCATES PRIOR TO ANY SITE EXCAVATION.

3. **Demolition (where applicable)**
3.1. EC shall provide labor to de-energize all electrical involved in all demolition that is part of this project.
3.2. Where **GE Spectra gear is removed all circuit breaker rating plugs shall be salvaged to Kwik Trip!** Check with Erik Culver as to salvaging of three-pole Spectra circuit breakers.
3.3. Prior to bidding, the EC shall survey the existing conditions to define the scope.
3.4. The EC shall include the demolition of equipment typically installed by the EC, such as air curtains. Coordinate with Kwik Trip for the list of equipment.

4. **DEFINITIONS**
4.1. AFF: ABOVE FINISHED FLOOR
4.2. AHJ: AUTHORITY HAVING JURISDICTION.
4.3. AWG: AMERICAN WIRE GAUGE
4.4. BEST PRACTICE: AN INSTALLATION THAT IS COMPLIANT WITH THE LATEST CODES WHETHER ADOPTED OR NOT (AS LONG AS THERE ARE NO CONFLICTS WITH ADOPTED CODE), THAT ALSO IS COMPLIANT WITH ALL MANUFACTURE'S INSTRUCTION WITH CONSIDERATION FOR EASE OF MAINTENANCE IN THE FUTURE. IN MANY CASES, KT WILL DEFINE BEST PRACTICE. THERE IS A NEED TO STANDARDIZE INSTALLATIONS TO ALLOW FOR SUPPORT FROM A REMOTE LOCATION FOR A LONG PERIOD OF TIME. ASK IF IN DOUBT.
4.5. C: CONDUIT
4.6. CB: CIRCUIT BREAKER
4.7. DE-ENERGIZE (WHERE APPLICABLE):
4.7.1. REMOVE ALL VOLTAGE FROM EQUIPMENT TO BE DE-ENERGIZED.
4.7.2. IF EQUIPMENT IS TO BE REPLACED, FOLLOW PROPER LOCKOUT TAGOUT PROCEDURE.
4.7.3. IF THE EQUIPMENT OR DEVICE WILL BE REMOVED AND NOT REPLACED, REMOVE CONDUCTORS AND ACCESSIBLE CONDUIT BACK TO THE NEAREST DEVICE TO REMAIN ENERGIZED.
4.7.4. CAP ANY/ALL REMAINING CONDUIT(S).
4.7.5. TURN-OFF OVERCURRENT DEVICE AND LABEL AS "SPARE".
4.8. DEMO OR DEMOLITION: SEE REMOVAL BELOW.
4.9. EC: ELECTRICAL CONTRACTOR CHARGED WITH DOING ALL ELECTRICAL WORK EXCEPT THAT DEFINED ON EF DRAWINGS.
4.10. EFC: ELECTRICAL CONTRACTOR CHARGED WITH ENERGIZING MOTOR FUEL DISPENSING FACILITIES AND OTHER ITEMS IN DIVISION 1 AREAS. WORK DEFINED IN "EF" DRAWINGS SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
4.11. EMT: ELECTRIC METALLIC TUBING (NEC ARTICLE 358)
4.12. ENT: ELECTRICAL NONMETALLIC TUBING (NEC ARTICLE 362) ONLY ALLOWED USE IS INSIDE LIGHT POLES.
4.13. ENERGIZE:
4.13.1. APPLY PROPER VOLTAGE TO THE DEVICE LISTED.
4.13.2. INSTALL ALL CONDUIT, JUNCTION BOXES, WIRE, DISCONNECT, OVERCURRENT DEVICE AND ANY MISCELLANEOUS MATERIAL NECESSARY FOR A COMPLETE BEST PRACTICE INSTALLATION.
4.14. EQ: ABBREVIATION FOR EQUIPMENT. USED WHERE CIRCUIT NUMBERS AND EQUIPMENT TAGS ARE SIMILAR.
4.15. EX: EXISTING
4.16. FAC: FIRE ALARM CONTRACTOR.
4.17. FMC: FLEXIBLE METAL CONDUIT (NEC ARTICLE 348)
4.18. FURNISH: PURCHASE EQUIPMENT AND DELIVER TO JOB SITE.
4.19. GC: GENERAL CONTRACTOR
4.20. GD: GROUND
4.21. GFB: GROUND FAULT CIRCUIT INTERRUPTER CIRCUIT BREAKER.
4.22. GFI: GROUND FAULT CIRCUIT INTERRUPTER
4.23. HC: HEATING VENTILATION AIR CONDITIONING CONTRACTOR
4.24. IMC: INTERMEDIATE METAL CONDUIT (NEC ARTICLE 342)
4.25. INSTALL:
4.25.1. MOVE EQUIPMENT FROM DELIVERY/STORAGE AREA OF THE JOB SITE TO ITS LOCATION OF OPERATION AND SECURE PER CONSTRUCTION DOCUMENTS AND OR MANUFACTURER'S RECOMMENDATIONS.
4.25.2. ENERGIZE PER BEST PRACTICES.
4.26. KT: KWIK TRIP, INC. (OWNER)
4.27. LFMC: LIQUID-TIGHT FLEXIBLE METAL CONDUIT (NEC ARTICLE 350 LFMC).
4.28. MC: METAL-CLAD CABLE (NEC ARTICLE 330)
4.29. OAS: OVERALL SHIELDED CABLE.
4.30. PC: PLUMBING CONTRACTOR.
4.31. PROVIDE: FURNISH AND INSTALL.
4.32. PVC: RIGID POLYVINYL CHLORIDE CONDUIT (NEC ARTICLE 352)
4.33. RACEWAY: GENERIC TERM FOR ALL TYPES OF CONFINED, PROTECTIVE ROUTING OF ELECTRICAL WIRING TO INCLUDE ALL BOXES AND FASTENERS FOR A COMPLETE SYSTEM.
4.34. REMOVE (WHERE APPLICABLE):
4.34.1. DE-ENERGIZE EQUIPMENT OR DEVICE AND REMOVE SUCH EQUIPMENT FROM SITE UNLESS KWIK TRIP INC. HAS REQUESTED IT TO BE REUSED OR SALVAGED. IF IN DOUBT, CHECK WITH SITE SUPERINTENDENT.
4.34.2. REFER TO SECTION 01 74 19 FOR ITEMS TO BE DISPOSED.
4.35. RC: REFRIGERATION CONTRACTOR
4.36. RMC: RIGID METAL CONDUIT (NEC ARTICLE 344)
4.37. SHALL: DO EXACTLY AS STATED.
4.38. TC: TEMPERATURE CONTROL CONTRACTOR
4.39. UNO: UNLESS NOTED OTHERWISE
4.40. VFC/VSC: VARIABLE FREQUENCY (SPEED) CONTROLLER
4.41. WR: WEATHER RESISTANT

5. **PROTECTION AND SAFETY**
5.1. THE ELECTRICAL CONTRACTOR(S) (EC, EFC) AND ANY SUBCONTRACTOR OF THE EC OR EFC SHALL BE RESPONSIBLE FOR THE JOB SAFETY OF THEIR EMPLOYEES AND SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, LOCAL AND SITE-SPECIFIC REQUIREMENTS.
5.2. BUILDING AND SITE OCCUPANTS SHALL NOT BE EXPOSED TO ANY UNDUE HAZARDS OR OBSTRUCTIONS DURING CONSTRUCTION.
5.2.1. NOTE THAT ALL FOOD SAFETY REQUIREMENTS MUST BE ADHERED TO WHEN STORES ARE OPEN.
5.3. TRASH AND CLUTTER SHALL BE KEPT TO A MINIMUM. DISPOSE OF TRASH NO LESS THAN ONCE A DAY WHILE WORKING.
5.4. ALERT KWIK TRIP INC. IF SAFETY ISSUES ARISE THAT ARE BEYOND EC'S CONTROL.
5.5. REFERENCE FRONT-END DOCUMENTS FOR ANY ADDITIONAL REQUIREMENTS.

6. **STORAGE**
6.1. STORE ALL MATERIAL IN A SAFE MANNER, MINIMIZING TRIP HAZARDS AND OTHER OPPORTUNITIES FOR PERSONAL INJURY.
6.2. STORE MATERIAL IN A MANNER THAT OFFERS PROTECTION FROM DAMAGE, THEFT, AND WEATHER. LOCK THE UNITS WHEN GONE!
6.3. MATERIAL SHALL REMAIN IN ITS ORIGINAL CLEAN PACKAGING UNTIL USED SO THAT IT MAY BE RETURNED FOR CREDIT IF NOT NEEDED.

7. **EF (ELECTRICAL FUEL) DRAWINGS.** THESE DRAWINGS SHALL INDICATE ALL ELECTRICAL WORK FOR PETROLEUM EQUIPMENT.
7.1. ALL WIRING OF FUELING EQUIPMENT SHALL BE DONE BY AN ELECTRICAL CONTRACTOR EXPERIENCED WITH WIRING MOTOR FUEL DISPENSING FACILITIES. THIS WIRING IS FROM THE CIRCUIT BREAKER TO THE FINAL TERMINATION.
7.2. EF (ELECTRICAL FUEL) DRAWINGS SHALL ONLY APPLY TO THE ELECTRICAL CONTRACTOR ENERGIZING FUEL RELATED WORK.
7.3. FUEL RELATED WORK INSIDE THE BUILDING WILL BE FOUND ON THE BASE DRAWINGS.
7.4. COORDINATE ALL INTERIOR ELECTRICAL FUELING WORK WITH THE BUILDING EC.
7.5. THE BASE ELECTRICAL CONTRACTOR SHALL REFERENCE THE EF FUEL DRAWINGS FOR COORDINATION PURPOSES ONLY.

8. **UTILITIES**
8.1. EC TO COORDINATE PRIVATE UTILITY LOCATES PRIOR TO ANY SITE EXCAVATION.
8.2. THE AMOUNT OF WORK REQUIRED BY THE EC FOR UTILITY TRANSFORMER INSTALLATION VARIES GREATLY.
8.2.1. COORDINATE WITH THE UTILITY AND VERIFY THEIR STANDARDS.
8.2.2. NOTIFY KWIK TRIP INC. IF THERE IS CONFLICTING INFORMATION BETWEEN THE DOCUMENTS AND UTILITY REQUIREMENTS.
8.2.3. TRANSFORMER PAD, CONDUIT, AND C/T CABINET SHOWN MAY BE BY THE UTILITY, VERIFY.
8.3. VERIFY POSSIBLE TIMING/DELIVERY ISSUES EARLY IN THE JOB TO MINIMIZE PROBLEMS LATER.

9. **ELECTRICAL SERVICE**
9.1. VERIFY ACCEPTABLE C/T CABINETS AND CONFIGURATION
9.2. SCHNEIDER ELECTRIC (SQUARE D) COMPLETE PANEL WALL DRAWINGS ARE:
9.2.1. AVAILABLE ON KWIK TRIP'S SHAREPOINT SERVER.
9.2.2. SHIPPED WITH THE POWER WALL EQUIPMENT.
9.2.3. CAN BE FOUND VIA QR CODE ON THE INSIDE OF THE FRONT PANEL.
9.3. TWISTED PAIR CONTROL WIRES WITHIN THE PANEL WALL SHALL BE KEPT AS FAR AS POSSIBLE AWAY FROM THE VFC CONTROLLERS TO MINIMIZE LINE NOISE ISSUES.

10. **ARC FLASH (TO BE CONDUCTED WHEN NEW ELECTRICAL SERVICES ARE INSTALLED)**
10.1. THE ELECTRICAL DESIGNER FOR THIS PROJECT WILL BE CONDUCTING AN ARC FLASH HAZARD ANALYSIS. TO DO THIS THE DESIGNER NEEDS THE FOLLOWING INFORMATION FROM THE EC. NOTE LENGTHS SHOULD BE TO THE NEAREST FOOT OR BETTER.
10.1.1. ALL ELECTRICAL SERVICE ENTRANCE CONDUCTOR LENGTHS. THIS MEANS FROM THE TRANSFORMER TO THE CT CABINET. THE CT CABINET TO THE DISCONNECT. THE DISCONNECT TO THE MDP.
10.1.2. CONDUCTOR LENGTHS TO ALL LOADS 30 AMPS AND GREATER.
10.1.3. VERIFY THE INSTALLED CONDUCTOR SIZES MATCH THE SIZE CALLED FOR ON PLANS.

11. **WIRING METHODS**
11.1. CONDUCTORS
11.1.1. ALL POWER CONDUCTORS SHALL BE:
11.1.1.1. THHN FOR DRY LOCATIONS
11.1.1.2. THWN FOR WET LOCATIONS UNO.
11.1.2. WHERE ALUMINUM IS NOTED, USE IT.
11.1.3. POWER CONDUCTORS:
11.1.3.1. POWER CONDUCTOR SHALL NOT BE LESS THAN 12 AWG COPPER.
11.1.3.2. ALL CONDUCTORS #8 AND LARGER SHALL BE SIZED AT THEIR 75°C. RATING.
11.1.3.3. VOLTAGE DROP MAY REQUIRE A SUBSTANTIAL INCREASE IN CONDUCTOR SIZING.
11.1.3.4. ALL SINGLE-PHASE LOADS SHALL HAVE A SEPARATE NEUTRAL.
11.1.4. CONTROL CONDUCTORS:
11.1.4.1. RUNS OUTSIDE OF THE BUILDING SHALL NOT BE SMALLER THAN 18 AWG.
11.1.4.2. 16 AWG AND SMALLER USE TYPE TFFN UNLESS NOTED OTHERWISE
11.2. CONDUIT:
11.2.1. MINIMUM CONDUIT SIZE SHALL BE 0.5" DIAMETER UNO.
11.2.2. UNDERGROUND, AND IN MASONRY USE SHALL BE:
11.2.2.1. RIGID POLYVINYL CHLORIDE CONDUIT (NEC ARTICLE 352 PVC).
11.2.2.2. WHERE PVC COMES UP INTO THE STORE TRANSITION TO EMT AT THE FIRST FITTING, BUT NOT HIGHER THAN 48" AFF. EXCEPTION IS IN CAR WASH BAY. USE PVC THROUGHOUT FOR CAR WASH.
11.2.2.3. NOTE: TRANSITION FROM PVC TO RMC BELOW 24" FROM GRADE FOR THREADED METAL STUB UPS TO COMPLY WITH EXCEPTION #2 OF 514.8 (TYPICALLY 5' OF METAL PIPE). THIS APPLIES TO:
11.2.2.3.1. FUELING DISPENSERS BOTH GAS AND DIESEL.
11.2.2.3.2. OTHER POWER WIRING IN WITHIN 20' OF A FUEL DISPENSER (DIVISION 1 AREAS).
11.2.3. THE FIRST 10' OF CONDUIT FROM ALL TANK CONNECTIONS (EXCEPT DEF) SHALL BE THREADED RMC.
11.2.3.1. FIRST 10' OF CONDUIT FROM THE DEF TANK SHALL BE PLASTI-BOND PVC COATED (ROB ROY).
11.2.4. A SEAL-OFF SHALL BE THE FIRST FITTING WHERE CONDUIT ENTERS OR LAST BEFORE A CONDUIT LEAVES A DISPENSER OR CAVITY WITHIN DIVISION 1 AREAS.
11.2.5. ABOVE GROUND USE SHALL BE:
11.2.5.1. ELECTRICAL METALLIC TUBING (NEC ARTICLE 358 EMT).
11.2.5.1.1. IN DRY LOCATIONS BOTH SET SCREW AND COMPRESSION FITTING ALLOWED.
11.2.5.1.2. IN WET LOCATIONS USE COMPRESSION FITTINGS ONLY.
11.2.5.2. WHERE SUBJECT TO DAMAGE RIGID METAL CONDUIT (NEC ARTICLE 344 RMC).
11.2.5.3. WITHIN THE CAR WASH BAY PVC (NEC ARTICLE 352 PVC)
11.2.6. REFER TO NEC ARTICLE 514 FOR CONDUIT FOR USE IN CLASS 1, ZONE 1 AND 2 AREAS.
11.2.6.1. THESE AREAS ARE WITHIN 20' OF FUELING DISPENSERS, IN CAVITIES BELOW GRADE WITHIN THE 20' LISTED, AND IN MANHOLES FOR TANK ACCESS AND WITHIN 18" OF GRADE OR THE DISPENSER. FOR TANK VENTS THE DISTANCE IS 10' IN ALL DIRECTIONS.
11.2.6.2. ALL PIPE WITHIN 24" OF GRADE SHALL BE THREADED STEEL.
11.2.7. METAL-CLAD CABLE (NEC ARTICLE 330 MC) MAY BE USED IN LIEU OF CONDUIT WHERE **NOTED**, OR **ACCESSIBLE**, AND ACCEPTABLE TO THE AHJ. CONCEALED MC ONLY ALLOWED FOR SOFFIT LIGHTS, MOTOR/EQUIPMENT CONNECTIONS AND AS OTHERWISE NOTED.
11.2.8. MOTOR AND OTHER EQUIPMENT SUBJECT TO VIBRATION, USE:
11.2.8.1. INDOORS: FLEXIBLE METAL TUBING (NEC ARTICLE 360 FMT).
11.2.8.2. OUTDOORS: LIQUID-TIGHT FLEXIBLE METAL CONDUIT (NEC ARTICLE 350 LFMC).
11.2.8.3. LENGTH: MINIMUM OF 12" MAX OF 36".
11.2.9. IF CONDUCTORS CANNOT BE PUSHED INTO PLACE, USE RATED PULLING TAPE AND LUBRICANT AS APPROPRIATE.
11.2.10. ALL SPARE CONDUITS SHALL HAVE PULL TAPE INSTALLED AND BE DOCUMENTED ON AS-BUILT DRAWINGS.
11.2.11. WITHIN LIGHT POLES ENT IS ALLOWED.
11.3. JUNCTION BOXES
11.3.1. USE 4" X 4" X 2-1/8" JUNCTION BOX UNO.
11.3.1.1. PROVIDE PLASTER RINGS WHERE APPROPRIATE. VERIFY SINGLE OR DOUBLE GANG, AND ACTUAL DEPTH OF RINGS.
11.3.2. FOR LARGE JUNCTION BOXES CONTRACTOR SHALL SIZE PER CODE REQUIREMENTS, NOT AS BIG AS POSSIBLE.
11.3.3. GROUND BOXES FOR POWER AND COMMUNICATION SHALL BE:
11.3.3.1. PLACED IN GREEN SPACES. RATED FOR PEDESTRIAN TRAFFIC. NOMINAL 9"-10"φ X 9"-12" DEEP.
11.3.3.2. MANUFACTURED BY: CARSON, HUBBELL POWER SYSTEMS, OR APPROVED MANUFACTURER.
11.4. PROVIDE A GROUNDING CONDUCTOR FOR ALL FEEDER AND BRANCH CIRCUITS.
11.5. ISOLATED GROUNDS SHALL BE KEPT ISOLATED BACK TO THE MAIN SERVICE GROUND. REFER TO GROUNDING AND BONDING DIAGRAM FOR ISOLATED GROUNDS TO PANELS.
11.6. COLOR CODING CONDUCTORS (USE COLORED WIRE):
11.6.1. 208Y/120-VOLT, 3 PHASE, 4 WIRE SYSTEMS:
11.6.1.1. PHASE A: BLACK
11.6.1.2. PHASE B: RED (DO NOT USE RED FOR SINGLE PHASE PANELS)
11.6.1.3. PHASE C: BLUE
11.6.1.4. NEUTRAL CONDUCTOR
11.6.1.4.1. SINGLE PHASE: WHITE WITH A STRIPE THAT MATCHES THE COLOR OF THE PHASE CONDUCTOR.
11.6.1.4.2. THREE PHASE NEUTRAL: WHITE.
11.6.2. ALL GROUNDING CONDUCTORS SHALL BE GREEN.
11.6.3. ISOLATED GROUNDING CONDUCTORS SHALL BE GREEN WITH A YELLOW STRIPE OR MULTIPLE YELLOW STRIPES.
11.7. VOLTAGE DROP: FOR 120 VOLT, 20-AMP CIRCUITS EXCEEDING 60' MINIMUM WIRE SIZE IS 10 AWG UNO.
11.7.1. BRANCH CIRCUIT VOLTAGE DROP TARGET IS GENERALLY 3%. FOR A SOME LOADS THE 3% MAY BE EXCEEDED WHERE NOTED TO DO SO. FOR EXAMPLE: THE FREE AIR COMPRESSORS CAN TOLERATE A 10% VOLTAGE DROP.
11.8. PETROLEUM ITEMS:
11.8.1. DISPENSERS
11.8.1.1. THE #1 DISPENSER IS ON THE FAR LEFT, NEAREST THE BUILDING WHEN LOOKING OUT FROM THE FRONT DOOR FOR GAS. THE #1 DIESEL DISPENSER IS ALWAYS THE ONE CLOSEST TO THE STORE.
11.8.1.2. ALL CONTROL WIRING TO DISPENSERS SHALL NOT BE LESS THAN 18 AWG.
11.8.2. TANKS: THE ONLY CONDUIT ALLOWED WITHIN 15' OF THE EDGE OF ANY PETROLEUM TANK ARE THOSE THAT SERVE PETROLEUM TANKS. THE 15' MAY INCREASE BASED ON SOIL CONDITIONS. CHECK PLANS.
11.8.3. REFER TO EF DRAWING DETAILS FOR CONDUIT ENTRY LOCATIONS FOR ALL PETROLEUM EQUIPMENT.
11.8.4. WITHIN ALL DIVISION 1 ZONES CONDUIT SHALL TRANSITION TO THREADED METAL MORE THAN 24" BELOW GRADE.
11.8.5. PANEL WALL
11.8.5.1. ROUTE TWISTED PAIR COMMUNICATION WIRES WITHIN POWER WALL TO KEEP THE SEPARATION DISTANCE FROM VFCS THE GREATEST POSSIBLE DISTANCE TO PREVENT LINE NOISE PROBLEMS.
11.9. CAR WASH:
11.9.1. ALL JUNCTION BOXES WITHIN THE CAR WASH AREA SUBJECT TO OVERSPRAY (CARWASH BAY) SHALL BE **FIBERGLASS**.
11.9.2. ALL FASTENERS AND HARDWARE SHALL BE **STAINLESS STEEL**.
11.9.3. RECEPTACLES FOR CAR WASH EQUIPMENT SERVICING SHALL BE PLACED OUT OF ALL DIRECT SPRAY AREAS.
11.10. COMMUNICATION CONDUITS:
11.10.1. INSTALL A PULL TAPE IN THE CONDUIT.
11.10.2. INSTALL A TRACER WIRE.
11.11. SPARE UNDERGROUND CONDUIT THAT GOES TO GREEN SPACE:
11.11.1. PROVIDE TRACER WIRE ABOVE THE CONDUIT.
11.11.2. PROVIDE PULL TAPE IN CONDUIT.
11.11.3. TERMINATE END OF CONDUIT IN A GROUND BOX IF IT ORIGINATES IN THE STORE.
11.11.4. IDENTIFY ACTUAL LOCATION ON RED-LINED PLANS
11.12. TRACER WIRE
11.12.1. SHALL BE INSULATED 14 AWG SOLID COPPER, RATED FOR 600V AND DIRECT BURIAL.
11.12.2. ZIP TIE TRACER WIRE TO THE TOP OF THE CONDUIT TO BE TRACED.

12. **WIRING DEVICES:**
12.1. RECEPTACLES
12.1.1. SHALL BE 20 AMP., SPECIFICATION GRADE UNLESS IT IS DEDICATED FOR EQUIPMENT THAT REQUIRES 15-AMP PROTECTION.
12.1.2. WHERE GFI IS NOTED ADJACENT TO THE RECEPTACLE: INSTALL A GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE WHERE THIS IS NOTED ADJACENT TO THE RECEPTACLE THAT IS READILY ACCESSIBLE.
12.1.3. WHERE GFB IS NOTED ADJACENT TO A RECEPTACLE THE RECEPTACLE SHALL BE PROTECTED BY A GROUND FAULT CIRCUIT INTERRUPTER BREAKER. USE THIS WHERE NOTED AND WHERE THE RECEPTACLE HAS GFI REQUIREMENTS BUT IS NOT READILY ACCESSIBLE.
12.1.3.1. WHERE NORMAL RECEPTACLES ARE PROTECTED BY GFI, LABEL RECEPTACLES "GFI PROTECTED".
12.1.4. WHERE WR IS NOTED ADJACENT TO A RECEPTACLE:
12.1.4.1. INSTALL A WEATHER RESISTANT RATED RECEPTACLE.
12.1.4.2. RECEPTACLE SHALL EITHER BE GFI PROTECTED OR RATED.
12.1.4.3. INSTALL AN IN-USE COVER.
12.1.5. "IN USE" WEATHERPROOF COVER PLATES SHALL BE METALLIC UNITS AS MANUFACTURED BY INTERMATIC OR TAYMAC.
12.1.6. COLORS: WHITE RECEPTACLES WITH WHITE COVER PLATES EXCEPT AS NOTED BELOW:
12.1.6.1. ALMOND RECEPTACLES AND COVER PLATES ON WALLS PAINTED BEIGE AND FOR KITCHEN FRP.
12.1.6.2. BLACK RECEPTACLES AND COVER PLATES FOR BLACK WALLS, BOTH TILED AND PAINTED.
12.1.6.3. GRAY RECEPTACLES AND COVER PLATES FOR COUNTERTOP AND CABINET RACEWAYS WHERE POSSIBLE. SILVER AND BLACK FOR THESE AREAS IS ACCEPTABLE FOR 250-VOLT RECEPTACLES
12.1.6.4. RED RECEPTACLES AND COVER PLATES FOR RED SOFFIT AREAS.
12.1.6.5. ORANGE RECEPTACLE FOR ISOLATED GROUND RECEPTACLES. COVER PLATE TO MATCH ADJACENT COVER PLATES.
12.1.6.6. ORANGE RECEPTACLE AND COVER PLATE FOR RECEPTACLES POWERED FROM UPS.
12.1.7. MOUNTING HEIGHTS:
12.1.7.1. INTERIOR: 18" TO CENTER OF RECEPTACLE, MOUNTED IN A VERTICAL ORIENTATION, UNO.
12.1.7.2. EXTERIOR: CENTER ON A BRICK COURSING THAT RESULTS IN THE CENTER OF THE RECEPTACLE CLOSEST TO 32" AFF UNO. BOX ORIENTATION SHALL BE HORIZONTAL UNO.
12.2. "CLEAN SWITCH": THIS IS A DOUBLE POLE, SINGLE THROW SWITCH WHICH SERVES AS A DISCONNECT FOR THE EVAPORATOR UNIT FROM ONE POLE AND SENDS A SIGNAL BACK TO THE CPC CONTROL INDICATING THE EVAPORATOR UNIT IS OFFLINE WITH THE OTHER POLE. THE CPC CONTROL CAN THEN MAKE APPROPRIATE ADJUSTMENTS FOR THE REFRIGERATION RACK. ONE SWITCH PER UNIT WITH INDIVIDUAL CONTROL.
12.3. DISCONNECTS FOR DISHWASHER & BOOSTER HEATER: SQUARE D D3304X OR PASS AND SEYMOUR PS30SS, NEMA 4X.

13. **LIGHTING**
13.1. SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE REQUIREMENTS.
13.2. RESTROOM OCCUPANCY SENSORS SHALL BE CEILING MOUNTED ULTRASONIC ONLY OR DUAL TECH SET FOR EITHER, NOT BOTH TECHNOLOGIES TO TURN ON LIGHTS.
13.3. AIM ALL EGRESS LIGHTING AS SHOWN ON PHOTOMETRIC PLAN EM1 AFTER INSTALLATION.
13.4. CANOPY LIGHTING:
13.4.1. GAS CANOPY:
13.4.1.1. FIXTURES ON THE STORE SIDE OF THE GAS CANOPY SHALL BE FORWARD THROW FIXTURES AIMED TOWARD THE STORE.
13.4.1.2. IN SOME CASE THERE MAY BE SELECTED FIXTURES AIMING AWAY FROM THE STORE AS WELL.
13.4.1.3. THESE FIXTURES ARE WHITE IN COLOR.
13.4.2. DIESEL CANOPY:
13.4.2.1. THE FORWARD THROW FIXTURES ON BOTH SIDES ARE AIMED AWAY FROM THE CENTER OF THE CANOPY.
13.4.2.2. THESE FIXTURES ARE TYPICALLY BLACK IN COLOR.
13.5. DIMMING WHERE CALLED FOR, SHALL BE 0-10VDC. COORDINATE WITH HC.
13.6. EXTERIOR LIGHTING POLE LOCATION/SETBACKS (UNLESS SPECIFICALLY NOTED OTHERWISE):
13.6.1. FROM A CURB WITH TRAFFIC RUNNING PARALLEL TO THE CURB: 3' TO EDGE OF POLE BASE.
13.6.2. AT CORNERS WHERE CORNERS CAN EASILY BE CUT: 6' TO EDGE OF POLE BASE.
13.6.3. TRUCK PARKING WHERE TRAILERS ARE BACKED INTO SPACES:
13.6.3.1. TYPICAL SETBACK 11' TO THE EDGE OF POLE BASE.
13.6.3.2. POLE SHALL BE LINED UP WITH LOT STRIPPING FOR VISIBILITY IN MIRRORS.
13.6.3.3. PROTECTION BOLLARDS SHALL BE LIKE THOSE IN PLACES WHERE 11' SET BACK IS NOT POSSIBLE. PROVIDE TWO PROTECTION BOLLARDS FOR EACH LIGHT POLE. LOCATE EACH PROTECTION BOLLARD 12" IN FRONT OF POLE BASE AND 18" OFF TO EACH SIDE OF THE POLE BASE.
13.6.3.3.1. SHOWN ON THE CIVIL DETAIL DRAWINGS. IF BOLLARD IS INSTALLED IN AN AREA THAT DOES NOT HAVE CONCRETE AT THE SURFACE, INCREASE BOLLARD PIPE LENGTH TO 10' OVERALL WITH 4' EXPOSED.
13.6.4. SHALL NOT BE CLOSER THAN 15' FROM THE EDGE OF AN UNDERGROUND FUEL TANK.
13.6.5. CHECK WITH KWIK TRIP (OWNER) IF POLE(S) ARE LOCATED WITHIN THESE DISTANCES BEFORE INSTALLATION.
13.7. EXTERIOR LIGHT POLE DESIGN SHALL BE BASED ON 4 FIXTURES ON THE POLE WITH A 115 MPH WIND SPEED UNO.

14. **MOTOR AND EQUIPMENT CONNECTIONS**
14.1. VERIFY ACTUAL LOCATION BEFORE ROUGH-IN.
14.2. REFER TO ELECTRICAL SCHEDULES AND ELEVATIONS.
14.3. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS. IF THESE DIFFER FROM THE DIRECTION GIVEN ON PLANS CHECK WITH AUTHORIZED KWIK TRIP PERSONNEL BEFORE PROCEEDING.
14.4. CONTROL:
14.4.1. REFER TO MECHANICAL AND TEMPERATURE CONTROL DRAWINGS (TCC) FOR POINTS LIST AND CONTRACTOR RESPONSIBILITIES.
14.4.2. REFER THE SCHNEIDER ELECTRIC DRAWINGS FOR ADDITIONAL INFORMATION.

15. **CONDUIT AND CONDUIT SLEEVES FOR OTHERS:**
15.1. PROVIDE PVC CONDUIT FOR TEMPERATURE SENSORS AND IN FLOOR HEAT, SEE CONDUIT SCHEDULES.
15.2. PROVIDE CONDUIT FOR THE TYPE 1 KITCHEN HOOD FIRE PROTECTIONS SYSTEM (ANSUL).
15.3. 20' OF 4" PVC FOR SODA TOWER POP LINES. SEE 1/E200A

16. **LABELING**
16.1. LABEL ALL ELECTRICAL EQUIPMENT ON THE FRONT AND DEVICES ON THE COVER PLATE WITH TYPED FONT.
16.2. ALL OVERCURRENT DEVICES SHALL BE CLEARLY LABELED AS TO WHAT THEY CONTROL ON AN INDEX CARD SECURELY ATTACHED TO THE PANEL.
16.3. ALL BRANCH CIRCUIT WIRING SHALL BE LABELED AT EACH TERMINATION POINT AS WELL AS IN EVERY JUNCTION/PULL BOX.

17. **LOW VOLTAGE SYSTEM WIRING**
17.1. EC INSTALLS ALL CONDUIT AND WIRE WITH THE FOLLOWING EXCEPTIONS:
17.1.1. EC IS CONDUIT ONLY FOR ALL CPC/TEMPERATURE CONTROLS EQUIPMENT. WIRE AND TERMINATIONS FOR THIS EQUIPMENT IS THE RESPONSIBILITY OF THE HEATING (MECHANICAL) CONTRACTOR (HC). ALL ELECTRICAL WORK SPECIFIED UNDER HEATING (MECHANICAL) IS THE RESPONSIBILITY OF THE HC AND SHALL BE ACCOUNTED FOR BY THE HC.
17.1.2. WHERE THERE IS A CAT SCALE EC INSTALLS CONDUIT ONLY. WIRE AND TERMINATIONS BY CAT.
17.2. TERMINATIONS:
17.2.1. EC TERMINATES:
17.2.1.1. SECURITY AS NOTED AS WELL AS DOOR BUZZER SYSTEM.
17.2.1.2. ACCESS POINTS AND MONITORS/TVS. TVS ARE PRESENT IN TRUCK STOPS ONLY.
17.2.1.3. ALL INTERCOM SYSTEMS, CAR WASH, IN STORE AND DIESEL CANOPY.
17.2.1.4. FIRE ALARM SYSTEM WHEN PRESENT.
17.2.1.5. RESTROOM CALL SWITCHES.
17.2.1.6. LTE CABINET WHEN PRESENT AT TRUCK STOPS UNLESS IT REQUIRES FIBER. FIBER TERMINATION IS OWNER RESPONSIBILITY.
17.2.1.7. LIGHTING CONTROL.
17.2.2. EFC TERMINATES ALL OF FUEL CONTROL EQUIPMENT.
17.2.3. OWNER TERMINATES CAT6 FOR DATA UNLESS NOTED OTHERWISE AND THE CELL BOOSTER IN THE IT CLOSET ONLY.
17.2.4. CAMERA INSTALLER TERMINATES ALL CAMERAS, INSIDE AND OUTSIDE.
17.2.4.1. EXTERIOR CAMERAS: CAT6 CABLE WITH A YELLOW JACKET.
17.2.4.2. INTERIOR CAMERAS: CAT6 CABLE WITH A GRAY JACKET.
17.2.5. CARWASH INSTALLER SHALL TERMINATE ALL LOW VOLTAGE EXCEPT FOR THE PORTAL STAND WHICH IS BY EC.
17.2.6. TERMINATIONS OF ALL SIGN DATA/CONTROL WIRING IS THE RESPONSIBILITY OF THE SIGN CONTRACTOR.
17.2.7. SMART BREAKER CONTROL: WHOEVER'S EQUIPMENT IS CONTROLLED BY THE SMART BREAKER SHALL TERMINATE THE CONTROL WIRE. EFC FOR FUEL. HC FOR CPC/TEMPERATURE CONTROLS, EC FOR OTHER.
17.3. ALL SPARE CONDUITS SHALL HAVE A PULL TAPE INSTALLED. CLEARLY IDENTIFY ALL SPARES ON AS-BUILT DRAWINGS IF THEY ARE NOT ALREADY DRAWN.
17.4. MOUNT THE DOOR CONTACTS RECESSED IN THE DOOR FRAME AND RUN THE WIRE WITHIN THE FRAME . THIS REQUIRES COORDINATION WITH THE HOLLOW METAL FRAME PROVIDERS.
17.5. CAMERA WIRING
17.5.1. STANDARD CAT6 CABLE SHALL BE USED FOR CAMERA INSTALLATIONS UP TO 1,000 WIRE FEET. DIRECT BURIAL NOT REQUIRED.
17.5.2. NOTE ALL INSTALLED CABLE LENGTHS THAT EXCEED 300'. THESE REQUIRE BOOSTERS THAT KWIK TRIP WILL PROVIDE.
17.6. DISPLAYS/TVS:
17.6.1. KWIK TRIP FURNISHES DISPLAYS AND TVS.
17.6.2. BASTLER INSTALLS DISPLAYS AND TVS AND MAKES FINAL CONNECTIONS.
17.6.3. EC INSTALLS POWER AND COMMUNICATIONS WIRING.

18. **FIRE ALARM SYSTEMS (WHEN REQUIRED)**
18.1. BAN-KOE SYSTEMS, INC. IS THE FIRE ALARM CONTRACTOR (FAC). THE FAC SHALL:
18.1.1. PROVIDE COMPLETE FIRE ALARM DESIGN DRAWINGS, OBTAIN APPROVALS, AND PERMITS.
18.1.2. FURNISH FIRE ALARM EQUIPMENT AND DEVICES.
18.1.3. PROVIDE COMMISSIONING/TESTING AND GET ACCEPTANCE OF THE FIRE ALARM SYSTEM FROM THE AHJ.
18.1.4. CONTACT INFO: SCOTT DANIELSON, 952 278 6772, SCOTT.DANIELSON@BANKOE.COM. OR DAN DALEY, 612 868 9992, DANDALEY@BANKOE.COM.
18.2. THE EC SHALL INSTALL:
18.2.1. INSTALL EQUIPMENT FURNISHED BY THE FAC.
18.2.2. INSTALL RACEWAY FURNISHED BY KWIK TRIP PER PLANS PROVIDED BY THE FAC.

19. **EC SHALL COORDINATE IN A TIMELY MANNER WITH:**
19.1. KWIK TRIP FOR: GENERAL CONSTRUCTION, CAMERA INSTALLATION, SECURITY INSTALLATION, IT INSTALLATION, QUESTIONS.
19.2. THE ELECTRICAL FUEL CONTRACTOR WHEN DIFFERENT THAN BUILDING EC.
19.3. THE LOCAL ELECTRICAL UTILITY.
19.4. FUEL CONTRACTOR.
19.5. MECHANICAL CONTRACTOR, REVIEW MECHANICAL DRAWINGS FOR WIRING RESPONSIBILITY.
19.6. REFRIGERATION CONTRACTOR, REVIEW REFRIGERATION DRAWINGS FOR WIRING RESPONSIBILITIES
19.7. TEMPERATURE CONTROL CONTRACTOR, REVIEW TEMPERATURE CONTROL DRAWINGS FOR WIRING RESPONSIBILITY.
19.8. FIRE ALARM CONTRACTOR WHERE APPLICABLE.

20. **STRUCTURAL FOR ELECTRICAL (NEW LOCATION)**
20.1. FOUNDATION OPENINGS FOR CONDUIT PASS THROUGH SHALL BE COORDINATED WITH STRUCTURAL:
20.1.1. INDIVIDUAL OPENINGS SHALL NOT EXCEED 24" WIDE AND MUST HAVE A MINIMUM OF (2) #4 REBAR IN A MINIMUM OF 12" OF CONCRETE ABOVE THE OPENING. BOX OUT MATERIAL BY CONTRACTOR.
20.1.2. MINIMUM SPACING BETWEEN OPENINGS SHALL BE 12".
20.1.3. REFER TO STRUCTURAL DRAWINGS FOR ANY ADDITIONAL REQUIREMENTS.
20.2. IN NO CASE SHALL AN EC CUT ANY STRUCTURAL MEMBER WITHOUT WRITTEN AUTHORIZATION FROM THE INDIVIDUAL IN RESPONSIBLE CHARGE OF THE STRUCTURAL DESIGN.
20.3. WHERE DRILLING IS ALLOWED FOR CONCEALED CIRCUIT PASS-THROUGH ONLY DRILL IN THE MIDDLE THIRD OF THE FRAMING MEMBER UNLESS SPECIFICALLY NOTED OTHERWISE.

21. **EXPECTATIONS:**
21.1. THE ELECTRICAL CONTRACTOR SHALL USE MATERIAL FURNISHED IN A COST-EFFECTIVE WAY ELIMINATING WASTE TO THE GREATEST EXTENT PRACTICAL.
21.2. EXCESS MATERIAL MUST BE RETURNED TO THE SUPPLY HOUSE IN ORIGINAL PACKAGE FOR PROPER CREDITS TO HAPPEN.
21.3. EC SHALL FOLLOW ALL PLANS AS SHOWN AND NOTED.
21.3.1. EC SHALL KEEP A RED-LINE SET OF RECORD DRAWINGS INDICATING ACTUAL WIRING METHODS USED. THE PURPOSE SHALL BE TO MONITOR MINOR CHANGES IN CONDUIT ROUTING ETC. SIGNIFICANT CHANGES REQUIRE WRITTEN DIRECTION. THESE DRAWINGS SHALL BE:
21.3.1.1. UPDATED DRAWINGS WEEKLY, AT A MINIMUM, IN A NEAT AND CONCISE MANNER. IF NO VARIATIONS ARE NOTED ON THE PLANS, INITIAL AND DATE THE RECORD SET OF PLANS THAT INDICATES INSTALLATION IS PER PLANS FOR THE NOTED TIME PERIOD.
21.3.1.2. BE MADE AVAILABLE FOR REVIEW UPON REQUEST BY A KWIK TRIP CONSTRUCTION REP.
21.3.1.3. SHALL BE TRUE "AS-BUILT" DRAWINGS AT PROJECT COMPLETION.
21.3.1.4. SHALL BE TURNED OVER TO KWIK TRIP AT PROJECT COMPLETION. NOTE: DELIVERY OF THESE COMPLETED DOCUMENTS MAY BE REQUIRED FOR FINAL PAYMENT.
21.4. CONSULT BUILDING SCHEDULE AND PLAN AHEAD. CALLING THE NIGHT BEFORE MATERIAL IS NEEDED IS NOT REASONABLE.

ELECTRICAL GENERAL NOTES

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION
KWIK TRIP
KWIK STAR

PROJECT INFORMATION
PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
E001

23. Record Documents

23.1. The EC **shall keep a current red-line set of as-built record drawings indicating actual wiring methods used** These shall document all changes in conduit routing, circuit number, panel changes, etc. These drawings shall be made available for review upon request by a Kwik Trip construction rep. The complete marked up "As-Built" drawings shall be turned over to Kwik Trip at project completion. Note: delivery of these completed documents may be required for final payment.

23.2. Panel schedules shall be forwarded to the project manager with detailed descriptions of all changes.

24. Expectations:

24.1. The Electrical contractor shall have an electrician on site for all working days throughout the project

24.2. The Electrical Contractor shall use material furnished in a cost-effective way, eliminating waste to the greatest extent practical. Failure to do this could result in removal from our bidders list.

24.3. Excess material must be returned to the supply house in the original package for proper credits to happen.

24.4. The EC shall follow all plans as shown and noted.

24.5. Consult building schedule and plan ahead. Calling the night before material is needed is not reasonable.

ELECTRICAL RESPONSIBILITY MATRIX

DESIGNER	KWIK TRIP		
		KWIK TRIP (KT)	ELECTRICAL SUPPLY HOUSE (SH)
		ELECTRICAL CONTRACTOR (EC)	REFRIGERATION CONTRACTOR (RC)
		CONCRETE CONTRACTOR (CC)	SIGN CONTRACTOR (SC)
		HVAC CONTRACTOR (HC)	

DESIGNED BY		TASK DESCRIPTION	FURNISH	INSTALL	TERMINATE
General					
X		Electrical fixtures and devices	SH	EC	EC
X		Light fixtures and devices	SH	EC	EC
X	X	Electrical panels by Schneider (1)	KT	EC	EC
X		Electrical Equipment	SH	EC	EC
X		Raceway and wires	SH	EC	EC
	X	Temporary power distribution boxes (4)	SH	EC	EC
	X	GC trailer power cabling (when there is a GC trailer)	SH	EC	EC
Site					
X		Sight lighting pole bases	CC	CC	
	X	Anchor bolts	KT	CC	
X		Site lighting pole, fixture, wiring	SH	EC	EC
	X	CAT scale HV raceway and wiring	SH	EC	EC
	X	Exterior Trash compactor	KT	EC	EC
Gas & Diesel Canopy					
X		Gas & Diesel Canopy General Lighting	SH	EC	EC
X		Gas and Diesel Canopy sign lighting raceway to J-box	SH	EC	EC
	X	Gas and Diesel Canopy sign lighting installation and final connection to J-box	SC	SC	SC
X		Conduit & wire to fuel dispensers and tanks	SH	EC	EC
Store					
X		Telecom stub out conduits (2)	SH	EC	OTHERS
	X	Interior sign lighting	KT	EC	EC
X		PVC pipe chase for soda line and fryer oil line	SH	EC	
X		Kitchen equipment	KT	KT	EC
X		UPS	KT	EC	EC
X		Line voltage between RTU	SH	EC	EC
X		Conduit in vestibule slab for heat	SH	EC	RC
X	X	CPC temperature controls - Line voltage	SH	EC	EC
Carwash					
X		Carwash slab heat system conduit	SH	EC	
	X	Carwash door raceway and wiring	SH	EC	OTHERS
	X	Carwash slab socket	KT	HC	HC
	X	Carwash slab socket sensors and wiring	HC	HC	HC
X		Carwash controls conduits in bays and mechanical room	SH	EC	RC
Arc Flash (when new services are installed)					
X		Arc Flash Study			
X		Arc Flash - Field verification (3)		EC	
	X	Arc Flash Labels printed by KT, installed by EC		EC	

General Notes:
- Programming of lighting control by Kwik Trip.

Key Notes:
(1) EC may need to add or swap circuit breakers in panels supplied by Schneider.
(2) Provide pull string for service wiring and coordinate with telecom company for final location.
(3) Reference arc flash section in general notes for scope of work.
(4) Provide and install two distribution boxes for the store and one distribution box for the carwash.

LOW VOLTAGE RESPONSIBILITY MATRIX

DESIGNER	KWIK TRIP		
		KWIK TRIP - STORE ENGINEERING (SE)	ELECTRICAL SUPPLY HOUSE (SH)
		KWIK TRIP - IT (IT)	REFRIGERATION CONTRACTOR (RC)
		ELECTRICAL CONTRACTOR (EC)	SECURITY CONTRACTOR (SC)
		FIRE ALARM CONTRACTOR (FA)	TRANE HVAC CONTROLS CONTRACTOR (THC)
		BASTLER TV CONTRACTOR (BTV)	REFRIGERATION MANUFACTURER (RM)
		3RD PARTY VENDOR (OTHERS)	ROOF CONTRACTOR (RFC)

DESIGNED BY		TASK DESCRIPTION	FURNISH	INSTALL	TERMINATE
General					
X		Raceway	SH	EC	EC
X		Data wiring - CAT6 (CAT5 at E2&E3 Only)	SH	EC	EC (1)
X		Fiber optic pre-terminated cabling to fiber J-box	SH	EC	
	X	Fiber optic cabling from fiber J-box to IT rack	SH	IT	IT
Site					
X		LV Cabinet (Large and Small) - Fiber optic pre-terminated cabling to fiber J-box (3)	SH	EC	EC
	X	LV Cabinet - Fiber optic cabling from fiber J-box to IT rack (3)	SH	IT	IT
	X	CAT scale LV conduit	SH	EC	
	X	CAT scale LV wiring	OTHERS	EC	OTHERS
Gas & Diesel Canopy					
X		Exterior intercom at canopies	SE	EC	EC
Store					
	X	IT rack install	SE	OTHERS	IT
	X	Telephone raceway and wiring (4)	SH	EC	EC
	X	Starlink, wiring, WAP	SE	EC	IT
	X	Termination of WAP at IT Rack			IT
	X	Starlink raceway to IT Rack	SE	EC	
	X	Starlink bracket on roof	SE	RFC	
	X	Startlink mounting and termination		EC	IT
	X	CPC temperature controls Low voltage raceway (2)	SH	EC	
X		Kitchen Hood Fan data wiring - CAT6	SH	EC	EC (1)
X	X	CPC temperature controls Low voltage	SE/RC	RC	RC
X		Rooftop units control wiring raceway	SH	EC	
	X	Rooftop units control wiring	THC	THC	THC
	X	TVs & monitors	IT	BTV	BTV
X		Refrigeration rack control wiring raceway	SH	EC	
	X	Refrigeration rack control wiring	RM	RM	RM
Camera					
	X	Control panel, keypad, devices	KT	EC	Others
	X	Data wiring - CAT6	SH	EC	
	X	J-box, raceway, and wiring for extenders at poles	SH	EC	EC
	X	Programing and commissioning			Others
Fire Alarm					
	X	J-box, raceway, and wiring	SH	EC	FA
	X	Control panel, keypad, devices	FA	EC	FA
	X	Programing and commissioning			FA
Security System					
	X	Control panel, keypad, devices	SC	EC	EC
	X	Programing and commissioning			SC

General Notes:
- EC is responsible to test continuity of all data wires.

Key Notes:
(1) EC installs RJ45 at the end and tests data wires.
(2) Reference TC sheets for raceway location
(3) LV cabinet includes both LTE cabinet and WIFI NEMA Enclosure
(4) EC punches down telephone wiring at the telephone board and installs RJ 45 at the end.

ELECTRICAL GENERAL NOTES

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

PROFESSIONAL SEAL

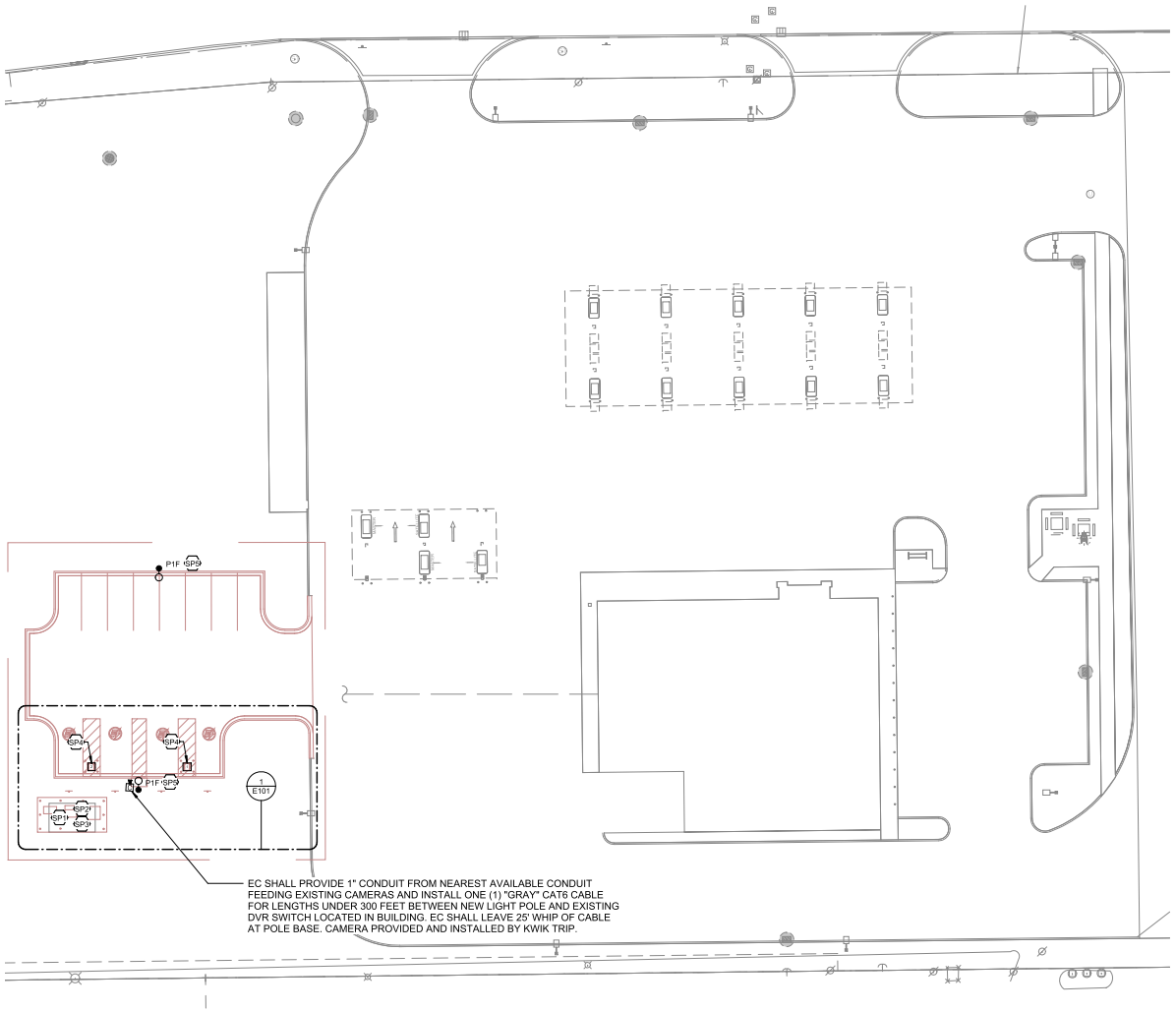
PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
E002

EXTERIOR POLE LUMINAIRE SCHEDULE

TAG	DESCRIPTION	MOUNTING	NORMAL OPERATION		VOLTAGE	COLOR TEMP. (K)	C.R.I. (Min)	DIMMING	FINISH	MANUFACTURER	MODEL SERIES
			LUMENS	WATTS							
P1F	LED OUTDOOR AREA LIGHT, FORWARD THROW DISTRIBUTION, INSTALL ON NEW LIGHT POLE THAT MATCHES EXISTING POLE CHARACTERISTICS	MATCH EXISTING POLE HEIGHTS	9,769	68.0	120/277	5000	70	0-10V 10%	MATCH EXISTING	LSI	MRS-LED-18L-SIL-FT-50-70CRI



NORTH

SCALE: 1" = 20'-0"

0 20' 40'

ELECTRICAL SITE PLAN

ELECTRICAL GENERAL NOTES - E100

METALLIC STRUCTURES MUST BE PROPERLY GROUNDED. ANY METALLIC STRUCTURE, POLE, WIRE, OR ITEM PLACED IN THE VICINITY OF A HIGH-VOLTAGE TRANSMISSION LINE WILL HAVE THE POTENTIAL TO BECOME ELECTRICALLY CHARGED DUE TO ELECTRIC INDUCTION. THE DEVELOPMENT OF AN ELECTRIC CHARGE RESULTS IN POTENTIAL DIFFERENCE BETWEEN THE METAL INSTALLATION AND THE GROUND, WHICH CAN RESULT IN ELECTRICAL SHOCKS WHEN THE ITEM IS TOUCHED. PLACEMENT OF SUCH METALLIC INSTALLATION SHOULD TAKE INTO CONSIDERATION THE SHOCK POTENTIAL DURING THE CONSTRUCTION, INTENDED USE, AND FUTURE MAINTENANCE ACTIVITIES. ITEMS WHICH BECOME CHARGED MUST BE CONNECTED TO A GROUND ROD OR GROUNDING SYSTEM TO PREVENT ELECTRICAL SHOCKS.

ELECTRICAL KEY NOTES - E100

SP1 PROPOSED PAD MOUNTED ELECTRICAL UTILITY TRANSFORMER.

SP2 PROPOSED FRANKLIN ELECTRIC 2000A SERVICE WITH CT/METER CABINET. PRIMARY SIDE CT/METER (BY UTILITY). SEE SPECIFICATION SHEETS AND QR CODE ON E314 FOR UTILITY REQUIREMENTS.

SP3 EC TO PROVIDE (1) 1" PVC CONDUIT HOMERUN FROM EXISTING KWIK TRIP STORE NETWORK FOR FIBER CONNECTION TO FRANKLIN EV SWITCHGEAR FOR EV MONITORING.

SP4 PROPOSED GILBARCO KONECT DISPENSER LOCATION PLACED ON BRAVO SYSTEM MOUNTING FRAME. SEE GILBARCO KONECT SPECIFICATION SHEETS ON E314. SEE BRAVO SYSTEM SPECIFICATION SHEETS ON E312 & E313 FOR MORE INFORMATION.

SP9 INSTALL LED POLE (P1F) SUPPLIED BY KWIK TRIP STORES, INC. EC SHALL INSTALL CONDUIT(S) INSIDE CONRETE BASE AS REQUIRED AND SHALL INSTALL #6 THWN GROUND WIRE TO BOND BETWEEN CONCRETE BASE REBAR AND LIGHT POLE GROUNDING LUG. CIRCUIT AND CONTROL NEW POLE LIGHT WITH OTHER POLE LIGHTS IN THE AREA. REVISE EXISTING CONDUIT RUNS AS NECESSARY TO PROVIDE POWER.

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

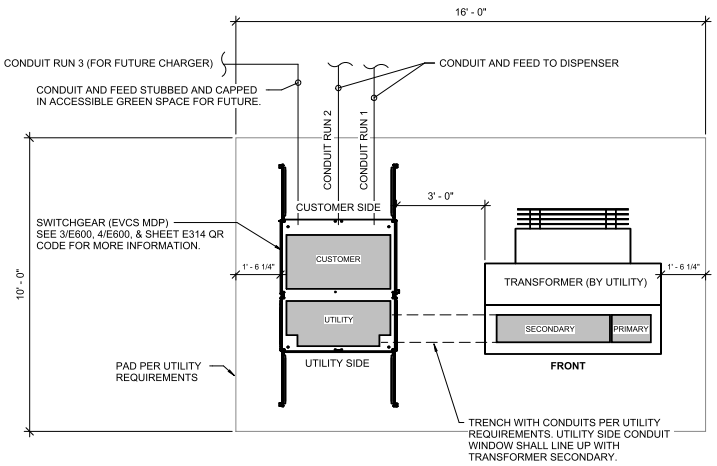
PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

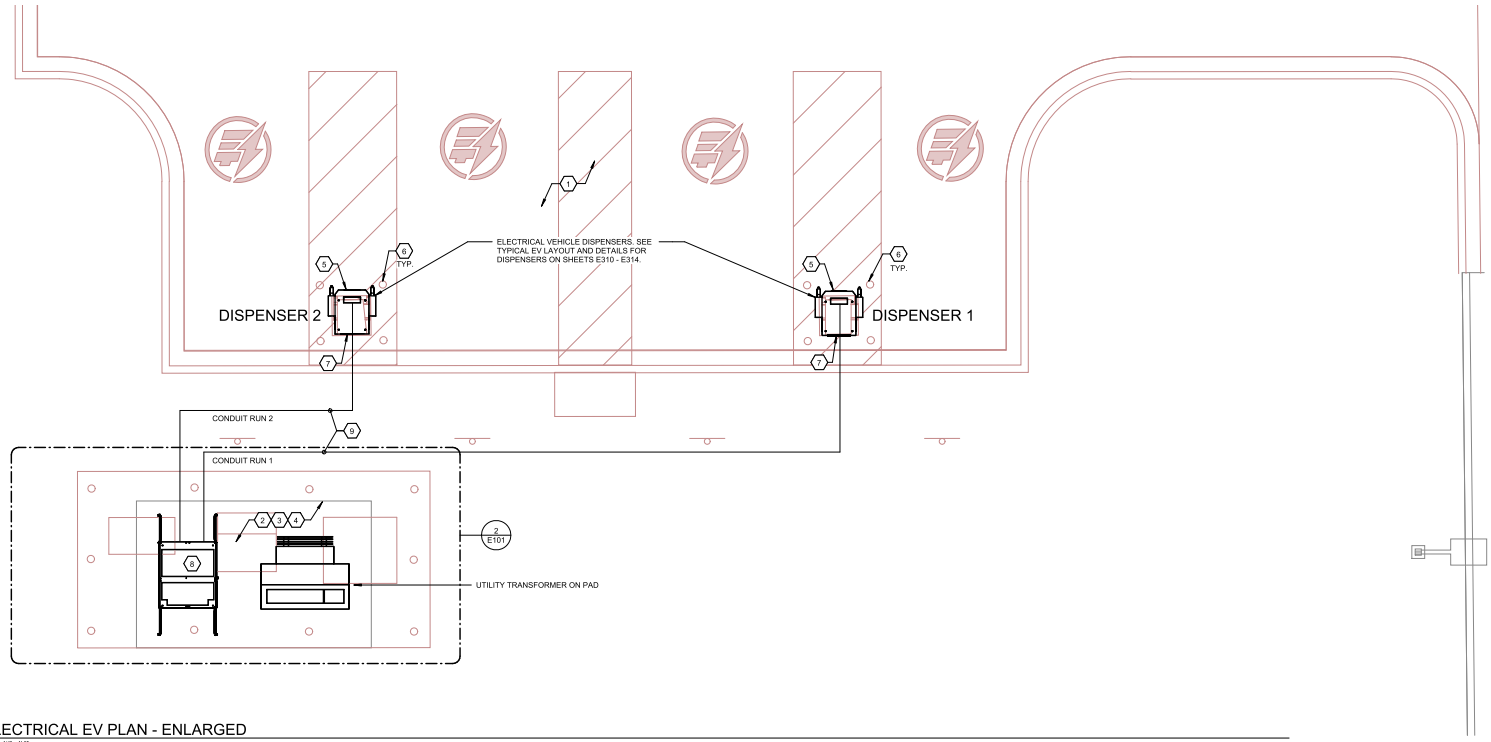
JOB NUMBER
260113500

SHEET NUMBER
E100



2 E101 ELECTRICAL EV PLAN - ENLARGED EQUIPMENT PLAN

SCALE: 1/2" = 1'-0"



1 E101 ELECTRICAL EV PLAN - ENLARGED

SCALE: 1/4" = 1'-0"

ELECTRICAL ENLARGED SITE PLAN

ELECTRICAL GENERAL NOTES - E101

METALLIC STRUCTURES MUST BE PROPERLY GROUNDED. ANY METALLIC STRUCTURE, POLE, WIRE, OR ITEM PLACED IN THE VICINITY OF A HIGH-VOLTAGE TRANSMISSION LINE WILL HAVE THE POTENTIAL TO BECOME ELECTRICALLY CHARGED DUE TO ELECTRIC INDUCTION. THE DEVELOPMENT OF AN ELECTRIC CHARGE RESULTS IN POTENTIAL DIFFERENCE BETWEEN THE METAL INSTALLATION AND THE GROUND, WHICH CAN RESULT IN ELECTRICAL SHOCKS WHEN THE ITEM IS TOUCHED. PLACEMENT OF SUCH METALLIC INSTALLATION SHOULD TAKE INTO CONSIDERATION THE SHOCK POTENTIAL DURING THE CONSTRUCTION, INTENDED USE, AND FUTURE MAINTENANCE ACTIVITIES. ITEMS WHICH BECOME CHARGED MUST BE CONNECTED TO A GROUND ROD OR GROUNDING SYSTEM TO PREVENT ELECTRICAL SHOCKS.

ELECTRICAL KEY NOTES - E101

1. EC TO COORDINATE CONVERTING EXISTING PARKING SPACES TO NEW EVCS SPACES, COMPLETE WITH SIGNAGE, PROTECTIVE BOLLARDS, AND CONCRETE EQUIPMENT PADS PER DETAILS.
2. REFER TO MANUFACTURER'S INSTALLATION GUIDE FOR CONDUIT STUB UP DETAILS AND FASTENING METHOD TO CONCRETE PAD / BRAVO SYSTEM MOUNTING FRAME. EC TO PROVIDE PAD(S) PER UTILITY SPECIFICATION SHEETS ON SHEET E314.
3. CONTRACTOR TO COORDINATE WITH UTILITY REQUIREMENTS ON SITE FOR THE EXACT LOCATION OF THE NEW EQUIPMENT, AND LENGTH OF CABLE SLACK REQUIRED FOR TERMINATION.
4. CONTRACTOR TO PROVIDE TRENCHING/BACKFILL FOR NEW UNDERGROUND CONDUITS TO UTILITY EQUIPMENT. SEE ELECTRICAL TRENCH DETAIL 1/E310. REFURBISH GROUND TO ORIGINAL CONDITION AFTER CONSTRUCTION IS COMPLETE.
5. EC TO PROVIDE (1) 1" PVC CONDUIT WITH (2) CAT6 ETHERNET CONNECTIONS FOR EACH CHARGING STATION FROM FRANKLIN EV SWITCHGEAR. DAISY CHAINING BETWEEN DISPENSERS SHALL NOT BE ALLOWED.
6. PROPOSED DETERRENT BOLLARD LOCATION. COORDINATE WITH INSTALLATION MANUAL AND GC FOR BEST LOCATION. SEE DETAIL 2/E310 FOR MORE INFORMATION.
7. PROVIDE EVCS CONCRETE PAD. INSTALL EVCS MOUNTING HARDWARE PRIOR TO POURING THE CONCRETE PAD. SEE INSTALLATION GUIDE ON SHEETS E312 & E313.
8. E-STOP DEVICE LOCATED ON FRANKLIN SWITCHGEAR TO SHUTDOWN ALL EV CHARGERS IN CASE OF EMERGENCY.
9. APPROXIMATE FEEDER LOCATION TO DISPENSER(S). FIELD VERIFY PRIOR TO INSTALL. SEE E600 FOR SIZES. SEE ELECTRICAL DETAIL SHEETS E310 - E314 FOR MORE INFORMATION ON CONDUIT STUBS, OPENINGS ON EQUIPMENT, CONCRETE PADS, MOUNTING FRAMES, TRENCHES, AND SPECIFICATION SHEETS.

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

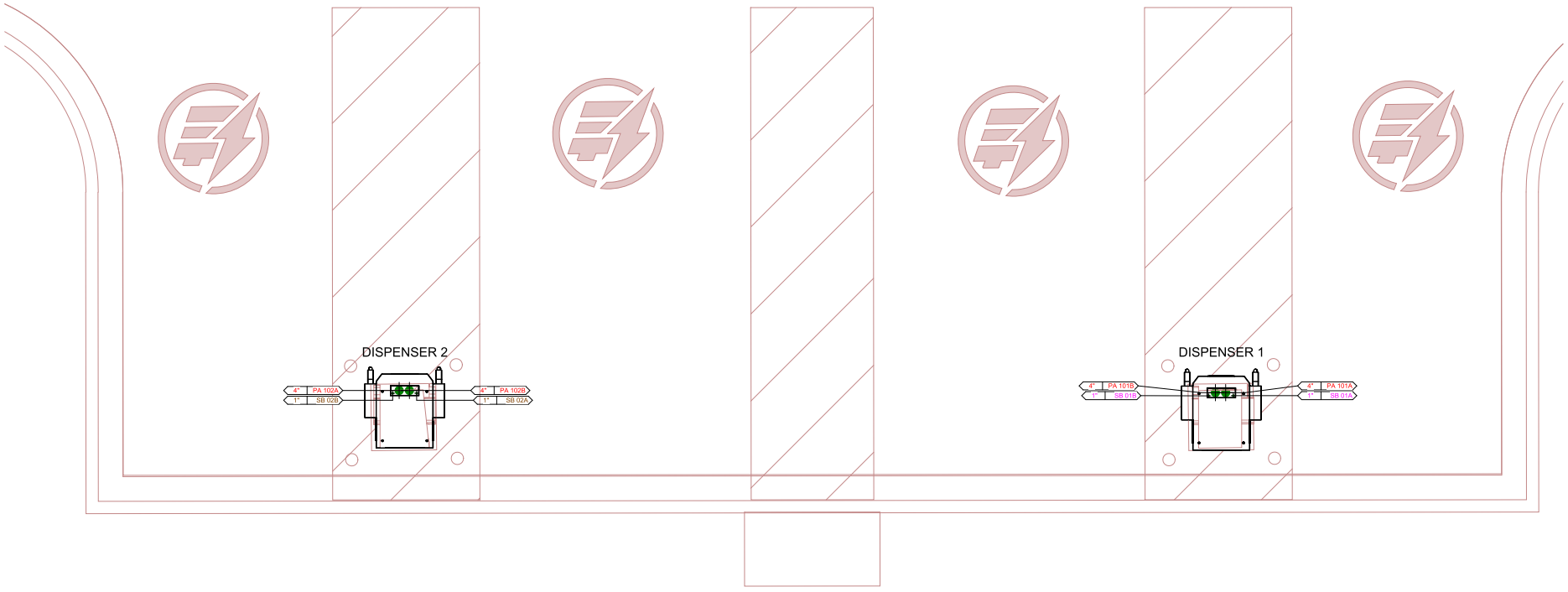
PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

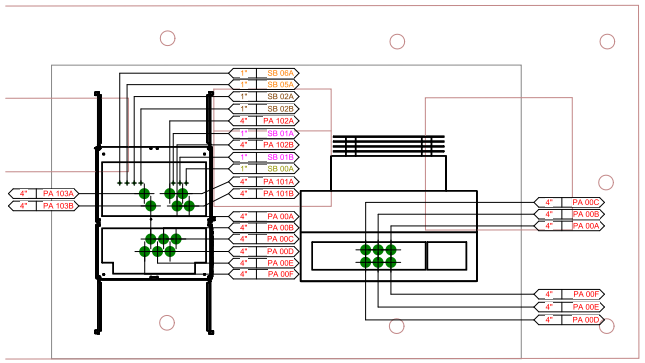
PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
E101





3 E102 ELECTRICAL EV PLAN - ENLARGED UNDERGROUND

SCALE: 1/2" = 1'-0"

SITE UNDERGROUND

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
E102

CONDUIT SCHEDULE - PA - AC POWER

Conduit Run Name	Raceway Origin	Raceway Destination	Total Wire/Cable Quantity	Wire/Cable Quantity per Circuit	Wire/Cable Size	Diameter(Trade Size)	Equipment Ground Size	Raceway Type	Wire/Cable Type	Notes
PA 00A	UTILITY TRANSFORMER	UTILITY ENTRANCE EV SWITCHGEAR	N/A	N/A	N/A	4"	N/A	PVC	N/A	COORDINATE CONDUIT SIZE AND QUANTITY WITH UTILITY
PA 00B	UTILITY TRANSFORMER	UTILITY ENTRANCE EV SWITCHGEAR	N/A	N/A	N/A	4"	N/A	PVC	N/A	COORDINATE CONDUIT SIZE AND QUANTITY WITH UTILITY
PA 00C	UTILITY TRANSFORMER	UTILITY ENTRANCE EV SWITCHGEAR	N/A	N/A	N/A	4"	N/A	PVC	N/A	COORDINATE CONDUIT SIZE AND QUANTITY WITH UTILITY
PA 00D	UTILITY TRANSFORMER	UTILITY ENTRANCE EV SWITCHGEAR	N/A	N/A	N/A	4"	N/A	PVC	N/A	COORDINATE CONDUIT SIZE AND QUANTITY WITH UTILITY
PA 00E	UTILITY TRANSFORMER	UTILITY ENTRANCE EV SWITCHGEAR	N/A	N/A	N/A	4"	N/A	PVC	N/A	COORDINATE CONDUIT SIZE AND QUANTITY WITH UTILITY
PA 00F	UTILITY TRANSFORMER	UTILITY ENTRANCE EV SWITCHGEAR	N/A	N/A	N/A	4"	N/A	PVC	N/A	COORDINATE CONDUIT SIZE AND QUANTITY WITH UTILITY
PA 101A	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	EV DISPENSER 1	5	10	350 KCMIL	4"	#1	PVC	THWN	AC POWER TO EV DISPENSER 1
PA 101B	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	EV DISPENSER 1	5	10	350 KCMIL	4"	#1	PVC	THWN	AC POWER TO EV DISPENSER 1
PA 102A	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	EV DISPENSER 2	5	10	350 KCMIL	4"	#1	PVC	THWN	AC POWER TO EV DISPENSER 2
PA 102B	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	EV DISPENSER 2	5	10	350 KCMIL	4"	#1	PVC	THWN	AC POWER TO EV DISPENSER 2
PA 103A	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	FUTURE EV DISPENSER 3	N/A	N/A	N/A	4"	N/A	PVC	N/A	STUBBED & CAPPED FOR FUTURE POWER TO DISPENSER 3
PA 103B	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	FUTURE EV DISPENSER 3	N/A	N/A	N/A	4"	N/A	PVC	N/A	STUBBED & CAPPED FOR FUTURE POWER TO DISPENSER 3
PA 104A	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	FUTURE EV DISPENSER 4	N/A	N/A	N/A	4"	N/A	PVC	N/A	STUBBED & CAPPED FOR FUTURE POWER TO DISPENSER 4
PA 104B	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	FUTURE EV DISPENSER 4	N/A	N/A	N/A	4"	N/A	PVC	N/A	STUBBED & CAPPED FOR FUTURE POWER TO DISPENSER 4

CONDUIT SCHEDULE - SB - DATA

Conduit Run Name	Raceway Origin	Raceway Destination	Total Wire/Cable Quantity	Wire/Cable Quantity per Circuit	Wire/Cable Size	Diameter(Trade Size)	Equipment Ground Size	Raceway Type	Wire/Cable Type	Notes
SB 00A	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	STORE NETWORK SWITCH	1	1	N/A	1"	N/A	PVC	4OM3 FIBER	EXTEND NEW CONDUIT TO NEAREST AVAILABLE SPARE CONDUIT FROM STORE FOR CONNECTION TO EXISTING STORE NETWORK SWITCH (FIELD VERIFY LOCATION AND LENGTH OF RUN)
SB 01A	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	EV DISPENSER 1	2	1	N/A	1"	N/A	PVC	CAT6	DATA TO DISPENSER 1
SB 01B	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	EV DISPENSER 1	N/A	N/A	N/A	1"	N/A	PVC	N/A	SPARE CONDUIT TO EV DISPENSER 1
SB 02A	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	EV DISPENSER 2	2	1	N/A	1"	N/A	PVC	CAT6	DATA TO DISPENSER 2
SB 02B	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	EV DISPENSER 2	N/A	N/A	N/A	1"	N/A	PVC	N/A	SPARE CONDUIT TO EV DISPENSER 2
SB 05A	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	FUTURE EV DISPENSER 3	N/A	N/A	N/A	1"	N/A	PVC	N/A	STUBBED & CAPPED FOR FUTURE DATA TO DISPENSER 3
SB 06A	CUSTOMER CONDUIT ENTRANCE EV SWITCHGEAR	FUTURE EV DISPENSER 3	N/A	N/A	N/A	1"	N/A	PVC	N/A	STUBBED & CAPPED FOR FUTURE DATA TO DISPENSER 3

SITE UNDERGROUND CONDUIT SCHEDULE

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

PROJECT INFORMATION

PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

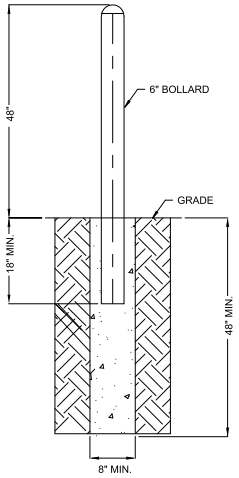
PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026

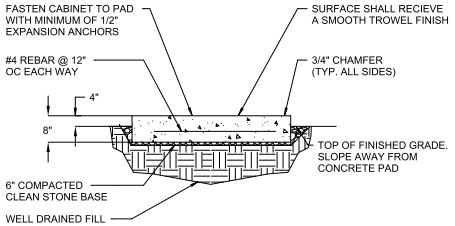
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
E103

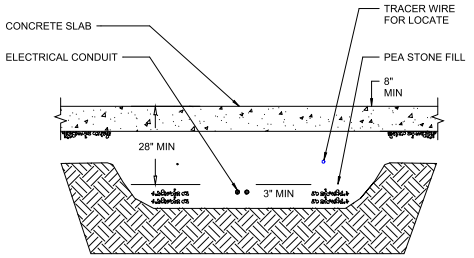


BOLLARD DETAIL



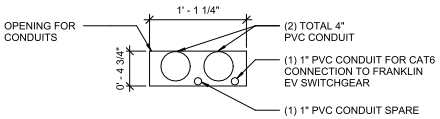
CONCRETE PAD DETAIL, TYPICAL (CROSS SECTION)

2 E310 EV - PLAN DETAILS
SCALE: NONE

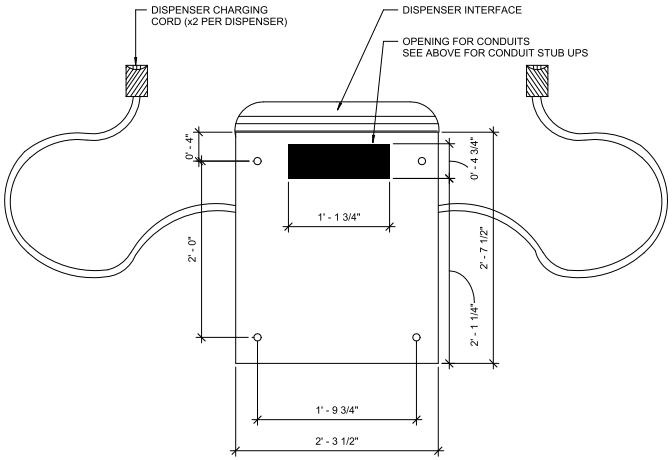


1 E310 ELECTRICAL TRENCH DETAIL
SCALE: NONE

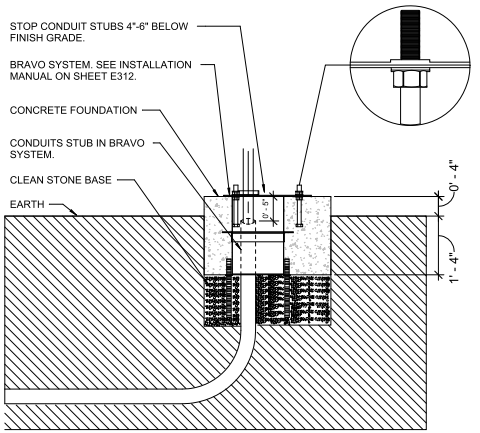
SIZE OF CONDUITS IN EV DISPENSER OPENING SHOWN BELOW



NOTE: OPENINGS FOR CONDUITS SHALL BE INFILLED TO BE AIRTIGHT AFTER CONDUITS ARE INSTALLED.



5 E310 DISPENSER CONDUIT OPENINGS
SCALE: NONE



4 E310 TYPICAL EV CONDUIT STUB UP
SCALE: NONE

ELECTRICAL DETAILS - GENERAL

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION
KWIK TRIP
KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

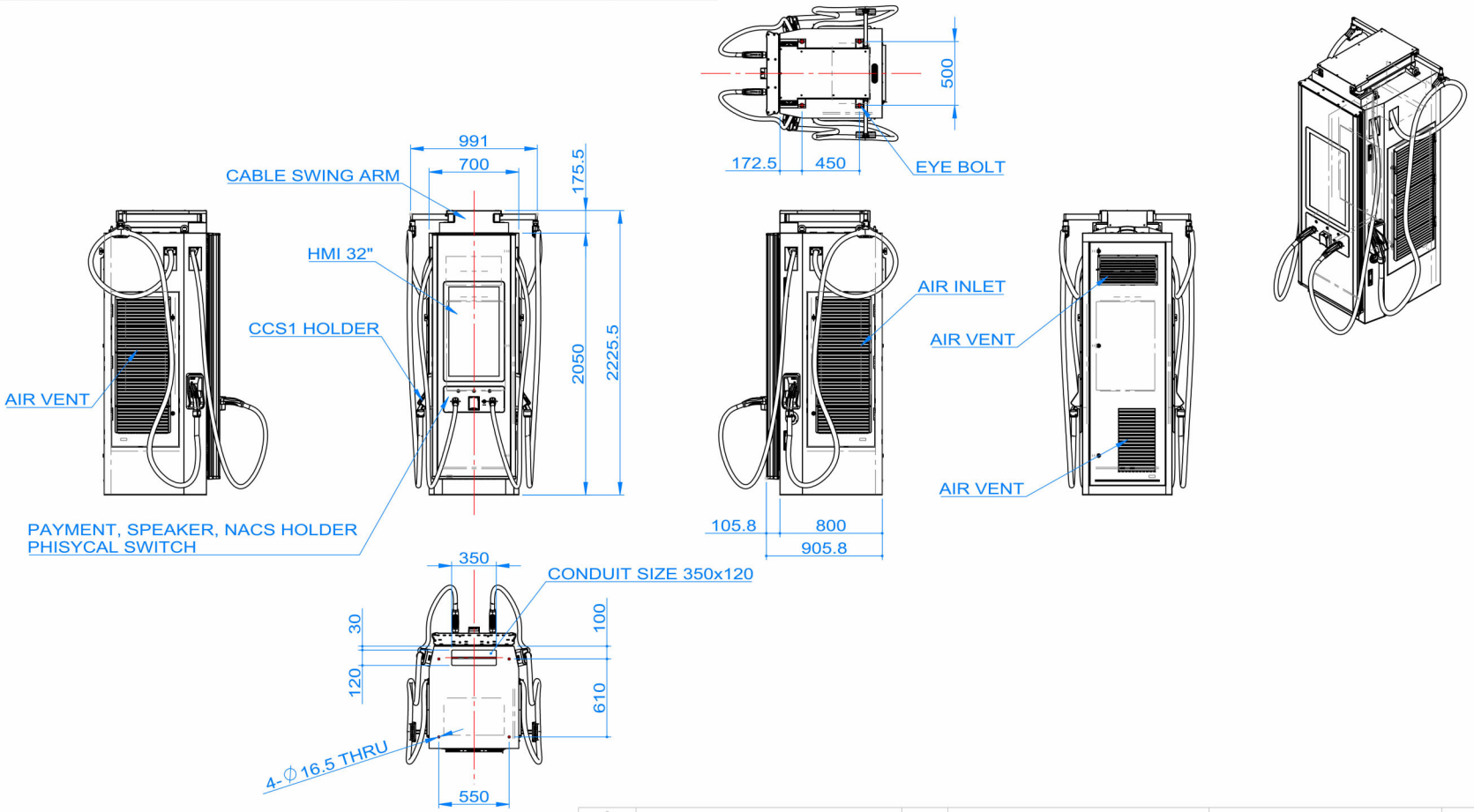
PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
E310

NO.	REVISION / REASON	DATE	SIGNATURE	APPROVED
1				



* NOTE *
1. (**) CTF1(CRITICAL TO FUNCTION)DIMENSIONS FOR PRODUCTION -0 POINTS.
   INSPECTION DATA FOR ALL DIMENSONS SHOULD BE SUBMMITTED TO SK SIGNET.
   FOR APPROVAL USING INSPECTION REPORT FORMAT PROVIDED BY SK SIGNET.
   ALL HEXAGONAL NUMBERS ON THE DRAWING SHOULD BE REFERED TO NOTES OF THE SAME NUMBER.
2. UNSPECIFIED TOLERANCE IS REFERRED TO ON THE TOLERANCE RANG TABLE.
3. SHARP EDGE, EMBOSS, CRACK, ETC ARE NOT ALLOWABLE
4. FLATNESS AND WARPPAGE : 0.5mm(MAX)
5. UNSPECIFIED DIMENSIONS ARE SYMMERTIC TO THE OPPOSITE SIDE OR REFERRED TO IN 3D(STEP)FILE.
6. IF HAVE ANY CHANGED FOR THE DRAWING, IT SHOULD BE NEGOTIATED IN ADVENCE WITH DESIGNER
7. ALL PARTS WHICH WOULD BE SUPPLIED TO SK SIGNET
   MUST NOT CONTAIN PROHIBITED SUBSTANCE INCLUDING ROHS HAZARDOUS SUBSTANCES.
8. THE EXTERNAL PART MUST GUARANTEE WATERPROOF (CASE ASSY DRAWING)

CTF — CTF(CRITICAL TO FUNCTION) DIMENSIONS FOR PRODUCTION

DIMENSIONAL TOLERANCE < Reg : KS B ISO 2768 >

DIMENSION		0.5 ~3	3 ~6	6 ~30	30 ~120	120 ~400	400 ~1000	1000 ~2000	2000 ~4000
CLASS	f	±0.05	±0.05	±0.10	±0.15	±0.20	±0.30	±0.50	-
	m	±0.10	±0.10	±0.20	±0.30	±0.50	±0.80	±1.20	±2.00
	c	±0.20	±0.30	±0.50	±0.80	±1.20	±2.00	±3.00	±4.00
	v	-	±0.50	±1.00	±1.50	±2.50	±4.00	±6.00	±8.00

ANGULAR		~10	10~50	50~120	120~400	400 ~
CLASS	f	±1°	±0° 30'	±0° 20'	±0° 10'	±0° 5'
	m					
	c	±1° 30'	±1°	±0° 30'	±0° 15'	±0° 10'
	v	±3°	±2°	±1°	±0° 30'	±0° 20'

NO.	FINISH	CHARACTERISTICS	REMARK
1	V2 400kW AILL IN ONE	-	-

SK signet

DATE	UNIT	MODEL	-
2026-01-06	mm	ITEM DESCRIPTION	CS40A0-FEN-TQCNW3NU
SCALE	SIZE		
1:1	A3	ITEM CODE	AFCK40-S00001

PROPERTY OF ISSUING ENTITY, CANNOT BE DISTRIBUTED OR REPRODUCED WITHOUT AUTHORIZATION.

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION
KWIK TRIP
KWIK STAR

PROJECT INFORMATION
PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
E311

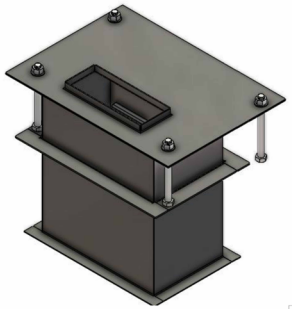
ELECTRICAL DETAILS - GENERAL

GENERAL NOTE:
ALL EQUIPMENT SPECIFICATION SHEETS, INSTALLATION MANUALS FOR ELECTRICAL EQUIPMENT, UTILITY REQUIREMENTS, AND ANY OTHER ADDITIONAL PROJECT INFORMATION CAN BE ACCESSED VIA QR CODES ON SHEET E314.

BRAVO PROBLEM SOLVED

INSTALLATION GUIDE

How To Install EV Cabinet GK400KW Series



Step by Step Installation

Step 1 – Set and Level EV Charger

Step 2 – Pin the EV Charger

Step 3 – Install the Uni-Strut

Step 4 – Install the Upper Frame

Step 5 – Pour Concrete

SAFETY FIRST

Safety First. S. Bravo Systems, Inc. recommends adherence to standard safety procedures and precautions provided by your company and to follow the regulations and compliances by OSHA, local, state and federal regulations regarding the use of this product.

UL LISTED UL 2447

Epoxy cure cycle. Full cure cycles vary depending on site conditions. Note that epoxy will not cure at temperatures below 40°F. See epoxy jar for more details.

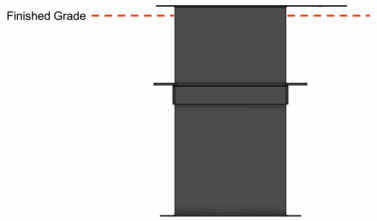
UL2447 is the standard for secondary containment and covers sumps and lids, sump fittings and sump accessories. Products are tested in accelerated conditions that have long term use in environments with extreme heat and cold, aggressive biofuel and ethanol blends, and extreme soil environments.

Get Bravo Certified Today – Contact Your Sales Manager

STEP 1 – SET AND LEVEL EV CHARGER

1.Set and level the EV charger mounting frame in the correct position with the top of the frame 1" above finished grade.

2. Make sure it is positioned correctly for the desired orientation of the charging unit.

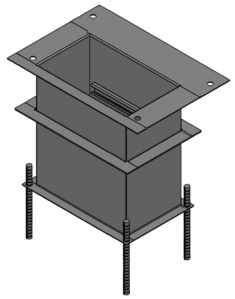


SAFETY FIRST

When using and installing Bravo products, please consult local, state and federal regulations. **Installers of Bravo products must be Bravo-certified**.

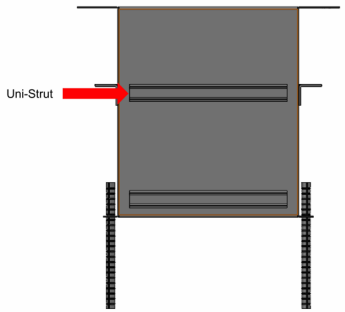
STEP 2 – PIN THE EV CHARGER

1. Use rebar to pin the frame in place using the holes in the mounting tabs at the bottom of the frame to keep it stationary during the concrete pour.



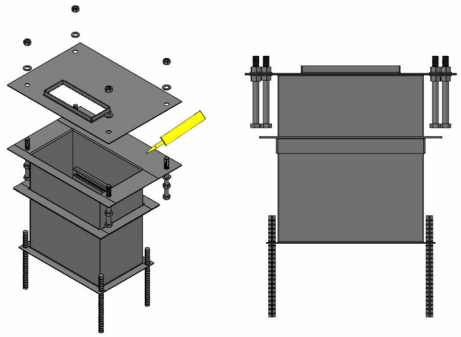
STEP 3 – INSTALL THE UNI-STRUT

1. Use the factory installed Uni-Strut inside the frame to support conduits as needed.



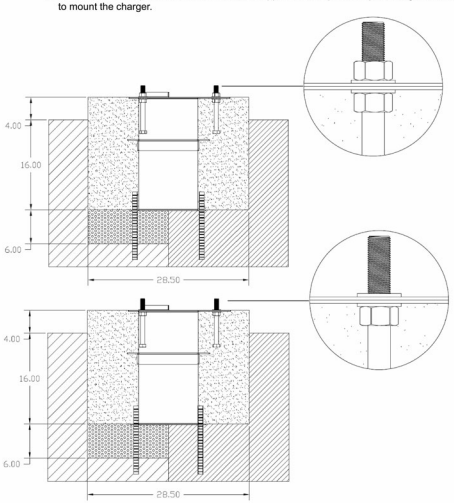
STEP 4 – INSTALL THE UPPER FRAME AND MOUNTIING HARDWARE

1. Using the provided urethane sealant run a bead around the perimeter of the upper flange before installing the upper frame.
2. Install the upper frame using the provided mounting hardware. Be sure the proper length of threads are exposed above the frame to properly mount the charger with most of the bolt protruding downwards for proper concrete embedment.
3. Nuts should be tightened (one above the frame flange and one below) to secure the upper frame and the mounting bolt position.



STEP 5 – POUR CONCRETE

1. After the concrete pour has cured remove the upper nut to expose the protruding threads used to mount the charger.



ELECTRICAL DETAILS - BRAVO SYSTEMS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

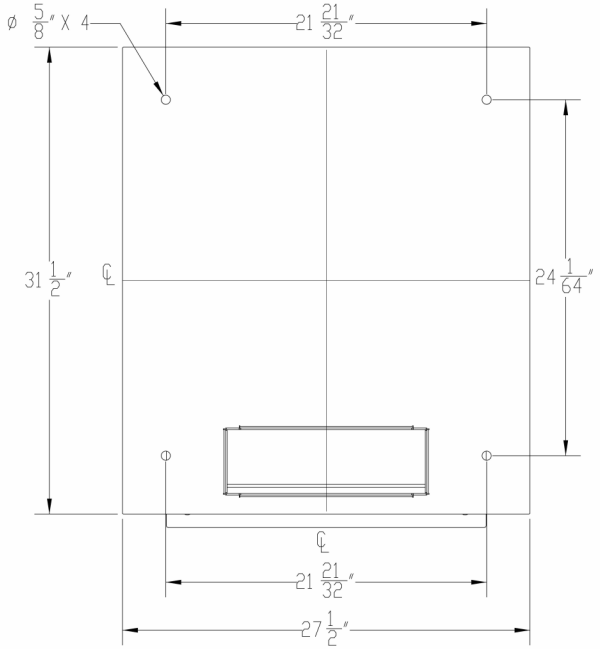
PROFESSIONAL SEAL

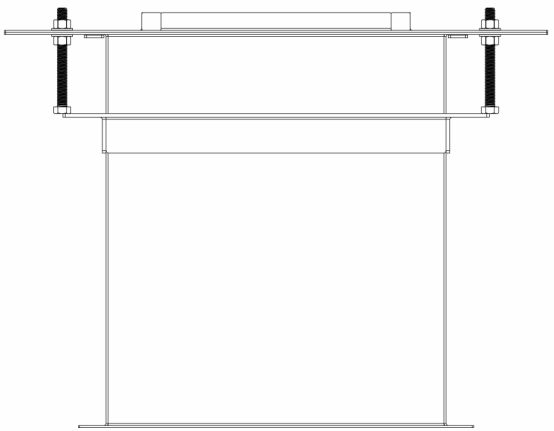
PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

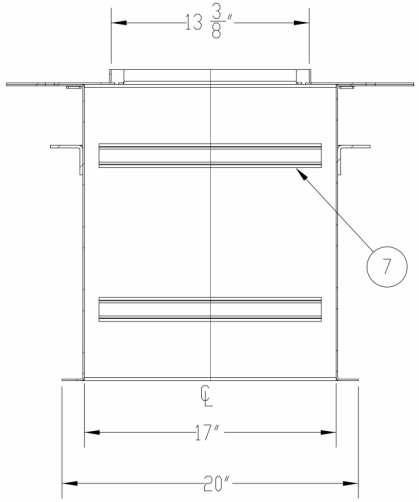
SHEET NUMBER
E312

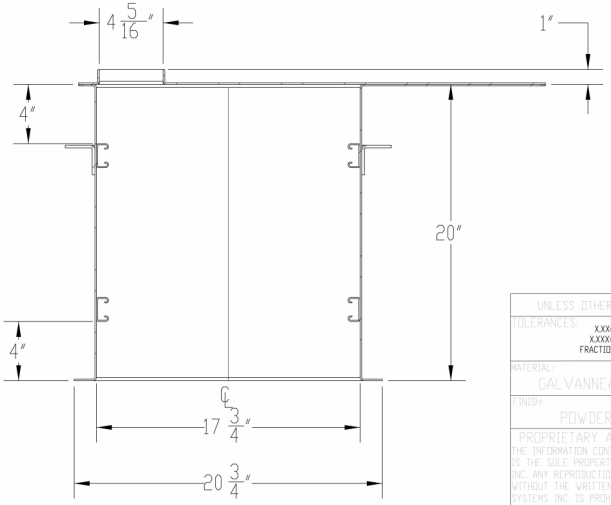
GENERAL NOTE:
ALL EQUIPMENT SPECIFICATION SHEETS, INSTALLATION MANUALS FOR ELECTRICAL EQUIPMENT, UTILITY REQUIREMENTS, AND ANY OTHER ADDITIONAL PROJECT INFORMATION CAN BE ACCESSED VIA QR CODES ON SHEET E314.

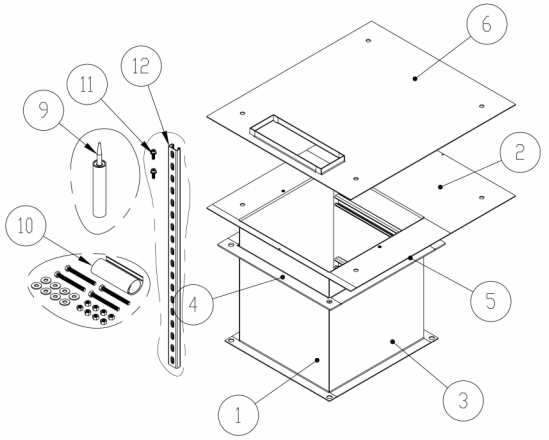




ITEM NO.	PART NUMBER	QTY.
1	EV-GK400KW-AIO-BODY	1
2	EV-GK400KW-AIO-BODY-2	1
3	EV-GK400KW-AIO-END	2
4	EV-GK400KW-AIO-BODY-FLANGE	2
5	EV-GK400KW-AIO-END-FLANGE	2
6	EV-GK400KW-AIO-UPPER-FRAME	1
7	15" LONG GALV. LOW PROFILE UNI-STRUT	4
8	3/8"-16 WELD NUT	1
	LOOSE ITEMS	
9	PS-290	1
10	K-204	1
11	3/8"-16 X 1" L HEX FLANGE HED	2
12	3' L GALV. LOW PROFILE UNI-STRUT	1







UNLESS OTHERWISE SPECIFIED:	REV: -	NAME	DATE
TOLERANCES: X.XX: ±0.01" X.XXX: ±0.005" FRACTIONAL: ±1/8"	DRAWN	A.MACIAS	02-24-2026
	APPROVAL		
MATERIAL: GALVANNEALED STEEL	DESCRIPTION: EV-CABINET FOR GILBARCO KONECT 400KW ALL-IN-ONE CHARGER UNIT		
FINISH: POWDER COATED			
PROPRIETARY AND CONFIDENTIAL: THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF S.BRAVO SYSTEMS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF S. BRAVO SYSTEMS INC. IS PROHIBITED.			
SCALE: 1:20			

S. BRAVO SYSTEMS INC.

PART#: EV-GK400KW-AIO

LEGACY PART#: N/A

SERIES: EV

SIZE: B

SHEET 1 OF 8

X:\Solidworks Drawings\SOLIDWORKS BRAVO DWGS\B-EVD\EV-KONECT-600W\AIO\EV-GK400KW-AIO

ELECTRICAL DETAILS - BRAVO SYSTEMS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
E313

Konect — All-in-One 400 kW EV Charger

Charger Specifications

	UL Certification (North America)
Input	
Nominal AC Power	425 kW
Input Voltage Range	480 Vac ± 10%, 3P4W (R, S, T, N+PE, TN-S
Rated AC Grid Frequency	50 / 60 Hz
Max. Current	511 A
Adjustable Power Factor Range	± 0.99 (@ over 50% load, 480 Vac ± 10 %)
Efficiency	≥ 96.5% (@ Load 100%)
Output	
Nominal Output Power	320kW / 360kW / 400 kW
Operating Voltage Range	150 Vdc ~ 1,000 Vdc
Max. Current	CCS1 500A, NACS 500 A
Metering Accuracy	>99%
Power Sharing Charging Scenario	Power sharing with 160kW Base and 40kW increments, 4 ports, dual charging
Communication	
User Interface	32"/FHD(1920x1080)/Touch Screen, Operation Buttons (3 buttons), Emergency Stop Button
Control Interface Protocol	OCPP 1.6J (Core : Supported), OCPP2.0.1 (Core : Supported)
Charging Interface Protocol	DIN70121, ISO15118-2 (PnC)
User Authentication	RFID (ISO/IEC14443 A/B, ISO15693), NFC, IC Reader
Payment Terminal	Invenco by GVR FlexPay 6 A2-05
Network Connection	Ethernet, 4G, LTE Modem
General	
Dimensions (W x D x H)	700 x 900 x 2,250 mm (w/ Swing arm)
Weight (with mounting plate)	TBC
Operating Temperature Range	-30°C to +55°C (with derating) / -22°F to +131°F
Storage Temperature Range	-40°C to +70°C / -40°F to +158°F
Cooling Method	Forced Air Cooling
Max. Operating Altitude	2,000m (6,561ft)
Relative Humidity	5 ~ 95 % (Non-condensing)
DC Cable	CCS1 (Liquid Cooled) or NACS (Liquid Cooled)
	Length : 5m / 3m (Outside Length - External Cable + Connector head), Cable Management
Operating Noise	< 75dB @ 1.5m(4.9ft) distance from front of charger
Protection	OTP, OVP, OCP, Proximity Loss, FG Disconnection Detect, AC/DC Surge, Insulation Monitor Device, IP55, IK10 (Touch screen, IK08, Readable under sunlight)
Standards Compliance	NRTL (UL), FCC Part 15, UL2202, UL2231-1, UL2231-2,UL991, UL1998, CSA, CTEP (NTEP), ADA, IEC 61851-23, IEC 61851-24.
	*CTEP/NTEP Certified with current SW (CTEP/NTEP Certification process shall be cooperated with Station Operator/Customer due to CTEP requirements on payment/User Interface.

Konect — All-in-One 400 kW EV Charger

All-in-One 400 kW EV Charger

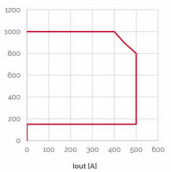
Revolutionize your EV charging experience with our All-in-One 400 kW EV Charger, designed to combine exceptional power with unmatched flexibility.

Featuring scalable output options ranging from single to quadruple charging cables, this charger adapts seamlessly to your specific operational demands, ensuring rapid and efficient charging to keep your fleet or forecourt running smoothly.

The All-in-One 400 kW EV Charger offers a sophisticated, reliable, and future-proof solution to power your transition to sustainable mobility.

Technical Specifications

This document provides technical specifications for the All-in-One 400 kW EV Charger:



- Forced Air Cooling
- Max. Efficiency ≥ 97%
- NEMA3R Protection
- Surge Protection for DC
- Touch Screen Display
- Simultaneous Charging

Konect

All-in-One 400 kW EV Charger

Technical Specifications

Konect

GILBARCO VEEDER-ROOT

TRANSOCKET WITH UNDERGROUND SERVICE ENTRANCE

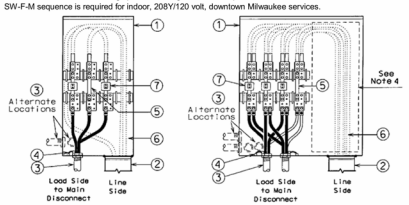
1Ø, 3-WIRE, 120/240 VOLTS, 400-800 AMPS
ALL 3Ø VOLTAGES, 400-2000 AMPS
3Ø, 4-WIRE, 208Y/120 VOLTS OR 480Y/277 VOLTS, 400-4000 AMPS
METERING SEQUENCE: METER-SWITCH-FUSE (SEE NOTE 5)

Obtain acceptance for 1Ø installations larger than 400 amps from the company.

Customer furnishes and installs:
1. Company listed transocket with transformer rated meter socket (see Note 1 and sheets D-16 & D-17).
2. Service lateral conduit (800 A raceway shown).
3. Service entrance conduit and conductors.
4. Metallic conduit shall be bonded to the transocket.
5. Solid bar (see Note 2).

Company furnishes and installs:
6. Service lateral & lug type terminations (see Note 3).
7. Current transformers.
8. Watthour meter & wiring (not shown).

Notes:
1. A 6-terminal socket is required for a 1-phase, 3-wire service; and 8-terminal socket is required for a 3-phase, 3-wire service; a 13 terminal socket is required for a 3-phase, 4-wire service.
2. For 480 volt ungrounded applications, the center phase bar (required) shall be removable.
3. Lug landing pads shall be provided for 600+ A terminations. 400A terminations shall use set screw connectors.
4. The wiring gutter is for the service lateral (item 6) only. No other conductors are to pass through it. The transocket shown has the wiring space on the right; units with space on the left are also available.
5. SW-F-M sequence is required for indoor, 208Y/120 volt, downtown Milwaukee services.



1Ø, 3 Wire Cover Removed (400 Ampere shown)

3Ø, 4 Wire Cover Removed (800 Ampere shown)

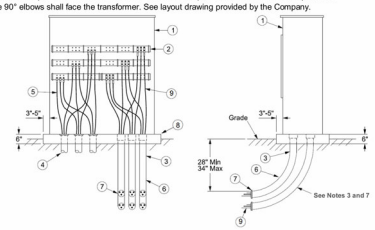
SERVICE TERMINATION IN A TERMINATION COMPARTMENT

PADMOUNTED – BOTTOM ENTRY AND EXIT
ALL 1Ø VOLTAGES, 400-800A
ALL 3Ø VOLTAGES, 400-4000A
Obtain acceptance for 1Ø installations larger than 400A from the Company

Customer furnishes and installs:
1. Company listed termination compartment (see Note 1 & D-22).
2. Termination pads (see Note 2).
3. Service lateral conduit 400-4000A (see Notes 3 & 4).
4. Service entrance conduit (see Note 4).
5. Service entrance conductors (see Note 5).
6. 4" 90° elbow with 36" radius (see Note 8).
7. Insulated conduit bushing.
8. Concrete pad (see Note 7).

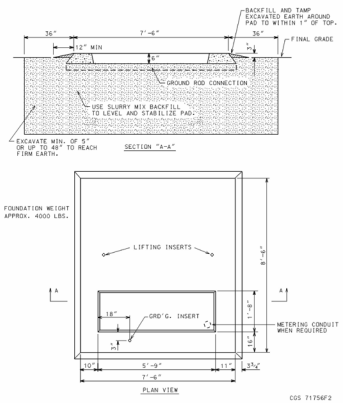
Company furnishes and installs:
9. Service lateral with compression lug terminations (600A +) (see Note 6)
10. Conduit package.

Notes:
1. The termination compartment may be bonded to the neutral termination pad.
2. The termination pads are to be raised to their highest position.
3. Schedule 40 PVC, galvanized rigid, or IMC conduit shall extend to be slightly higher than level with the top of the concrete pad (no more than 3" higher). If used, metallic conduit shall be bonded. Reference U-3 for the number an proper size of the conduits and U-4 for conduit details. Contact the We Energies job representative for approval.
4. The customer service entrance conduits shall be located as shown on U-17 for the style of termination compartmen used. The Company service lateral conductors are to terminate on the termination pads as per U-17.
5. The customer's service entrance conductors are to terminate on the termination pads as per U-17 and shall leave the termination compartment as a maximum of two circuits, regardless of the number of conductors per phase. The shall not share bolts with the service lateral.
6. The concrete pad shall be 6" thick and 3-5" wider and deeper than the termination compartment.
7. The 90° elbows shall face the transformer. See layout drawing provided by the Company.



281-63
Page 1 of 2

PRECAST TRANSFORMER FOUNDATION
90" WIDE X 102" DEEP



NOTE:
A. When required, metering conduit must be coded separately. See Standard 281-70.

Design and Construction Manual	Date: 04-13 Supersedes: 07-08	

Scan Me

FOR MORE INFORMATION ON UTILITY REQUIREMENTS, SWITCHGEAR, AND ALL OTHER PROJECT INFORMATION.

SCAN ME

FOR MORE INFORMATION ON FAST CHARGING SYSTEM

M-18

U-24

ELECTRICAL DETAILS - SPECIFICATION SHEETS & QR CODES

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION
KWIK TRIP
KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026

REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
E314

Franklin Electric
EV SYSTEMS

NEXPHASE™

The NexPhase™ Smart EV Switchgear is a turnkey EV charging infrastructure solution. NexPhase™ integrates all necessary components required between the utility service and Level 3 DC fast chargers into an all-in-one panel solution.

- Integrated power distribution / utility termination solution
- Remotely monitored & controlled circuit breakers
- Embedded power quality monitoring with advanced analytics
- Remote EV charger hard reboot capabilities
- Advanced charger outage troubleshooting
- Facilitates greater charger uptime
- EUSERC compliant, UL Listed

THE NEXPHASE™ ADVANTAGE

What makes NexPhase™ different than standard switchgear? Unlike any infrastructure of its kind, NexPhase™ features cutting-edge grid intelligence for utility power and EV charger remote monitoring, troubleshooting, and control. As the vital link between the utility power and chargers, NexPhase™ provides uptime features that chargers alone cannot offer. Added safety options include inputs for charger crash detection, flammable vapor monitoring, and flood detection with E-stop shutdown monitoring.

DC Fast Charger Capacity Range

1– 4 CHARGERS

Customizable to accommodate additional chargers.

Main Circuit Breaker Performance Range

600 –1600 AMPS

Field-configurable to suit the application.

PURPOSE-BUILT FOR EV

Designed specifically for electric vehicle DC fast charger applications. Combines the utility termination cabinet, utility current transformer (CT) cabinet, main service breaker, and 480V 3-phase branch breakers into a single, UL 891 listed/EUSERC compliant enclosure built for the outdoor environment.

RAPID COMMISSIONING

Requires only the on-site connections for incoming utility power, utility meter connection, and outgoing charger connections, drastically reducing on-site installation time and costs.

SPECIFICATIONS

ELECTRICAL

Utility Input	480 VAC Wye, 3-phase, L1, L2, L3, Neutral
Utility Connections	– Up to 5 parallel runs (L1, L2, L3, N) – ½" diameter, 1¾" NEMA bolt spacing for compression lug
Current Transformer (CT)	Ring type
Meter socket	13 - 15 jaw ring type with test switch plate
Bus Capacity	2000 A
Main Service Circuit Breaker	480 VAC Wye connected, 3-phase, electronic adjustable trip unit: 1600 A frame (600 A - 1600 A)
Short-Circuit Current Rating (SCCR)	65 kA
Ground Fault Detection	Main service breaker
Surge Protection Device (SPD)	Type 1/2, UL 1449
Arc Energy Reduction	NEC 240.87 Compliant Maintenance Mode
Number of 480 V Branch Breakers	Up to 4 electronic adjustable trip unit: 400 A frame (150 A - 400 A) OR 600 A frame (250 A - 600 A)
Output Connection	– L1, L2, L3: up to 2 parallel runs 2/0-600 kcmil (AL/CU, 75 deg C, mechanical lug) – Neutral: ½" diameter, 1¾" NEMA bolt spacing for compression lug – Ground: 6AWG-350 kcmil (AL/CU, 90 deg C, mechanical lug)
UPS	Maintenance free uninterruptible capacitive power supply (cULus Listed, UL 508)
Technician-Ready GFCI Outlet	1 (15 A Max)

PHYSICAL, ENVIRONMENT, COMPLIANCE, & SAFETY

Dimensions / Weight	39¼" Width x 55½ " Depth x 87" Height / 1,750 pounds (794 kg)
Enclosure	NEMA 3R indoor/outdoor electrical cabinet
Electrical Code	Designed for NFPA70; NEC2020
Certifications / Approvals	UL Listed, UL891 (suitable for use as service equipment)
EUSERC	Meets drawings 322, 325, 332, 345, 347, 354

3 E600 SCALE: NONE
SWITCHGEAR (EVCS MDP) OVERVIEW & COMPONENTS

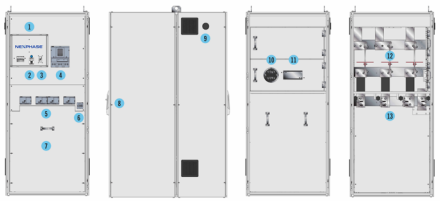
MONITORING / CONTROL

Power Quality Monitoring	– Current – Voltage – Power factor	– Apparent power – Active power – Reactive power	– Accumulated apparent energy – Accumulated active energy – Accumulated reactive energy
Transaction Data	– Energy consumption – Charger power state – Charge duration	– Max average power – Daily/weekly usage – Accumulated energy per post	
Available Sensor Inputs	Tilt (qty 4), water, hydrocarbon, emergency stop		
Breaker Status	Open / closed / trip		
Remote Control	Open / close each EV charger breaker via motor operators		

SOFTWARE INTERFACE

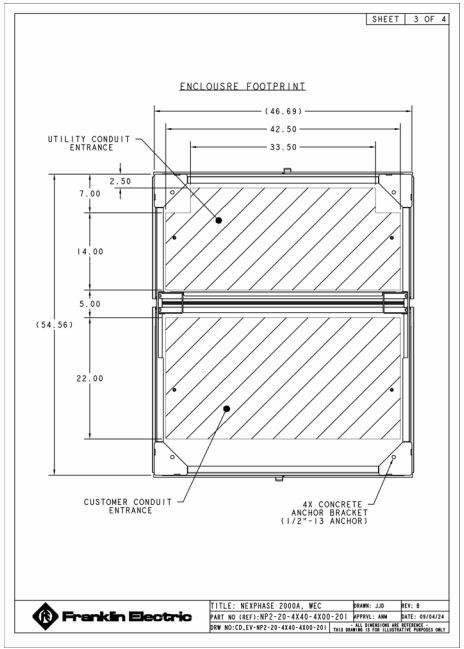
Remote Connectivity	Ethernet, cellular modem
Cloud Based Data Acquisition	MQTTS protocol
User Interface	UNITE™ web-based, remote user interface (included - no subscription required)
API Data Integration	Available upon request for integration with existing business software platforms

COMPONENTS

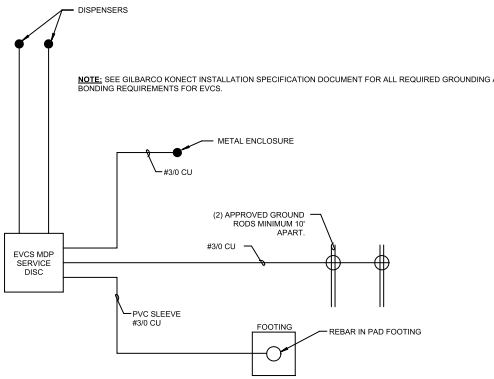


Customer Power & Monitoring Cabinet | Side | Utility Service Cabinet | Utility Service Cabinet (Deadfront Panels Removed)

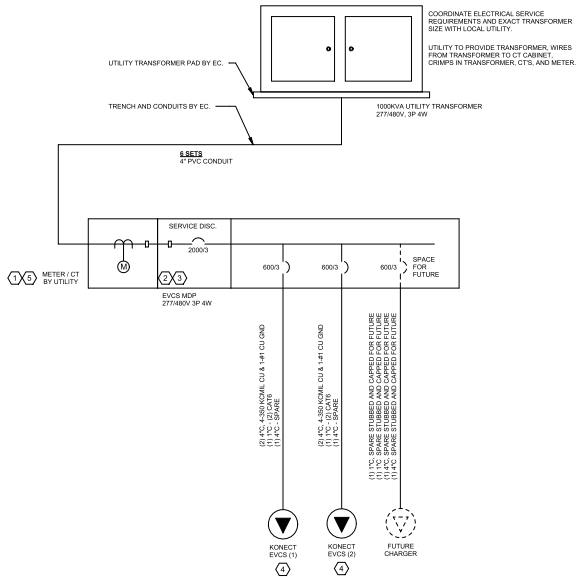
1. Monitoring & control panel
2. Maintenance mode switch
3. GFCI outlet
4. Main breaker
5. Branch breakers
6. Monitoring & control breaker
7. Charger & sensor connection panel
8. Lockable door
9. Cellular antenna
10. Meter socket
11. Meter test switch plate
12. Current transformer mounting plates
13. Underground utility service connections



4 E600 SCALE: NONE
SWITCHGEAR (EVCS MDP) GENERAL SPECIFICATIONS & CONDUIT ENTRANCE



1 E600 SCALE: NONE
SERVICE GROUNDING DIAGRAM



ONE LINE KEYED NOTES:

1. 2000 AMP, 277/480VAC, 3-PHASE, 4-WIRE CT/METER SUPPLIED AND PRIMARY INSTALLED BY LOCAL UTILITY COMPANY. COORDINATE WITH LOCAL UTILITY COMPANY PRIOR TO SUBMITTING BID.
2. INSTALL A 2000 AMP, 277/480VAC,3-PHASE, 4-WIRE, NEMA 3R, EVCS MAIN DISTRIBUTION PANELBOARD (EVCS MDP) PROVIDED BY OTHERS. SEE 3/E600 & 4/E600.
3. EC SHALL PROVIDE (1) 1" PVC CONDUIT HOMERUN FROM EXISTING KWIK TRIP STORE NETWORK FOR FIBER CONNECTION TO FRANKLIN EV SWITCHGEAR FOR EV MONITORING.
4. GILBARCO KONECT EVCS PROVIDED BY OTHERS. SEE GILBARCO KONECT INSTALLATION SPECIFICATION DOCUMENT FOR ALL EVCS REQUIREMENTS DURING INSTALLATION. SEE SITE PLAN FOR EXACT LOCATION.
5. EC SHALL PROVIDE TERMINATION LUGS ON SECONDARY SIDE OF METER CABINET. EVERYTHING DOWNSTREAM OF THIS CABINET WILL BE THE RESPONSIBILITY OF EC UNLESS OTHERWISE NOTED.

2 E600 SCALE: NONE
SINGLE LINE DIAGRAM

ELECTRICAL POWER ONE-LINE DIAGRAM

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATION FOR:
KWIK TRIP #1047
10923 W LAPHAM ST. • WEST ALLIS, WI

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 15, 2026

REVIEW SET #1

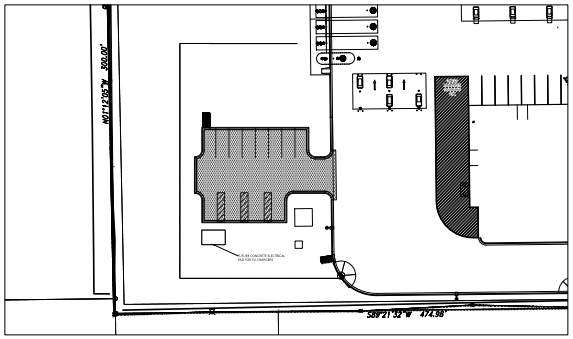
JOB NUMBER
260113500

SHEET NUMBER
E600

PROPOSED ALTERATIONS FOR:

KWIK TRIP STORE #1047

WEST ALLIS, WI



SITE PLAN OVERVIEW

SCALE: 1" = 40'

NORTH

40' 0 40' 80'

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511

TOLL FREE TELEFAX (414) 259-0947
TDD (FOR THE HEARING IMPAIRED)
1-800 542-2289

WISCONSIN STATUTE 182.0175 (1974)
REQUIRES MINIMUM OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE

PROJECT CONTACTS

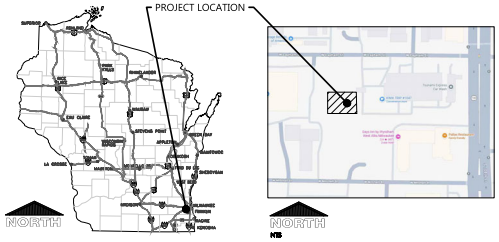
OWNER INFORMATION:

KWIK TRIP
NICHOLAS NEWMAN
1626 OAK STREET
LA CROSSE, WI 54603
Phone: (608) 793-6199
Email: NNEWMAN@KWIKTRIP.COM

CIVIL:

ERIC DRAZKOWSKI, P.E.
Phone: (920) 926-9800
Email: ERIC.DRAZKOWSKI@EXCELENGINEER.COM

LOCATION MAP



SHEET INDEX

SHEETS BELOW INTENDED TO BE PRINTED IN: COLOR. REFER TO DIGITAL FORMAT DRAWINGS IF PRINTED GRAYSCALE TO ENSURE SCOPE CLARITY.

NUMBER	SHEET NAME / DESCRIPTION
C001	CIVIL COVER SHEET
C002	CIVIL SPECIFICATIONS
C020	EXISTING SITE AND DEMOLITION PLAN
C100	SITE PLAN
C200	GRADING AND EROSION CONTROL PLAN
C500	DETAILS
C800	SITE PHOTOMETRIC PLAN & DETAILS

EXISTING CONDITIONS NOTE:
PRIOR TO CONSTRUCTION CONTRACTOR SHALL FIELD VERIFY ALL SITE IMPROVEMENTS, UTILITY LOCATIONS, INVERTS, SEIZES, ETC. NOTIFY ENGINEER OF ANY DISCREPANCIES. FAILURE TO NOTIFY ENGINEER SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR ANY DAMAGES AS A RESULT OF FAILURE TO FIELD VERIFY.

EXCEL LEGEND

NOTE: ALL SYMBOLS SHOWN MAY NOT APPEAR ON DRAWINGS

SYM.	IDENTIFICATION	SYM.	IDENTIFICATION
SPOT ELEVATIONS			
000.00	PROPOSED SPOT ELEVATIONS (FLOW LINE OF CURB UNLESS OTHERWISE SPECIFIED)	000.00 TC 000.00 FL	PROPOSED SPOT ELEVATIONS (TOP OF CURB, FLOWLINE OF CURB)
000.00 EG	EXISTING GRADE SPOT ELEVATIONS		
000.00 BG 000.00 FG	PROPOSED SPOT ELEVATIONS (REFERENCE R-WALL DETAIL) BG-FINISHED SURFACE GRADE AT BACK OF WALL FG-FINISHED SURFACE GRADE AT FRONT OF WALL	000.00 TW 000.00 BW	PROPOSED SPOT ELEVATIONS (TOP OF WALK, BOTTOM OF WALK @ FLOWLINE)
PROPOSED SITE SYMBOLS			
	PROPOSED DRAINAGE FLOW	CO	PROPOSED CLEANOUT
	PROPOSED WATER VALVE IN BOX	DS	PROPOSED DOWNSPOUT
	PROPOSED WELL		PROPOSED APRON END SECTION
	PROPOSED LIGHT POLE		SOIL BORING
	PROPOSED STORM CATCH BASIN - ST CB		CENTER LINE
	PROPOSED STORM FIELD INLET - ST FI		PROPOSED HANDICAP PARKING STALL
	PROPOSED STORM CURB INLET - ST CI		PROPOSED SIGN
PROPOSED LINETYPES			
	PROPOSED PROPERTY LINE		INTERIOR PROPERTY LINE
ST	PROPOSED STORM SEWER AND MANHOLE - ST MH		RAILROAD TRACKS
SA	PROPOSED SANITARY SEWER AND MANHOLE - SAN MH	800	EXISTING GROUND CONTOUR
W	PROPOSED WATER LINE AND HYDRANT	800	PROPOSED GROUND CONTOUR
	PROPOSED CURB AND GUTTER	POL	PROPOSED POLISH SEWER AND MANHOLE
	GRADING/SEEDING LIMITS	P	PROPOSED PROCESS SEWER AND MANHOLE
	RIGHT-OF-WAY LINE	CLW	PROPOSED CLEAR WATER LINE
T	PROPOSED UNDERGROUND TELEPHONE CABLE	G	PROPOSED UNDERGROUND GAS LINE
	PROPOSED GUARD RAIL	E	PROPOSED UNDERGROUND ELECTRIC CABLE
FO	PROPOSED UNDERGROUND FIBER OPTIC LINE		

CIVIL COVER SHEET

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATIONS FOR:
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

06/05/26

PRELIMINARY DATES

MAY 19, 2026
JUNE 6, 2026

REVIEW SET #1

JOB NUMBER

260113500

SHEET NUMBER

C001

CIVIL SPECIFICATIONS

DIVISION 31 EARTH WORK

31 10 00 SITE CLEARING (DEMOLITION)

A. CONTRACTOR SHALL CALL DIGGER'S HOT LINE AND CONDUCT A PRIVATE UTILITY LOCATE AS REQUIRED TO ENSURE THAT ALL UTILITIES HAVE BEEN LOCATED BEFORE STARTING SITE DEMOLITION. DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
B. DEMOLITION PLAN IS AN OVERVIEW OF DEMOLITION TO TAKE PLACE ON SITE. CONTRACTOR TO FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL REMOVE, REPLACE, OR DEMOLISH ALL ITEMS AS NEEDED DURING CONSTRUCTION.
C. CONTRACTOR TO PROTECT EXISTING IMPROVEMENTS THAT ARE SCHEDULED TO REMAIN. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPLACED AT CONTRACTORS EXPENSE.
D. ALL CONCRETE NOTED TO BE REMOVED SHALL BE REMOVED TO THE NEAREST CONTROL JOINT.

31 20 00 EARTH MOVING

A. CONTRACTOR SHALL CALL DIGGER'S HOT LINE AND CONDUCT A PRIVATE UTILITY LOCATE AS REQUIRED TO ENSURE THAT ALL UTILITIES HAVE BEEN LOCATED BEFORE STARTING EXCAVATION. DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
B. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT FOR ALL EXCAVATION, GRADING, FILL AND BACKFILL WORK AS REQUIRED TO COMPLETE THE GENERAL CONSTRUCTION WORK. ALL EXCAVATION AND BACKFILL FOR ELECTRICALS AND MECHANICALS ARE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTOR UNLESS OTHERWISE SPECIFIED IN THE BID DOCUMENTS.
C. ALL ORGANIC TOPSOIL UNDER PAVED AREAS AND AT SITE FILL AREAS SHALL BE REMOVED. PROOF ROLL SUBGRADES BEFORE PLACING FILL WITH HEAVY PNEUMATIC-TIRED EQUIPMENT, SUCH AS A FULLY-LOADED TANDEM AXLE DUMP TRUCK, TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING. CONTRACTOR SHALL VERIFY TOPSOIL DEPTHS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REVIEW AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND ACCOUNT FOR EXISTING CONDITIONS PRIOR TO SUBMITTING BID FOR THE PROJECT. EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE DIRECTED IN THE PLANS OR BY LOCAL ZONING REQUIREMENTS.
D. PLACE AND COMPACT FILL MATERIAL IN LAYERS TO REQUIRED ELEVATIONS. UNIFORMLY MOISTEN OR AERATE SUBGRADE AND EACH SUBSEQUENT FILL OR BACKFILL LAYER BEFORE COMPACTION AS RECOMMENDED TO ACHIEVE SPECIFIED DRY DENSITY. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY, OTHERWISE SATISFACTORY SOIL MATERIAL THAT IS TOO WET TO COMPACT TO SPECIFIED DRY DENSITY.
E. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
F. COMPACT THE SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D 698, STANDARD PROCTOR TEST. FILL MAY NOT BE PLACED ON FROZEN GROUND AND NO FROZEN MATERIALS MAY BE USED FOR BACK FILL. APPLY THE MORE STRINGENT REQUIREMENTS WHEN COMPARING BETWEEN THE FOLLOWING AND THE GEOTECHNICAL REPORT.
   1. UNDER EXTERIOR CONCRETE AND ASPHALT PAVEMENTS - COMPACT THE SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO NOT LESS THAN 95 PERCENT.
   2. UNDER WALKWAYS - COMPACT SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO NOT LESS THAN 95 PERCENT.
   3. UNDER LAWN OR UNPAVED AREAS - COMPACT SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL, TO NOT LESS THAN 85 PERCENT.
G. CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS. CONTRACTOR SHALL PROVIDE DOCUMENTATION OF PASSING DENSITY TESTING AND PROOF-ROLLING TO ENGINEER UPON COMPLETION. IT IS SUGGESTED THAT THE GEOTECHNICAL FIRM USED TO PERFORM THE SUBSURFACE SOIL INVESTIGATION BE ENGAGED FOR THE FIELD QUALITY CONTROL TESTS.
H. ALLOW THE TESTING AGENCY TO TEST AND INSPECT SUBGRADES AND EACH FILL OR BACKFILL LAYER. PROCEED WITH SUBSEQUENT EARTHWORK ONLY AFTER TEST RESULTS FOR PREVIOUSLY COMPLETED WORK COMPLY WITH REQUIREMENTS. PROVIDE ONE TEST FOR EVERY 2000 SQUARE FEET OF PAVED AREA OR BUILDING SLAB.
I. WHEN THE TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
J. THE BUILDING SITE SHALL BE GRADED TO PROVIDE DRAINAGE AWAY FROM THE BUILDING AS INDICATED ON THE PLANS. SITE EARTHWORK SHALL BE GRADED TO WITHIN 0.10' OF REQUIRED EARTHWORK ELEVATIONS ASSUMING POSITIVE DRAINAGE IS MAINTAINED IN ACCORDANCE WITH THE GRADING PLAN.

31 30 00 EROSION CONTROL

A. THE GRADING PLAN REFLECTS LESS THAN 1 ACRE OF DISTURBED AREA. THE SITE IS THEREFORE EXEMPT FROM WISCONSIN DEPARTMENT OF NATURAL RESOURCES NR 216 NOTICE OF INTENT REQUIREMENTS. THE DESIGN ENGINEER SHALL PREPARE AN EROSION CONTROL PLAN TO MEET NR 151.105 CONSTRUCTION SITE PERFORMANCE STANDARDS FOR NON-PERMITTED SITES.
B. EROSION AND SEDIMENT CONTROL IMPLEMENTED DURING CONSTRUCTION SHALL STRICTLY COMPLY WITH THE GUIDELINES AND REQUIREMENTS SET FORTH IN WISCONSIN ADMINISTRATIVE CODE (W.A.C.) NR 151, THE STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES RUNOFF MANAGEMENT PERFORMANCE STANDARDS. TECHNICAL STANDARDS PUBLISHED BY THE WISCONSIN DNR SHALL ALSO BE UTILIZED TO IMPLEMENT THE REQUIRED PERFORMANCE STANDARDS. THE METHODS AND TYPES OF EROSION CONTROL WILL BE DEPENDENT ON THE LOCATION AND TYPE OF WORK INVOLVED. ALL SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION, AND INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. BELOW IS A LIST OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES TO ACHIEVE THE PERFORMANCE STANDARDS REQUIRED.
   1. SILT FENCE SHALL BE PLACED ON SITE AT LOCATIONS SHOWN ON THE EROSION CONTROL PLAN. SILT FENCE SHALL ALSO BE PROVIDED AROUND THE PERIMETER OF ALL SOIL STOCKPILES THAT WILL EXIST FOR MORE THAN 7 DAYS. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1056 (CURRENT EDITION).
   2. STORM DRAIN INLET PROTECTION SHALL BE PROVIDED FOR ALL NEW AND DOWNSTREAM STORM CATCH BASINS AND CURB INLETS. TYPE B OR C PROTECTION SHOULD BE PROVIDED AND SHALL BE IN CONFORMANCE WITH WISCONSIN DNR TECHNICAL STANDARD 1060 (CURRENT EDITION).
   3. DUST CONTROL MEASURES SHALL BE PROVIDED TO REDUCE OR PREVENT THE SURFACE AND AIR TRANSPORT OF DUST DURING CONSTRUCTION. CONTROL MEASURES INCLUDE APPLYING MULCH AND ESTABLISHING VEGETATION, WATER SPRAYING, SURFACE ROUGHENING, APPLYING POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES, AND BARRIERS. SOME SITES MAY REQUIRE AN APPROACH THAT UTILIZES A COMBINATION OF MEASURES FOR DUST CONTROL. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1068 (CURRENT EDITION).
   4. THE USE, STORAGE, AND DISPOSAL OF CHEMICALS, CEMENT, AND OTHER COMPOUNDS AND MATERIALS USED ON SITE SHALL BE MANAGED DURING THE CONSTRUCTION PERIOD TO PREVENT THEIR TRANSPORT BY RUNOFF INTO WATERS OF THE STATE.
   5. CONTRACTOR SHALL PROVIDE AN OPEN AGGREGATE CONCRETE TRUCK WASHOUT AREA ON SITE. CONTRACTOR TO ENSURE THAT CONCRETE WASHOUT SHALL BE CONTAINED TO THIS DESIGNATED AREA AND NOT BE ALLOWED TO RUN INTO STORM INLETS OR INTO THE OVERLAND STORMWATER DRAINAGE SYSTEM. WASHOUT AREA SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION.
   6. TEMPORARY SITE RESTORATION SHALL TAKE PLACE IN DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE OR ON WHICH LAND DISTURBING ACTIVITIES WILL NOT BE PERFORMED FOR A PERIOD GREATER THAN 14 DAYS AND REQUIRES VEGETATIVE COVER FOR LESS THAN ONE YEAR. THIS TEMPORARY SITE RESTORATION REQUIREMENT ALSO APPLIES TO SOIL STOCKPILES THAT EXIST FOR MORE THAN 7 DAYS. PERMANENT RESTORATION APPLIES TO AREAS WHERE PERENNIAL VEGETATIVE COVER IS NEEDED TO PERMANENTLY STABILIZE AREAS OF EXPOSED SOIL. PERMANENT STABILIZATION SHALL OCCUR WITHIN 3 WORKING DAYS OF FINAL GRADING. TOPSOIL, SEED, AND MULCH SHALL BE IN GENERAL CONFORMANCE WITH TECHNICAL STANDARDS 1058 AND 1059 AND SHALL MEET THE SPECIFICATIONS FOUND IN THE LANDSCAPING AND SITE STABILIZATION SECTION OF THIS CONSTRUCTION DOCUMENT. ANY SOIL EROSION THAT OCCURS AFTER FINAL GRADING AND/OR FINAL STABILIZATION MUST BE REPAIRED AND THE STABILIZATION WORK REDONE.
   7. IF SITE DEWATERING IS REQUIRED FOR PROPOSED CONSTRUCTION ACTIVITIES, ALL SEDIMENT LADEN WATER GENERATED DURING THE DEWATERING PROCESS SHALL BE TREATED TO REMOVE SEDIMENT PRIOR TO DISCHARGING OFF-SITE OR TO WATERS OF THE STATE. FOLLOW ALL PROCEDURES FOUND IN TECHNICAL STANDARD 1061.
   8. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION WORK OR A STORM EVENT SHALL BE CLEANED UP BY THE END OF EACH WORKING DAY. DUST CONTROL REQUIREMENTS SHALL BE FOLLOWED PER WI DNR TECHNICAL STANDARD 1068 (CURRENT EDITION). FLUSHING SHALL NOT BE ALLOWED.
C. ALL EROSION CONTROL DEVICES SHALL AT A MINIMUM BE INSPECTED EVERY 7 CALENDAR DAYS OR EVERY 14 DAYS AND WITHIN 24 HOURS OF THE END OF A RAIN EVENT OF 0.5" OR MORE. MAINTENANCE SHALL BE PERFORMED PER WISCONSIN ADMINISTRATIVE CODE (W.A.C.) NR 151 STORMWATER MANAGEMENT TECHNICAL STANDARD REQUIREMENTS.
D. EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL THE AREA(S) SERVED HAVE ESTABLISHED VEGETATIVE COVER.
E. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL EROSION CONTROL PERMITS.

DIVISION 32 EXTERIOR IMPROVEMENTS

32 10 00 CONCRETE AND AGGREGATE BASE

A. CONTRACTOR TO PROVIDE CRUSHED AGGREGATE BASE AND CONCRETE WHERE INDICATED ON THE PLANS.
B. ALL AGGREGATE PROVIDED MUST COMPLY WITH SECTION 305 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. ALL AGGREGATE PLACED MUST BE COMPACTED TO AN AVERAGE DENSITY PER WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
C. DESIGN AND CONSTRUCTION OF ALL CAST-IN-PLACE EXTERIOR CONCRETE FLAT WORK SHALL CONFORM TO ACI 330R-08 & ACI 318-08.
D. EXTERIOR CONCRETE FLAT WORK CONSTRUCTION TO BE PROVIDED PER MORE STRINGENT REQUIREMENTS OF THE GEOTECHNICAL REPORT OR THIS SPECIFICATION. CONCRETE FLAT WORK CONSTRUCTION IS AS FOLLOWS:
   1. LIGHT DUTY CONCRETE (PASSENGER CAR TRAFFIC) - 6" OF CONCRETE OVER 12" OF 3/4" CRUSHED AGGREGATE.
      a. CONCRETE SHALL BE STEEL REINFORCED AS FOLLOWS:
         1) REINFORCEMENT SHALL MEET THE STANDARDS OF ASTM A-615, "SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT".
         2) CONCRETE SHALL UTILIZE #3 BAR 3' ON-CENTER FOR DEPTHS UP TO 6" AND #4 BAR 3' ON-CENTER FOR CONCRETE OVER 6" IN DEPTH.
         3) BAR: DEFORMED, EXCEPT THAT PLAIN BARS MAY BE USED FOR SPIRALS.
         4) MAIN REINFORCING BARS, OTHER BARS NOT LISTED ABOVE: GRADE 60
         5) TIE BARS AT OUTERMOST CONTRACTION JOINT (FIRST JOINT FROM EDGE OR AT CURB JOINT) AROUND PERIMETER OF CONCRETE. TIE BARS SHALL BE #4 REBAR 24" LONG PLACED AT 30" O.C.
         6) TYPICAL POUR CONTROL JOINT - POUR CONTROL JOINT SHALL BE PROVIDED WITH 1/4" X 4-1/2" X 4-1/4" DIAMOND SHAPED TAPERED PLATE DOWELS MANUFACTURED PER ASTM A36. INSTALL PER MANUFACTURERS SPECIFICATIONS.
      b. LIGHT DUTY CONCRETE JOINTING SHALL BE AS FOLLOWS:
         1) CONTRACTION JOINTS SHALL BE SAWCUT 1.5" IN DEPTH AND BE SPACED A MAXIMUM OF 12.5' ON CENTER
E. CONCRETE ACCESSORIES TO BE USED AS FOLLOWS. USE OF ACCESSORIES OTHER THAN LISTED REQUIRES OWNER APPROVAL:
   1. EXPANSION JOINT FILLER: NON-EXTRUDING RESILIENT BITUMINOUS TYPE, ASTM D 1751.
   2. CURING COMPOUND: ASTM C 309 TYPE 1 (ACCEPTABLE PRODUCTS ARE SPEC CHEM ECO-CURE OR EUCLID CHEMICAL TAMMSCUREWB)
   3. CURING AND SEALING COMPOUND: ASTM C1315, TYPE 1, CLASS B AND C WITH A MAXIMUM OF 700 GRAMS PER LITER OF VOC'S (WATER BASED ACRYLIC). ACCEPTABLE PRODUCTS ARE TK PRODUCTS TRI-COTE 26UV/EUCLID CHEMICAL SUPER DIAMOND CLEAR)
   4. BOND BREAKER: 4 MIL POLYETHYLENE FILM OR 15# BUILDING PAPER.
F. DESIGN MIXES SHALL BE IN ACCORDANCE WITH ASTM C94
   5. STRENGTH TO BE MINIMUM OF 4,500 PSI AT 28 DAYS FOR EXTERIOR CONCRETE.
   6. ALL CONCRETE SUBJECT TO FREEZING AND THAWING SHALL HAVE A MAXIMUM WATER/CEMENTITIOUS RATIO OF 0.45 (4500 PSI AT 28 DAYS OR MORE). ALL STEEL REINFORCED CONCRETE SUBJECTED TO BRACKISH WATER, SALT SPRAY OR DEICERS SHALL HAVE A MAXIMUM WATER/CEMENTITIOUS RATIO OF 0.40 (5000 PSI AT 28 DAYS OR MORE).
   7. SLUMP SHALL NOT EXCEED 4" FOR EXTERIOR CONCRETE FLAT WORK
   8. SLUMP SHALL BE 2.5" OR LESS FOR SLIP-FORMED CURB AND GUTTER
   9. SLUMP SHALL BE BETWEEN 1.5" TO 3" FOR NON SLIP-FORMED CURB AND GUTTER.
   10. ALL CONCRETE EXPOSED TO FREEZING AND THAWING AND/OR REQUIRED TO BE WATERTIGHT SHALL HAVE AN AIR CONTENT OF 4.5% TO 7.5%. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT IN ALL MEMBERS (AFTER PUMPING IF APPLICABLE). NO OTHER ADMIXTURES SHALL BE USED WITHOUT APPROVAL FROM EXCEL ENGINEERING, INC. & KWIK TRIP'S ENGINEERING TEAM. CALCIUM CHLORIDE SHALL NOT BE USED.
   11. READY-MIXED CONCRETE: ASTM C-94, EXCEPT WHERE "CONCRETE MIX DESIGN SCHEDULE TABLE" IS MORE RESTRICTIVE. SEE CONCRETE MIX DESIGN SCHEDULE IN THE PLANSET.
G. VERIFY EQUIPMENT CONCRETE PAD SIZES WITH CONTRACTOR REQUIRING PAD. PADS SHALL HAVE FIBERMESH 300 FIBERS AT A RATE OF 1.5 LBS/CU. YD. OR 6 X 6-W1.4 X W1.4 WELDED WIRE MESH WITH MINIMUM 1 INCH COVER. EQUIPMENT PADS SHALL BE 5.5 INCHES THICK WITH 1 INCH CHAMFER UNLESS SPECIFIED OTHERWISE. COORDINATE ADDITIONAL PAD REQUIREMENTS WITH RESPECTIVE CONTRACTOR.
H. ALL CONCRETE FLAT WORK SURFACES AND CONCRETE CURB FLOWLINES SHALL BE CONSTRUCTED TO WITHIN 0.05' OF DESIGN SURFACE AND FLOWLINE GRADES ASSUMING POSITIVE DRAINAGE IS MAINTAINED IN ACCORDANCE WITH THE DESIGN PLANS.
I. CONCRETE FLAT WORK SHALL HAVE CONSTRUCTION JOINTS OR SAW CUT JOINTS PLACED AS INDICATED ON THE PLANS OR PER THIS SPECIFICATION. SAWCUTS SHALL BE DONE AS SOON AS POSSIBLE, BUT NO LATER THAN 24 HOURS AFTER CONCRETE IS PLACED. CONCRETE CURB AND GUTTER JOINTING SHALL BE PLACED EVERY 10' OR CLOSER (6' MIN.). IF CONCRETE PAVEMENT IS ADJACENT TO CONCRETE CURB, JOINTING IN THE PAVEMENT AND CURB SHALL ALIGN. ALL EXTERIOR CONCRETE SHALL HAVE A BROOM FINISH UNLESS NOTED OTHERWISE. A UNIFORM COAT OF A HIGH SOLIDS CURING COMPOUND MEETING ASTM C309 SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES. ALL CONCRETE IS TO BE CURED FOR 7 DAYS. EXTERIOR CONCRETE SHALL BE SEPARATED FROM BUILDINGS WITH CONTINUOUS 0.5 INCH FIBER EXPANSION JOINT AND/OR 0.25 INCH FIBER EXPANSION JOINT AT DECORATIVE MASONRY UNITS.
J. ALL REINFORCING BARS SHALL BE ASTM A615 GRADE 60. THICKNESS OF CONCRETE COVER OVER REINFORCEMENT SHALL BE NOT LESS THAN 3" WHERE CONCRETE IS DEPOSITED AGAINST THE GROUND WITHOUT THE USE OF FORMS AND NOT LESS THAN 1.5" FOR UP TO #5 BARS AND 2" FOR #6 TO #10 BARS IN ALL OTHER LOCATIONS. ALL REINFORCING SHALL BE LAPPED 48 DIAMETERS FOR UP TO #6 BARS, 62 DIAMETERS FOR #7 TO #9 BARS, 68 DIAMETERS FOR #10 BARS OR AS NOTED ON THE DRAWINGS AND EXTENDED AROUND CORNERS WITH CORNER BARS. PLACING AND DETAILING OF STEEL REINFORCING AND REINFORCING SUPPORTS SHALL BE IN ACCORDANCE WITH CRSI AND ACI MANUAL AND STANDARD PRACTICES. THE REINFORCEMENT SHALL NOT BE PAINTED AND MUST BE FREE OF GREASE/OIL, DIRT OR DEEP RUST WHEN PLACED IN THE WORK. ALL WELDED WIRE FABRIC SHALL MEET THE REQUIREMENTS OF ASTM A 1064. WELDED WIRE FABRIC SHALL BE PLACED 2" FROM TOP OF SLAB, UNLESS INDICATED OTHERWISE.
K. CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO SAMPLE MATERIALS, PERFORM TESTS, AND SUBMIT TEST REPORTS DURING CONCRETE PLACEMENT. TESTS WILL BE PERFORMED ACCORDING TO ACI 301. CAST AND LABORATORY CURE ONE SET OF FOUR STANDARD CYLINDERS FOR EACH COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIX EXCEEDING 5 CU. YD., BUT LESS THAN 25 CU. YD., PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. OR FRACTION THEREOF. PERFORM COMPRESSIVE-STRENGTH TESTS ACCORDING TO ASTM C 39. TEST TWO SPECIMENS AT 7 DAYS AND TWO SPECIMENS AT 28 DAYS. PERFORM SLUMP TESTING ACCORDING TO ASTM C 143. PROVIDE ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIX. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
L. PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. IN HOT, DRY, AND WINDY WEATHER, APPLY AN EVAPORATION-CONTROL COMPOUND ACCORDING TO MANUFACTURER'S INSTRUCTIONS AFTER SCREEDING AND BULL FLOATING, BUT BEFORE POWER FLOATING AND TROWELLING.
M. TEST RESULTS WILL BE REPORTED IN WRITING TO THE DESIGN ENGINEER, READY-MIX PRODUCER, AND CONTRACTOR WITHIN 24 HOURS AFTER TESTS. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING SERVICE, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH ON SITE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7-DAY TESTS AND 28-DAY TESTS.
N. CONTRACTOR TO PROVIDE 4" WIDE YELLOW PAINTED STRIPING FOR PARKING STALLS, TRAFFIC LANES, AND NO PARKING AREAS. YELLOW PAINT MARKINGS SHALL ALSO BE PROVIDED FOR H.C. ACCESSIBLE SYMBOLS, TRAFFIC ARROWS, AND TRAFFIC MESSAGES.

32 30 00 LANDSCAPING AND SITE STABILIZATION

A. TOPSOIL: CONTRACTOR TO PROVIDE A MINIMUM OF 6" OF TOPSOIL FOR ALL DISTURBED OPEN AREAS, OTHER THAN A LANDSCAPE ISLANDS SHALL BE PROVIDED WITH A MINIMUM OF 10" OF TOPSOIL. REUSE SURFACE SOIL STOCKPILED ON SITE AND SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF SITE SOURCES WHEN QUANTITIES ARE INSUFFICIENT. EXCAVATOR SHALL BE RESPONSIBLE FOR ROUGH PLACEMENT OF TOPSOIL TO WITHIN 1" OF FINAL GRADE PRIOR TO LANDSCAPER FINAL GRADING. LANDSCAPER TO PROVIDE PULVERIZING AND FINAL GRADING OF TOPSOIL. PROVIDE SOIL ANALYSIS BY A QUALIFIED SOIL TESTING LABORATORY AS REQUIRED TO VERIFY THE SUITABILITY OF SOIL TO BE USED AS TOPSOIL AND TO DETERMINE THE NECESSARY SOIL AMENDMENTS. TEST SOIL FOR PRESENCE OF ATRAZINE AND INFORM EXCEL ENGINEERING, INC. IF PRESENT PRIOR TO BIDDING PROJECT. TOPSOIL SHALL HAVE A PH RANGE OF 5.5 TO 8, CONTAIN A MINIMUM OF 5 PERCENT ORGANIC MATERIAL CONTENT, AND SHALL BE FREE OF STONES 1 INCH OR LARGER IN DIAMETER. ALL MATERIALS HARMFUL TO PLANT GROWTH SHALL ALSO BE REMOVED.
   TOPSOIL INSTALLATION: LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 6 INCHES AND REMOVE STONES LARGER THAN 1" IN DIAMETER. ALSO REMOVE ANY STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND DISPOSE OF THEM OFF THE PROPERTY. SPREAD TOPSOIL TO A DEPTH OF 6" BUT NOT LESS THAN WHAT IS REQUIRED TO MEET FINISHED GRADES AFTER LIGHT ROLLING AND NATURAL SETTLEMENT. DO NOT SPREAD TOPSOIL IF SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET. GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN 0.05 FEET OF FINISHED GRADE ELEVATION.
B. SEEDED LAWNS:
   1. PERMANENT LAWN AREAS SHALL BE SEEDED WITH THE FOLLOWING MIXTURE: 65% KENTUCKY BLUEGRASS BLEND (2.0-2.6 LBS./1,000 S.F.), 20% PERENNIAL RYEGRASS (0.6-0.8 LBS./1,000 S.F.), 15% FINE FESCUE (0.4-0.6 LBS/1,000 S.F.). STRAW AND MULCH SHALL BE LAID AT 100LBS/1,000 S.F. FERTILIZE AS PER SOIL TEST OR APPLY 5-10-10 OR EQUIVALENT AT 5-6 LBS/1,000 S.F. SEE EROSION MATTING SPECIFICATIONS AS REQUIRED. ALL SITE DISTURBED AREAS NOT DESIGNATED FOR OTHER LANDSCAPING AND SITE STABILIZATION METHODS SHALL BE SEEDED AS PERMANENT LAWN. NO BARE TOPSOIL SHALL BE LEFT ONSITE. FOLLOW PROCEDURES FOUND IN WDNR TECHNICAL STANDARDS 1058 & 1059.
   2. ALL PERMANENT AND TEMPORARY STORM WATER CONVEYANCE SWALE BOTTOMS AND SIDE SLOPES SHALL BE SEEDED WITH THE FOLLOWING MIXTURE: 45% KENTUCKY BLUEGRASS (0.60 LBS./1000 S.F.), 40% CREEPING RED FESCUE (0.50 LBS./1,000 S.F.), AND 15% PERENNIAL RYEGRASS (0.20 LBS./1,000 S.F.). FERTILIZE AS PER SOIL TEST OR APPLY 5-10-10 OR EQUIVALENT AT 5-6 LBS./1,000 S.F. SEE EROSION MATTING SPECIFICATIONS AS REQUIRED. FOLLOW PROCEDURES FOUND IN WDNR TECHNICAL STANDARDS 1058 & 1059.
   3. ALL TEMPORARY SEEDING SHALL CONSIST OF THE FOLLOWING MIXTURE: 100% RYEGRASS AT 1.9 LBS./1,000 S.F. STRAW AND MULCH SHALL BE LAID AT 100 LBS./1,000 S.F. FERTILIZE AS PER SOIL TEST OR APPLY 5-10-10 OR EQUIVALENT AT 5-6 LBS./1,000 S.F. SEE EROSION MATTING SPECIFICATIONS AS REQUIRED. FOLLOW PROCEDURES FOUND IN WDNR TECHNICAL STANDARDS 1058 & 1059.
C. SEEDED LAWN MAINTENANCE: CONTRACTOR TO PROVIDE MAINTENANCE OF ALL LANDSCAPING FOR A PERIOD OF 90 DAYS FROM THE DATE OF INSTALLATION. AT THE END OF THE MAINTENANCE PERIOD, A HEALTHY, UNIFORM, CLOSE STAND OF GRASS SHOULD BE ESTABLISHED FREE OF WEEDS AND SURFACE IRREGULARITIES. LAWN COVERAGE SHOULD EXCEED 90% AND BARE SPOTS SHOULD NOT EXCEED 5"X5". CONTRACTOR SHOULD REESTABLISH LAWNS THAT DO NOT COMPLY WITH THESE REQUIREMENTS AND CONTINUE MAINTENANCE UNTIL LAWNS ARE SATISFACTORY.

CONCRETE MIX DESIGN SCHEDULE TABLE

TYPE OF CONSTRUCTION	MIN 28 DAY COMPRESSIVE STRENGTH (PSI) (ASTM C39)	MAX SLUMP +/- 1" (ASTM C143) (C)	MAX AGGREGATE SIZE (INCH)	% AIR ENTRAINING +/- 1.5%	MAX W/C RATIO	MINIMUM CEMENTITIOUS MATERIALS PER CUBIC YARD	ADDITIONAL COMMENTS
FOOTINGS	3000	4 D	1-1/2	3% MAX	--	--	
FOUNDATION WALLS AND CANOPY FOOTINGS/PIERS	4500	4 D	1	6	0.45	--	
EXTERIOR SLABS, WALKS, AND CURBS	4500	4 D	1	6	0.45	520	(B) (D) (E) (F)
CMU BLOCK FILL	2500	7 D	3/8	--	--	--	(A) (F)

(A) MAXIMUM REPLACEMENT OF PORTLAND CEMENT WITH SUPPLEMENTARY CEMENTITIOUS MATERIALS BY WEIGHT IS; FLY ASH 40%, SLAG 60%. TOTAL REPLACEMENT OF PORTLAND CEMENT WITH SUPPLEMENTARY CEMENTITIOUS MATERIALS SHALL BE AT LEAST 40% (LESS THAN 40% AS APPROVED BY PROJECT ENGINEER) BUT NOT GREATER THAN 60%.

(B) MAXIMUM REPLACEMENT OF PORTLAND CEMENT WITH SUPPLEMENTARY CEMENTITIOUS MATERIALS BY WEIGHT IS; FLY ASH 20%, SLAG 30%. DESIGN STRENGTH AT TIME OF STEEL ERECTION AND BACKFILLING RESPECTIVELY. THIS TIME PERIOD IS 21 DAYS UNLESS DIRECTED OTHERWISE.

(C) SLUMP MAY BE INCREASED WHEN CHEMICAL ADMIXTURES ARE USED; PROVIDED THAT THE ADMIXTURE TREATED CONCRETE HAD THE SAME OR LOWER WATER-CEMENT RATIO AND DOES NOT EXHIBIT SEGREGATION POTENTIAL OR EXCESSIVE BLEEDING. CONCRETE MIXES SHALL BE PROPORTIONED TO ACHIEVE A MAXIMUM SLUMP OF 8" FOR CONCRETE CONTAINING HIGH RANGE WATER REDUCING ADMIXTURE AND 6" FOR CONCRETE CONTAINING A MID-RANGE WATER REDUCING ADMIXTURE. MIXES SHALL HAVE A WATER SLUMP OF 2"-3" (3" TO 4" FOR CONCRETE RECEIVING A "DRY-SHAKE" HARDENER). MAXIMUM OF 4" WATER SLUMP FOR ALL OTHER CONCRETE OR HIGHER SLUMPS MAY BE CONSIDERED AS LONG AS THEY ARE ACHIEVED THROUGH THE USE OF APPROPRIATE ADMIXTURE USAGE.

(D) HIGH EARLY STRENGTH CONCRETE TO BE SUPPLIED ONLY WHEN APPROVED BY KWIK TRIP.

(E) FOR COLD WEATHER CONDITIONS, SPECIFIED MINIMUM REPLACEMENT OF PORTLAND CEMENT MAY BE REDUCED BY UP TO 50% WITH PERMISSION OF OWNER.

(F) CONCRETE SUPPLIER AND FINISHER SHALL COORDINATE APPROXIMATE SET TIMES OF PROPOSED MIX DESIGN UNDER VARIOUS WEATHER CONDITIONS AND ADJUST MIX DESIGN AS NECESSARY TO ASSURE SET TIME IS ACCEPTABLE TO COMPLETE PLACING AND FINISHING OF SLAB IN A TIMELY MANNER. FOR COLD WEATHER CONCRETE, NON-CHLORIDE SET ACCELERATING ADMIXTURES MAY BE USED UPON APPROVAL OF ENGINEER. FOR HOT WEATHER CONCRETE SET RETARDING ADMIXTURES MAY BE USED UPON APPROVAL OF ENGINEER.

CIVIL SPECIFICATIONS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

PROJECT INFORMATION

PROPOSED ALTERATIONS FOR:
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

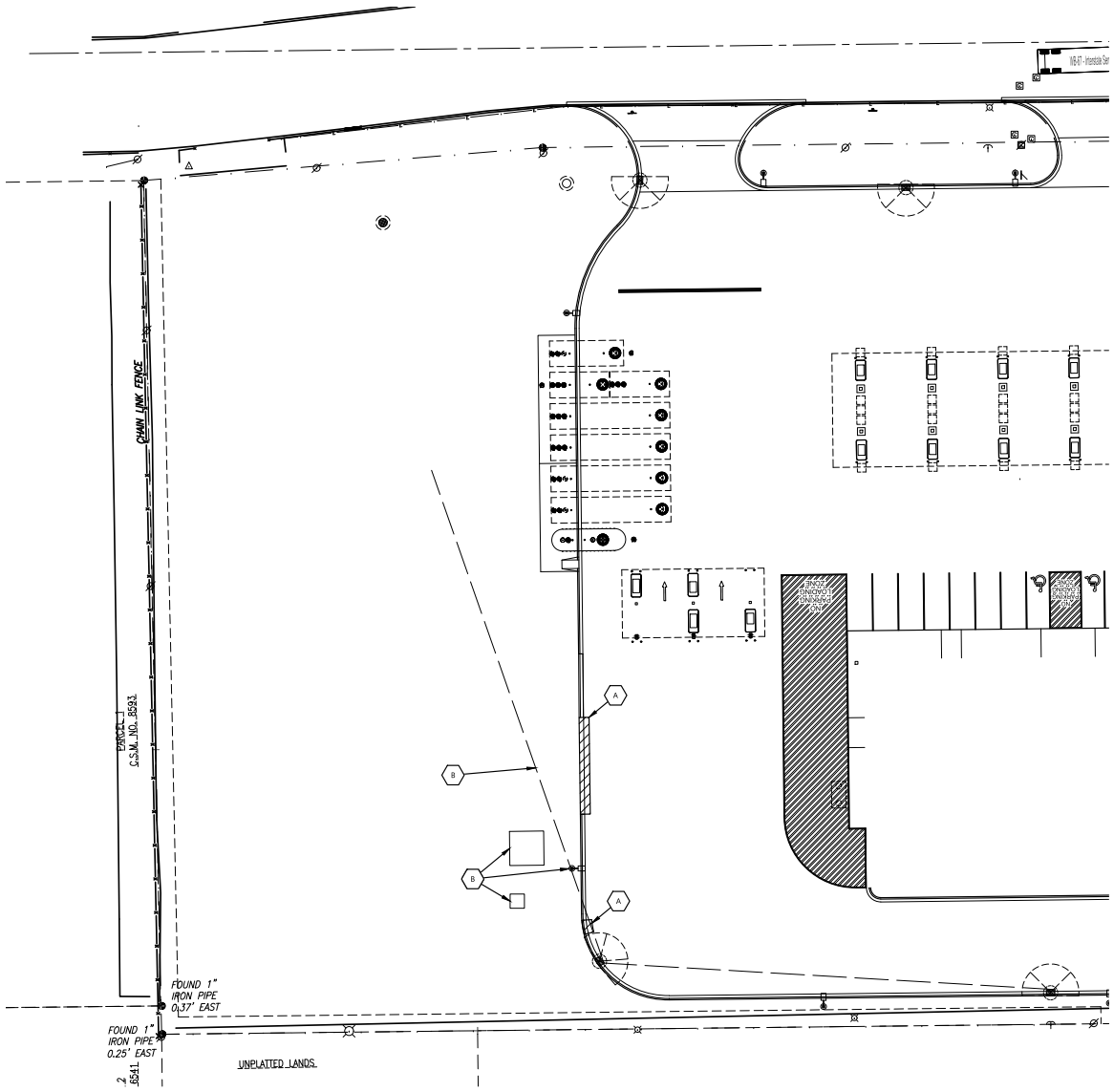
PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 19, 2026
JUNE 6, 2026

REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
C002



KEYNOTES

A	SAWCUT AND REMOVE CURB
B	PROTECT

EXISTING CONDITIONS NOTE:
PRIOR TO CONSTRUCTION CONTRACTOR SHALL FIELD VERIFY ALL SITE IMPROVEMENTS, UTILITY LOCATIONS, INVERTS, SEIZES, ETC. NOTIFY ENGINEER OF ANY DISCREPANCIES. FAILURE TO NOTIFY ENGINEER SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR ANY DAMAGES AS A RESULT OF FAILURE TO FIELD VERIFY.

SCALE: 1" = 20'
20' 0 20' 40'
NORTH

CIVIL EXISTING SITE AND DEMOLITION PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

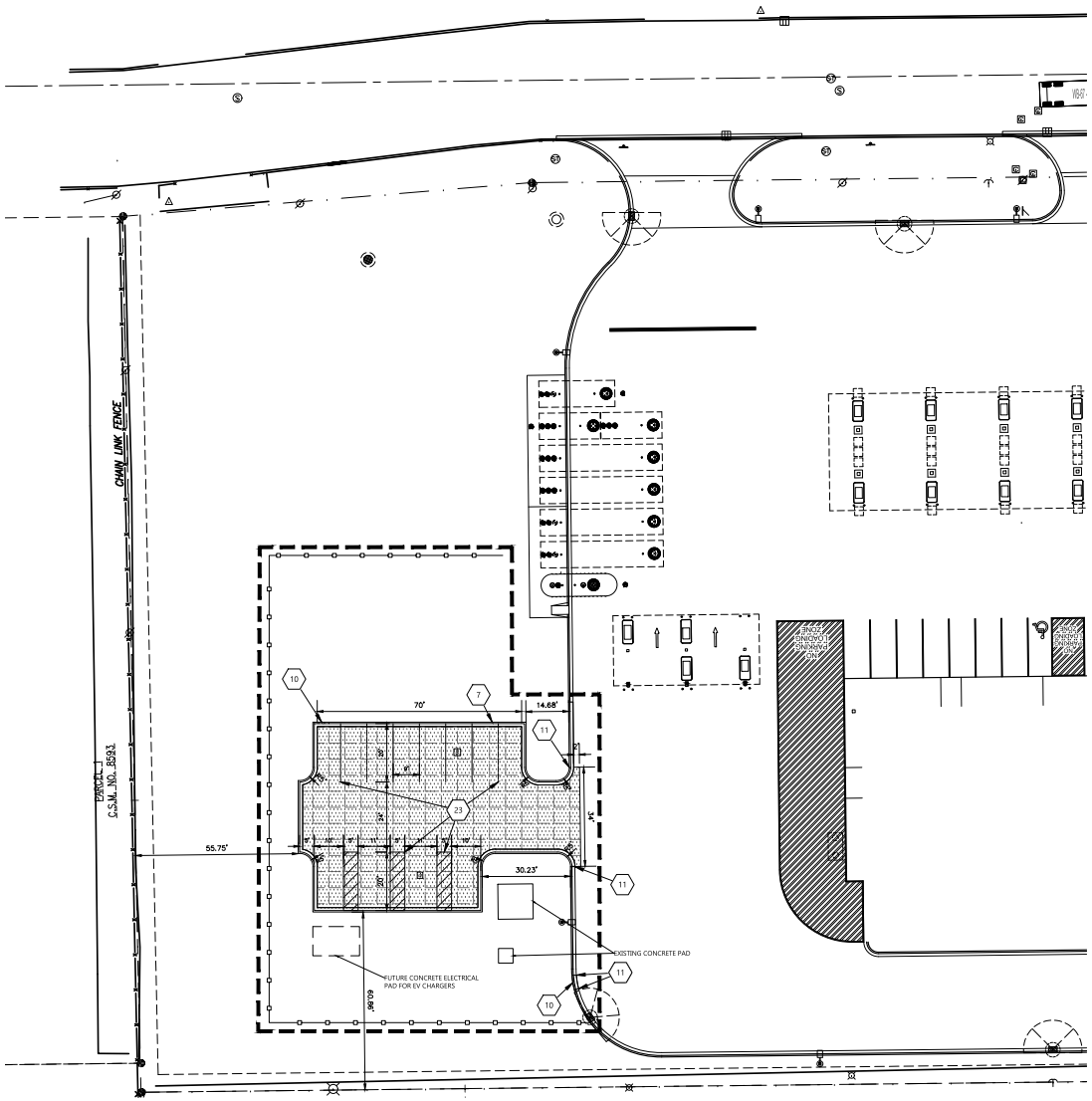
PROPOSED ALTERATIONS FOR:
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 19, 2026
JUNE 6, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
C020



GENERAL NOTES:

- CONTRACTOR TO FOLLOW SITE HAUL OFF STANDARD PER EXISTING ENVIRONMENTAL PLAN

LEGEND:

HATCH	PAVEMENT SECTION
	SIDEWALK CONCRETE
	HEAVY DUTY CONCRETE
	18" CURB & GUTTER

SITE INFORMATION:

PROPERTY AREA: 146,562.98 S.F. (3.36 ACRES).

EXISTING ZONING: C-3

PROPOSED ZONING: C-3

PROPOSED USE: GAS STATION

AREA OF SITE DISTURBANCE: 17,825 S.F. (0.409 ACRES)

SETBACKS:
BUILDING FRONT(W) = MAX: 20'

PARKING REQUIRED: 3 PER 1,000 S.F. OF GROSS FLOOR AREA

PARKING PROVIDED: 42 SPACE (2 H.C. ACCESSIBLE)

HANDICAP STALLS REQUIRED: 2. HANDICAP STALLS PROVIDED: 2

EXISTING SITE DATA (AREA OF DISTURBANCE)

	AREA (AC.)	AREA (SF)	RATIO
BUILDING FLOOR AREA	0.00	0	0.0%
PAVEMENT (ASP. & CONC.)	0.00	169	0.9%
TOTAL IMPERVIOUS	0.00	169	0.9%
LANDSCAPE/ OPEN SPACE	0.41	17,656	99.1%
PROJECT SITE	0.41	17,825	100.0%

PROPOSED SITE DATA (AREA OF DISTURBANCE)

	AREA (AC.)	AREA (SF)	RATIO
BUILDING FLOOR AREA	0.00	0	0.0%
PAVEMENT (ASP. & CONC.)	0.12	5,140	28.8%
TOTAL IMPERVIOUS	0.12	5,140	28.8%
LANDSCAPE/ OPEN SPACE	0.29	12,685	71.2%
PROJECT SITE	0.41	17,825	100.0%

KEYNOTES

7	18" CURB & GUTTER (SEE DETAIL)
10	CURB CUT (SEE DETAIL)
11	MATCH EXISTING
23	PAINT STRIPING (TYP). COLOR TO MATCH PARKING STALL STRIPING

SCALE: 1"= 20'

NORTH

20' 0 20' 40'

CIVIL SITE PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP

KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATIONS FOR:

KWIK TRIP STORE #1047

10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES

MAY 19, 2026
JUNE 6, 2026

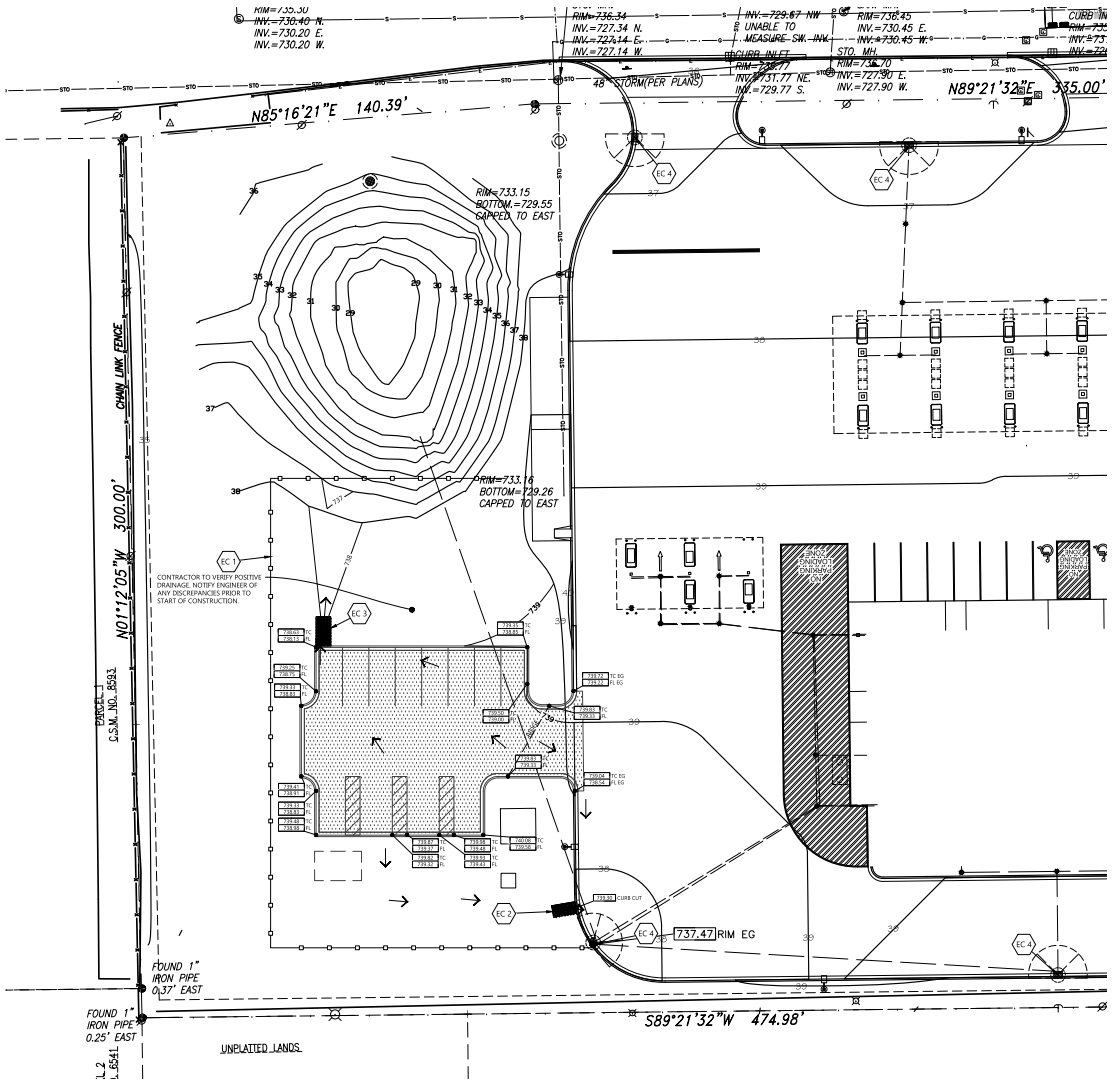
REVIEW SET #1

JOB NUMBER

260113500

SHEET NUMBER

C100



GENERAL NOTES:

- HANDICAP STALL AND ACCESS AISLES SHALL NOT EXCEED A SLOPE OF 1.50% IN ANY DIRECTION. HANDICAP STALL & ACCESS AISLES SHALL CONFORM TO ADA REQUIREMENTS (CURRENT EDITION)
- ALL SIDEWALKS SHALL NOT EXCEED A MAXIMUM CROSS SLOPE OF 1.50% AND RUNNING SLOPE OF 4.50% UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR SHALL PROVIDE STABILIZED CONSTRUCTION ENTRANCE AT CONSTRUCTION ENTRANCE FOR PROPOSED IMPROVEMENTS AS REQUIRED PER CODE.
- CONTRACTOR SHALL PROVIDE CONCRETE WASHOUT AS REQUIRED PER CODE. FINAL LOCATION TBD BY CONTRACTOR.
- CONTRACTOR SHALL PROVIDE TEMPORARY INLET PROTECTION FOR ALL CURB INLETS & CATCH BASINS ONSITE & OFFSITE IMMEDIATELY DOWNSTREAM OF THE PROJECT SITE PER LOCAL CODE.

KEYNOTES

EC 1	SILT FENCE
EC 2	4' X 8' 8" D50 RIP RAP ON FABRIC
EC 3	5' X 10' 8" D50 RIP RAP ON FABRIC
EC 4	INLET PROTECTION

SCALE: 1" = 20'

NORTH

20' 0 20' 40'

CIVIL GRADING AND EROSION CONTROL PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

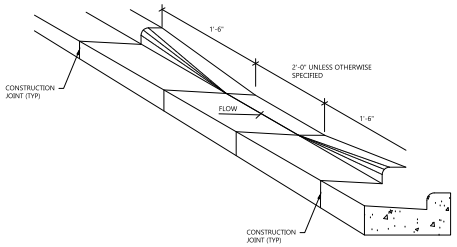
PROPOSED ALTERATIONS FOR:
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

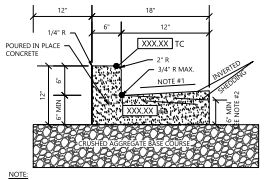
PRELIMINARY DATES
MAY 19, 2026
JUNE 6, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
C200



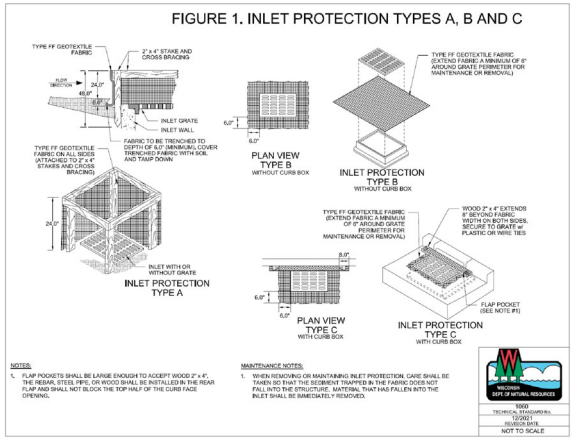
CURB CUT DETAIL
NOT TO SCALE



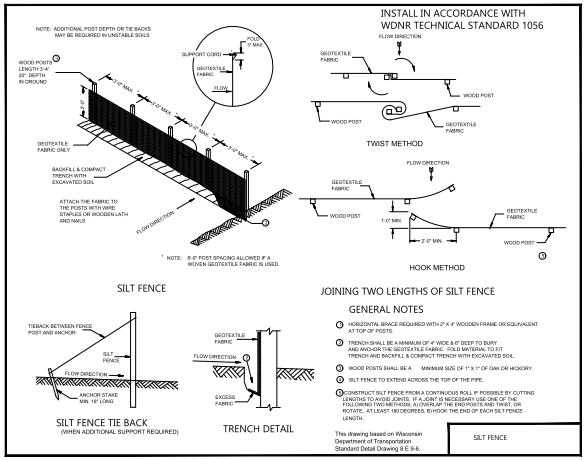
NOTE:

1. USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MIN. GUTTER THICKNESS IS MAINTAINED.
3. SEE SITE PLAN & GRADING PLAN FOR INVERTED & SHEDDING CURB LOCATIONS

18" CONCRETE CURB & GUTTER DETAIL
NOT TO SCALE



INLET PROTECTION DETAIL
NOT TO SCALE



SILT FENCE - INSTALLATION DETAIL
NOT TO SCALE

CIVIL DETAILS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP
KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATIONS FOR:
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 19, 2026
JUNE 6, 2026
REVIEW SET #1

JOB NUMBER
260113500

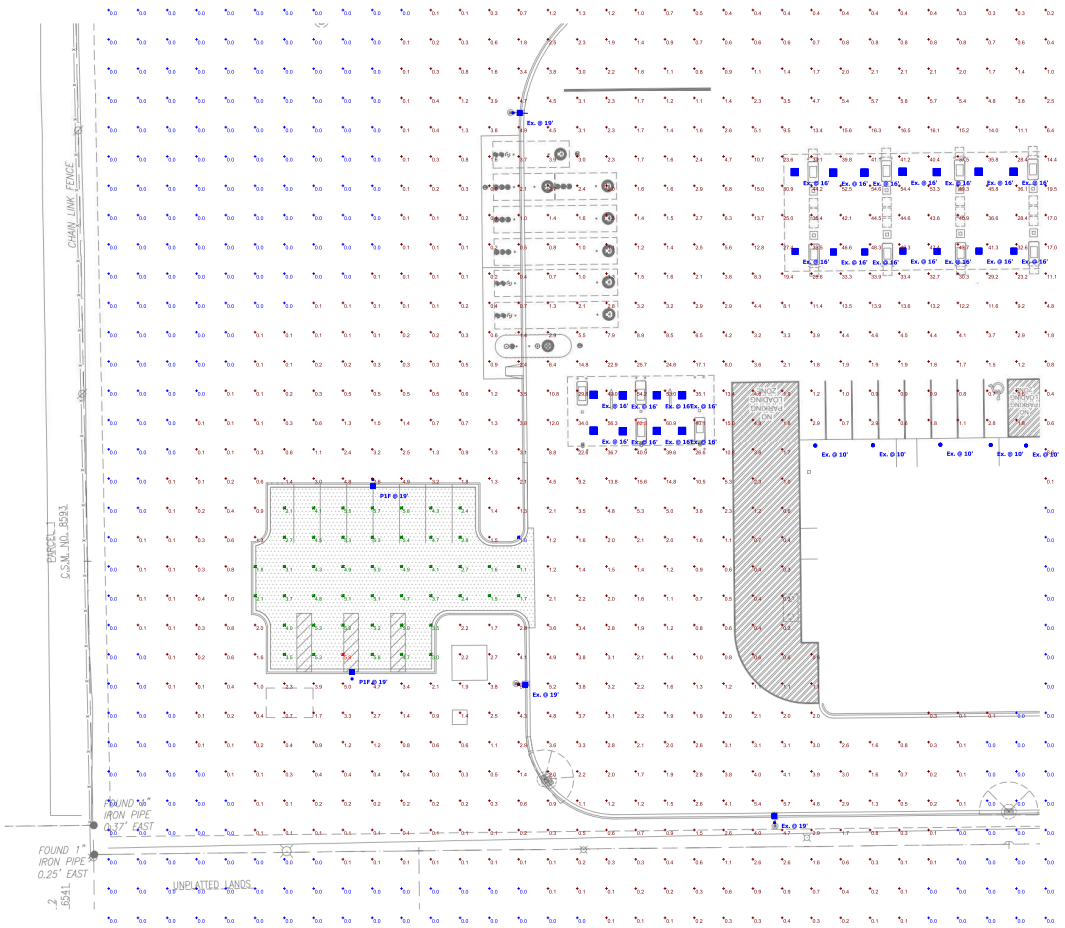
SHEET NUMBER
C500

Schedule

Symbol	Label	Manufacturer	Catalog Number	Lumens Per Lamp	Wattage
	Ex.	Existing	Existing	23102	188
	Ex.	Existing	Existing	16894	135
	Ex.	Existing	Existing	3480	39
	Ex.	Existing	Existing	16894	270
		Existing	Existing	16894	135
		Existing	Existing	16894	135
	Ex.	Existing	Existing	14960	102
	P1F	LSI INDUSTRIES, INC.	MRS-LED-18L-SIL-FT-50-70CRI	16894	135

Statistics

Description	Avg	Symbol	Max	Min	Max/Min	Avg/Min
#1047 KWIK TRIP	4.2 fc	+	62.3 fc	0.0 fc	N/A	N/A
PARKING ADDITION	4.0 fc	*	5.9 fc	1.0 fc	5.9:1	4.0:1



SCALE: 1" = 20'

NORTH

CIVIL SITE PHOTOMETRIC PLAN & DETAILS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

KWIK TRIP

KWIK STAR

PROJECT INFORMATION

PROPOSED ALTERATIONS FOR:
KWIK TRIP STORE #1047
10923 W LAPHAM ST • WEST ALLIS, WI 53214

PROFESSIONAL SEAL

PRELIMINARY DATES
MAY 19, 2026
JUNE 6, 2026
REVIEW SET #1

JOB NUMBER
260113500

SHEET NUMBER
C800