

Planning Commission

Larry Fox, Chairperson Michael Mitchell, Vice-Chairperson Tom Murphy, Secretary Summer L. McMullen, Trustee Sue Grissim, Commissioner Jim Mayer, Commissioner Matthew Eckman, Commissioner

Planning Commission Meeting Agenda Hartland Township Hall Thursday, November 21, 2024 7:00 PM

- Call to Order
- 2. Pledge of Allegiance
- 3. Roll Call
- 4. Approval of the Agenda
- 5. Approval of Meeting Minutes
 - a. Planning Commission Meeting Minutes of October 24, 2024
- 6. Call to Public
- 7. Public Hearing
 - <u>a.</u> Site Plan with Special Land Use Application #24-008 (Automobile wash at 10587 Highland Road)
- 8. Old and New Business
 - a. 2025 Planning Commission Meeting Calendar
- 9. Call to Public
- 10. Planner's Report
- 11. Committee Reports
- 12. Adjournment

HARTLAND TOWNSHIP PLANNING COMMISSION DRAFT MEETING MINUTES

October 24, 2024–7:00 PM

1. Call to Order: Chair Fox called the meeting to order at 7:00 p.m.

2. Pledge of Allegiance:

3. Roll Call and Recognition of Visitors:

Present – Commissioners Eckman, Fox, Grissim, Mayer, McMullen, Mitchell, Murphy Absent – None

4. Approval of the Meeting Agenda:

A Motion to approve the October 24, 2024, Planning Commission Meeting Agenda was made by Commissioner Grissim and seconded by Commissioner McMullen. Motion carried unanimously.

5. Approval of the Meeting Minutes:

a. Planning Commission Work Session Meeting Minutes of September 26, 2024 A Motion to approve the September 26, 2024, Planning Commission Work Session Meeting Minutes was made by Commissioner Mitchell and seconded by Commissioner Murphy. Motion carried unanimously.

6. Call to the Public:

None

7. Old and New Business

a. Site Plan/PD Application #24-009, Planned Development (PD) Concept Plan for a residential community with apartments (duplexes) and detached single-family condominium units.

Director Langer gave an overview of the location and scope of the application stating the following:

- Confirmed the location south of M-59 and west of Pleasant Valley Road.
- 7.4-acre parcel in the NE corner is not included in this request.
- Proposing a residential development that is a mixture of single-family units and duplex apartment units; northern portion shows 28 duplexes, 56 units, intended for rental purposes, and the southern portion shows 134 single-family owner-occupied houses for a total of 190 units.
- Connection to M-59 on the north side under the jurisdiction of the Michigan Department of Transportation (MDOT), proposed connection to Pleasant Valley on the east side which is under the jurisdiction of the Livingston County Road Commission (LCRC), and an internal private road connection to Highland Reserve to the west which is also a private road.
- Requesting a Planned Development (PD) which is a three-step process: Conceptual,
 Preliminary and Final. A PD appears before both the Planning Commission and the Township
 Board at all three steps. This is the Conceptual review where no formal decisions are made but
 comments from both the Planning Commission and the Township Board will be provided. The
 details are presented at the Preliminary phase where there is a Public Hearing. Final phase is

when the Master Deed and other legal documents are reviewed. Following final approval, the property is rezoned to PD.

The Applicant, Isam Yaldo, introduced himself and David Straub, Vice President of Land Acquisition for M/I Homes.

The Applicant stated the following:

- Two almost separate projects; the duplexes and the single-family homes.
- M/I Homes, who will oversee the single-family portion, is a nationally recognized homebuilder that began in Michigan.
- Ready to hear the Planning Commission's comments.
- Tried to mirror the Highland Reserve development with rental on the north side of the property and owner-occupied single-family houses in the south.
- Commented about Hartland Glen.

Chair Fox referred to the staff memorandum dated October 17, 2024.

Proposed Concept Plan

Chair Fox stated the critical numbers to look at would be setbacks as there are no building envelopes.

Director Langer commented that setbacks can be on the lot itself: on this plan it lists 105-foot greenbelt setback from M-59 right-of-way, a 50-foot setback and a 25-foot open space.

Chair Fox stated during the Site Plan Review Committee meeting he stated it was important that this development be no closer to M-59 than the neighboring development, that there is continuity between the two, and it is the same. Those are the setbacks about which he is most concerned. Those are the items that have dimensions, the others do not. When the actual plan is laid out to scale with 60-foot lots, the number of lots may vary up or down given the space available.

Proposed Density

Director Langer stated the proposed density for PD Planned Developments is based off of the Future Land Use Map designation; it is designated as a Special Planning Area with a density of four (4) units per acre. There is also a 40 percent density bonus available that would permit as many as 398 units on the 71.1-acre parcel. The request is for 190 units.

Traffic Generation

Director Langer confirmed an in-depth traffic study will be conducted for the Preliminary review as there may need to be improvements to M-59, Pleasant Valley, and the intersection. None of that can be determined without a traffic study.

Internal Vehicular/Pedestrian Circulation

Commissioner Murphy inquired about sidewalks. The Applicant stated sidewalks are planned throughout the community on both sides of the street with a greenbelt in between the street and sidewalk. Commissioner Murphy asked if the path would be paved. The Applicant stated it is a little early for that; they will have more detail at the Public Hearing.

Design Details

Director Langer stated typically with a PD, a Pattern Book is submitted with details about the design of the community; lighting, play area, proposed home designs with general footprints of what those houses would look like on the lots including setbacks. For the duplexes, there would be more details including building elevations and materials being used. Also, a Landscape Plan for the project.

Commissioner Mitchell asked if the style of the exterior of the duplexes would be similar to the exterior style of the single-family houses. The Applicant stated he is unsure at this time but intends to work closely with M/I Homes to plan a visually cohesive community.

Chair Fox mentioned that it is important to have a full-size driveway that can accommodate a vehicle parked in front of the garage and not overhang onto the sidewalk.

The Applicant stated he is hoping to get a similar approval for side setbacks as the development to the west and stated any units that are 10 feet apart will not have vinyl siding. Chair Fox called the Applicant's attention to the Fire Authority's comments of 20 feet between structures.

The Planning Commission briefly discussed the sidewalks in the development to the west, and that there is a crossing at Hartland Glen but no sidewalk on the east side to M-59.

Commission Murphy asked if there would be sidewalks along M-59 and Pleasant Valley. The Planning Commission discussed sidewalk options. Consensus was to not require a sidewalk down Pleasant Valley but to have them along M-59 and internally.

Recognizable Benefit

Chair Fox stated a list of recognizable benefits should be included with the next submittal.

Chair Fox encouraged the Applicant to have further discussions with the Fire Authority regarding setbacks between structure stating the words are different, but what was approved in Highland Reserve might also be approved here.

Commissioner Murphy requested the Applicant try to save some of the mature Oak Trees located along Pleasant Valley. Commissioner Grissim concurred. The Applicant state there seems to be some room there and they very well may be saved.

Planning Commission Comments on the Concept Plan

Commissioner Mitchell stated the following:

- Appreciates this development has the same setback from M-59 as the development to the west.
- Hopes the duplexes will be harmonious with the rest of the development.
- Appreciates the Open Space and the Play Area as well as the pathways.

Commissioner Mayer stated the following:

- Agrees with Commissioner Mitchell regarding the continuity between exterior design of the duplexes and the other homes, color schemes and building materials.
- Nice to hear sidewalks are planned for both sides of the road with greenspace in between.
- Likes the cross access with the development to the west.

Commissioner Grissim stated the following:

- Appreciates the buffer around the perimeter with the intensity inside, and the walkway system.
- Likes the layout of the plan.
- If there is a possibly of preserving mature trees along Pleasant Valley, that will give a nice buffer edge if the grades play out.
- Glad there is a connection to the west.
- Looking forward to seeing the next level of detail.

Commissioner McMullen stated the following:

- Agrees with Commissioner Mitchell's comments.
- Agrees with preserving the mature trees if possible.
- Does not like the rental aspect, would rather see those as duplex condominiums and owner occupied.
- Constituents she has spoken with believe there are enough rentals.

Commissioner Eckman stated the following:

- Agrees with Commissioner Grissim and likes the buffer around the perimeter.
- Also likes the winding road, adds character.
- Open space will probably exceed the requirements, but it is hard to do the math.
- Overall, it is a nice project and he likes it.

Commissioner Murphy stated the following:

- Agrees with the other Commissioners.
- Likes the connectivity with neighboring projects to pull the developments together so it will be more neighborly.
- Has looked at many plans for the previously proposed Newberry; glad we seem to be moving forward with another plan that ties together well with what has already been approved.
- Looking forward to seeing what the proposed homes will look like.
- Also likes owner occupied condominiums as opposed to duplex rentals.

Chair Fox stated the following:

- Likes the project.
- Likes the comments that have been made so far.
- As one who has followed this parcel for 25 years, inevitable that a development was going to happen, and sometimes the timing is right.
- Substantially less dense and less intense than anything that was previously proposed, and he likes that.
- Also looks forward to the next phase and seeing the details.

The Applicant stated there could be a chance that the rental duplexes could be converted into units for sale. Using a similar footprint, there would be 32 duplex buildings instead of 26 for 64 units, they would be 30 feet wide instead of 35 feet, they would have basements, and they would be for sale.

The Planning Commission discussed how to proceed.

Director Langer stated he would like to see a revised Conceptual Plan at a meeting. The Planning Commission agreed it should return to the Planning Commission at the next meeting with a revised plan for a Conceptual Review.

8. Call to the Public:

Kim Porath, Hartland Township; Agrees the mature trees along Pleasant Valley should be preserved, has drainage concerns, would like to see a buffer to the south.

Barbara Krueger, Hartland Township; expressed concerns about the cost of additional postal routes and bus routes for school children.

Dick Krueger, Hartland Township; concerned about traffic on M-59.

Joe Riccardi, Hartland Township; concerned about traffic, feels Pleasant Valley should be paved prior to approving this project, wants to see the S-curve farther south straightened out. Also would like to see the trees preserved. Concerned about timing of the trash collection and road plowing with three different Homeowners' Associations. Does not feel this kind of development is an asset to the community.

Jason Fowler, Hartland Township; commenting on SP/PD 24-010 Chick-fil-A, expressed concern about traffic at Blaine Road and M-59 as well as Pleasant Valley.

Joe Riccardi, Hartland Township; stated Flint Chick-fil-A set a record of 127 cars in one hour.

Sharon Small, Hartland Township; does not support SP/PD 24-010 Chick-fil-A, would like to see a nice restaurant.

9. Planner Report:

None

10. Committee Reports:

Commissioner McMullen reported she attended the State of the Community event on Wednesday, October 23, 2024, and thought it was good.

11. Adjournment:

A Motion to adjourn was made by Commissioner Mitchell and seconded by Commissioner McMullen. Motion carried unanimously. The meeting was adjourned at approximately 8:18 p.m.

Hartland Township Planning Commission Meeting Agenda Memorandum

Submitted By: Troy Langer, Planning Director

Subject: Site Plan with Special Land Use Application #24-008 (Automobile wash at 10587)

Highland Road)

Date: November 14, 2024

Recommended Action

Move to recommend approval of Special Land Use Permit and approve Site Plan Application #24-008, a request to redevelop a commercial site and construct an approximate 3,677 square foot automobile wash, within a completely enclosed building, at 10587 Highland Road, in Section 21 of the Township (Tax Parcel ID #4708-21-400-062). The recommendation for approval is based on the following findings:

- 1. The proposed special land use, automobile wash within a completely enclosed building, meets the intent and purposes of the Ordinance as well as the specific standards outlined in Section 6.6 (Special Uses).
- 2. The proposed special land use is permitted in the GC (General Commercial) zoning district, as outlined in Section 3.1.14.D.iii, and the proposed use is compatible with the existing uses in the vicinity.
- 3. The proposed use will be served by public water and sanitary sewer, by existing essential facilities and public services, and the Fire Department has no objection.
- 4. The proposed use will be served by public roads with direct access to Highland Road and Hartland Road.
- 5. The proposed use will not create additional requirements at public cost for public facilities as the proposed site will be served by public water and sanitary sewer.

Approval is subject to the following conditions:

- 1. The proposed special land use, automobile wash within a completely enclosed building, is subject to approval by the Township Board.
- 2. The applicant shall adequately address the outstanding items noted in the Planning Department's memorandum, dated November 14, 2024, on the Construction Plan set, subject to an administrative review by the Planning staff prior to the issuance of a land use permit.
- 3. Lighting is not permitted on any elements of the vacuum apparatus.
- 4. A land use permit is required after approval of the Site Plan and Special Use Permit and prior to construction.
- 5. Applicant complies with any requirements of the Department of Public Works Director, Township Engineering Consultant (SDA), Hartland Deerfield Fire Authority, and all other government agencies, as applicable.
- 6. (Any other conditions the Planning Commission deems necessary).

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Discussion

Applicant: Craig Bremen

Site Description

The subject property, addressed as 10587 Highland Road, is located north of Highland Road and east of Hartland Road in Section 21 of the Township. It was formerly occupied by Big Boy restaurant from 1979 to around 2023, when the restaurant closed. The existing restaurant building will be removed, and the parking lot will undergo some layout changes as part of the proposed automobile wash project. The site is zoned GC (General Commercial) and is approximately 1.65 acres in size (Tax Parcel ID #4708-21-400-062).

This property is considered a corner lot with approximately 200 lineal feet along Highland Road and approximately 327 lineal feet along Hartland Road. There are existing driveway connections into the subject site via Highland Road, Hartland Road, and Rovey Drive on the north, which is a private road.

The Future Land Use Map (FLUM) designates the subject site and adjacent properties to the north, south (south side Highland Road), east, and west as Commercial.

Overview and Background Information

Site Plan Applications #10 (1979)

The Big Boy restaurant was approved on June 19, 1979, under SP Application #10.

Site Plan Application #10A (1979)

On October 16, 1979, SP Application #10A was approved for minor revisions to SP Application #10, including revisions to the parking area, storm drain, and well location.

Site Plan Application #30 (1984)

SP Application #30 was approved on March 15, 1984, for an addition to the front (south) of the building, as a Minor/Major modification of SP Application #10.

Site Plan Application #455 (2008)

This application was related to the improvements on Highland Road (widening of Highland Road) which included the elimination of the west driveway; reworking of the east driveway (on Highland Road); and modifications to the parking lot. SP Application #455 was approved on July 1, 2008.

Site Plan Application #466 (2008)

Modifications to the exterior of the building were approved under SP #455 on October 7, 2008.

ZBA #516 (2008)

Hartland Road and the associated road right-of-way were relocated as part of the overall plan for Hartland Towne Square Planned Development. Changes to the right-of-way for Highland Road also occurred. These changes prompted several variances associated with required setbacks for the existing Big Boy building that included a variance for parking to be located in the front yard along the Hartland Road frontage and a variance for the existing monument sign to be located within the 10-foot setback of the right-of-way of Highland Road. The variances were approved on June 18, 2008.

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Proposed Use

The applicant is requesting to demolish the existing Big Boy building and construct an approximate 3,677 square foot building for a fully automated automobile wash in an enclosed building (Clean Express Car Wash). The parking lot will be renovated as well to accommodate the building and circulation patterns.

Per Section 3.1.14.D.iii., an automobile wash, when within a completely enclosed building, is considered a special land use in the GC (General Commercial) zoning district. Additional standards for this special land use are provided in Section 4.17 of the Zoning Ordinance (Automobile Wash Establishment).

The proposed project also requires site plan approval thus there are two application elements: special land use and site plan approval for an automobile wash, when within a completely enclosed building. Although there are technically two elements, all are incorporated into one combined site plan which will be reviewed and approved concurrently.

Per the Hartland Township Zoning Ordinance and the State Enabling Act, a public hearing is required for the special land use application. Given the requirements for publishing a notice for the special land use, the public hearing has been scheduled for the November 21, 2024, Planning Commission meeting.

Request and Project Summary

The applicant is requesting site plan with special land use approval to redevelop a commercial site and construct a fully automated automobile wash, within a completely enclosed building. The existing building will be demolished. The site is accessed via existing driveways on Highland Road, Hartland Road, and Rovey Drive. Changes to the driveways are not proposed.

The proposed 3,677 square foot car wash building is situated in the center of the site. Twenty-two (22) parking spaces, each with vacuuming equipment, are shown on the east side of the proposed car wash building. An additional eight (8) parking spaces are shown on the north side of the site (without vacuuming equipment).

To access the car wash tunnel, patrons enter the site and drive to the west side of the building, where there are three (3), one-way stacking lanes (one-way circulation). Each lane is twelve (12) feet wide. A total of thirty (30) stacking spaces are shown, with ten (10) stacking spaces per lane. The entrance to the car wash is on the south side of the building. The patron remains in the vehicle and exits the car wash at the north end of the building.

Payment for the car wash occurs via a pay station/kiosk in each stacking lane. The pay station/kiosk is unmanned and located on a curbed island (for two of the pay stations). A digital menu board is provided at the front end (north end) of the island. A canopy covers each pay station/kiosk.

One (1) unroofed enclosure is found on the north side of the building, adjacent to the exit point of the building. A masonry screen wall encloses the dumpster bin(s) and the mechanical equipment for the vacuums (vacuum correlator).

Approval Procedure

The proposed use, automobile wash within a completely enclosed building, requires approval from the Township Board for the special land use. The Planning Commission will review the special land use and make a recommendation to the Township Board.

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The project also requires the site plan to be reviewed by the Planning Commission who will make a final decision on the site plan. The plans will be reviewed using the development standards of the GC (General Commercial) zoning district (Section 3.1.14.), standards associated with Automobile Wash Establishment (Section 4.17), and all applicable zoning standards in the Zoning Ordinance.

SPECIAL LAND USE REVIEW – General Standards

In accordance with Section 6.6, Special Uses, of the Hartland Township Zoning Ordinance, the following standards shall serve the Planning Commission and Township Board as the basis for decisions involving such uses. The standards are provided below.

- A. Be harmonious and in accordance with the objectives, intent, and purposes of this Ordinance.
- B. Be compatible with the natural environment and existing and future land uses in the vicinity.
- C. Be compatible with the Hartland Township Comprehensive Plan.
- D. Be served adequately by essential facilities and public services, such as highways, streets, police and fire protection, drainage ways and structures, refuse disposal, or that the persons or agencies responsible for the establishment of the proposed use shall be able to adequately provide any such service.
- E. Not be detrimental, hazardous, or disturbing to the existing or future neighboring uses, person, property, or the public welfare.
- F. Not create additional requirements at public cost for public facilities and services that will be detrimental to the economic welfare of the community.

The Planning Department believes the proposed use can and will meet the criteria listed above for the special land use request. The applicant has provided responses to the special land use general standards in the letter dated October 28, 2024. The applicant will be responsible for all applicable approvals and permits from other agencies and departments for the proposed use.

SPECIAL LAND USE REVIEW – Applicable Site Standards

In addition to a finding by the Planning Commission and Township Board that the criteria above have been satisfied, standards outlined in Section 4.17 (Automobile Wash Establishment), will apply. Those standards are listed below, followed by staff's findings on each standard.

Automobile Wash Establishment (Section 4.17)

1. Layout. All washing activities shall be carried on within a completely enclosed, roofed building. Vacuuming activities shall be permitted in the side or rear yard only, provided such activities are located at least fifty (50) feet from adjacent residentially zoned property. Entrances and exits shall not face abutting residentially zoned or used property.

The proposed automobile wash is within a completely enclosed building, with entrances to the site from Highland Road, Hartland Road, and Rovey Drive. The adjacent property to the east is zoned GC (General Commercial). The adjacent vacant property to the north is zoned PD (Planned Development) and is part of Hartland Towne Square PD. Residentially zoned properties or uses are farther than fifty (50) feet from the subject site (north side of Rovey Drive).

The entrance to the car wash is on the south side of the building and faces Highland Road. The exit point of the car wash, on the north side of the building, faces a vacant parcel of land that is zoned PD.

Vacuuming activities (vacuum apparatus) are on the east side of the building which is the side yard. A condition for approval is added that states lighting is not permitted on any components of the vacuum apparatus.

2. Entrances and Exits. Sufficient space shall be provided on the lot so that vehicles do not enter or exit the wash building directly from an adjacent street or alley. All maneuvering areas, stacking lanes, and exit aprons shall be located on the car wash parcel itself. Streets and alleys shall not be used for maneuvering or parking by vehicles to be serviced by the automobile wash.

The proposed plan meets these standards.

3. Orientation of Open Bays. Buildings should be oriented so that open bays, particularly for self-serve automobile washes, do not face onto any thoroughfares unless screened by landscaping.

This standard does not apply as open bays are not proposed.

4. Exit Lane Drainage. Exit lanes shall be sloped to drain water back to the wash building to drainage grates.

The plans do not have this level of detail, but the applicant has been advised.

5. Truck Washes. Truck washes must be at least one hundred (100) feet from all property lines and entirely screened from residential uses. The screening shall include both a wall and landscaping.

This standard does not apply to the proposed project.

SITE PLAN REVIEW – Applicable Site Standards

The applicable site standards include those standards related to the proposed use, automobile wash within a completely enclosed building, as outlined in Section 3.1.14 (GC-General Commercial); Section 4.17 of the Zoning Ordinance, as discussed above; and all applicable zoning standards in the Zoning Ordinance.

In this case the applicant is requesting site plan with special land use approval to construct an approximate 3,677 square foot building for a fully automated automobile wash within a completely enclosed building.

Impact Assessment

An impact assessment was not provided.

Traffic Generation

A traffic impact assessment was not provided however the applicant submitted a trip chart for the proposed use (LU 948 - Automated Car Wash) from the Institute of Traffic Engineers (ITE) Trip Generation Manual, 11th Edition. The Livingston County Road Commission (LCRC) reviewed the plans and noted that permits or a TIS (Traffic Impact Study) will not be required. The plans were sent to the Michigan Department of Transportation (MDOT) for their review. MDOT stated a TIS is not required based on the proposed usage. Should work occur in the Highland Road right-of-way, permits from MDOT would be required.

Dimensional Requirements (GC-General Commercial; Section 3.1.14)

Lot Size (Sec. 3.1.14)

- Required 40,000 sq. ft. w/o sewer; or 20,000 sq. ft. with public sanitary sewer
- Proposed 1.65 acres (71,874 sq. ft.) with public sanitary sewer
- Meets Requirement? Yes
- Comment (none)

Frontage (Sec. 3.1.14)

- Required Minimum lot width of 120 feet
- Proposed 200 lineal feet along Highland Road and approximately 327 lineal feet along Hartland Road
- Meets Requirement? Yes
- Comment (none)

Building Setbacks (Sec. 3.1.14)

Setback	Required	Proposed	Meets Requirements?
Car wash building			(Y/N)
Front (south)	80'	104'	Yes
Highland Road			
Front (west)	80'	87'	Yes
Hartland Road			
Side (east)	15'	80'	Yes
Rear (north) w/ sewer	40'	137'	Yes
Setback	Required	Proposed	Meets Requirements?
Pay station/canopy			(Y/N)
Front (west)*	20' from ROW	45' as measured from	Yes
Hartland Road	(Hartland Road)	edge of canopy nearest	
		ROW	

^{*}Pay station is unmanned with a canopy structure over that feature. The setback could be similar to that required for a fuel island canopy for a gasoline station, which is 20 feet from the street ROW.

Building Height (Sec. 3.1.14)

- Required -35 feet or $2\frac{1}{2}$ stories, whichever is less
- Proposed 24 feet (highest point of parapet walls)
- Meets Requirement? Yes
- Comment (none)

Lot Coverage (Sec. 3.1.14)

- Required Principal structure: 75% max.
- Proposed 5.1% (3,677 sq. ft. bldg.÷ 1.65 acres)
- Meets Requirement? Yes
- Comment (none)

Site Requirements

<u>Dumpster Enclosure (Sec. 5.7) – Enclosure includes dumpster(s) & mechanical equipment for vacuums</u>

 Required – Dumpster designed, enclosed, and screened per requirements; decorative masonry screen wall on 3 sides to match exterior façade materials of the building and steel reinforced, opaque, lockable wooden gates. Enclosure height sufficient to screen dumpsters; minimum enclosure height is 6 feet.

- Proposed Enclosure provided for dumpsters and mechanical equipment for vacuums with screen walls comprised of brick veneer to match the building; screen walls are 8'-2 ½" in height, with solid wooden gates painted a dark grey color. Access doors are constructed of cedar and painted a dark grey color.
- Meets Requirement? Yes
- Comment Vacuum equipment height stated as 8 ft. to highest point.

Off-Street Parking (Sec. 5.8.4.H – Auto Wash – fully automatic car wash)

- Required 2 spaces; PLUS 1 designated space for each employee on a peak shift; PLUS 12 stacking spaces per bay for a fully automatic car wash. Proposed car wash building has one (1) bay. EQUATES TO: 18 parking spaces REQUIRED TOTAL (using 4 employees & 1 one bay)
- Proposed 30 parking spaces total. 22 spaces with vacuum equipment (12' x 20' in dimension) which includes 2 barrier-free van accessible parking spaces; 8 standard parking spaces, 12' x 20' in dimension (no vacuum equipment); plus 30 stacking spaces total.
- Meets Requirement? Yes
- Comment Although the site contains sufficient off-street parking spaces, many of these are related to spaces also dedicated for vacuum services (22 spaces). Section 5.8.4.H.i. indicates that the Planning Commission may modify the numerical number of off-street parking spaces, based on evidence that another standard would be more reasonable. In the event that the Planning Commission determines the spaces dedicated for vacuum services should not be counted toward the required off-street, then consideration should be given toward testimony from the applicant on the number of spaces they believe would be necessary for the proposed auto wash facility.

Barrier-Free Parking

- Required 2 barrier-free spaces in a location most accessible to the building entrance, with at least 1 space van-accessible (1 barrier-free space required per 25 parking spaces)
- Proposed 2 barrier-free spaces, both van accessible, nearest the building entrance (east side of building), 10' x 20' in dimension, with 8' access aisle
- Meets Requirement? Yes
- Comment (none)

Parking Lot / Driveway / Internal Roads Setbacks (Sec. 5.8.3.)

• Required – Off-street parking in commercial districts may only be located in a side or rear yard or non-required front yard; may not be permitted within 20' of a single-family district, nor within 10' of a road ROW, or 25' from a front lot line, nor 10' from a side or rear lot line.

Setback	Required	Proposed	Meets Requirements?
			(Y / N)
Front (south) – Highland Road	25'	No parking proposed	NA
Front (west) – Hartland Road	25'	No parking proposed	NA
Rear (north)	10'	10'	Yes
Side (east)	10'	10'	Yes

- Meets Requirement? Yes
- Comment (none)

Loading (Sec. 5.9)

- Required 1 loading space (10' x 50') required for up to 10,000 sq. ft. of floor area (for industrial use)
- Proposed Loading zone not shown

- _
 - Comment Typically this has not been required to be shown on a plan. There appears to be sufficient room in the parking lot to accommodate loading activities.

Access Management and Non-Residential Driveway Standards (Sec. 5.10)

- Required Per Sec. 5.10.5.C., the minimum access spacing between commercial driveways on a street with a posted speed limit of 45 MPH is 300 feet (Highland Road). The speed limit for Hartland Road is not posted adjacent to the subject site.
- Proposed Existing commercial driveways on Highland Road and Hartland Road are to remain in their current locations.
- Meets Requirement? NA

• Meets Requirement? – Yes

• Comment – (none)

Landscaping and Screening (Sec. 5.11)

- A. Landscape plan requirements (Sec. 5.11.1.D.)
 - Required Landscape plans are to be prepared by a Registered Landscape Architect (plans with seal and signature).
 - Proposed Landscape plans are prepared by a Registered Landscape Architect
 - Meets Requirement? Yes
 - Comment (none)
- B. Irrigation (Sec. 5.11.2.A.viii.)
 - Required All landscaped areas (including lawns) shall be provided with an automatic, underground or drip irrigation system.
 - Proposed Landscape plans state that an irrigation system is proposed (sheet L100)
 - Meets Requirement? Yes
 - Comment (none)
- C. Greenbelt Landscaping (Sec. 5.11.C.)

Calculations for Greenbelt along Highland Road (200 ft. frontage)

- Required –Greenbelt located within the first 30 feet of the property, minimum 20 feet wide, 1 canopy tree for every 30 ft of linear frontage; PLUS 3 small deciduous ornamental trees or large deciduous or evergreen shrubs for the initial 40 ft., and 1 per 20 ft. thereafter. For 200' of frontage along Highland Road, EQUATES TO: 7 canopy trees and 11 additional ornamental trees, or large deciduous or evergreen shrubs REQUIRED
- Proposed 6 proposed canopy trees; 2 existing ornamental trees; 7 proposed ornamental trees; and 3 large shrubs, within first 30 ft of property.
- Meets Requirement? **No** for required number of canopy trees.
- Comment 1 existing tree is stated on the plan as a canopy tree (southeast area along Highland Road); however, the tree is a Serviceberry tree species (ornamental tree category) and cannot be counted as a required canopy tree. Planning Commission determination if proposed plan meets the intent of the Greenbelt requirements.

Calculations for Greenbelt along Hartland Road (327 ft. frontage)

• Required – Greenbelt located within the first 30 feet of the property, minimum 20 feet wide, 1 canopy tree for every 30 ft of linear frontage; PLUS 3 small deciduous ornamental trees or large deciduous or evergreen shrubs for the initial 40 ft., and 1 per 20 ft. thereafter. For 327' of frontage along Hartland Road,. EQUATES TO: 11 canopy trees and 18 additional ornamental trees, or large deciduous or evergreen shrubs REQUIRED

- Page 9
- Proposed 6 existing canopy trees; 3 proposed canopy trees; 7 existing ornamental trees; 4 proposed ornamental trees; and 10 large shrubs, within first 30 ft. of the property.
- Meets Requirement? **No**, for required number of canopy trees. Plan shows 2 off-site canopy trees as being counted as part of the Greenbelt requirements. Staff did not count those 2 trees.
- Comment Plan shows a large, mulched landscape bed where trees/shrubs are shown in Greenbelt along Hartland Road and does not have the required 80% ground coverage. Existing shrubs to be removed. Planning Commission determination if proposed plan meets the intent of the Greenbelt requirements.

D. Foundation Landscaping (Sec. 5.11.2.D.)

• Required – Length must equal 60% of the front and sides of building length along front and sides of building where facing road or adjacent to parking lot or other areas which provide access to the building; must be min. 8 ft. in width and located adjacent to the building, and consist of 1 ornamental or columnar tree, and 6 large or 8 small shrubs for every 30 lineal ft.

Calculations for Foundation Landscaping along West side of building (120 ft. building length)

- Building perimeter = 120 ft. (west); Foundation perimeter 120 ft. X 60% = 72 ft. $(72 \div 30 = 2.4)$
 - EQUATES TO: 3 ornamental/columnar trees; PLUS 19 small shrubs or 14 large shrubs REQUIRED
- Proposed 3 canopy trees on west side of drive aisle with stacking lanes; PLUS 21 small shrubs; and 13 large shrubs, in 8-foot-wide planting area adjacent to building.
- Meets Requirement? Yes, for plant count; **No** for location of canopy trees (3 trees are not planted in correct area and are not ornamental or columnar trees)
- Comment Planning Commission determination if proposed plan meets the intent of the Foundation Landscaping requirements.

Calculations for Foundation Landscaping along East side of building (124 ft. building length)

- Building perimeter = 124 ft. (east); Foundation perimeter 124 ft. X 60% = 75 ft. (75 ÷ 30 = 2.5)
 EQUATES TO: 3 ornamental/columnar trees; PLUS 20 small shrubs or 15 large shrubs
 REQUIRED
- Proposed Applicant is proposing that the required Foundation Landscaping plants for the east side of the building (no planting area available on the east side) be planted into interior landscape islands (per notes on Sheet L100). The plan is not clear which landscape islands are the designated areas. Staff counted the plants in the landscape island located southeast of the building, as follows:
 - 2 ornamental trees; PLUS 19 small shrubs; and 12 large shrubs
- Meets Requirement? **No,** number of ornamental trees and for location of Foundation Landscaping (not planted in correct location)
- Comment Additional plants in the landscape island located southwest of the building could be considered to meet the required plant count. Planning Commission determination if proposed plan meets the intent of the Foundation Landscaping requirements.

E. Parking Lot Landscaping (Sec. 5.11.2.E.i.)

- Required Landscaped endcaps for parking areas of 10 or more spaces; landscaped areas in parking lots shall be no less than 10 ft. in any dimension and no less than 180 sq. ft.; 1 canopy tree per 180 sq. ft. of interior area, with 80% ground coverage (shrub or groundcover plants) within 2 yrs. of planting. Approximate square footage of 7 endcaps & using each area as 200 sq. ft. each x 7 = 1,400 sq. ft. EQUATES TO: 8 canopy trees and 80% ground coverage (shrub or groundcover plants)
- Proposed 8 canopy trees plus lawn and/or shrubs that meets 80% ground coverage
- Meets Requirement? Yes for most endcaps, except for two (2) endcaps on the east (by cement

block wall) – reduction of mulched beds required, OR add more plants to meet 80% ground coverage requirement.

- Comment (none)
- F. Perimeter Landscaping For areas not visible from a public road (Sec. 5.11.2.E.ii.b.) along north and east sides of the property (adjacent to parking spaces)
 - Required –1 canopy tree with 4 large shrubs OR 1 evergreen tree for every 30 lineal feet or portion thereof. North: 96 feet; East: 120 ft.

EQUATES TO:

North: 3 canopy trees and 13 large shrubs OR 3 evergreen trees REQUIRED *East:* 4 canopy trees and 16 large shrubs OR 4 evergreen trees REQUIRED

• Proposed -

North: 1 proposed canopy tree; 7 existing evergreen trees and 13 proposed evergreen shrubs (30" height)

East: Existing cement block wall

- Meets Requirement? Yes, for the North; No for the east.
- Comment Planning Commission determination required to consider accepting the existing cement block wall as an acceptable screening devise on the east, as there is an insufficient area for plants.
- G. Buffering or Screening (Sec. 5.11.2.G.i.) screening between land uses NA as adjacent properties to the north and east are commercial sites/uses and zoned GC (General Commercial) and PD (Planned Development).
- H. Screening of Ground Mounted Equipment (Sec. 5.11.2.G.iii.)
 - Required Screening on three sides for utility cabinets (if 30 inches or more in height)
 - Proposed 6 evergreen shrubs shown around transformer; plant species not identified on plan. Note on plan states proposed evergreen shrubs are to be 6" taller than the proposed transformer.
 - Meets Requirement? TBD at construction phase
 - Comment Height information on the transformer and shrub species to be identified on the Construction Plan set.
- I. Detention/Retention Area Landscaping (Sec. 5.11.2.H.) Detention is not proposed.

Other comments on landscape plan

Comments on Sheet L100 – Several corrections to the landscape plan are required on the Construction Plan set, including the following:

- Corrections to existing tree species names.
- Off-site trees that cannot be counted for landscape calculations -notes/landscape calculations should be revised.
- Reduce mulched areas/add plants for 80% ground coverage in landscape area along Hartland Road frontage and 2 endcaps on east.
- Revise notes in the "Provided" section of the Landscape Code Requirements Chart where plant counts are incorrect.
- Clarify locations of foundation pants if not located in planting beds directly adjacent to the building.
- Other comments from the Planning Commission to be addressed as applicable.

Sidewalks and Pathways (Sec. 5.12)

- Required The Planning Commission may require sidewalks or safety paths as a condition of site plan approval
- Existing 7-foot-wide sidewalk is in place along the Highland Road and Hartland frontages.

- Meets Requirement? Yes
- Comment (none)

Lighting (Sec. 5.13)

A. Intensity

- Required Light intensity to be measured at 5 feet above grade; max. 0.5 fc along property line adjacent to residential; or max.1.0 fc along property line adjacent to non-residential; average fc between 2.4 and 3.6 in main parking area and an average of 5.0 fc at main building entrance and at exit/entry drive; may not exceed 10 fc at any location; average lighting under vehicular canopy shall not exceed 5 fc and canopy light fixtures shall be installed so that the lens is recessed and adequately shielded (applies to canopy over each pay stations).
- Proposed Light intensity measured at 5 feet above grade; footcandle values average of 1.0 fc along property lines; average of 2.4 fc in the parking area; average of 0.90 fc at exit/entry drives; average of 5.0 fc at building entrance; and footcandle value in any location 10 fc or less.
- Meets Requirement? Yes, with the exception that average footcandle value under each pay station canopy is not listed in the chart.
- Comment Photometric plan to be revised to address items noted above on the Construction Plan set.

B. Fixture Height

- Required 25' or the height of the principal building, whichever is less, measured from the ground level to the centerline of the light source
- Proposed 20' pole plus 3' base
- Meets Requirement? Yes
- Comment (none)

C. Fixture Type

- Required Details of all lighting fixtures needed including specifications for shielding, wattage, and illumination
- Proposed Specifications for proposed LED light fixtures are shown on the photometric plan for light pole fixtures, wall mounted light fixtures.
- Meets Requirement? N_0 , see comments below.
- Comment Specification sheets for lights under the pay station canopies and lighting for the flagpole shall be submitted with the Construction Plan set. All lighting shall comply with Section 5.13. Lighting on vacuum apparatus is not permitted.

Water Supply and Wastewater Disposal (Sec. 5.16)

The site is served by municipal water and sanitary sewer.

Architecture / Building Materials (Sec. 5.24)

Architecture Comments:

• Façade Materials Calculation – Façade materials must comply with the specifications for Façade Materials Group #1; percentages for the car wash building are proposed as follows:

Materials Group #1: Proposed Façade Materials by Percentage by Elevation

Elevation	Clay Brick	Glass	Awnings
	(30% min.)	(50% max.)	(10% max.)
	Brick veneer + brick band		
	TOTAL		
North	88.0%	11.0%	1.0%
South	67.0%	31.0%	2.0%
West	83.0%	14.0%	3.0%
East*	81.0%	18.0%	3.0%

^{*}Total percentage of façade materials on East elevation equates to 102% (100% is max.)

- Colors: Color renderings of the building are provided. Specific product information for each façade material is stated on the building elevations. Earthtone colors are proposed for brick; awnings are black; other elements on building are light grey (downspouts, scuppers, etc.) or black. Garage doors are polycarbonate material per the construction brochure, but colors of the door panels and trim are not stated on elevations. Garage doors are not listed as a façade material table in Sec. 5.24.14.
- Materials: Percentages are listed for each elevation side as indicated by the table; specifications on all materials are provided. The applicant was asked to bring a material sample board to the Planning Commission meeting on November 21, 2024.
- Meets Requirement? Yes
- Comment West building elevation shows the outline of roof-mounted mechanical equipment, which is screened by parapet wall on the west side. Applicant noted the outline represents the true height of the equipment. The building elevations should be revised to state the colors of the garage door panels and trim. The façade material percentages for the east elevation should be revised to equate to a total of 100%. All colors must be neutral or earthtone. The items noted in this section should be addressed on the Construction Plan set.

Other Requirements-Zoning Ordinance Standards/Comments

Outdoor Digital Menu Board and Pay Station

Three (3) pay stations are proposed, with one (1) pay station located in each of three (3) stacking lanes. The two (2) most western pay stations are each set on a curbed island. The pay station nearest the building (west side) appears to be set in a landscaped area next to the building, but specific details are not shown on the plans. Sheet A7-1 provides a drawing of the pay station layout.

The pay station consists of pay station/kiosk, digital menu, gate, and canopy over the pay station. Concrete filled bollards are shown on the end of the curbed island (leading edge of island). The digital menu is shown on one end of the curbed island, presumably on the north end, where the patron enters the pay station. Sheet A7-1 includes a drawing with the dimensions of 2'-0" by 2'-6" (labeled as Sign Cabinet and Menu Sign Base). Staff assumes this drawing is related to the digital menu board.

A product brochure for outdoor digital menu boards was submitted, showing two (2) sizes of digital menu boards, however the applicant did not specify which size menu board is proposed. Based on the product brochure the digital menu is mounted on a pedestal, and the overall height is 71.37" (approximately 5.9 feet) for both digital board options shown. Neither menu board in the product brochure matches the drawing on Sheet A7-1 regarding the stated dimensions.

Section 5.26.8.D. outlines the standards for signs for Drive-Through Establishments (ordinance section is provided as an attachment). Section 5.26.8.D.v. outlines separate sign standards regarding a digital light

SP/SUP Application #24-008 Clean Express Car Wash - 10587 Highland Road November 14, 2024 Page 13

emitting diode (LED) changeable sign for a restaurant or food service establishment business that were approved for a drive-through lane. Per this section, a LED changeable sign may be permissible instead and in lieu of a sign outlined in Section 5.26.8.D.iv. (general standards for signs for drive-through establishments), subject to the provisions in Section 5.26.8.D.v.

Section 5.26.8.D.v. allows for a LED changeable sign specifically for a restaurant or food service establishment business that were approved for a drive-through lane. The plans for the car wash include three (3) proposed digital menu boards as part of the pay station. Should the Planning Commission be amenable to allowing the digital menu boards for the car wash business, Section 5.26.8.D. could be applied.

It should be noted the three (3) digital menu boards are located in the front yard of a public road (Hartland Road), which is not permitted per Section 5.26.8.D.iv.d.

Should the Planning Commission be amenable to allowing the digital menu boards, the following details should be provided on the Construction Plan set:

- Elevation view of the digital menu board and support post with dimensions
- Elevation view of the pay station kiosk
- Details on the gate at each pay station. The gate shall be a neutral color and contain no signage.
- Sheet C200 should show and label the digital menu boards
- Revised drawing of the pay station on Sheet A7-1, to show the exact menu board to be used that matches the product brochure.

Vacuum apparatus and Vacuum Equipment/Correlator

Details on the vacuum apparatus and vacuum equipment are found on Sheet C002 and in the product brochure (NCS Vacutech Product Brochure). The vacuum apparatus is used by patrons to vacuum their vehicle. It consists of an umbrella arch, vacuum hose, vacuum tube, and equipment post. Per notes on Sheet C002, all visible parts of the vacuum apparatus are black (drawing of sweeper arm and vacuum hoses); however, the color of the vacuum tube is not stated. The color of the vacuum tube should be stated on the Construction Plan set.

Lighting on the sweeper arm is not shown on the drawing, however a condition of approval has been added stating that lighting on any part of the vacuum apparatus is not permitted.

The vacuum mechanical equipment (vacuum correlator) is housed behind the masonry screen wall with the dumpster(s). The mechanical equipment is the source of power for the twenty-two (22) vacuums, and includes a direct drive turbine, exhaust silencer, and filter separator. A note should be added to the drawings of the vacuum equipment (labeled as drawing V611 and V621) that all components will be black.

Flagpole and flag

A flagpole and flag are proposed, on the south side of the building in a landscape area. Sheet C001 shows a drawing of the flagpole, with a mounting height of thirty (3) feet and maximum flag size of four (4) feet by ten (10) feet. The height and flag size complies with the Zoning Ordinance. Ground lighting associated with the flag is not shown on the site plans or photometric plans. If proposed, the information should be provided on the Construction Plan set. Per Section 5.13.1., low voltage, upward directed lighting for flags may be permitted by the Planning Commission.

Trash Receptacles

Although not shown, if trash receptacles are to be provided outdoors, the color shall be earthtone.

SP/SUP Application #24-008 Clean Express Car Wash - 10587 Highland Road November 14, 2024 Page 14

Hartland Township DPW Review

A review letter is provided from the Hartland Township DPW Director, dated October 15, 2024.

Hartland Township Engineer's Review (SDA)

The Township Engineer (SDA) has reviewed the plans and recommends approval subject to items being addressed in the letter dated November 8, 2024.

Hartland Deerfield Fire Authority Review

The Hartland Deerfield Fire Authority has reviewed the plans and provided comments in the letter dated October 4, 2024. Approval is subject to the contingencies being addressed as outlined in the letter.

Attachments:

- 1. Hartland Township DPW review letter 10.15.2024– PDF version
- 2. Township Engineer (SDA) review letter 11.08.2024 PDF version
- 3. Hartland Deerfield Fire Authority review letter 10.04.2024 PDF version
- 4. Applicant response letter 10.08.2024
- 5. Applicant letter 10.24.2024 PDF version
- 6. Applicant response letter 10.28.2024
- 7. Car wash ITE trip generation—PDF version
- 8. NCS Vacutech product brochure PDF version
- 9. LCRC email 11.05.2024 PDF version
- 10. MDOT email 11.06.2024 PDF version
- 11. Digital Menu Board brochure PDF version
- 12. Belden Brick samples and Paint sample Iron Ore PDF version
- 13. Sign regulations for drive-through establishments
- 14. Color Building Elevations PDF version
- 15. Site Plans dated 10.28.2024

CC:

SDA, Twp Engineer (via email)

S. Hable, Twp DPW Director (via email)

A. Carroll, Hartland FD Fire Chief (via email)

 $T:\PLANNING\ DEPARTMENT\PLANNING\ COMMISSION\2024\ Planning\ Commission\ Activity\Site\ Plan\ Applications\SUP\ \#24-008\ Car\ Wash\ Big\ Boy\ site\Staff\ reports\PC\SUP\ \#24-008\ PC\ staff\ report\ 11.14.12024.docx$





Scott Hable, Public Works Director 2655 Clark Road Hartland MI 48353 Phone: (810) 632-7498

TO: Planning Department

DATE: 10/15/2024

DEVELOPMENT NAME: Clean Express Auto Wash

PIN#: 4708-21-400-062 APPLICATION #: SP/SUP 24-008 REVIEW TYPE: Initial Plan

Initial plans for the Clean Express Auto Wash proposes a single lane car wash with vacuum area located on the vacated Big Boy site. According to this plan multiple lanes will condense into one lane to enter the wash bay only having one car at a time entering. Subsequently this plan depicts water reclamation tanks for the wash line, this will need to be verified on the construction plans along with the connection points and material to the wash. Currently the parcel has 7.38 Sewer REU's and 15.10 Water REU's. The calculations below are based on the data we have received thus far from the applicant concerning comparable owned washes and their water usage. These numbers may change depending on any new usage data supplied by the applicant.

	Sewer REUs	Water REUs
Owned	7.38	15.10
Required	75	75
# REUs Needed	67.62	59.90
Cost Each	\$9,439.20	\$5,816.01
Total Due Each	\$638,278.70	\$348,379.00
TOTAL REU COST	\$986,657.70	

Hartland Township Public Works approves the Clean Express Auto Wash concept plan subject to inclusion of the following details on the construction plans:

- 1. Sanitary sewer material and sizes and connection detail sheet
- 2. Monitoring manhole for sewer connection and location if required
- 3. Utility easements noted as public.
- 4. Approval of the Livingston County Drain Commission.
- 5. Obtaining REU's

Please feel free to contact me with any further questions or comments regarding this matter.

Scott Hable

Public Works Director

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Site Plan Review

November 8, 2024

Mr. Troy Langer Planning Director Hartland Township 2655 Clark Road Hartland, Michigan 48353

Re: Clean Car Wash – Site Plan Review #3

SDA Review No. HL24-108

Dear Commission Members:

We have received the site plan submittal for the above referenced project prepared by Mannik Smith Group dated October 28, 2024 and received by our office on November 4, 2024. The plans were reviewed in accordance with the Site Plan Review Checklist, Current Design and Engineering Standards, Standard Details, and Code of Ordinances and the following comments are our observations.

Recommendation

Approval of the Final Site Plan is recommended conditional upon all of the above comments being addressed to the satisfaction of the Planning Commission

Project Summary

- Construction of a Car Wash east of N Old US 23 and north of Highland Road (M-59) at 10587 Highland Road (former Big Boy). Site access would be provided via public and private roadways. The site is noted as 1.65 acres.
- Water service would be provided from the existing 12" diameter water main located along the north side of Highland Road. A proposed 2" water service would be provided to connect to the existing 2" water service to serve the site.
- Sanitary service would be provided from the existing 18" diameter sanitary sewer located along the north side of Highland Road. A proposed 6" sanitary lead service would be provided to connect to the existing 6" sanitary service to serve the site.
- Storm water would be collected by two storm sewer collection systems and discharged to an unknown outlet. It is possible that the area is served by a regional stormwater management detention system.

Water Main

1. The hydrant layout will need to be reviewed and approved by the Hartland Fire Marshall. The building shall be covered by a 250-foot radius of a hydrant. It is approximately 256 feet measured from the furthest wall of the building.



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Sanitary Sewer

1. All sanitary sewer design requirements are to follow current Livingston County Drain Commissioner's (LCDC) standards and details. LCDC sanitary sewer detail sheets shall be attached to the proposed plans when applicable.

Storm Drainage

- 1. It was confirmed that the existing Big Boy site was not part of the Hartland Towne Square Development regional stormwater management system, but it is possible that the area is served by a different regional detention/retention pond system, but if not onsite detention will be required. A storm drainage narrative indicating the ultimate drainage outlet for stormwater management on site and calculations shall be provided for review along with a comparison of the existing and proposed runoff coefficients for the site.
- 2. All storm water design calculations are to follow Hartland Township and Livingston County Drain Commissioner standards and details. Offsite surface runoff shall not be trapped along the development perimeter.

Site Paving

- 1. The condition of the existing sidewalk and ramps along Hartland Road and Highland Road will need to be evaluated and may need to be removed and replaced if found not to be in conformance with the current ADA standards.
- 2. The Fire Department shall review and approve the emergency vehicle circulation around the perimeter of the building including past the pay stations. Provide additional turning movements to the site plan prior to next submittals. Any approvals given by the Township should be conditional on satisfying the circulation plan.

Please be aware that additional comments may arise with the submittal of the requested revisions and/or additional information.

The comments are not to be construed as approvals and are not necessarily conclusive. The final engineering plans for this development are to be prepared in accordance with the Current Design and Engineering Standards, Standard Details, and Code of Ordinances.

If you have any questions regarding this letter, please contact Mark Collins or Luisa Amici at (248) 844-5400 with any questions.

Sincerely,

SPALDING DEDECKER

Lusa Amu

Luisa Amici Engineer Mark Collins, PE
Project Manager



HARTLAND DEERFIELD FIRE AUTHORITY

HARTLAND AREA FIRE DEPT.

3205 Hartland Road Hartland, MI. 48353-1825 Voice: (810) 632-7676 E-Mail: firemarshal@hartlandareafire.com

October 4, 2024

To: Hartland Township Planning Commission

Attn: Planning Department

Re: Express Clean Car Wash

The Hartland Deerfield Fire Authority has reviewed the Site Plan for Express Clean Car Wash dated September 6, 2024.

These are the following are recommendations:

- 1. Ensure turning radius is a minimum of fifty feet.
- 2. Supra Box installed near access door, order form obtained from the Fire Department.
- 3. The West side of the structure appears to not have an access pathway.
- 4. The West side or East side must have a twenty-six feet access road for Ladder apparatus placement.

Any revised drawings affecting the Fire Department must be submitted for review.

Jon Dehanke Fire Marshal

Jon Dhanke



October 8, 2024

Martha K. Wyatt **Planner- Landscape Architect** 2655 Clark Road Hartland, MI 48353

Re: Site Plan Review #1
SUP Review No. 24-008
10587 Highland Road
Hartland, MI 48353

Dear Review Team:

The Mannik Smith Group has revised the comments of the Engineering Plan for the proposed development at 10587 Highland Road Hartland, MI 48353. We have the following responses:

Sheet C001 (General Details)

1. Are the booths manned by an employee? The pay station booths are not permitted as shown on the current set of plans because they do not meet the required front yard setback of 80 feet (see note below for Sheet 200).

There was only one booth proposed outside the setback and two pay kiosks/stations with the setback area. This has been updated to be 3 pay kiosks/stations within the setback area.

Sheet C110 (Demolition Plan)

1. Any existing vegetation to be preserved should be protected during construction. Please show protective fencing around vegetation to be preserved.

Tree protection fence is now shown.

Sheet 200 (Site Plan)

- 1. The two (2) free-standing pay station booths are considered structures and must meet the required 80-foot front yard setback. Neither booth meets this setback. Unmanned pay kiosks could be an alternate option and may not be subject to the required front yard setback, but we need to see a photo or drawing of such payment kiosk to determine is the setback is required. The pay kiosk must be an earthtone color.
 - There was only one booth proposed outside the setback and two pay kiosks/stations with the setback area. This has been updated to be 3 pay kiosks/stations within the setback area. Renderings are included showing the pay kiosks/stations colors.
- 2. Vacuum stations must be a neural color, and not neon green as proposed on the architectural drawings. The preferred option is dark tone color to be used for all metal components of the building and vacuum stations, similar to the Solon, Ohio facility that was reviewed at the



informal meeting on July 31, 2024, with Site Plan Review Committee.

Renderings are included showing the earth tone color for the vacuum stations.

- 3. Are the vacuum stations (support poles) mounted in the asphalt in the parking space or on the adjacent sidewalk (by the building)? What is the distance from the vacuum station pole and the building (east side of the building)? What is the width of the sidewalk in that area? Vacuum Stations (support poles) Mounted in the Asphalt in the parking space. The vacuum station pole and the building (east side of the building) Distance is 5 feet. Dimension shown on Plan. Width of sidewalk is 5-6 feet. Width of sidewalk shown on Plan.
- Provide a separate scaled drawing of the vacuum station, with dimensions and colors stated, on this sheet or in the architectural section of the plans.

A scaled drawing is included on sheet A7-1.

5. The vacuum correlators (2 are shown) must be screened with a structure that matches the building façade materials, some type of masonry screen wall. Landscaping is not a sufficient screening option. Provide a separate scaled drawing of the vacuum correlator, with dimensions and colors stated, on this sheet or in the architectural section of the plans. The vacuum correlators must be neutral in color, and not neon green.

Vacuum correlators have been relocated on the site plan and is screened with a wall enclosure. Detail of the screening wall is shown on sheet A7-1.

6. Two (2) ADA parking spaces are required for 30 parking spaces, and one (1) ADA a space is shown. The plan should be revised.

Two (2) ADA parking spaces are now shown.

- 7. The height of the transformer should be provided on the plans. Evergreen plants are required on 3 sides of the transformer and must be of sufficient height to adequately screen the transformer (plants must be 6 inches taller than the transformer within 2 years of planting). Height of the transformer is unknown until electrical engineering is completed for the site. A note has been added on the landscape plan regarding the screening of the transformer.
- 8. Please provide information on the proposed flagpole and flag (pole height and type/size of flag).

Team is working on obtaining a detail on the flagpole and it is to be submitted soon.

9. A minimum of twelve (12) stacking spaces are required for the use. Please show the stacking spaces.

30 Stacking Spaces are shown on plan.

10. Sheet A 6-1 shows a detail drawing of bumper blocks-where are these proposed? Please show the bumper blocks on the plan. Typically, these are not permitted.

Detail has been removed. There is no proposed bumper block on the site.

11. Sheet A 6-1 shows a detail drawing of pipe bollard-are these for the pay station booths? Please show the bollards on this sheet (Sheet C200).

Bollards are shown on the site plan.

12. Monument signs will be reviewed separately. The leading edge of the monument sign must be at least ten (10) feet from the street ROW.

Monument signs are at least 10 feet away from street ROW. Dimension are shown on plan.

Sheet L100 and L101 (Landscape Plans and Specifications)

 The landscape plan shall be prepared by a landscape architect, registered in the State of Michigan. Please provide a landscape plan that is prepared by a Registered Landscape Architect (RLA registered in the State of Michigan). Detailed comments on the landscape plan will be provided at that time. I have attached the updated Landscape and Screening section of the Zoning Ordinance (Section 5.11) for reference. Please use this version for landscaping requirements.

Landscape plan has been revised and stamped by a Michigan registered landscape architect.

Sheet C600 and C601 (Photometric Plan & Photometric Specs)

- All exterior light fixtures must be shown on the photometric plan wall mounted fixtures/wall packs (as shown on the architectural elevations, Sheet A2-1), decorative wall mounted fixtures, lighting under awnings/canopies, lighting for the flagpole, etc. Please review Section 5.13 (Lighting) in the Zoning Ordinance.
 All lighting fixtures are now shown on the lighting plan.
- 2. Lighting intensity must be measured at five (5) feet above grade. Please state the height at which the footcandle values were taken. If not taken at 5 feet, please revise the photometric plan, and include all exterior light fixtures (and associated footcandle values) as noted above. Footcandle values are shown on the lighting plan.
- 3. Provide a specification sheet for each exterior light fixture and state the manufacturer, model number, color, etc. Please add that to the light fixture schedule on Sheet C600.

 Spec sheet for all exterior lighting is now shown.
- 4. Provide the average footcandles at the main building entrance to Sheet C600 (in the footcandle level chart).

Building entrance footcandle is now shown.

Sheet A2-1 (Exterior Elevations)

- 1. Please add the building orientation to the elevations as north, south, east, and west. Building orientation is now shown on the sheet.
- 2. The proposed façade materials, Quik Brik and fiber cement horizontal siding, are not acceptable. As discussed with the Site Plan Review Committee, the primary facade material must be a clay brick. The preferred building materials and building design are to be similar to those used at the Solon, Ohio carwash building, which was discussed at the informal meeting on July 31, 2024, with Site Plan Review Committee. Also discussed was the request by the Site Plan Review Committee to dress up the building and add awnings on the building similar to the Solon, Ohio carwash building, using black or another neutral color on all the metal accent elements.

Façade material is now shown and called out on the elevations sheet.

- 3. Please follow the Architectural standards outlined in Section 5.24 and 5.24.14, using the standards for Group #1 for the façade materials and allowed percentages for each material. Provide product information for each façade material- product name, manufacturer, color, and surface treatment of masonry product as applicable. All façade material colors are to be earthtone, including awnings, trim, garage doors, etc., except an accent color may be permitted at the main building entrance, subject to the approval of the Planning Commission. Sheets has been revised to reflect those standards.
- 4. Provide a PDF version of a material board that shows all façade materials. A physical material board should be provided at least 2 weeks before the date of the public hearing at the Planning Commission meeting, so that staff has time to review the materials board.

 PDF version of the material board is shown on the sheet. Physical material shall be submitted upon approval of the proposed material.
- 5. The building elevations must be revised to show the physical roof line and the outline of each roof-mounted mechanical equipment (HVAC units), for all elevations. All mechanical units must be sufficiently screened (on all sides), by the parapet walls. See the attached standards. Elevation sheet has been updated to screen all mechanical equipment.
- 6. Provide detailed, scaled elevation drawings of the enclosure for the vacuum correlators. The screen wall materials should match the building materials.

Vacuum correlator spec sheet is included in this submittal as sheet V601-V701

Provide revised building elevations with the changes noted above. Include a façade materials
chart for each side of the building that lists each façade material and the percentage of each
façade material for each elevation.

Façade material and percentage is shown on the sheet.

8. The signage shown on the building elevations will be reviewed separately; however, the signs do not appear to comply with the Zoning Ordinance standards for signs (Section 5.26).Signage as been sightly modified to meet requirements. Further modification can occur during signage review.

Sheet A6-1 (Site Details)

 The type, color and pattern of the dumpster enclosure materials must match or compliment the exterior façade materials of the building and comply with Section 5.24 as applicable. Please revise the dumpster enclosure drawing to match the revised elevations and façade materials.

Enclosure has been revised to match the building and be compliant with materials permitted per the standard.

2. Please state the color of paint to be used on the gates of the dumpster enclosure, and the man-door to the enclosure. The colors have to be earthtones.

The color has been called out on detail 3 of the sheet.

3. The pay station drawing shows a digital menu board. Please provide a photograph of a typical menu board.

A photograph of the menu board is included.

4. Provide drawings of a pay station kiosk or other payment unit if not using the pay station booth. Please state the materials and colors.

Drawing of the pay station/kiosk is shown on the sheet and the color is called out.

Color renderings of the building

1. Neon green accents are not permitted. Please provide updated color renderings for the revised building elevations.

Revised rendering is to be submittal later in the week.

2. The stated building orientations are incorrect (north, south, east, and west) in relation to this specific site. Please revise.

Revised rendering is to be submitted later in the week.

Other

1. Please provide information on the trip generation for the proposed use using the Institute of Traffic Engineers (ITE)Trip Generation Manual as a resource.

ITE trip generation manual does not have enough data for an accurate result. The ITE trip chart for the proposed use is included in the submittal.

2. Please provide a summary of the stormwater management plans.

As the site runoff is being greatly improved with the amount of green space being added, the proposed stormwater management plan is to reuse most of the existing sewer on the is and only add one additional run.

3. Please provide a letter from the owner agreeing to pay the anticipated REU's as determined by the Township's Department of Public Works (DPW) or provide the requested information to the Township's DPW to determine the required REUs for this project.

Letter submittal is to follow by the owner soon.

If you have any questions or comments, please contact me directly.

Sincerely,

Euponine Pierre Civil Engineer

euponine/ie-



Clean Express Auto Wash Hartland Township

CORRECTION LETTER NO.1

October 24th, 2024 - Response

These items are in response to your Correction and Information Letter issued by your office May 14, 2024. Please see revised drawings along with responses below.

Vac Enclosure

- The height of the vacuum equipment is shown correctly. The comment referencing Page V621 is pointing to the shorter component of the vac equipment. The taller portion is to the left and dimensioned correctly at 8'-0".
- The height of the vacuum enclosure is 8'-2 ½" when the masonry cap is included. This
 height is more than the manufacturer's suggested height for a ceiling which means the
 overall height is sufficient to screen the equipment. See V621 of the vacuum shop
 drawings.
- There is no signage on the gate arm.
- Pay station awning and post to be in black finish.
- The pay station canopy is illuminated with a low brightness LED light for safety.
- All enclosure gates and man doors to be painted in Sherwin Williams 'Iron Ore' finish.
- See attached detailed drawings of the menu board that include dimensions.
- All pipe bollards to be covered in a plastic sleeve in black finish.

Exterior Elevation Comments

- 1. All masonry banding has been identified on the elevations and the percentages have been added to the elevation square footage tables.
- 2. Specification sheet has been provided for the overhead door. See attached.
- 3. Coded note 18 has been clarified.
- 4. Coded notes have been clarified.
- 5. Upper masonry band has been identified with coded note number 12.
- 6. Color of collector boxes has been identified in the coded notes.
- 7. Color of downspouts has been identified in the coded notes.
- 8. Signage will be submitted for a separate review. Signage notation has been removed from the drawing.
- 9. Coded note has been moved for clarity.
- 10. The dashed in HVAC unit is based on the exact height specification provided by the manufacturer.
- 11. Color renderings have been provided as a part of this submittal.

Supplemental Exterior Elevation Comments

- 1. Color of downspouts is listed as a light grey finish.
- 2. Soldier course has been labeled on the drawings.
- 3. Signage note has been revised to indicate that signage will be submitted under a separate review process.
- 4. The colors of the masonry veneer and masonry band are listed on the material legend and include the manufacturer and their product name for the color.

Please feel free to call with any questions or concerns.

Sincerely,

Scott D. Baker Principal Architect

SBA Studios, LLC

SCOTT D.
BAKER
14654

SCOTT D. BAKER, LICENSE #14654 EXPIRATION DATE 12/31/2025



October 28, 2024

Martha K. Wyatt **Planner- Landscape Architect** 2655 Clark Road Hartland, MI 48353

Re: Site Plan Review #2
SUP Review No. 24-008
10587 Highland Road
Hartland, MI 48353

Dear Review Team:

The Mannik Smith Group has revised the comments of the Engineering Plan for the proposed development at 10587 Highland Road Hartland, MI 48353. We have the following responses:

Batch 2A

General Details (C001)

State color of all elements of vacuum equipment.
 Color perspective drawings showed elements as black. Color has been called out in

2. Put this detail on Sheet A1-1 or another sheet with other vacuum details.

Sheet C002 has been created to combine the details of the Vacuum equipment.

Demolition Plan (C110)

1. Label each plant to be saved.

detail on sheet C003.

Provided labels.

- 2. The existing planting bed along west boundary consists of burning bush, spreading junipers, maple trees, & service berry trees. These could be counted as part of the greenbelt requirement if in good condition.
 - Are you keeping burning bush & Junipers?
 - This bed needs cleaning up.

 Burning bush and junipers are to be removed and replaced with other plants to meet greenbelt requirements.
- 3. Show (7) existing service berry trees in this area.
 - Remove mulberry tree (next to a serviceberry tree) during demolition phase.
 - Remove boxelder tree (in-between serviceberry trees) during demolition phase.

Provided labels.

- 4. Label plants to be saved on Landscape Plan Sheet L100
 - Provided labels.



Site Plan (C200)

1. State width of parking space.

Parking space width has been added.

Batch 2B

Landscape Plan

1. Add Height of plant to "Landscape Plant List."

Provided heights for select plants.

2. (In Yellow Highlight) State if tree is clump form or single trunk. If clump form, required size is a 6 foot tall tree at time of planting.

Provided form in table.

3. (In Pink Highlight) Is this considered a tree or a shrub?

Plant has been removed from list.

4. (In Green Highlight) Provide name of plant on this plan.

Labels provided.

Landscape Plan Details

1. On landscape plan – show exact plants you are counting – with a label "greenbelt plant."

Greenbelt plants should be much clearer now that the greenbelt is simplified – labels can be added if there is still confusion.

 (In Yellow Highlight) Greenbelt on Hartland Rd could count the existing canopy trees (7 maple trees) and 7 ornamental trees (serviceberry) if in good health as part of greenbelt requirement.

Healthy existing plants have been added to greenbelt calculation, see table on L100.

3. Landscape Code Requirements – Use updated Landscape Ordinance.

Updated Landscape Ordinance is now being used.

4. Row 1 and 2 to be removed due to not being required in updated ordinance.

These rows have been removed.

5. Replace Trees with Large Shrubs

Provided.

6. "9 Proposed" when 8 are shown.

Existing trees to remain has been clarified.

- 7. "Use Shrubs or evergreen trees required approval from planning commission." Large shrubs proposed in lieu of evergreen trees.
- 8. (In Green Highlight) If the plants are not located next to the building, waved request is required to located plants else where to be approved by planning commission.

Per phone call with Martha Wyatt, foundation planting locations have been clarified.

9. Show existing evergreen trees.

Labels provided.

10. Provide actual height of utility cabinet on Construction Plan Set

To be added in the future.

Batch 3 car wash comments 10.17.2024

Landscape Plan (L100)

1. Label all lawn areas.

Labels added.

2. Irrigation is required. Add note to this sheet or sheet L101 that irrigation is proposed.

Irrigation note added.

3. (orange highlight) Would suggest using mostly lawn, trees as shown, small groupings of shrubs elsewhere to keep it low maintenance.

Plantings shown as previously submitted, to meet client landscape standards.

4. (yellow highlight) Would suggest simplifying this area & reduce the numbers of trees. Try using existing healthy trees and shrubs to meet greenbelt requirements. The rest of the area can be lawn.

Greenbelt plantings have been revised and simplified.

5. Is this tree (existing maple) too close to sign? Roots may be damaged when installing sign.

Maple to be removed.

6. What are you counting as foundation plants. For what side of building? Per phone call with Martha Wyatt, foundation planting locations have been clarified. Foundation plantings shown for east and west sides, and are in the interior planting islands, except for 3 proposed trees which are adjacent to the western drive aisle.

7. (pink highlight) Move shrubs 4 feet from curb to avoid salt damage. Provided.

8. (blue highlight) Are you counting theses as canopy trees? No, since they are outside the property.

9. Need a canopy tree.

Provided.

10. Would suggest lawn + Tree in parking island.

Plantings shown as previously submitted, to meet client landscape standards.

11. Plants block access to door.

Planting scheme revised to provided access to door.

Landscape Notes & Details (L101)

1. Ground / Stone product is not permitted must use shredded hardwood mulch. Revised.

Photometric Plan (C600)

1. Footcandle Values (add ordinance standard) Provide this (values per ordinance)
'Added Ordinance Standards' section to Foot Candle Levels table. Added
Exit/Entrance Drive foot candle levels. Addressed Property Line foot candle levels so as to keep at 1.0 FC Max at property line.

2. To match civil plans – show enclosure for vacuum equipment.

Enclosure for vacuum equipment shown in plan.

3. Footcandles (Light Intensity) Must be measured at <u>5 feet</u> above ground level is this where they were measured? State height at measurement on this plan.

Added note specifying foot candles have been measured 5' above ground level.

- **4.** This does not match civile plans regarding the layout of the parking space/ island. Updated Proposed Base x-ref to match civil set layout
- 5. Exceed 1.0 fc

Addressed Property Limit foot candle levels, Prop limit at 1.0 FC max.

Clean Car wash comments 10.17.2024 batch 1

Page 1

1. Maximum flag size per ordinance is 40SF. And 6' x 10' is 60 sf
Detail has been added to sheet C001 and flag size has been updated.

THE MANNIK & SMITH GROUP, INC.

34

1. All components of vacuum equipment must be screened by wall.

Wall height is higher than the equipment height.

2. Add this detail to civil plans (Sheet A7-1 or C002)

Detail has been added to sheet C002.

3. Sheet A7-1 of civil plans states height as 7'8"

Detail now matched sheet A7-1.

4. State overall length dimension of vacuum equipment.

Length has been added to detail on sheet C002.

Page 3

1. Add this to civil plans.

Detail has been added to sheet C002.

SUP criteria:

Provide short answers to these criteria.

A. Be harmonious and in accordance with the objectives, intent, and purposes of this ordinance.

The proposed development is in a commercial area surrounded by existing developments that is not too accessible without a vehicle. The proposed car wash customers are mostly pass-through customers who are already on the road therefore the proposed development is an add-on to the township resident's daily life.

B. Be compatible with the natural environment and existing and future land uses in the vicinity.

The proposed car wash is in a commercial area and surrounded by commercial developments. The property is already zoned for the proposed development and per the comprehensive plan, it shall remain that zone.

C. Be compatible with the Hartland Township Comprehensive Plan.

The Township comprehensive plan identifies the site has a future commercial land use. The proposed development supports the township comprehensive plan in terms of future land use, future commercial percentage, development pattern, it will continue to increase the township high employment in services.

D. Be served adequately by essential public facilities and services, such as highways, streets, police and fire protection, drainage ways and structures, refuse disposal, or that the persons or agencies responsible for the establishment of the proposed use shall be able to adequately provide any such service.

The current access for the site is to remain. No work is proposed within the right-of-way. The existing development currently provides access to public facilities and services. Emergency vehicle route, drainage ways and structure, disposal access are show as part of the site plan.

E. Not be detrimental, hazardous, or disturbing the existing or future neighboring uses, parson, property, or the public welfare.

All chemicals and water used for the proposed car wash is treated through a grease interceptor that is maintained regularly. All runoff is also to be captured on site and will not negatively impact any of the adjacent sites. Due to the limit of work remaining within the property, no neighboring site will be affected before and after the construction phase of the development.

F. Not create additional requirements at public cost for public facilities and services that will be detrimental to the economic welfare of the community.

Express wash is very intentional about their site maintenance and investing in preventative measures to protect their community. In contrary, express wash prioritize giving back to the community by hosting fundraiser events and much more. It will also not create additional cost the township as the car wash customers are mostly pass-through customers who are in their daily commutes.

If you have any questions or comments, please contact me directly.

Sincerely,

Euponine Pierre Civil Engineer

euponine pe-

Automated Car Wash

(948)

Vehicle Trip Ends vs: Car Wash Tunnels

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 3
Avg. Num. of Car Wash Tunnels: 1

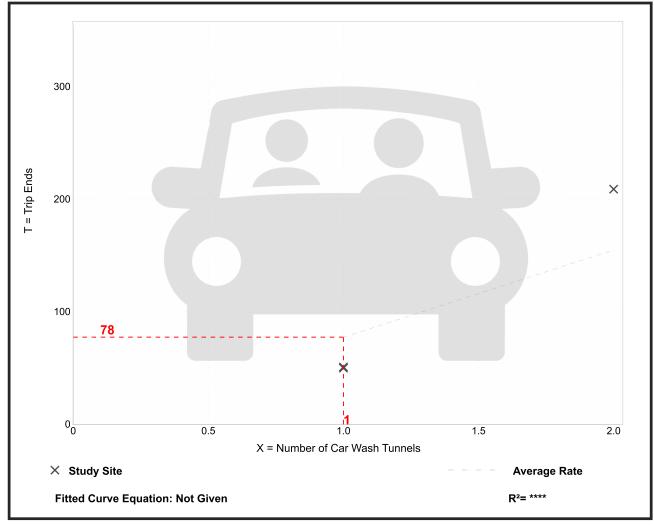
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Car Wash Tunnel

Average Rate	Range of Rates	Standard Deviation
77.50	50.00 - 104.50	33.07

Data Plot and Equation

Caution - Small Sample Size



Trip Gen Manual, 11th Edition

Institute of Transportation Engineers

GENERAL NOTES

Preliminary Drawings:

Preliminary drawings may be provided with a quote to indicate the location of vacuum equipment, piping, and hoses. Drawings may be used in direct coordination with Architects' and Engineers' plans for city/AHJ/client approval. Accurate and complete site plans must be provided to ensure the quality of your vacuum area to coordinate issues such as vacuum parking space width/angle, traffic flow, and hose reach.

Drawings are preliminary until the final system order is signed by the client.

Changes made to a vacuum system without Vacutech's consultation voids all Vacutech responsibility as well as the system warranty.

INSTALLATION NOTES

Installation By Others:

Installation drawings are provided with each project. Most projects require 2 or more installers and a forklift. Buried pipe, footings and concrete equipment pad(s) should be completed before installing Vacutech systems. J-bolt template kits for footings for vacuum arches and stanchions are available for purchase from Vacutech. Refer to drawings for footing requirements. Changes to vacuum piping, vacuum equipment location, and vacuum equipment enclosure will effect the performance of your system. Changes made to a vacuum system without Vacutech's consultation voids all Vacutech responsibility and the

<u>Vacutech System Install:</u> Vacutech offers installation as an option when bidding a project.

Please note that the scope of Vacutech's installation only includes work above ground Vacutech will install vacuum arches/stanchions to concrete footings, install vacuum piping and set vacuum equipment in place.

Vacutech does not dig trenches, auger footings, dig/backfill/bury pipe or conduit, or provide any work below grade

Vacutech does not pour footings, install J-bolts, install concrete trenches with covers, pour concrete pads, or do concrete work of any kind. Vacutech does not do core drilling through

Vacutech does not wire lights, turbines, disconnects, VFDs, starters or any other electrical component. Vacutech does not pull wire through conduits. These items must be done by a

10:

CHANGES MADE TO VACUUM SYSTEM WITHOUT VACUTECH CONSULTATION VOIDS ALL VACUTECH RESPONSIBILITY AND SYSTEM WARRANTY

Equipment warranty information: (if applicable)

When vacuum equipment is installed in an enclosure with 4 walls and a roof it must be ventilated. Enclosure door must be louvered and an exhaust fan with thermostat set at 85°f must be installed to turn over air every 15 min. Vacuum turbine must be exhausted outside with metallic pipe no smaller than 6" with exhaust pipe opening protected from elements. Equipment pad must be flat and level.

<u>Variable frequency drive (VFD) warranty information</u>: (if applicable) VFDs must be wired from main distribution panel in separate conduit (sized per code;

based on turbine H.P. and voltage) to each VFD and from each VFD to turbine motor.

A separate conduit, sized per code, must also be installed from VFD to vacuum pressure transducer installed on filter separator. If two (2) or more VFD's are installed in one (1) enclosure, a separate conduit must be installed for each VFD. Install separate conduit from enclosure to each turbine motor, and each filter separator if there is more than one (1).

PIPE NOTES

Piping systems above ground

Piping system shall be schedule 40 (or sch 80) solid core PVC or ABS plastic pipe, with plastic D.W.V. (drain, waste and vent) fittings. Zinc, aluminum, or galvanized tubing, with directional flow zinc fittings of no less than 16 gauge, designed specifically for central vacuum systems are also acceptable.

Buried piping systems cast iron no-hub

In-ground piping systems that are subject to ground freeze/thaw conditions or excessive movement shall be cast iron with no-hub fittings and no-hub couplings (w/ stainless steel

<u>Buried piping systems PVC sch 40 (or sch 80)</u> In-ground piping systems using PVC pipe shall be sch 40 (or sch 80) solid core, with PVC D.W.V.(drain, waste, and vent) fittings. Plastic pipe installed in-ground have a potential of possible cracking and wear. All plastic pipe systems in-ground must be below freeze line.

System notes:

All interior surfaces shall be free of burrs and obstructions for a non-restrictive air flow.ABS and PVC piping shall be cut straight and removed of burrs. Piping shall be attached together using a primer, and a cement (clear PVC cement for PVC/ black abs cement for abs) for a 100% tight seal.

Overhead piping systems shall be supported by means of approved pipe hangers, and shall be installed at a maximum of six feet O.C. when using abs or PVC pipe and ten feet when using zinc or aluminum tubing. All fittings supporting vacuum drop/hose assemblies shall be supported with within one foot on each side of fitting connection.

Piping systems shall be tested to hold 10 psi for a minimum of 24 hours.

When vacuum system is installed in potentially explosive environment, the following may be required as a minimum: Explosion proof motor Class I - Group D & Class II - Group E, F & G. Aluminum piping with zinc fittings. Primary and filtered separators and hose assemblies require special grounding. Verify all conditions.

PVC and ABS plastic pipe are not U.V. rated and will discolor and soften/cause bowing when exposed to direct sunlight. It is recommended that all exposed plastic pipe and fittings be primed and painted to help prevent this. It is recommended to use zinc, or aluminum tubing and zinc fittings be used when exposed to sun.

Plastic pipe exposed to elements:

PVC pipe will become brittle at 40° f and can crack/split when moving debris collides with it, it is recommended to use cast iron, zinc, or aluminum tubing for colder conditions.

ADDITIONAL NOTES

Instructions for wiring VFD to Turbine and Filter Separator are available for your electrician. After wiring is complete, call our customer service to complete programming.

Arch Systems: How Awnings are ordered (Cooloroo/Weblon)

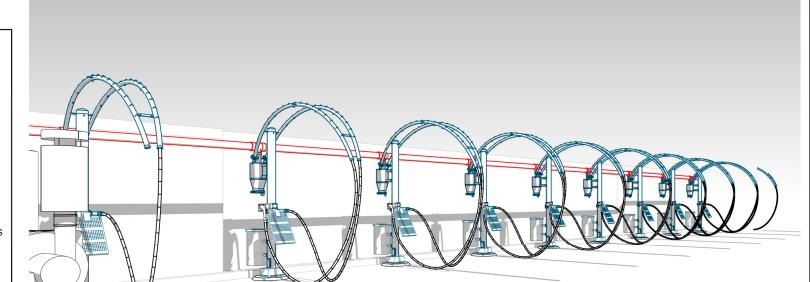
Step 1: Arches are to be completely installed on site. Step 2: After installation, Vacutech will send an awning measurement form to be filled out

with instructions on how and where to measure. The awning form must be filled out entirely, signed, dated, and faxed or emailed to Vacutech for production. Step 3: Awnings are shipped to site w/ instructions.

System longevity under continuous operation is extended by regular maintenance. Issues commonly result from failure to remove obstructions in the piping system, replace damaged or worn parts, or not regularly changing filter bags. Refer to Vacutech

Assign a person to central vacuum maintenance:

To ensure continued trouble free central vacuum system operation and to avoid downtime during periods of heavy use, assign an employee to follow a strict maintenance schedule. Refer to Vacutech recommended maintenance schedule.





Elevation: 600' ASL

SHEET INDEX		
NO.	NAME	REV
V001	COVER SHEET	1
V101	OVERALL SITE PLAN	1
V111	VACUUM SITE PLAN	1
V121	VACUUM SITE ISOMETRIC	1
V201	PIPE LAYOUT	1
V211	PIPE ISOMETRIC	1
V301	PARKING ELEVATION	1
V311	ARCH NUMBERING PLAN	1
V401	FOOTING LOCATION PLAN	1
V402	BASEPLATE TEMPLATE	1

SHEET INDEX		
NO.	NAME	REV.
V411	FOOTING DETAIL	1
V421	POS FOOTING DETAIL	1
V501	POS DETAILS	1
V601	EQUIPMENT SITE PLAN	1
V611	EQUIP. SITE ISOMETRIC	1
V621	EQUIPMENT ELEVATION	1
V701	EQUIPMENT DETAILS	1
V702	ELECTRICAL DIAGRAM	1
V721	PIPE DETAILS	1

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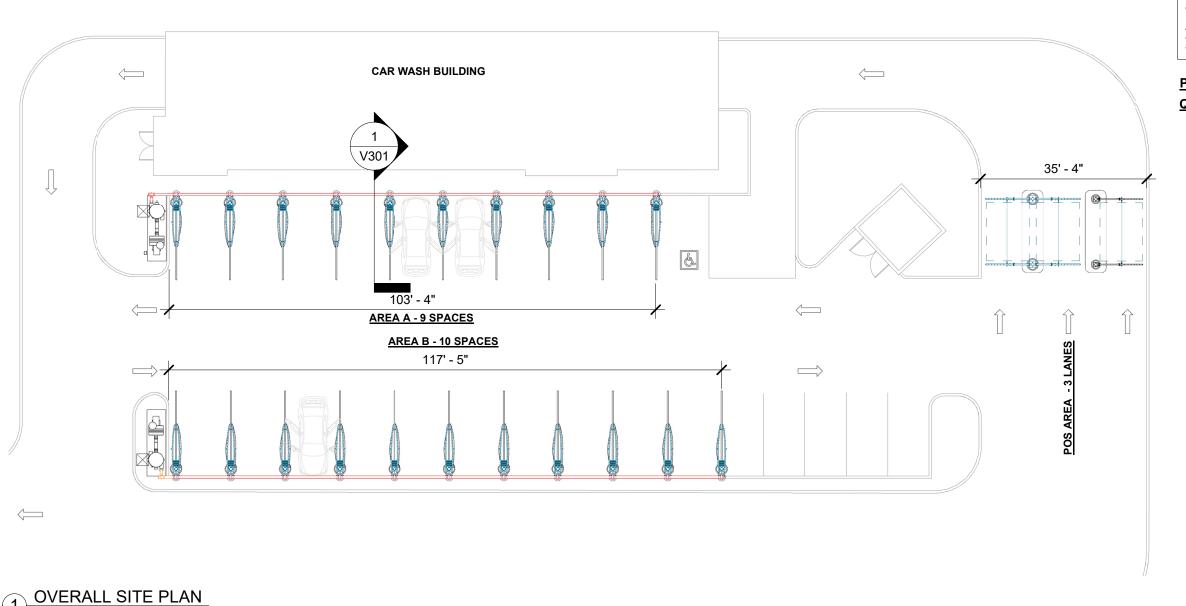
VACUTECH CLEAN EXPRESS CAR WASH

1350 HI-TECH DRIVE 620 GRISWOLD ROAD SHERIDAN, WY 82801 PHONE: (307) 675-1982 EMAIL: info@vacutechllc.com ELYRIA, OHIO 44035 WEB: www.vacutechllc.com

	#	Revision	Ву	Chk	Date	
	1	ELIMINATED SPACE A10	BB	GS	6/10/21	10
						- 1
						L
						F
						-
						L
	-					
- 1						- 1 4

COVER SHEET

Project Number	100643
Date	6/18/21
Orawn By	ВВ
Checked By	MB



CONSTRUCTION NOTES

- ALL DIMENSIONS TO BE FIELD VERIFIED BY OWNER
- IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING. REFER TO VENTILATION REQUIREMENTS
- UNDER EQUIPMENT WARRANTY INFORMATION PIER DESIGN AND REINFORCEMENT FOR CONCEPTUAL USE ONLY. CONSULT STRUCTURAL ENGINEER IN YOUR AREA FOR SPECIFIC DESIGN CRITERIA.
- COMPLY WITH ALL STATE/ COUNTY BUILDING CODES IN YOUR AREA

EQUIPMENT & MATERIAL

- RUN COMPRESSED AIR TO AIR COMPRESSOR LOCATION (BY OTHERS)
- WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD VERIFY HEIGHT
- 14'Lx4'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT

VACUUM & PLUMBING:

ALL FITTINGS TO BE 'DWV'

POS AREA

<u>ITEM</u> <u>QTY</u>

- FABRIC AWNING

- FULL 10' POS ARCH
- 10' POS ARCH
- 9' 16'-6" ADJUSTABLE CROSSBAR

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EMAIL: info@vacutechllc.com

VACUTECH CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

#	Revision	∣Ву	Chk	Date
1	ELIMINATED SPACE A10	BB	GS	6/10/2

OVERALL SITE PLAN

Project Number	100643
Date	6/18/21
Drawn By	ВВ
Checked By	MB

V101₁



VACUUM AREA A QTY ITEM

- 2 SINGLE USER UMBRELLA ARCH
- 8 DUAL USER UMBRELLA ARCH
- 9 CLAW VACUUM TOOL & HOLDER
- 9 CREVICE VACUUM TOOL & HOLDER
- 9 CLAW TOOL EXTENSION BRACKET
- 18 1-1/2"x15' VACUUM HOSE
- 10 17" MAT RACK
- 10 30 GALLON WASTE RECEPTACLE

VACUUM EQUIPMENT A QTY ITEM

- 50HP T4 DIRECT DRIVE TURBINE
- 8" T4 OUTDOOR EXHAUST SILENCER
- 1 38x88 FILTER SEPARATOR
- 1 3" PRESSURE RELIEF VALVE

VACUUM AREA B

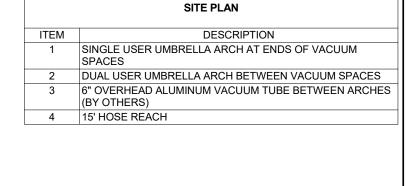
QTY ITEM

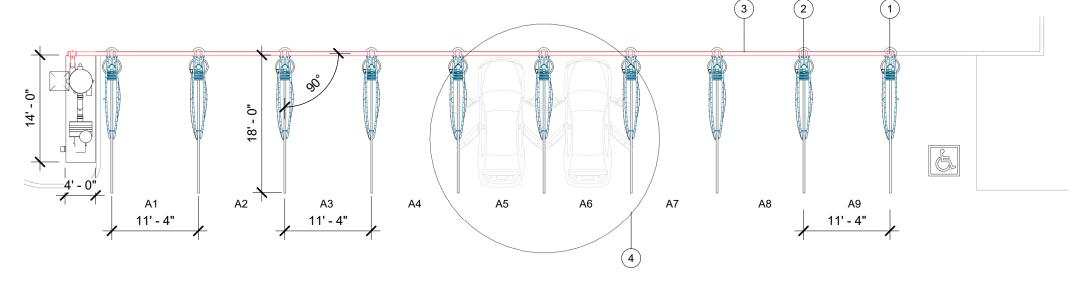
- 2 SINGLE USER UMBRELLA ARCH
- 9 DUAL USER UMBRELLA ARCH
- 10 CLAW VACUUM TOOL & HOLDER
- 10 CREVICE VACUUM TOOL & HOLDER
- CLAW TOOL EXTENSION BRACKET
- 20 1-1/2"x15' VACUUM HOSE
- 11 17" MAT RACK
- 11 30 GALLON WASTE RECEPTACLE

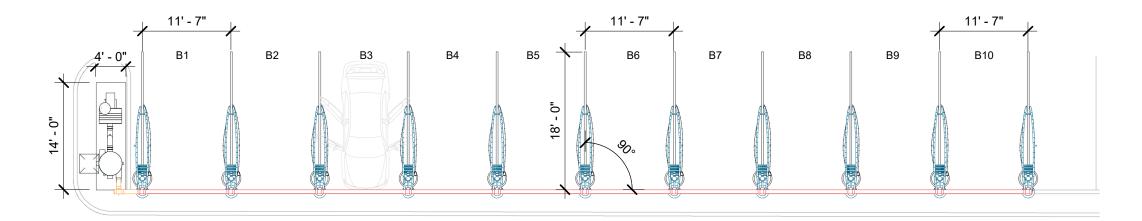
VACUUM EQUIPMENT B

QTY ITEM

- 50HP T4 DIRECT DRIVE TURBINE
- 8" T4 OUTDOOR EXHAUST SILENCER
- 1 38x88 FILTER SEPARATOR
- 1 3" PRESSURE RELIEF VALVE







1 VACUUM SITE PLAN

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1350 HI-TECH DRIVE SHERIDAN, WY 82801 PHONE: (307) 675-1982 EMAIL: info@vacutechllc.com

VACUTECH CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

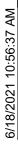
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1	ELIMINATED SPACE A10	BB	GS	6/10/21

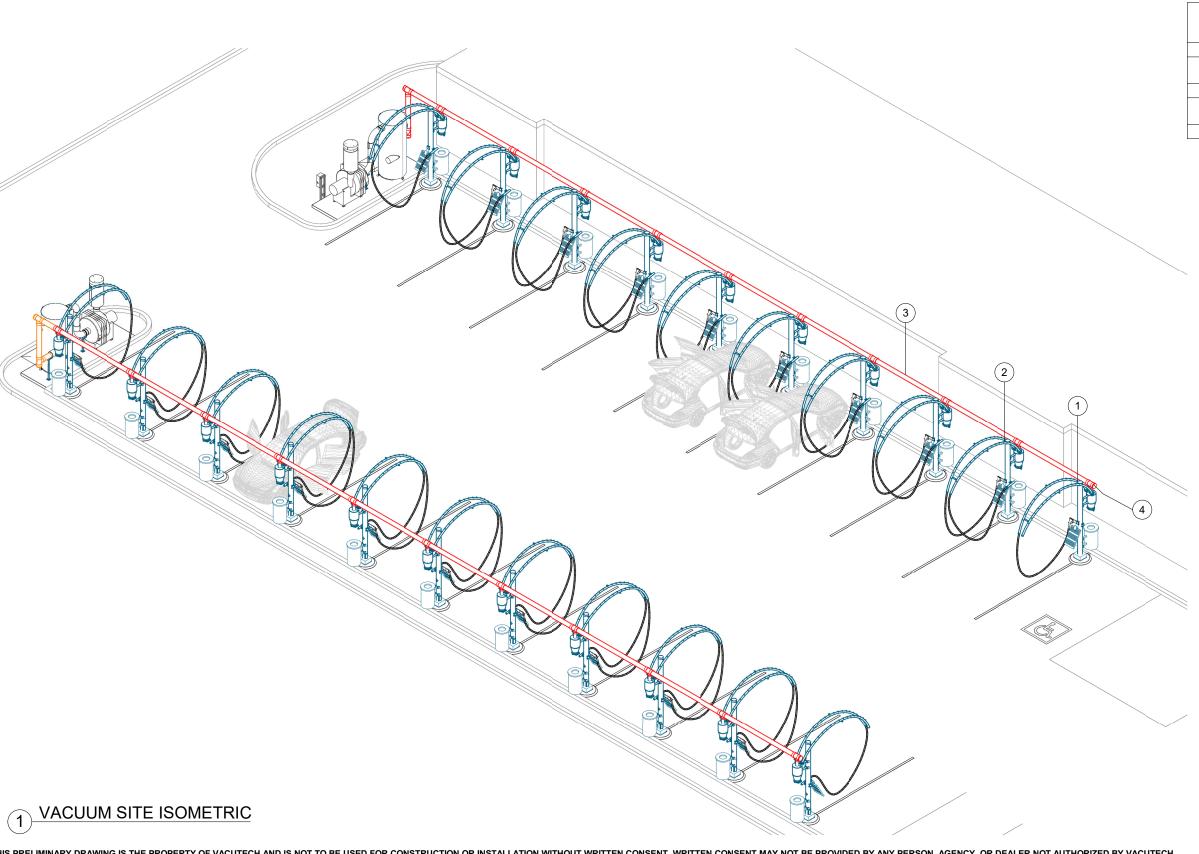
Povision

By Chk Dato

Project Number	100643
Date	6/18/21
Drawn By	ВВ
Checked By	MB

V111_|





SITE ISOMETRIC ITEM DESCRIPTION SINGLE USER UMBRELLA ARCH AT ENDS OF VACUUM SPACES DUAL USER UMBRELLA ARCH BETWEEN VACUUM SPACES 6" OVERHEAD ALUMINUM VACUUM TUBE BETWEEN ARCHES 6" CLEAN-OUT (TYP.)

IMINARY DRAWING IS THE PROPERTY OF VACUTECH AND IS NOT TO BE USED FOR CONSTRUCTION OR INSTALLATION WITHOUT WRITTEN CONSENT. WRITTEN CONSENT MAY NOT BE PROVIDED BY ANY PERSON, AGENCY, OR DEALER NOT AUTHORIZED BY VACUTECH.



1350 HI-TECH DRIVE SHERIDAN, WY 82801 PHONE: (307) 675-1982 EMAIL: info@vacutechllc.com WEB: www.vacutechllc.com

VACUTECH CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

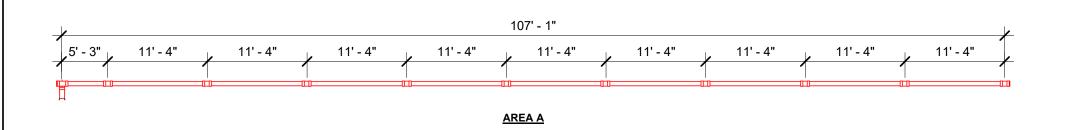
#	Revision	Ву	Chk	Date	
1	ELIMINATED SPACE A10	BB	GS	6/10/21	

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Project Number	100643
Date	6/18/21
Drawn By	BB
Checked By	MB

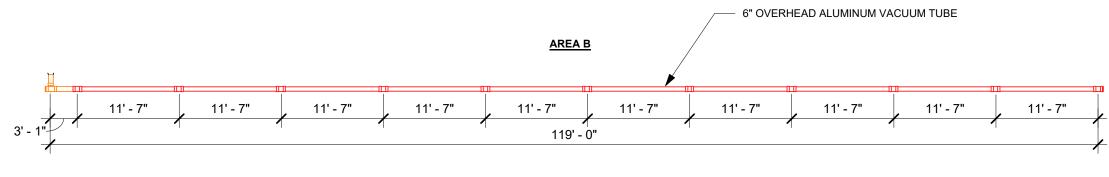
V121

6/18/2021 10:56:44



PIPE NOTES:

- FIELD VERIFY ALL DIMENSIONS
- SUPPORT SCHEDULE 40 PVC OVERHEAD DRY/WET VACUUM PIPE EVERY 6' MAXIMUM; USE UNISTRUT & CLAMP OR OTHER SUPPORT (PROVIDED BY OTHERS)
- RUN COMPRESSED AIR TO AIR COMPRESSOR LOCATION (BY OTHERS) WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD
- REFER TO SHEET V721 FOR PIPE ASSEMBLY CUTSHEETS
 - ALL FITTINGS TO BE 'DWV'



PIPE LAYOUT

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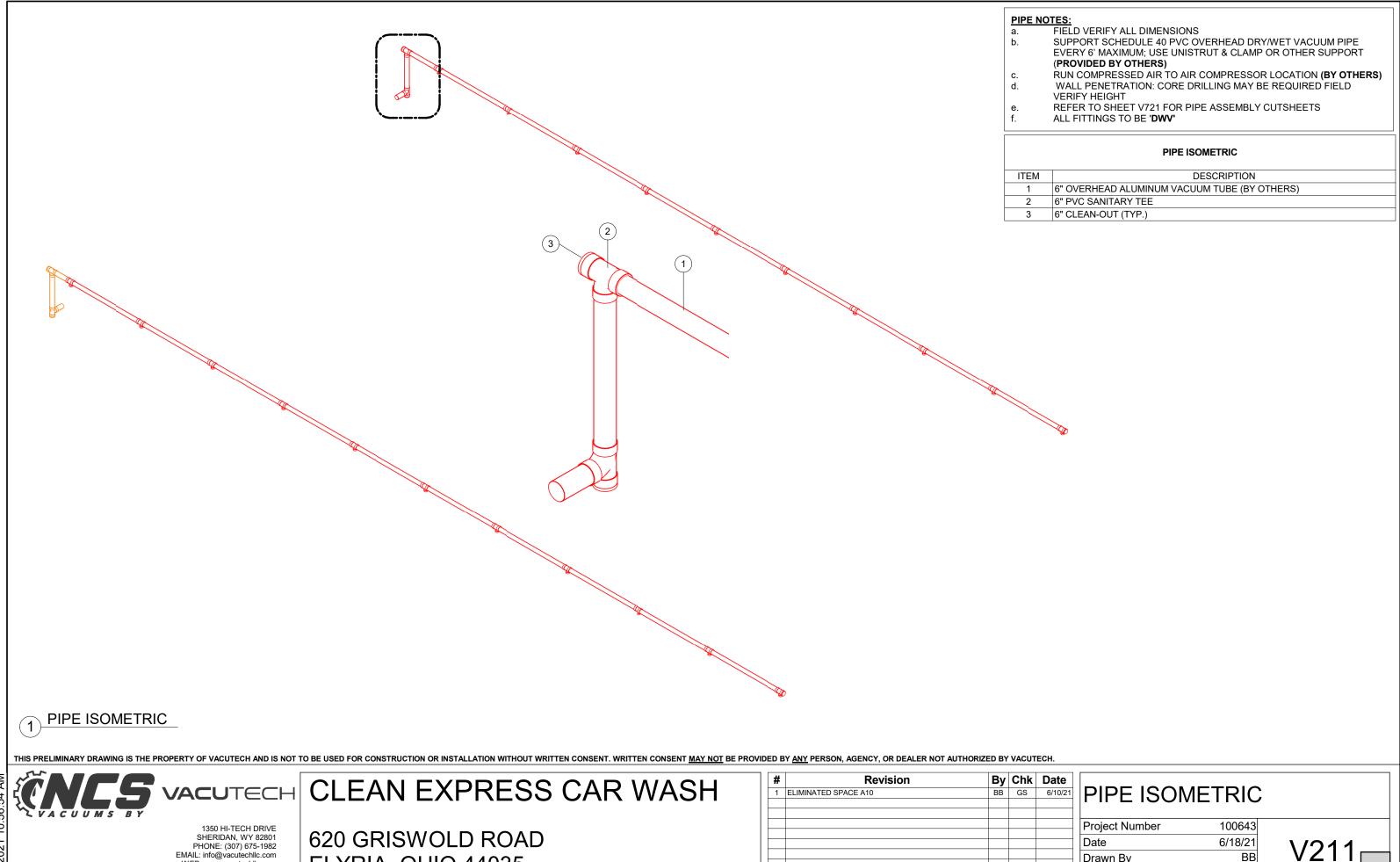
WEB: www.vacutechllc.com

VACUTECH CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

#	Revision	Ву	Chk	Date
1	ELIMINATED SPACE A10	BB	GS	6/10/21

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Project Number	100643	
Date	6/18/21	1/201
Drawn By	ВВ	V201
Checked By	KG	42

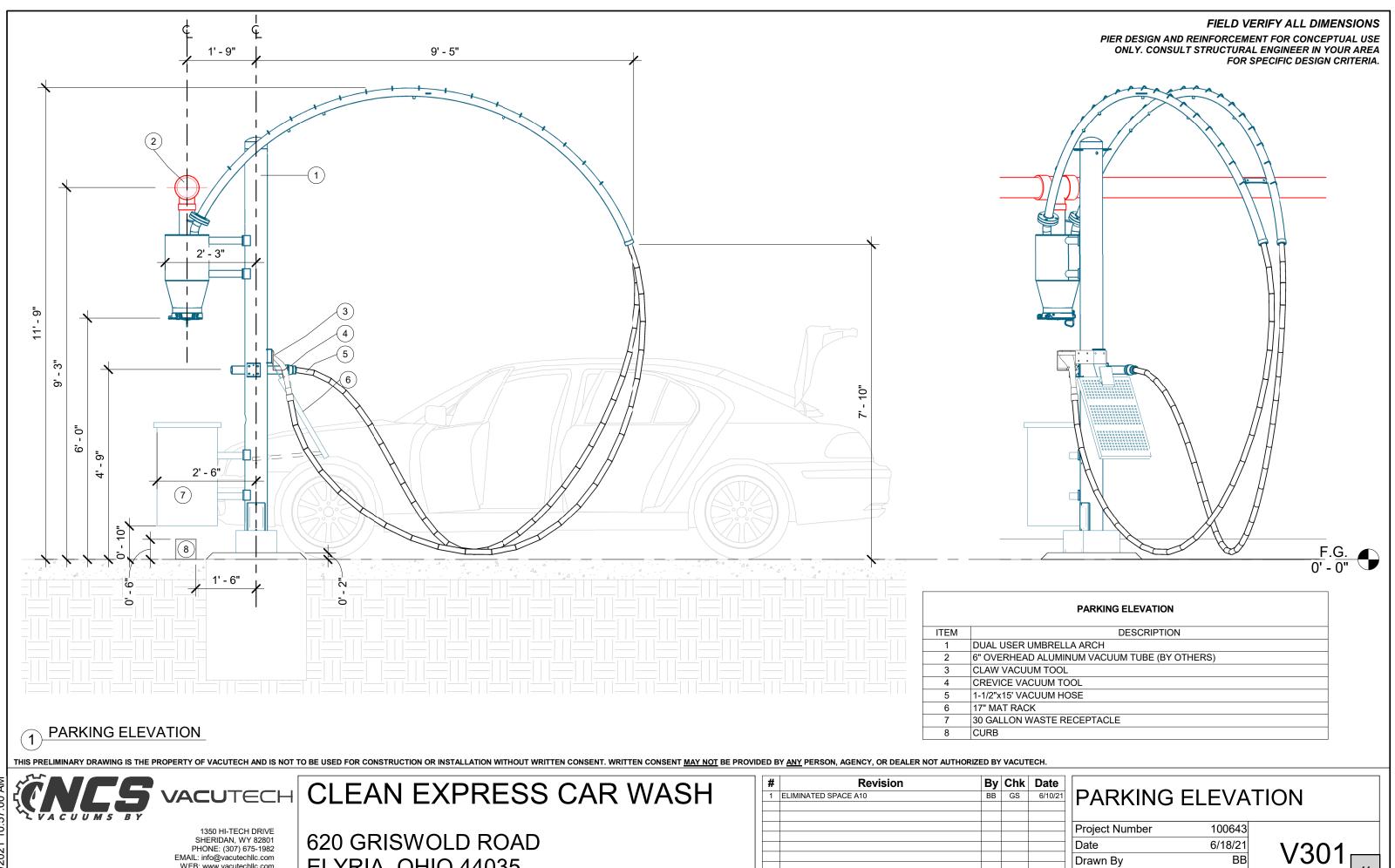


ELYRIA, OHIO 44035

Date

Drawn By Checked By 6/18/21 ВВ

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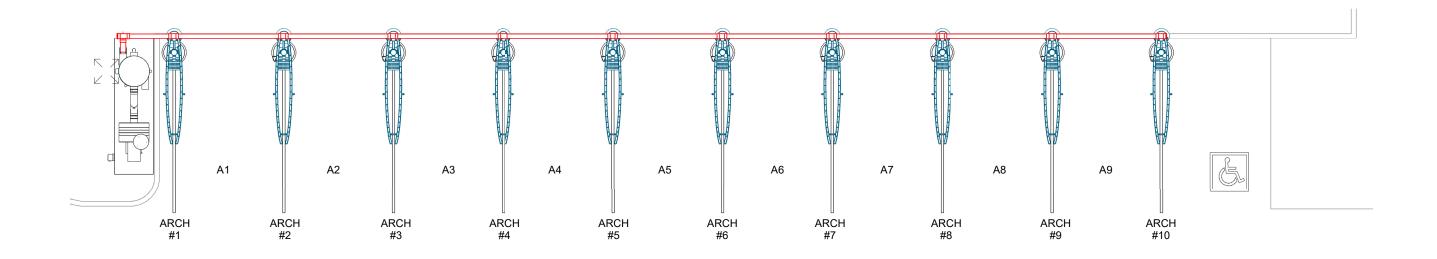


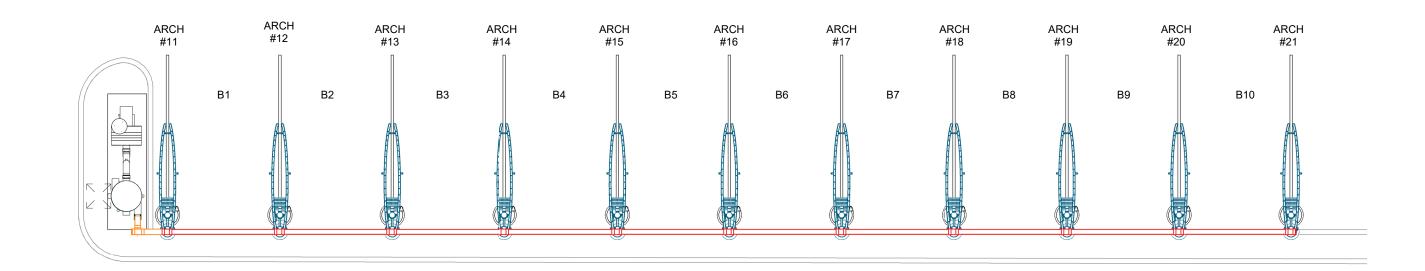
ELYRIA, OHIO 44035

BB

Drawn By Checked By

6/18/2021 10:57:00





1 ARCH NUMBERING PLAN

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VACUTECH CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

#	Revision	Ву	Chk	Date	
1	ELIMINATED SPACE A10	BB	GS	6/10/21	
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Project Number	100643

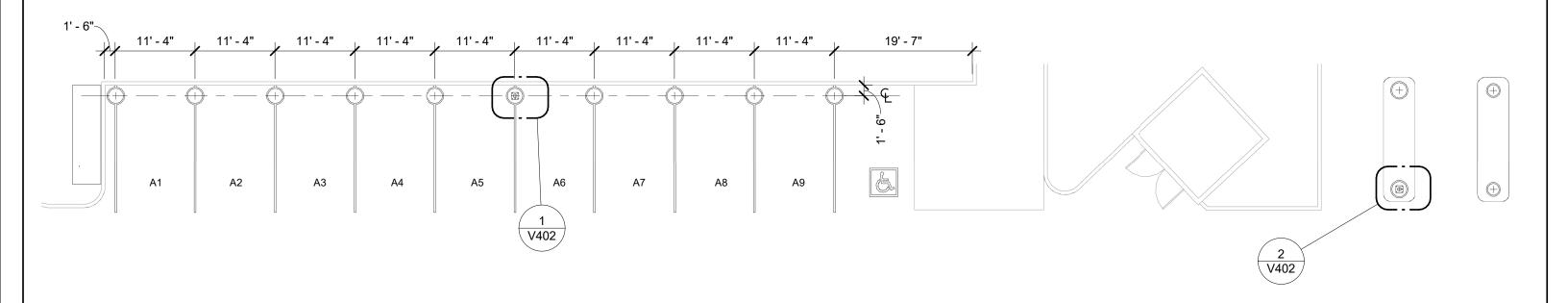
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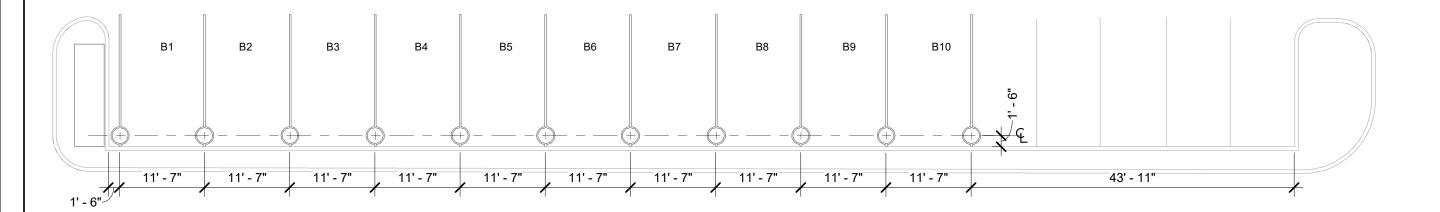
V311_[



FIELD VERIFY ALL DIMENSIONS

PIER DESIGN AND REINFORCEMENT FOR CONCEPTUAL USE ONLY. CONSULT STRUCTURAL ENGINEER IN YOUR AREA FOR SPECIFIC DESIGN CRITERIA.





1 FOOTING LOCATION PLAN

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VACUTECH CLEAN EXPRESS CAR WASH

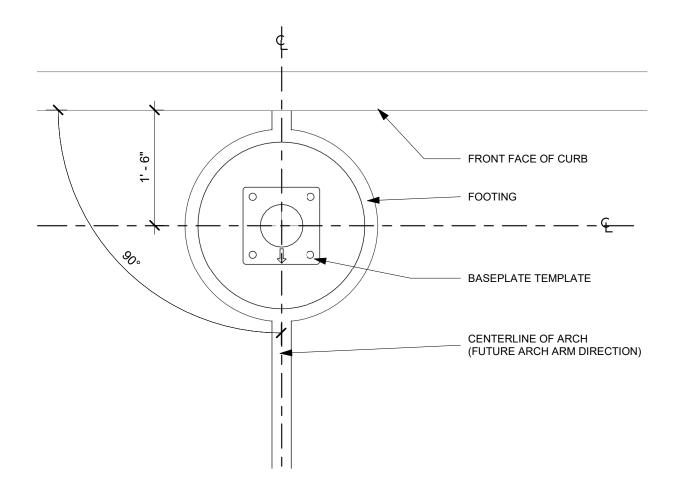
620 GRISWOLD ROAD ELYRIA, OHIO 44035

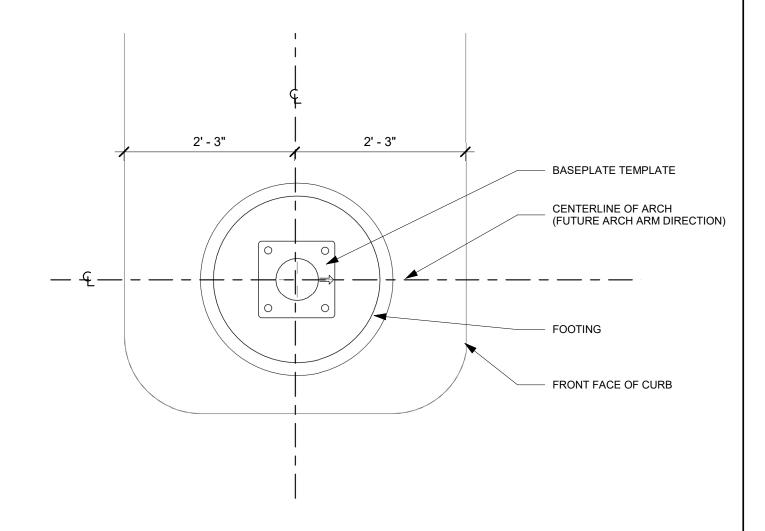
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1	ELIMINATED SPACE A10	BB	GS	6/10/21	
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Project Number	100643
Date	6/18/21
Drawn By	ВВ
Checked By	KG

V401_[

6/18/2021 10:57:11 AM





1 BASEPLATE TEMPLATE ORIENTATION

2 POS BASEPLATE TEMPLATE ORIENTATION

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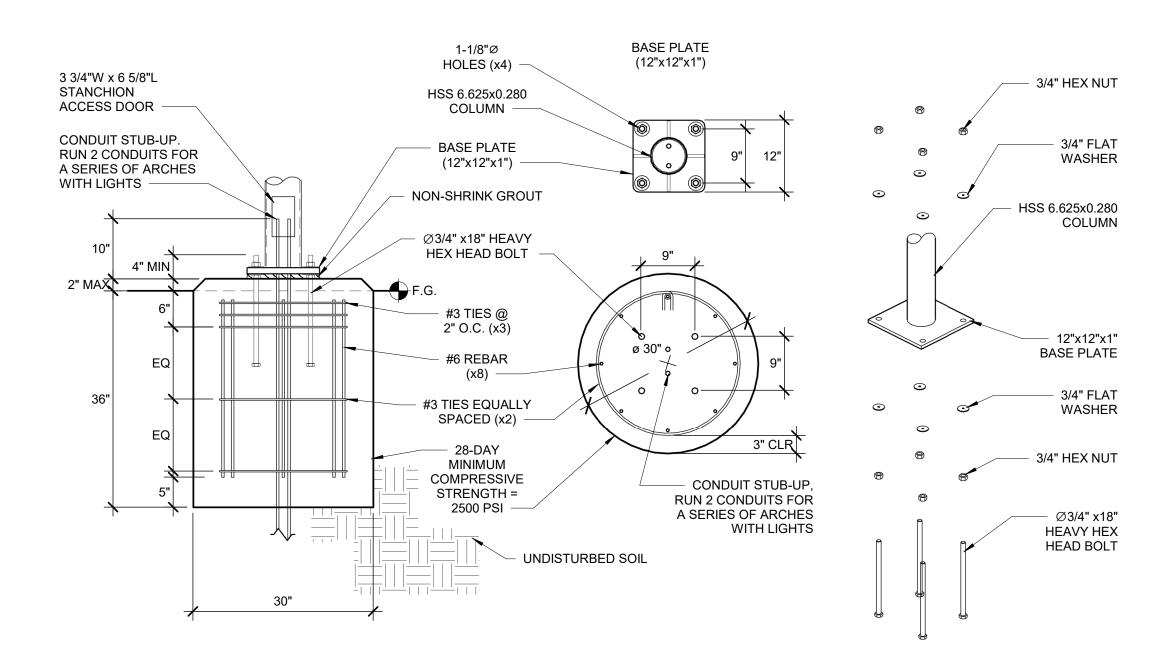
620 GRISWOLD ROAD ELYRIA, OHIO 44035

#	Revision	Ву	Cnk	Date
1	ELIMINATED SPACE A10	BB	GS	6/10/21

BASEPLATE	TEMPLATE
Project Number	100643

Project Number	100643
Date	6/18/21
Orawn By	ВВ
Checked By	KG

V402



NOTE:
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1 FOOTING - UMBRELLA ARCH

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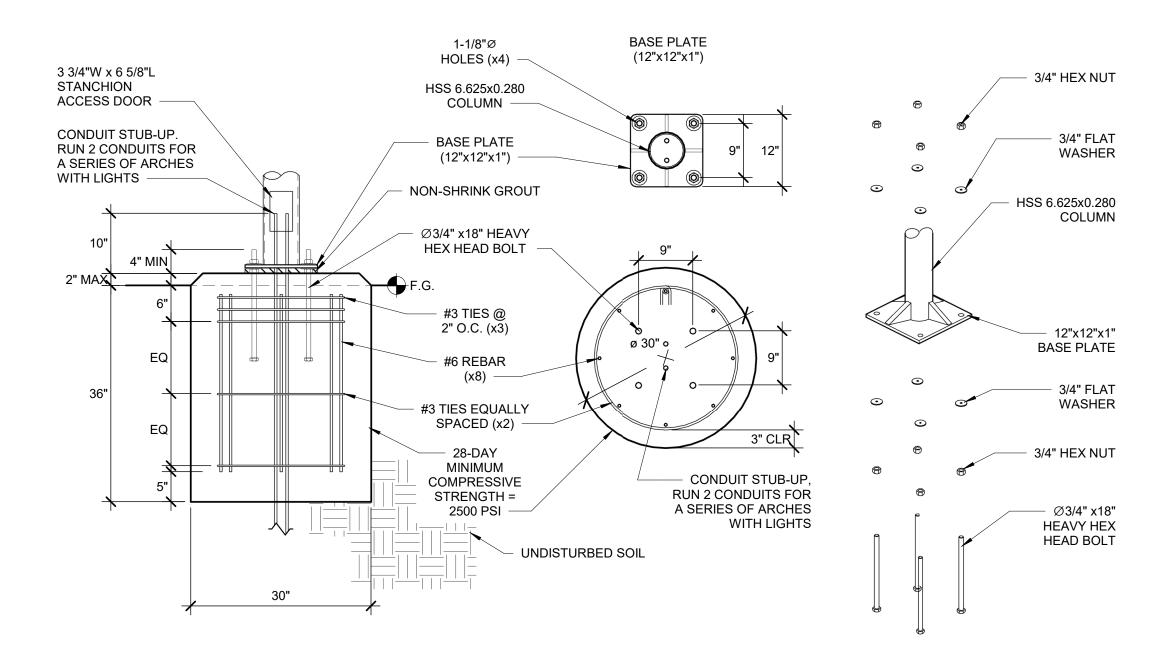
WEB: www.vacutechllc.com

CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

#	Revision	Ву	Chk	Date
1	ELIMINATED SPACE A10	BB	GS	6/10/21

FOOTING	DETAIL	_
Project Number	100643	
Date	6/18/21	\//11
Drawn By	ВВ	V411 _□
Checked By	KG	48



NOTE:
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1 FOOTING - POS ARCH

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CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

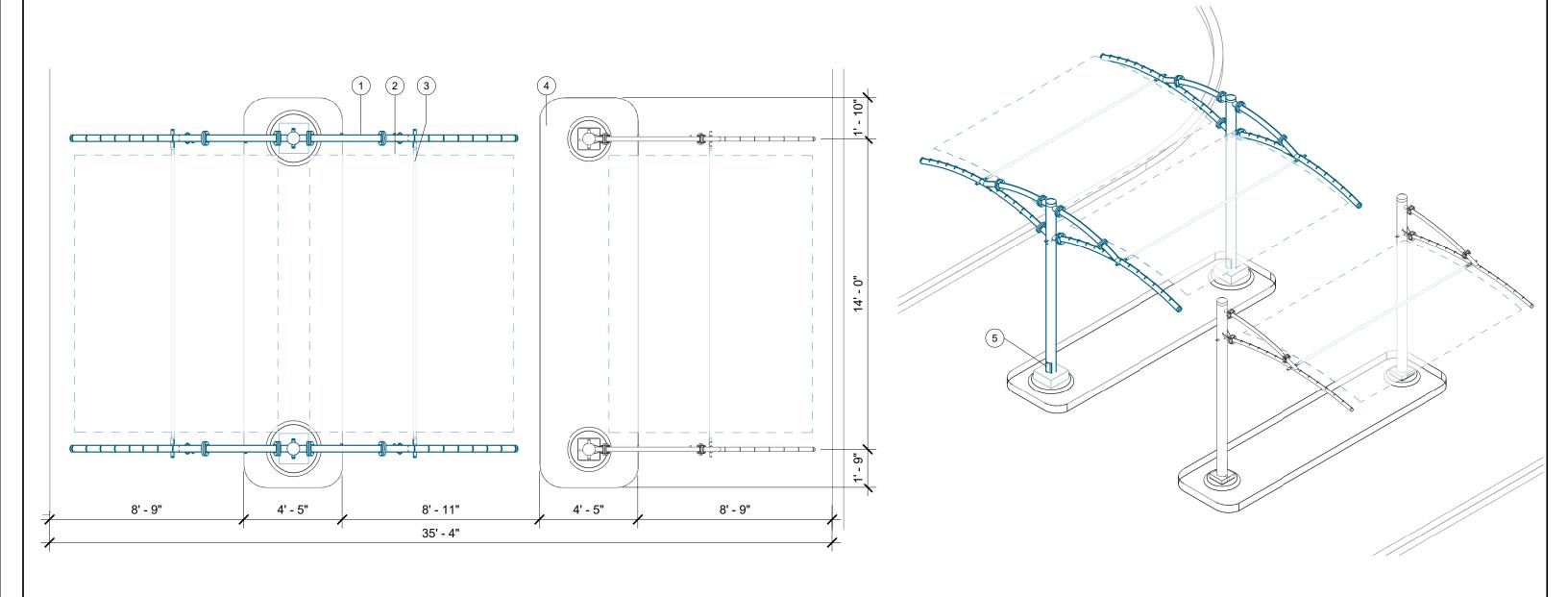
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oject Number	100643
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V421_[

FIELD VERIFY ALL DIMENSIONS

POS DETAILS		
ITEM	DESCRIPTION	
1	POS ARCH	
2	FABRIC AWNING	
3	9' - 16'-6" ADJUSTABLE CROSSBAR	
4	POS ISLAND	
5	ELECTRICAL ACCESS DOOR	



1 POS DETAILS

POS ISOMETRIC

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VACUTECH CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

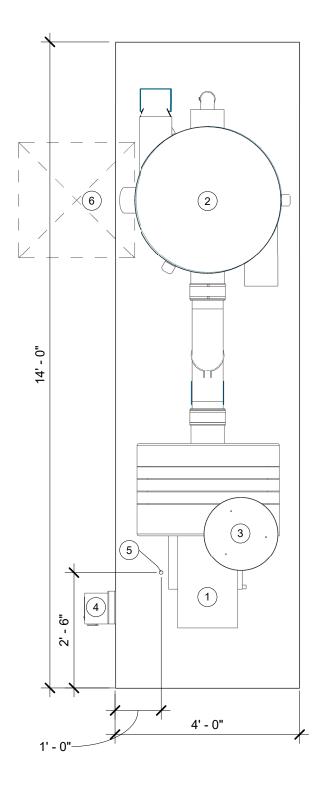
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1	ELIMINATED SPACE A10	BB	GS	6/10/21

POS DETA	ILS
Project Number	10064

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ate	6/18/21
rawn By	ВВ
hecked By	KG

V501_[





EQUIPMENT NOTES:

- 14'Lx4'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT
- NOTE: IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS UNDER EQUIPMENT WARRANTY INFORMATION
- EXHAUST TURBINE TO OUTSIDE AIR OR ATMOSPHERE W/ 8" ALUMINUM TUBE OR METAL PIPE
- FIELD VERIFY ALL DIMENSIONS
- SEE POWER EQUIPMENT DETAILS ON V701
- SEE VFD DETAILS ON V731

EQUIPMENT SITE PLAN				
ITEM	DESCRIPTION			
1	50HP T4 DIRECT DRIVE TURBINE			
2	38x88 FILTER SEPARATOR			
3	8" T4 OUTDOOR EXHAUST SILENCER			
4	RECOMMENDED DISCONNECT LOCATION (WITHIN SIGHT OF TURBINE), CLEARANCE REQUIRED IN FRONT			
5	RECOMMENDED TURBINE MOTOR CONDUIT STUB-UP LOCATION, SIZE PER N.E.C.			
6	30"x30" MINIMUM SPACE REQUIRED TO REMOVE DEBRIS BUCKET			

EQUIPMENT SITE PLAN

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CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

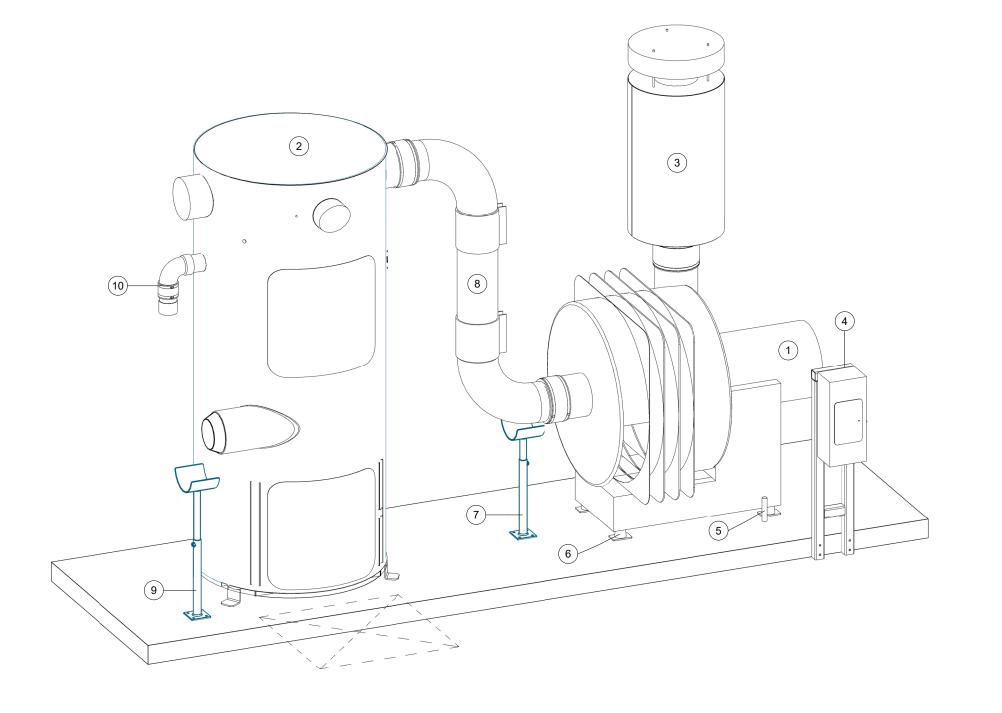
#	Revision	Ву	Chk	Date
1	ELIMINATED SPACE A10	BB	GS	6/10/21

EQUIPMENT SITE PLAN

Project Number	100643
Date	6/18/21
Drawn By	ВВ
Checked By	KG

V601





EQUIPMENT NOTES:

- 14'Lx4'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT
- NOTE: IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS UNDER EQUIPMENT WARRANTY INFORMATION
- EXHAUST TURBINE TO OUTSIDE AIR OR ATMOSPHERE
 W/ 8" ALUMINUM TUBE OR METAL PIPE
- FIELD VERIFY ALL DIMENSIONS
- SEE POWER EQUIPMENT DETAILS ON V701
 - SEE VFD DETAILS ON V731

EQUIPMENT SITE ISOMETRIC					
ITEM	DESCRIPTION				
1	50HP T4 DIRECT DRIVE TURBINE				
2	38x88 FILTER SEPARATOR				
3	8" T4 OUTDOOR EXHAUST SILENCER				
4	RECOMMENDED DISCONNECT LOCATION (WITHIN SIGHT OF TURBINE), CLEARANCE REQUIRED IN FRONT				
5	RECOMMENDED TURBINE MOTOR CONDUIT STUB-UP LOCATION, SIZE PER N.E.C.				
6	TURBINE VIBRATION ISOLATOR				
7	TURBINE PIPE SUPPORT				
8	8" SEPARATOR/TURBINE HOOK-UP KIT (ALUMINUM)				
9	SEPARATOR PIPE SUPPORT				
10	3" PRESSURE RELIEF VALVE				

1 EQUIPMENT SITE ISOMETRIC

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CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

#	Revision	Ву	Chk	Date
1	ELIMINATED SPACE A10	BB	GS	6/10/21

EQUIP. SITE ISOMETRIC

Project Number	100643
Date	6/18/21
Drawn By	BB
Checked By	KG

V611

6/18/2021 10:57:43 AM

4'-4" 8'-2" MINIMUM CEILING HEIGHT IF ENCLOSED

1 EQUIPMENT ELEVATION

- 6

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CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

#	Revision	Ву	Chk	Date
1	ELIMINATED SPACE A10	BB	GS	6/10/21

F.G. 0"

EQUIPMENT ELEVATION

Project Number	100643
Date	6/18/21
Drawn By	ВВ
Checked By	KG

EQUIPMENT NOTES:

14'Lx4'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT NOTE: IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS

UNDER EQUIPMENT WARRANTY INFORMATION EXHAUST TURBINE TO OUTSIDE AIR OR ATMOSPHERE

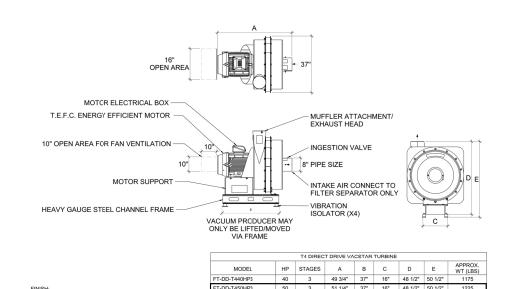
W/ 8" ALUMINUM TUBE OR METAL PIPE FIELD VERIFY ALL DIMENSIONS

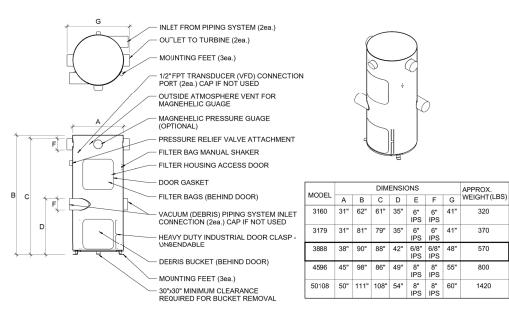
SEE VFD DETAILS ON V731

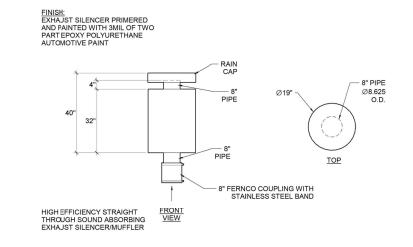
SEE POWER EQUIPMENT DETAILS ON V701

V621

6/18/2021 10:57:48 AM







1 TURBINE - T4 DD

2 SEPARATOR - FILTER

(3) EXHAUST SILENCER - T4 OUTDOOR

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WEB: www.vacutechllc.com

VACUTECH CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

#	Revision	Ву	Chk	Date
1	ELIMINATED SPACE A10	BB	GS	6/10/21

EQUIPMENT	DET	AILS
Project Number	100643	

Project Number 100643

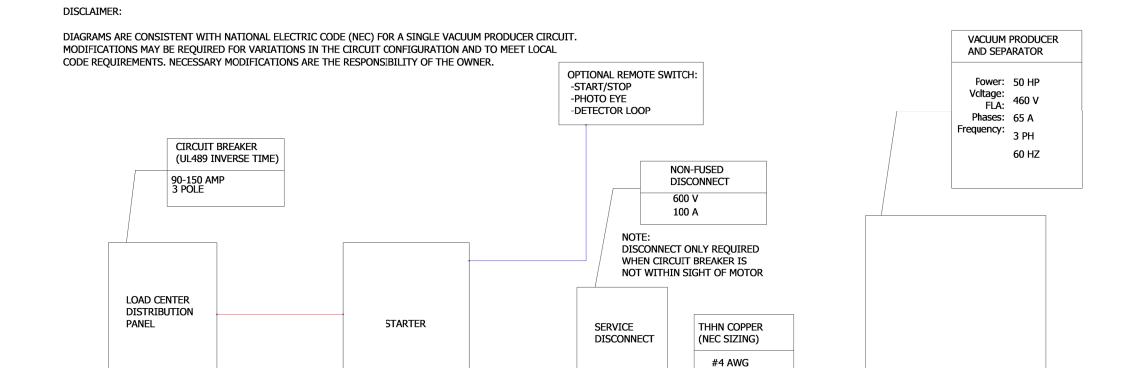
Date 6/18/21

Drawn By BB

Checked By KG

V701_[

6/18/2021 10:57:54 AM



- 1. DIAGRAM DISPLAYS THE REQUIREMENTS FOR AN INDIVIDUAL VACUUM TURBINE MOTOR.
- 2. ALL MOTOR (LOAD) AND POWER (LINE) WIRES MUST BE RUN IN SEPARATE CONDUITS.
- 3. ALWAYS FOLLOW ALL NATIONAL AND LOCAL ELECTRICAL CODES.

ELECTRICAL DIAGRAM - MAG - 50HP 460V

NOTE:

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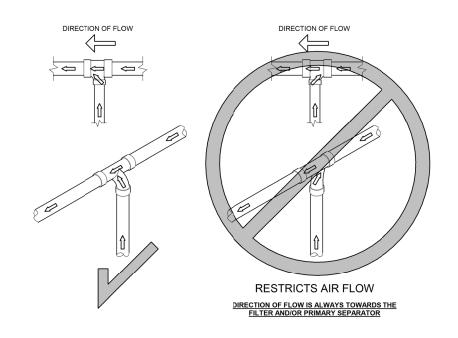
VACUTECH CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

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Project Number	100643
Date	6/18/21
Drawn By	ВВ
Checked By	KG

V702_□



TYPICAL SANITARY TEE & ALUMINUM TUBING CONNECTION:

SANITARY TEE & TUBING CONNECTION AT CLEAN OUT END:

1/4"x1"L SELF TAPPING
PHILPS SCREW (x2)

TEE (6"x4")

O RING (x2)

O RING (x2)

O RING (x2)

DEBRIS
SEPARATOR

EXPLODED
VIEW

FINISHED
V

1 PIPE - PIPE FLOW

2 PIPE - 6x4 TEE KIT

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VACUTECH CLEAN EXPRESS CAR WASH

620 GRISWOLD ROAD ELYRIA, OHIO 44035

#	Revision	Ву	Chk	Date
1	ELIMINATED SPACE A10	BB	GS	6/10/21

PIPE DETAILS					
Project Number	100643				
Date	6/18/21	1/794			
Drawn By	ВВ	V721			
Checked By	KG	56			

6/18/2021 10:58:05 AM

Troy Langer

From: Troy Langer

Sent: Tuesday, November 05, 2024 8:10 AM

To: Troy Langer

Subject: FW: Proposed Car Wash at former Big Boy Restaurant

Troy,

Thank you for the plans. No permit or TIS will be required from our office for the proposed use.

Regards,

Mike Goryl Traffic and Safety Engineer Livingston County Road Commission 3535 Grand Oaks Drive Howell, MI 48843 517-546-4250 (office) 517-518-3019 (direct) 517-881-5012 (cell)

Martha Wyatt

To: Martha Wyatt

Subject: FW: Proposed Car Wash at former Big Boy Restaurant

From: Heidelberg, Craig (MDOT)

Sent: Wednesday, November 06, 2024 10:36 AM **To:** Troy Langer < <u>TLanger@hartlandtwp.com</u>>

Cc:

Subject: RE: Proposed Car Wash at former Big Boy Restaurant

Based on the proposed usage, MDOT would not require a TIS. It doesn't appear any work is proposed is MDOT's right of way. But if there is work in MDOT right of way, a permit would be needed.

Thank you Craig

Blue Square

We have prepared a quote for you

Prepared For:

Express Wash Concepts

David Williams 13375 National Rd, SW Etna, OH 43068

(614) 507-6884 david@expresswashconcepts.com

Prepared By:

Blue Square

Jason Adams 383 Kingston Avenue Suite 25 Brooklyn, NY 11213

864-906-7256

jason.adams@bluesquare.solutions









Site 522 Virginia Beach				Quote #60007791 VERSION 1	
Prepared For: Express Wash Concepts David Williams 13375 National Rd, SW	David Williams Jason Adams V 3112 Virginia Beach Blvd 383 Kingston Avenue		Date: 03-17-2023	Expires: 04-14-2023	
Etna, OH 43068 (614) 507-6884 david@expresswashconcepts.co m	Virginia Beach, VI 23452 (614) 507-6884 david@expresswashconcepts.co m	Suite 25 Brooklyn, NY 11213 864-906-7256 jason.adams@bluesquare.soluti ons			

Samsung OH55F Solutions

DESCRIPTION		PRICE	QTY	EXT. PRICE
OCWTOTEM55	Outdoor Car Wash totem - Carw Was show 2022 Special			
PR-SBC1	Samsung hosted Magic Info - 1 Year Free	\$0.00	1	\$0.00
P-LM-BEWX57HP	Samsung Service/Support - 5 Year - Service - Technical			
OH55A	Samsung Digital Signage Display - 54.6" LCD Cortex A12 1.30 GHz - 2.50 GB - 1920 x 1080 - Edge LED - 3500 Nit - 1080p - HDMI - USB - SerialEthernet	\$4,243.11	1	\$4,243.11
Car-washTotem	Car wash Totem for OH55F Car wash Totem for OH55F 6 Week lead time Manufactured in California		I	
			Subtotal:	

Shipping

DESCRIPTION PRICE QT			QTY	EXT. PRICE
Shipping	Shipping will be calculated based on final selection Shipping	\$0.01	1	\$0.01
Subtotal:				\$0.01

QUOTE SUMMARY	AMOUNT			
Samsung OH55F Solutions				

Taxes, shipping, handling and other fees may apply. We reserve the right to cancel orders arising from pricing or other errors.

60

Quote #60007791 v1 PAGE 2 of 4









Services

Looking for professional installation?

Let one of our installation experts assist you with your digital menu instalation

Our services include but are not limited to:

- Survey
- Permitting
- Screen Install
- Foundation installation
- Concrete island
- Trenching/wire pulling
- Electrical/Data (include new electric)

Speak to your representative today about getting a quote for professional installation

DIGITAL MENU BOARD

OUTDOOR DIGITAL MENU BOARDS

- · 1 or 2 display configurations
- Samsung OH55F display
- 2500 nits rating
- Easy installation
- Anti-graffiti LCD screens
- IK10 protective glass













FEATURES

Sturdy aluminum construction

Custom paint options

Modular design

IP56 certified outdoor displays

-30°C to 50°C operating temperature

Locking access doors

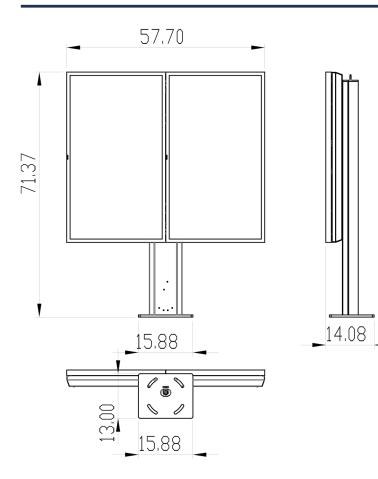


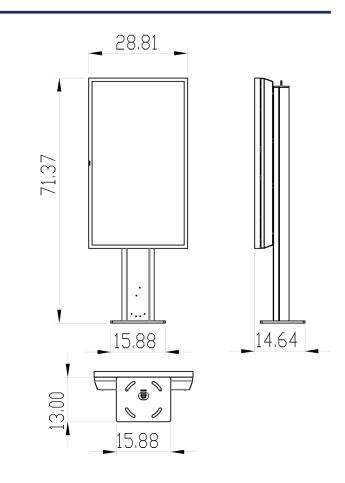
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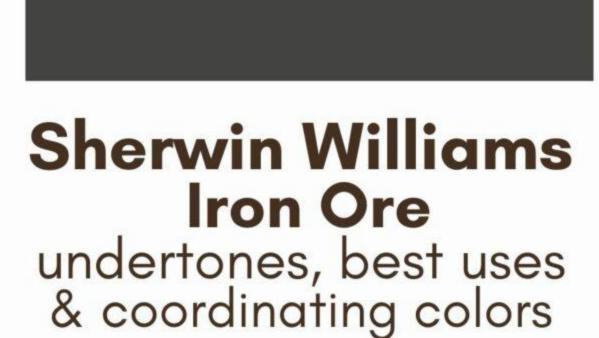








PAINT COLOR GUIDE



PAINTCOLORPROJECT.COM

EXHIBIT A

HARTLAND TOWNSHIP BOARD OF TRUSTEES LIVINGSTON COUNTY, MICHIGAN ZONING AMENDMENT NO. 20-001 ZONING ORDINANCE SECTION 5.26.8.D., THE HARTLAND TOWNSHIP SIGNS FOR DRIVE-THROUGH ESTABLISHMENTS

THE TOWNSHIP OF HARTLAND ORDAINS:

Section 1. Amendment of Section 5.26.8.D of Township Zoning Ordinance.

- D. Signs for Drive-Through Establishments
 - i. Signs must be adjacent to the approved drive-through lane.
 - ii. Signs must be for the purpose of placing an order, while patron is within their vehicle and maneuvering through the drive-through lane, and after placing such order, the patron will proceed to a window to pay for and receive their desired product.
 - iii. Each business shall be permitted the amount of drive-through signs as outlined, per each approved drive-through lane.
 - iv. Signs for drive-through establishments, the following sign regulations shall apply to the drive-through:
 - a. One sign shall be permitted for each permitted drive-through lane and in a location, as outlined in this Section.
 - b. The sign shall be permitted up to a maximum size of sixty-four (64) square feet in total area.
 - c. The sign shall not exceed seven (7) feet in height.
 - d. The sign shall not be located in the front yard of a public road or public street.
 - e. The sign may either internally illuminated or have lights that otherwise comply with the Zoning Ordinance. Signs shall not be light emitting diode (LED) changeable signs.
 - v. For a restaurant or food service establishment business that were approved for a drivethrough lane, a digital light emitting diode (LED) changeable sign may be permissible instead and in lieu of a sign as outlined in Section iv in this Section, drive-through restaurants or food service establishments, subject to the following provisions:
 - a. One sign shall be permitted for each permitted drive-through lane and in a location, as outlined in this Section.
 - b. The sign shall not exceed forty (40) square feet in area.
 - c. The sign shall not exceed six (6) feet in height.
 - d. Electronic changeable message signs are prohibited for use on wall signs, monument signs, or other signs, except for permitted drive-in or drive-through restaurants boards, as permitted in this Section.
 - e. Text or graphic shall not be animated, scrolling, or have continuous movement.

- f. Sign content may only change once per meal service, such as breakfast, lunch, dinner, except the sign may also change to reflect and indicate the patrons order.
- g. The sign shall not emit sound, audio messages, tones, or music, as outlined in Section 4.28.3. of the Zoning Ordinance.
- Section 2. <u>Validity and Severability</u>. Should any portion of this Ordinance be found invalid for any reason, such holding shall not be construed as affecting the validity of the remaining portions of this Ordinance.
- **Section 3**. **Repealer Clause**. Any ordinances or parts of ordinances in conflict herewith are hereby repealed only to the extent necessary to give this Ordinance full force and effect.
- Section 4: <u>Effective Date</u>. This Ordinance shall become effective immediately following publication.



North Elevation
Scale: 3/16" = 1'-0"



Scale: 3/16" = 1'-0"



West Elevation
Scale: 3/16" = 1'-0"



East Elevation
Scale: 3/16" = 1'-0"



PRELIMINARY SITE IMPROVEMENT PLANS FOR EXPRESS CLEAN CAR WASH

10587 HIGHLAND ROAD HARTLAND, MI 48353

PROJECT DESCRIPTION

DEVELOPMENT OF A CAR WASH FACILITY WITH ASSOCIATED PARKING, VACUUM AREAS. DRIVEWAYS, AND UTILITIES.

LEGAL DESCRIPTION

LAND SITUATED IN THE STATE OF MICHIGAN, COUNTY OF LIVINGSTON, TOWNSHIP OF HARTLAND.

SECTION 21, TOWN 3 NORTH, RANGE 6 EAST, COMMENCING SOUTH $\frac{1}{4}$ CORNER SECTION 21, THENCE NORTH 02°55'00" WEST. 214.93 FEET ALONG THE NORTH-SOUTH $\frac{1}{4}$ LINE SECTION 21; THENCE NORTH 80°05'11"EAST 1266.61 FEET ALONG NORTHERLY LINE HIGHLAND ROAD, THENCE NORTH 02°44'28"WEST 48.38 FEET TO POINT OF BEGINNING:

THENCE NORTH 02°44'28" 327.04 FEET, THENCE NORTH 42"15'32" 76.95 FEET, THENCE NORTH 88°56'11"EAST, 145.63 FEET TO THE EAST LINE OF WEST 5 ACRES OF SECTION $\frac{1}{4}$ OF SECTION \$\frac{1}{4}\$ SECTION 21; THENCE ALONG EAST LINE, SOUTH 02*44'28" EAST, 352.02 FEET, THENCE SOUTH 80°05'11" WEST 201.55 FEET TO POINT OF BEGINNING.

TAX ID NUMBER: 08-21-400-062

ADDRESS: 10587 HIGHLAND ROAD, HARTLAND, MICHIGAN 48353-2624

BENCH MARKS

ALL BENCH MARKS AND ELEVATIONS SHOWN UPON THIS PLAN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). HORIZONTAL CONTROLS ARE TIED TO GPS OBSERVATIONS USING THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION VRS SYSTEM, BASED ON THE STATE PLANE COORDINATE SYSTEM, MICHIGAN SOUTH ZONE, NORTH AMERICAN DATUM OF 1983, ALSO KNOWN AS NAD83.

TELEPHONE MH RIM ELEV: 984.01

B.M. #2 'X' IN CONC. BASE ELEV: 985.06

B.M. #3 ELECTRIC MH RIM ELEV: 971.79

SITE DATA

PARKING REQUIRED

PARCEL NUMBER 08-21-400-062 PARCEL SIZE 1.65 ACRES - 71,975 SQ. FT.

SITE - GC - GENERAL COMMERCIAL

ZONING: NORTH - PD - PLANNED DEVELOPMENT

SOUTH - PD - PLANNED DEVELOPMENT

EAST - GC - GENERAL COMMERCIAL WEST - PD - PLANNED DEVELOPMENT

EXISTING USE RESTAURANT

PROPOSED USE CAR WASH

GROUP B PER 2015 MICHIGAN BUILDING CODE

TWO (2) SPACES, PLUS ONE (1) DESIGNATED SPACE PER EACH EMPLOYEE ON PEAK SHIFT, PLUS 12 STACKING SPACES PER BAY FOR A FULLY

AUTOMATIC CAR WASH.

PARKING REQUIRED = 2+1(4) = 6 SPACES STACKING REQUIRED = 12 SPACES

30 PARKING SPACES (2 ADA, 20 STANDARD STALL, 8 STANDARD SPACES) PARKING PROVIDED

27 STACKING SPACES

MINIMUM LOT SIZE 40,000 SQ. FT. WITHOUT SEWER 20,000 SQFT WITH SEWER

MAXIMUM BUILDING HEIGHT 35' OR 2.5 STORIES WHICHEVER IS LESS

MAXIMUM ACCESSORY HEIGHT 15' OR 1-STORY

FRONT BUILDING SETBACK

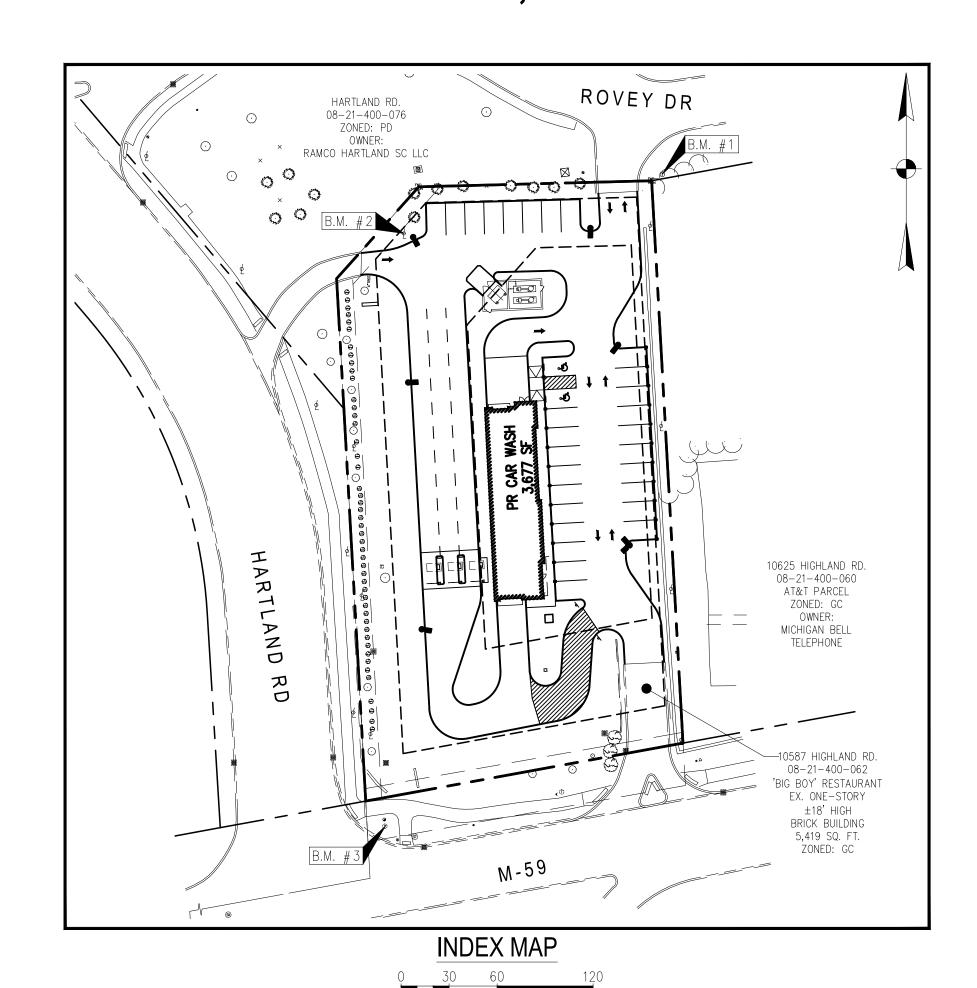
SIDE BUILDING SETBACK

REAR BUILDING SETBACK 0' WITHOUT SEWER, 40' WITH SEWER

PROPOSED GROSS BUILDING AREA 3,677 SQ. FT. PROPOSED BUILDING HEIGHT 1 STORY - 22' 4"

MICHIGAN Utility Notification CENTER 1-800-482-7171

Know What's Below. Call Before You Dig.



DESIGN CONSULTANT

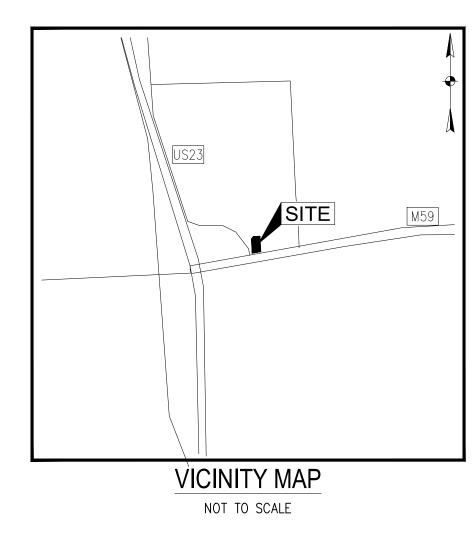
THE MANNIK & SMITH GROUP, INC. 607 SHELBY ST, SUITE 300 DETROIT, MI 48226 CONTACT: KYLE WRENTMORE, P.E. PHONE: 614-441-4222 EMAIL: KWRENTMORE@MANNIKSMITHGROUP.COM

OWNER/DEVELOPER

EXPRESS WASH CONCEPTS 13375 NATIONAL ROAD, SUITE D ETNA, OHIO 43068 CONTACT: CRAIG VAN BREMEN PHONE: (614) 751-9274 EMAIL: CRAIG@EXPRESSWASHCONCEPTS.COM

INDEX OF SHEETS

COVER SHEET	_ C000
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APPROVALS

SIGNATURES BELOW SIGNIFY CONCURRENCE WITH THE GENERAL PURPOSE AND LOCATION OF THE PROPOSED PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE DESIGN ENGINEER PREPARING THE PLANS.

TITLE	DATE
TITLE	DATE
TITI F	DATE

ENGINEER OF RECORD



CONTACT: EUPONINE S. PIERRE ADDRESS: 607 SHELBY STREET, SUITE 300 DETROIT, MI 48266 (313) - 961 - 9500ÉPIERRE@MANNIKSMITHGROUP.COM



REGISTERED PROFESSIONAL ENGINEER

PRELIMINARY **NOT FOR CONSTRUCTION**

REV NO	DATE	BY	REVISION DESCRIPTION	PROJECT DATE:	09/06/24
7				PROJECT NO.:	2400727
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				000	,

- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE AND LOCAL REGULATIONS. THE CURRENT HARTLAND TOWNSHIP STANDARDS AND SPECIFICATIONS SHALL GOVERN THE MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS.
- ALL CONSTRUCTION WITHIN A DOT RIGHT OF WAY SHALL COMPLY WITH ALL DEPARTMENT OF TRANSPORTATION STANDARDS.
- WHERE CONFLICT ARISES BETWEEN ALL SPECIFICATIONS (BOOK OR PLAN BASED) INCLUDING LIVINGSTON COUNTY REQUIREMENTS, THE MORE STRINGENT SPECIFICATION SHALL PREVAIL
- DATA ON EXISTING UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY COMPANY AND MUNICIPAL RECORD MAPS AND FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES INCLUDING SERVICES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MISSDIG811 AT 811 WITHIN MICHIGAN OR AT 1-800-482-7171 AT LEAST 72 HOURS BEFORE START OF WORK AND VERIFY ALL EXISTING UTILITY
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER SHOULD ANY DISCREPANCY REGARDING THE PROPOSED WORK OR UNFORESEEN CONDITIONS ARISE PRIOR TO PROCEEDING FURTHER WITH THE AFFECTED WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS FOR THE PROJECT AND NOTIFYING THE OWNER AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO CONSTRUCTION.
- THE OWNER AT ITS DISCRETION RESERVES THE RIGHT TO MODIFY THE DETAILS AND STANDARDS OF CONSTRUCTION FOR ALL PRIVATE FACILITIES FROM THAT INDICATED ON THE APPROVED PLAN, PROVIDED THAT THE ALTERNATE STANDARD COMPLIES WITH LOCAL CODE AND/OR UTILITY COMPANY REQUIREMENTS AND THE GENERAL DESIGN INTENT OF THE PROJECT IS NOT COMPROMISED.
- ANY DEFECTS DISCOVERED IN NEW CONSTRUCTION, WORKMANSHIP, EQUIPMENT, OR MATERIALS SHALL BE REPAIRED, OR CORRECTED BY APPROVED METHODS AS DIRECTED BY AND AT NO ADDITIONAL COST TO THE OWNER.
- 9. THE PRICE(S) QUOTED SHALL INCLUDE ALL ITEMS OF LABOR, MATERIALS, TOOLS, EQUIPMENT, INSURANCE AND OTHER COSTS NECESSARY TO FULLY COMPLETE THE WORK PURSUANT TO THE CONTRACT DOCUMENTS. IT IS THE INTENTION OF THE CONTRACT DOCUMENTS TO PROVIDE AND REQUIRE A COMPLETED WORK PROJECT READY FOR OPERATION. ANY WORK ITEMS OMITTED FROM SUCH CONTRACT DOCUMENTS WHICH ARE CLEARLY NECESSARY FOR THE COMPLETION OF SUCH WORK AND ITS APPURTENANCES SHALL BE CONSIDERED A PART OF SUCH WORK ALTHOUGH NOT DIRECTLY SPECIFIED OR CALLED FOR IN THE CONTRACT
- 10. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970. THE CONTRACTOR SHALL EXERCISE PRECAUTION ALWAYS FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT SHALL ALSO BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING THE REQUIREMENTS FOR CONFINED SPACES PER 29 CFR 1910.146.
- 11. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER AND OWNER FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT, AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
- 12. WHEREVER UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED THAT ARE NOT INDICATED ON THE PLANS, THE WORK SHALL BE DISCONTINUED UNTIL THE PROJECT ENGINEER AND OWNER APPROVE THE METHOD AND MATERIALS TO BE INCORPORATED INTO THE WORK.
- 13. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OR ITS REPRESENTATIVE IF SUSPECTED HAZARDOUS MATERIAL OR ANY OTHER MATERIAL THAT MAY CREATE A HEALTH RISK IS DISCOVERED ON SITE.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PLANT TICKETS FOR ALL MATERIALS DELIVERED TO THE SITE. PLANT TICKETS MUST SHOW NET QUANTITY OF DELIVERED MATERIAL. MATERIAL DELIVERED OR PLACED WITHOUT PLANT TICKETS SHALL BE REMOVED AND PROPERLY DISPOSED AT THE EXPENSE OF THE CONTRACTOR
- 15. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS, MATERIALS AND PLAN SPECIFICATIONS TO THE OWNER AND LOCAL UTILITY COMPANIES AS REQUIRED FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 15 WORKING DAYS FOR REVIEW.
- 16. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES.

MAINTENANCE OF TRAFFIC NOTES

- ALL WORK WITHIN RIGHT OF WAY TO INCLUDE TRAFFIC CONTROL IN ACCORD WITH THE <u>OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES</u> AND PER ALL CITY REQUIREMENTS. ROAD MUST REMAIN OPEN AT ALL TIMES. CONTRACTOR SHALL PREPARE A MAINTENANCE OF TRAFFIC PLAN AND SUBMIT TO THE CITY AND OWNER FOR APPROVAL PRIOR TO START OF CONSTRUCTION. CONTRACTOR TO COORDINATE ANY NECESSARY LANE CLOSURES WITH THE CITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL AND MAINTAIN TRAFFIC DEVICES FOR PROTECTION OF PEDESTRIANS AND VEHICLES CONSISTING OF DRUMS, BARRIERS, SIGNS, LIGHTS, FENCES AND UNIFORMED TRAFFIC CONTROLLERS IN ACCORDANCE WITH ODOT REGULATIONS AND/OR AS REQUIRED OR DIRECTED BY THE SITE ENGINEER OR CONSTRUCTION MANAGER OR LOCAL GOVERNING AUTHORITIES. CONTRACTOR SHALL MAINTAIN ALL TRAFFIC LANES AND PEDESTRIAN WALKWAYS AT ALL TIMES UNLESS WRITTEN APPROVAL FROM ODOT, LOCAL MUNICIPALITY, COUNTY, OR OTHER GOVERNING AUTHORITY IS RECEIVED.
- ANY ADDITIONAL TRAFFIC CONTROL BEYOND THAT SHOWN ON THE PLANS THAT IS REQUESTED OR REQUIRED BY THE CITY WILL BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE OWNER.

EXISTING CONDITIONS AND DEMOLITION NOTES

- 1. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE OWNER IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT APPROPRIATE REVISIONS CAN BE MADE PRIOR TO CONSTRUCTION. ANY CONFLICT BETWEEN DRAWINGS AND THE SPECIFICATIONS SHALL BE CONFIRMED WITH THE CONSTRUCTION MANAGER PRIOR TO BIDDING.
- EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING. IF CONDITIONS ENCOUNTERED ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL RUBBISH, TRASH, DEBRIS, AND ORGANIC MATERIAL IN A LAWFUL MANNER. ALL DEMOLISHED MATERIALS SHALL BE TAKEN FROM THE SITE IMMEDIATELY (UNLESS OTHERWISE NOTED) AND DISPOSED OFF-SITE IN ACCORDANCE WITH ALL LAWS. REGULATIONS AND ORDINANCES. NO BURNING OF ANY MATERIALS WILL BE ALLOWED ON OR OFF SITE. NO CLEARED OR GRUBBED MATERIAL SHALL BE BURIED OR LEFT ON SITE.
- CONTRACTOR SHALL PERFORM ALL CLEARING, GRUBBING, REMOVAL OF TREES, STUMPS, VEGETATION, AND DEBRIS NECESSARY TO PERFORM THE WORK INDICATED HEREIN. THAT CONTRACTOR SHALL LIMIT LAND DISTURBANCE TO ONLY THAT REQUIRED TO COMPLETE THE PROPOSED IMPROVEMENTS. NO CLEARED OR GRUBBED MATERIAL SHALL BE BURIED OR LEFT ON SITE.
- SHOULD ANY UNCHARTED, OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER IMMEDIATELY BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA.

- 7. THE LIMITS OF CLEARING AND GRADING SHALL BE FIELD STAKED 48 HOURS (2) WORKING DAYS) PRIOR TO THE PRE CONSTRUCTION MEETING. AREAS BEYOND THE LIMITS OF CLEARING AND GRADING SHALL NOT BE DISTURBED INCLUDING THE STOCKPILE OF ANY MATERIALS OR CONSTRUCTION TRAFFIC.
- 8. ALL UTILITY REMOVAL, RELOCATION, CUTTING, CAPPING, AND/OR ABATEMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY LISTED ON THE
- 9. MATERIALS NOTED ON THE PLANS TO BE SALVAGED TO OWNER SHALL BE STORED
- IN AREAS INDICATED ON THE PLANS, OR TO THE OWNERS SATISFACTION. 10. USE SUITABLE METHODS TO LIMIT DUST AND DIRT TO ADJACENT STRUCTURES OR PROPERTY. CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS
- TO EXISTING CONDITIONS PRIOR TO THE START OF THE DEMOLITION WORK. 11. THE CONTRACTOR SHALL PROTECT TREES, LANDSCAPING, SITE IMPROVEMENTS, AND OTHER ITEMS NOT SCHEDULED FOR CLEARING. OR THAT MIGHT BE DAMAGED BY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REPAIRING OR REPLACING ANY ITEMS THAT ARE DAMAGED.
- 12. THE BUILDING PAD AREA IS DEFINED AS THE AREA TWENTY (20) FEET OUTSIDE OF THE PROPOSED BUILDING FOOTPRINT, INCLUDING ATTACHED WALKWAYS, CANOPIES, SIDEWALKS, LOADING DOCKS, UTILITY PADS, AND ANY OTHER SUCH APPURTENANCES.
- 13. ANY AND ALL DAMAGE TO EXISTING PAVEMENT WITHIN THE LAYDOWN AREA SHALL BE REPAIRED.
- 14. ALL UTILITIES NOT MARKED FOR REMOVAL OR RELOCATION SHALL REMAIN INTACT. THE CONTRACTOR SHALL REPAIR ANY AND ALL DAMAGE TO EXISTING UTILITIES NOT MARKED FOR REMOVAL OR RELOCATION AT THEIR SOLE EXPENSE.

LAYOUT AND PAVING NOTES

- 1. THE CONTRACTOR SHALL CONFINE THEIR ACTIVITIES TO THE PROJECT SITE UNDER DEVELOPMENT, THE EXISTING RIGHT-OF-WAYS, AND CONSTRUCTION AND PERMANENT EASEMENTS, AND SHALL NOT TRESPASS UPON OTHER PROPERTY WITHOUT THE WRITTEN CONSENT OF THE OWNER
- 2. THE CONTRACTOR SHALL MAKE THEIR OWN PROVISIONS TO PROVIDE A SITE STAGING AREA AND JOB TRAILER (IF REQUIRED) FOR THE PROJECT IMPROVEMENTS.
- 3. THE CONTRACTOR SHALL REFERENCE ALL IRON PINS OR MONUMENTS. IF ANY PINS OR MONUMENTS ARE DESTROYED OR DAMAGED BY THE CONTRACTOR, THEY SHALL BE ACCURATELY REPLACED BY A REGISTERED SURVEYOR IN THE STATE OF MICHIGAN AT THE COMPLETION OF THE PROJECT.
- 4. ALL SITE DIMENSIONS ARE REFERENCED TO THE FACE OF CURBS OR EDGE OF PAVING UNLESS OTHERWISE NOTED. ALL BUILDING DIMENSIONS ARE REFERENCED TO THE OUTSIDE FACE OF THE STRUCTURE UNLESS OTHERWISE NOTED.
- 5. ALL CURB RAMPS, SIDEWALKS, AND PARKING AREAS REQUIRED FOR ACCESSIBILITY SHALL SHALL BE CONSTRUCTED IN FULL COMPLIANCE WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990.
- ALL PAVING MATERIALS FURNISHED AND WORK COMPLETED SHALL BE IN STRICT ACCORDANCE WITH MDOT CONSTRUCTION AND MATERIALS SPECIFICATIONS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL SUBMIT A JOB-MIX FORMULA FOR THE BITUMINOUS PAVEMENT TO THE CONSTRUCTION MANAGER FOR REVIEW AND APPROVAL AT LEAST 14 DAYS PRIOR TO THE PLACEMENT OF BITUMINOUS
- 7. ASPHALT SURFACE COURSE SHALL BE LAID WITH THE DIRECTION OF TRAFFIC FLOW IN ALL DRIVE LANES WITHIN PARKING FIELDS.
- 8. DO NOT PLACE MIX ON FROZEN OR WET SURFACES, OR WHEN PRECIPITATION IS
- 9. DO NOT PLACE MIX WHEN AIR OR SURFACE TEMPERATURE IS BELOW THE FOLLOWING: BINDER COURSE AND WALKS - 40° F - WEARING COURSE, ROADWAYS AND PARKING AREAS - 50° F
- 10. ANY MATERIAL DELIVERED TO THE SPREADER HAVING A TEMPERATURE LOWER THAN 250° F SHALL NOT BE USED.
- 11. THE MINIMUM ROLLER WEIGHT FOR PAVEMENT SHALL BE TEN (10) TON. ALL COURSES SHALL BE COMPACTED TO A MINIMUM OF NINETY-THREE (93%) PERCENT OF THEORETICAL MAXIMUM DENSITY (TMD).
- 12. ALL PAVEMENT MARKINGS, SIGNS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO AASHTO AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL SIGNS SHALL BE CONSTRUCTED OF FLAT SHEET ALUMINUM IN ACCORDANCE WITH STATE HIGHWAY SPECIFICATIONS. STEEL SIGN POSTS SHALL BE USED AND CONFORM TO ASTM A36 OR ASTM A441 AND SHOULD BE GALVANIZED IN ACCORDANCE WITH AASHTO M111.
- 13. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS AS SHOWN ON THE PLANS. PAVEMENT MARKINGS SHALL BE APPLIED PER MANUFACTURER RECOMMENDATIONS. APPLY PAINT TO CLEAN, DRY SURFACES TO YIELD SHARP DEFINITION OF EDGES. AIR TEMPERATURE 50° F MINIMUM. APPLY TWO (2) COATS.
- 14. PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH MDOT CONSTRUCTION AND MATERIALS SPECIFICATIONS AND SHALL BE EITHER COLD LAID PLASTIC TAPE OR PAINTED AS DESIGNATED ON THE PLANS OR PAVEMENT MARKING DETAILS.
- 15. THE CONTRACTOR SHALL REMOVE CONFLICTING PAVEMENT MARKINGS IN A METHOD APPROVED BY MDOT CONSTRUCTION AND MATERIALS SPECIFICATIONS.
- 16. DIRECTIONAL TRAFFIC ARROWS SHALL BE PAINTED WHITE UNLESS OTHERWISE NOTED.
- 17. A MINIMUM CLEARANCE OF 2 FEET SHALL BE MAINTAINED FROM THE FACE OF CURB AND ANY PART OF A LIGHT POLE OR TRAFFIC SIGN.
- 18. CONTRACTOR SHALL SAW-CUT IN A NEAT, STRAIGHT LINE FOR SMOOTH TRANSITIONS AT TIE-INS TO EXISTING EDGES OF PAVEMENT AND AT COLD JOINTS OF RECENTLY PAVED PAVEMENT.
- 19. JOINTS OR SCORE MARKS ARE TO BE SHARP AND CLEAN WITHOUT SHOWING EDGES OF JOINTING TOOL.
- 20. CONTRACTOR SHALL SAWCUT TIE-INS AT EXISTING CURBS TO ENSURE SMOOTH TRANSITIONS. CONTRACTOR SHALL SAWCUT AND TRANSITION TO EXISTING PAVEMENT TO ENSURE POSITIVE DRAINAGE.
- 21. ALL CONCRETE SHALL BE 6% (+/-11/2%) AIR ENTRAINED, 3/4" AGGREGATE AND CONFORM TO A 28 DAY STRENGTH OF 4,000 PSI MINIMUM AND SHALL HAVE A MAXIMUM W/C OF 0.50. ALL CONCRETE SHALL BE MADE WITH TYPE I OR TYPE II CEMENT UNLESS OTHERWISE SPECIFIED.
- 22. ALL SIDEWALKS SHALL HAVE A LIGHT BROOM FINISH. VERTICAL FACES SHALL BE
- 23. BASE AND ASPHALT THICKNESS SPECIFIED ARE THE MINIMUM REQUIRED.
- 24. ALL CURB RADII ARE 4', UNLESS OTHERWISE NOTED. FOR CURBED ISLANDS SHOWN WITH ONE LABELED RADIUS, THE LABELED RADIUS SHALL APPLY TO ALL FOUR CORNERS OF THE ISLAND.
- 25. ALL CONCRETE FOR CURBS SHALL BE AIR ENTRAINED TO BE 6% (+/-11/2%), MADE WITH SAND AND GRAVEL AGGREGATE AND SHALL CONFORM TO A TWENTY EIGHT (28) DAY STRENGTH OF 4,500 PSI MINIMUM, SHALL HAVE A MAXIMUM W/C OF 0.40 AND 130 LBS/LF.
- 26. CONTRACTOR SHALL INSTALL ALL CURBING IN A TRUE LINE AND PROPER GRADE IN ACCORDANCE WITH THE APPROVED SITE PLANS AND APPROPRIATE STATE DOT SPECIFICATIONS. CURVED CURB SECTIONS SHALL BE USED FOR RADII LESS THAN 30'. ALL CURBING SHALL BE BACKFILLED WITH CLEAN AGGREGATE.
- 27. CONTRACTOR SHALL REPAIR ANY CURB DAMAGED DURING CONSTRUCTION ACTIVITIES. 28. ALL CURBS SHALL BE FULL DEPTH CONCRETE CURB WITH 6" REVEAL, UNLESS
- OTHERWISE NOTED. 29. BUILDING FOOTPRINTS ARE SHOWN FOR INTENT ONLY. SEE STRUCTURAL AND
- ARCHITECTURAL PLANS FOR BUILDING FOUNDATION AND WALL DIMENSIONS. 30. CONTRACTOR TO COORDINATE TRANSFORMER AND GENERATOR PAD DIMENSIONS AND SPECIFICATIONS WITH MEP PLANS AND ELECTRIC PROVIDER PRIOR TO
- 31. SEE ARCHITECTURAL PLANS FOR FROST SLAB DETAILS AND SPECIFICATIONS.

CONSTRUCTION.

32. CONTRACTOR TO INSTALL ALL UTILITY PIPING, SEWERS, CONDUIT PRIOR TO PAVING OPERATIONS. CONTRACTOR TO COORDINATE ALL SITE UTILITIES WITH UTILITY PLAN, AND MEP PLANS.

- GENERAL GRADING & DRAINAGE NOTES:
- 1. PROPOSED ELEVATIONS SHOWN SHALL NOT BE CHANGED WITHOUT APPROVAL OF THE CITY OF HARTLAND TOWNSHIP AND THE CONSTRUCTION MANAGER.
- TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING.
- 3. MANHOLE RIMS AND CATCH BASIN GRATES SHALL BE SET TO ELEVATIONS SHOWN. SET ALL EXISTING MANHOLE FRAMES AND COVERS, CATCH BASIN GRATES, VALVE BOXES, ETC., TO BE RAISED OR LOWERED, TO PROPOSED FINISHED GRADE, FLUSH WITH THE ADJACENT GRADE.
- 4. UNDERDRAINS MAY BE ADDED, IF DETERMINED NECESSARY BY THE ENGINEER OR CONSTRUCTION MANAGER, AFTER SUBGRADE IS ROUGH GRADED.
- 5. THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION WHERE POSSIBLE AND/OR AS NOTED ON DRAWINGS. REFER TO EROSION CONTROL PLAN FOR LIMIT OF DISTURBANCE AND NOTES.
- 6. THE CONTRACTOR SHALL COMPACT FILL IN 8" MAXIMUM LIFTS UNDER ALL PARKING, BUILDING, AND DRIVE AREAS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 (MODIFIED PROCTOR TEST), OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- 7. THE CONTRACTOR SHALL BE ADVISED THAT ALL EXCAVATION IS CONSIDERED UNCLASSIFIED AND THAT IT SHALL BE RESPONSIBLE FOR ALL MEANS, METHODS, AND MATERIALS OF CONSTRUCTION TO COMPLETE CONSTRUCTION AS DESIGNED. ADDITIONALLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OFF-SITE DISPOSAL OF ANY AND ALL EXCESS OR UNSUITABLE MATERIAL UNABLE TO BE PLACED ON SITE AND THE IMPORTATION OF ANY BORROW MATERIAL NECESSARY TO COMPLETE THE JOB.
- 8. SITE GRADING SHALL BE PERFORMED TO PROVIDE POSITIVE DRAINAGE TO CATCH BASINS AND TO PRECLUDE THE PONDING OF WATER ON SITE.
- 9. THE CONTRACTOR SHALL VERIFY REQUIRED SPOT ELEVATIONS/GRADING IN THE VICINITY OF THE BUILDINGS WITH THE ARCHITECTURAL PLANS.
- 10. SPOT ELEVATIONS SHOWN DEPICT THE PROPOSED PAVEMENT OR GROUND SURFACE OR PAVEMENT ELEVATION AT FACE OF CURB, UNLESS OTHERWISE NOTED. TOP OF ALL CONCRETE CURBING IS 6-INCHES ABOVE SPOT ELEVATIONS UNLESS
- 11. IT IS THE CONTRACTORS OBLIGATION AND RESPONSIBILITY TO CONFIRM/CONCUR WITH THE EXISTING GRADES SHOWN HEREIN. THE CONTRACTOR MUST CONFIRM ALL EXISTING GRADES PRIOR TO ANY/ALL EXCAVATION.
- 12. THE CONTRACTOR MUST DOCUMENT EXISTING GRADE DISPUTES BY PROVISION OF A TOPOGRAPHIC SURVEY BY A STATE OF MICHIGAN REGISTERED PROFESSIONAL SURVEYOR, PRIOR TO ANY EARTH DISTURBING ACTIVITIES. IN THE ABSENCE OF THE PROVISION OF TOPOGRAPHIC SURVEY BY THE CONTRACTOR, THE GRADES SHOWN HEREON WILL BE THE "TOPOGRAPHY OF RECORD" FOR ANY AND ALL SOIL VOLUME
- 13. THE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL IMPORT/EXPORT NECESSARY TO ACHIEVE THE PROPOSED GRADES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL STATE AND LOCAL REQUIREMENTS ASSOCIATED WITH IMPORTING SOIL FROM ANOTHER SITE.
- 14. ALL PROPOSED SLOPES 3:1 OR STEEPER AND ALL EARTHEN DRAINAGE WAYS SHALL RECEIVE JUTE OR EXCELSIOR MATTING AS PER ODOT 671 TYPE F.
- 15. ALL EXCAVATION UNDER OR NEAR EXISTING OR FUTURE PAVEMENT (INCLUDING SIDEWALKS), SUBJECT TO SETTLEMENT, WILL BE BACK FILLED WITH PREMIUM BACKFILL AS DEFINED HEREIN. AT QUESTIONABLE AREAS THE DECISION OF THE ENGINEER, OR THEIR REPRESENTATIVE, WILL PREVAIL.
- 16. PAVEMENT EXCAVATION AND EMBANKMENT SHALL BE IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION PAVE-956 SPECIFICATIONS. THE CONTRACTOR MAY BE REQUIRED TO MAKE COMPACTION TESTS. TESTS SHALL BE TAKEN BY A TESTING COMPANY APPROVED BY THE ENGINEER. THE COST OF THESE TESTS SHALL BE PAID BY THE CONTRACTOR. "PROOF" ROLLING WILL BE REQUIRED PRIOR TO PAVING AND SHALL BE CONDUCTED PRIOR TO PLACEMENT OF AGGREGATE BASE AND PERFORMED WITH THE OWNER'S INSPECTOR PRESENT AND PAID FOR BY THE CONTRACTOR.

GENERAL UTILITY NOTES:

- 1. THE CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS. ELECTRICAL AND TELECOMMUNICATIONS CONDUIT. AND GAS LINES SHOWN ON THESE PLANS WITH THE ARCHITECTURAL AND M.E.P. PLANS PRIOR TO START OF CONSTRUCTION.
- 2. IN THE EVENT OF CONFLICT OF ANY REQUIREMENTS OR PROVISIONS OF THE WORK INDICATED HEREON, THE SITE ENGINEER SHALL BE NOTIFIED FOR A DETERMINATION OF THE PLAN REQUIREMENTS AND INTENT THEREOF.
- 3. PROPER COORDINATION WITH THE RESPECTIVE UTILITY COMPANIES SHALL BE PERFORMED BY THE CONTRACTOR TO INSURE THAT ALL UTILITY COMPANY, LOCAL MUNICIPALITY, AND LOCAL COUNTY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET.
- 4. UTILITY PROTECTION: IN THE EVENT THAT THE CONTRACTOR MUST OCCUPY THE SPACE ABOVE, WORK ADJACENT TO, OR TRAVERSE ANY EXISTING UTILITIES, THE CONTRACTOR WILL TAKE ALL MEASURES REQUIRED BY THE OWNER OF THE UTILITY TO PROTECT THE INTEGRITY OF THE EXISTING UTILITY. THIS INCLUDES BUT IS NOT LIMITED TO: ADJUSTMENT OF MEANS AND METHODS TO REDUCE ACTIVE EARTH PRESSURE BY CONTRACTOR'S CONSTRUCTION ACTIVITY, ALTERNATE EXCAVATION OR TRENCHING/TRENCH STABILIZATION TECHNIQUES, SHORING/BRACING, PROTECTING THE UTILITY BY EMPLOYMENT OF: PLATES, CRANE-MATS, AIR BRIDGING, NOT OCCUPYING THE SPACE ABOVE THE UTILITY, AND ALTERNATIVE EXCAVATION. ALTERNATIVE TRENCH BOX AND ALTERNATIVE EQUIPMENT AND TECHNIQUES TO PROTECT THE EXISTING UTILITY TO THE SATISFACTION OF THE OWNER OF THE EXISTING UTILITY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THESE REQUIREMENTS PRIOR TO SUBMISSION OF THEIR BID. THE COST FOR THE UTILITY PROTECTION MUST BE INCLUDED IN THE BASE BID FOR THE PROPOSED CONSTRUCTION ACTIVITY AND WILL BE BORNE BY THE CONTRACTOR FOR THE BASE
- 5. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE SEWERS CROSS EXISTING UTILITIES, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION MANAGER IN THE EVENT OF ANY UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROPOSED UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
- 6. THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES FOR SERVICE INSTALLATIONS AND CONNECTIONS AND MAIN AND SERVICE RELOCATIONS. THE CONTRACTOR SHALL COORDINATE THE WORK TO BE PERFORMED BY THE VARIOUS UTILITY COMPANIES AND SHALL SECURE ALL PERMITS AND PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS, AND DEMOLITION, AS NECESSARY.
- 7. THE CONTRACTOR SHALL ARRANGE FOR COORDINATE TEMPORARY UTILITY OUTAGES WITH APPLICABLE UTILITY COMPANY AND CITY AND NOTIFY NEIGHBORING EFFECTED OWNERS NO LESS THAN 72 HOURS PRIOR TO PLANNED OUTAGE. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY CONSTRUCTION PERMITS REQUIRED TO PERFORM ALL THE WORK. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
- 8. DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER, LOCAL MUNICIPALITY AND/OR UTILITY COMPANY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY OR PERMANENT SERVICE HAS BEEN PROVIDED.
- 9. THE CONTRACTOR SHALL ABIDE BY ALL OSHA, FEDERAL, STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT THE POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS.
- 10. RELOCATION OF ANY UTILITY COMPANY FACILITIES TO BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY AND LOCAL MUNICIPALITY.
- 11. ALL WATER MAINS, WATER SERVICES AND SANITARY SEWER LATERALS SHALL CONFORM TO THE OHIO ENVIRONMENTAL PROTECTION AGENCY, APPLICABLE COUNTY AND LOCAL DEPARTMENTS, AND APPROPRIATE UTILITY COMPANY SPECIFICATIONS.

- 12. THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS TO EXISTING BUILDINGS, ETC. WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED TO DISCONNECT BY THE OWNER, UTILITY COMPANIES, AND GOVERNING AUTHORITIES. THE CONTRACTOR SHALL INSTALL AS NECESSARY, TEMPORARY SITE LIGHTING, GAS, SANITARY, WATER, STORM, ELECTRIC, TELEPHONE, AND CABLE SERVICES TO SERVICE BUILDING(S) TO REMAIN OPEN.
- 13. ALL EXISTING PAVEMENT WHERE UTILITY PIPING IS TO BE INSTALLED SHALL BE SAW CUT AND REPLACED IN ACCORDANCE WITH THE PAVEMENT REPAIR
- REQUIREMENTS OF LOCAL MUNICIPALITY AND THE DETAILS CONTAINED HEREIN. 14. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
- 15. SANITARY LATERAL AND STORM SEWERS SHALL MAINTAIN 10-FOOT MIN. HORIZONTAL AND 1.5-FOOT MIN. VERTICAL SEPARATION DISTANCE FROM WATER LINES. A 1-FOOT MIN. VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN WATER LINES AND OTHER UTILITIES INCLUDING GAS, ELECTRICAL AND TELEPHONE ADDITIONAL PROTECTION MEASURES INCLUDING. BUT NOT LIMITED TO. CONCRETE PIPE ENCASEMENT MAY BE REQUIRED IF INDICATED CLEARANCES ARE NOT MET.
- 16. THE CONTRACTOR SHALL COMPACT PIPE BACKFILL IN MAX. 8" LOOSE LIFTS TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557, ACCORDING TO THE PIPE BEDDING DETAILS. TRENCH BOTTOM SHALL BE STABLE IN HIGH GROUNDWATER AREAS. A PIPE FOUNDATION SHALL BE USED IN AREAS OF ROCK EXCAVATION.
- 17. CONTRACTOR TO PROVIDE SLEEVES UNDER FOOTINGS OR THROUGH FOUNDATIONS FOR UTILITY CONNECTIONS.
- 18. CONTRACTOR SHALL PROVIDE ALL BENDS, FITTINGS, ADAPTERS, ETC. AS REQUIRED FOR PIPE CONNECTIONS TO BUILDING/CANOPY STUB-OUTS, INCLUDING ROOF/FOOTING DRAIN CONNECTIONS TO ROOF LEADERS AND TO STORM DRAINAGE
- 19. UTILITY CONDUIT PIPE SHALL BE SCHEDULE 80 PVC AND/OR AS REQUIRED BY THE LOCAL UTILITY COMPANY. SERVICES MAY BE INSTALLED IN A COMMON TRENCH WITH 12" CLEAR SPACE BETWEEN SERVICES. MINIMUM COVER SHALL BE 36" ON ELECTRIC CONDUITS AND 24" ON TELEPHONE AND CABLE CONDUITS. SERVICES SHALL BE MARKED WITH MAGNETIC LOCATOR TAPE. GALVANIZED STEEL ELECTRICAL CONDUIT SHALL BE USED AT POLE AND TRANSFORMER LOCATIONS. INSTALL HAND HOLES AS REQUIRED.
- 20. ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION PRIOR TO APPROVAL FOR BACKFILL, IN ACCORDANCE WITH THE APPROPRIATE UTILITY COMPANY, LOCAL MUNICIPALITY, AND/OR LOCAL COUNTY REQUIREMENTS.
- 21. MANHOLE RIMS AND CATCH BASIN GRATES SHALL BE SET TO ELEVATIONS SHOWN. SET ALL EXISTING MANHOLE FRAMES AND COVERS, CATCH BASIN GRATES, VALVE BOXES, ETC., TO BE RAISED OR LOWERED, TO PROPOSED FINISHED GRADE, FLUSH WITH THE ADJACENT GRADE. ALL TOP OF CASTING ELEVATIONS SHOWN IN THE PLANS FOR CURB INLETS ARE AT THE TOP OF CURB.
- 22. THE CONTRACTOR MAY SUBSTITUTE MASONRY STRUCTURES FOR PRECAST STRUCTURES IF APPROVED BY THE CONSTRUCTION MANAGER AND IF ALLOWED BY THE LIVINGSTON COUNTY ENGINEERS.
- 23. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF WATER MAINS & SERVICES TO A POINT 5' OUTSIDE OF EACH BUILDING. THE INDIVIDUAL BUILDING CONTRACTORS SHALL BE RESPONSIBLE FOR ALL CONNECTIONS TO INTERIOR PLUMBING.
- 24. CONTRACTOR TO REFERENCE SITE ELECTRICAL PLAN FOR LOCATION OF ELECTRIC CONDUIT FOR ALL SITE ELECTRICAL WORK.
- 25. CONTRACTOR TO REFERENCE MEP SITE PLAN FOR ALL ELECTRICAL AND
- COMMUNICATION CONDUIT RUNS PRIOR TO START OF CONSTRUCTION. 26. ALL UTILITIES SHALL BE CONSTRUCTED, INSPECTED, AND TESTED IN ACCORDANCE WITH LIVINGSTON COUNTY STANDARDS AND REGULATIONS. THE LIVINGSTON COUNTY DRAIN COMMISSIONER DEPARTMENTS SHALL BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE FOR SCHEDULING OF AN INSPECTOR.
- 27. CONTRACTOR TO INSTALL SHORING AND/OR TEMPORARY STRUCTURES TO PROVIDE SUPPORT TO ANY AND ALL EXISTING AFFECTED UTILITIES PER UTILITY PROVIDER'S MINIMUM STANDARDS.

STORM UTILITY NOTES

THE PLANS.

TYPE M1 5105 GRATE.

- 1. NORTHINGS AND EASTINGS FOR CATCH BASINS, AREA DRAINS, AND MANHOLES GIVEN IN SITE PLANS ARE UNDERSTOOD TO REPRESENT THE CENTER OF THE INLET STRUCTURE. COORDINATES AT CURB INLETS ARE TO BE AT THE FACE OF CURB. HEADWALL COORDINATES ARE AT THE FACE.
- 2. ALL CATCH BASINS/MANHOLES. UNLESS STATED OTHERWISE IN STRUCTURE SCHEDULE SHALL BE AS FOLLOWS OR APPROVED EQUAL:
- GRATE AND 7050 T1 BACK. ALL CATCH BASINS SHOWN ADJACENT TO CURBS ARE TO BE CURB INLETS. CATCH BASINS IN CONCRETE PAVEMENT: EAST JORDAN IRON WORKS 5110 WITH

CURB INLETS: EAST JORDAN IRON WORKS 7045 WITH TYPE M1 SINUSOIDAL

- TYPE M3 HEAVY DUTY SINUSOIDAL GRATE. CATCH BASINS IN ASPHALT PAVEMENT: EAST JORDAN IRON WORKS 5100 WITH
- CATCH BASINS IN GRASS: EAST JORDAN IRON WORKS 6500 BEEHIVE DITCH 2.4. SANITARY SEWER MANHOLE: EAST JORDAN IRON WORKS 1040 HEAVY DUTY CASTING AND COVER WITH TYPE A SOLID COVER WITH "SANITARY SEWER" ON
- 3. ALL STORM SEWER PIPES SHALL BE HDPE OR PVC UNLESS STATED OTHERWISE ON
- HIGH DENSITY POLYETHYLENE (HDPE) STORM SEWER PIPE SHALL HAVE A SMOOTH INTERIOR AND CORRUGATED EXTERIOR AND MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS: AASHTO M252, TYPE S FOR 4-INCH THROUGH 10-INCH PIPE, AASHTO M294, TYPE S FOR 12-INCH THROUGH 36-INCH PIPE, ASTM F2306 FOR 12-INCH THROUGH 60-INCH PIPE, OR ASTM F2648 FOR 4-INCH THROUGH 60" PIPE. JOINTS SHALL BE SILT-TIGHT BELL AND SPIGOT CONNECTIONS. HDPE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAIL, ASTM D2321 AND MANUFACTURERS RECOMMENDED PROCEDURE.
- 3.2. POLY VINYL CHLORIDE (PVC) PIPE FOR STORM SHALL HAVE BUILT-IN RUBBER GASKET JOINTS. PVC PIPE SHALL CONFORM TO ASTM D3034 SDR35 WITH COMPRESSION JOINTS AND APPROPRIATE FITTINGS. PVC PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAIL, ASTM D2321 AND MANUFACTURERS RECOMMENDED PROCEDURE.
- RE-INFORCED CONCRETE PIPE (RCP) SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-76; ALL RCP SHALL BE CLASS IV UNLESS OTHERWISE SHOWN. JOINTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-443.
- 4. ALL STORM SEWERS, INLET BASINS AND MANHOLES SHALL BE CLEANED PRIOR TO ACCEPTANCE.

SANITARY UTILITY NOTES

- 1. THE LOCATION, SIZE, AND DEPTH OF THE EXISTING SANITARY LATERAL OR MAIN SHALL BE VERIFIED IN THE FIELD IN THE PRESENCE OF THE LIVINGSTON COUNTY INSPECTOR. THE SLOPE OF THE LATERAL TO THE BUILDING WILL THEN BE DETERMINED. THE LIVINGSTON COUNTY MUST APPROVE THE TYPE AND LOCATION OF ANY CONNECTION PRIOR TO INSTALLATION. THE EXISTING SANITARY LATERAL SHALL BE TELEVISED PRIOR TO INSTALLATION OF ANY SANITARY SEWER SYSTEM COMPONENTS. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IS THE EXISTING LATERAL IS NOT FOUND TO BE IN GOOD CONDITION.
- 2. SANITARY LATERAL SHALL BE A MINIMUM 6" DIAMETER OF PVC PIPE, ASTM D3034 SDR 26 WITH RUBBER GASKET JOINTS OR APPROVED EQUAL. LATERALS SHALL BE CONSTRUCTED WITH A MINIMUM 1% SLOPE, AND HAVE A MINIMUM OF 3 FT. COVER. PVC PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAIL, ASTM D2321 AND MANUFACTURERS RECOMMENDED PROCEDURE. 3. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO
- THE SANITARY SEWER ARE PROHIBITED. 4. MANHOLE SECTION AND CONSTRUCTION SHALL CONFORM TO ASTM C-478.
- 5. THE CONTRACTOR SHALL TEST FLEXIBLE PIPING FOR DEFLECTION THAT PREVENTS

PASSAGE OF BALL OR CYLINDER OF SIZE NOT LESS THAN 95 PERCENT OF PIPING DIAMETER. DEFLECTION OF 5% SHALL NOT BE EXCEEDED.

ACCORDANCE WITH UNI-B-6. TEST PLASTIC GRAVITY SEWER PIPING ACCORDING TO

- THE CONTRACTOR SHALL TEST SANITARY SEWERAGE ACCORDING TO REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. PERFORM AIR TESTS ON SANITARY SEWERAGE ACCORDING TO REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION IN
- ASTM F 1417 AND CONCRETE GRAVITY SEWER PIPING ACCORDING TO ASTM C-924. 7. THE CONTRACTOR SHALL PERFORM HYDRAULIC TEST IN MANHOLES ACCORDING TO ASTM C-969.

- 1. ALL BACK FLOW PREVENTION DEVICES SHALL BE APPROVED BY THE CITY OF HARTLAND TOWNSHIP DEPARTMENT OF PUBLIC SERVICES.
- 2. ALL FIRE SERVICE MAINS SHALL BE INSTALLED BY AN INDIVIDUAL WITH APPROPRIATE CERTIFICATION BY THE STATE OF OHIO.
- 3. IN THOSE AREAS WHERE IT IS REQUIRED TO LOWER THE WATER LINE TO CLEAR AN OBSTACLE AND THE DEFLECTION WILL BE GREATER THAN 18", THE USE OF BENDS WILL BE REQUIRED TO CLEAR THE OBSTACLE AND BRING THE WATER MAIN UP TO THE STANDARD FIVE (5) FEET OF COVER.
- 4. WATER MAIN SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH AWWA STANDARD C900 FOR POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FABRICATED FITTINGS, 4—INCH, THROUGH 12—INCH, FOR WATER DISTRIBUTION, OR AWWA STANDARD C909 FOR MOLECULARLY ORIENTED POLYVINYL CHLORIDE (PVCO) PRESSURE PIPE, 4-INCH THROUGH 12-INCH, FOR WATER DISTRIBUTION AND CLEARLY MARKED AS SUCH. PVC WATER PIPE SHALL BE CERTIFIED TO NSF INTERNATIONAL STANDARD NO. 61.
- WATER METER AND BACKFLOW PREVENTER TO BE INSTALLED WITHIN THE BUILDING. REFERENCE BUILDING PLANS FOR DETAIL.
- 6. MINIMUM DEPTH OF WATER MAIN COVER SHALL BE FIVE (5) FEET BELOW FINISH

<u>SITE MAINTENANCE & RESTORATION NOTES</u>

MUNICIPALITY, AND STATE.

- 1. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY EROSION, POLLUTION, AND DUST CONTROL MEASURES THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT. REFERENCE THE SWPPP PLAN, NOTES AND DETAILS.
- 2. MUD, SOIL, OR OTHER DEBRIS IS DEPOSITED ON ADJACENT STREETS, ROADS, OR OTHER PROPERTY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF SUCH AT THE END OF EACH WORK DAY, OR AS REQUIRED DURING THE WORK

4. ALL DISTURBANCE INCURRED TO CITY OR STATE PROPERTY DUE TO CONSTRUCTION

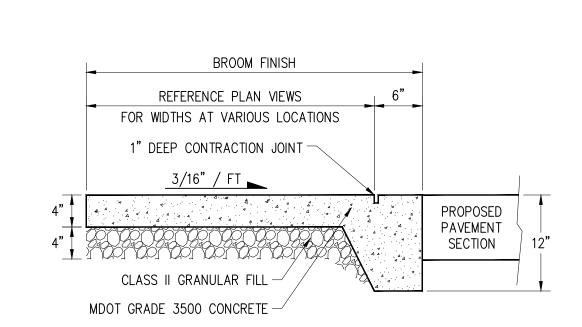
- 3. ALL ROAD SURFACES, EASEMENTS, OR RIGHT-OF-WAY DISTURBED BY THE CONSTRUCTION OF ANY PART OF THESE IMPROVEMENTS ARE TO BE RESTORED ACCORDING TO THE CITY OF HARTLAND TOWNSHIP AND MDOT REQUIREMENTS.
- SATISFACTION OF THE CITY, LOCAL, AND/OR STATE DOT. 5. THE CONTRACTOR SHALL RESTORE ANY STRUCTURES, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS, ETC. WITHIN THE SITE OR ADJOINING PROPERTIES DISTURBED DURING DEMOLITION OR CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AND TO THE SATISFACTION OF THE OWNER, LOCAL

SHALL BE RESTORED TO ITS PREVIOUS CONDITION OR BETTER, TO THE

6. FINAL CLEANUP: THE CONTRACTOR SHALL CLEAN-UP ALL DEBRIS AND MATERIALS RESULTING FROM CONSTRUCTION AND SHALL RESTORE ALL SURFACES, STRUCTURES, DITCHES AND PROPERTY TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER AND ALL APPLICABLE GOVERNMENTAL AND REGULATORY AGENCIES.

C001

TYPICAL SIGN POST IN PAVEMENT NOT TO SCALE

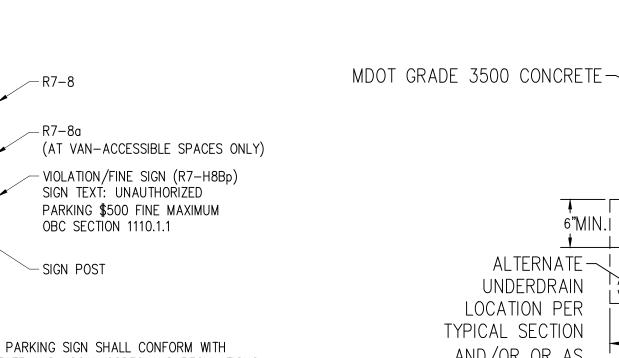


NOTE: SIDEWALK JOINTS SHALL BE EQUALLY SPACED UNLESS OTHERWISE DETAILED AS A PART OF THE BUILDING OR LANDSCAPE ARCHITECT PLANS.

OPTION: CONTRACTOR MAY POUR CURB AND WALK SEPARATELY. SEE DETAIL FOR 18" STRAIGHT CURB.

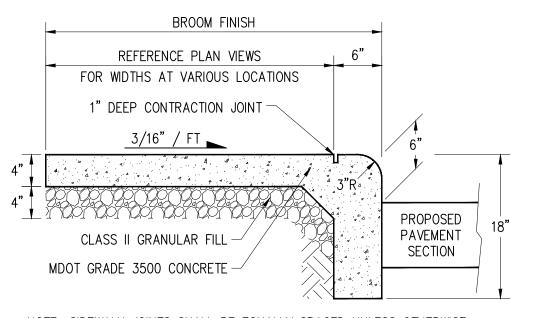
> PARKING ONLY

FLUSH WALK AND PAVEMENT NOT TO SCALE



ACCESSIBLE PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS. ACCESSIBLE PARKING SPACE SIGN

NOT TO SCALE

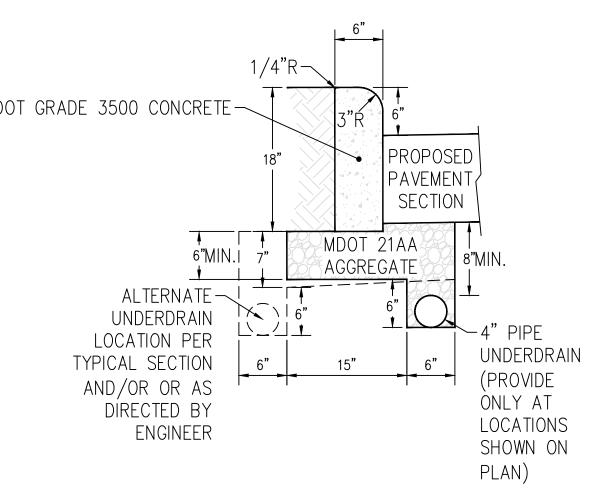


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NOT TO SCALE

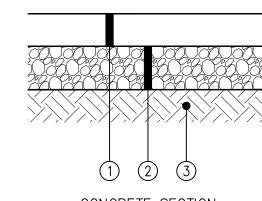
INTEGRAL WALK AND CURB



18" STRAIGHT CONCRETE CURB NOT TO SCALE



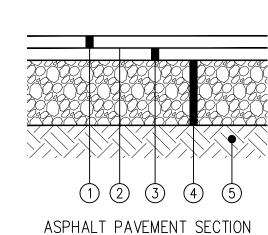
1. SIGN TO MATCH MUTCD R1-1



CONCRETE SECTION

(1) MDOT GRADE 3500 CONCRETE PAVEMENT, 8" 2) MDOT 21AA AGGREGATE BASE, 8" - EXTEND 1' MIN BEYOND THE PAVED EDGE

3 SUBGRADE COMPACTION



(1) MDOT 13A HMA, 1-1/2", PG58-28, MAX. 15% RAP, 3% AIR VOIDS

(2) BITUMINOUS BOND COAT (0.1 GAL./SQ. YD.)

(3) MDOT 3C HMA, 1-1/2"", PG58-28, MAX. 30% RAP, 3% AIR VOIDS

(4) MDOT 21AA AGGREGATE BASE, 6" - EXTEND 1' MIN BEYOND THE PAVED EDGE

(5) SUBGRADE COMPACTION

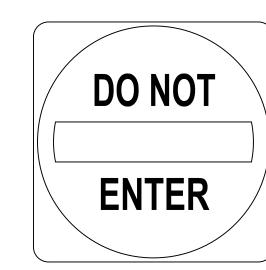
ALL PAVEMENT MATERIALS SHALL CONFORM TO THE MICHIGAN DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

TYPICAL PAVEMENT SECTIONS NOT TO SCALE

REFERENCE PLAN VIEWS FOR WIDTHS AT VARIOUS LOCATIONS 2% MAX. SLOPE. SEE PLAN FOR SLOPE 4" CLASS Ⅱ— 4" CONCRETE, MDOT GRADE 3500 AGGREGATE BASE

TYPICAL SIDEWALK SECTION

NOT TO SCALE



DO NOT ENTER SIGN NOT TO SCALE

SIGN TO MATCH MUTCD R5-1 MATERIALS MATCH THOSE WITHIN NOTE 1 OF REGULATIORY & WARNING SIGNS ON WOOD POSTS STANDARD, THIS SHEET.

WASH

S DETAIL

GENERAL

C001

 E Wall Thickness Alloy 6063-16 Tapered Aluminum Tube Cleat (Security Options Available) See Specification Box D Butt Diameter Aluminum Collar (Options Available) Perimeter caulked by Installer 2" Cap - Cement or Waterproof Compound and Hardwood Wedges (By Installer) Ground Sleeve Assembly - 16 Gauge Galvanized Steel Tube Tamped Dry Sand (By Installer)
 3/16 Steel Plate Welded to Sleeve
 3/16 Steel Support Plate

Note: Foundation design not included. Foundation dimensions should be determined by a qualified. 3/4" Diameter Steel Rod Customer Name: Qty: 1 Project:

Halyard, #10 (5/16" Diameter)
Braided Polyester Rope TRK-9609 BAL-0512-GLD-External Truck HD Gold Anodized Two (2) Solid Brass Flagsnaps and Two (2) Neoprene Flagsnap Govers Single Revolving Aluminum Ball CLA-9090-SAT | COL1-A05S 7.5' from bottom Cleat Only FC-11 Spun Alum 1-Piece Satin Finish Specifications A. Mounting Height: 30' B. Set Depth: 3'-0" C. Total Length: 33'-0" D. Butt Diameter: 5" E. Wall Thickness: .156" F. Top Diameter: 3" Flagpole Sections: 1 Shaft Weight: 109 lbs.

ESR30C51

Hardware Weight: 9 lbs. Ground Sleeve Weight: 29 lbs. * Max Flag Size: 4' x 10' * Max Wind Speed w/Nylon Flag: 86 mph * Max Wind Speed No Flag: 112 mph

* Wind Speed Specifications from

ANSI/NAAMM FP 1001-07

SAT

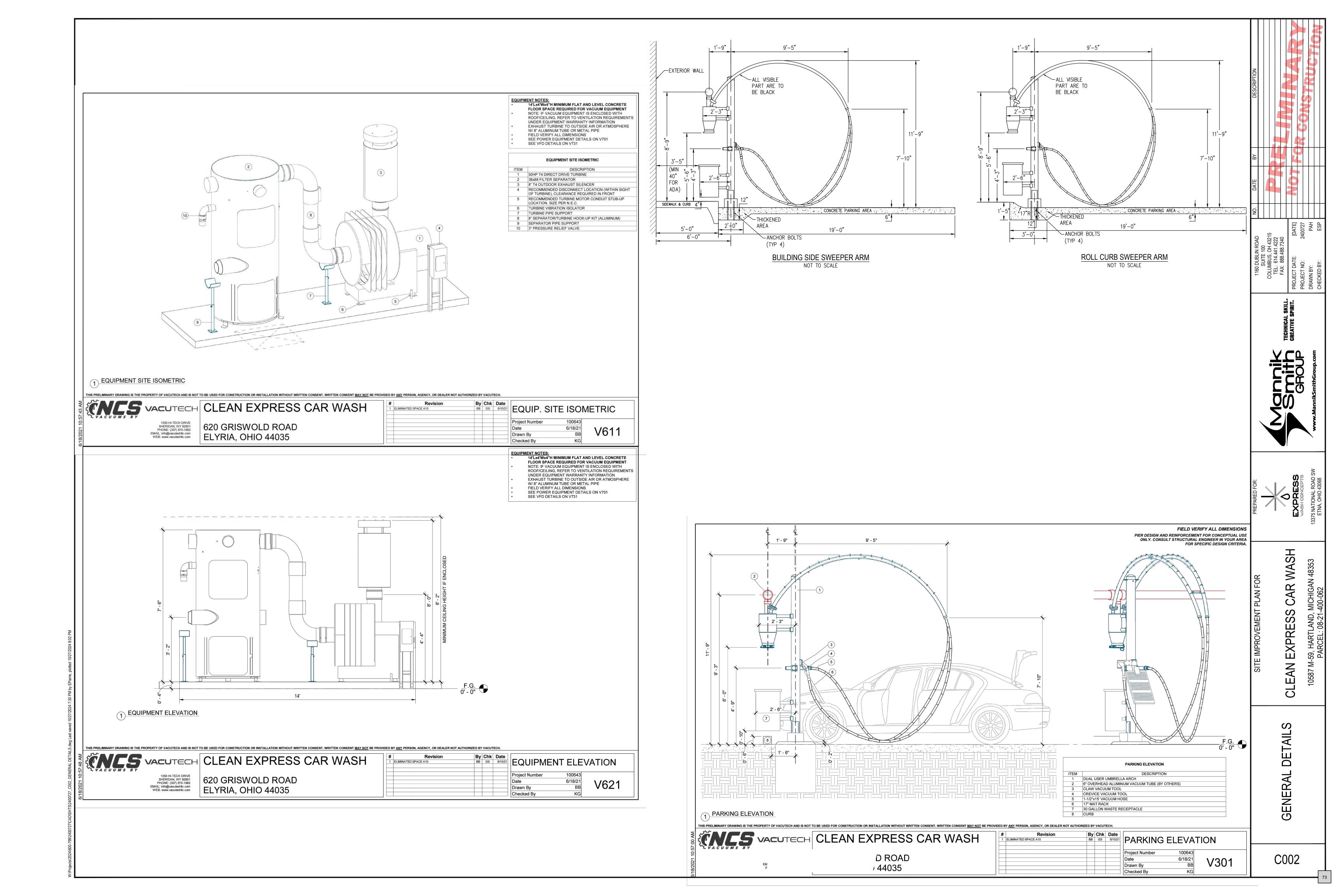
30' MEDIUM DUTY GRADE

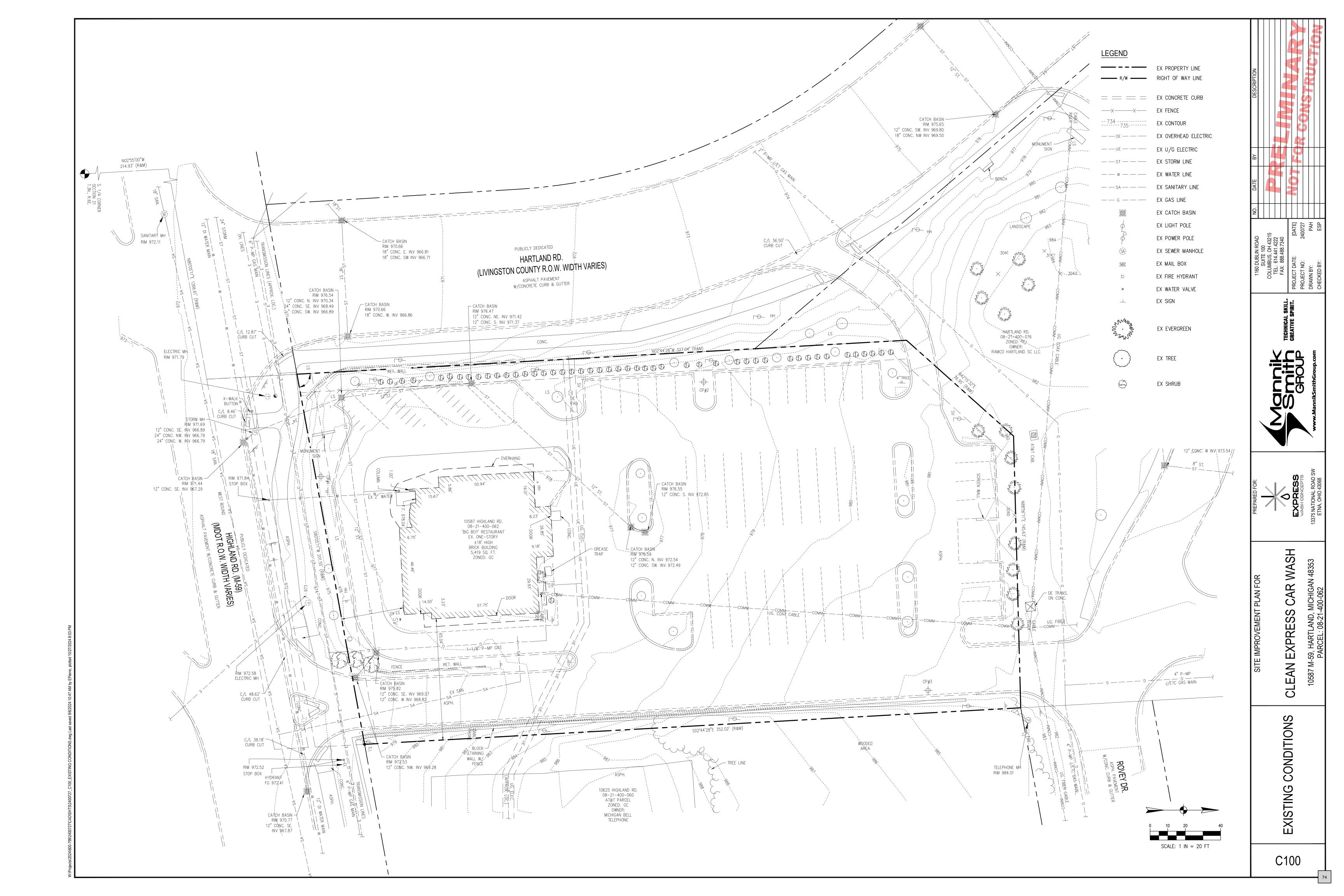
See Specification Box

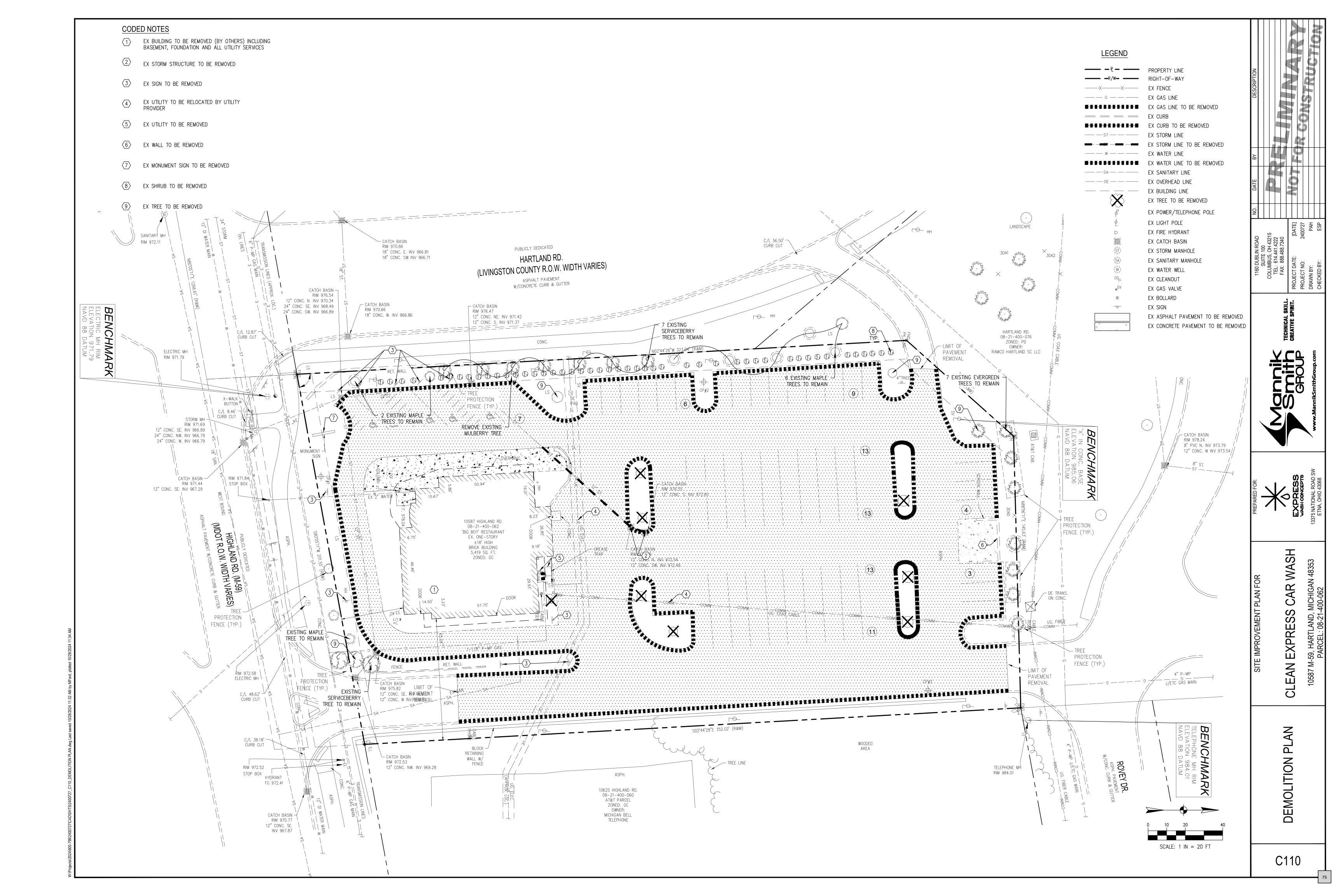
Rope Halyard

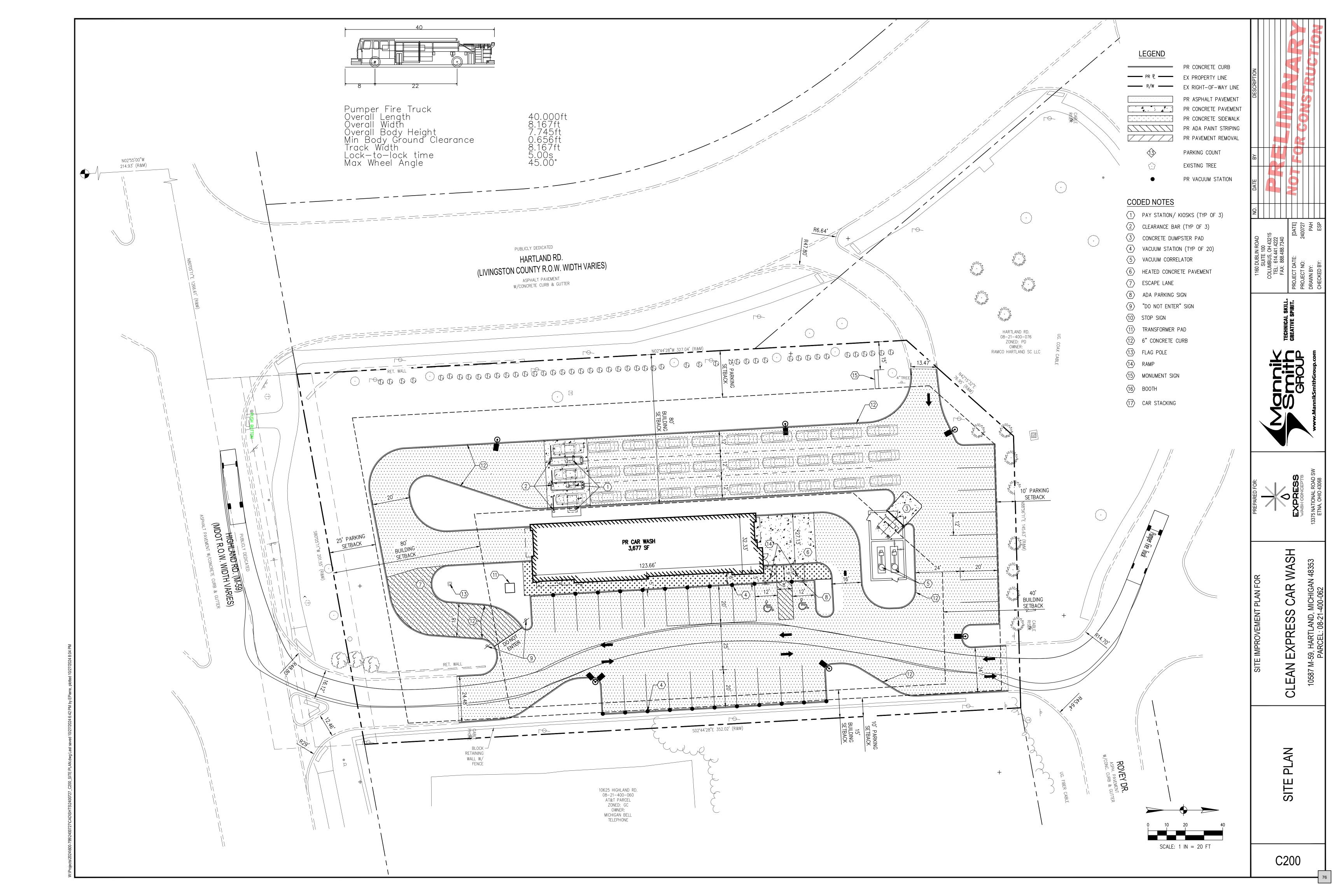
Ground Set Installation

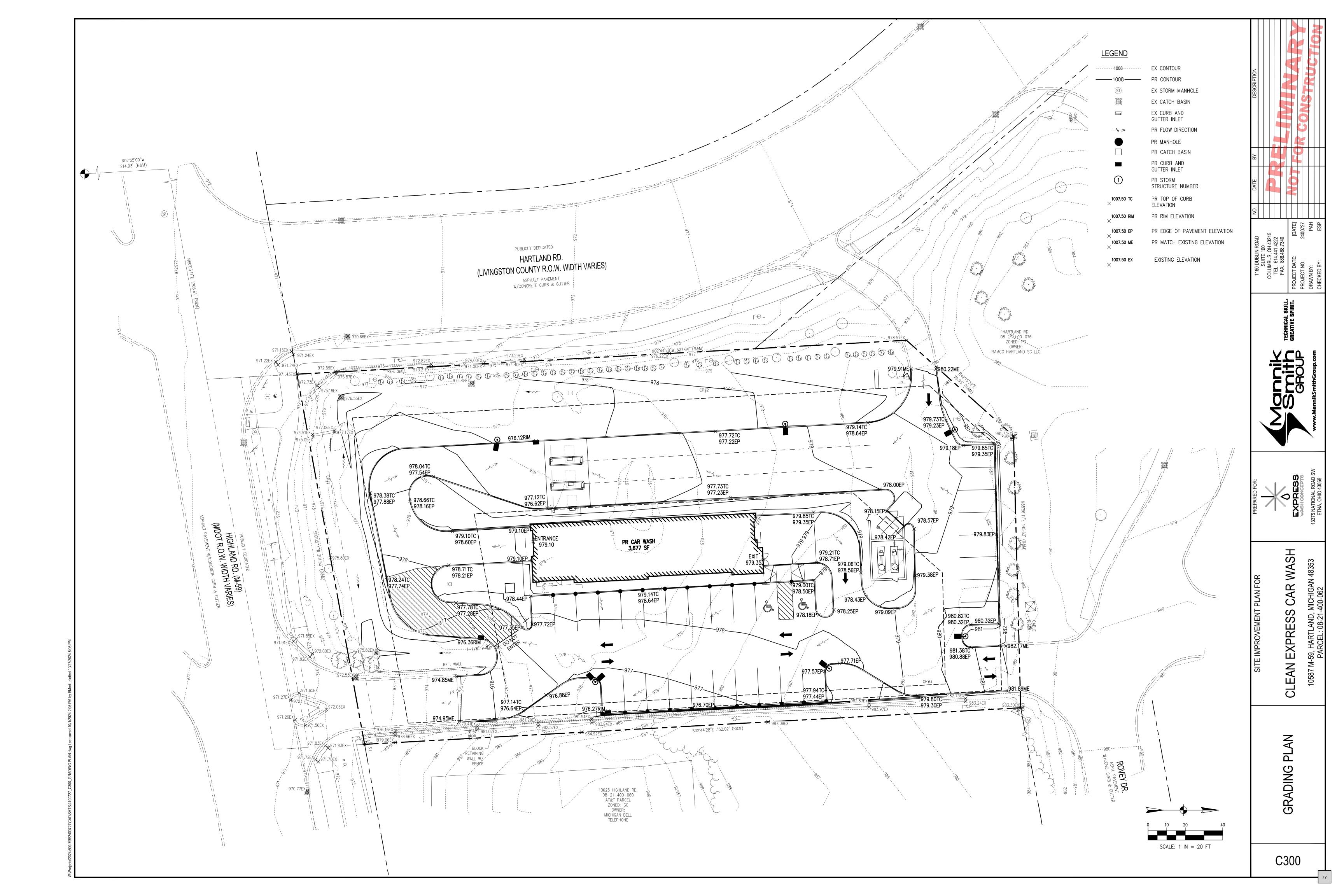
ESR - External Single Revolving

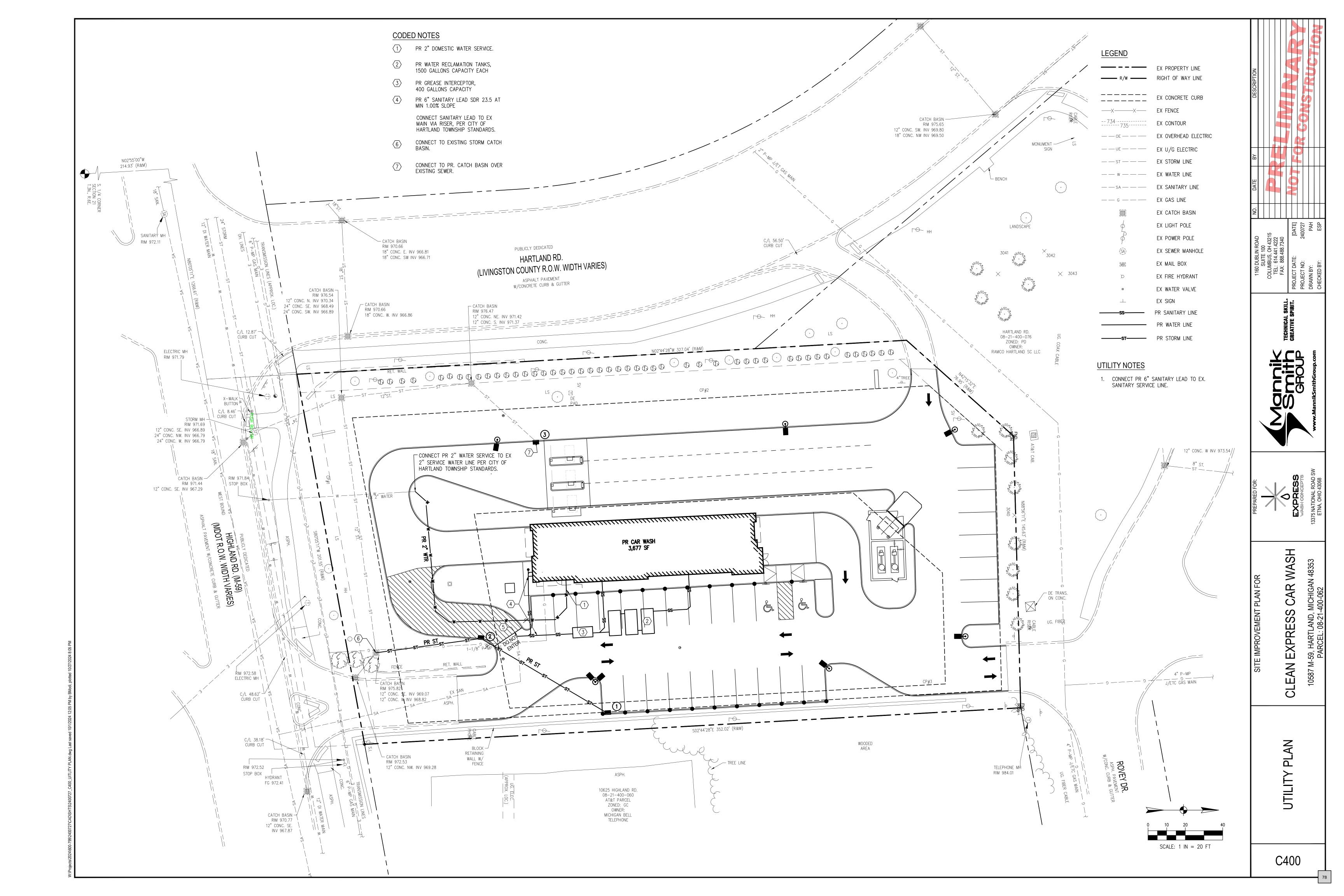












ABRV. C	QUANTITY	E PLANT LIST SCIENTIFIC NAME	COMMON NAME	FORM	SIZE	REMARKS	TYPE	SPACING
AF BA	7	ACER X FREEMANII 'BAILSTON'	MATADOR FREE MAPLE		3" CALIPER	B&B	DECIDUOUS TREE	PER PLAN
CE OC	8	CELTIS OCCIDENTALIS	COMMON HACKBERRY		3" CALIPER	B&B	DECIDUOUS TREE	PER PLAN
QM UP	7	QUERCUS MACROCARPA 'JFS-KW3'	URBAN PINNACLE OAK		3" CALIPER	B&B	DECIDUOUS TREE	PER PLAN
AM LA	8	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	CLUMP FORM	6' HEIGHT	B&B	ORNAMENTAL TREE	PER PLAN
CC NL	9	CERCIS CANADENSIS 'WFHNOLI'	NORTHERN LITES REDBUD	SINGLE TRUNK	2" CALIPER	B&B	ORNAMENTAL TREE	PER PLAN
	QUANTITY 77	T	COMMON NAME	HEIGHT	SPREAD	REMARKS	TYPE SUPUR	SPACING
JV GO	37	JUNIPERUS VIRGINIANA 'GREY OWL'	GREY OWL JUNIPER	30" HEIGHT	24" SPREAD	CONTAINER	EVERGREEN SHRUB	48" O.C.
TM DE	29	TAXUS X MEDIA 'DENSIFORMIS'	DENSE YEW	30" HEIGHT	24" SPREAD	CONTAINER	EVERGREEN SHRUB	48" O.C.
TM HM	14	TAXUS X MEDIA 'H.M. EDDIE'	EDDIE YEW	6' HEIGHT 24" HEIGHT	24" SPREAD	B&B	EVERGREEN SHRUB	36" O.C.
DI LO	21	DIERVILLA LONICERA	NATIVE BUSH HONEYSUCKLE		24" SPREAD	CONTAINER	DECIDUOUS SHRUB	48" O.C.
CS KE	30	CORNUS SERICEA 'ARCTIC FIRE'	'ARCTIC FIRE' REDTWIG DOGWOOD	30" HEIGHT	24" SPREAD	CONTAINER	DECIDUOUS SHRUB	48" O.C.
RA GM	16	RIBES ALPINUM 'GREEN MOUND'	GREEN MOUND ALPINE CURRANT	24" HEIGHT	24" SPREAD	CONTAINER	DECIDUOUS SHRUB	48" O.C.
AM MO	30	ARONIA MELANOCARPA 'MORTON'	IROQUOIS BEAUTY BLACK CHOKEBERRY	24" HEIGHT	24" SPREAD	CONTAINER	DECIDUOUS SHRUB	48" O.C.
RA GL	14	RHUS AROMATICA 'GRO-LOW'	'GRO-LOW' FRAGRANT SUMAC	24" HEIGHT	24" SPREAD	CONTAINER	DECIDUOUS SHRUB	54" O.C.
RF GO	78	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM BLACK EYED SUSAN		2 GALLON	CONTAINER	FLOWERING PERENNIAL	30" O.C.
HO FB DE CE	53 63	HOSTA 'FRAGRANT BOUQUET' DESCHAMPSIA CESPITOSA	FRAGRANT BOUQUET HOSTA TUFTED HAIR GRASS		2 GALLON 2 GALLON	CONTAINER	FLOWERING PERENNIAL ORNAMENTAL GRASS	36" O.C. 30" O.C.
			125 5111.05] = 0.122011	33.717 MITELL	1	
		\ \ \	(LIV	/INGSTON COUNT ASPHA W/CONCRET	LT PAVEMENT E CURB & GUTTER			
			(LIV	A CDLIA	IT DAVEMENI		7 EXIST	
			(LIV	A CDLIA	IT DAVEMENI		SERVICE	
				A CDLIA	IT DAVEMENI		SERVICE	BERRY
			=======================================	A CDLIA	IT DAVEMENI		SERVICE	BERRY
				ASPHAI W/CONCRET	LT PAVEMENT E CURB & GUTTER		SERVICE	BERRY
				ASPHAI W/CONCRET	IT DAVEMENI		SERVICE	BERRY
	\ //		2 EXISTING MAPLE TREES TO REMAIN	ASPHAI W/CONCRET	LT PAVEMENT E CURB & GUTTER	LAW	SERVICE	BERRY
			2 EXISTING MAPLE TREES TO REMAIN (10) CS KE	ASPHAI W/CONCRET	LT PAVEMENT E CURB & GUTTER		SERVICE	BERRY
		(7) CF OC	2 EXISTING MAPLE TREES TO REMAIN	ASPHAI W/CONCRET	LT PAVEMENT E CURB & GUTTER		SERVICE	BERRY
		(7) CF OC	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE	ASPHAI W/CONCRET	LT PAVEMENT E CURB & GUTTER		SERVICE	BERRY
		(7) CF OC	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE	ASPHAI W/CONCRET	LT PAVEMENT E CURB & GUTTER		SERVICE	BERRY
		(7) CF OC	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE	ASPHAI W/CONCRET	LT PAVEMENT E CURB & GUTTER		SERVICE	BERRY
		(7) CE OC	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE (1) CC NL (1) CC NL	ASPHAI W/CONCRET	LT PAVEMENT E CURB & GUTTER		SERVICE	BERRY
		(7) CF OC	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE (1) CC NL (1) AF BA	ASPHA W/CONCRET	LT PAVEMENT E CURB & GUTTER		SERVICE	BERRY
		(7) CE OC	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE (1) CC NL (1) AF BA (16)	ASPHAI W/CONCRET	LT PAVEMENT E CURB & GUTTER		SERVICE	BERRY TO REMAIN
		(7) CE OC	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE (1) CC NL (1) AF BA	ASPHAW/CONCRET	LT PAVEMENT E CURB & GUTTER	LAWI	SERVICE TREES (1) AF BA (1) HO F	EBERRY TO REMAIN
		(7) CE OC	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE (1) CC NL (1) AF BA (16) (4) RA GL	ASPHAW/CONCRET	LT PAVEMENT E CURB & GUTTER		SERVICE TREES (1) AF BA (1) HO F	EBERRY TO REMAIN
		(7) CE OC	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE (1) CC NL (1) AF BA (16)	ASPHAW/CONCRET	LT PAVEMENT E CURB & GUTTER	LAWI	SERVICE TREES (1) AF BA (1) HO F	EBERRY TO REMAIN
		(7) CE OC (1) AM LA	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE (1) CC NL (1) CC NL (1) AF BA (16) (4) RA GL (1) CC NL	ASPHAW/CONCRET	LT PAVEMENT E CURB & GUTTER	LAWI	SERVICE TREES (1) AF BA (1) HO F	EBERRY TO REMAIN
(Mi		(7) CE OC (1) AM LA	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE (1) CC NL (1) AF BA (16) (4) RA GL	ASPHAW/CONCRET	LT PAVEMENT E CURB & GUTTER	LAWI	SERVICE TREES (1) AF BA (11) HO F	BERRY TO REMAIN
MDOT (MDOT	PUE	(1) AM LA	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE (1) CC NL (1) CC NL (1) CC NL (1) CC NL (1) AF BA (16) (10) CS KE (11) CC NL	ASPHAW/CONCRET	LT PAVEMENT E CURB & GUTTER	LAWI	SERVICE TREES (1) AF BA (11) HO F (6) RA GM	BERRY TO REMAIN B (8)
(MDOT R.O.W. WIDTH VAI (MDOT R.O.W. WIDTH VAI ACEPHALT PAVEMENT W/CONCRETE CURB &	PUBLICLY DEDICATED PUBLICLY DEDICATED	(1) AM LA	2 EXISTING MAPLE TREES TO REMAIN (10) CS KE (1) CC NL	ASPHAW/CONCRET	LT PAVEMENT E CURB & GUTTER	LAWI	SERVICE TREES (1) AF BA (11) HO F	BERRY TO REMAIN

LANDSCAPE IRRIGATION SYSTEM LANDSCAPE CONTRACTOR TO PROVIDE DESIGN AND

INSTALLATION OF A LANDSCAPE IRRIGATION SYSTEM WHICH COVERS THE ENTIRE SITE PROPERTY. LAWNS, TREES AND LANDSCAPE BEDS SHALL BE IRRIGATED ON SEPARATE ZONES. IRRIGATION SYSTEM SHALL INCLUDE A SMART ELECTRONIC CONTROLLER WITH WEATHER SENSOR, RAIN DELAY SEASONAL ADJUST AND WATER BUDGET FEATURES.

A SEPARATE IRRIGATION METER AND BACKFLOW PREVENTOR PER CITY REQUIREMENTS AND ANY PERMITS SHALL BE INCLUDED. PROVIDE COMPLETE IRRIGATION DESIGN DRAWINGS AND SPECS FOR OWNER REVIEW PRIOR TO INSTALLATION. A COMPLETE SINGLE SOURCE IRRIGATION SYSTEM FROM HUNTER, RAINBIRD, OR TORO WILL ONLY BE ACCEPTED.

- PROPOSED TRANSFORMER

(4) RA GL -

EXISTING
SERVICEBERRY
TREE TO REMAIN

EXISTING MAPLE -TREE TO REMAIN

(3) RA GL

(5) DE CE — (8) RF GO -

- 6 EXISTING MAPLE TREES TO REMAIN

/- (3) QM UP

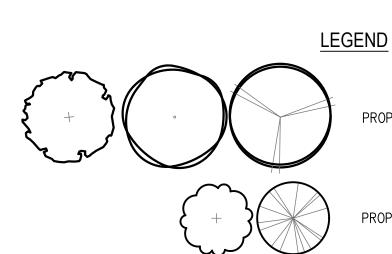
7 EXISTING NORWAY -SPRUCE TREES TO

(3) TM DE

LAWN

REMAIN





PROPOSED DECIDUOUS TREE

PROPOSED DECIDUOUS FLOWERING TREE

PROPOSED DECIDUOUS SHRUB

PROPOSED EVERGREEN TREE

PROPOSED EVERGREEN SHRUB ○ → ● PROPOSED FLOWERING PERENNIAL

PROPOSED MULCH PLANTING BED LINE

EXISTING DECIDUOUS TREE EXISTING EVERGREEN TREE

EXISTING ORNAMENTAL TREE

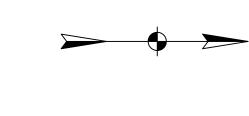
EXISTING SHRUB

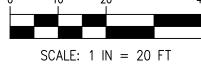
LANDSCAPE CODE REQUIREMENTS

REQUIRED:	PROVIDED:
HARTLAND TWP, MI ZONING ORDINANCE, SECTION 5.11: 1. A GREENBELT SHALL BE PLANTED ALONG ANY PUBLIC OR PRIVATE ROAD RIGHT—OF—WAY WITHIN THE FIRST 30' OF THE PROPERTY. THE GREENBELT SHALL INCLUDE ONE CANOPY TREE FOR EVERY 30' OR PORTION THEREOF OF LOT FRONTAGE. THE GREENBELT SHALL INCLUDE THREE SMALL DECIDUOUS ORNAMENTAL TREES OR LARGE DECIDUOUS OR EVERGREEN SHRUBS FOR THE INITIAL 40' OR PORTION THEREOF OF LOT FRONTAGE. THEREAFTER, ONE ADDITIONAL SMALL DECIDUOUS ORNAMENTAL TREE OR LARGE DECIDUOUS OR EVERGREEN SHRUB SHALL BE REQUIRED FOR EVERY 20 FEET OR PORTION THEREOF OF LOT FRONTAGE. 200 FT ALONG HIGHLAND RD = 7 CANOPY TREES & 11 ORNAMENTAL TREES/LARGE SHRUBS 327 FT ALONG HARTLAND RD = 11 CANOPY TREES & 18 ORNAMENTAL TREES/LARGE SHRUBS	1 EXISTING TREE, 6 PROPOSED CANOPY TREES, 1 EXISTING ORNAMENTAL TREE, AND 9 PROPOSED EVERGREEN TREES PROVIDED ALONG HIGHLAND RD. 10 EXISTING CANOPY TREES, 1 PROPOSED CANOPY TREE, 7 EXISTING ORNAMENTAL TREES, 4 PROPOSED ORNAMENTAL TREES, AND 10 PROPOSED LARGE DECIDUOUS SHRUBS ALONG HARTLAND RD.
2. FOUNDATION PLANTINGS. THE LENGTH OF THIS PLANTING AREA MUST EQUAL AT LEAST 60% OF FRONT AND SIDES OF THE BUILDING LENGTH ALONG THE FRONT AND SIDES OF BUILDINGS WHICH FACE A PUBLIC OR PRIVATE ROAD, IS ADJACENT TO A PARKING LOT OR OTHER AREAS WHICH PROVIDE ACCESS TO THE BUILDING(S) OR ADJACENT TO A DEVELOPABLE SITE OR AREA. PLANTINGS SHALL CONTAIN A MINIMUM OF ONE DECIDUOUS ORNAMENTAL TREE OR COLUMNAR TREE AND 6 MEDIUM SHRUBS OR 8 SMALL SHRUBS FOR EVERY 30' OF BUILDING LENGTH OR PORTION THEREOF. BUILDING LENGTH ALONG HARTLAND RD = 120 FT X 60% = 72 FT BUILDING LENGTH ALONG EAST SIDE = 124 FT X 60% = 75 FT	3 DECIDUOUS TREES PROVIDED ALONG DRIVE AISLE AND 24 SMALL SHRUBS PROVIDED ALONG BUILDING ALONG HARTLAND RD SIDE. 3 DECIDUOUS TREES AND 24 SMALL SHRUBS PROVIDED IN INTERIOR LANDSCAPING ISLANDS, TO MEET REQUIREMENTS FOR EAST SIDE.
PARKING LOT LANDSCAPING. WHERE A ROW OF PARKING SPACES EXCEED TEN (10) PARKING SPACES, A LANDSCAPED ENDCAP SHALL BE INSTALLED AT EACH TERMINUS OF THE ROW OF PARKING. REQUIREMENTS FOR PLANT MATERIAL SHALL BE BASED ON THE LOCATION, SIZE, AND SHAPE OF THE PARKING LOT LANDSCAPED AREA. A MINIMUM OF ONE CANOPY TREE SHALL BE PLANTED PER 180 SF OR FRACTION THEREOF OF INTERIOR LANDSCAPED ENDCAPS, ISLANDS OR MEDIANS.	7 PROPOSED DECIDUOUS TREES PROVIDED IN PARKING ENDCAPS.
4. PERIMETER AREAS. PARKING LOTS SHALL BE EFFECTIVELY SCREENED OR BUFFERED FROM THE PUBLIC RIGHT OF WAY OR A PRIVATE ROAD WITH EVERGREEN HEDGE ROW A MINIMUM OF 3' IN HEIGHT PLANTED IN A ROW OR STAGGERED TO CREATE CONTINUOUS SCREENING. IN NO CASE SHALL AN EVERGREEN HEDGE BE LESS THAN 30" AT THE TIME OF PLANTING. PERIMETER AREAS NOT VISIBLE FROM A PUBLIC ROAD SHALL BE LANDSCAPED WITH A MINIMUM OF ONE CANOPY OR EVERGREEN TREE FOR EVERY 30' OR PORTION THEREOF. WHEN CANOPY TREES ARE USED, UNDERSTORY SHRUBS ARE REQUIRED TO BUFFER/SCREEN THE PARKING LOT.	PARKING LOT SCREENED BY PROPOSED EVERGREEN SHRUBS, EXISTING WALL, AND EXISTING EVERGREEN TREES.
5. SCREENING OF GROUND MOUNTED EQUIPMENT. MECHANICAL EQUIPMENT, SUCH AS UTILITY CABINETS, TRANSFORMERS, SATELLITE DISH ANTENNAE A MINIMUM OF 30" IN HEIGHT, AND SIMILAR EQUIPMENT SHALL BE SCREENED ON AT LEAST 3 SIDES. INSOFAR AS PRACTICAL, SAID SCREENING SHALL EXCEED THE VERTICAL HEIGHT OF THE EQUIPMENT BEING SCREENED BY AT LEAST 6" WITHIN 2 YEARS OF PLANTING.	EVERGREEN HEDGES PROVIDE TO SCREEN UTILITIES.

TRANSFORMER NOTE:

PROPOSED EVERGREEN SHRUBS ARE TO BE 6" TALLER THAN THE PROPOSED TRANSFORMER.





LANDSCAPE PL

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1. THE CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY ON ALL PLANTS AND VEGETATION PROPOSED ON THE LANDSCAPING PLAN. ANY TREES, SHRUBS, GROUND COVER OR OTHER VEGETATION PLANTED AS PART OF THIS PROJECT THAT DO NOT SURVIVE ONE YEAR FROM PLANTING SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH ALL PERTINENT UTILITY COMPANIES THREE WORKING DAYS IN ADVANCE OF ANY DIGGING. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF ANY UTILITIES.

3. REFER TO THE LANDSCAPE PLAN FOR ADDITIONAL NOTES. LANDSCAPE IMPROVEMENTS SHALL CONFORM TO THE LATEST EDITION OF MDOT CONSTRUCTION SPECIFICATIONS (2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION).

4. ALL PLANTING MATERIALS: SHALL BE PLANTED PER MDOT SPECIFICATIONS. EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE BROKEN, LOW HANGING AND OTHER UNDESIRABLE GROWTH TO ENSURE HEALTHY AND SYMMETRICAL NEW GROWTH.

5. PLANTING BEDS. ONE MONTH BEFORE CULTIVATION AND AFTER DAYTIME TEMPERATURES HAVE WARMED TO 60° CONSISTENTLY, TREAT ALL PLANTING BEDS THAT ARE TO BE DEVELOPED IN AREAS OF EXISTING TURF WITH PRE-EMERGENT AND POST-EMERGENT TYPE HERBICIDES. USE A STATE-LICENSED PESTICIDE APPLICATOR TO APPLY THE HERBICIDE. REPEAT HERBICIDE APPLICATION TWO WEEKS LATER AND UNTIL ALL HERBACEOUS MATERIALS HAVE BEEN KILLED. BEFORE PLANTING. TOP DRESS ALL PLANTING BEDS WITH A MINIMUM OF 6 INCHES OF BACKFILL MIX, THEN CULTIVATE PLANTING AREA TO A DEPTH OF 6 INCHES USING A PLOW, DISC, OR ROTO-TILLER.

6. BACKFILL MIX. FOR ALL PLANTINGS, USE BACKFILL MIX CONSISTING OF THE FOLLOWING:

A. ONE PART EXCAVATED SOIL.

B. ONE PART TOPSOIL C. ONE PART EPA RATED CLASS IV COMPOST.

D. A SLOW RELEASE COMMERCIAL FERTILIZER (0-20-20 OR EQUAL) ADDED AT A RATE OF 5 POUNDS PER CUBIC YARD TO

THE BACKFILL MIX. E. IF SOIL AREAS ARE OF HIGH PH (GREATER THAN 6.5), APPLY 1.25 POUNDS OF ELEMENTAL SULFUR PER CUBIC YARD OF

NOTE: CONTRACTOR SHALL SUPPLY A DETAILED SOIL ANALYSIS PRIOR TO ALL PLANT BED PREPARATION. ANALYSIS SHALL INDICATE SOIL PH, TEXTURE, MAJOR NUTRIENTS, SALTS, ETC. SOIL ANALYSIS SHALL BE FROM A REPUTABLE, INDEPENDENT LAB. SOIL AMENDMENTS SHALL BE INCORPORATED INTO BACKFILL/PLANT MIX AS RECOMMENDED BY THE INDEPENDENT LAB.

7. MULCH. SMOOTH AND SHAPE THE BACKFILL MIX TO FORM A SHALLOW BASIN SLIGHTLY LARGER THAN THE PLANTING HOLE. MULCH ALL PLANTING AREAS WITH A LAYER OF FINELY SHREDDED HARDWOOD BARK OF UNIFORM TEXTURE & SIZE. PLANTS GROUPED IN MASSES SHALL HAVE THE ENTIRE CONTIGUOUS PLANTING BED OR ISLAND MULCHED. USE SHREDDED HARDWOOD BARK AGED MIN. ONE YEAR. RAKE AND SMOOTH THE ENTIRE AREA OF THE PLANTING BEDS, MULCH TO A DEPTH OF 3 INCHES. AFTER MULCHING AND BEFORE WATERING, ADD A SLOW RELEASE COMMERCIAL FERTILIZER (12-12-12 OR EQUAL), IN GRANULAR FORM, TO THE TOP OF THE MULCH AT A RATE OF 5 POUNDS PER 1000 SQUARE FEET. DO NOT ALLOW FERTILIZER TO CONTACT THE STEMS, BRANCHES, ROOTS OR LEAVES.

8. PERIOD OF ESTABLISHMENT. BEFORE FINAL INSPECTION, PLACE ALL PLANTS, SEED ALL LAWNS, AND CARE FOR THEM FOR A PERIOD OF ESTABLISHMENT. THE PERIOD OF ESTABLISHMENT BEGINS IMMEDIATELY UPON COMPLETION OF THE PLANTING OPERATIONS AND CONTINUES UNTIL OCTOBER 1. THE MINIMUM PERIOD OF ESTABLISHMENT IS ONE GROWING SEASON, JUNE 1 THROUGH OCTOBER 1. DURING THE PERIOD OF ESTABLISHMENT, FOLLOW STANDARD HORTICULTURAL PRACTICES TO ENSURE THE VIGOR AND GROWTH OF THE TRANSPLANTED MATERIAL. WATER, REMULCH, RESTAKE, GUY, AND CULTIVATE AS NECESSARY. PERFORM AT LEAST TWO WEEDING AND MOWING PROGRAMS (AROUND TREES, GUY STAKES, SHRUBS, AND BED EDGES) OF SUCH INTENSITY AS TO COMPLETELY RID THE PLANTED AND MULCHED AREAS OF WEEDS AND GRASSES. BEGIN THE FIRST PROGRAM ON OR ABOUT JUNE 15 AND THE SECOND APPROXIMATELY 8 WEEKS LATER. ON OR ABOUT AUGUST 15, THE ENGINEER WILL INSPECT THE PLANTING AND SUPPLY THE CONTRACTOR WITH A LIST OF MISSING AND DEAD PLANTS AND THOSE THAT HAVE DIED BACK BEYOND NORMAL PRUNING LINES. REPLANT AS REQUIRED ACCORDING TO THE SPECIFICATIONS OF THE ORIGINAL MATERIAL. REPLACEMENT PLANTS ARE SUBJECT TO A NEW PERIOD OF ESTABLISHMENT. IMMEDIATELY REPLACE PLANTS PLANTED INITIALLY IN THE FALL THAT HAVE DIED BEFORE THE SPRING PLANTING SEASON. CARE FOR THE REPLACEMENT PLANTS DURING THE NEW ESTABLISHMENT PERIOD.

9. RESTORATION OF DISTURBED AREAS FOR NEW LAWN:

ALL DISTURBED AREAS NOT COVERED BY BUILDING, PAVEMENT OR LANDSCAPE PLANTING BEDS SHALL BE PREPARED FOR GRASS SEED AND SEEDED. LOOSEN RUTS AND WORK THE SOIL AREAS TO A MINIMUM OF 6" DEEP PRIOR TO FINE GRADING AND SEEDING WORK. AREAS TO RECEIVE GRASS SEED SHALL HAVE A MIN. 4" TOPSOIL PLACED, SEEDED AND A STRAW/MULCH BLANKET COVER PLACED OVER THE SEEDED AREAS PER MDOT SPECIFICATIONS. FERTILIZE WITH ONE POUND OF ACTUAL NITROGEN PER 1000 SQUARE FEET WITH A SLOW RELEASE COMMERCIAL STARTER FERTILIZER (LESCO 18-24-12 OR EQUAL).

10. LANDSCAPE TREES. SHRUBS AND PERENNIAL WATERING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, DELIVERING, APPLYING, MEASURING AND SCHEDULING A SUFFICIENT AMOUNT OF WATER NECESSARY TO KEEP EACH PLANT IN A HEALTHY GROWING CONDITION THROUGHOUT THE PERIOD OF ESTABLISHMENT. THE CONTRACTOR SHALL APPLY 1" OF WATER PER WEEK TO ALL NEW PLANTS. THE CONTRACTOR SHALL INSTALL & MAINTAIN SUPPLEMENTAL DRIP WATERING TREE BAGS (SUCH AS 20 GALLON TREE GATOR WATER BAG) TO PROVIDE ADEQUATE. SLOW RELEASE OF WATER, WATER BAGS SHALL BE REMOVED AT THE END OF THE SECOND GROWING SEASON.

11. TURF GROUNDCOVER (SODDING, SEEDING AND SEED MULCHING):

ALL SEEDING INSTALLATION SHALL CONFORM TO MDOT SPECIFICATIONS AND NOTE 9 ABOVE. SEED AT 5 LBS/1000 SF (220 LB/AC) WITH THE FOLLOWING SEED MIXTURE (CSI GEOTURF SUN & SHADE MIX):

KENTUCKY BLUEGRASS 20% HARD FESCUE 20%

CHEWING FESCUE 20%

PERENNIAL RYEGRASS 40%

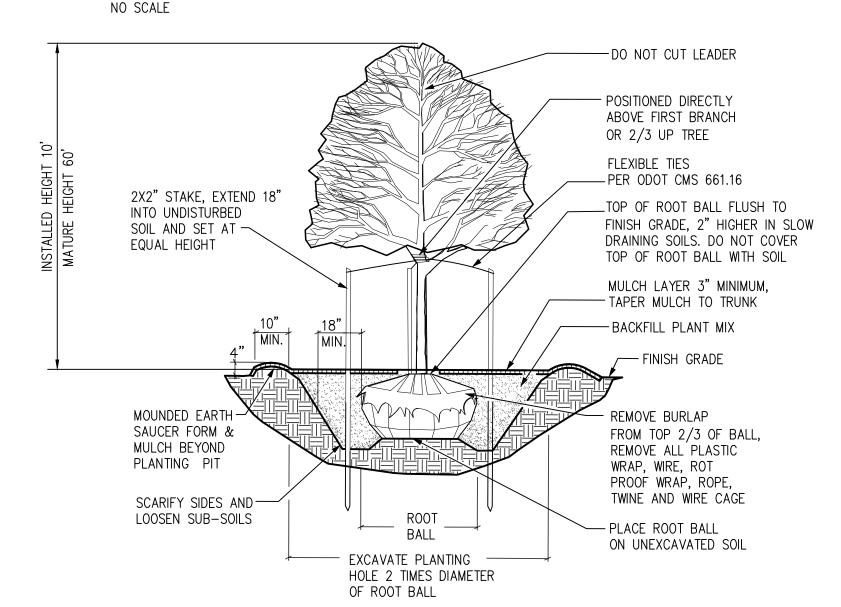
12. PLACE "DEWITT 15 YEAR WEED BARRIER" WOVEN POLYPROPYLENE OR APPROVED EQUAL IN ALL PLANTED BEDS AND AT EACH TREE RING.

REMOVE ALL BURLAP, WIRE CAGE, TWINE AND ROPE FROM UPPER - MULCH FREE AT BASE OF STEM 2/3 OF ROOT BALL AFTER FIRMLY STABILIZING LOWER 1/3 OF ROOT ∕-MULCH LAYER, 3" BALL IN PLANTING MIX — -MOUNDED EARTH FORM PLANTING BED — EDGE TREATMENT, REFER TO PLANS FINISH GRADE - PLANTING MIXTURE -SET ROOT BALL ON UNEXCAVATED SOIL NOTES:

ALL SHRUBS PLANTED IN ROWS OR MASSES SHALL BE MATCHED IN SIZE AND FORM.

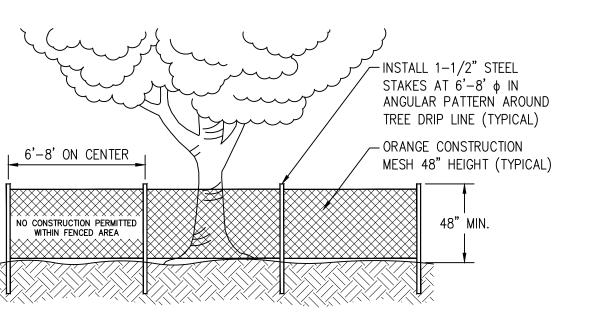
SHRUBS SHALL BEAR SAME RELATION TO FINISH GRADE AS THEY BORE TO EXISTING GRADE IN THE PREVIOUSLY PLANTED CONDITION.

MASS SHRUB PLANTING DETAIL (B&B OR CONTAINER)



DECIDUOUS TREE PLANTING DETAIL

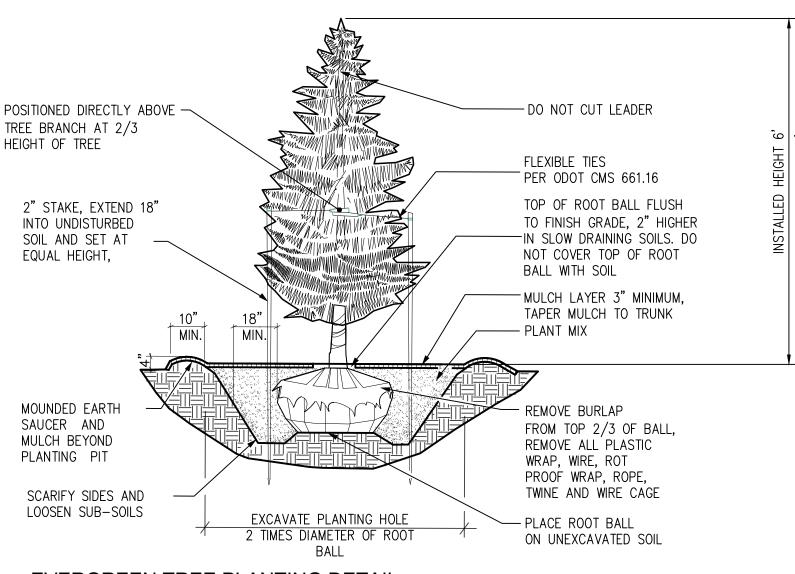
NO SCALE



TREE PROTECTION DETAIL NOT TO SCALE

TREE PROTECTION NOTES

- 1. TREE PROTECTION MEASURES SHALL BE INSTALLED PER THIS PLAN SHEET AT THE CRITICAL ROOT ZONE OF TREES TO BE PRESERVED PRIOR TO THE START OF ANY CLEARING, GRADING OR OTHER CONSTRUCTION ACTIVITY.
- 2. NO STORAGE OF ANY KIND IS PERMITTED WITHIN THE TREE PROTECTION ZONE. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL AND BACKFILLED WITH TOPSOIL WITHIN THE SAME DAY.
- 3. ALL VEGETATION THAT IS NOT DESIGNATED ON THE PLANS TO BE REMOVED SHALL BE PROTECTED FROM DAMAGE. TREES THAT ARE DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.



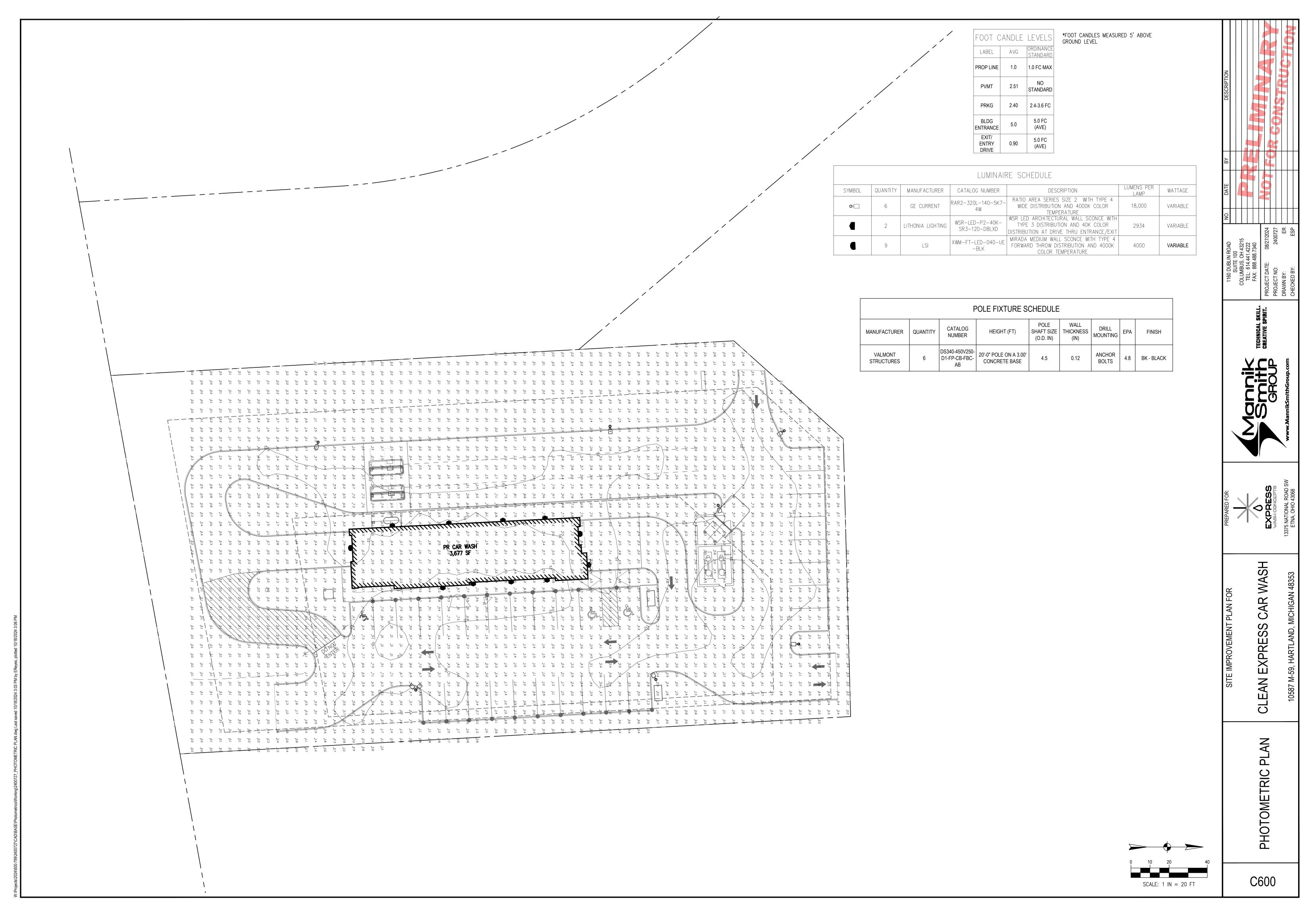
EVERGREEN TREE PLANTING DETAIL

NO SCALE

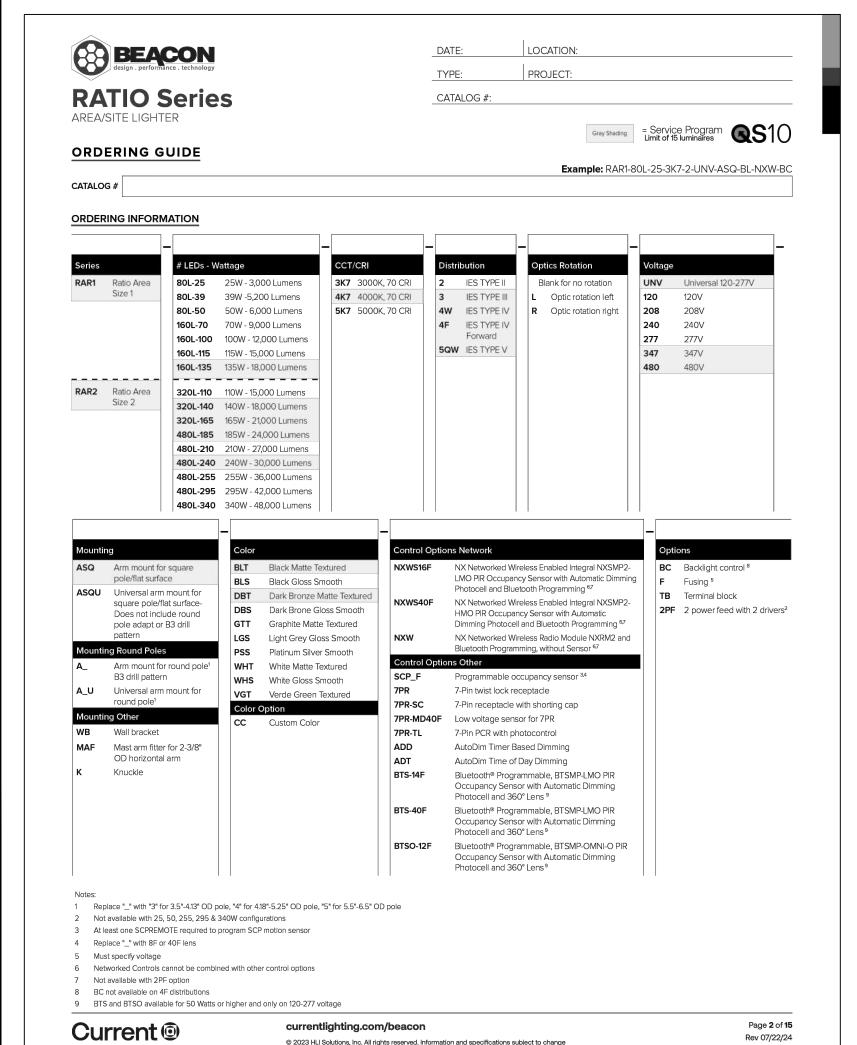


WASH

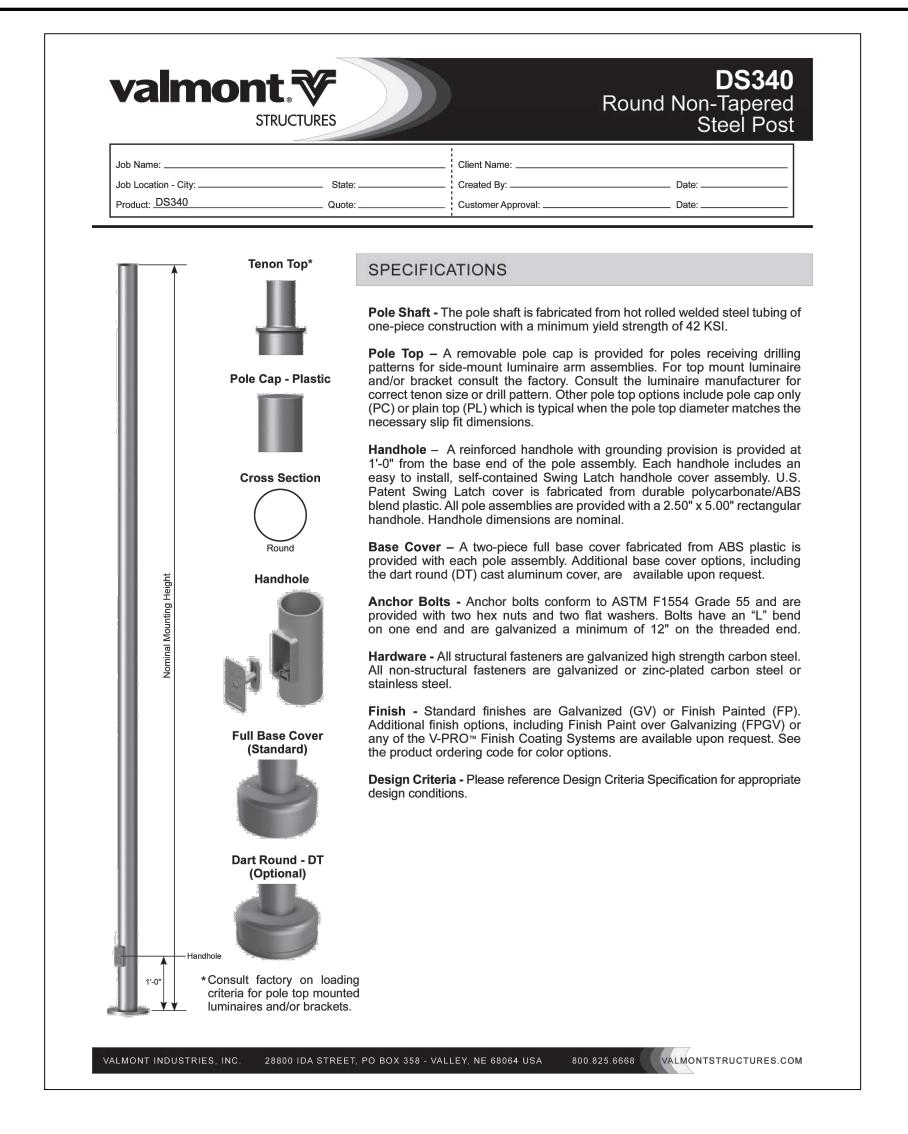
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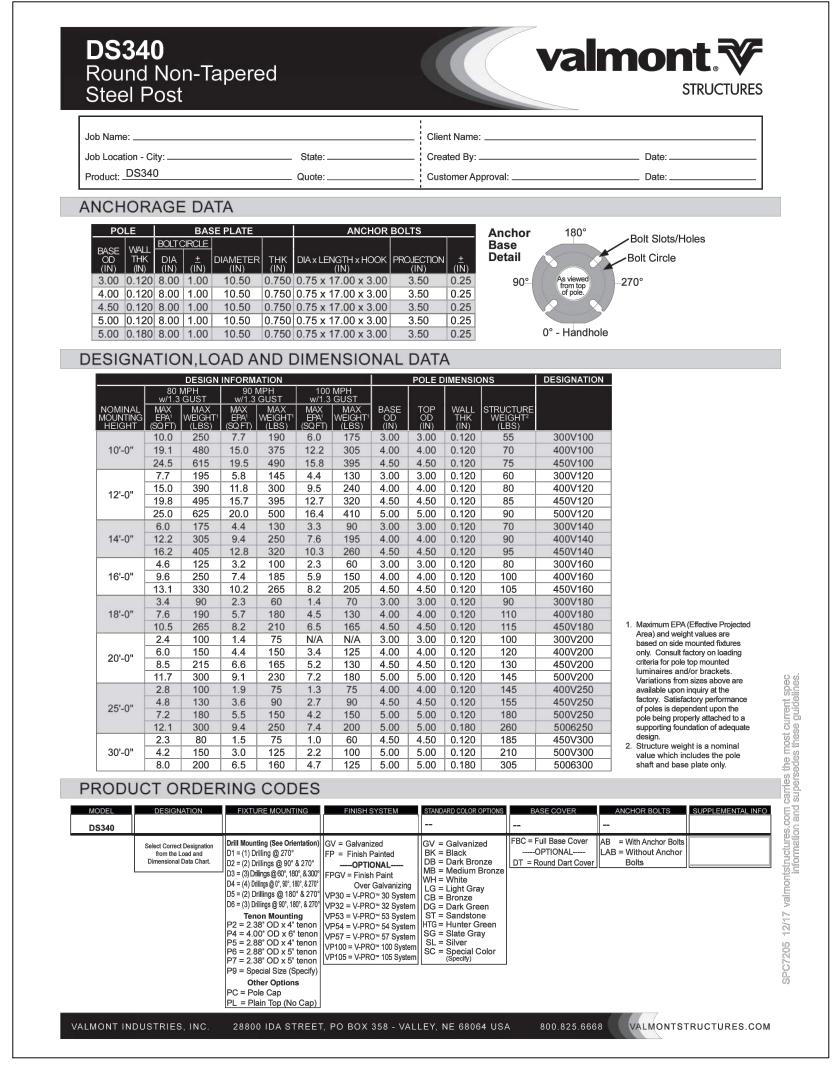


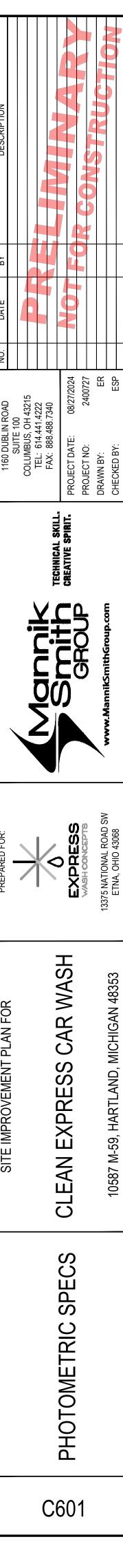




BEA_Ratio_RAR_1_2_Spec_R07







Mirada Medium Wall Sconce (XWM)

Outdoor Wall Sconce



IN THE USA COMMENT	
OVER	VIEW
Lumen Package	3,000 - 21,000
Wattage Range	23 - 175
Efficacy Range (LPW)	125 - 158
Weight lbs(kg)	27 (12.2)

QUICK LINKS 27 (12.2) IMSBT, ALB, ALS, PCI Ordering Guide Performance Photometrics Dimensions Control Options

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Hinged die-cast aluminum wiring access door located underneath.
- Galvanized-steel universal wall mount bracket comes standard with hinging mechanism to easily access the junction box wire connections without removing the luminaire. Optional pole-mounting bracket (XPMA)
- permits mounting to standard poles. Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other
- standard LSI finishes available. Consult
- Max shipping weight: 30lbs in carton
- Optical System State-of-the-Art one piece silicone optic provides industry leading optical control
- while also acting as an integrated gasket reducing system complexity and improving fixture reliability. Proprietary silicone refractor optics provide
- exceptional coverage and uniformity in Types 2, 3, 4, and FT distributions. Silicone optical material does not yellow or crack with age and provides a typical light
- transmittance of 93-95%. Zero uplight. Available in 5000K, 4000K and 3000K color temperatures per ANSI C78.377. Also
- Available in Phosphor Converted Amber with Peak intensity at 610nm. Minimum CRI of 70.

Electrical

- High-performance programmable driver features over-voltage, under-voltage, shortcircuit and over temperature protection. Custom lumen and wattage packages

- (347-480 Vac). L80 Calculated Life: >100k Hours Total harmonic distortion (THD): <20%
- +50°C (-40°F to +122°F)
- 18L operating temperature: -40°C to +40°C (-40°F to +104°F).
- (-40°F to + 95°F). Power factor (PF): >.90
- Input power stays constant over life.
- a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- Components are fully encased in potting material for moisture resistance. Driver
- key electronic components can easily be accessed via hinged door. Optional integral emergency battery pack
- The fixture delivers 1500 lumens during
- Integral passive infrared Bluetooth™ motion sensor options. Fixtures operate independently and can be commissioned via an iOS or Android configuration app. Updates and modifications to the control strategy are easily implemented via an intuitive app.

- 0-10V dimming (10% 100%) standard. Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage
- 3L to 12L operating temperature: -40°C to
- 15L operating temperature: -40°C to +45°C (-40°F to +113°F).
- 21L operating temperature: -40°C to +35°C
- Optional 10kV surge protection device meets
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- complies with FCC standards. Driver and
- provides 90-minutes of constant power to the LED system, ensuring code compliance. A test switch/indicator button is installed on the housing for ease of maintenance.
- emergency mode.

- is a simple feature rich wireless Bluetooth mesh network. The integrated fixture sensor module provides wireless control of grouped fixtures based on motion sensors, daylight or a fully customizable schedule.
 - Universal wall mounting plate easily mounts directly to 4" octagonal or square junction

LSI's AirLink™ Blue lighting control system

- 2 fasteners secure the hinged door underneath the housing and provide quick & easy access to the electrical compartment for
- installing/servicing. Optional terminal block accepts up to 12 ga

- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/ terms-conditions-warranty/ for more
- information.
- 1 Year warranty on Battery Back-up option.
- Listed to UL 1598 and UL 8750.
- · Meets Buy American Act requirements. • IDA compliant; with 3000K or lower color
- temperature selection.
- Title 24 Compliant; see local ordinance for
- qualification information. Suitable for wet Locations.
- IP65 rated luminaire per IEC 60598. 3G rated for ANSI C136.31 high vibration applications when pole mounted (using
- optional XPMA bracket) or wall mounted. IK08 rated luminiare per IEC 66262 mechanical impact code
- DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products
- List at <u>www.designlights.org/QPL</u> to confirm which versions are qualified.

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Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce

■ Have questions? Call us at (800) 436-7800

OPDEDING GUIDE

ORDERING GUIDE				Back to Quick Link
TYPICAL ORDER EXAMPLE:	XWM 2 LED 03L 30	UE BRZ ALSC		
Family	Distribution	Light Source	Lumen Package	Color Temperature
XWM - Mirada Medium Wall Sconce	2 - Type 2 3 - Type 3 4 - Type 4 FT - Type 4 Forward Throw	LED	3L - 3,000 4L - 4,000 6L - 6,000 8L - 8,000 12L - 12,000 15L - 15,000 18L - 18,000 21L - 21,000 Custom Lumen Packages¹	30 - 3000K 40 - 4000K 50 - 5000K AMB - Phosphor Converted Amber ²
Voltage	Finish	Controls		Options
UE - Universal Voltage (120-277V) HV - High Voltage (347-480V)	BLK - Black BRZ - Dark Bronze GMG - Gun Metal Gray GPT - Graphite MSV - Metallic Silver PLP - Platinum Plus SVG - Satin Verde Green WHT - White	Blank - None Wireless Controls ALSC - Airlink Synapse Control System ALSCSO1 - AirLink Synapse Control System with 8-12' Motion Sensor ALSCSO2 - AirLink Synapse Control System with 12-20' Motion Sensor ALBCS1 - AirLink Blue Wireless Motion & Photo Sensor Controller (8-24' MH) ³ ALBCS2 - AirLink Blue Wireless Motion & Photo Sensor Controller (25-40' MH) ³ Standalone Controls DIM - 0-10v Dimming leads extended to housing exterior IMSBT1 -Integral Bluetooth™ Motion and Photocell Sensor (8-24' MH) ^{3,4} IMSBT2 - Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH) ^{3,4} IMSBT2 - Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH) ^{3,4} Button Type Photocells PCI120 - 120V PCI208-277 - 208 - 277V PCI347 - 347V		Blank - None BB - Battery Back-up (0°C) ⁵ CWBB - Cold Weather Battery Backup (-20°C) ⁵ XPMA - Pole Mounting Bracket SP1 - 10kV Surge Protection TB - Terminal Block

Need more information? Click here for our glossary

Have additional questions?
Call us at (800) 436-7800

FUSING ACCESSORY ORDERING INFORMATION ⁶				
Part Number	Description			
FK120 ⁷	FK120 - Single Fusing			
FK277 ⁷	FK277 - Single Fusing			
FK347 ⁷	FK347 - Single Fusing			
DFK208 ⁷	DFK - Double Fusing			
DFK240 ⁷	DFK - Double Fusing (240V)			
DEMAGO7	DEV Double Fusing (400V)			

MOUNTING ACCESSORY ORDERING INFORMATION⁶ XWM Wet Location Surface Conduit/Wiring Box

10' Linear Bird Spike Kit (2' Recommended per Luminaire)

Custom lumen and wattage packages available consult factory. Values are within industry standard tolerances but not DLC listed. Only available in 6L Lumen Package. Consult factory for lead time and availability. IMSBT and ALBCS control options are not available in 3L or 4L lumen packages when high voltage (HV) is specified.

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4 IMSBTxL is field configurable via the Leviton app that can be downloaded from your smartphone's app store.

5 Not available in HV. 6 Accessories are shipped separately and field installed. 7 Fusing must be located in a hand hole for pole or in the junction box.

8 "CLR" to be replaced by paint finish selection. See Finish options for paint color selections.

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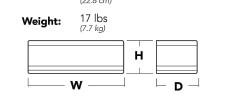




nverted available with

Specifications

Luminaire



5-1/2" (14.0 cm) 1-1/2"

Optional Back Box (BBW)

Hit the Tab key or mouse over the page to see all interactive elements. Introduction

Classic Architectural Wall Sconce with the LED technology. Long-life, maintenance-free product with typical energy savings of 80% compared to metal halide versions. The integral battery backup option provides emergency egress lighting, without the use of a back-box or remote gear, so installations maintain their aesthetic integrity. The WSR LED is ideal for replacing existing 50 -250W metal halide wall-mounted products. The expected service life is 20+ years of nighttime use.

EXAMPLE: WSR LED P2 40K SR3 MVOLT DDBTXD

WSR LED SR2 Type II SR3 Type III 120 Photoelectric cell, button type 2,3 DBLXD Black (blank) Surface mount DNAXD Natural aluminum Single fuse (120, 277, 347V) 4 SR4 Type IV 208 Shipped separately ² DWHXD White Double fuse (208, 240, 480V) 4 240 BBW Surface-mounted 0-10v dimming wires pulled outside **DSSXD** Sandstone back box fixture (for use with an external control, DDBTXD Textured dark bronze ordered separately) DBLBXD Textured black 480 E20WC Emergency battery backup, (18W, -20°C), DNATXD Textured natural Certified in CA Title 20 MAEDBS⁵ E10WH Emergency battery backup, (10W, 5°C), DWHGXD Textured white Certified in CA Title 20 MAEDBS⁵ Wet location door for up orientation Motion/ambient light sensor 7 Dual switching 8 SPD Separate Surge Protection 9 Shipped separately VG Vandal guard WG Wire guard

Emergency Battery Operation The emergency battery backup (E20WC & E10WH options) is integral to the luminaire - no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All E20WC and E10WH configurations include an independent secondary driver with an integral relay to immediately detect AC power loss The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time supply power is lost, per International Building Code Section 1006 and NFPA 101 Life Safety Code Section 7.9, provided luminaires are mounted at an appropriate height and illuminate an open space with no major obstructions

The examples below show illuminance of 1 fc average and 0.1 fc minimum of the P1 power package Type IV product in emergency mode. WSR P1 LED 40K SR4 MVOLT E20WC 8' and 12' Mounting Height



PE requires specified voltage.
Single fuse (SF) requires 120V, 277V or 347V options. Double fuse (DF) requires 208V, 240V or 480V options,
Not available with 347V or 480V. Not available with WILL. WLU not available with PIR, E20WC or E10WH.

Not available with 480V option.

MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).

WLU not available with PIR, E20WC or E10WH.
 When ordering PIR, "PE" will be automatically added to the order line for "dim to off" capability. See PIR Table for default settings.
 Only available with P3 & P4 packages. Provides 50/50 luminaire operation via two independent drivers and light engines on two separate circuits. Not available with E20WC, E10WH, WLU, SF, or DF. When ordered with photocell (PE) or motion sensor (PIR), only the primary power source leads will be controlled.
 See electrical section on page 2 for more details.



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Rev. 11/21/22

erformance Data

Lumen Output

				K, 70CRI)		K, 70CRI)		K, 70CRI)
			Lumens	LPW	Lumens	LPW	Lumens	
	ĺĺ	SR2	2,111	108	2,251	115	2,305	118
P1	20W	SR3	2,104	108	2,244	115	2,298	117
		SR4	2,053	105	2,189	112	2,242	115
		SR2	2,943	101	3,139	108	3,214	110
P2	29W	SR3	2,934	101	3,129	107	3,204	110
		SR4	2,863	98	3,053	105	3,126	107
		SR2	4,500	114	4,799	122	4,913	125
P3	40W	SR3	4,486	114	4,784	122	4,898	125
		SR4	4,377	111	4,667	119	4,779	122
		SR2	6,159	102	6,567	108	6,724	111
P4	61W	SR3	6,139	101	6,547	108	6,703	110
		SR4	5,991	99	6,388	105	6,541	108

			or Default Settir			
	Dimmed State	High Level (when triggered)	Phototcell Operation	Ramp-up Time	Dwell Time	Ramp-down Time
*PIR	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	3 sec	5 min	5 min
USES SFOD 7						

Lumen Ambient Temperature (LAT) Multipliers

		Normalized Lumen Multiplier
0°C	32°F	1.05
10°C	50°F	1.03
20°C	68°F	1.01
25℃	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.97

Projected LED Lumen Maintenance Data references the extrapolated performance projections for the **MRW LED P4** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and

20W 0.17 0.10 0.09 0.08 0.06 0.05 29W 0.26 0.15 0.13 0.12 0.09 0.07 | 40W | 0.37 | 0.21 | 0.18 | 0.16 | 0.13 | 0.09 | 4 61W 0.59 0.33 0.18 0.25 0.19 0.14

A universal mounting plate with integral mounting support arms allows the fixture to hinge

CSA certified to U.S. and Canadian standards. Light engines are IP66 rated; luminaire is IP65

rated and suitable for wet locations when mounted with the lenses down. WLU option offers wet location listing in "up" orientation. Rated for -30°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions

of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

5-year limited warranty. This is the only warranty provided and no other statements in this ecification sheet create any warranty of any kind. All other express and implied warranties

Note: Actual performance may differ as a result of end-user environment and application.

This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations.
Please refer to www.acuitybrands.com/resources/buy-american for additional information.

down for easy access while making wiring connections.

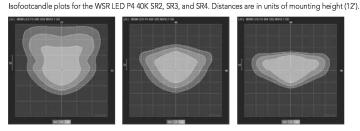
are disclaimed. Complete warranty terms located at:

Specifications subject to change without notice.

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number 0 25000 50000 100000 L90

1 0.96 0.95 0.92 >60000 **Electrical Load**

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's WSR LED homepage.



FEATURES & SPECIFICATIONS

Globes™ criteria for eliminating wasteful uplight.

LITHONIA

LIGHTING.

INTENDED USE The classic architectural shape of the WSR LED was designed for applications such as hospitals, schools, malls, restaurants, and commercial buildings. The long life LEDs and driver make this luminaire nearly maintenance-free.

The die-cast aluminum housing integrates secondary heat sinks to optimize thermal transfer from the internal light engine heat sinks and promote long life. The driver is mounted in direct contact with the casting for a low operating temperature and long life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP65 rating for the luminaire.

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish

that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage

process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes. Precision-molded acrylic lenses are engineered for superior distribution, uniformity, and spacing in wall-mount applications. Light engines are 4000k (70 CRI). The WSR LED has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green

ELECTRICAL Light engine(s) consist of 8 high-efficacy LEDs mounted to a metal core circuit board and integral aluminum heat sinks to maximize heat dissipation and promote long life (100,000 hrs at 25°C, L77). Class 2 electronic driver has a power factor >90%, THD <20%. and a minimum 6 KV surge protection. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C low operation (per ANSI/IEEE C62.41.2).

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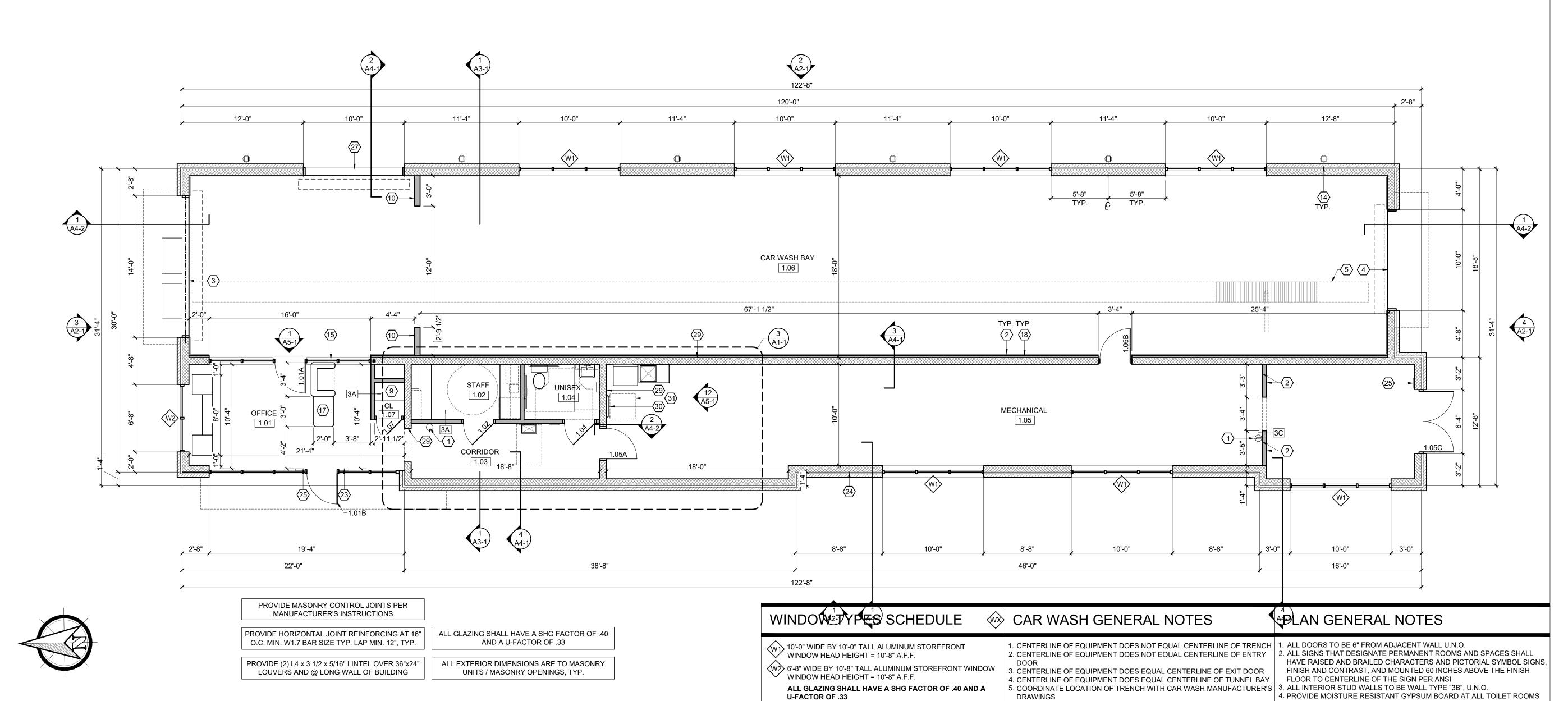
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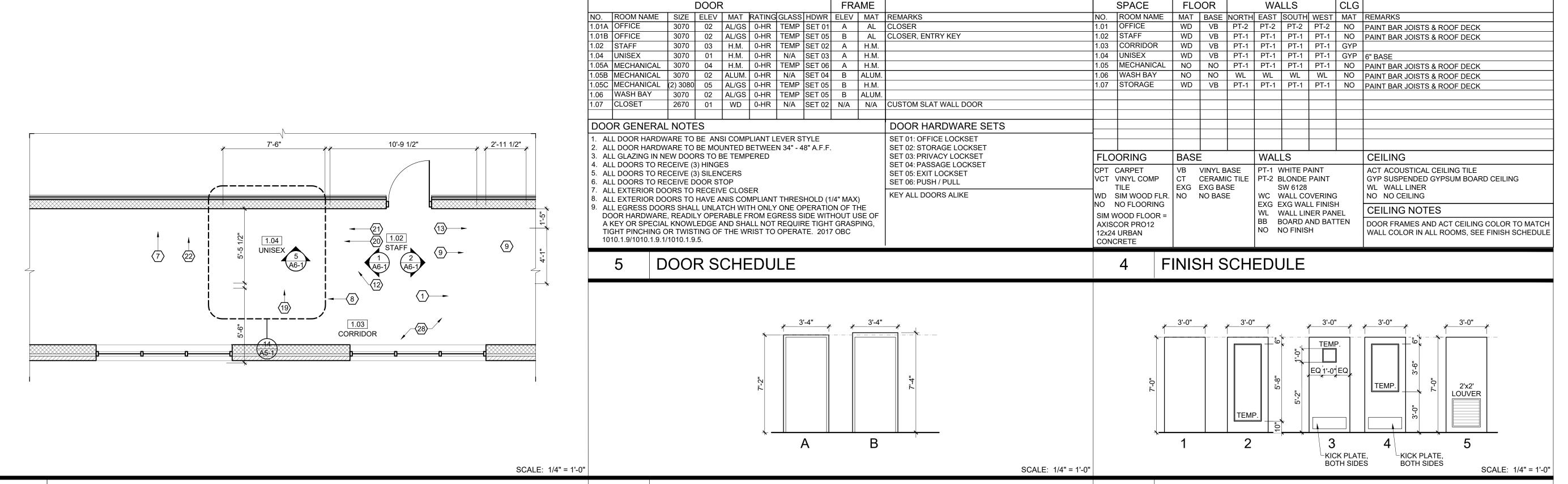
DING

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FLOOR PLAN

ENLARGED FLOOR PLAN



FRAME ELEVATIONS

FLOOR PLAN CODED NOTES

- 1. WALL MOUNTED FIRE EXTINGUISHER. EXTINGUISHER TO BE: RED ENEMELED FINISH HEAVY DUTY STEEL CYLINDER. UL AND FM APPROVED. ABC MULTI PURPOSE DRY CHEMICAL, 10 LB CAPACITY UL RATED 4A 60B: C, HOSE TYPE, UPRIGHT, SQUEEZE
- GRIP OPERATION 2. INTERIOR WALL LINER PANEL
- 3. 14'-0" x 8'-0" OVERHEAD DOOR
- 4. 10'-0" x 8'-0" OVERHEAD DOOR
- 5. CAR WASH TRENCH, SEE MANUFACTURER'S DRAWINGS 6. DECORATIVE AWNING W/ BRACKETS, CENTER OVER WINDOWS /
- DEDICATED COMMERCIAL GRADE SINK FOR UTILITY SINK
- 8. ANSI COMPLIANT ELKAY EXH20 REFRIGERATED SURFACE MOUNT BOTTLE FILLING STATION
- 9. 12" DEEP SHELVING W/ STANDARDS AND BRACKETS
- PANEL BOTH SIDES 11. NOT USED
- 12. UNDER COUNTER REFRIGERATOR
- 13. SERVER RACK, SEE DETAIL ON SHEET A6-1
- 14. DOWNSPOUT
- 15. ALUMINUM STOREFRONT SYSTEM, WINDOW HEAD HEIGHT = 8'-0", SEE ELEVATION ON SHEET A5-1, PROVIDE 1" INSULATED GLASS
- 17. RECEPTIONIST DESK BY OTHERS. ANSI COMPLIANCE IS THE

10. WIND WALL, P.T. 2x6 WALL W/ 7/16" OSB SHEATHING & LINER

- RESPONSIBILITY OF THE DESK DESIGNER
- 18. PROVIDE 2 1/2" METAL Z-FURRING STRIPS @ 24" HORIZONTAL W/ MIN R-13 RIGID INSULATION IN FURRING CAVITIES W/ 5 MIL
- VAPOR BARRIER 19. ANSI COMPLIANT SIGNAGE DESIGNATING UNISEX TOILET ROOM
- 20. COFFEE MAKER, SEE INTERIOR ELEVATION 21. MICROWAVE, SEE INTERIOR ELEVATION
- 22. STACKABLE WASHER / DRYER 23. ANSI COMPLIANT SIGNAGE DESIGNATING MAXIMUM OCCUPANCY
- OF 15 PERSONS 24. QUIK-BRIK MASONRY CONSTRUCTION
- 25. ANSI COMPLIANT EXIT SIGNAGE, SEE DETAIL ON SHEET A5-1
- 26. STORAGE CABINETRY, SEE INTERIOR ELEVATION ON SHEET A5-1 27. 10'-0" x 8'-0" OVERHEAD DOOR
- 28. HVAC PLATFORM ABOVE, SEE DETAILS ON SHEET A1-3 29. 8" CMU WALL
- 30. ROOF ACCESS LADDER, CENTER BELOW ROOF HATCH ABOVE, SEE DETAIL ON SHEET A5-1
- 31. 30"x30" CLEAR LANDING SPACE, CENTERED ON LADDER

WALL TYPES SCHEDULE

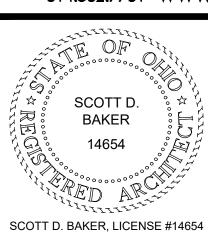
		#	ASSEMBLY DESCRIPTION	HR	NOTES
		-3A	2x4 WOOD STUDS @ 16" O.C.	NG: 0 HR LE # N/A	FULL HEIGHT PARTITION, TERMINATE GYPSUM BOAR @ UNDERSIDE OF JOISTS.
				RATING: UL FILE	ASSEMBLY THICKNESS = 4 3/4"
5,		-3B	2x4 WOOD STUDS @ 16" O.C.	RATING: 0 HR UL FILE# N/A	FULL HEIGHT PARTITION, TERMINATE GYPSUM BOAR @ UNDERSIDE OF JOISTS.
		3" SOUND BATT	RATI UL FI	ASSEMBLY THICKNESS = 4 3/4"	
	=	_3C	2x4 WOOD STUDS @ 16" O.C.	TING: 0 HR FILE# N/A	FULL HEIGHT PARTITION, TERMINATE GYPSUM BOAR @ BOTTOM OF DECK.
			5/8" GYP BD	RATIN UL FIL	ASSEMBLY THICKNESS = 4 3/4"

			_
#	DATE	ISSUED WITH: CHANGE DESCRIPTION	

HARTLAND TOWNSHIP







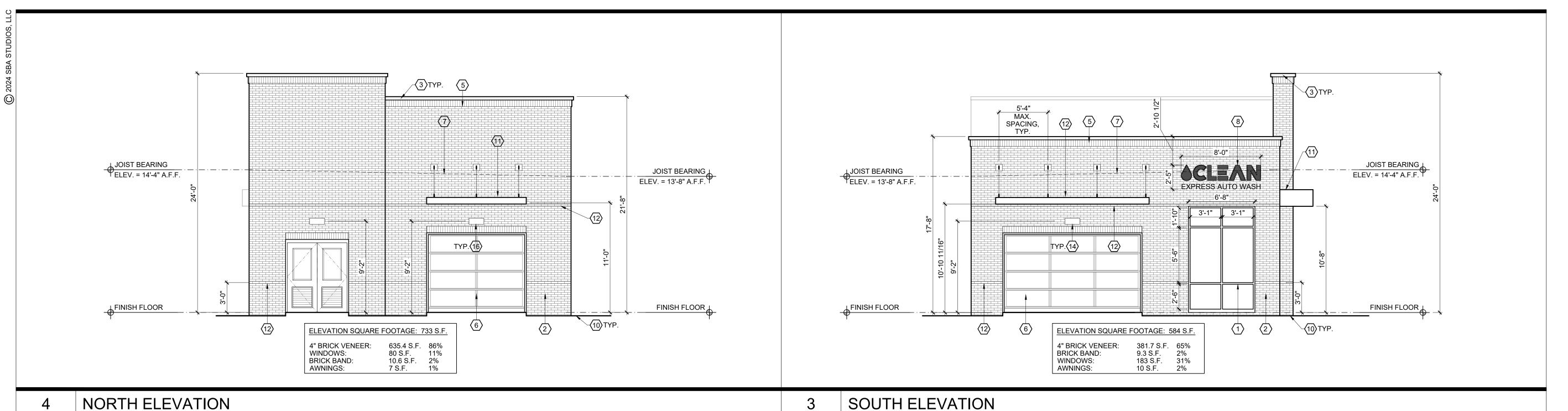
EXPIRATION DATE 12/31/2023

DOOR ELEVATIONS

SCALE: 3/16" = 1'-0" (U.N.O.) SHEET # / DESCRIPTION FLOOR PLAN

DATE: 04.23.2024 CONSTRUCTION DOCUMENTS

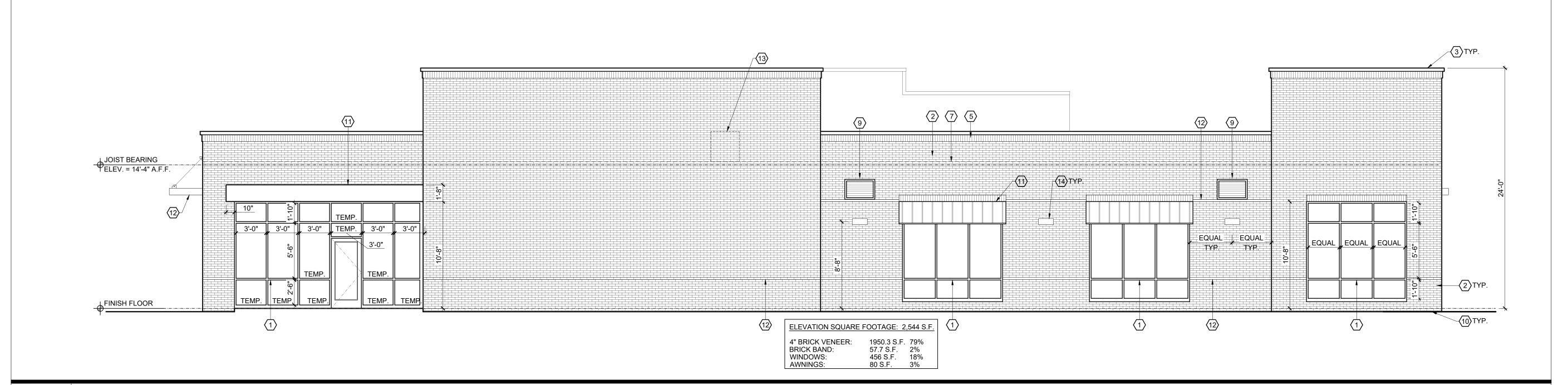
SBA STUDIOS PROJECT # 2024-1 84



NORTH ELEVATION SOUTH ELEVATION



WEST ELEVATION



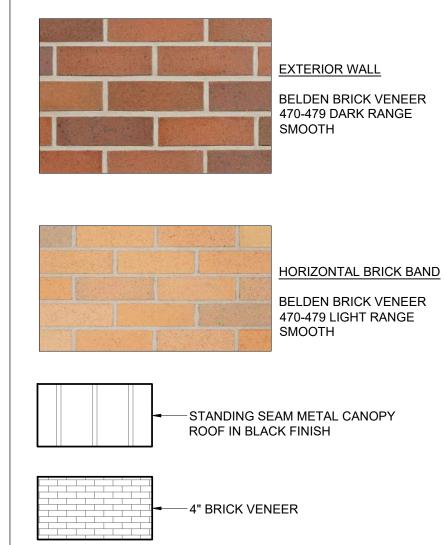
ELEVATION CODED NOTES

- . ALUMINUM STOREFRONT GLAZING SYSTEM. MANUFACTURER TO DESIGN FOR WIND LOAD REQUIREMENTS PER CODE
- 2. 4" BRICK VENEER. INSTALL CONTROL JOINTS PER
- MANUFACTURER'S INSTRUCTIONS.

 3. CONTINUOUS METAL COPING, TYP.

 4. 4" METAL DOWNSPOUT IN LIGHT GREY FINISH.
- 5. BRICK SOLDIER COURSE.
- 6. OVERHEAD DOOR7. TOP OF ROOF BEYOND 8. SIGNAGE PROVIDED BY OWNER (SEPARATE SUBMITTAL).
- 9. 36"x24" METAL WALL LOUVER W/ 2" FRAME, SEE HVAC DRAWINGS. LOCATE SUCH THAT OPENING IS NOT DIRECTLY BENEATH A
- **ROOF JOIST** 10. GRADE, COORDINATE W/ CIVIL DRAWINGS.
- 11. PRE-MANUFACTURED ALUMINUM AWNING. INSTALL PER
- MANUFACTURER'S INSTRUCTIONS. 12. MASONRY BAND.
- 13. ROOFTOP CONDENSING UNIT BEYOND.
- 14. DECORATIVE LIGHT FIXTURE
- 15. SCUPPER & DOWNSPOUT COLLECTION BOX IN LIGHT GREY
- 16. EMERGENCY OVERFLOW SCUPPER

ELEVATION MATERIAL LEGEND



#	DATE	ISSUED WITH: CHANGE DESCRIPTION

EXTERIOR MATERIAL NOTES:

1. METAL COPING AND ALUMINUM STOREFRONT TO BE IN LIGHT

HARTLAND TOWNSHIP





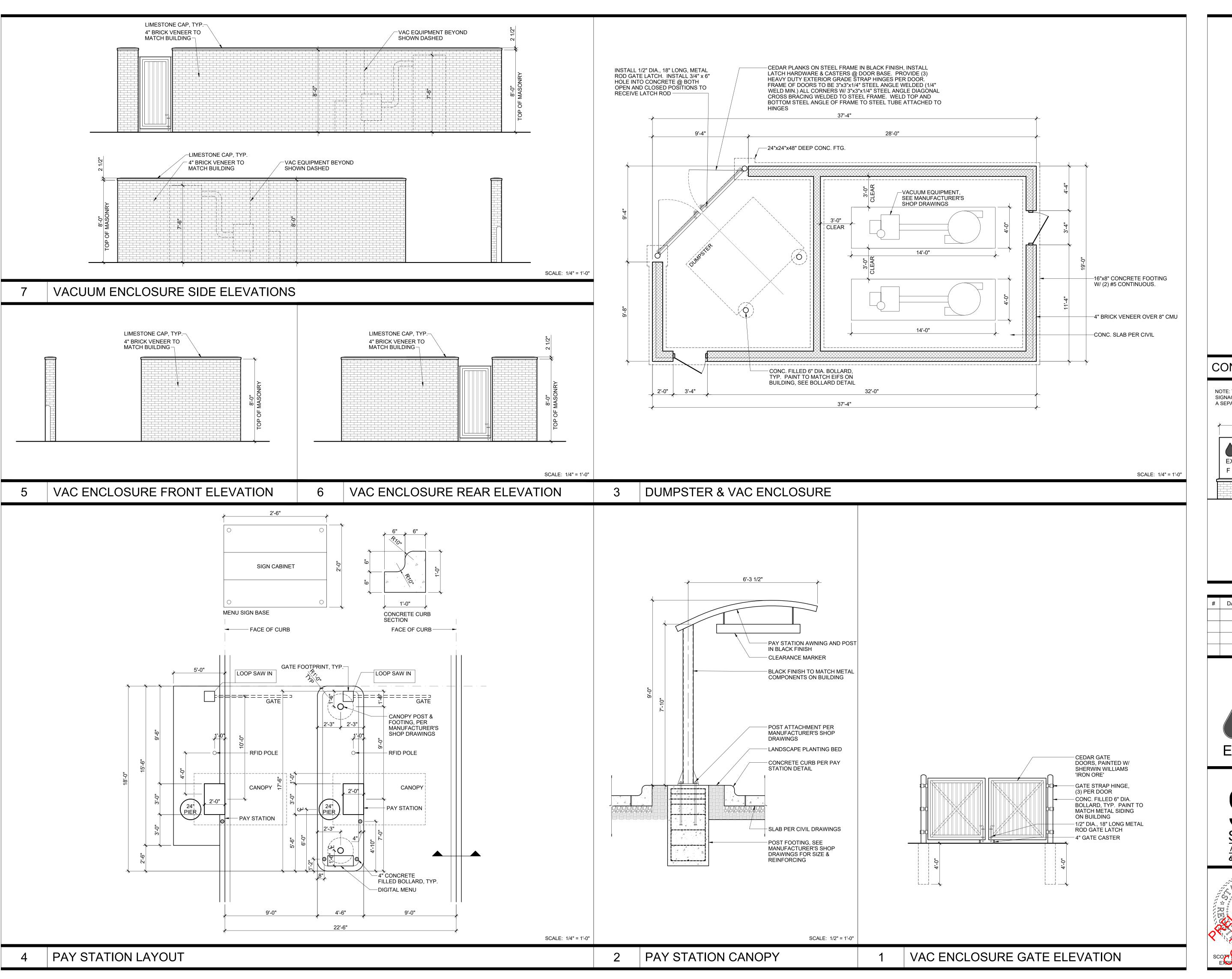
SCALE: 3/16" = 1'-0"

SHEET # / DESCRIPTION

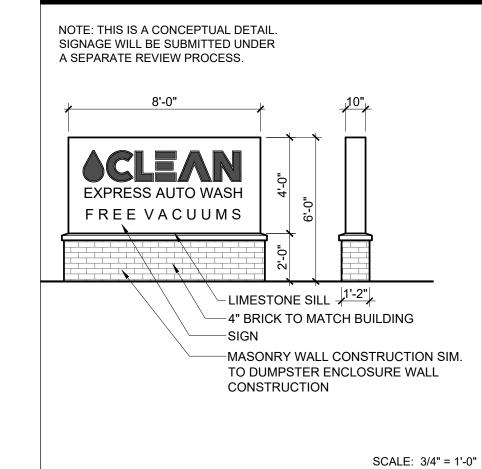
DATE: 10.24.2024 PLANNING COMMISSION



EAST ELEVATION



CONCEPTUAL MONUMENT SIGN



#	DATE	ISSUED WITH: CHANGE DESCRIPTION

HARTLAND TOWNSHIP







Board of Trustees



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2025 HARTLAND TOWNSHIP PLANNING COMMISSION MEETINGS HARTLAND TOWNSHIP HALL 7:00 P.M.

The regular meetings of the Hartland Township Planning Commission for the year 2025 will be held on the following dates. All meetings are open to the public.

January 9, 2025	January 23, 2025
February 13, 2025	February 27, 2025
March 13, 2025	March 27, 2025
April 10, 2025	April 24, 2025
May 8, 2025	May 22, 2025
June 12, 2025	June 26, 2025
July 10, 2025	July 24, 2025
August 14, 2025	August 28, 2025
September 11, 2025	September 25, 2025
October 9, 2025	October 23, 2025
November 6, 2025	November 20, 2025
December 4, 2025	December 18, 2025
December 4, 2025	December 18, 2025

Tom Murphy Hartland Township Planning Commission Secretary