

PLANNING COMMISSION

HARTLAND TOWNSHIP
2655 CLARK ROAD
Hartland, MI 48353
(810) 632-7498 Office
(810) 632-6950 Fax
www.hartlandtwp.com



Chairperson
Larry Fox

Vice-Chairperson
Jeff Newsom

Secretary
Keith Voight

Joseph Colaianne
Sue Grissim
Michael Mitchell
Tom Murphy

**PLANNING COMMISSION AGENDA
THURSDAY, FEBRUARY 28, 2019
7:00 PM**

1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Approval of Meeting Agenda
5. Approval of Meeting Minutes
 - a. Planning Commission - Regular Meeting - Feb 14, 2019 7:00 PM
6. Call to Public
7. Old and New Business
 - a. Site Plan 19-001, Hartland Sports Center
 - b. Ordinance Review Committee - Architectural Standards Industrial-Light Industrial
8. Call to Public
9. Planner's Report
10. Committee Reports
11. Adjournment

1. **Call to Order** - THE MEETING WAS CALLED TO ORDER BY CHAIRMAN LARRY FOX AT 7:00 PM

2. **Pledge of Allegiance**

3. **Roll Call**

PRESENT: Joe Colaianne, Thomas Murphy, Larry Fox, Jeff Newsom, Sue Grissim, Michael Mitchell, Keith Voight
ABSENT:

4. **Approval of Meeting Agenda**

Motion to Approved the Agenda

A Motion to approve the Meeting Agenda was made by Commissioner Mitchell and seconded by Commissioner Voight. Motion carried unanimously.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Michael Mitchell, Commissioner
SECONDER:	Keith Voight, Secretary
AYES:	Colaianne, Murphy, Fox, Newsom, Grissim, Mitchell, Voight

5. **Approval of Meeting Minutes**

a. Planning Commission - Regular Meeting - Dec 20, 2018 7:00 PM

A Motion to approve the Meeting Minutes of December 20, 2018, was made by Commissioner Grissim and seconded by Commissioner Murphy.

Commissioner Mitchell offered the following corrections to the Minutes:

- Page 1 - The meeting was called to order by Larry Fox, not Tom Murphy.
- Page 3 - In the motion, condition #2 and the “seconded by” is stated twice.
- Page 3 - The length of driveway maximum is 600 feet not 660 as stated twice on this page.
- Page 4 - In Planner’s Report towards the bottom of the page the 660 foot comment is also mentioned.

The Maker and Seconder agreed. The Meeting Minutes of December 20, 2018 were unanimously approved as amended.

RESULT:	ACCEPTED AS AMENDED [UNANIMOUS]
MOVER:	Sue Grissim, Commissioner
SECONDER:	Thomas Murphy, Commissioner
AYES:	Colaianne, Murphy, Fox, Newsom, Grissim, Mitchell, Voight

6. **2019 Annual Planning Commission Organizational Meeting**

a. Reaffirm Bylaws, Election of Officers & Committee Appointments

Director Langer offered a brief explanation of the By-Laws.

Commissioner Voight offered the following change:

6.0 ANNUAL ORGANIZATIONAL MEETING

An annual organizational meeting shall occur at the first regular meeting of ~~January~~ **the year** for election of a Chair, Vice-Chair and Secretary.

A Motion was offered by Commissioner Colaianne to reaffirm the Planning Commission By-Laws as amended. Seconded by Commissioner Voight. Motion carried unanimously.

Minutes Acceptance: Minutes of Feb 14, 2019 7:00 PM (Approval of Meeting Minutes)

2019 Planning Commission Election of Officers

A Motion was offered by Commissioner Colaianne to reaffirm the existing officers currently serving in those positions. Seconded by Commissioner Mitchell. Motion carried unanimously.

2019 Planning Commission Committee Appointments

Chair Fox reappointed Commissioner Grissim, Commissioner Murphy and Commissioner Voight to the Ordinance Review Committee.

Chair Fox appointed himself and Commissioner Colaianne to meet with staff to discuss lake lots.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Joe Colaianne, Trustee
SECONDER:	Keith Voight, Secretary
AYES:	Colaianne, Murphy, Fox, Newsom, Grissim, Mitchell, Voight

7. Call to Public

None

8. Old and New Business

a. Site Plan #19-002, Panda Express

Director Langer gave an overview of the request stating the following:

- Located on vacant land Outlot 8 and is part of Hartland Towne Square.
- Site Plan approval is granted by the Planning Commission.
- Request for a drive-through window requires an amendment to the Planned Development and needs a recommendation from the Planning Commission but the Township Board gives the final approval.

Amy Conti, RA, Studio Manager, NORR; Dina Mekawy, Project Manager, NORR; Michael McPherson, PE, Civil Engineer, Atwell; introduced themselves representing the Applicant for the project and stated the following:

- Site Plan complies with the requirements of the PD, with the exception of the drive-through request which they are hoping will ultimately be approved.
- Described the building materials.
- Site was created and prepared previously for a commercial use.

Chair Fox reiterated the process for this site plan and asked Director Langer about the future land division.

Director Langer stated the following:

- Land divisions are handled administratively through the Assessor and the Planning Director.
- Panda Express intends to use only a portion of Outlot 8 requiring a land division.
- Staff has presented concerns with the way land divisions have previously been completed where the right-of-way area for Hartland Square Drive and Rovey Drive appear to be excepted from ownership of the adjacent parcels.
 - Concerned that eventually those roads would be split off entirely from all other parcels and become their own separate parcel.

Minutes Acceptance: Minutes of Feb 14, 2019 7:00 PM (Approval of Meeting Minutes)

- There would be no single business or entity responsible for the long term maintenance of these roads.
- No desire to hold up the current project. Must find a way to resolve to ensure the roads are maintained in the future.
- Desire here is to make both the Applicant and the Planning Commission aware of the issue.
- A condition was added to the Amendment to the PD Motion to note these concerns.
- Staff recommends that prior to any other future developments, an amendment to the PD, or some other document is performed that would establish a requirement for all properties to be liable for their share of private roadway maintenance and repair.

Chair Fox continued with the review letter.

Loading - Loading area is in the drive aisle which is consistent with other approved sites in the PD.

Dumpster Enclosure - materials must match the building which is brick, plans do not reflect that but an email was received from the Applicant stating they would comply. The Applicant verbally confirmed the enclosure will be brick and shown as such on the construction drawings.

Lighting - Fixture types do not comply with the Pattern Book as new more efficient fixtures are now being used.

Commissioner Voight opened a brief discussion as to whether the Planning Commission should be regulating the type of parking lot lighting fixtures for uniformity purposes. The Planning Commission generally agreed this is a good thought but there are already business operating with various styles that do not seem to be noticeably different. The consensus of the Planning Commission was the proposed fixtures are acceptable.

Landscaping - Commissioner Grissim mentioned the following:

- Screening is required for the transformer near the bike rack.
- River stone requested in the parking lot landscaping instead of shredded hardwood mulch does not comply. The Applicant stated Panda Express uses river stone in all of their stores for uniformity and ease of maintenance. Chair Fox stated the reason mulch, sod and plantings are used is to break up the expanse of hard surfaces in a parking area. Commissioner Grissim concurred stating the Planning Commission would prefer the mulch with the plantings; stone is really hard and heats up the parking lots. Mulch and plantings are a softer look.

Commissioner Grissim also stated the following:

- A couple of the islands do not quite have 50% shrub/planting coverage and need to be increased.
- Recommend moving the shrubs and plant material to the center away from the curb area to avoid conflicts with customers, cars and salt in the winter.
- Suggested trading off a couple of tall shrubs for trees and possibly relocating some for better growing opportunity.
- Around the foundation, asked for more living material rather than just the tall grasses and stone.

Chair Fox asked if the landscaping modifications could be put in the Motion as a condition. The Applicant and the Planning Commission agreed.

Architecture / Building Materials - the Applicant requested a waiver to exceed 10% coverage for Fiberon siding on the north, south, and west façades. The Planning Commission agreed to add it in the Motion as a condition.

Director Langer pointed out the Applicant has added bike racks to the Site Plan even though there is no requirement to do so.

Commissioner Voight asked about the Fire Authority’s requirement for a ladder to the roof. The Applicant confirmed it will be added to the construction drawings.

Commissioner Mitchell asked about tree species. Commissioner Grissim stated she was fine with the species proposed.

Commissioner Mitchell offered the following Motion:

Move to approve Site Plan Application #19-002 a request to amend the previously approved plans for Hartland Towne Square Planned Development, to construct an approximate 2,300 square foot Panda Express restaurant with one drive-through window, including approval of the architectural and lighting waiver requests, with the following conditions:

1. The applicant shall adequately address the outstanding items noted in the Planning Department’s memorandum, dated February 7, 2019, on the Construction Plan set, subject to an administrative review by the Planning staff prior to the issuance of a land use permit.
 2. The applicant shall change the building materials of the dumpster enclosure to match the building elevations. Revised plans shall be submitted as part of a land use permit.
 3. The applicant shall eliminate the proposed stone in the landscape beds and replace it with either lawn, mulch, or another acceptable material. Revised plans shall be submitted as part of a land use permit.
 4. Applicant complies with any requirements of the Department of Public Works Director, Township Engineering Consultant, and Hartland Deerfield Fire Authority Fire Marshal.
 5. The proposed building materials offered on the Site Plan are acceptable to the Planning Commission as presented.
 6. The Landscape Plan shall be amended to address the concerns noted in the meeting.
- Seconded by Commissioner Voight. Motion carried unanimously.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Michael Mitchell, Commissioner
SECONDER:	Keith Voight, Secretary
AYES:	Colaianne, Murphy, Fox, Newsom, Grissim, Mitchell, Voight

Motion to Recommend Approval of the Amendment to the PD

Commissioner Voight offered the following Motion:

The Planning Commission recommends to the Township Board, to approve Site Plan Application #19-002, a request to amend the previously approved plans for Hartland Towne Square Planned Development, to permit up to three (3) drive-through restaurants in the Hartland Towne Square Planned Development (PD) and a total of eight (8) drive-through businesses, with the following conditions:

1. The Planning Commission has determined the proposed amendments to permit an additional drive-through restaurants/business within the Hartland Towne Square Planned Development (PD), would still be consistent with the original intent to limit the number of drive-through businesses within this development.
2. The Planning Commission has determined that the amendment will promote an additional restaurant development within the PD that is desirable and a good fit for the community and will add to the overall appeal of the Planned Development.

Minutes Acceptance: Minutes of Feb 14, 2019 7:00 PM (Approval of Meeting Minutes)

- 3. The Planning Commission has determined that the proposed amendment will permit a restaurant business that will help contribute to the needs and desires of the entire community.

Approval is subject to the following condition:

- 1. Prior to any future development in the Hartland Towne Square Planned Development, the developer shall establish adequate standards to ensure for the long-term maintenance and repair of Hartland Square Drive and Rovey Drive, subject to acceptance by the Township Attorney.

Seconded by Commissioner Newsom. Motion carried unanimously.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Keith Voight, Secretary
SECONDER:	Jeff Newsom, Vice Chairman
AYES:	Colaianne, Murphy, Fox, Newsom, Grissim, Mitchell, Voight

9. Call to Public

None

10. Planner's Report

Director Langer stated the Admin Committee requested more information detailing the Ordinance Amendments being considered.

Chair Fox summarized the following:

- Outdoor Storage Display and Commercial Developments: there were two applicants that wanted to stretch the screening walls across the entire front of the facility. It should be an evaluation with consideration given to what should be the maximum amount of screening wall/outdoor storage display in front of stores.
- Sign Regulations Enforcement - neutral content on signage.
- Private Road Shared Driveway Ordinance Section 5.23 - staff met with area developers to gain insight, some items were able to be dealt with administratively to assist them, some concerns were related to the cost of having the Township Engineer on a site inspecting. there was no formal decision to remove it; staff has focused on making sure the engineers are on site only when needed, which seems to be acceptable to the developers. There are private roads going in now and he is not hearing any negative comments. Chair Fox stated there are two things written that allow flexibility from the standard: the maximum length with Fire Marshal approval can be extended beyond 600 feet (i.e. rolled curbing); if the extension of a private road does not meet the standards, it allows for the road to be evaluated by an engineer to see if it can hold the weight of a fire truck and/or the anticipated proposed traffic.
- Light Industrial/Industrial Architectural Standards - the Ordinance Review Committee (ORC) has nearly finished this review and it will be coming to the Planning Commission soon.
- Single Family Minimum House Size Requirements - our minimum size is larger than many communities and maybe it should be evaluated by comparing to other communities.
The Planning Commission briefly discussed Minimum House Size and various locations where sizes might be limited.
- Lake Lots - building on them, setbacks, lot coverage, garages on parcels across a road.
- Accessory Building on Vacant Land - there has been requests to build a pole barn for secure storage of building materials prior to constructing a principal structure. Staff has been able to work with people through an escrow process but if one of those projects did not progress the Township would be in the difficult position to require a structure be demolished to gain compliance. Commissioner Mitchell

Minutes Acceptance: Minutes of Feb 14, 2019 7:00 PM (Approval of Meeting Minutes)

suggested looking at Milford Township’s ordinance where the applicant is required to have an approved building permit for the principal structure.

- Lot Coverage - numerous lots in existence exceed the permitted lot coverage, increasing it in the Zoning Ordinance is tricky as it will apply to all land in that zoning category. Commissioner Mitchell asked if we are in line with neighboring communities. Director Langer stated it depends on how the coverage is calculated and what is included.

The Planning Commission briefly discussed the Lot Coverage issue and the recent PD Amendments.

Director Langer stated 5G Small Cell Networks are poised to come into our area. Is this something the Planning Commission wants to discuss?

The Planning Commission briefly discussed the following:

- Can local municipalities regulate
- If they are in the right-of-way do we have any juris
- Should they be screened if on a rooftop
- Should the number of units be limited in one location
- What if they are on light poles in a private parking area

The Planning Commission agreed they need more information and should probably discuss the findings.

Director Langer stated the ORC reviewed the Industrial/Light Industrial Architectural Standards and ultimately did not change the building percentages or materials but rather addressed concerns about large buildings with long expanses of a solid monotone wall; they wanted to explore materials and design options that would break that up. A draft will be coming to the Planning Commission fairly soon.

Director Langer shared the Retail Market Analysis will be presented by Gibbs Planning Group at the April 11, 2019 Planning Commission meeting. If there are any questions please let the Director know or be prepared for the meeting.

The Planning Commission briefly discussed whether the whole meeting should be dedicated to the presentation, how long it will take, and how in-depth the Planning Commission wants the presentation to be. Director Langer indicated he would follow up with Mr. Gibbs to find out more about the presentation.

11. Committee Reports

None

12. Adjournment

Motion to Adjourn

A Motion to adjourn was made by Commissioner Newsom and seconded by Commissioner Murphy. Motion carried unanimously. The meeting was adjourned at approximately 8:09 PM.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Jeff Newsom, Vice Chairman
SECONDER:	Thomas Murphy, Commissioner
AYES:	Colaianne, Murphy, Fox, Newsom, Grissim, Mitchell, Voight

Submitted by,

Keith Voight
Planning Commission Secretary

Minutes Acceptance: Minutes of Feb 14, 2019 7:00 PM (Approval of Meeting Minutes)



Board of Trustees

William J. Fountain, Supervisor
 Larry N. Ciofu, Clerk
 Kathleen A. Horning, Treasurer

Joseph W. Colaianne, Trustee
 Matthew J. Germane, Trustee
 Glenn E. Harper, Trustee
 Joseph M. Petrucci, Trustee

MEMORANDUM

Date: February 21, 2019

To: Hartland Township Planning Commission

From: Planning Department

Subject: **Hartland Sports Center
 Site Plan Application #19-001–Request to construct an approximate 8,064 square foot addition to the existing Hartland Sports Center**
 Project site is located at 2755 Arena Drive, located north of Highland Road (M-59); (Tax Parcel ID #4708-22-300-044 and #4708-22-300-013)

Applicant Information

Property Owner	Hartland Sports Center, LLC Diamond Investment Group, LLC
Applicant	Mark Schaffer
Architect	GAV & Associates
Engineer	Boss Engineering

Site Description

The Hartland Sports Center is located at 2755 Arena Drive, which is north of Highland Drive (M-59), in Section 22 of Hartland Township. The existing Hartland Sports Center is located on a parcel that measures 8.07 acres in area. The applicant recently acquired an adjoining parcel, (Tax Parcel 4ID #708-22-300-013), south of the existing facility, which measures approximately 2.97 acres in area. Both parcels are zoned GC-General Commercial.

Access to both parcels is via Arena Drive, a private road, which connects to Highland Road (M-59).

Overview and Background Information

Site Plan Application #341 and Special Use Application #217, in conjunction with Private Road Application #122

In 2003 the Township reviewed a request to construct an ice arena under SP #341 and Special Use Application #217, in conjunction with Private Road Application #122 (construction of a private road, Arena Drive). The proposed private road (Arena Drive) would provide access to the Hartland Sports Center and several parcels adjoining Arena Drive.

On April 29, 2003 the Township Board approved SP #341/Special Use #217 to construct and operate an ice arena, and approved the construction of a private road under Private Road Application #122. In September of 2003, the Township approved a water connection for the ice arena.

SP #366 – Minor change to plans approved under SP #341/Special Use Application #217

In May of 2004, the Township Board approved SP #366 for the construction of a noise barrier around an equipment area on the north side of the building, to address noise complaints from neighbors. Based on a recent site inspection the noise barrier (fence) is no longer in place.

SP #392 – Minor change to SP #341/Special Use Application #217

On June 23, 2005 the Planning Commission approved SP #392, a request to convert approximately 4,000 square feet of the upper level space in the Hartland Sports Center building into a restaurant. This was considered to be a minor change to SP #341 and Special Use Application #217.

Request

The applicant is requesting to construct an approximately 8,064 square foot addition to the existing Hartland Sports Center, which currently has a footprint of approximately 84,805 square feet in area and an approximate 5,720 square foot mezzanine. Additional parking is also proposed and will be constructed on the recently acquired parcel, south of the current site. Some existing parking areas will be reconfigured due to the building addition.

The purpose for the addition is to provide dedicated locker rooms for Cleary University and their proposed men's and women's dedicated college hockey teams. In addition, there will be a sports training facility. It's anticipated that Cleary University will participate at the Division 3 level in both men's and women's hockey.

The two parcels will not be combined as part of the proposed project. The applicant is providing a shared parking agreement as a requirement of the proposed expansion, to allow for reciprocal access and parking rights for the parking areas on each parcel. A draft version of the shared parking agreement has been reviewed by the Township Attorney and is provided as an attachment.

Approval Procedure

The project requires site plan approval and is subject to the standards outlined in Section 6.6 of the Township's Zoning Ordinance as well as applicable standards of the GC-General Commercial zoning district outlined in Section 3.1.14. The Planning Commission has Site Plan review authority and will make a final decision on the proposed project.

SITE PLAN REVIEW – Applicable Site Standards

Site Description

The existing facility, Hartland Sports Center, is located at 2755 Arena Drive, and includes an approximate 84,805 square foot building and parking areas, with a total of 320 parking spaces, per the submitted plans. The facility houses two (2) ice rinks, a gymnastics area, dance room, locker rooms, pro shop, and office on the main floor. A restaurant is located on the mezzanine level. The mezzanine is approximately 5,720 square feet in area. The building materials include precast concrete panels in a brick pattern at the base of the building; pre-finished metal siding; and standing seam metal roof. The building materials are earth tone colors (shades of beige).

The proposed project includes the construction of an approximate 8,064 square foot addition on the south side of the existing building and construction of additional parking areas. Portions of the existing parking lot (south and east) will be eliminated or reconfigured due to the building addition and new parking areas. Additional parking will be provided on the newly acquired adjoining parcel. The total building size (existing + new addition) is approximately 92,869 square feet. A total of 384 parking spaces are proposed.

The adjoining parcel (2.97 acres) is undeveloped and is located southeast of the existing site, on the east side of Arena Drive. A natural features inventory is provided which indicates the undeveloped parcel has a mix of tree sizes and species (deciduous and evergreen). The parcel slopes generally from south to north, consistently over the entire parcel. Approximately 0.65 acres of the new parcel will be developed for the proposed expansion project.

The total size of the developed area is approximately 8.72 acres (8.07 AC existing site + 0.65 AC new parcel).

The adjoining properties to the north and east are zoned CA-Conservation Agricultural. An assisted living center (Bella Vita) is currently under construction along a portion of the east property line. Adjoining properties to the south are zoned GC-General Commercial. West of the existing sports arena the properties are zoned PD-Planned Development, for the Heritage Meadows, a single-family residential condominium development.

Impact Assessment

No impact assessment was submitted nor required for the proposed use.

Traffic Generation

A traffic impact assessment was not required for the proposed use.

Dimensional Requirements (GC-General Commercial)

Lot Size (Sec. 3.1.14)

- Required – 20,000 sq. ft. (with sewer)
- Proposed – 11 acres (combined total of 2 parcels)
- Meets Requirement? – Yes
- Comment – site is served by public sewer and water

Frontage (Sec. 3.1.14)

- Required – minimum lot width of 120 ft.
- Proposed – lot width is approximately 629 ft. along Arena Drive for new parcel
- Meets Requirement? – Yes
- Comment – (none)

Building Setbacks (Sec. 3.1.14) – for proposed building addition

Setback	Required	Proposed	Meets Requirements? (Y / N)
Front (south)	50'	135'	Yes
Rear (north) With sewer	40'	N/A	Building addition is on south side of existing building
Side (east)	15'	86'	Yes
Side (west)	15'	376'	Yes

Building Height (Sec. 3.1.14)

- Required – 35 ft. or 2½ stories, whichever is less
- Existing – 34'-9" to peak
- Proposed – 23'-5½"
- Meets Requirement? – Yes
- Comment – (none)

Lot Coverage (Sec. 3.1.14)

- Required – principal structure: 75% max.
- Proposed – 24.4% (existing bldg. footprint SF + bldg. addition SF ÷ 8.72 acres of developed area)
- Meets Requirement? – Yes
- Comment – (none)

Site Requirements

Dumpster Enclosure (Sec. 5.7) – One existing dumpster enclosure is located at northeast corner of existing site

Off-Street Parking (Sec. 5.8, combination of parking formulas based on the use)

- Required – See below (highest value shown in bold chart for the number of required parking spaces)

USE CATEGORY	PKG FORMULA	# PKG Spaces REQ'D
Ice Rink #1 (Stadium) 510 seats	Ice Rink- 1 space/3 seats; Or 1 space/100 SF GFA, whichever is greater	170 spaces (510 seats/3) OR (16,042 SF/100 = 160 spaces)
Ice Rink #2 (Pond) 120 seats	Ice Rink- 1 space/3 seats; Or 1space/100 SF GFA, whichever is greater	40 spaces (120 seats/3 = 40 spaces) OR 160 spaces (16,042 SF/100 = 160 spaces)
Bounce Room	Stadium/sports arena – 1 space/ 3 seats; Or 1 space/10 lineal ft. bench	15 spaces (150 lineal ft. bench/10)
Pro Shop (Retail)	Retail – 1 space/300 SF GFA	5 spaces (1,314 SF/300)
Restaurant, sit-down; w/ liquor license 84 seats	22 spaces/1,000 SF usable floor area; Or 0.6 spaces per seat; whichever is greater	69 spaces (3,120 SF usable floor area/1,000 x 22) OR 0.6 x 84 =50 spaces
Dance Room/dance hall	1 space/ 100 SF GFA	7 spaces (698 SF/100)
Training Room/Health Club #1 (1,855 SF)	10 spaces for each club or spa + 1 space/200 SF GFA in excess of 1,000 SF	15 spaces (10 spaces +5 spaces: 855 SF/200 =5 spaces)
Training Room/Health Club #2 (1,883 SF)	10 spaces for each club or spa + 1 space/200 SF GFA in excess of 1,000 SF	15 spaces (10 spaces + 5 spaces: 883 SF/200 = 5 spaces)

Required Parking Equates to: 456 parking spaces

- Proposed – 384 spaces (existing + proposed), 10' X 20' (proposed spaces)
- Meets Requirement? – **TBD**

Attachment: SP #19-001 Hartland Sports Center staff report 022119 (2990 : Site Plan 19-001, Hartland Sports Center)

- **Comment – Planning Commission to determine if sufficient parking is provided.**
The parking calculations noted above are based on the standards provided in Section 5.11, for each use category. Section 5.8.4.H.i. indicates that “where more than one standard is provided for a particular use, the standard that provides the most parking spaces shall be used.” However, this same section further states that “the Planning Commission may modify the numerical requirements for off-street parking, based on evidence that another standard would be more reasonable, because of the level of current or future employment and/or level of current or future customer traffic.” As a result, the standard that provides the most number of parking spaces should be used per the Zoning Ordinance, which would require 456 parking spaces and the applicant is providing 384 parking spaces.

There appears to be a discrepancy between the applicant’s and staff’s parking calculations for the two ice rinks, which contributes to the difference in the total number of parking spaces (required versus proposed). As background information, both ice rinks are the same square footage (GFA) but have different number of seats. The parking formula for an ice rink has 2 standards; one is based on the number of seats and the other is based on the gross floor area on the rink. The standard that requires the most parking should be used.

Using the standard that requires the most parking spaces, Rink #1 requires 170 parking spaces (based on the number of seats) and Rink #2 requires 160 parking spaces (based on the gross floor area).

The applicant provided a letter that explains the typical level of use for the two ice rinks and his method for calculating the number of parking spaces. Per the letter, Rink #1, with 510 seats, is used for high school games, state play-off games and special events. On certain occasions Rink #1 is filled to capacity, with all seats occupied. Other events held at Rink #1 have an average of 100 spectators. Per the site plans, the applicant used the parking standard that requires the most parking (170 parking spaces), which is based on the number of seats.

Rink #2, with 120 seats, is used for youth hockey, adult leagues, and high school practices. Per the applicant Rink #2 draws less people and 120 seats are sufficient; thus he used the parking standard based on the number of seats which requires 40 parking spaces.

Historically concerns have been raised regarding overflow parking along one side of Arena Drive for events at Hartland Sports Center. The applicant speaks of this in the letter. Staff is aware of this issue and believes patrons are parking on Arena Drive instead of using available parking spaces around the building on the east, west, and north sides. The goal is to eliminate this issue, which may in part be solved with the additional on-site parking spaces. Staff also believes the situation may be helped if employees were encouraged to park on the east, west or north side of the building.

Based on evidence provided by the applicant, staff believes the proposed 384 parking spaces are sufficient and 456 parking spaces would require too many parking spaces. Per Section 5.8.4.H.i., the Planning Commission has the authority to modify the numerical requirements for off-street parking, based on evidence that another standard would be more reasonable because of current or future employment or level of customer traffic.

Barrier-Free Parking

- Required – 8 barrier-free spaces (for 384 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 – 8 barrier-free spaces, with 4 van-accessible, near the two entrances (existing and proposed building entrances)
- Meets Requirement? – Yes
- Comment – (none)

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

- Required – off-street parking in commercial, office, multiple-family, and industrial 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.

The following standards apply to the new parking area

Setback	Required	Proposed	Meets Requirements? (Y / N)
Front (west) Along Arena Drive ROW	10’	17’	Yes
Side (south)	10’	410’	Yes
Rear (east)	20’	20’	Yes

- Meets Requirement? – Yes
- Comment – (none)

Loading (Sec. 5.9) – Commercial uses

- Required – located in rear or side of the building being served; 1 loading space (10’ X 50’) required for first 5,000 square feet of gross floor area. Uses which exceed 60,000 gross square feet shall provide three (3) spaces, plus one (1) space per each additional 50,000 square feet gross floor area. Additional spaces required.
- Proposed – use of existing loading space on the north side of the existing building
- Meets Requirement? – Yes
- Comment – Staff believes adequate loading space exists on the site currently

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

Access to both parcels is via Arena Drive, a private road, which connects to Highland Road (M-59).

- Required – Per Section 5.10, the access location must be located to minimize interference with free movement of traffic and to reduce conflicts with existing access points on both sides of a roadway. Arena Drive is a private road. Section 5.10.5.C. may be the applicable section for commercial driveway standards. If the posted speed limit is 25 MPH, minimum spacing between commercial driveways is 125 feet.
- Proposed – the proposed driveway to the new parking area, via Arena Drive, is approximately 170 feet south of the existing driveway to Hartland Sports Center
- Meets Requirement? – Yes
- Comment – (none)

Attachment: SP #19-001 Hartland Sports Center staff report 022119 (2990 : Site Plan 19-001, Hartland Sports Center)

Landscaping and Screening (Sec. 5.11)

- A. Greenbelt Landscaping – to be located within the first 30 ft. of the property
- Required – 1 canopy tree for every 30 lineal ft. of lot frontage; plus 3 small deciduous ornamental trees or large deciduous or evergreen shrubs for the initial 40 ft. of lot frontage; and 1 additional small deciduous ornamental tree or large deciduous/evergreen shrub per 20 ft. thereafter. For 165 ft. of frontage along Arena Drive (new parcel). Equates to: 6 canopy trees and 9 additional ornamental trees, or large deciduous or evergreen shrubs REQUIRED
 - Proposed – 6 canopy trees and 9 large evergreen shrubs
 - Meets Requirement? – Yes
 - Comment – 3 canopy trees and 6 large evergreen shrubs are also proposed north of the new parcel, in a landscaped area adjacent to the parking lot. The applicant considered this as the Greenbelt area (90 ft. of frontage).
- B. Foundation Landscaping
- Required – must equal 60% of the front and sides of the proposed building where facing road or adjacent to parking lot; must be 8-10 ft. in width, and consist of 1 ornamental or columnar tree, and 6 medium or 8 small shrubs for every 30 ft. Foundation perimeter of building addition = 280 ft. (south, east, and west sides of building). 168 ft. X 60% = 168 ft. Equates to: 6 ornamental/columnar trees; PLUS 36 small shrubs or 48 medium shrubs REQUIRED
 - Proposed – 6 ornamental trees plus 36 medium shrubs shrubs (small and medium) provided in an approx. 8 ft. wide beds
 - Meets Requirement? – Yes
 - Comment – (none)
- C. Parking Lot Landscaping
- Required – landscaped endcaps in a row of 10 or more parking spaces; 1 canopy tree per 180 sq. ft. of interior area, with 50% of the interior area covered with small or medium shrubs and remaining area covered with combination of groundcover, perennials, annuals and mulch. Equates to: 16 endcaps with 16 trees and plants to provide minimum 50% coverage REQUIRED
 - Proposed – 16 trees with a combination of deciduous/coniferous shrubs and perennials that provide the required coverage
 - Meets Requirement? – Yes
 - Comment – (none)
- D. Perimeter Landscaping – Perimeter area along a private road (facing Arena Drive)
- Required – Landscape berm planted with a combination of evergreen and deciduous shrubs to effectively screen parking lot; or evergreen hedge row a minimum 3 ft. in height; or decorative screen wall
 - Proposed – evergreen hedge row minimum 3 ft. in height in landscaped area along Arena Drive adjacent to new parking area and parking within existing site (overlaps with Greenbelt Landscaping)
 - Meets Requirement – Yes
 - Comment – (none)
- E. Screening or Residential Districts
- Required – visual screen at least 8 ft. in height from a single-family residential zoned property and a non-residential use
 - Proposed – 10 evergreen trees (8 ft. in height) along the east property line (zoned CA), interspersed with existing trees that are to be retained
 - Meets Requirement? – Yes
 - Comment – (none)

- F. Screening of Ground Mounted Equipment
 - Required – screening on three sides for utility cabinets (if 30 inches or more in height)
 - Proposed – 1 transformer with 3 ft. high evergreen shrub screen (in new landscaped area adjacent to parking spaces along Arena Drive)
 - Meets Requirement? – Yes
 - Comment – (none)
- G. Detention/Retention Area Landscaping – N/A
- H. General Site Landscaping
 - Required – the applicant shall provide additional trees and shrubs equating to 25% of the minimum required for each Plant Material Category and used to further enhance the site's overall landscape plan
 - Proposed – applicant states an additional 25% plant material has been provided for each plant category
 - Meets Requirement? – Yes
 - Comment – (none)
- I. Other Comments
 - The proposed light poles in the new parking areas should be shown on the landscape plan in the construction set of drawings.

Sidewalks and Pathways (Sec. 5.12)

- Required – the Planning Commission may require sidewalks or safety paths as a condition of site plan approval
- Proposed – 7-ft. wide concrete sidewalks are proposed along the east and west sides of the building addition; a 5-ft. wide concrete sidewalk is shown on the south side of the building addition
- Meets Requirement? – Yes
- Comment – (none)

Lighting (Sec. 5.13)

- A. Intensity
 - Required – 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 main entry/exit drive; may not exceed 10 fc on site
 - Proposed – photometric plan indicates 0.0 fc along east property line and 0.7 fc along west property line; average of 2.7 fc in the parking area; average of 0.75 fc at new entry/exit drive off Arena Drive and 3.09 fc at entry/exit drive by proposed building addition; and average of 5.0 c at the building entrance. Footcandle value less than 10 fc throughout the site.
 - Meets Requirement? – Yes
 - Comment – (none)
- 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 – 25' total height
 - 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 pole fixtures and wall mounted fixtures are shown on the photometric plan; light fixtures are shielded and aimed downward; light pole is bronze in color
- Meets Requirement? – Yes
- Comment – Light poles are not shown on the landscape plans

Water Supply and Wastewater Disposal (Sec. 5.16)

The site is served by public water and sanitary sewer.

Architecture / Building Materials (Sec. 5.24)

Architecture Comments:

- Façade Materials Calculation – façade materials must comply with the specifications for a Façade Material Group listed in Section 5.24.14
- Staff did not make a determination as which to Façade Material Group was most applicable for the proposed addition, however it could be considered as Group #1A or Group #2. The Planning Commission could consider those options and make a determination. The façade materials and colors (earth tones) for the proposed building addition are intended to match the existing building. The proposed materials include ½ high C-Brick, 3"-insulated vertical metal panels, glass, and standing seam roof. Sheet A.210 provides a break-down of the façade materials for each elevation.
- Materials: percentages are listed for each elevation side; specifications on all materials are provided.
- Meets Requirement? – **TBD**
- Comment – **Planning Commission to determine if the proposed façade materials are acceptable. Historically the intent is to have building additions match existing façade materials (type and color).**

Signage (Sec. 5.26)

Signage drawings were not submitted. Proposed signage will be reviewed separately upon submittal of required application(s); approval of the site plan does not constitute approval of any signs.

Other Requirements-Zoning Ordinance Standards

Nothing additional at this time.

Hartland Township DPW Review

Please see the review from the Hartland Township DPW Director dated December 13, 2018 (attached). DPW approves the final site plans subject to the contingencies noted in his letter.

Hartland Township Engineer's Review (HRC)

The Township's Engineer (Hubbell, Roth, and Clark) has reviewed the plans and recommends site plan approval subject to items being addressed in the letter dated December 28, 2018.

Hartland Deerfield Fire Authority Review

Please see the review letter from the Hartland Deerfield Fire Authority's office dated January 9, 2019. The Fire Authority recommends site plan approval subject to the contingencies noted in his letter.

Recommended Motion for Site Plan #19-001 (Hartland Sports Center)

The Planning Department recommends the following motion to the Planning Commission for consideration:

Move to approve Site Plan #19-001 a request to construct an approximate 8,064 square foot addition to the existing Hartland Sports Center and construct additional parking areas. Approval is subject to the following conditions:

1. The applicant shall adequately address the outstanding items noted in the Planning Department's memorandum, dated February 21, 2019, on the Construction Plan set, subject to an administrative review by the Planning staff prior to the issuance of a land use permit.
2. Applicant complies with any requirements of the Department of Public Works Director, Township Engineering Consultant, and Hartland Deerfield Fire Authority.
3. The applicant shall comply with all other governmental agency requirements.
4. (Any other conditions the Planning Commission deems necessary)

Attachments:

1. Hartland Township DPW, Review letter dated December 13, 2018
2. Hartland Township Engineer (HRC), Review letter dated December 28, 2018
3. Hartland Deerfield Fire Authority, Review letter dated January 19, 2019
4. Letter from Boss Engineering, dated January 31, 2019
5. Applicant's Parking Calculations
6. Parking Easement Agreement
7. Color Rendering of Building Addition (*PDF version provided only*)
8. Site Plans, dated January 31, 2019

CC:

Mark Schaffer

HRC, Twp Engineer (via email)

R. West, Twp DPW Director (via email)

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

T:\PLANNING DEPARTMENT\PLANNING COMMISSION\2019 Planning Commission Activity\SP #19-001 Hartland Sports Center Expansion\ Staff Report\SP #19-001 Hartland Sports Center staff report 022119.docx

Attachment: SP #19-001 Hartland Sports Center staff report 022119 (2990 : Site Plan 19-001, Hartland Sports Center)


DEPARTMENT OF PUBLIC WORKS

2655 Clark Road
 Hartland MI 48353
 Phone: (810) 632-7498
 Fax: (810) 632-6950
 www.hartlandtwp.com

DECEMBER 13, 2018

HARTLAND SPORTS CENTER EXPANSION
 PID #4708-22-300-044

Construction Site Plans for the Ice Arena expansion include an established REU rate based upon 0.4 REU's per 1,000 square feet of space. The proposed addition per plans has been identified as approximately 8,000 square feet, resulting in an REU rating of 3.2

	Sewer REUs	Water REUs
Owned	27.32	30.13
Required	3.2*	3.2*
Cost Each	\$9,204.67	\$5,671.50
Total Due Each	\$29,454.94	\$18,148.80
TOTAL REU COST	\$47,603.74	

**Reu requirements based upon proposed addition only, and does not include surcharge*

DPW approves the plans provided the applicant secures the required REUS and includes the following details on all site and construction plans:

1. Water main material, sizes and connection detail sheet.
2. Water service lead location, size and materials including fittings.
3. Sanitary sewer material and sizes and connection detail sheet.
4. Monitoring manhole for sewer connection and location if required.
5. All existing hydrants within construction envelopes must be upgraded to model #EJ5BR.
6. Utility easements noted as public.
7. A note indicating all existing utility infrastructure within the development envelope will be required to be upgraded to the current design and engineering standards.

Please feel free to contact me with any further questions or comments regarding this matter, and thank you for your time.

Please feel free to contact me with any further questions or comments regarding this matter, and thank you for your time.

Robert M. West
 Public Works Director

**PRINCIPALS**

Daniel W. Mitchell
 Nancy M.D. Faught
 Keith D. McCormack
 Jesse B. VanDeCreek
 Roland N. Alix
 Michael C. MacDonald
 James F. Burton
 Charles E. Hart
 Todd J. Sneathen

CONTROLLER

Donna M. Martin

SENIOR ASSOCIATES

Gary J. Tressel
 Randal L. Ford
 William R. Davis
 Dennis J. Benoit
 Robert F. DeFrain
 Thomas D. LaCross
 Albert P. Mickalich
 Timothy H. Sullivan
 Thomas G. Maxwell

ASSOCIATES

Marshall J. Grazioli
 Colleen L. Hill-Stramsak
 Bradley W. Shepler
 Karyn M. Stickel
 Jane M. Graham
 Aaron A. Uranga
 Salvatore Conigliaro
 Melissa A. Coatta
 Michael P. Darga
 Brian K. Davies
 Matthew G. Slicker
 James J. Surhigh
 Trevor S. Wagenmaker

HUBBELL, ROTH & CLARK, INC.

STREET: 105 W. Grand River
 Howell, MI 48843

PHONE: 517-552-9199

WEBSITE: hrcenr.com

OTHER OFFICE LOCATIONS

Bloomfield Hills
 Delhi Township
 Detroit
 Grand Rapids
 Jackson
 Kalamazoo
 Lansing

December 28, 2018

Hartland Township
 2655 Clark Road
 Hartland, MI 48353

Attn: Mr. Troy Langer, Planning Director

Re: Site Plan Review 2
 Training Facility on Arena Drive
 Section 22, Hartland Township

HRC Job No. 20171218.20

Dear Mr. Langer:

As requested, this office has reviewed the proposed site plan for the above project as prepared by Boss Engineering (plans dated December 14, 2017). We have the following comments:

General

1. It appears that the following permits will be required for the proposed improvements: MDEQ Water Main Construction, LCDC SESC, and Livingston County Building.

Water Supply

1. This site will be required to extend the 12 inch water main from the property to the west to the east and southern boundary of this parcel or as required by the Department of Public Works. All proposed water main improvements must be designed in accordance with Hartland Township Engineering Design Standards.

Wastewater Disposal

1. The proposed sanitary sewer lead must meet Livingston County Drain Commissioner (LCDC) standards and will require their review approval.

Storm Water Management

1. All storm water improvements shall conform to LCDC and Hartland Township Engineering Design Standards.

Mr. Troy Langer, Planning Director
Arena Drive Training Facility
December 28, 2018
HRC Job Number 20171218.20
Page 2 of 2

2. It appears that the existing ponds are proposed to be used for storm water detention. Please provide information on the plans to verify that adequate volume for this site is provided in the existing pond.

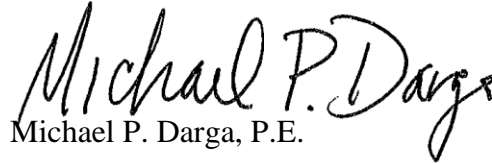
Paving & Grading

1. All paving and grading improvements shall conform to Hartland Township Engineering Design Standards.

Subject to the above items being addressed in the construction plans, we have no objections to the approval of the proposed site plan. One (1) set of construction plans should be submitted to this office for review and approval prior to the issuance of any building permits. If you have any questions or require any additional information, please contact the undersigned and 517-292-1485.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Michael P. Darga, P.E.

MPD/mpd

pc: Hartland Twp; M. Wyatt, B. West
HRC; R. Alix, File



FIRE MARSHALS OFFICE

Hartland Area Fire Dept.
3205 Hartland Road
Hartland, MI. 48353-1825

Voice: (810) 632-7676
Fax: (810) 632-2176
E-Mail: jwhitbeck@hartlandareafire.com

January 9, 2019

To: Planning Commission
2655 Clark Road
Hartland, MI 48353

Re: Ice Arena Locker Room Expansion

Based on the review of the site plans dated December 10, 2018 the following conditions are contingent for approval:

- 1) Two of the three fire hydrants as placed on the site plans will need to be moved.
 - a) Hydrant one on the South side of the building will need to be moved to the West side and placed in line with the parking stripes. This puts the hydrant on the same side as the FDC and accessible around parked vehicles.
 - b) Hydrant two is on the Southeast corner of the parking lot and needs to be moved to the front of the island so it is not buried during snow removal in the winter.
- 2) The current suppression system must continue into the expansion and be sent for review and approval to our third-party reviewer, Brighton Area Fire Department at 615 W Grand River Ave Brighton MI 48116.
- 3) As there is no layout for the proposed expansion, egress requirements for travel distance, fire extinguishers and emergency lighting with exit signage are required, but we cannot determine where, what and how much at this point.

Turning radius and roadway access around the building is acceptable and per code standard.

Should any changes happen to the current site plans, notification must be made to this office.

If you have any questions or I can be of further service please let me know.

Yours In Fire Safety,

Jenn Whitbeck
Fire Inspector

Attachment: 3. Hartland Deerfield Fire Authority review letter dated January 9, 2019 (2990 : Site Plan 19-001, Hartland Sports Center)



3121 E. Grand River Howell, MI 48843
 517.546.4836 fax 517.548.1670
 www.bosseng.com

RECEIVED
 JAN 31 2019
 HARTLAND TOWNSHIP

January 31, 2019

Hartland Township Planning Commission
 2655 Clark Rd
 Hartland, MI 48353

Re: Hartland Sports Center Addition

Dear Planning Commissioners,

As we have been working through the site plan review process with the Township Planner a concern has arisen in regard to the total number of parking spaces proposed and the ability to accommodate larger events at the facility.

Our client has discussed the proposed parking arrangement with his facility manager as well as Boss Engineering and GAV Associates and he feels the amount of parking being provided on the attached Site Plan set will sufficiently meet the parking requirements for the facility. In addition to meeting parking requirements (refer to calculations on Sheets 2 and 3 of the Site Plan set) an additional 34 spaces are being provided to address the concern of being able to accommodate parking during peak usage events.

Please feel free to contact us should you have any questions.

Regards,

BOSS ENGINEERING COMPANY

A handwritten signature in black ink, appearing to read "Cameron Horvath".

Cameron Horvath, PLA
 Project Manager, Associate

Attachment: 4. Letter from Boss Engineering dated January 31, 2019 : Site Plan 19-001, Hartland Sports Center)



RECEIVED

JAN 31 2019

HARTLAND TOWNSHIP

Dear Troy,

I would like to give you a brief explanation of how we arrived at our parking calculations. As you know the pond rink is set up with 120 seats which is based on our 3 primary use groups; youth hockey, adult league, and high school practices. Youth hockey having the only group with spectators based on 16 players per team times 2 plus the possibility of 2 parents per player equals 64 spectators with 120 seats being more than adequate. Calculating 120 seats divided by 3 equals 40 parking spaces. The stadium rink is set up with 510 seats to accommodate our high school games. The majority of high school games typically we will see parents and a handful of students on average could require approximately 100 seats. A few times per season Hartland High School has the potential of filling all 510 seats in the state play offs and 1 time per year we host a Red Wings Alumni event which also can fill all 510 seats. We have experienced over flow parking whereas spectators will park on one side of Arena Dr. estimating the road length at approximately 900 feet divided by 28 feet per car parked parallel equals the potential of 32 cars. Despite some rumors we do not feel we have ever experienced cars parked the entire 900 feet to M59. With this in mind we have included above the parking calculations per the ordinance an additional 34 spots. Please keep in mind with 16 years of history we truly believe 360 days of the year 70% of our parking spaces sit empty. I hope this helps, if you have any questions feel free to contact me by phone or email.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Schaffer', written over a horizontal line.

Mark Schaffer

248-249-5362

Mshafe7@gmail.com

2755 ARENA DR. HARTLAND, MICHIGAN 48353

EASEMENT AGREEMENT

This Easement Agreement ("Agreement") is made this _____ day of _____, 2019, by Hartland Sports Center, LLC, a Michigan limited liability company whose address is 10540 Citation Dr., Brighton, Michigan 48116 (hereinafter referred to as "Hartland Sports Center"), and Diamond Investment Group, LLC, a Michigan limited liability company whose address is 10540 Citation Dr., Brighton, Michigan 48116 (hereinafter referred to as "Diamond Investment Group"), for the purpose of granting reciprocal access and parking rights upon the following terms and conditions:

1. Property affected. Hartland Sports Center is the owner of a parcel of commercial property located at 2755 Arena Dr., Hartland, MI ("Parcel A"), which is more particularly described on the attached Exhibit A. Diamond Investment Group is the owner of commercial property also on Arena Drive ("Parcel B"), more particularly described on the attached Exhibit B. Both Parcel A and Parcel B are located within Hartland Township.
2. Easement granted. In consideration of the mutual covenants contained herein, Diamond Investment Group hereby grants for the benefit of the owners and occupiers of Parcel A and its employees, agents, invitees, representatives, and customers an irrevocable, nonexclusive and perpetual easement ("Easement") over the parking areas, driveways, access drives, and sidewalks located on Parcel B, as shown on the attached Exhibit C.
3. Interest in real property. The Easement stated in this Agreement is for the benefit of Parcel A and to the burden of Parcel B. The Easement shall be deemed to be appurtenant to and run with the land of both Parcel A and Parcel B.
4. Maintenance. Hartland Sports Center, and its successors or assigns, shall bear the full cost of repairing and maintaining the parking areas, driveways, and access drives on the Easement. Diamond Investment Group, and its successors or assigns, shall not impede normal access to and across the Easement.
5. Insurance. The parties shall each carry adequate liability insurance coverage against claims for personal injury and/or property damage arising from accidents or other events occurring within or upon the Easement.
6. Indemnification. The owner of the each Parcel agrees to indemnify and hold the owner of the other Parcel harmless from any and all claims, debts, causes of actions, or judgments for any damage to any property or injury to any person that may arise out of any of the owner of the benefited Parcel's actions within, use of, or around the Easement, by themselves, their agents, employees, representatives, and contractors. This provision shall survive the termination of this Agreement.
7. Jurisdiction and venue. Any disputes under this conveyance shall be subject to the

laws of the State of Michigan and venue for any disputes shall lie in Livingston County, Michigan.

8. Severability. If any term, covenant, or condition of this Agreement or the application of which to any party or circumstance shall be to any extent invalid or unenforceable, the remainder of this Agreement, or the application of such term, covenant, or condition to persons or circumstances other than those to which it is held invalid or unenforceable, shall be effective, and each term, covenant, or condition of this Agreement shall be valid and enforced to the fullest extent permitted by law.
9. Notice. Except as otherwise provided, all notices required under this Agreement shall be effective only if in writing or in a form of electronic or facsimile transmission which provides evidence of receipt, and shall be either personally served, electronically transmitted, or sent with postage prepaid to the appropriate party at its address as set forth in the introductory paragraph of this Agreement. Either party may change its address by giving notice of the change or a new facsimile transmission number to the other as provided in this section.
10. Entire agreement. This Agreement and all exhibits constitute the entire agreement between the parties with respect to the subject matter of this Agreement, and all prior negotiations and agreements with respect to the Easement between the parties, whether written or oral, shall be of no further force and effect. This Agreement may not be modified except by a written document.
11. Exhibits. Three Exhibits are attached to and are a part of this Agreement.
12. Amendment. This Agreement may only be amended, terminated, released, relinquished or altered by a recorded, written instrument executed by each of the parties hereto or their respective successors or assigns, and consented to in such instrument by the Township of Hartland (the "Township"), Livingston County, Michigan, which consent shall not be unreasonably withheld. Any such instrument lacking the signed written consent of the Township shall be of no effect.
13. Third Party Beneficiary. The Township is an express third party beneficiary of this Agreement, and may enforce the terms of this Agreement in any appropriate forum.

This Agreement is exempt from transfer tax under MCL 207.505(a) and MCL 207.526(a) because the value of the consideration is less than \$100.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

Hartland Sports Center, LLC

By: _____
Its: _____

STATE OF MICHIGAN)
) SS
COUNTY OF LIVINGSTON)

The foregoing document was acknowledged before me this _____ day of _____, 2019,
by _____, on behalf of Hartland Sports Center, LLC.

Notary Public
Livingston County, Michigan
My Commission Expires: _____

Diamond Investment Group, LLC

By: _____
Its: _____

STATE OF MICHIGAN)
) SS
COUNTY OF LIVINGSTON)

The foregoing document was acknowledged before me this _____ day of _____, 2019,
by _____, on behalf of Diamond Investment Group, LLC.

Notary Public
Livingston County, Michigan
My Commission Expires: _____

DRAFTED BY AND WHEN RECORDED RETURN TO:
Alexander R. Reuter, ESQ.
7900 Grand River, Brighton, MI 48114, 810-227-3103

18461:00003:4054693-1

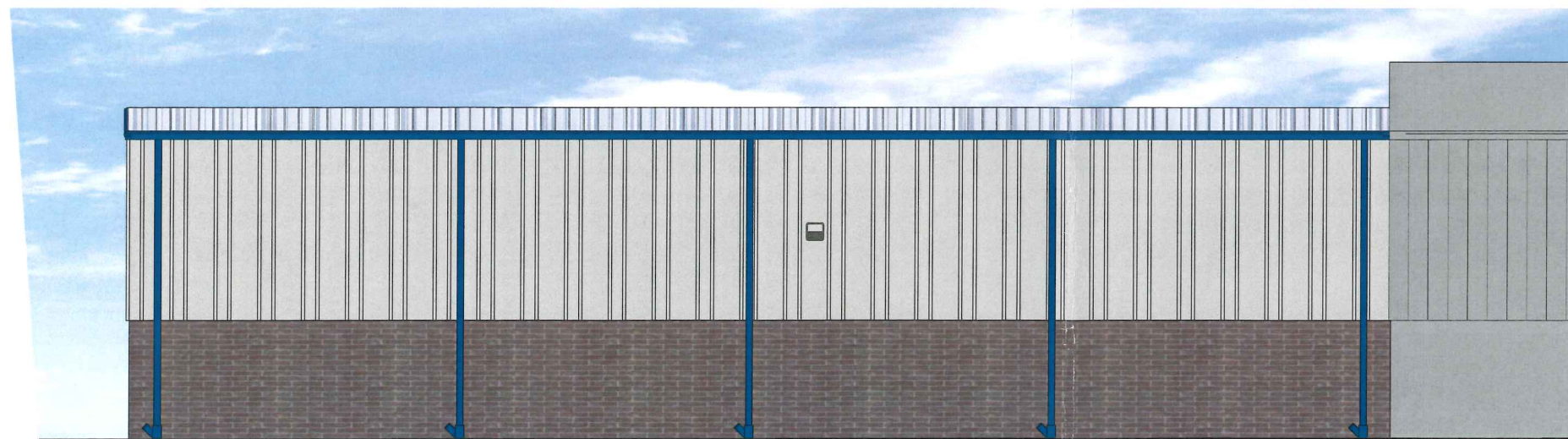
Attachment: 6. Parking Easement Agreement (2990 : Site Plan 19-001, Hartland Sports Center)



SOUTH ELEVATION



WEST ELEVATION



EAST ELEVATION

PROPOSED ADDITION TO:
 HARTLAND ICE ARENA
 HARTLAND, MICHIGAN

-GAV ASSOCIATES, INC.
 ARCHITECTURAL DESIGN
 24001 ORCHARD LAKE RD.
 FARMINGTON, MI 48336
 PHONE: (248)-985-9101

SITE PLAN FOR HARTLAND SPORTS CENTER EXPANSION PART OF THE SW QUARTER, SECTION 22 HARTLAND TOWNSHIP, LIVINGSTON COUNTY, MI

PROPERTY DESCRIPTION:

DESCRIPTION OF PARCEL #4708-22-300-013 (AKA PARCEL "A") PER BOSS ENGINEERING SURVEY, JOB NO. 79121, DATED OCTOBER 23, 1979, AS RECORDED IN LIBER 965, PAGE 367, LIVINGSTON COUNTY RECORDS:

Parcel "A": A part of the Southwest 1/4 of Section 22, T3N-R6E, Hartland Township, Livingston County, Michigan, described as follows: Commencing at the West 1/4 corner of said Section; thence S 88°15'20" E along the East-West 1/4 line, 2247.00 feet; thence S 01°35'18" W, 634.84 feet; thence S 88°15'20" E, 66.63 feet to the Point of Beginning of the parcel to be described; thence continuing S 88°15'20" E, 210.02 feet; thence S 01°32'53" W, 603.02 feet; thence S 84°26'10" W, 212.09 feet; thence N 01°32'53" E, 630.00 feet to the Point of Beginning, containing 2.98 acres more or less and including the use of an easement for ingress and egress and public utilities as described and recorded in Liber 965, Page 367, Livingston County Records.

NOTE: THE ABOVE DESCRIBED PARCEL DOES NOT FORM A MATHEMATICAL CLOSURE BY 0.44 FEET, IN AN EAST-WEST DIRECTION.

DESCRIPTION OF PARCEL #4708-22-300-044, (AKA PARCEL 2) PER ADVANTAGE CIVIL ENGINEERING SURVEY, JOB NO. 02146, DATED 12-5-02, LAST REVISED 3-28-03, AS RECORDED IN LIBER 3930, PAGE 392, LIVINGSTON COUNTY RECORDS:

PART OF THE SOUTHWEST 1/4 OF SECTION 22, T3N-R6E, HARTLAND TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN BEING DESCRIBED AS FOLLOWS: COMMENCING AT THE WEST 1/4 CORNER OF SECTION 22, T3N-R6E, THENCE ALONG THE EAST-WEST 1/4 LINE OF SAID SECTION 22, S 88°15'20" E, 1969.87 FEET (RECORDED AS 1970.00 FEET) TO THE POINT OF BEGINNING OF THE PARCEL TO BE DESCRIBED; THENCE CONTINUING ALONG THE EAST-WEST 1/4 LINE OF SAID SECTION 22, S 88°15'20" E, 553.63 FEET; THENCE S 01°32'53" W, 634.02 FEET; THENCE N 88°15'20" W, 554.08 FEET; THENCE N 01°35'18" E, 634.02 FEET TO POINT OF BEGINNING AND CONTAINING 8.06 ACRES, MORE OR LESS. INCLUDING THE USE OF A PRIVATE EASEMENT FOR INGRESS, EGRESS, AND PUBLIC UTILITIES AS RECORDED IN LIBER 965, PAGES 367-368, LIVINGSTON COUNTY RECORDS. ALSO SUBJECT TO ANY OTHER EASEMENTS OR RESTRICTIONS OF RECORD, IF ANY.

TOTAL ACREAGE= 11.04 AC

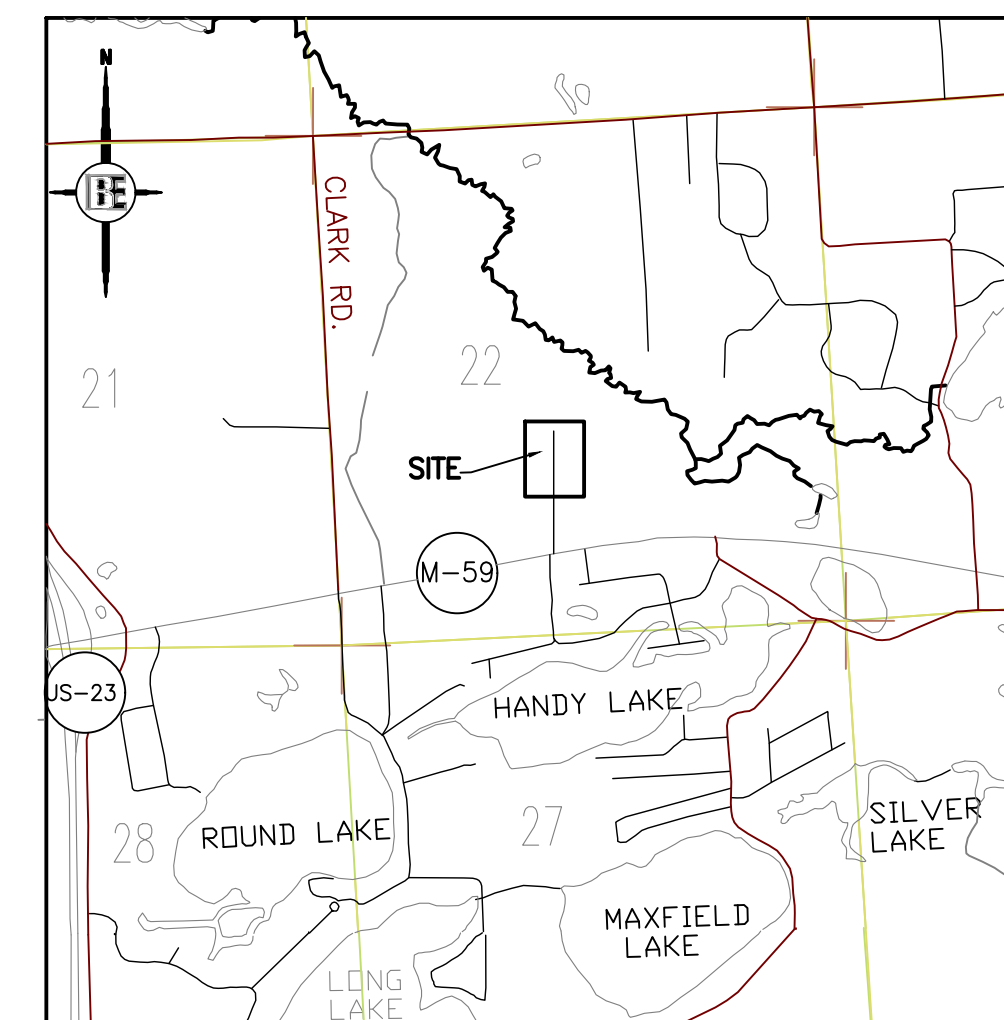
CONSTRUCTION NOTES

THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING NOTES AND ANY WORK INVOLVED SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

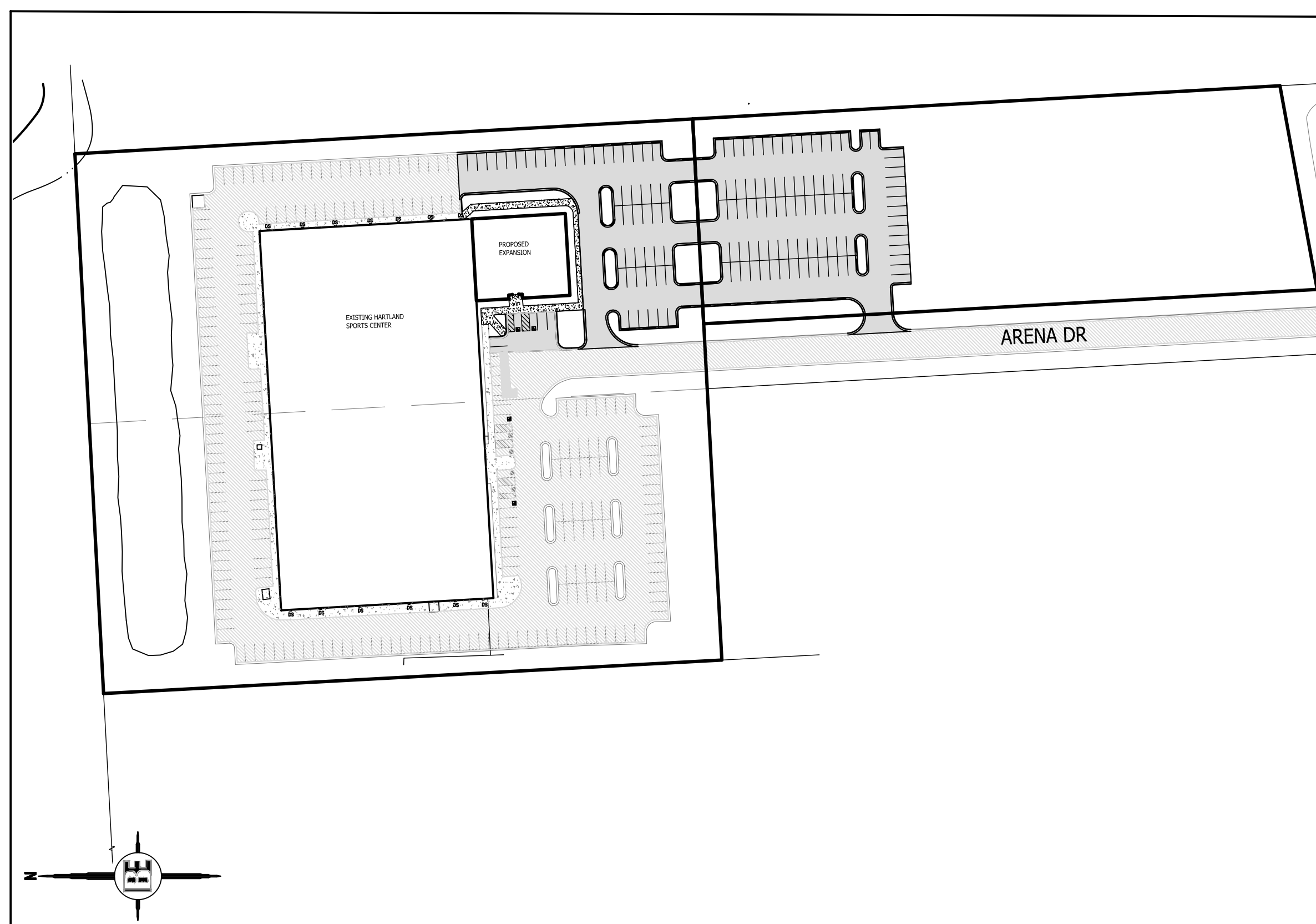
1. THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.
2. DO NOT SCALE THESE DRAWINGS AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
3. A GRADING PERMIT FOR SOIL EROSION-SEDIMENTATION CONTROL SHALL BE OBTAINED FROM THE GOVERNING AGENCY PRIOR TO THE START OF CONSTRUCTION.
4. IF DUST PROBLEM OCCURS DURING CONSTRUCTION, CONTROL WILL BE PROVIDED BY AN APPLICATION OF WATER, EITHER BY SPRINKLER OR TANK TRUCK.
5. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS AND SPECIFICATIONS.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED TOWNSHIP, COUNTY, AND STATE OF MICHIGAN PERMITS.
7. PAVED SURFACES, WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES SHALL BE MAINTAINED IN A SAFE, ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED.
8. ALL BARRIER-FREE FEATURES SHALL BE CONSTRUCTED TO MEET ALL LOCAL, STATE AND A.D.A. REQUIREMENTS.
9. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON BEFORE BEGINNING CONSTRUCTION.
10. THE CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHTS-OF-WAY, PUBLIC OR PRIVATE, PRIOR TO THE START OF CONSTRUCTION.
11. THE CONTRACTOR SHALL COORDINATE WITH ALL OWNERS TO DETERMINE THE LOCATION OF EXISTING LANDSCAPING, IRRIGATION LINES & PRIVATE UTILITY LINES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING LANDSCAPING, IRRIGATION LINES, AND PRIVATE UTILITY LINES.
12. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT.
13. THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
14. THE CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
15. THE CONTRACTOR SHALL CALL MISS DIG A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
16. ALL EXCAVATION UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED SHALL BE BACKFILLED AND COMPACTED WITH SAND (MDOT CLASS II).
17. ALL PAVEMENT REPLACEMENT AND OTHER WORKS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, INCLUDING THE LATEST MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
18. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
19. NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO THE MATERIAL SHORTAGES OR RESPONSIBLE DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DOING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE SPECIFICATION OR FOR ANY REASONABLE DELAYS IN CONSTRUCTION DUE TO THE ENCOUNTERING OR EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.
20. DURING THE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT.
21. IF WORK EXTENDS BEYOND NOVEMBER 15, NO COMPENSATION WILL BE DUE TO THE CONTRACTOR FOR ANY WINTER PROTECTION MEASURES THAT MAY BE REQUIRED BY THE ENGINEER.
22. NO TREES ARE TO BE REMOVED UNTIL MARKED IN THE FIELD BY THE ENGINEER.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE CONSTRUCTION LIMITS INCLUDING BUT NOT LIMITED TO EXISTING FENCE, LAWN, TREES AND SHRUBBERY.
24. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE NORMAL CONSTRUCTION LIMITS OF THE PROJECT SHALL BE SODED OR SEEDS AS SPECIFIED OR DIRECTED BY THE ENGINEER.
25. ALL ROOTS, STUMPS AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED AND THE HOLE BACKFILLED WITH SUITABLE MATERIAL. WHERE GRADE CORRECTION IS REQUIRED, THE SUBGRADE SHALL BE CUT TO CONFORM TO THE CROSS-SECTION AS SHOWN IN THE PLANS.
26. TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SIGNS AND TRAFFIC CONTROL DEVICES. FLAG PERSONS SHALL BE PROVIDED BY THE CONTRACTOR IF DETERMINED NECESSARY BY THE ENGINEER. ALL SIGNS SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AT NO COST TO THE TOWNSHIP. NO WORK SHALL BE DONE UNLESS THE APPROPRIATE TRAFFIC CONTROL DEVICES ARE IN PLACE.
27. ALL DEMOLISHED MATERIALS AND SOIL SPOILS SHALL BE REMOVED FROM THE SITE AT NO ADDITIONAL COST, AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
28. AFTER REMOVAL OF TOPSOIL, THE SUBGRADE SHALL BE COMPACTED TO 95% OF ITS UNIT WEIGHT.
29. ALL GRADING IN THE PLANS SHALL BE DONE AS PART OF THIS CONTRACT. ALL DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SUBGRADE PRIOR TO COMPACTING.
30. NO SEEDING SHALL BE DONE AFTER OCTOBER 15 WITHOUT APPROVAL OF THE ENGINEER.
31. ANY EXISTING APPURTENANCES SUCH AS MANHOLES, GATE VALVES, ETC. SHALL BE ADJUSTED TO THE PROPOSED GRADE AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
32. SOIL EROSION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION HAS BEEN RE-ESTABLISHED.
33. ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE MICHIGAN MUTCD MANUAL AND SHALL BE INCIDENTAL TO THE CONTRACT.

INDEMNIFICATION STATEMENT

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.



LOCATION MAP



OVERALL SITE MAP

NO SCALE

ARCHITECT

GAV & ASSOCIATES
24001 ORCHARD LAKE ROAD
SUITE 180A
FARMINGTON HILLS, MI 48336
CONTACT: MR. AL VALENTINE
PHONE: (248) 985-9101



HARTLAND SPORTS CENTER EXPANSION

PREPARED FOR:

SCHAFFER LAND COMPANY
10540 CITATION DRIVE
BRIGHTON, MI 48116
CONTACT: MR. MARK SCHAFFER
810.229.6087

PREPARED BY:



Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.456.4836 FAX 517.548.1670
CONTACT: CAMERON HORVATH

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS & DEMOLITION PLAN
2A	TREE REMOVAL PLAN
3	SITE PLAN
4	GRADING, DRAINAGE & SOIL EROSION CONTROL PLAN
5	UTILITY PLAN
6	LANDSCAPE PLAN
7	LIGHTING PLAN
8	CONSTRUCTION DETAILS & NOTES/STORM CALCULATIONS
9	HARTLAND TOWNSHIP STORM DETAILS
10	HARTLAND TOWNSHIP STORM DETAILS
11	HARTLAND TOWNSHIP PAVING DETAILS
12	HARTLAND TOWNSHIP WATER MAIN DETAILS
13	LIVINGSTON COUNTY DRAIN COMMISSION SANITARY SEWER DETAILS
SHEET NO.	DRAWINGS BY OTHERS- ARCHITECT
A.101	FLOOR PLANS
A.201	EXTERIOR ELEVATIONS

FOR SITE PLAN APPROVAL ONLY!
NOT FOR CONSTRUCTION

				1
2	CH	BL	PER TOWNSHIP REVIEW	1-31-19
1	CH	BL	PER TOWNSHIP REVIEW	1-15-19
NO	BY	CK	REVISION	DATE
				ISSUE DATE: 12-10-18
				JOB NO. 18-412

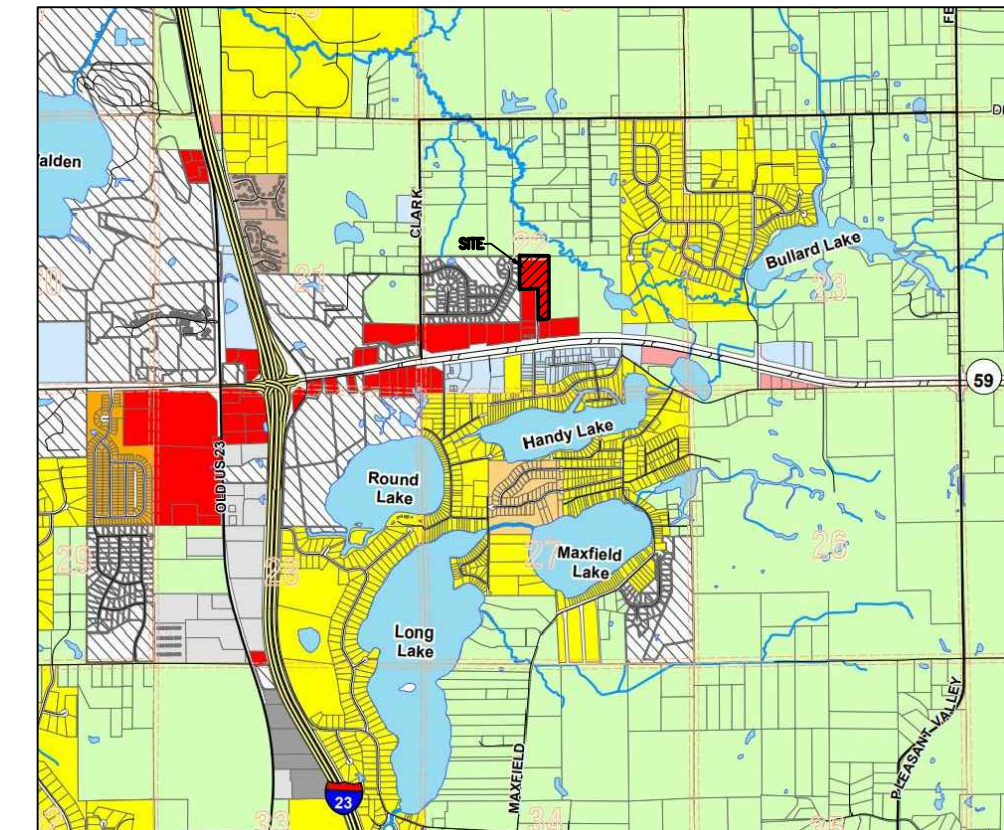


DESCRIPTION OF PARCEL #4708-22-300-013 (AKA PARCEL "A") PER BOSS ENGINEERING SURVEY, JOB NO. 79121, DATED OCTOBER 23, 1979, AS RECORDED IN LIBER 965, PAGE 367, LIVINGSTON COUNTY RECORDS:
 Parcel "A": A part of the Southwest 1/4 of Section 22, T3N-R6E, Hartland Township, Livingston County, Michigan, described as follows: Commencing at the West 1/4 corner of said Section; thence S 88°15'20" E along the East-West 1/4 line, 634.84 feet; thence S 01°35'18" W, 634.84 feet; thence S 88°15'20" E, 66.63 feet to the Point of Beginning of the parcel to be described; thence continuing S 88°15'20" E, 210.02 feet; thence S 01°32'53" W, 603.02 feet; thence S 84°26'10" W, 212.09 feet; thence N 01°32'53" E, 630.00 feet to the Point of Beginning, containing 2.98 acres more or less and including the use of an easement for ingress and egress and public utilities as described and recorded in Liber 965, Page 367, Livingston County Records.
 NOTE: THE ABOVE DESCRIBED PARCEL DOES NOT FORM A MATHEMATICAL CLOSURE BY 0.44 FEET, IN AN EAST-WEST DIRECTION.

DESCRIPTION OF PARCEL #4708-22-300-044, (AKA PARCEL 2) PER ADVANTAGE CIVIL ENGINEERING SURVEY, JOB NO. 02146, DATED 12-5-02, LAST REVISED 3-28-03, AS RECORDED IN LIBER 3930, PAGE 392, LIVINGSTON COUNTY RECORDS:
 PART OF THE SOUTHWEST 1/4 OF SECTION 22, T3N-R6E, HARTLAND TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN BEING DESCRIBED AS FOLLOWS: COMMENCING AT THE WEST 1/4 CORNER OF SECTION 22, T3N-R6E, THENCE ALONG THE EAST-WEST 1/4 LINE OF SAID SECTION 22, S 88°15'20" E, 1969.87 FEET (RECORDED AS 1970.00 FEET) TO THE POINT OF BEGINNING OF THE PARCEL TO BE DESCRIBED; THENCE CONTINUING ALONG THE EAST-WEST 1/4 LINE OF SAID SECTION 22, S 88°15'20" E, 553.63 FEET; THENCE S 01°32'53" W, 634.02 FEET; THENCE N 88°15'20" W, 554.08 FEET; THENCE N 01°35'18" E, 634.02 FEET TO POINT OF BEGINNING AND CONTAINING 8.06 ACRES, MORE OR LESS. INCLUDING THE USE OF A PRIVATE EASEMENT FOR INGRESS, EGRESS, AND PUBLIC UTILITIES AS RECORDED IN LIBER 965, PAGES 367-368, LIVINGSTON COUNTY RECORDS. ALSO SUBJECT TO ANY OTHER EASEMENTS OR RESTRICTIONS OF RECORD, IF ANY.

GENERAL SURVEY NOTES:

1. TOPOGRAPHICAL SURVEY IS BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM (SOUTH ZONE). RECORD BEARINGS, AS SHOWN ON THIS DRAWING, ARE PER BOSS ENGINEERING SURVEY, JOB NO. 79121, DATED OCTOBER 23, 1979, AS RECORDED IN LIBER 965, PAGE 367, LIVINGSTON COUNTY RECORDS. THE TAX DESCRIPTION FOR PARCEL #4708-22-300-013 DESCRIBES THE SAME PROPERTY AS PARCEL "A" OF THE ABOVE MENTIONED BOSS SURVEY. BOTH DESCRIPTIONS USE THE SAME BEARINGS AND DISTANCES AND DO NOT FORM A MATHEMATICAL CLOSURE BY 0.44 FEET, IN AN EAST-WEST DIRECTION.
2. SUBSURFACE UTILITIES NOT LOCATED FOR THIS SURVEY MAY EXIST. IT IS THE RESPONSIBILITY OF THE OWNER OF THE RESPECTIVE UTILITY TO ACCURATELY LOCATE SUCH UTILITIES.
3. EASEMENTS OR RESTRICTIONS OF RECORD NOT DEPICTED ON THIS DRAWING MAY EXIST.
4. ELEVATIONS WERE ESTABLISHED WITH GPS USING OPUS. (NAVD88 DATUM)
5. CONTOURS ARE SHOWN AT 1 FOOT INTERVALS.
6. FOR TREE REMOVAL PLAN SEE SHEET 2A.



HARTLAND TOWNSHIP ZONING MAP

EXISTING PARKING CALCULATIONS
 PLEASE REFER TO ARCHITECTURAL PLAN SHEET A.101 FOR INTERIOR USE AREAS.

THE EXISTING DEVELOPMENT CONTAINS THE FOLLOWING USES (FOR WHICH CALCULATIONS HAVE BEEN PROVIDED).

- ICE RINK #1 "STADIUM": ONE PARKING SPACE FOR EACH 3 SEATS PROVIDED: 510 SEATS / 3 = 170 PARKING SPACES
- ICE RINK #2 "POND": ONE PARKING SPACE FOR EACH 3 SEATS PROVIDED: 120 SEATS / 3 = 40 SPACES
- GYMNASTIC STADIUM: ONE PARKING SPACE FOR EACH 10 LF OF BENCH PROVIDED: 150 LF OF BENCH / 10 = 15 SPACES
- PRO SHOP (RETAIL SALES): ONE PARKING SPACE / 300 SQFT OF GROSS FLOOR AREA PROVIDED: 1,314 SQFT / 300 = 5 SPACES
- RESTAURANT WITH LIQUOR LICENSE: TWENTY TWO SPACES PER 1,000 SQFT OF USABLE AREA, OR .6 SPACES PER SEAT, WHICHEVER IS GREATER REQUIRED: 3,120 / 1000 = 4 X 22 SPACES = 88 SPACES PROVIDED: 83
- DANCE ROOM (USED DANCE HALL AS REFERENCE): ONE PARKING SPACE FOR EACH 100 SQFT OF GROSS FLOOR AREA PROVIDED: 698 SQFT / 100 = 7 SPACES

***AS A CAVEAT TO THE CALCULATIONS PROVIDED TO THE LEFT ONE MUST REMEMBER THAT INTERNAL USES TO THE SPORTS CENTER SUCH AS THE RESTAURANT ARE NOT DESTINATIONS SIMILAR TO A TYPICAL RESTAURANT. THE VAST MAJORITY OF ALL USERS TO THE RESTAURANT ARE AT THE FACILITY FOR OTHER REASONS SUCH AS TO OBSERVE A SPORTING EVENT. THEY THEN ALSO USE THE RESTAURANT IN CONJUNCTION WITH THE RESTAURANT, HAVING A SEATING CAPACITY OF 84. REQUIRES 88 SPACES WHICH IS VERY CONSERVATIVE. ONCE THESE FACTORS ARE TAKEN INTO ACCOUNT THE REQUIRED AMOUNT OF PARKING IS THEN MET.**

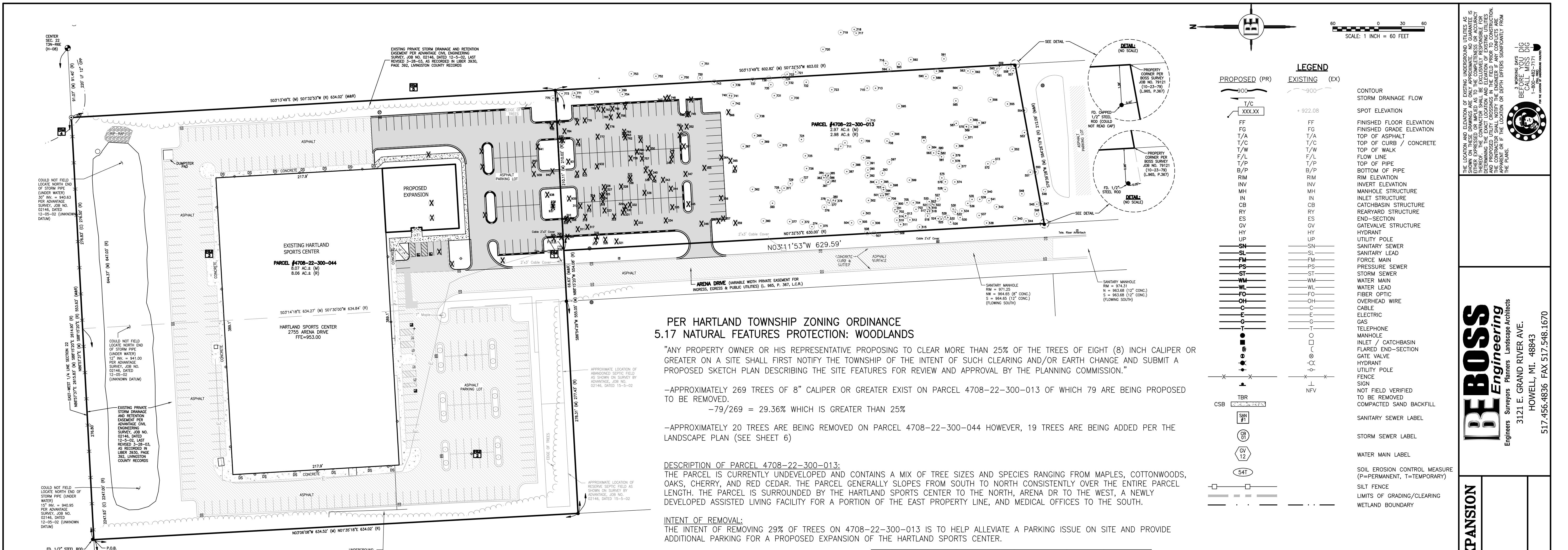
SOILS INFORMATION:

- FoB - FOX SANDY LOAM; 2%-6% SLOPES
- FoC - FOX SANDY LOAM; 6%-12% SLOPES
- Gd - GILFORD SANDY LOAM; 0%-2% SLOPES
- MoB - WAWASEE LOAM; 2%-6% SLOPES
- OaB - OAKVILLE FINE SAND; 0%-6% SLOPES

SITE BENCHMARKS (NAVD88 DATUM):

- BENCHMARK #1: NW COR. TRANS PAD, 45± SW OF SW COR. OF EASTERLY PARKING LOT. ELEV. = 954.99
- BENCHMARK #2: "X" ON TOP OF CONC. BASE S/S LIGHT POLE, 96± SOUTH OF SW COR. EXISTING BUILDING. ELEV. = 955.04
- BENCHMARK #3: "X" NE COR. OF CONCRETE, N/S BUILDING, 105± WEST OF THE NE COR. OF BUILDING. ELEV. = 952.56
- BENCHMARK #4: MAG NAIL SET IN TREE, 23± NW OF THE NE PROPERTY CORNER. ELEV. = 949.83
- BENCHMARK #5: NAIL/BOSS TAG SET W/S 12" TREE, 47± SOUTH AND 104± EAST OF THE SE COR. OF BUILDING. ELEV. = 954.02

STORM CATCH BASIN #1		STORM CATCH BASIN #5		STORM CATCH BASIN #9		STORM CATCH BASIN #12		STORM CATCH BASIN #14		STORM CATCH BASIN #16		STORM CATCH BASIN #19	
RIM = 972.52	E = 968.62 (12" CONC.)	RIM = 956.28	E = 951.86 (15" CMP)	RIM = 950.95	E = 947.00 (12" CONC.)	RIM = 950.42	E = 949.87	RIM = 949.87	E = 949.87	RIM = 950.69	E = 947.49 (6" CPP)	RIM = 949.93	E = 949.93
W = 967.96 (12" CONC.)	N = 967.53 (12" CPP)	RIM = 954.22	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.60	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 952.51	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 949.59	E = 945.50 (12" CONC.)	RIM = 949.59	E = 947.40 (6" CPP)	RIM = 949.93	E = 949.93
W = 961.24 (12" CONC.)	N = 961.74 (12" CPP)	RIM = 950.76	E = 949.57 (18" CONC.)	RIM = 950.96	E = 949.82 (15" CPP)	RIM = 950.96	E = 949.82 (1						



PER HARTLAND TOWNSHIP ZONING ORDINANCE 5.17 NATURAL FEATURES PROTECTION: WOODLANDS

"ANY PROPERTY OWNER OR HIS REPRESENTATIVE PROPOSING TO CLEAR MORE THAN 25% OF THE TREES OF EIGHT (8) INCH CALIPER OR GREATER ON A SITE SHALL FIRST NOTIFY THE TOWNSHIP OF THE INTENT OF SUCH CLEARING AND/OR EARTH CHANGE AND SUBMIT A PROPOSED SKETCH PLAN DESCRIBING THE SITE FEATURES FOR REVIEW AND APPROVAL BY THE PLANNING COMMISSION."

-APPROXIMATELY 269 TREES OF 8" CALIPER OR GREATER EXIST ON PARCEL 4708-22-300-013 OF WHICH 79 ARE BEING PROPOSED TO BE REMOVED.
-79/269 = 29.36% WHICH IS GREATER THAN 25%

-APPROXIMATELY 20 TREES ARE BEING REMOVED ON PARCEL 4708-22-300-044 HOWEVER, 19 TREES ARE BEING ADDED PER THE LANDSCAPE PLAN (SEE SHEET 6)

DESCRIPTION OF PARCEL 4708-22-300-013:
THE PARCEL IS CURRENTLY UNDEVELOPED AND CONTAINS A MIX OF TREE SIZES AND SPECIES RANGING FROM MAPLES, COTTONWOODS, OAKS, CHERRY, AND RED CEDAR. THE PARCEL GENERALLY SLOPES FROM SOUTH TO NORTH CONSISTENTLY OVER THE ENTIRE PARCEL LENGTH. THE PARCEL IS SURROUNDED BY THE HARTLAND SPORTS CENTER TO THE NORTH, ARENA DR TO THE WEST, A NEWLY DEVELOPED ASSISTED LIVING FACILITY FOR A PORTION OF THE EAST PROPERTY LINE, AND MEDICAL OFFICES TO THE SOUTH.

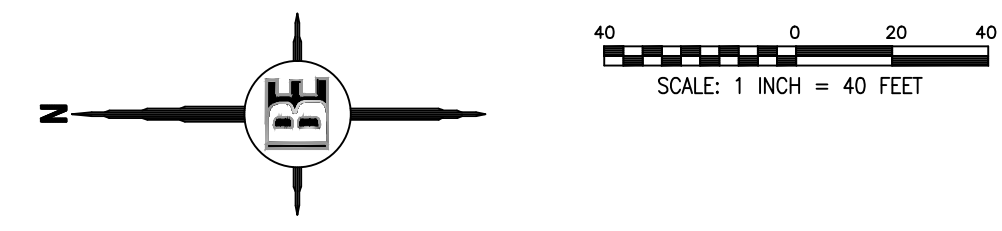
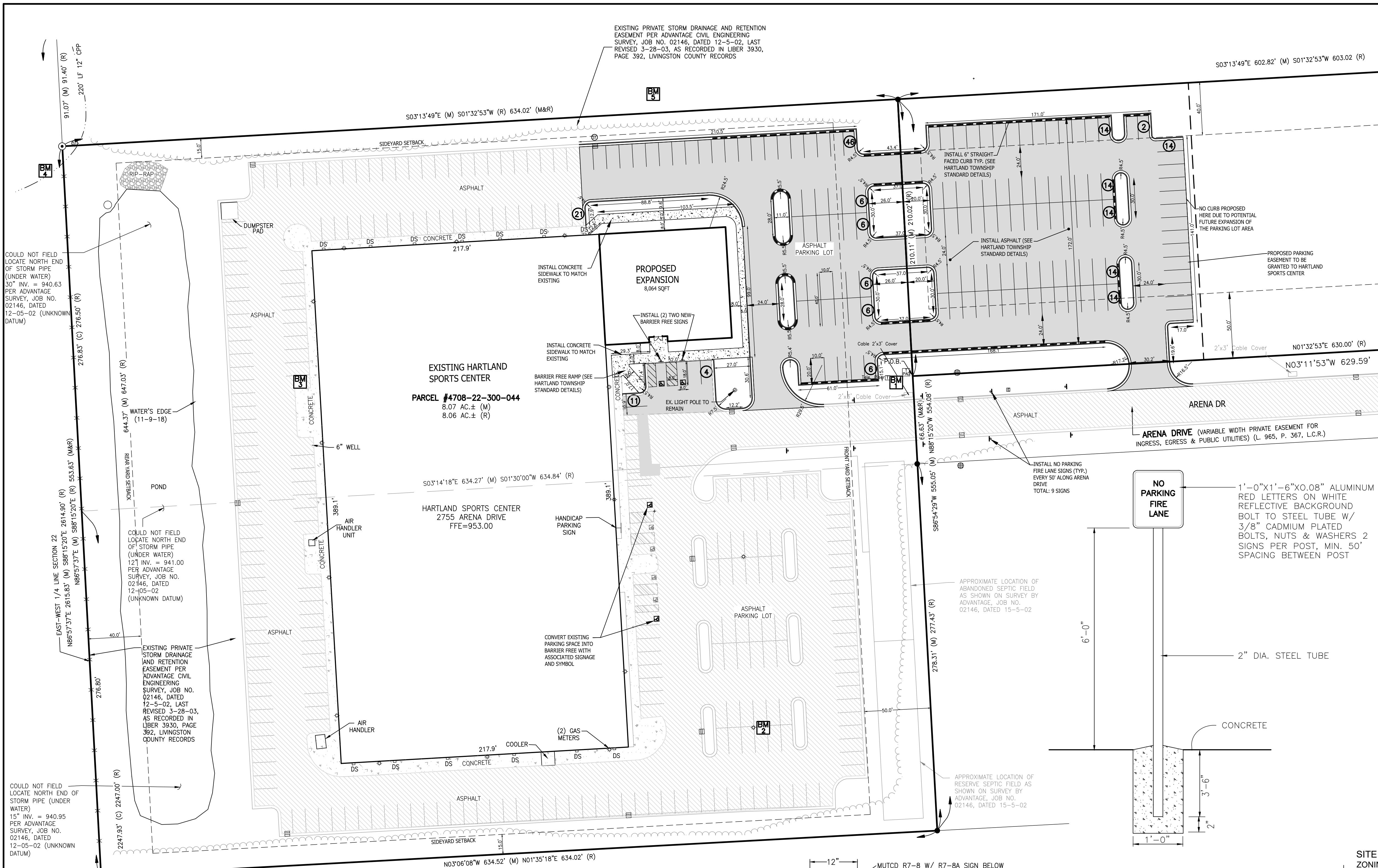
INTENT OF REMOVAL:
THE INTENT OF REMOVING 29% OF TREES ON 4708-22-300-013 IS TO HELP ALLEVIATE A PARKING ISSUE ON SITE AND PROVIDE ADDITIONAL PARKING FOR A PROPOSED EXPANSION OF THE HARTLAND SPORTS CENTER.

TAG #	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	REMOVE
305	Acer saccharum	Sugar Maple	8	Good	X
306	Carya ovata	Shagbark Hickory	11	Good	X
307	Carya ovata	Shagbark Hickory	11	Good	X
308	Quercus rubra	Northern Red Oak	24.22	Fair	X
309	Prunus serotina	Black Cherry	14	Good	X
310	Quercus rubra	Northern Red Oak	22.22	Good	X
311	Quercus rubra	Northern Red Oak	10	Good	X
312	Quercus rubra	Northern Red Oak	13	Good	X
313	Quercus rubra	Northern Red Oak	12	Good	X
314	Quercus rubra	Northern Red Oak	17	Fair	X
315	Quercus rubra	Northern Red Oak	12	Fair	X
316	Quercus rubra	Northern Red Oak	12	Good	X
317	Quercus rubra	Northern Red Oak	12.12	Good	X
318	Quercus rubra	Northern Red Oak	15	Good	X
319	Quercus rubra	Northern Red Oak	8	Good	X
320	Quercus alba	White Oak	24	Good	X
321	Quercus rubra	Northern Red Oak	9	Good	X
322	Quercus rubra	Northern Red Oak	9	Good	X
323	Quercus rubra	Northern Red Oak	10	Good	X
324	Quercus rubra	Northern Red Oak	11	Good	X
325	Quercus rubra	Northern Red Oak	8	Good	X
326	Quercus rubra	Northern Red Oak	13	Good	X
327	Quercus rubra	Northern Red Oak	8	Good	X
328	Quercus rubra	Northern Red Oak	26	Good	X
329	Prunus serotina	Black Cherry	8	Fair	X
330	Prunus serotina	Black Cherry	9	Fair	X
331	Prunus serotina	Black Cherry	10.6	Fair	X
332	Prunus serotina	Black Cherry	10	Fair	X
333	Quercus rubra	Northern Red Oak	12	Good	X
334	Pinus strobus	White Pine	20.18	Good	X
335	Quercus rubra	Northern Red Oak	20	Good	X
336	Quercus rubra	Northern Red Oak	20	Good	X
337	Prunus serotina	Black Cherry	17	Good	X
338	Prunus serotina	Black Cherry	9.4	Good	X
339	Prunus serotina	Black Cherry	12	Fair	X
340	Quercus rubra	Northern Red Oak	10	Good	X
341	Prunus serotina	Black Cherry	10	Good	X
342	Pinus strobus	White Pine	14	Good	X
343	Juniperus virginiana	Eastern Red Cedar	8	Fair	X
344	Quercus rubra	Northern Red Oak	8	Good	X
345	Juniperus virginiana	Eastern Red Cedar	8	Fair	X
346	Quercus rubra	Northern Red Oak	12	Good	X
347	Prunus serotina	Black Cherry	9	Good	X
348	Quercus rubra	Northern Red Oak	10	Good	X
349	Prunus serotina	Black Cherry	18.14	Good	X
350	Juniperus virginiana	Eastern Red Cedar	8	Good	X
351	Prunus serotina	Black Cherry	14.6	Good	X
352	Quercus rubra	Northern Red Oak	13	Good	X
353	Prunus serotina	Black Cherry	9	Good	X
354	Pinus strobus	White Pine	8	Good	X
355	Juniperus virginiana	Eastern Red Cedar	12	Good	X
356	Quercus rubra	Northern Red Oak	8	Good	X
357	Pinus strobus	White Pine	12	Good	X
358	Prunus serotina	Black Cherry	18	Good	X
359	Prunus serotina	Black Cherry	8.14	Good	X
360	Prunus spp.	Cherry/Plum	13	Good	X

361	Juniperus virginiana	Eastern Red Cedar	8	Good	X
362	Juniperus virginiana	Sugar Maple	10	Good	X
363	Prunus serotina	Black Cherry	9.9	Good	X
364	Juniperus virginiana	Eastern Red Cedar	11	Good	X
365	Prunus serotina	Black Cherry	8	Good	X
366	Juniperus virginiana	Eastern Red Cedar	13	Good	X
367	Prunus serotina	Black Cherry	12.8	Good	X
368	Prunus spp.	Cherry/Plum	20.18	Good	X
369	Prunus serotina	Black Cherry	8	Good	X
370	Juniperus virginiana	Eastern Red Cedar	8.6	Good	X
371	Pinus strobus	White Pine	20	Good	X
372	Pinus strobus	White Pine	18	Good	X
373	Pinus strobus	White Pine	15	Good	X
374	Prunus serotina	Black Cherry	8	Good	X
375	Pinus strobus	White Pine	14	Good	X
376	Acer negundo	Boxelder	9	Good	X
377	Populus deltoides	Eastern Cottonwood	10.10	Good	X
378	Populus deltoides	Eastern Cottonwood	12	Good	X
379	Acer negundo	Boxelder	10	Good	X
380	Acer negundo	Boxelder	10	Good	X
381	Populus deltoides	Eastern Cottonwood	12	Good	X
382	Acer negundo	Boxelder	8	Good	X
383	Populus deltoides	Eastern Cottonwood	12	Good	X
384	Populus deltoides	Eastern Cottonwood	12	Good	X
385	Populus deltoides	Eastern Cottonwood	11	Good	X
386	Acer negundo	Boxelder	10	Good	X
387	Populus deltoides	Eastern Cottonwood	12	Good	X
388	Acer negundo	Boxelder	9	Good	X
389	Populus deltoides	Eastern Cottonwood	13	Good	X
390	Populus deltoides	Eastern Cottonwood	10	Good	X
391	Populus deltoides	Eastern Cottonwood	8	Good	X
392	Populus deltoides	Eastern Cottonwood	11	Good	X
393	Acer negundo	Boxelder	12.8	Good	X
394	Salix nigra	Black Willow	10.10	Good	X
395	Populus deltoides	Eastern Cottonwood	8	Good	X
396	Acer negundo	Boxelder	10	Good	X
397	Populus deltoides	Eastern Cottonwood	9	Good	X
398	Populus deltoides	Eastern Cottonwood	9	Good	X
399	Populus deltoides	Eastern Cottonwood	8	Good	X
400	Acer negundo	Boxelder	8	Good	X
401	Populus deltoides	Eastern Cottonwood	14	Good	X
402	Juniperus virginiana	Eastern Red Cedar	8.8	Good	X
403	Juniperus virginiana	Eastern Red Cedar	8	Good	X
404	Acer negundo	Boxelder	9.7	Good	X
405	Acer negundo	Boxelder	12	Good	X
406	Acer negundo	Boxelder	10	Good	X
407	Populus deltoides	Eastern Cottonwood	16.12	Good	X
408	Acer negundo	Boxelder	8	Good	X
409	Populus deltoides	Eastern Cottonwood	10	Good	X
410	Salix nigra	Black Willow	8	Good	X
411	Populus deltoides	Eastern Cottonwood	9	Good	X
412	Populus deltoides	Eastern Cottonwood	11	Good	X
413	Populus deltoides	Eastern Cottonwood	11	Good	X
414	Acer negundo	Boxelder	8	Good	X
415	Populus deltoides	Eastern Cottonwood	9	Good	X
416	Populus deltoides	Eastern Cottonwood	8	Good	X
417	Populus deltoides	Eastern Cottonwood	9	Good	X
418	Populus deltoides	Eastern Cottonwood	8	Good	X
419	Populus deltoides	Eastern Cottonwood	9	Good	X
420	Populus deltoides	Eastern Cottonwood	11	Good	X

521	Salix nigra	Black Willow	12	Good	X
522	Populus deltoides	Eastern Cottonwood	11	Good	X
523	Populus deltoides	Eastern Cottonwood	8	Good	X
524	Populus deltoides	Eastern Cottonwood	10	Good	X
525	Populus deltoides	Eastern Cottonwood	9	Good	X
526	Populus deltoides	Eastern Cottonwood	10	Good	X
527	Populus deltoides	Eastern Cottonwood	8	Good	X
528	Populus deltoides	Eastern Cottonwood	16	Good	X
529	Populus deltoides	Eastern Cottonwood	10	Good	X
530	Populus deltoides	Eastern Cottonwood	8	Good	X
531	Populus deltoides	Eastern Cottonwood	9	Good	X
532	Populus deltoides	Eastern Cottonwood	10	Good	X
533	Populus deltoides	Eastern Cottonwood	9	Poor	X
534	Populus deltoides	Eastern Cottonwood	16.8	Good	X
535	Populus deltoides	Eastern Cottonwood	12	Good	X
536	Populus deltoides	Eastern Cottonwood	11	Good	X
537	Quercus rubra	Northern Red Oak	18	Good	X
538	Picea spp.	Spruce	17	Good	X
539	Populus deltoides	Eastern Cottonwood	9.12	Good	X
540	Malus spp.	Apple	10	Good	X
541	Populus deltoides	Eastern Cottonwood	10	Good	X
542	Salix nigra	Black Willow	9	Good	X
543	Acer negundo	Boxelder	11	Good	X
544	Populus deltoides	Eastern Cottonwood	13	Good	X
545	Ulmus americana	American Elm	9	Good	X
546	Malus spp.	Apple	8	Good	X
547	Acer negundo	Boxelder	8	Good	X
548	Populus deltoides	Eastern Cottonwood	12	Good	X
549	Populus deltoides	Eastern Cottonwood	13	Good	X
550	Acer negundo	Boxelder	8.10	Good	X
551	Acer negundo	Boxelder	9	Good	X
552	Populus deltoides	Eastern Cottonwood	12	Good	X
553	Acer negundo	Boxelder	10	Good	X
554	Populus deltoides	Eastern Cottonwood	11	Good	X
555	Populus deltoides	Eastern Cottonwood	32	Good	X
556	DEAD	DEAD	20	DEAD	X
557	Acer spp.	Maple	9	Good	X
558	Acer spp.	Maple	8	Good	X
559	Quercus alba	White Oak	8	Good	X
560	Quercus rubra	Northern Red Oak	9	Good	X
561	Prunus serotina	Black Cherry	28	Good	X
562	Quercus rubra	Northern Red Oak	12	Good	X
563	Quercus alba	White Oak	8	Good	X
564	Acer spp.	Maple	13	Good	X
565	DEAD	DEAD	13	DEAD	X
566	Salix nigra	Black Willow	12	Good	X
567	Populus deltoides	Eastern Cottonwood	9	Good	X
568	Populus deltoides	Eastern Cottonwood	8	Good	X
569	Populus deltoides	Eastern Cottonwood	9	Good	X
570	Populus deltoides	Eastern Cottonwood	11	Good	X
571	Populus deltoides	Eastern Cottonwood	10	Good	X
572	Populus deltoides	Eastern Cottonwood	16	Good	X
573	Populus deltoides	Eastern Cottonwood	13	Good	X
574	Populus deltoides	Eastern Cottonwood	11	Good	X
575	Populus deltoides	Eastern Cottonwood	8	Good	X
576	Populus deltoides	Eastern Cottonwood	8	Good	X
577	Populus deltoides	Eastern Cottonwood	8	Good	X
578	Populus deltoides	Eastern Cottonwood	9	Good	X

579	Populus deltoides	Eastern Cottonwood	11	Good	X
580	Populus deltoides	Eastern Cottonwood	8	Good	X
581	Populus deltoides	Eastern Cottonwood	10	Good	X
582	Populus deltoides	Eastern Cottonwood	10	Good	X
583	Acer negundo	Boxelder	8	Good	X
584	Populus deltoides	Eastern Cottonwood	13	Good	X
585	Populus deltoides	Eastern Cottonwood	9	Good	X
586	Populus deltoides	Eastern Cottonwood	10	Good	X
587	Populus deltoides	Eastern Cottonwood	10	Good	X
588	Acer saccharum	Sugar Maple	8	Good	X
589	Prunus serotina	Black Cherry	10	Good	X
590	Quercus rubra	Northern Red Oak	8	Good	X
591	Quercus rubra	Northern Red Oak	8	Good	X
592	Quercus alba	White Oak	9	Good	X
593	DEAD	DEAD	14	DEAD	X
594	Ulmus americana	American Elm	8	Good	X
595	Quercus rubra	Northern Red Oak	15	Good	X
596	Prunus serotina	Black Cherry	20	Good	X
597	Acer negundo	Boxelder	14	Good	X
598	Populus deltoides	Eastern Cottonwood	13	Good	X
599	Acer negundo	Boxelder	14	Fair	X
600	Populus deltoides	Eastern Cottonwood	9	Good	X
701	Populus deltoides	Eastern Cottonwood	8	Good	X
702	Populus deltoides	Eastern Cottonwood	8	Good	X
703	Populus deltoides	Eastern Cottonwood	9	Good	X
704	Populus deltoides	Eastern Cottonwood	11	Good	X
705	Acer negundo	Boxelder	9.7	Good	X
706	Populus deltoides	Eastern Cottonwood	9	Good	X
707	Populus deltoides	Eastern Cottonwood	8	Good	X
708	Quercus rubra	Northern Red Oak	13.6	Good	X
709	Pinus strobus	White Pine	9	Good	X
710	Prunus serotina	Black Cherry	17	Good	X
711	Acer negundo	Boxelder	14	Good	X
712	Acer negundo	Boxelder	10	Good	X
713	DEAD	DEAD	13	DEAD	X
715	Juniperus virginiana	Eastern Red Cedar	8	Good	X
716	Prunus serotina	Black Cherry	12	Good	X
717	Quercus rubra	Northern Red Oak	13	Good	X
718	Quercus rubra	Northern Red Oak	13	Good	X
719	Quercus alba	White Oak	10	Good	X
720	Qu				



PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
T/C	XXX.XX	STORM DRAINAGE FLOW
FFE	FFE	SPOT ELEVATION
F/G	F/G	FINISHED FLOOR ELEVATION
T/A	T/A	TOP OF ASPHALT
T/CURB	T/CURB	TOP OF CURB
T/C	T/C	TOP OF CONCRETE PAVEMENT
T/WALK	T/WALK	TOP OF WALK
CL	CL	CENTER LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
HP	HP	HIGH POINT
ES	ES	END-SECTION
GV	GV	GATEVALVE STRUCTURE
HY	HY	HYDRANT
UP	UP	UTILITY POLE
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
PS	PS	PRESSURE SEWER
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
MANHOLE	MANHOLE	MANHOLE
INLET / CATCHBASIN	INLET / CATCHBASIN	INLET / CATCHBASIN
FRAG END-SECTION	FRAG END-SECTION	FRAG END-SECTION
GATE VALVE	GATE VALVE	GATE VALVE
HYDRANT	HYDRANT	HYDRANT
UTILITY POLE	UTILITY POLE	UTILITY POLE
FENCE	FENCE	FENCE
SIGN	SIGN	SIGN
NOT FIELD VERIFIED	NOT FIELD VERIFIED	NOT FIELD VERIFIED
TO BE REMOVED	TO BE REMOVED	TO BE REMOVED
COMPACTED SAND BACKFILL	COMPACTED SAND BACKFILL	COMPACTED SAND BACKFILL
SANITARY SEWER LABEL	SANITARY SEWER LABEL	SANITARY SEWER LABEL
STORM SEWER LABEL	STORM SEWER LABEL	STORM SEWER LABEL
WATER MAIN LABEL	WATER MAIN LABEL	WATER MAIN LABEL
SOIL EROSION CONTROL MEASURE	SOIL EROSION CONTROL MEASURE	SOIL EROSION CONTROL MEASURE
(P=PERMANENT, T=TEMPORARY)	(P=PERMANENT, T=TEMPORARY)	(P=PERMANENT, T=TEMPORARY)
SILT FENCE	SILT FENCE	SILT FENCE
LIMITS OF GRADING/CLEARING	LIMITS OF GRADING/CLEARING	LIMITS OF GRADING/CLEARING
WETLAND BOUNDARY	WETLAND BOUNDARY	WETLAND BOUNDARY
CONCRETE	CONCRETE	CONCRETE
ASPHALT	ASPHALT	ASPHALT
CURB AND GUTTER	CURB AND GUTTER	CURB AND GUTTER
MODIFIED CURB & GUTTER	MODIFIED CURB & GUTTER	MODIFIED CURB & GUTTER

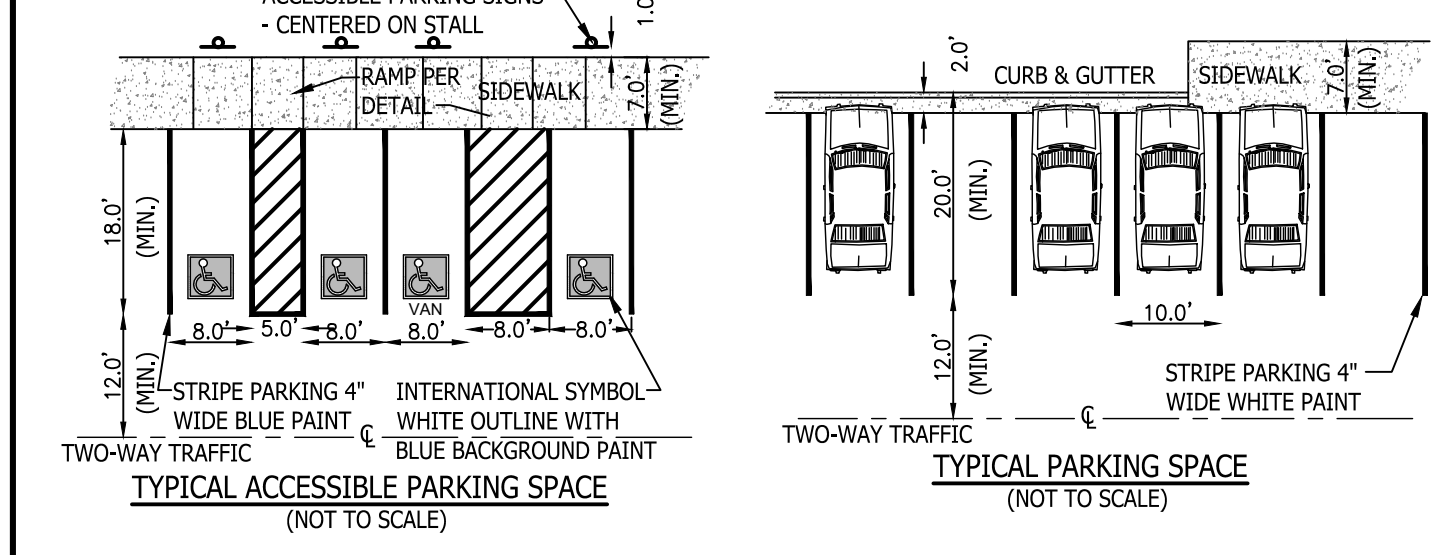
PARKING NOTE:

THE PROPOSED EXPANSION WILL CONSIST OF THREE (3) NEW LOCKER ROOMS, A COACHES ROOM, BATHROOMS, TWO (2) TRAINING ROOMS, AND STORAGE SPACE. CURRENTLY THE SITE CONTAINS APPROXIMATELY 320 PARKING SPACES INCLUDING 4 BARRIER FREE SPACES. FOR THE PURPOSES OF CALCULATING ADDITIONAL PARKING SPACES REQUIRED THE TRAINING ROOMS WERE THE ONLY USE FOR WHICH PARKING IS REQUIRED (CONSIDERED HEALTH CLUB PER ORDINANCE). PARKING CALCULATIONS ARE DEPICTED BELOW. DURING SPECIAL EVENTS USERS OF THE SITE TEND TO PARK ALONG ARENA DR WHEN THE PARKING LOT IS FULL. TO HELP ALLEVIATE THIS ISSUE AN ADDITIONAL TWENTY (20) SPACES ARE BEING PROPOSED ABOVE THE ORDINANCE REQUIREMENT.

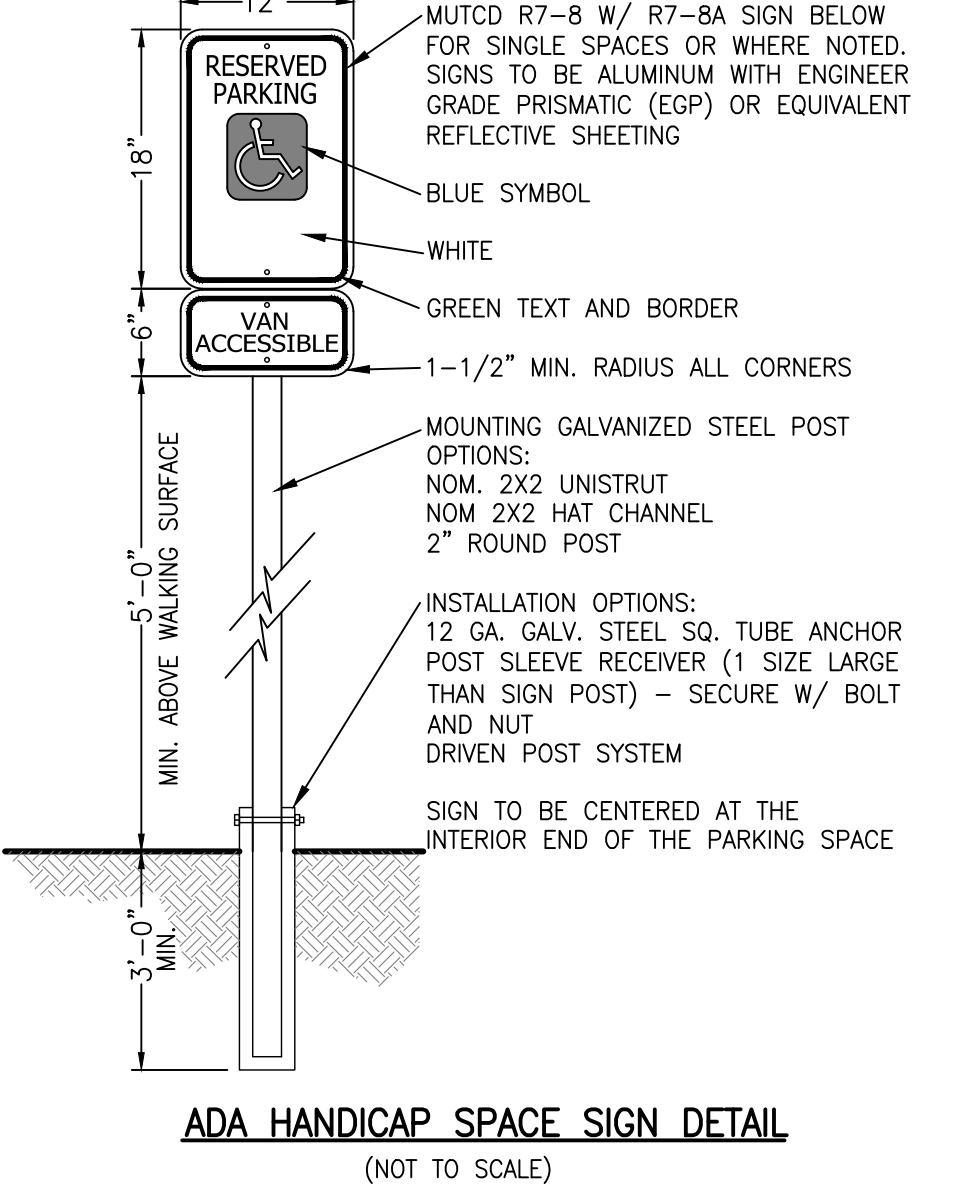
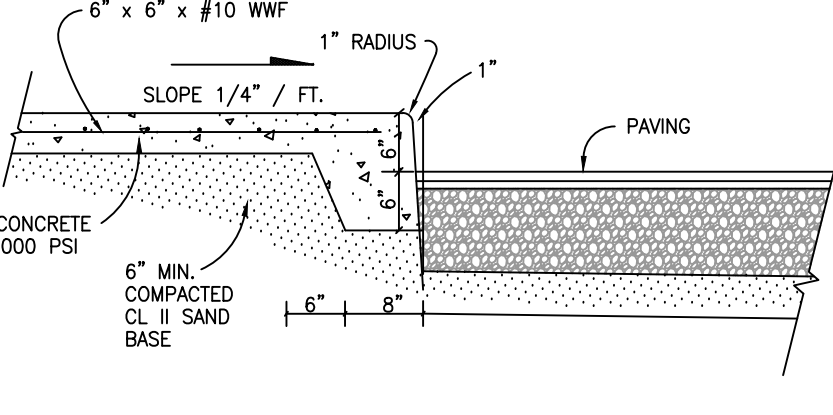
SITE DATA (4708-22-300-044):
 ZONING: GC
 USE: SPORTS FACILITY
 EXISTING BUILDING SQUARE FOOTAGE (FOOTPRINT): 84,805 SQ FT.
 EXPANSION SQUARE FOOTAGE (FOOTPRINT): 8,005 SQ FT
 TOTAL SITE AREA: 8.07 AC
 DISTURBED AREA FOR EXPANSION: APPROX. 1.23 AC
 MIN. SETBACKS REQUIRED:
 FRONT: 50-FT
 REAR: 40-FT
 SIDES: 15-FT
 MAX. IMPERVIOUS COVERAGE: 75%
 MAX. BUILDING HEIGHT: 45 FT / 3 STORIES
 PROPOSED:
 FRONT : 135-FT MIN. (VARIES)
 REAR : NO CHANGE
 SIDE (EAST): NO CHANGE
 SIDE (WEST): NO CHANGE
 IMPERVIOUS COVERAGE: 68%
 BUILDING HEIGHT: 25-FT (ROOF PEAK) / 1 STORY
 PARKING CALCULATION:
 SPORTS TRAINING FACILITY EXPANSION: 10 SPACES / 'HEALTH CLUB' + 1 SPACE / 200 GROSS SQ FT IN EXCESS OF 1ST 1,000 GROSS SQ FT
 TRAINING ROOM #1- 1,855 SQFT
 TRAINING ROOM #2- 1,883 SQFT
 1,855-1,000= 855 / 200 = 5 SPACES + 10 SPACES PER HEALTH CLUB= 15 SPACES
 1,883-1,000= 883 / 200 = 5 SPACES + 10 SPACES PER HEALTH CLUB= 15 SPACES
 +20 ADDITIONAL SPACES
 =50 SPACES
 PROVIDED: 298 SPACES INCLUDING 8 ACCESSIBLE SPACES (INCLUDES EXISTING PARKING SPACES)

SITE PLAN NOTES

- BUILDING ADDRESS SHALL BE A MINIMUM OF 6" HIGH LETTERS OF CONTRASTING COLORS AND BE CLEARLY VISIBLE FROM THE STREET AND ARE ALREADY EXISTING ON THE CURRENT BUILDING.
- A KEY BOX/KNOX BOX SHALL BE LOCATED NEAR THE FRONT ENTRY. A KNOX BOX SHOULD ALREADY EXIST ON THE CURRENT FACILITY.
- A VERTICAL CLEARANCE OF 13.5' SHALL BE MAINTAINED THROUGHOUT THE SITE FOR EMERGENCY VEHICLE ACCESS.
- DELIVERIES FOR PROPOSED DEVELOPMENT SHALL BE DURING NON-BUSINESS HOURS.



INTEGRAL CONCRETE WALK / CURB DETAIL
(NO SCALE)



ADA HANDICAP SPACE SIGN DETAIL
(NOT TO SCALE)

NO PARKING SIGN DETAIL
(NO SCALE)

SITE DATA (4708-22-300-013):
 ZONING: GC
 USE: VACANT
 TOTAL SITE AREA: 2.97 AC
 DISTURBED AREA FOR EXPANSION: APPROX. 0.65 AC
 MIN. SETBACKS REQUIRED:
 FRONT: 50-FT
 REAR: 40-FT
 SIDES: 15-FT
 MAX. IMPERVIOUS COVERAGE: 75%
 MAX. BUILDING HEIGHT: 45 FT / 3 STORIES
 PROPOSED:
 FRONT : NO BUILDING PROPOSED
 REAR : NO BUILDING PROPOSED
 SIDE (EAST): NO BUILDING PROPOSED
 SIDE (WEST): NO BUILDING PROPOSED
 IMPERVIOUS COVERAGE: 22%
 PARKING CALCULATION:
 PARKING IS BEING PROPOSED ON THIS PARCEL TO ACCOMMODATE LARGE EVENT PARKING AT THE HARTLAND SPORTS CENTER. THE TWO PARCELS HAVE THE SAME OWNER. A SHARED PARKING AGREEMENT WILL BE EXECUTED AS A REQUIREMENT OF THIS EXPANSION.
 PROVIDED: 86 SPACES

TOTAL PARKING SPACES REQUIRED: 350
 TOTAL PARKING SPACES PROVIDED: 384

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN ARE BASED ON RECORD DRAWINGS, FIELD SURVEY, EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF, AND THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION, APPARENT OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

BEFORE YOU DIG
 CALL MISS DIG
 1-800-487-7171
 or the Center for Professional Practice

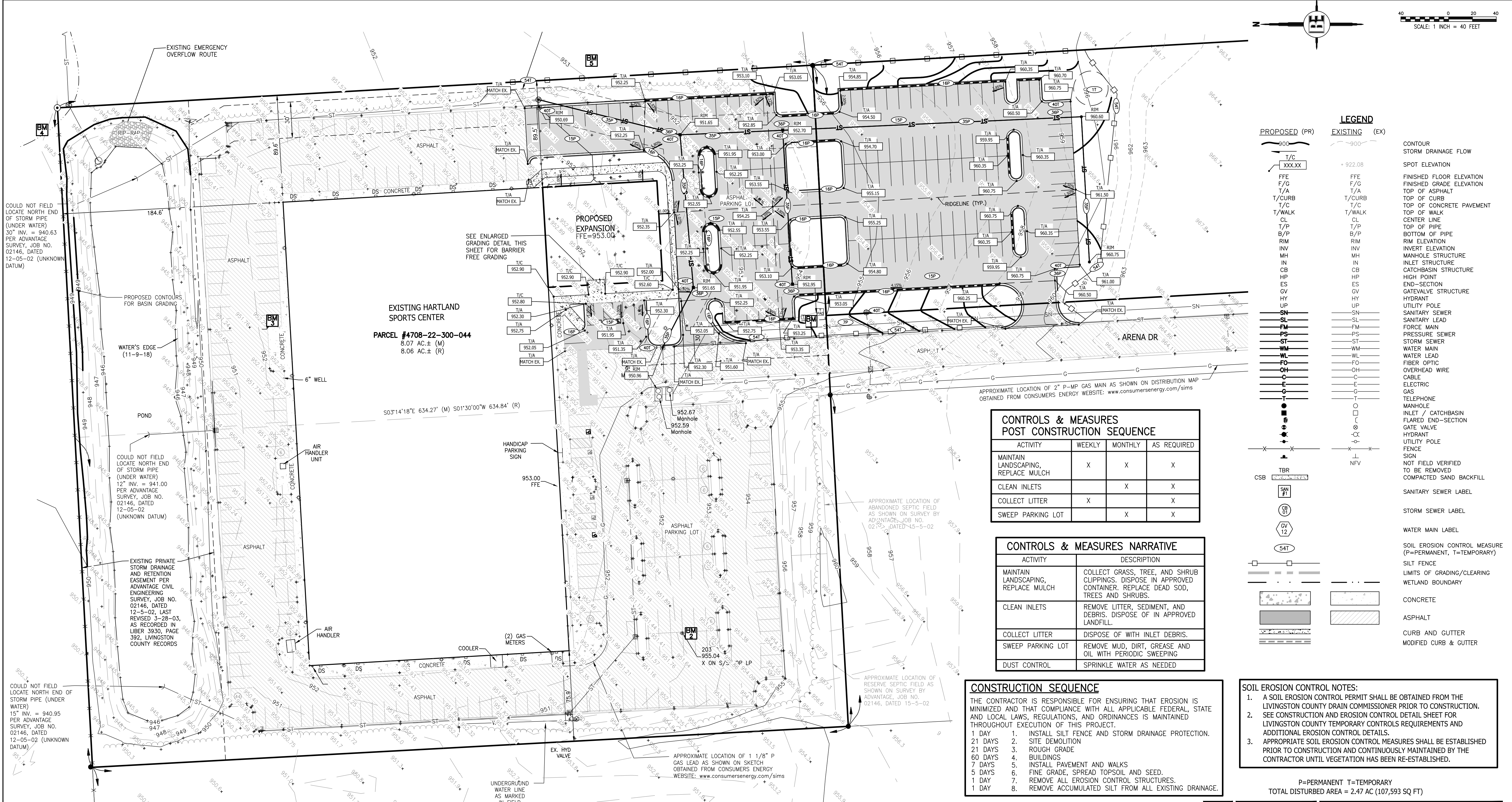
BEBOSS Engineering
 Engineers Surveyors Planners Landscape Architects
 3121 E. GRAND RIVER AVE.
 HOWELL, MI. 48843
 517.456.4836 FAX 517.548.1670

MARK SCHAFFER
 10540 CATION DR
 BRIGHTON, MI 48116
 810.229.6087

HARTLAND SPORTS CENTER EXPANSION
 PREPARED FOR: [Blank]
 TITLE: [Blank]

NO.	BY	DATE	REVISION
1	CH	1-31-19	NO
2	CH	1-15-19	NO

DESIGNED BY: CH
 DRAWN BY: AEB
 CHECKED BY: [Blank]
 SCALE: 1" = 40'
 JOB NO. 18-412
 DATE 12-10-18
 SHEET NO. 3



LEGEND

PROPOSED (PR)	EXISTING (EX)	DESCRIPTION
900	900	CONTOUR
T/C XXXXX	- 922.08	STORM DRAINAGE FLOW
FFE		SPOT ELEVATION
F/G		FINISHED FLOOR ELEVATION
T/A		FINISHED GRADE ELEVATION
T/CURB		TOP OF ASPHALT
T/C		TOP OF CURB
T/WALK		TOP OF CONCRETE PAVEMENT
CL		TOP OF WALK
T/P		CENTER LINE
B/P		TOP OF PIPE
RIM		BOTTOM OF PIPE
INV		RIM ELEVATION
MH		INVERT ELEVATION
IN		MANHOLE STRUCTURE
CB		INLET STRUCTURE
HP		CATCHBASIN STRUCTURE
ES		HIGH POINT
GV		END-SECTION
HY		GATEVALVE STRUCTURE
UP		HYDRANT
SN		UTILITY POLE
SL		SANITARY SEWER
FM		SANITARY LEAD
PS		FORCE MAIN
PS		PRESSURE SEWER
WM		STORM SEWER
WL		WATER MAIN
FO		WATER LEAD
OH		FIBER OPTIC
C		OVERHEAD WIRE
E		CABLE
T		ELECTRIC
T		TELEPHONE
M		MANHOLE
I		INLET / CATCHBASIN
E		FLARED END-SECTION
G		GATE VALVE
H		HYDRANT
U		UTILITY POLE
F		FENCE
NFV		NOT FIELD VERIFIED TO BE REMOVED
TBR		COMPACTED SAND BACKFILL
CSB		SANITARY SEWER LABEL
SN 1		STORM SEWER LABEL
SN 12		WATER MAIN LABEL
SN 12		SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)
SN 12		LIMITS OF GRADING/CLEARING
SN 12		WETLAND BOUNDARY
SN 12		CONCRETE
SN 12		ASPHALT
SN 12		CURB AND GUTTER
SN 12		MODIFIED CURB & GUTTER

CONTROLS & MEASURES POST CONSTRUCTION SEQUENCE

ACTIVITY	WEEKLY	MONTHLY	AS REQUIRED
MAINTAIN LANDSCAPING, REPLACE MULCH	X	X	X
CLEAN INLETS		X	X
COLLECT LITTER	X		X
SWEEP PARKING LOT		X	X

CONTROLS & MEASURES NARRATIVE

ACTIVITY	DESCRIPTION
MAINTAIN LANDSCAPING, REPLACE MULCH	COLLECT GRASS, TREE, AND SHRUB CLIPPINGS. DISPOSE IN APPROVED CONTAINER. REPLACE DEAD SOD, TREES AND SHRUBS.
CLEAN INLETS	REMOVE LITTER, SEDIMENT, AND DEBRIS. DISPOSE OF IN APPROVED LANDFILL.
COLLECT LITTER	DISPOSE OF WITH INLET DEBRIS.
SWEEP PARKING LOT	REMOVE MUD, DIRT, GREASE AND OIL WITH PERIODIC SWEEPING
DUST CONTROL	SPRINKLE WATER AS NEEDED

CONSTRUCTION SEQUENCE

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT EROSION IS MINIMIZED AND THAT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES IS MAINTAINED THROUGHOUT EXECUTION OF THIS PROJECT.

1 DAY	1. INSTALL SILT FENCE AND STORM DRAINAGE PROTECTION.
21 DAYS	2. SITE DEMOLITION
21 DAYS	3. ROUGH GRADE
60 DAYS	4. BUILDINGS
7 DAYS	5. INSTALL PAVEMENT AND WALKS
5 DAYS	6. FINE GRADE, SPREAD TOPSOIL AND SEED.
1 DAY	7. REMOVE ALL EROSION CONTROL STRUCTURES.
1 DAY	8. REMOVE ACCUMULATED SILT FROM ALL EXISTING DRAINAGE.

SOIL EROSION CONTROL NOTES:

- A SOIL EROSION CONTROL PERMIT SHALL BE OBTAINED FROM THE LIVINGSTON COUNTY DRAIN COMMISSIONER PRIOR TO CONSTRUCTION.
- SEE CONSTRUCTION AND EROSION CONTROL DETAIL SHEET FOR LIVINGSTON COUNTY TEMPORARY CONTROLS REQUIREMENTS AND ADDITIONAL EROSION CONTROL DETAILS.
- APPROPRIATE SOIL EROSION CONTROL MEASURES SHALL BE ESTABLISHED PRIOR TO CONSTRUCTION AND CONTINUOUSLY MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION HAS BEEN RE-ESTABLISHED.

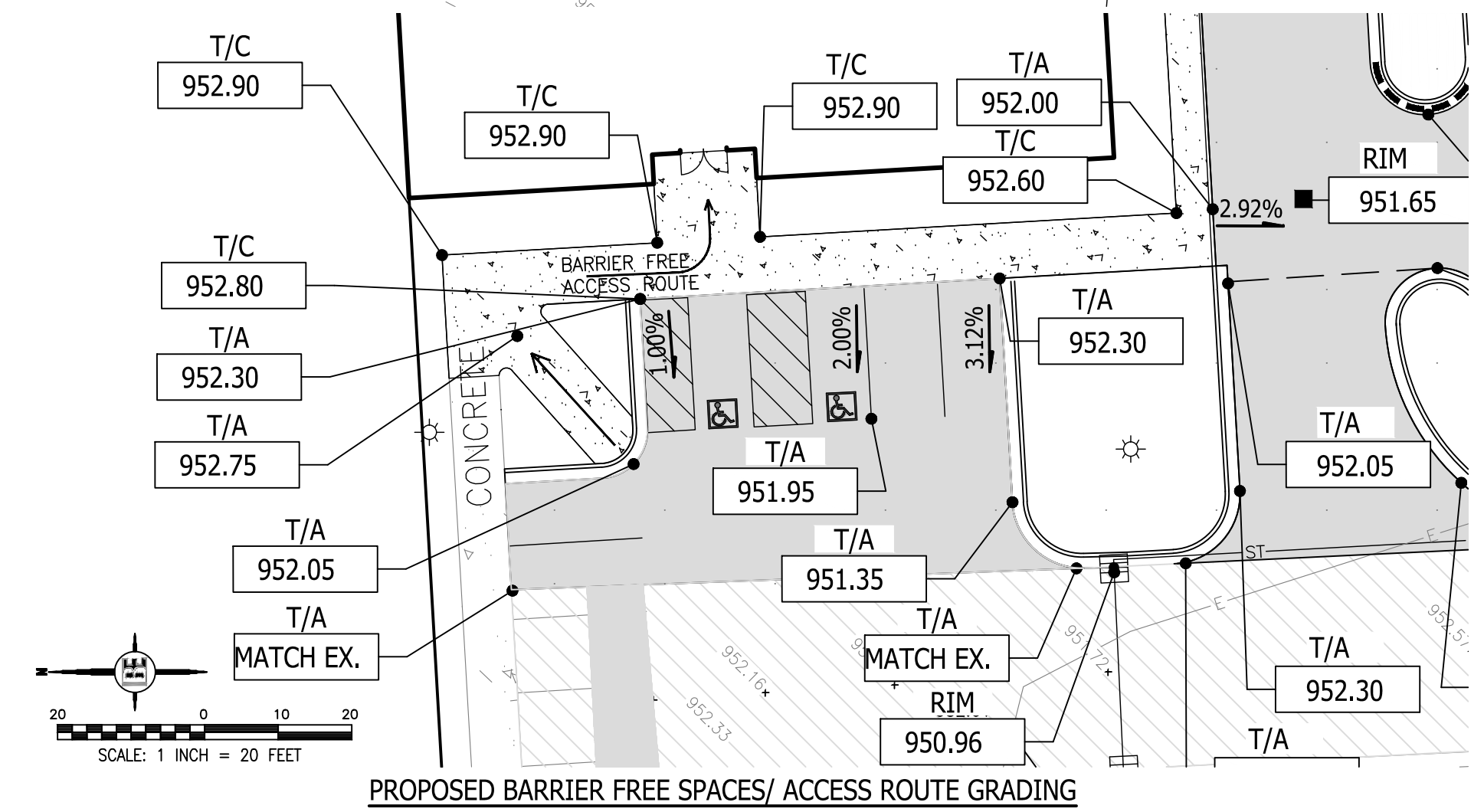
P=PERMANENT T=TEMPORARY
TOTAL DISTURBED AREA = 2.47 AC (107,593 SQ FT)

- ### NOTES:
- SEE SHEET 11 PAVEMENT DETAIL "C" - COMMERCIAL ASPHALT CROSS SECTION FOR PROPOSED ASPHALT DETAIL.
 - SEE SHEET 8 FOR DETENTION BASIN CALCULATIONS.
 - SEE SHEET 8 FOR STORM SEWER CALCULATIONS.
 - SEE SHEET 8 FOR DRAINAGE AREA TABLE.

NO	DESCRIPTION	DATE
1	STRIPPING & STOCKPILING TOPSOIL	1-31-19
7	HYDRO SEEDING	1-31-19
15	PAVING	1-31-19
16	CURB & GUTTER	1-31-19
35	CE STORM SEWER	1-31-19
36	CATCH BASIN, DRAIN INLET	1-31-19
40	INLET SEDIMENT FILTER	1-31-19
54	SILT FENCE	1-31-19

STORMWATER SUMMARY

THE EXISTING DETENTION BASIN ON THE SITE HAS SUFFICIENT VOLUME TO ACCOMMODATE THE INCREASE IN VOLUME REQUIRED DUE TO THE EXPANSION OF THE BUILDING AND PARKING LOTS. THERE IS CURRENTLY 5.5 FEET OF WATER IN THE BASIN THAT CANNOT BE USED FOR STORAGE IN THE BASIN CALCULATIONS. THE OCS STRUCTURE WILL BE REMOVED AND REPLACED DUE TO ITS POOR CONDITION. HOLES WILL BE PLACED IN THE NEW OCS STRUCTURE AT ELEV. = 944.5. THE EXISTING INVERT OF THE 12" PIPE LEAVING THE OCS STRUCTURE IS AT ELEV. = 944.5. IN THE EVENT OF A 100-YR STORM, THE BASIN WILL HAVE ENOUGH STORAGE TO DETAIN ALL OF THE FLOW COMING FROM THE SITE. A BERM WILL BE ADDED AROUND THE NORTH AND EAST SIDES OF THE BASIN AT LOW POINTS TO BRING THE MINIMUM BERM ELEVATION UP TO 950.0 TO PROVIDE FOR 1' OF FREEBOARD. THE OVERFLOW ROUTE WILL REMAIN IN ITS ORIGINAL POSITION HEADING EAST TO A WETLAND.



BEBOSS Engineering

Engineers Planners Landscape Architects

3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843

517.456.4836 FAX 517.548.1670

MARK SCHAFFER

10540 OTTAWA DR
BRIGHTON, MI 48116
810.229.6087

PROJECT: HARTLAND SPORTS CENTER EXPANSION

PREPARED FOR:

DESIGNED BY: CH

DRAWN BY: AEB

CHECKED BY:

SCALE 1" = 40'

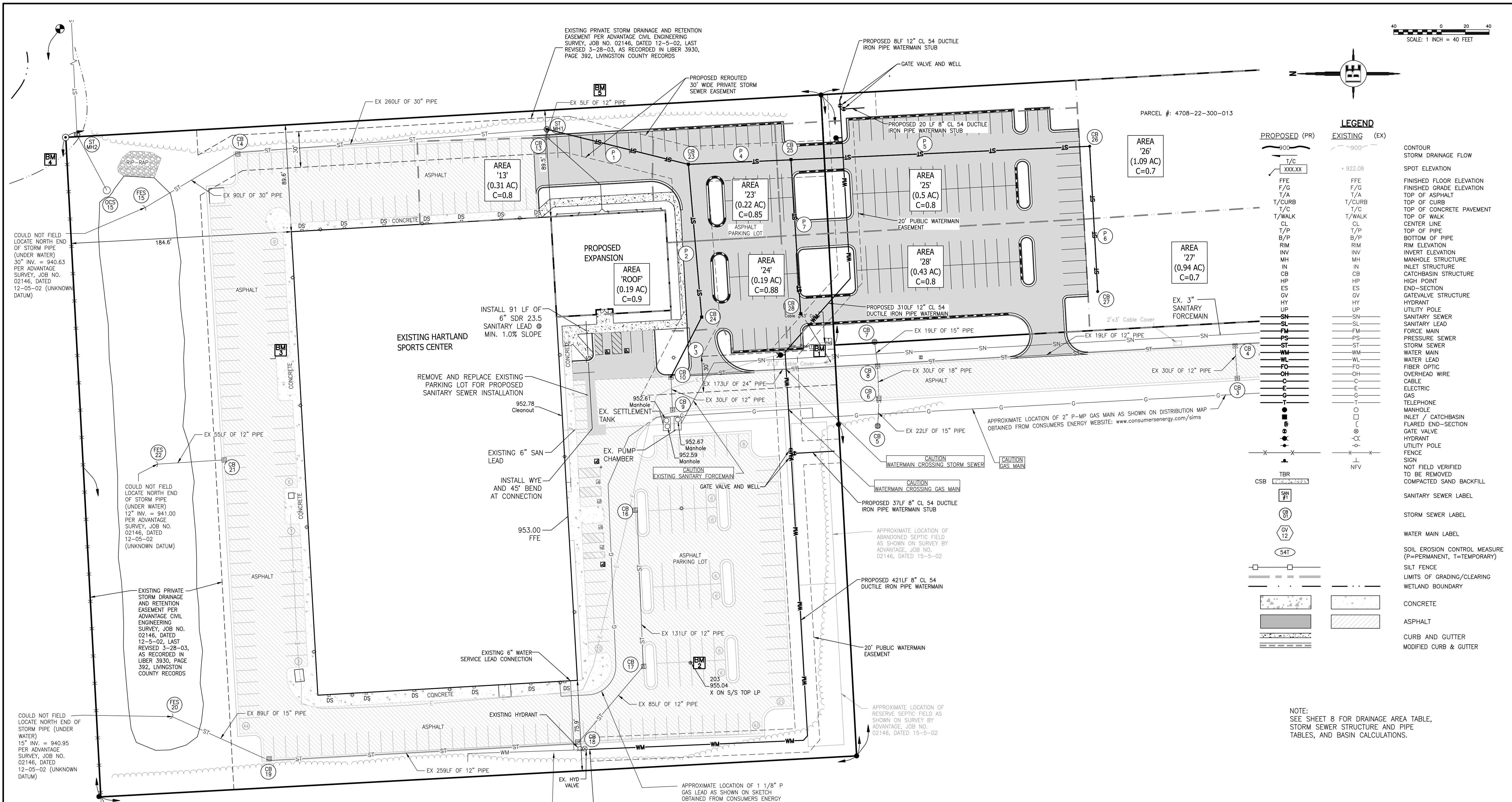
JOB NO. 18-412

DATE 12-10-18

SHEET NO. 4

Attachment: 8. Site Plans dated January 31, 2019. Site Plan 19-001. Hartland Sports Center

GRADING, DRAINAGE, & SESC PLAN

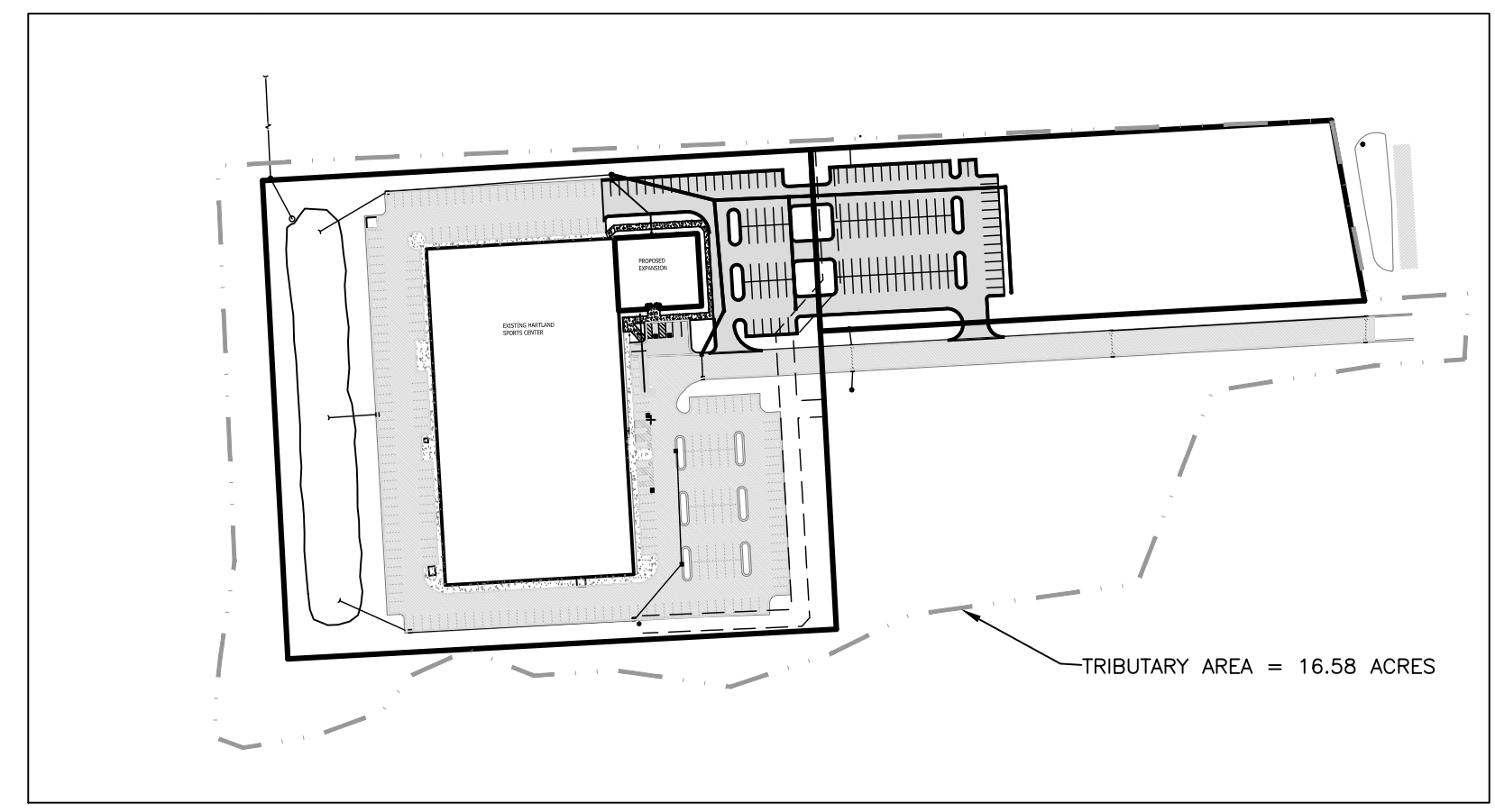


LEGEND

PROPOSED (PR)	EXISTING (EX)	DESCRIPTION
900	900	CONTOUR
T/C	T/C	STORM DRAINAGE FLOW
XXX.XX	922.08	SPOT ELEVATION
FFE	FFE	FINISHED FLOOR ELEVATION
F/G	F/G	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/CURB	T/CURB	TOP OF CURB
T/C	T/C	TOP OF CONCRETE PAVEMENT
T/WALK	T/WALK	TOP OF WALK
CL	CL	CENTER LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
HP	HP	HIGH POINT
ES	ES	END-SECTION
GV	GV	GATEVALVE STRUCTURE
HY	HY	HYDRANT
UP	UP	UTILITY POLE
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
PS	PS	PRESSURE SEWER
SS	SS	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
MH	MH	MANHOLE
INLET / CATCHBASIN	INLET / CATCHBASIN	INLET / CATCHBASIN
FLARED END-SECTION	FLARED END-SECTION	FLARED END-SECTION
GATE VALVE	GATE VALVE	GATE VALVE
HYDRANT	HYDRANT	HYDRANT
UTILITY POLE	UTILITY POLE	UTILITY POLE
FENCE	FENCE	FENCE
NOT FIELD VERIFIED	NOT FIELD VERIFIED	NOT FIELD VERIFIED
TO BE REMOVED	TO BE REMOVED	TO BE REMOVED
COMPACTED SAND BACKFILL	COMPACTED SAND BACKFILL	COMPACTED SAND BACKFILL
CSB	CSB	SANITARY SEWER LABEL
SW 1	SW 1	STORM SEWER LABEL
CB	CB	WATER MAIN LABEL
GV 12	GV 12	SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)
541	541	SILT FENCE
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY
		CONCRETE
		ASPHALT
		CURB AND GUTTER
		MODIFIED CURB & GUTTER

NOTE:
SEE SHEET B FOR DRAINAGE AREA TABLE,
STORM SEWER STRUCTURE AND PIPE
TABLES, AND BASIN CALCULATIONS.

- UTILITY NOTES:**
1. ALL EXISTING HYDRANTS WITHIN CONSTRUCTION ENVELOPES MUST BE UPGRADED TO MODEL #EJ5BR
 2. ALL EXISTING UTILITY INFRASTRUCTURE WITHIN THE DEVELOPMENT ENVELOPE WILL BE REQUIRED TO BE UPGRADED TO THE CURRENT DESIGN AND ENGINEERING STANDARDS



TOTAL TRIBUTARY AREA DETAIL
SCALE = (1:200)

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN ARE BASED ON RECORD DRAWINGS, FIELD SURVEY, EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF, AND THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION, AND APPROPRIATE CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION, APPEAR OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLAN.

**BEFORE YOU DIG
CALL MISS DIG**
1-800-487-7171
or the number on your utility mark

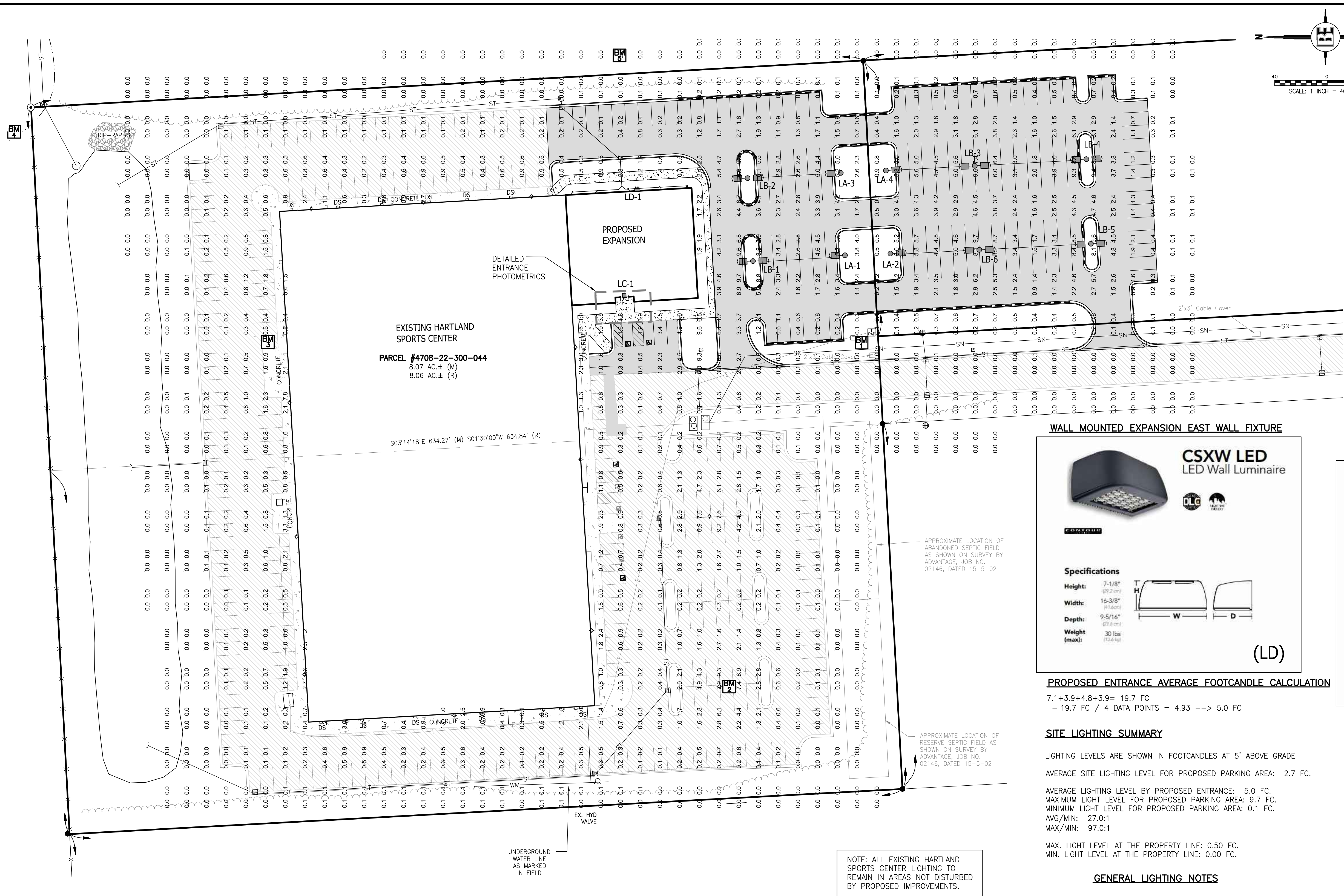
BEBOSS
Engineering
Engineers Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.456.4836 FAX 517.548.1670

PROJECT: **HARTLAND SPORTS CENTER EXPANSION**
PREPARED FOR: **MARK SCHAFFER**
10540 CITATION DR
BRIGHTON, MI 48116
810.229.6087

UTILITY PLAN

NO	BY	REVISION	PER	DATE
1	CH	PER TOWNSHIP REVIEW		1-31-19
2	CH	PER TOWNSHIP REVIEW		1-15-19
1	CH	PER TOWNSHIP REVIEW		1-15-19
NO	BY	REVISION	PER	DATE

DESIGNED BY: LW
DRAWN BY: AEB
CHECKED BY:
SCALE 1" = 40'
JOB NO. 18-412
DATE 12-10-18
SHEET NO. **5**



LEGEND

- DOUBLE FIXTURE LIGHT POLE
- SINGLE FIXTURE LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- GROUND LIGHT FIXTURE
- FOOT CANDLES ON SITE
- FOOT CANDLES OFF SITE
- FOOT CANDLES CONTOURS

WALL MOUNTED ENTRANCE FIXTURE

D-Series Size 1 LED Wall Luminaire

Specifications Luminaire

Width:	13-3/4" (34.9 cm)	Weight:	12 lbs (5.4 kg)
Depth:	10" (25.4 cm)	Height:	6-3/8" (16.2 cm)

Back Box (BBW, ELCW)

Width:	13-3/4" (34.9 cm)	Weight:	5 lbs (2.3 kg)
Depth:	4" (10.2 cm)	Height:	6-3/8" (16.2 cm)

(LC)

WALL MOUNTED EXPANSION EAST WALL FIXTURE

CSXW LED LED Wall Luminaire

Specifications

Height:	7-1/8" (18.2 cm)
Width:	16-3/8" (41.6 cm)
Depth:	9-5/16" (23.8 cm)
Weight (max):	30 lbs (13.6 kg)

(LD)

POLE MOUNTED FIXTURE

D-Series Size 2 LED Area Luminaire

Specifications

EPA:	1.1 ft ² (0.10 m ²)
Length:	40" (101.6 cm)
Width:	15" (38.1 cm)
Height:	7-1/4" (18.4 cm)
Weight (max):	35 lbs (15.7 kg)

(LA & LB)

PROPOSED ENTRANCE AVERAGE FOOTCANDLE CALCULATION

$7.1 + 3.9 + 4.8 + 3.9 = 19.7 \text{ FC}$
 $- 19.7 \text{ FC} / 4 \text{ DATA POINTS} = 4.93 \text{ FC} \rightarrow 5.0 \text{ FC}$

SITE LIGHTING SUMMARY

LIGHTING LEVELS ARE SHOWN IN FOOTCANDLES AT 5' ABOVE GRADE

AVERAGE SITE LIGHTING LEVEL FOR PROPOSED PARKING AREA: 2.7 FC.

AVERAGE LIGHTING LEVEL BY PROPOSED ENTRANCE: 5.0 FC.

MAXIMUM LIGHT LEVEL FOR PROPOSED PARKING AREA: 9.7 FC.

MINIMUM LIGHT LEVEL FOR PROPOSED PARKING AREA: 0.1 FC.

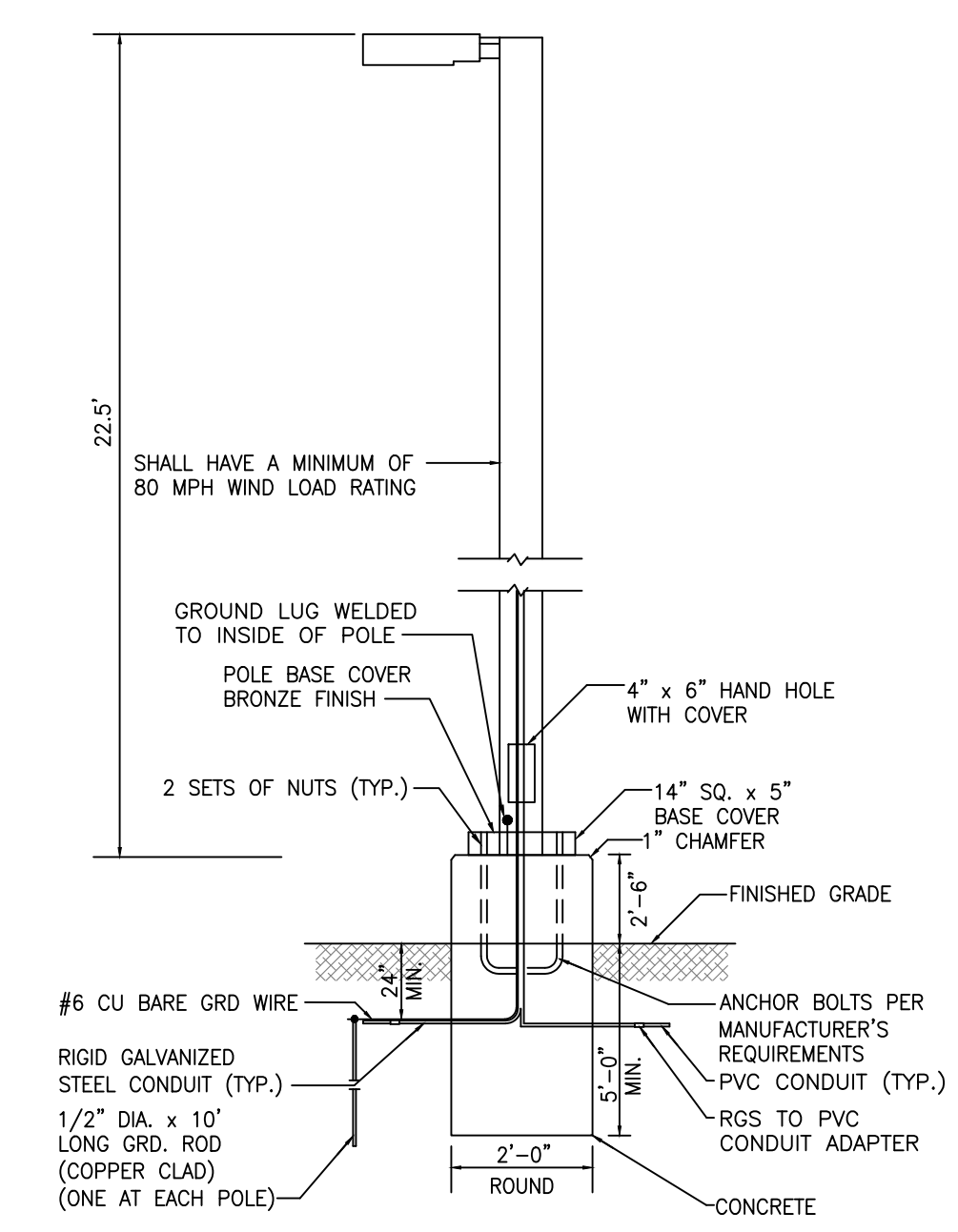
AVG/MIN: 27.0:1

MAX/MIN: 97.0:1

MAX. LIGHT LEVEL AT THE PROPERTY LINE: 0.50 FC.

MIN. LIGHT LEVEL AT THE PROPERTY LINE: 0.00 FC.

- GENERAL LIGHTING NOTES**
- THE LIGHTING PATTERN REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS.
 - ALL POLES ARE TO BE MOUNTED ON CONCRETE PEDESTALS 2'6" ABOVE GRADE IN PARKING LOTS AS SHOWN IN DETAIL.
 - ALL POLES LOCATED OUTSIDE OF THE PARKING AREA SHALL BE LOCATED 3' FROM BACK OF CURB OR EDGE OF SIDEWALKS.
 - SHOP DRAWINGS FOR THE ELECTRICAL WIRING OF THE POLES NEED TO BE SUBMITTED TO THE ENGINEER FOR COORDINATION OF UNDERGROUND CONDUIT AND APPROVAL OF LAYOUT.
 - THE SITE CURRENTLY FEATURES EXISTING LIGHT FIXTURES BOTH POLE AND WALL MOUNTED. IN AN EFFORT TO REPRESENT SITE LIGHTING CONDITIONS, PHOTOMETRICS HAVE BEEN SHOWN FOR THE ENTIRE SITE. PROPOSED FIXTURES FOR THE EXPANSION WERE SELECTED TO MATCH CURRENT FIXTURES AS CLOSELY AS POSSIBLE WHILE MEETING HARTLAND TOWNSHIP ZONING ORDINANCE REQUIREMENTS.



LUMINAIRE SCHEDULE

SYMBOL	LABEL	QTY.	DESCRIPTION	CATALOG NUMBER	LAMP	LUMENS	LLF	POLE DESCRIPTION	POLE HEIGHT	BASE HEIGHT	TOTAL HEIGHT
LA	LA	4	LITHONIA- DSX2 LED P1 30K TSM MVOLT WITH HOUSE SHIELD	DSX2 LED P1 30K TSM MVOLT HS	LED	ABSOLUTE	.93	MATCH EXISTING	22' 6"	2' 6"	25'
LB	LB	6	LITHONIA- DSX2 LED P1 30K TSM MVOLT WITH HOUSE SHIELD (TWIN)	DSX2 LED P1 30K TSM MVOLT HS	LED	ABSOLUTE	.93	MATCH EXISTING	22' 6"	2' 6"	25'
LC	LC	1	LITHONIA- DSW1 LED WITH (1) 10 LED LIGHT ENGINES, TYPE TFTM OPTIC, 3000K, @1000mA WITH HOUSE SHIELD	DSXW1 LED 10C 1000 30K TFTM MVOLT HS	LED	ABSOLUTE	.93	N/A	WALL MOUNTED	N/A	15'
LD	LD	1	LITHONIA- CONTOUR SERIES LED WALL-MOUNT WITH 30 3000K KEDS OPERATED AT 1000mA AND PRECISION MOLDED ACRYLIC TYPE IV LENS	CSXW LED 30C 1000 30K T4M	LED	ABSOLUTE	.93	N/A	WALL MOUNTED	N/A	MATCH EX.

ALL IES FILES PROVIDED BY MANUFACTURER FOR CALCULATION OF LIGHTING LEVEL.

BEBOSS Engineering
 Engineers Surveyors Planners Landscape Architects
 3121 E. GRAND RIVER AVE.
 HOWELL, MI. 48843
 517.456.4836 FAX 517.548.1670

PROJECT: HARTLAND SPORTS CENTER EXPANSION
PREPARED FOR: MARK SCHAFFER
 10540 CITATION DR
 BRIGHTON, MI 48116
 810.229.6087

TITLE: PHOTOMETRIC PLAN

NO	BY	REVISION PER	DATE
1	CH	PER TOWNSHIP REVIEW	1-31-19
2	CH	PER TOWNSHIP REVIEW	1-15-19
1	CH	PER TOWNSHIP REVIEW	1-15-19

DESIGNED BY: CH
 DRAWN BY: AEB
 CHECKED BY:
 SCALE: 1" = 40'
 JOB NO. 18-412
 DATE: 12-10-18
 SHEET NO. 7

STORM SEWER CALCULATIONS

PIPE	FROM	TO	DRAIN AREA	ACRES	AREA IMPERV	AREA PERV	RUNOFF COEFF	EQUIV. AREA	INTENS	TIME OF CONC.	ADD'L RUNOFF Q	RUNOFF (CFS)	PIPE LENGTH (LF)	PIPE DIA. (IN)	ACTUAL VELOCITY FT/SEC	HYDRAULIC SLOPE %	ACTUAL SLOPE USED	FLOW CAPACITY (CFS)	VELOCITY FLOWING FULL (FPS)	TIME (MIN)	HG UPPER	ELEV LOWER	ELEV UPPER	ELEV UPPER	INVERT LOWER	INVERT LOWER	DROP DISTANCE (FT)	RIM-INV	RIM-HG	PIPE COVER	FLOW THRU
EX 2	EX 1	EX 2	EX 1	0.24	0.00	0.24	0.60	0.14	4.38	15.00		0.63	30	12	0.80	0.06%	0.50%	2.53	3.22	0.15	968.40	968.25	972.52	967.60	967.45		4.92	4.12	3.92	0.63	
EX 4	EX 2	EX 4	EX 2	0.25	0.00	0.25	0.60	0.15	4.36	15.15		1.28	295	12	1.63	0.26%	2.15%	5.24	6.67	0.74	968.25	961.91	972.51	967.45	961.11		5.06	4.26	4.06	0.65	
EX 8	EX 4	EX 8	EX 4	0.23	0.00	0.23	0.60	0.14	4.28	15.89		1.87	300	12	2.39	0.56%	3.84%	7.00	8.91	0.56	961.91	950.38	966.04	961.11	949.58		4.93	4.13	3.93	0.59	
EX 10	EX 8	EX 10	EX 8	0.24	0.00	0.24	0.60	0.14	4.22	16.45	1.96	4.44	173	24	1.41	0.14%	1.41%	26.93	8.57	0.34	950.38	947.93	955.04	948.78	946.33		6.26	4.66	4.26	0.61	
24	EX 10	24	EX 10	0.20	0.00	0.20	0.55	0.11	4.19	16.79	12.60	17.50	56	24	5.57	0.49%	1.35%	26.36	8.39	0.11	947.84	947.57	951.50	946.23	945.47		5.27	3.66	3.17	0.46	
23	24	23	24	0.19	0.00	0.19	0.88	0.16	4.18	16.90	0.74	18.92	128	24	6.02	0.54%	1.00%	22.68	7.22	0.30	947.57	946.87	951.65	945.47	944.18		6.18	4.08	4.18	0.68	
EX MH1	23	EX MH1	23	0.22	0.00	0.22	0.85	0.19	4.15	17.20	9.42	29.12	122	24	9.27	1.65%	1.00%	29.12	9.27	0.22	946.87	944.86	951.65	944.18	942.96		7.47	4.78	5.47	0.77	
EX 14	EX MH1	EX 14	EX MH1	0.00	0.00	0.00	0.00	0.00	4.13	17.42	1.07	30.19	260	30	6.15	0.45%	0.60%	31.75	6.47	0.67	944.86	943.31	951.00	942.86	941.31		8.14	6.14	5.64	0.00	
EX FES15	EX 14	EX FES15	EX 14	0.43	0.00	0.43	0.80	0.34	4.06	18.09		31.58	90	30	6.43	0.49%	0.64%	33.02	6.73	0.22	943.21	942.63	950.50	941.21	940.63		9.29	7.29	6.69	1.40	
26	27	26	27	0.94	0.00	0.94	0.70	0.66	4.38	15.00		2.89	122	12	3.68	0.65%	0.32%	2.89	3.68	0.55	959.41	958.61	960.75	945.75	945.36		15.00	1.34	14.00	2.89	
25	26	25	26	1.09	0.00	1.09	0.70	0.77	4.32	15.55		6.20	251	12	7.89	3.01%	0.32%	6.20	7.89	0.53	958.61	951.07	960.60	945.36	944.56		15.24	1.99	14.24	3.31	
23A	25	23A	25	0.50	0.00	0.50	0.80	0.40	4.26	16.08	1.51	9.42	86	12	12.00	6.96%	0.32%	9.42	12.00	0.12	951.07	945.08	952.70	944.56	944.28		8.14	1.63	7.14	1.72	
25A	28	25A	28	0.43	0.00	0.43	0.80	0.34	4.38	15.00		1.51	126	12	1.92	0.14%	0.32%	2.02	2.57	0.81	945.86	945.46	952.95	945.06	944.66		7.89	7.09	6.89	1.51	
EX MH1A	EX 13	EX MH1A	EX 13	0.31	0.00	0.31	0.80	0.24	4.38	15.00		1.07	5	12	1.36	0.09%	-1.20%	1.07	1.36	0.06	947.15	947.15	950.69	946.29	946.35		4.40	3.54	3.40	1.07	
EX 10	EX 9	EX 10	EX 9	0.26	0.00	0.26	0.65	0.17	4.38	15.00		0.74	30	12	0.94	0.07%	0.50%	2.53	3.22	0.16	947.38	947.23	951.50	946.58	946.43		4.92	4.12	3.92	0.74	
EX 6	EX 5	EX 6	EX 5	3.27	0.00	3.27	0.75	2.45	4.38	15.00		10.73	22	15	8.74	2.29%	3.00%	11.22	9.14	0.04	951.99	951.32	956.00	950.99	950.32		5.01	4.01	3.76	10.73	
EX 8A	EX 6	EX 8A	EX 6	0.61	0.00	0.61	0.70	0.43	4.37	15.04		12.60	30	18	7.13	1.43%	1.50%	12.90	7.30	0.07	951.32	950.88	955.04	950.12	949.68		4.92	3.72	3.42	1.87	
EX 8B	EX 7	EX 8B	EX 7	0.15	0.00	0.15	0.20	0.03	4.38	15.00		0.13	19	15	0.10	0.10%	3.00%	11.22	9.14	0.03	951.25	950.68	955.00	950.25	949.68		4.75	3.75	3.50	0.13	
EX 4	EX 3	EX 4	EX 3	0.64	0.00	0.64	0.70	0.45	4.38	15.00		1.96	30	12	2.50	0.23%	0.50%	2.53	3.22	0.15	962.16	962.01	966.05	961.36	961.21		4.69	3.89	3.69	1.96	

GENERAL LANDSCAPE NOTES:

1. ALL PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE GOVERNING MUNICIPALITY AND SHALL BE NURSERY GROWN. ALL SIZES AND MEASUREMENTS SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS. ALL PLANT MATERIAL SHALL BE OF SELECTED SPECIMEN QUALITY AND HAVE A NORMAL HABIT OF GROWTH. ALL PLANT MATERIAL IS SUBJECT TO APPROVAL OF THE LANDSCAPE ARCHITECT.
2. ALL PLANT MATERIALS SHALL BE BALLED AND BURLAPPED STOCK OR CONTAINER STOCK. NO BARE ROOT STOCK IS PERMITTED. ALL PLAN BALLS SHALL BE FIRM, INTACT AND SECURELY WRAPPED AND BOUND.
3. ALL PLANT BEDS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND OTHER EXTRANEIOUS OBJECTS AND POOR SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BACKFILLED TO GRADE WITH PLANTING MIX (SEE BELOW).
4. PLANTING MIXTURE SHALL CONSIST OF 4 PARTS TOPSOIL FROM ON SITE, 1 PART PEAT, AND 5 POUNDS OF SUPERPHOSPHATE PER CUBIC YARD OF MIX. INGREDIENTS SHALL BE THOROUGHLY BLENDED TO A UNIFORM CONSISTENCY.
5. ALL PLANT BEDS AND INDIVIDUAL PLANTS SHALL BE MULCHED WITH A 4 INCH LAYER OF SHREDDED BARK MULCH.
6. ALL PLANTS AND PLANT BEDS SHALL BE THOROUGHLY WATERED UPON COMPLETION OF PLANTING AND STAKING OPERATIONS.
7. THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF 1 YEAR FROM THE DATE THE WORK IS ACCEPTED, IN WRITING, BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE, WITHOUT COST TO THE OWNER, WITHIN A SPECIFIED PERIOD OF TIME ALL DEAD PLANTS AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION AS DETERMINED BY THE LANDSCAPE ARCHITECT DURING AND AT THE END OF THE GUARANTEE PERIOD. REPLACEMENT STOCK SHALL CONFORM TO THE ORIGINAL REQUIREMENTS.
8. EDGING, WHERE NOTED ON THE PLANS, SHALL BE BLACK ALUMINUM EDGING, 3/16 INCHES BY 4 INCHES. INSTALL PER MANUFACTURER'S INSTRUCTIONS. ALL EDGING SHALL BE INSTALLED IN STRAIGHT LINES OR SMOOTH CURVES WITHOUT IRREGULARITIES.
9. SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUEGRASSES AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4 INCH, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10 INCHES BY 18 INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36 HOURS AFTER CUTTING.
10. ALL AREAS OF THE SITE THAT BECOME DISTURBED DURING CONSTRUCTION AND ARE NOT TO BE PAVE, STONED, LANDSCAPED, OR SODDED SHALL BE SEEDED AND MULCHED.

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS IS BASED ON THE RECORD DRAWINGS AND FIELD SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE LOCATION OR DEPTH OF UTILITIES NOT SHOWN ON THESE PLANS.

BEFORE ANY DIG CALL MISS DIG 1-800-487-7171

BEBOSS Engineering
 Engineers Surveyors Planners Landscape Architects
 3121 E. GRAND RIDGE AVE.
 HOWELL, MI. 48843
 517.456.4836 FAX 517.548.1670

PROJECT: **HARTLAND SPORTS CENTER EXPANSION**
 PREPARED FOR: **MARK SCHAFFER**
 10540 CRAFTON DR
 BRIGHTON, MI 48116
 810.229.6087

TITLE: **CONSTRUCTION DETAILS & NOTES/STORM CALCULATIONS**

NO	BY	DATE
1	CH	1-31-19
2	CH	1-15-19
3	CH	1-15-19
4	CH	1-15-19
5	CH	1-15-19
6	CH	1-15-19
7	CH	1-15-19
8	CH	1-15-19
9	CH	1-15-19
10	CH	1-15-19

DESIGNED BY: CH
 DRAWN BY: CH
 CHECKED BY: CH

SCALE: N/A
 JOB NO. 18-412
 DATE: 12-10-18
 SHEET NO. 8

BEBOSS Engineering

DETENTION BASIN CALCULATIONS

LIVINGSTON COUNTY DETENTION BASIN CALCULATIONS

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
12.00	0.9	10.80
0.00	0.7	0.00
4.58	0.2	0.92

Impervious Surfaces
 Pervious Surfaces

COMPOUND C: 0.70 (INCLUDES FUTURE DEVELOPMENT)
 TOTAL DRAINAGE AREA: 16.58 ACRES

K1 = AxC (Design Constant) = 11.606
 Qa = MAX ALLOW OUTFLOW (0.10 CFS / ACRE) = 3.316 CFS

DURATION MINUTES	DURATION SECONDS	INTENSITY (IN/HR)	INFLOW VOLUME IN INCHES	INFLOW VOLUME IN RUNOFF x Ax C	OUTFLOW DURATION x Qa	STORAGE VOLUME INFLOW - OUTFLOW
5	300	9.17	2750	31917	995	30922
10	600	7.86	4714	54714	1990	52724
15	900	6.88	6188	71812	2984	68828
20	1200	6.11	7333	85111	3979	81131
30	1800	5.00	9000	104454	5969	98485
60	3600	3.24	11647	135176	11938	123238
90	5400	2.39	12913	149869	17906	131962
120	7200	1.90	13655	158482	23875	134607
180	10800	1.34	14488	168145	35813	132333

REQUIRED 100 YEAR DETENTION VOLUME = 134607 CF

BANKFULL FLOOD VOLUME
 V_{BF} = 5160 x A x C = 59887 CF

FIRST FLUSH VOLUME
 V_{FF} = 1815 x A x C = 21065 CF

BASIN STORAGE VOLUME PROVIDED:

ELEV	AREA	VOLUME	CUMMULATIVE VOLUME
950	54099	51169	206298
949	48239	45390	155129
948	42542	39775	109738
947	37008	34322	69963
946	31637	29034	35641
945	26430	26608	6608
944.5	0	0	0
943	0	0	0
942	0	0	0
941	0	0	0
940	0	0	0

BOTTOM OF BASIN = 940.00

BOTTOM OF STORAGE = 944.50

FIRST FLUSH X_{FF} = 945.50

BANKFULL X_{BF} = 946.71

100 YEAR X₁₀₀ = 948.55

BASIN STORAGE VOLUME PROVIDED:

ELEV	AREA	VOLUME	CUMMULATIVE VOLUME
950	54099	51169	206298
949	48239	45390	155129
948	42542	39775	109738
947	37008	34322	69963
946	31637	29034	35641
945	26430	26608	6608
944.5	0	0	0
943	0	0	0
942	0	0	0
941	0	0	0
940	0	0	0

BOTTOM OF BASIN = 940.00

BOTTOM OF STORAGE = 944.50

FIRST FLUSH X_{FF} = 945.50

BANKFULL X_{BF} = 946.71

100 YEAR X₁₀₀ = 948.55

OUTLET CONTROL STRUCTURE

FIRST FLUSH OF RUNOFF

THE AVERAGE ALLOWABLE RELEASE RATE FOR RUNOFF IS 0.5" OVER AREA OF SITE IN 24 HRS.

Q_{FF} = V_{FF} x (1/24HRS) x (1HR/3600SEC) = 0.244 CFS

PLACE OPENINGS IN STANDPIPE AT BOTTOM OF BASIN = 944.50

HEAD = h_{FF} = X_{FF} - BOTTOM BASIN ELEV = 1.00 FT

A = Q_{FF} / (0.62 * (2 * 32.2 * h_{FF}^{1.5})) = 0.040 FT²

A 1 INCH DIAMETER ORIFICE HAS AN AREA OF 0.0055 SF

A / 0.0055 = 8.99

THEREFORE, USE THE FOLLOWING NUMBER OF 8.00 HOLES, AT ELEV. 944.50 1 INCH DIAMETER HOLES

Q_{FF} MAX = 0.635 CFS

BANKFULL FLOOD

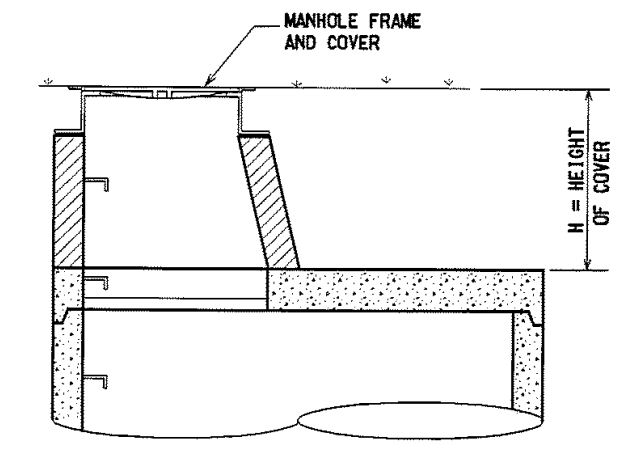
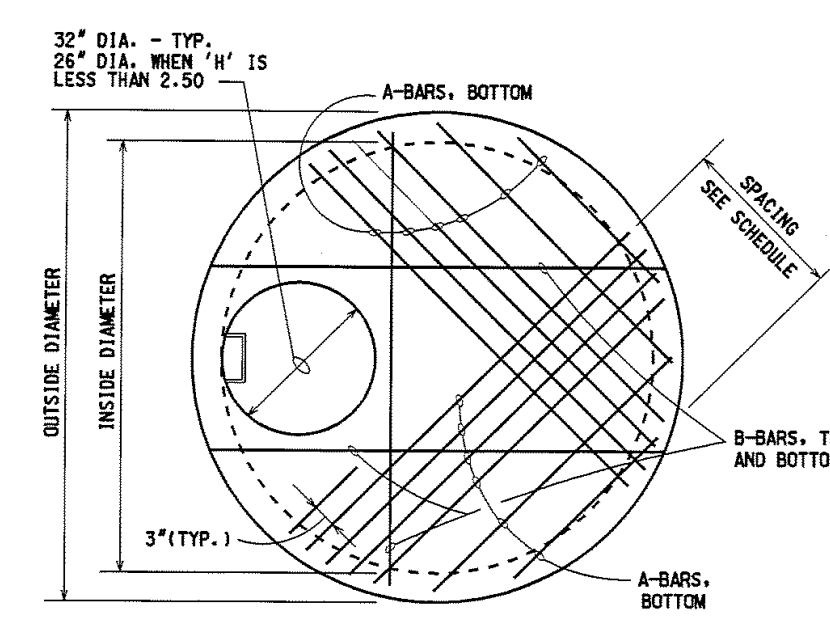
FOR THE ALLOWABLE RELEASE RATE OF 24-HOURS, CHECK THE DISCHARGE THROUGH THE FIRST FLUSH ORIFICE TO SEE IF ADDITIONAL HOLES ARE NECESSARY.

HEAD = h = X_{BF} - BOTTOM OF BASIN = 6.71 FT

Q_{BF} = 0.62 * #HOLES * (AREA EACH HOLE) * (2 * 32.2 * h)^{1.5} = 0.962 CFS

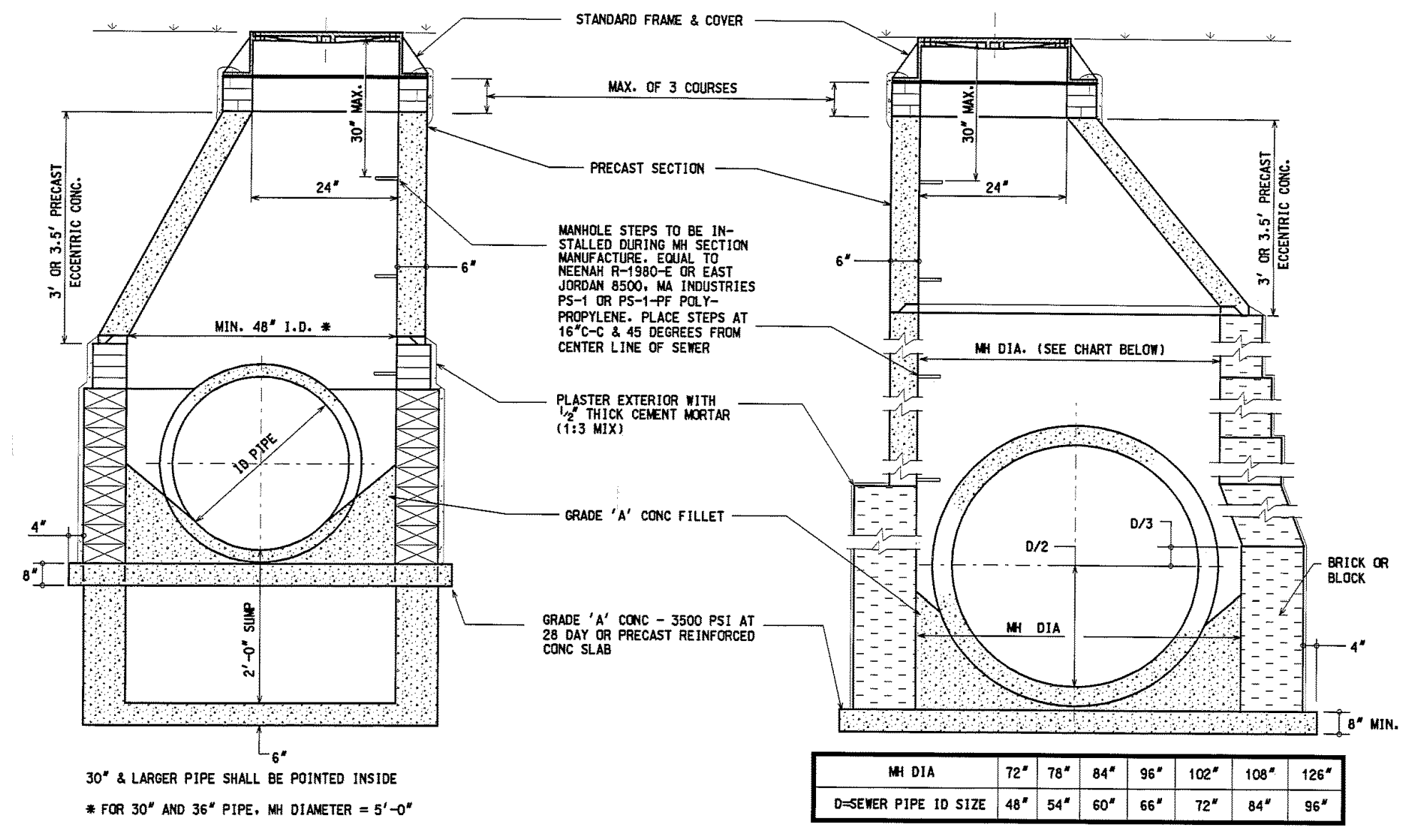
T₁₀₀ = (1.83 * Q₁₀₀) * V₁₀₀ * (1HR / 3600SEC) = 29.59 HRS

USER NAME = hntzeng
 DESIGN FILE = I:\ASD\2019\18-412\18-412 base_SP 1-11-19.dwg
 DATE = 1/30/2019 1:15:49 PM
 CDR: TEL: 1-800-368-6868 FAX: 973-552-4099
 HUBBELL, ROTH & CLARK, INC. CONSULTING ENGINEERS
 3399 E. GRAND RIVER AVE. SUITE 102 HOWELL, MICHIGAN 48843-7955
 PHONE: (248) 454-8300 DIRECT PHONE: (977) 552-9199 FAX: (977) 552-4099
 WWW.HRC-ENG.COM



INSIDE DIA.	SLAB THICKNESS	MAX. HEIGHT OF COVER	REINFORCEMENT	
			A-BARS EA. SIDE	B-BARS TOP & BOTTOM
4'-0"	8"	8'-0"	(4)-#5 3 @ 3"	(3)-#5
5'-0"	8"	8'-0"	(6)-#5 3 @ 3"	(3)-#5
6'-0"	8"	8'-0"	(5)-#6 4 @ 6"	(3)-#5
7'-0"	8"	8'-0"	(7)-#6 6 @ 6"	(3)-#5
8'-0"	8"	8'-0"	(9)-#6 8 @ 6"	(3)-#5
9'-0"	10"	8'-0"	(11)-#6 10 @ 6"	(3)-#5
10'-0"	10"	8'-0"	(13)-#7 12 @ 6"	(3)-#5

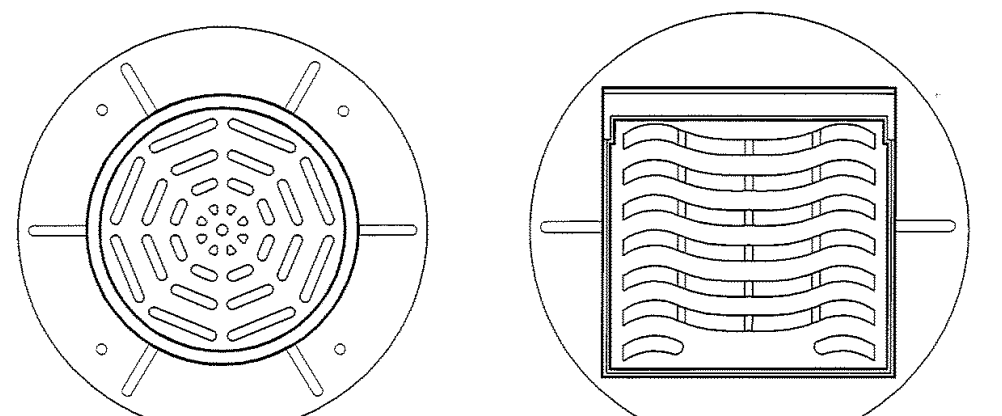
MANHOLE REINFORCEMENT DETAIL



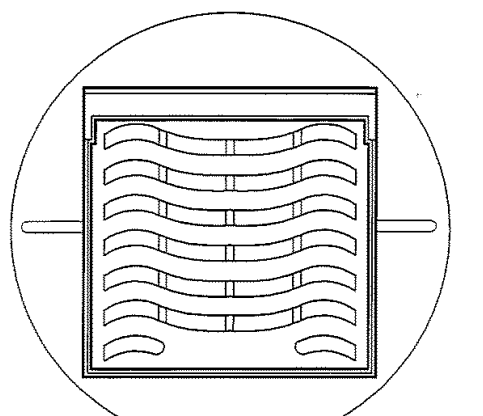
STORM MANHOLE FOR 42" PIPE AND SMALLER



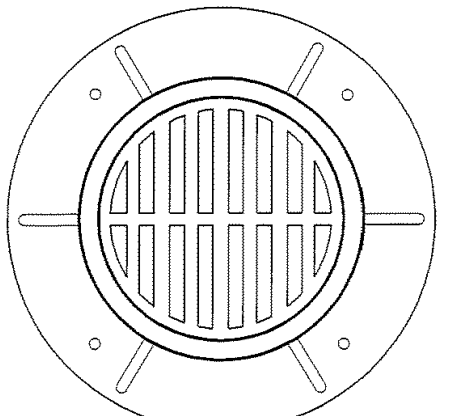
STORM MANHOLE FOR 48" PIPE AND LARGER



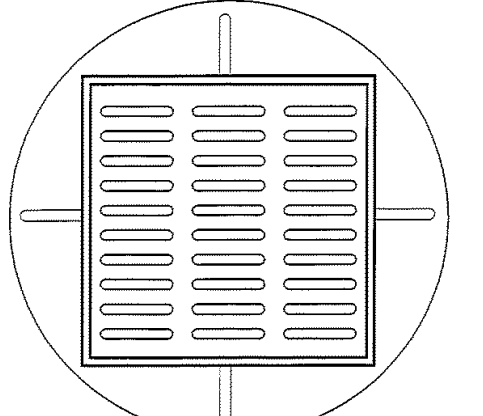
CATCH BASINS AND INLETS WITHIN PAVED DRIVING AREAS FRAME & COVER EJ1W #1040 WITH TYPE 'M-1' GRATE



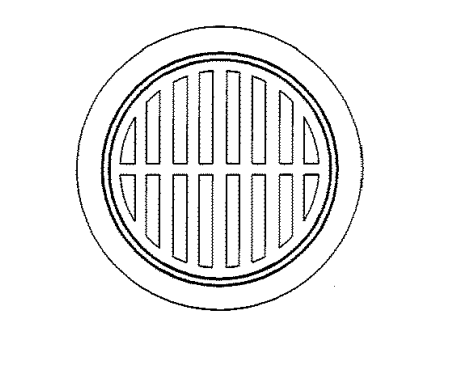
CURB PAVEMENT SECTION FRAME & COVER EJ1W #1045 WITH TYPE 'M-1' FOR 6" HIGH BACK CURB



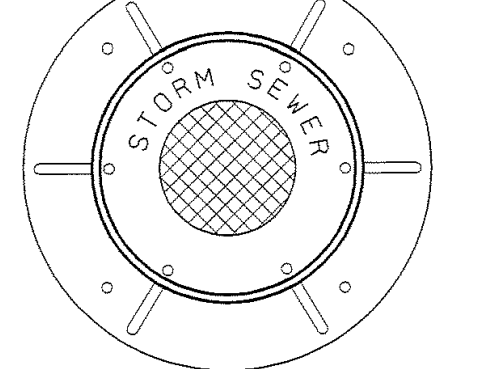
REAR YARD FRAME & COVER EJ1W #1040 WITH TYPE 'M' GRATE



CURB PAVEMENT SECTION FRAME & COVER EJ1W #1040 WITH TYPE 'M' FOR 4" MOUNTABLE CURB



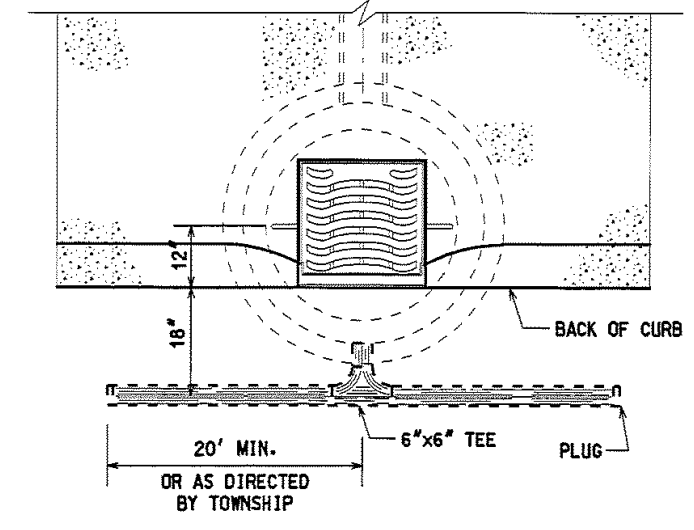
REAR YARD FRAME & COVER FOR 2" DIA. INLET EJ1W #1130 WITH TYPE 'M' GRATE



STORM SEWER FRAME & COVER EJ1W #1040 WITH TYPE 'B' COVER

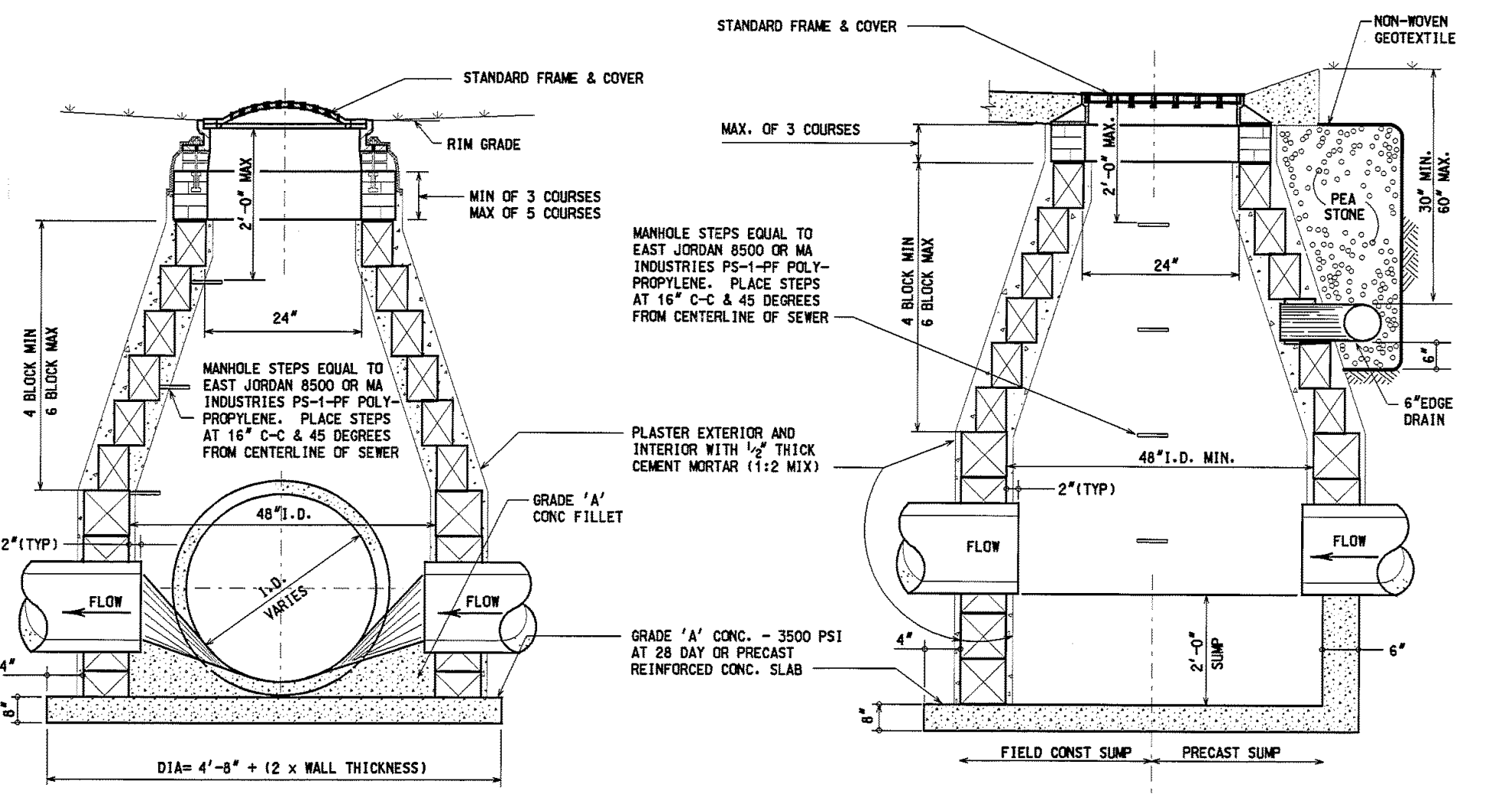
FRAME AND COVER

NOTE:
ALL STORM COVERS TO HAVE "DUMP NO WASTE" LETTERING AND TROUT IMAGE.



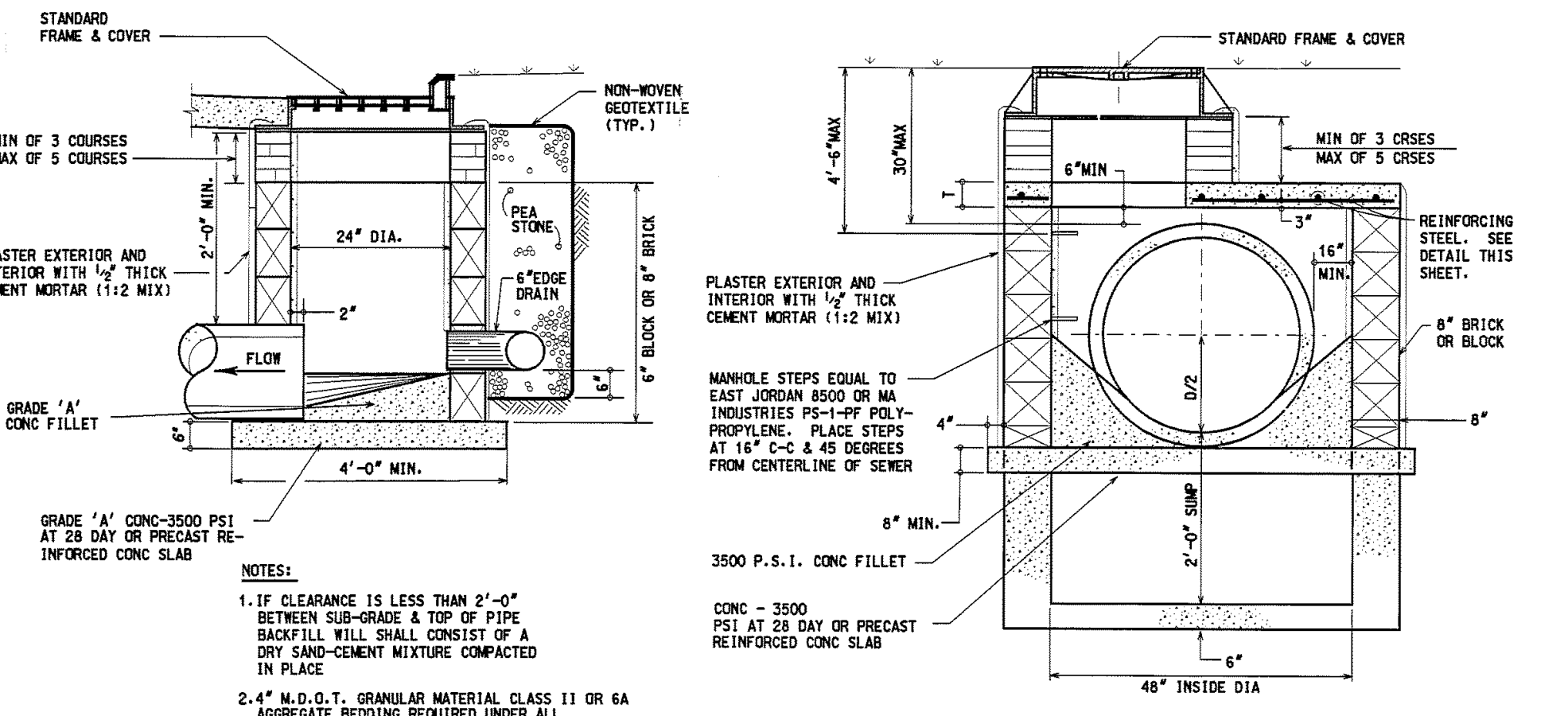
6" EDGE DRAIN

- NOTES:
- LENGTH OF 6" EDGE DRAIN TO BE 20' IN EACH DIRECTION OR AS DETERMINED BY THE TOWNSHIP IN THE FIELD.
 - EDGE DRAIN SHALL BE INSTALLED AT ALL CATCH BASINS & INLETS WITHIN LIMITS OF PAVEMENT OF A ROADWAY.
 - 6" EDGE DRAIN TO BE CORRUGATED PLASTIC PIPE WITH FOUR ROWS OF SLOTTED PERFORATIONS, OR APPROVED EQUAL.
 - THE AGGREGATE SURROUNDING THE 6" EDGE DRAIN SHALL BE WRAPPED WITH A NON-WOVEN GEOTEXTILE FABRIC, GEOTEX 801 OR APPROVED EQUAL.



YARD CATCH BASIN

PAVEMENT CATCH BASIN



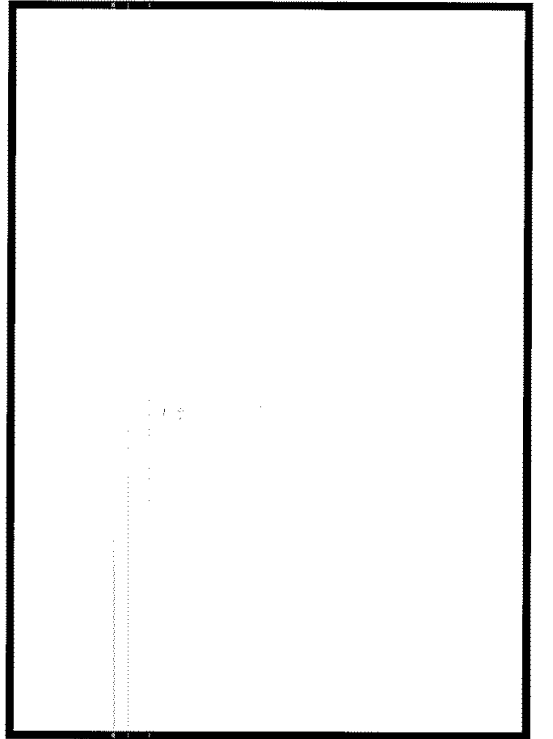
LOW HEAD INLET

LOW HEAD STORM SEWER STRUCTURE



HRC
HUBBELL, ROTH & CLARK, INC.
Consulting Engineers
3399 E. GRAND RIVER AVE. SUITE 102
HOWELL, MICHIGAN 48843-7955
PHONE: (248) 454-8300
DIRECT PHONE: (977) 552-9199
FAX: (977) 552-4099
WEB SITE: <http://www.hrc-eng.com>

11-18-08	ADOPTED BY TOWNSHIP BOARD
DATE	ADDITIONS AND/OR REVISIONS
DESIGNED	
DRAWN	J. REC
CHECKED	J. HEINTZ
APPROVED	J. BOOTH



HARTLAND TOWNSHIP
STANDARD CONSTRUCTION DETAILS

STORM SEWER STANDARDS

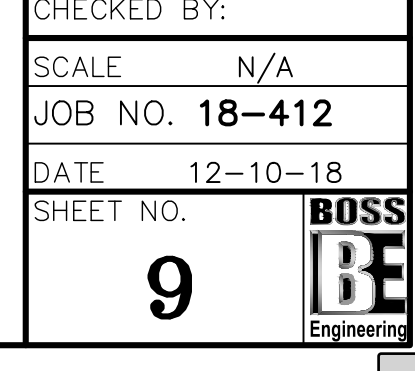
HRC JOB NO.	SCALE
20070878	NONE
DATE	SHEET NO.
JULY 2008	1 OF 2

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.
BEFORE YOU DIG
CALL MISS DIG
1-800-487-7171
or the number on the yellow pages

BEBOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.456.4836 FAX 517.548.1670

PROJECT: **HARTLAND SPORTS CENTER EXPANSION**
PREPARED FOR: **MARK SCHAFFER**
10540 CITATION DR
BRIGHTON, MI 48116
810.229.6087
TITLE: **HARTLAND TOWNSHIP STORM SEWER DETAILS**

DESIGNED BY:	CH
DRAWN BY:	
CHECKED BY:	
SCALE:	N/A
JOB NO.:	18-412
DATE:	12-10-18
SHEET NO.:	9

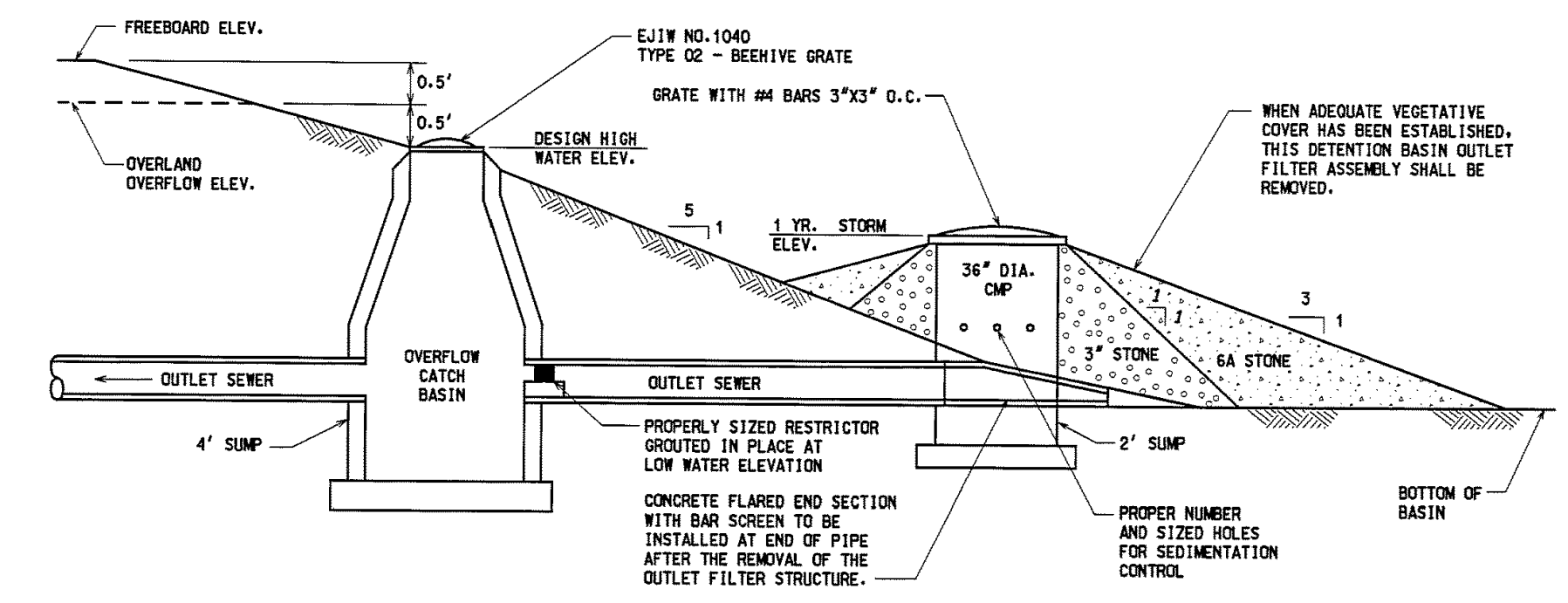


DATE: 2018-06-13 13:51

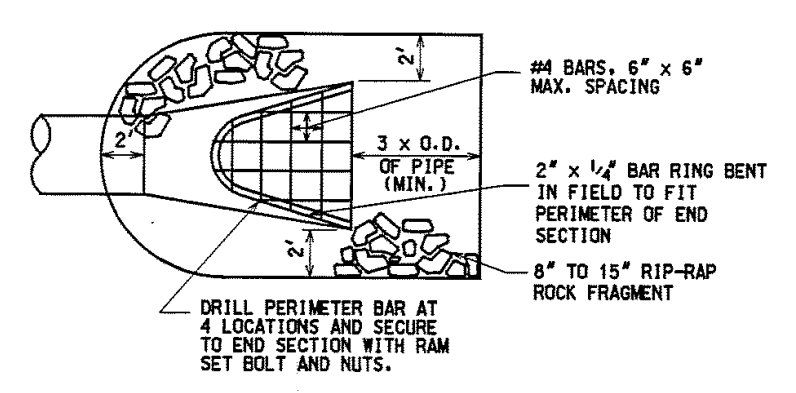
C:\p\18-412\dwg\18-412 base_SP 1-11-19.dwg

DATE: 2018-06-13 13:51

DATE: 2018-06-13 13:51

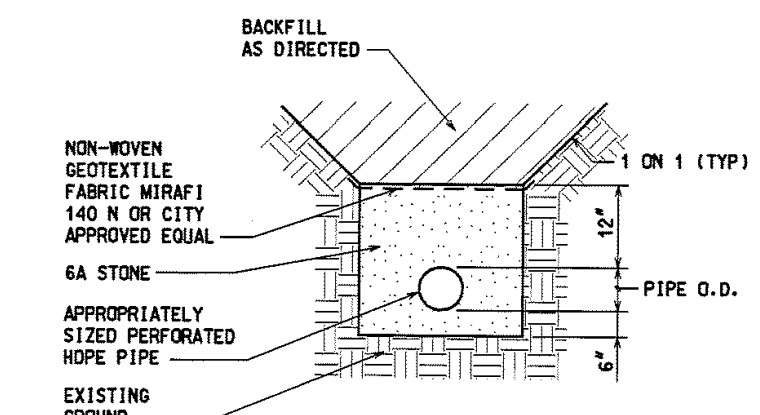


DETENTION BASIN OUTLET STRUCTURE DETAIL



END SECTION AND BAR SCREEN DETAIL

- STORM SEWER NOTES:**
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT ENGINEERING DESIGN STANDARDS AND SPECIFICATIONS OF HARTLAND TOWNSHIP.
 2. IT SHALL BE THE OWNER'S ENGINEER AND CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES.
 3. ALL SEWER TRENCHES UNDER THE 45 DEGREE ZONE OF INFLUENCE LINE OF EXISTING OR PROPOSED PAVEMENTS, BIKE PATHS, SIDEWALKS OR DRIVE APPROACHES SHALL BE BACKFILLED WITH MOIST CLASS 11 SAND COMPACTED TO AT LEAST 95% OF MAXIMUM UNIT WEIGHT.
 4. JOINTS FOR STORM SEWER SHALL BE PREMIUM JOINTS (TONGUE AND GROOVE WITH RUBBER GASKETS).
 5. LEAD MATERIAL SHALL BE SCHED 40 PVC OR DR 26.
 6. ALLOWABLE PIPE MATERIAL FOR STORM SEWERS SHALL BE:
 - A. C-76 REINFORCED CONCRETE PIPE CONFORMING TO CLASSES III, IV OR V.
 - B. PERFORATED HIGH DENSITY POLYETHYLENE WITH SMOOTH INTERIOR AND ANNUULAR EXTERIOR CORRUGATION MEETING REQUIREMENTS OF ASTM F2306. BEDDING AND BACKFILL SHALL BE AS SHOWN IN THE FOLLOWING DETAIL:

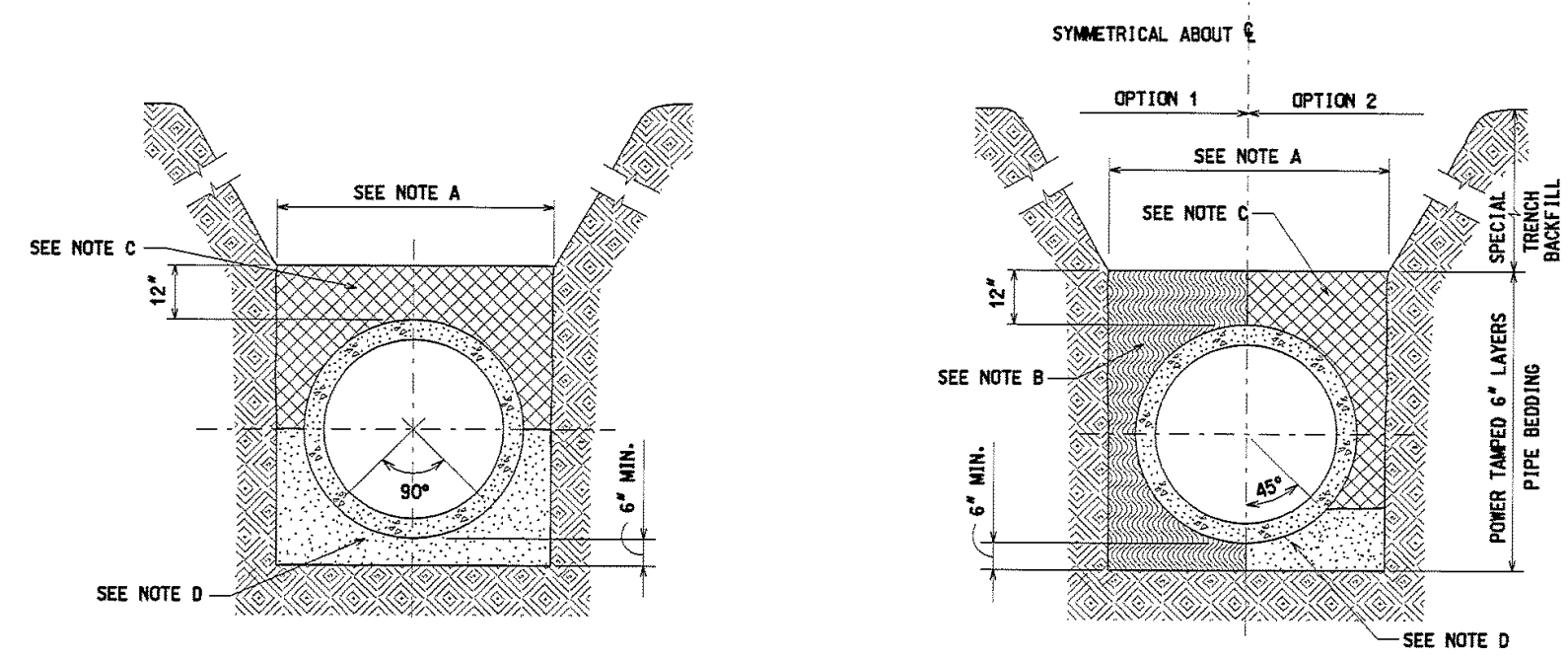


HDPE BEDDING DETAIL

- NOTE A:** BELOW A POINT 12" ABOVE THE TOP OF THE PIPE, THE TRENCH WIDTH SHALL PROVIDE A CLEARANCE OF NOT LESS THAN 6" BETWEEN PIPE & TRENCH. TRENCH WIDTH SHALL NOT EXCEED THAT SHOWN IN THE MAXIMUM TRENCH WIDTH TABLE.
- NOTE B:** PIPE BEDDING MATERIALS SHOWN THIS SHALL MEET 2003 M.D.O.T. TABLE 902-3 REQUIREMENTS FOR CLASS 11 COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT AS DETERMINED BY METHODS PER THE CURRENT MOOT DENSITY CONTROL HANDBOOK.
- NOTE C:** PIPE BEDDING BACKFILL MATERIALS SHOWN THIS SHALL BE SELECTED EXCAVATED MATERIAL (EXCEPT BLUE CLAY); WHERE TRENCH "A" IS SPECIFIED, SPECIAL TRENCH "A" BACKFILL MATERIAL SHALL BE USED FOR PIPE BEDDING BACKFILL.
- NOTE D:** PIPE BEDDING CUSHION MATERIALS SHOWN THIS SHALL CONSIST OF MEETING THE GRADING AND PHYSICAL REQUIREMENTS OF 2003 M.D.O.T. TABLE 902-4 & TABLE 902-5, COARSE AGGREGATE 6A, BLAST FURNACE SLAG OR CRUSHED STONE CONTAINING SUFFICIENT SMALLER SIZED AGGREGATE TO PREVENT MIGRATION OF EARTH OR BACKFILL MATERIAL INTO BEDDING MATERIAL & CAREFULLY PREPARED SO THAT THE ENTIRE BOTTOM 1/4" OF THE PIPE WILL BEAR AGAINST THE CUSHION. THE TYPE & THICKNESS OF THE BEDDING SHALL BE AS REQUIRED TO MAINTAIN CORRECT ALIGNMENT & GRADE & SHALL NOT BE LESS THAN 6". (THIS BEDDING CUSHION SUPERSEDES CUSHION REQUIRED BY THE SPECIFICATIONS.)

TYPES OF BEDDING

STANDARD PIPE BEDDING SHALL BE USED EXCEPT WHERE THE OTHER TYPES OF PIPE BEDDING ARE CALLED FOR ON THE PLANS & PROFILES



STANDARD BEDDING
CIRCULAR PIPE - 24" DIA. & LARGER

STANDARD BEDDING
CIRCULAR PIPE - 21" DIA. & SMALLER

TRENCH	TRENCH BACKFILL
TRENCH "A" (SPECIAL)	BANK RUN SAND MEETING THE REQUIREMENTS OF 2003 M.D.O.T. TABLE 902-3 GRADING REQUIREMENTS FOR GRANULAR MATERIALS CLASS 11. MATERIALS SHALL BE PLACED IN ACCORDANCE WITH 2003 M.D.O.T. 205.03-14-06, FOR CONTROLLED DENSITY METHOD WITH EACH LAYER COMPACTED TO 95 PERCENT OF MAXIMUM UNIT WEIGHT AS DETERMINED BY METHODS PER THE CURRENT MOOT DENSITY CONTROL HANDBOOK
TRENCH "B" (STANDARD)	SUITABLE EXCAVATED MATERIAL (EXCLUDING BLUE CLAY) PLACED IN ONE FOOT LAYERS WITH EACH LAYER COMPACTED BY APPROVED MECHANICAL METHODS TO A DENSITY EQUIVALENT TO THE UNDISTURBED ADJACENT SOIL.

TRENCH BACKFILL NOTES:

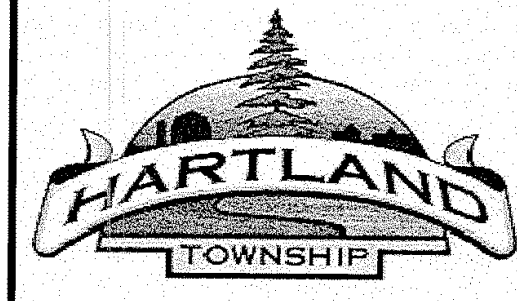
SPECIAL BACKFILL FOR TRENCHES (TRENCH "A") SHALL BE USED AT ALL LOCATIONS CALLED FOR ON THE PLANS & REQUIRED IN THE SPECIFICATIONS. WHERE NOTED ON THE PLANS OR PROFILES TRUSS: TRENCH "A" - TRENCH "A" SHALL BE USED AT LOCATIONS REQUIRED BY THE SPECIFICATIONS. TRENCH "B" SHALL BE USED FOR THE BALANCE OF THE WORK. WHERE TRENCH IS IN SAND OR GRAVEL THE MAXIMUM TRENCH WIDTH AT TOP OF PIPE SHALL NOT EXCEED O.D. PLUS 24".

TYPES OF PIPES & JOINTS						
PIPE				JOINT		
MATERIAL	SIZE (ROUND)	SPEC.	CLASS	REMARKS	DESCRIPTION	SPEC.
REINFORCED CONCRETE	12" - 144"	A.S.T.M. C76	111 - V		MODIFIED GROOVE TONGUE WITH RUBBER GASKET.	A.S.T.M. C443 *
	12" - 144"	M.D.O.T. 8.08.03	111 - V		SPECIAL DESIGNS SUPPLEMENT A.S.T.M. C-76	INSIDE CEMENT POINTING FOR 42" DIA & LARGER PIPE.

* EXCEPT AS SUCH SPECIFICATIONS RELATE TO INFILTRATION LIMITATIONS.

TRENCH BEDDING & BACKFILL

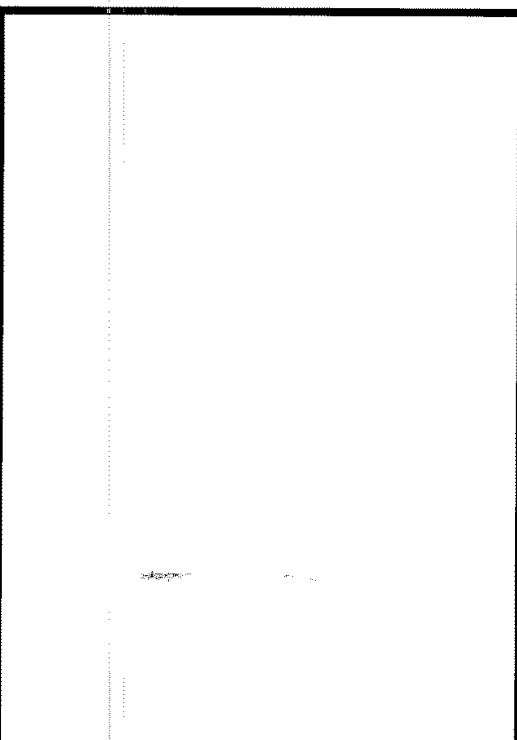
MAXIMUM TRENCH WIDTH TABLE (IN.)	
PIPE I.D.	TRENCH WIDTH
4 -12	32
15	36
18	39
21	43
24	46
27	50
30	53
36	68
42	75
48	82
54	89
60	96
66	103
72	110



HRC
HUBBELL, ROTH & CLARK, INC.
Consulting Engineers
3399 E. GRAND RIVER AVE. SUITE 102
HOWELL, MICHIGAN 48843-7555
PHONE: (248) 454-6300
DIRECT PHONE: (817) 552-9199
FAX: (817) 552-6099
WEB SITE: http://www.hrc-enr.com

DATE	ADDITIONS AND/OR REVISIONS
11-16-08	ADOPTED BY TOWNSHIP BOARD

DESIGNED	J. REC
DRAWN	J. REC
CHECKED	J. HEINTZ
APPROVED	J. BOOTH



HARTLAND TOWNSHIP
STANDARD CONSTRUCTION DETAILS

STORM SEWER STANDARDS

HRC JOB NO.	SCALE
20070876	NONE
DATE	SHEET
JULY 2008	2

© 2008 Hubbell, Roth and Clark, Inc. All Rights Reserved

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORD DRAWINGS, FIELD SURVEY, EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTENCE, LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. APPARENT OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

BEFORE YOU DIG
CALL MISS DIG
1-800-485-7171
or visit us online at missdig.com

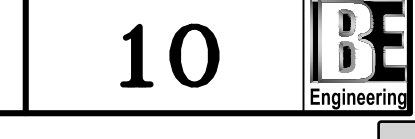
BEBOSS
Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.456.4836 FAX 517.548.1670

PROJECT: **HARTLAND SPORTS CENTER EXPANSION**
PREPARED FOR: **MARK SCAFFER**
10540 CITATION DR
BRIGHTON, MI 48116
810.229.6087

TITLE: **HARTLAND TOWNSHIP STORM SEWER DETAILS**

NO	BY	REVISION	DATE
1	CH	PER TOWNSHIP REVIEW	1-15-19

DESIGNED BY: CH
DRAWN BY:
CHECKED BY:
SCALE: N/A
JOB NO. 18-412
DATE: 12-10-18
SHEET NO. 10



ISSUED FOR	DATE	7.a.1
SPA	11.24.17	
	1.1.18	

CODE REFERENCE

- * MICHIGAN BUILDING CODE 2015
- * MICHIGAN BARRIER FREE CODE & ICC/ANSI A117.1 2009
- * MICHIGAN BARRIER FREE DESIGN LAW P.A. 1 OF 1966 AS AMENDED
- * MICHIGAN MECHANICAL CODE 2015 (M.M.C.)
- * MICHIGAN PLUMBING CODE 2015 (M.P.C.)
- * INTERNATIONAL FUEL GAS CODE 2015 (I.F.G.C.)
- * MFC 2012 CHAPTER 13 & MICHIGAN UNIFORM ENERGY CODE 2012 CHAPTER 5 AND PART 100 RULES (ANSI/ASHRAE/IESNA STANDARD 90.1 2009)
- * NATIONAL ELECTRICAL CODE 2014 N.E.C. W/ PART 8 AMENDMENTS (N.E.C.)
- * INTERNATIONAL FIRE CODE 2015 (I.F.C.)
- * PROJECT SHALL COMPLY W/ MFC 2015 CHP. 35

DESIGN DATA

NOTE:
 PLANS BEING SUBMITTED BY ARE FOR SITE PLAN APPROVAL OF THE PROPOSED NEW BUILDING ADDITION

CONSTRUCTION CLASS: 2B, UNLIMITED AREA BUILDING

EXISTING USE GROUPS:
 A-4: EXISTING SKATING RINKS
 A-2: EXISTING RESTAURANT (ACCESSORY USE <10%)
 M: EXISTING PRO SHOP (ACCESSORY USE <10%)

PROPOSED USE GROUPS:
 A-4: LOCKER ROOMS (ACCESSORY TO ICE RINKS)
 A-3: TRAINING AREAS

EXISTING BUILDING IS FIRE SUPPRESSED. PROPOSED ADDITION SHALL BE FIRE SUPPRESSED PER CHAPTER 4 MFC2015.

COMMON PATH OF EGRESS TRAVEL (TABLE 1006.2.1)

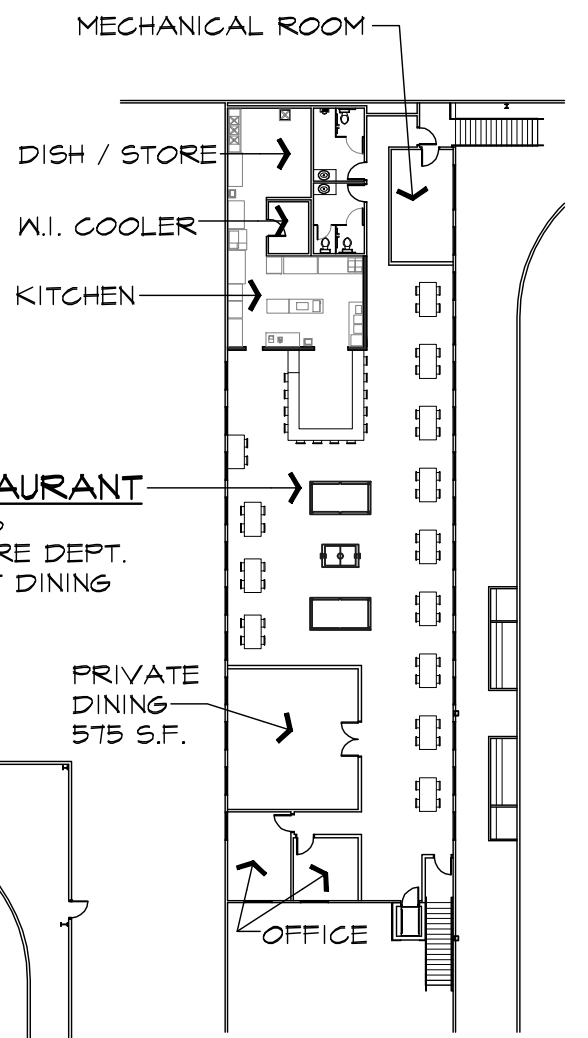
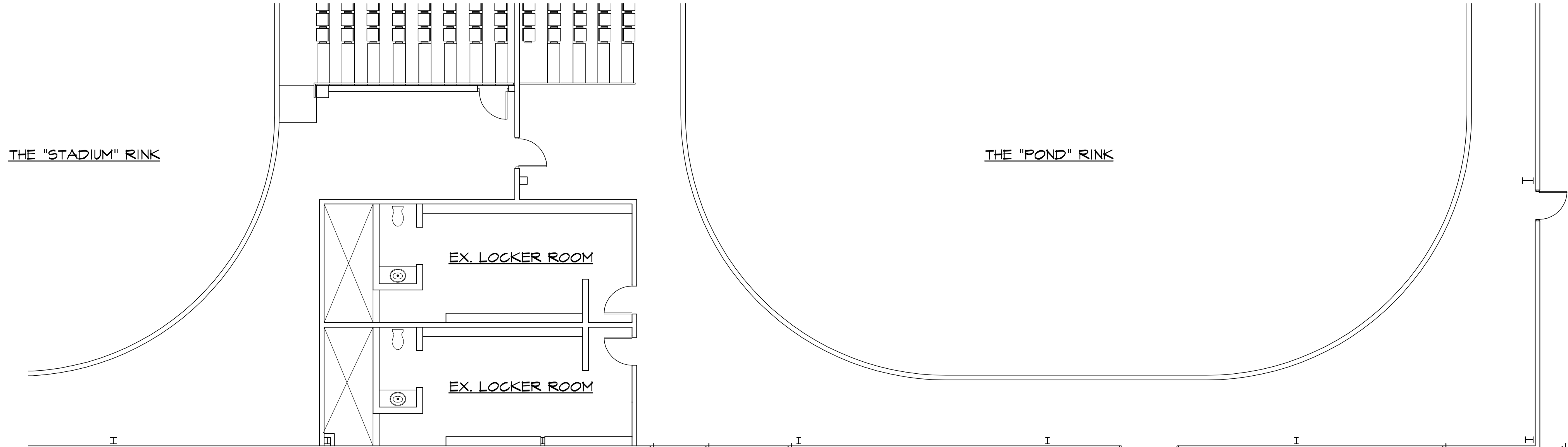
A USE GROUP: 75'

SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY (TABLE 1006.2.1)

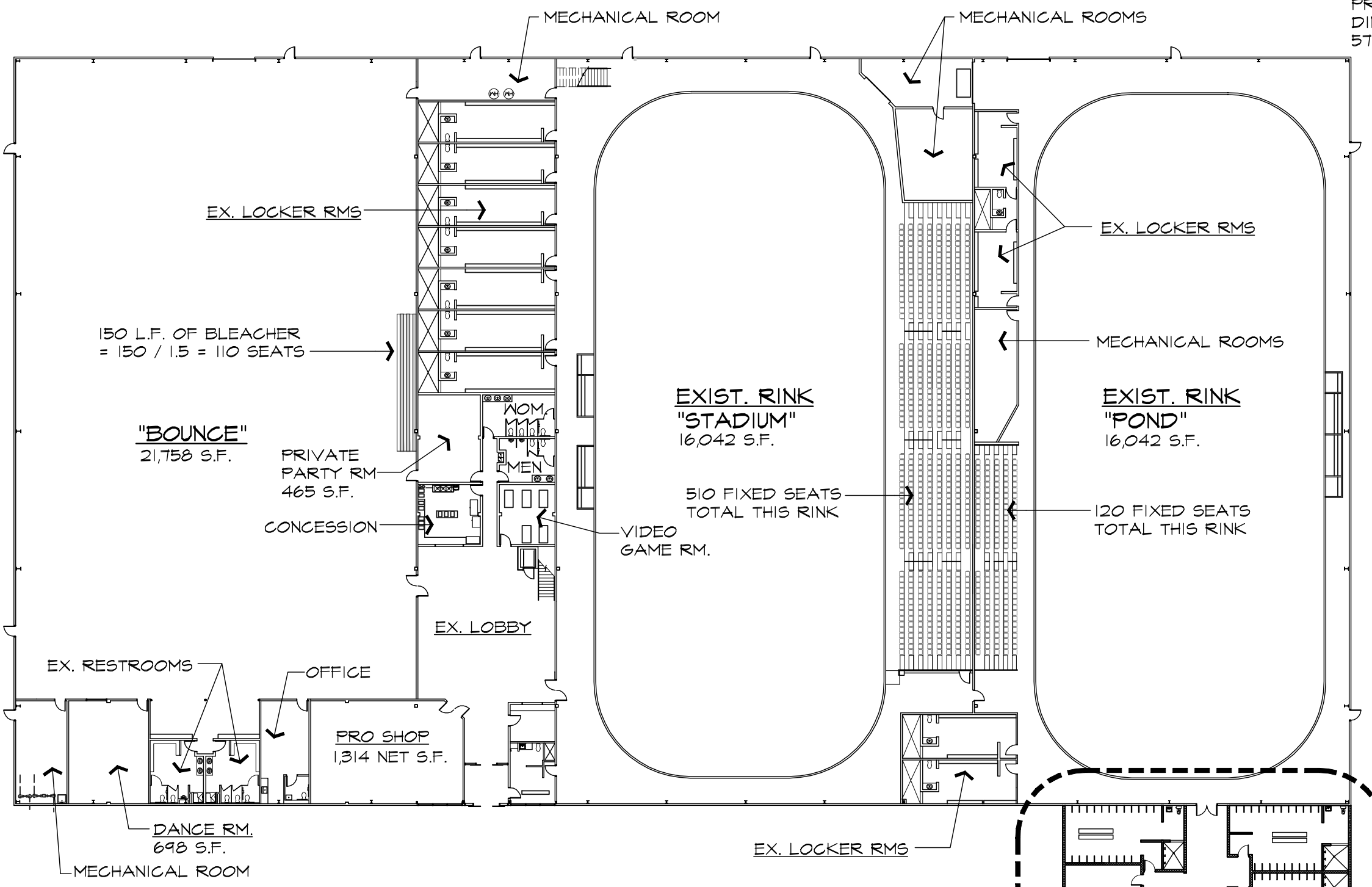
A USE GROUP: MAX. OCCUPANCY 49

EXIT ACCESS TRAVEL DISTANCE (TABLE 1017.2)

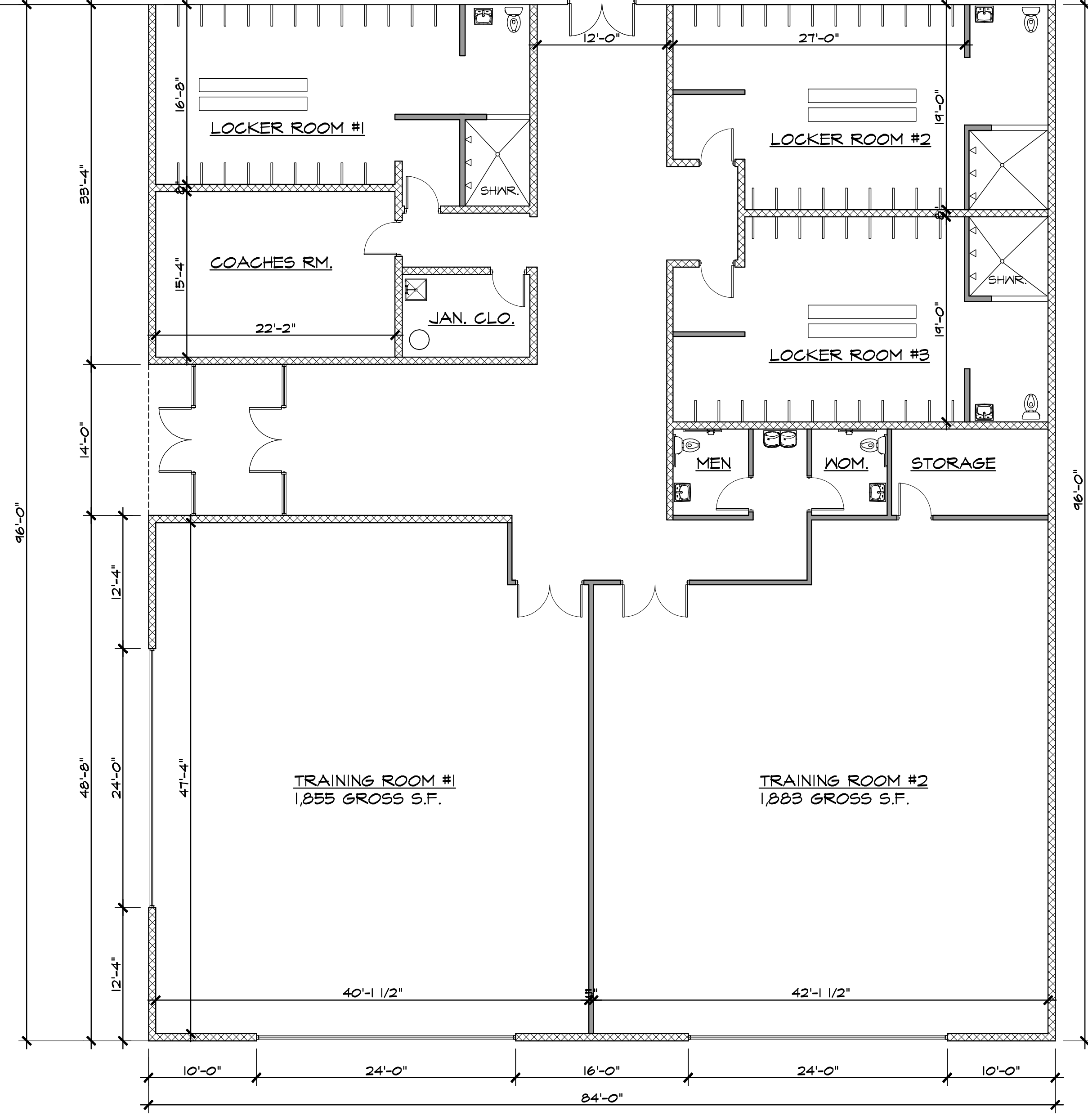
A USE GROUP: 250'



EX. MEZZANINE PLAN



OVERALL BUILDING FLOOR PLAN



FLOOR PLAN
 8,064 S.F.

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



ARCHITECTURAL DESIGN
 RESIDENTIAL
 COMMERCIAL
 INDUSTRIAL

G.A.V. ASSOCIATES, INC.
 24001 ORCHARD LAKE RD., STE. 180A
 FARMINGTON, MICHIGAN 48336
 PH: (248) 988-9191
 WEB: WWW.GAVASSOCIATES.COM



PROPOSED ADDITION:
 HARTLAND ICE ARENA
 HARTLAND TWP., MICHIGAN

DRAWN:	DESIGNED:	CHECKED:
AV		

SCALE :

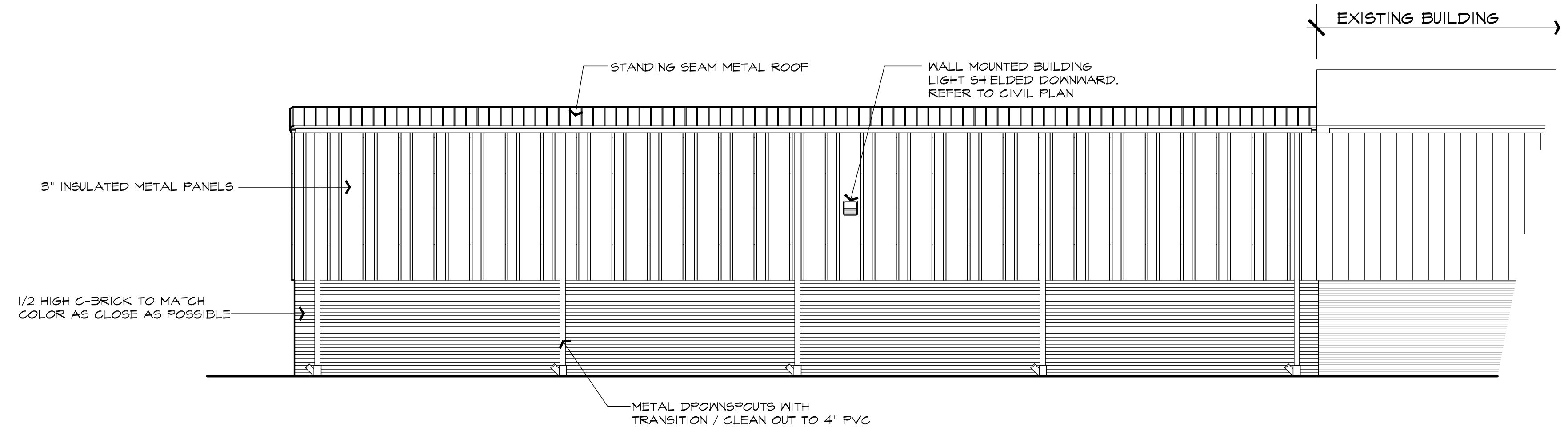
FILE NAME :

JOB # :

SHEET TITLE
 FLOOR PLANS

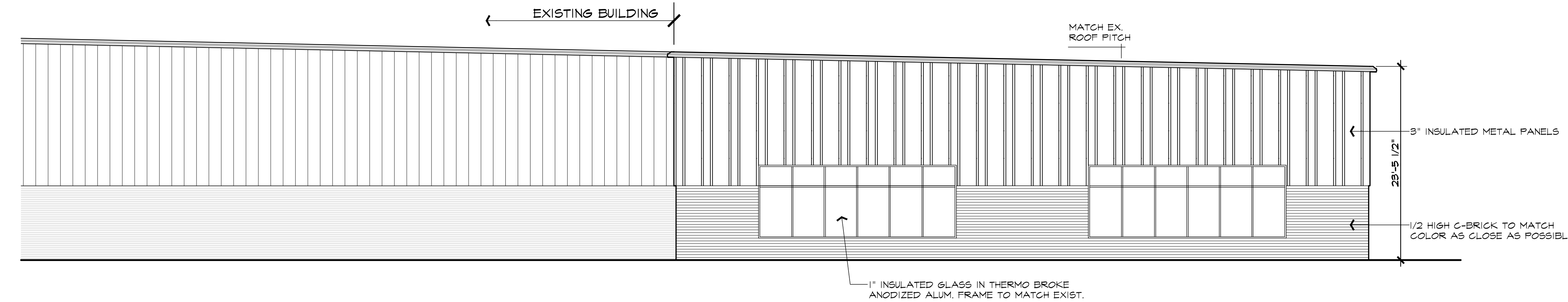
SHEET #
 A.101

ISSUED FOR	DATE	7.a.1
SFA	11.24.17	
	1.9.19	



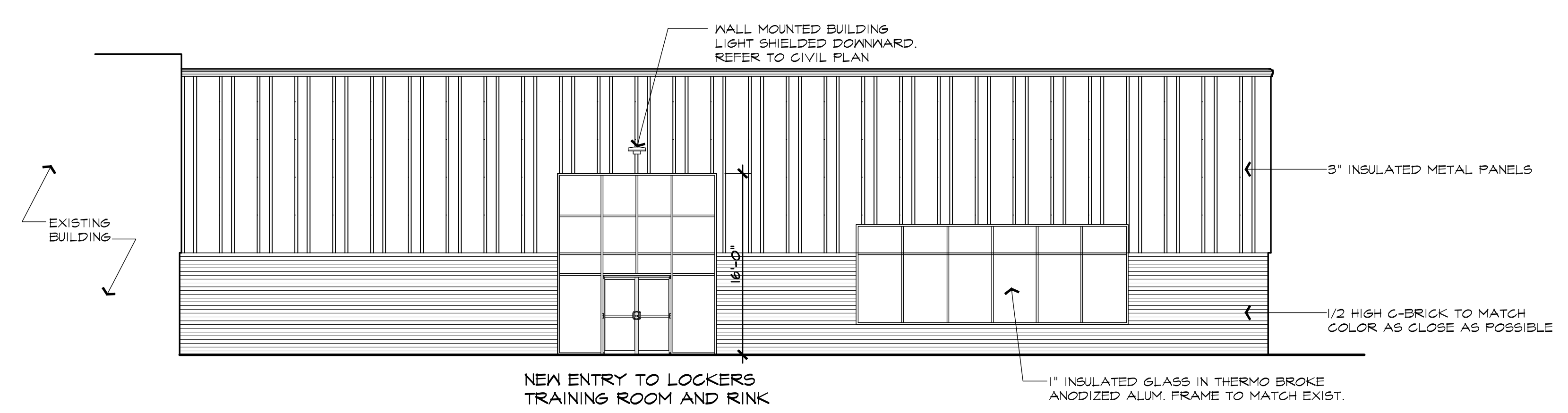
EAST ELEVATION
SCALE: 1/8" = 1'-0"

ELEVATION FACADE MATERIAL PERCENTAGE
TOTAL AREA: 2,253 S.F.
1/2 HIGH C-BRICK: 864 S.F. = 38%
METAL PANEL: 1,389 S.F. = 62%



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

ELEVATION FACADE MATERIAL PERCENTAGE
TOTAL AREA: 2,051 S.F.
1/2 HIGH C-BRICK: 452 S.F. = 22%
GLASS: 424 S.F. = 21%
METAL PANEL: 1,175 S.F. = 57%



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

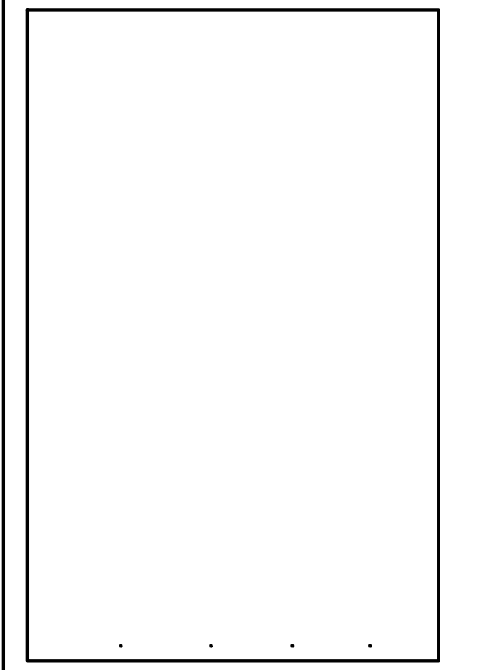
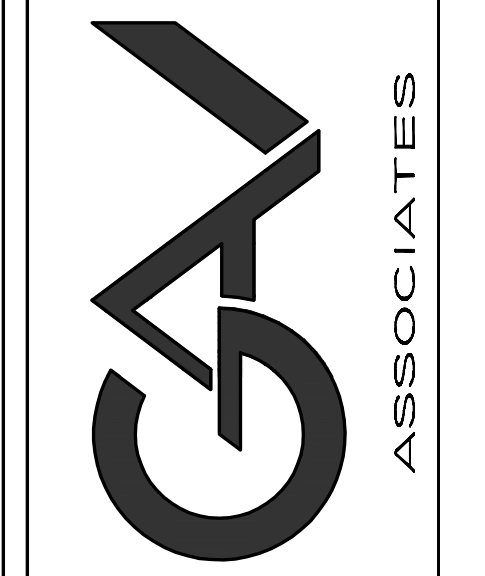
ELEVATION FACADE MATERIAL PERCENTAGE
TOTAL AREA: 2,423 S.F.
1/2 HIGH C-BRICK: 596 S.F. = 24%
GLASS: 436 S.F. = 18%
METAL PANEL: 1,401 S.F. = 58%

- NOTE:**
- BUILDING ADDRESS SHALL BE A MINIMUM OF 6" HIGH LETTERS OF CONTRASTING COLORS AND BE CLEARLY VISIBLE FROM THE STREET.
 - A KEY BOX/KNOX BOX SHALL BE LOCATED NEAR THE FRONT ENTRY.
 - A VERTICAL CLEARANCE OF 13.5' SHALL BE MAINTAINED THROUGHOUT THE SITE FOR EMERGENCY VEHICLE ACCESS.
 - DELIVERIES FOR PROPOSED DEVELOPMENT SHALL BE DURING NON-BUSINESS HOURS.



ARCHITECTURAL DESIGN
RESIDENTIAL
COMMERCIAL
INDUSTRIAL

G.A.V. ASSOCIATES, INC
24001 ORCHARD LAKE RD., STE. 180A
FARMINGTON, MICHIGAN 48336
PH: (248) 988-9191
WEB: WWW.GAVASSOCIATES.COM



PROPOSED ADDITION:
HARTLAND ICE ARENA
HARTLAND TWP., MICHIGAN

DRAWN:	DESIGNED:	CHECKED:
AV		

SCALE :

FILE NAME :

JOB # :

SHEET TITLE
EXTERIOR
ELEVATIONS
SHEET #
A.201



Board of Trustees

William J. Fountain, Supervisor
 Larry N. Ciofu, Clerk
 Kathleen A. Horning, Treasurer

Joseph W. Colaianne, Trustee
 Matthew J. Germane, Trustee
 Glenn E. Harper, Trustee
 Joseph M. Petrucci, Trustee

MEMORANDUM

Date: February 21, 2019

To: Hartland Township Planning Commission

From: Planning Department

Subject: **Ordinance Review Committee (ORC) Ordinance Amendments**
 The ORC has prepared recommendations to the Planning Commission to initiate zoning amendments for the Architectural Standards for Industrial and Light Industrial zoning districts.

The Ordinance Review Committee (ORC) has been working on an ordinance amendment regarding the architectural standards for the Industrial and Light Industrial zoning districts.

Section 5.24 outlines the architectural standards for all buildings (not applicable to detached single family homes). The Planning Commission had asked the ORC to examine the standards that were applicable to the Industrial and Light Industrial building and determine if the existing standards were satisfactory or if there were some amendments that should be considered.

Section 5.24.14 of the Zoning Ordinance essentially categories different sites and uses into different façade materials groups. Group #3 pertains to sites located in industrial districts, other than those located in façade materials group #1 and #1A. A copy of the different façade materials groups and percentage of materials allowed by group is attached for reference.

Section 5.24.15 outlines footnotes to the schedule regulating the façade materials. A copy of those footnotes is also attached for reference.

The ORC examined the standards and compared them to Industrial-Light Industrial architectural standards from many other communities; including from the following other local communities:

Brighton Township
 Genoa Township
 Green Oak Township
 Novi
 Putnam Township
 Sterling Heights

In addition, the ORC examined standards from communities outside of Michigan, such as:

Arapahoe County, Colorado
 Lake Forest, Illinois
 Town of River Head, New York

After examining the building materials that are required, and comparing the requirements to various other communities, the ORC decided the area of concern with the architectural standards were related to breaking up a long expansive wall of the same monotone building materials. As a result, the language provided in the Arapahoe County Ordinance was used as a template.

The following amendment is proposed:

Section 5.24.15

M. Industrial activities shall be oriented to minimize visual and audible impacts to residential uses, open space, natural areas, and arterial roads. A combination of appropriate screening and landscaping must be used to enhance the compatibility of industrial uses to adjacent land uses.

- 1. Long, unarticulated façades shall be avoided by employing at least four of the following to create visual interest and shadow lines: (a) textured and/or patterned surfaces, (b) projections of the exterior building walls, (c) recesses and reveals to exterior building walls, (d) variations in color, (e) window fenestration, (f) roof overhangs, and/or (g) changes in parapet height.*
- 2. On-site loading docks and service areas shall be located to minimize visibility from public streets or adjacent residential uses to the extent feasible, given the topography of the site and surrounding areas. Service and loading areas that are visible from residences or public streets shall be appropriately screened by fences, walls, landscaping berms or any combination thereof. Site design shall demonstrate efforts to minimize audible impacts to adjacent properties.*

There was also consideration given toward the following items.

- The ORC was concerned of increasing the costs of an industrial-light industrial building, but also wanted to have some assurance of a quality building. The ORC considered changing the above requirement from being required to being subject to Site Plan approval from the Planning Commission.
- The proposed language presents the term “arterial” road. Section 2.2.216 provides the following definitions:

ROAD: Any public or private thoroughfare or right-of-way, other than a public or private alley, dedicated or designed for travel and access to any land, lot or parcel, whether designated as a road, avenue, highway, boulevard, lane, court, or any similar designation. As used in this Ordinance, the definition of road does not include driveways that are intended to provide access for up to two parcels or up to two dwelling units. Consistent with the Township’s Comprehensive Plan, road classifications are as follows:

A. Principal Arterials are roadways that serve through traffic by providing routes of long distance. They provide service between communities, expressways, and other large traffic generation destinations.

B. Minor Arterials are similar in function to principal arterials, except they carry trips of shorter distance to lesser traffic generators.

Consideration should be given toward changing the term “arterial” with the term “road” to provide consistency with the current Ordinance.

Process

Zoning Ordinance Text Amendments are outlined in Section 7.4.4 of the Zoning Ordinance, as follows:

4. Zoning Ordinance Text Amendment Criteria. The Planning Commission and Township Board shall consider the following criteria for initiating amendments to the zoning ordinance text or responding to a petitioner’s request to amend the ordinance text.

A. The proposed amendment would correct an error in the Ordinance.

B. The proposed amendment would clarify the intent of the Ordinance.

C. Documentation has been provided from Township staff or the Zoning Board of Appeals indicating problems or conflicts in implementation or interpretation of specific sections of the ordinance.

D. The proposed amendment would address changes to state legislation.

E. The proposed amendment would address potential legal issues or administrative problems with the Zoning Ordinance based on recent case law or opinions rendered by the Attorney General of the State of Michigan.

F. The proposed amendment would promote compliance with changes in other Township ordinances and county, state or federal regulations.

G. The proposed amendment is supported by the findings of reports, studies, or other documentation on functional requirements, contemporary building practices, environmental requirements and similar technical items.

H. Other criteria as determined by the Planning Commission or Township Board which would protect the health and safety of the public, protect public and private investment in the Township, promote implementation of the goals and policies of the Comprehensive Plan and enhance the overall quality of life in Hartland Township.

Based on Section 7.4.4 of the Zoning Ordinance, either the Planning Commission or the Township Board may initiate a Zoning Ordinance Text Amendment. As a result, the ORC only makes a recommendation to the Planning Commission to initiate a text amendment; and the Planning Commission must actually initiate the text amendment.

Recommended motion to Initiate Text Amendments

The Planning Department recommends the following motion for the Planning Commission’s consideration:

Move to initiate a Zoning Ordinance Text Amendment, as outlined in the staff memorandum above.

Attachments: (All attachments are PDF only)

1. Draft Ordinance Amendment to Architectural Standards
2. Architectural Standards 5-72
3. Architectural Standards 5-73
4. Architectural Standards 5-74
5. Architectural Standards 5-75
6. Architectural Standards 5-76
7. Architectural Standards 5-77
8. Ben Franklin Elevation
9. Clyde Road Industrial Elevation
10. Brighton Township Standards
11. Genoa Township Standards
12. Green Oak Township Standards
13. Novi Standards
14. Putnam Township Standards
15. Sterling Heights Standards
16. Arapahoe County Standards
17. Lake Forest, Illinois Standards
18. Town of River Head, NY Standards
19. Photo Example 1
20. Photo Example 2
21. Photo Example 3
22. Photo Example 4
23. Photo Example 5
24. Photo Example 6
25. Photo Example 7
26. Photo Example 8
27. Photo Example 9
28. Photo Example 10
29. Photo Example 11
30. Photo Example 12
31. Photo Example 13

TOWNSHIP OF HARTLAND
ARCHITECTURAL STANDARDS FOR INDUSTRIAL AND
LIGHT INDUSTRIAL DISTRICTS
PROPOSED AMENDMENT

Section 5.24.15

- M. Industrial activities shall be oriented to minimize visual and audible impacts to residential uses, open space, natural areas, and arterial roads. A combination of appropriate screening and landscaping must be used to enhance the compatibility of industrial uses to adjacent land uses.
1. Long, unarticulated facades shall be avoided by employing at least four of the following to create visual interest and shadow lines: (a) textured and/or patterned surfaces, (b) projections of the exterior building walls, (c) recesses and reveals to exterior building walls, (d) variations in color, (e) window fenestration, (f) roof overhangs, and/or (g) changes in parapet height.
 2. On-site loading docks and service areas shall be located to minimize visibility from public streets or adjacent residential uses to the extent feasible, given the topography of the site and surrounding areas. Service and loading areas that are visible from residences or public streets shall be appropriately screened by fences, walls, landscaping berms or any combination thereof. Site design shall demonstrate efforts to minimize audible impacts to adjacent properties.

1 Purpose and Introduction

2 Definitions

3 Zoning Districts

4 Use Standards

5 Site Standards

6 Development Procedures

7 Admin and Enforcement

prior to the effective date of amendments to this Article.

5.24 ARCHITECTURAL STANDARDS (NOT APPLICABLE TO DETACHED SINGLE FAMILY HOUSES)

1. The purpose and intent of this Section is as follows:
 - A. To provide a consistent and equitable set of exterior building wall material standards, the intent of which is to create, enhance and promote the qualitative visual environment of the Township.
 - B. To encourage developers and their architects to explore the design implications of their project to the context of the site, surrounding area and the Township.
 - C. To maintain the character of the Township, protect the general welfare, and ensure that the Township's property values, building designs, appearance, character and economic well-being are preserved and respected through minimum design and appearance standards.
 - D. To reinforce and support a healthy development pattern in which new buildings and building modifications maintain the Township's unique character through complementary and appropriate use of building materials, scale, massing and architectural details.
 - E. To reduce the massive scale and uniform, impersonal appearance of large buildings to provide for a more human scale that residents and customers will be able to identify with, the intent of which is to ensure a greater likelihood of a building's reuse by subsequent tenants.
 - F. To provide the Planning Commission with a sense and appreciation for the design process.

This Section is not intended to regulate the quality, workmanship, and requirements for materials relative to strength, durability, endurance, maintenance, performance, load capacity, or fire resistance.

2. General. Wherever in this Ordinance reference is made to this Section, all exterior building wall facades shall consist of those materials and combinations of materials as set forth in this Section. The use of exterior wall facade

materials shall be in compliance with the minimum/maximum percentages required in the Schedule Regulating Facade Materials. Structures regulated by this Ordinance shall include buildings, canopies, and outdoor trash container enclosures. Single family detached residences and accessory uses shall not be subject to this Section.

3. Color. Colors of all facade and roof materials proposed for a building reviewed under this Section shall be established by the applicant as an integral part of the building design, and shall exhibit evidence of coordination and selection with respect to the overall visual effect of the building. The color of each facade material shall be harmonious with the color of all other facade materials used on the same building, as well as the color of facade materials used on adjacent buildings. The use of dissonant and intense colored facade materials shall be determined inconsistent with this Section. Earth tone colors shall be considered consistent with this Section. The use of facade materials to form a background component of a sign, or to increase the visual presence of the building for the purpose of advertising shall be deemed inconsistent with this Section.
4. Roof Appurtenances. All roof appurtenances shall be screened from view by use of a parapet wall or a sloped roof system using materials consistent with the building design and the requirements of Section 5.24, Architectural Standards. The use of façade materials to form a screen wall not included as an integral part of the building wall or roof structure shall be deemed inconsistent with this Section. Proposed roof screening shall be indicated on the architectural elevations and shall be considered as a part of the facade when calculating the percentage of materials for compliance with the Schedule Regulating Facade Materials.
5. Facade Materials Calculation. The facade (north, south, east, and west) of each regulated structure shall be considered and noted separately for the purpose of calculating the percentages of materials in compliance with the Schedule Regulating Facade Materials. The materials on each facade shall be consistent with the materials on other facades of the same building with respect to type and color. Areas of sloped roofs greater than 6:12 shall be considered facades. Areas of sloped roofs shall be taken as the horizontal projection of the roof area (as seen in elevation view). Operable doors intended to be utilized for



pedestrian ingress and egress shall be excluded from all area calculations.

- 6. Roof Materials. Roofing materials utilized on all sloped roofs shall be harmonious with the materials utilized on all other building facades. The use of dissonant or intense colored roof materials shall be determined inconsistent with this section.
- 7. Alterations. Where new materials are proposed for an existing building facade, the entire building facade shall be subject to this Section. Except where horizontal offsets greater than six (6) feet occur in an existing facade which serve to visually separate the area within which the new materials are proposed, only the area between such offsets shall be subject to this Section, provided that the new materials and colors are harmonious with adjacent unaltered portions of the building.
- 8. Additions. Where an addition is being proposed for an existing building, the existing facade materials may be used in the addition provided that the following criteria have been met:
 - A. The addition does not exceed one hundred (100) percent of the existing building floor area;
 - B. All new facades substantially constitute a continuation of the exiting facades with respect to color, texture, size, height, and location of materials; and
 - C. That the visual effect is to make the addition appear as part of the existing building.

If the addition exceeds one hundred (100) percent of the existing building floor area, the entire building shall be brought into full compliance with this Section.
- 9. Review. The Planning Commission shall require compliance with this Section. The Planning Commission may request the review of a design professional consultant to assist in this determination; the Township may establish a fee for this review. All new buildings, building alterations, and building additions shall be subject to this review.
- 10. Facade Waiver. When a particular building design and the materials and colors or combination of materials and colors proposed to be used in the exterior walls are found by the Planning Commission to be consistent with the intent and purpose of this Section, but may differ from the strict application of this Section and the Schedule Regulating Facade Materials

of this Section the Planning Commission shall review any such waiver. For example, the Planning Commission may consider waivers to permit the use of new materials not covered in the Facade Materials Schedule, or where a building is intended to reproduce a bona fide historical period to create a theme or enhance an existing theme.

When a waiver is requested under this subsection, the architectural elevations shall be accompanied by a more definitive description of the building design consisting of written design statements which shall describe how the selected facade materials and/or colors and material combinations will be consistent with and will enhance the building design concept and how the materials and/or colors properly relate to the buildings in the surrounding area.

- 11. Revisions After Approval. Changes to the facade drawings, sample board, or renderings at any time after approval by the Township, shall be subject to the requirements of Section 6.1, Site Plan Review.
- 12. Facade Material Inspections. Where facades have been reviewed and approved by the Township, all facade materials subject to this Ordinance shall be installed as approved. The Township may inspect the installed facade materials to determine compliance with the approved site plan, where applicable. The Township may require the removal and replacement of any facade material which is not consistent with the material reviewed and approved.
- 13. Canopies. Canopies shall be considered as separate facades and shall be subject to all of the requirements of this Ordinance. On buildings with canopies, the materials and colors used on canopies shall be consistent with those used on the building. Not less than thirty (30) percent of the facade of a canopy shall be of a material identical to a material used on the building. Columns, fascias and sloped roof areas shall be included when calculating the area and percentage of materials of a canopy facade. Canopy soffit areas are not subject to this Ordinance. For the purpose of this Section the proposed architectural style shall be considered to be consistent if roof types and slopes, and decorative features are equal in both type and extent of those items on buildings in said district.



1 Purpose and Introduction

2 Definitions

3 Zoning Districts

4 Use Standards

5 Site Standards

6 Development Procedures

7 Admin and Enforcement

14. Façade Material Groups. Proposed facade materials shall be regulated in accordance to the proposed structure's location, zoning district and/or structure size. Five (5) distinct Façade Materials Groups are identified in the table below. All structures permitted within a specific Façade Materials Group shall be regulated in accordance with the Schedule Regulating Facade Materials. Planned Developments shall conform to the minimum requirements established for the Façade Materials Group as assigned by the Township at the time of planned development preliminary approval.

5.24.14 Façade Material Groups	
Façade Materials Group	Location
Group #1	Sites located in a single or multiple family district, except single family detached residences. Sites abutting, fronting or taking public road access from U.S. 23, M-59, Old U.S. 23, Whitmore Lake Road, Hartland Road (between M-59 and Crouse Road), Runyan Lake Road, and/or Clyde Road (between Pleasant Hill Drive and Hartland Road) and that contains a building with a gross floor area less than or equal to 60,000 square feet; Sites adjacent to a residential district, except meeting criteria of Façade Materials Group #4.
Group #1A	Sites located in a commercial district abutting, fronting or taking public road access from U.S. 23, M-59, Old U.S. 23, Whitmore Lake Road, Hartland Road (between M-59 and Crouse Road), Runyan Lake Road, and/or Clyde Road (between Pleasant Hill Drive and Hartland Road) that contains one or more buildings each greater than 60,000 square feet in gross floor area.
Group #2	Sites located in a non-residential, non-industrial district, other than those located in Façade Materials Group #1 or #1A.
Group #3	Sites located in an industrial district, other than those located in Façade Materials Group #1 or #1A.
Group #4	Sites located in a settlement residential or settlement commercial district.



5.24.14 Maximum Percentage of Façade Materials Allowed by Group

Façade Materials	Group #1 ^L (%)	Group #1A ^L (%)	Group #2 (%)	Group #3 (%)	Group #4 ^H (%)
Brick, natural clay	100 (30% min.) ^F	100 (40% min.) ^F	100	100	100
Glazed brick ^A	25	25	25	25	25
Ceramic tiles	10	10	10	10	10
Limestone	50	50	100	100	100
Stone, field, cobble, and other types of stone	50	50	75	100	100
Granite or marble, polished	50	50	100	100	100
Decorative concrete masonry unit ^B (split faced)	25	25	50	75	0
Plywood siding (T-111)	0	0	0	0	0
Precast exposed aggregate	0	0	25	25	0
Precast, other	25	25	50	50	0
Flat metal panels	20	20	50	75	0
Standing seam metal	20	20	25 ^E	50 ^E	0
Ribbed metal panels	0	0	25	50 ^E	0
Spandrel glass	15	10	25	25	0
Glass block	15	10	25	25	0
Glass ^J	50	50	50	50	50
Molded cornices, trim, columns, surrounds	15	20	15	15	20
Wood siding, painted tongue and groove, batten siding, 4"vinyl siding, and aluminum siding ^G	10	10	25	50	100
Exterior insulation finishing system ^K	15	10	50	50 ^C	0
Cement Plaster	0	0	25	25	0
Awnings ^{D,I}	10	10	15	15	15
Asphalt shingles, asphalt-fiberglass shingles, or other similar roofing materials	25	25	25	50	25
Neon	0	0	0	0	0

15. Footnotes to the Schedule Regulating Façade Materials

- A. Allowed only if earth tone and matte finish.
- B. Plain faced, striated, fluted and scored concrete masonry units are not permitted. Ground, polished or burnished concrete masonry units forming an accent element in the building's design may be permitted with Planning Commission approval. Colors of any approved concrete block

material must be part of the manufacturing process and not a painted on finish.

- C. Must be designed to simulate stone via a joint pattern. Maximum joint spacing shall be three (3) feet on center horizontally and four (4) feet on center vertically.
- D. Adjacent permanent façade materials shall extend behind awnings, backlit translucent awnings are not permitted.



1 Purpose and Introduction

2 Definitions

3 Zoning Districts

4 Use Standards

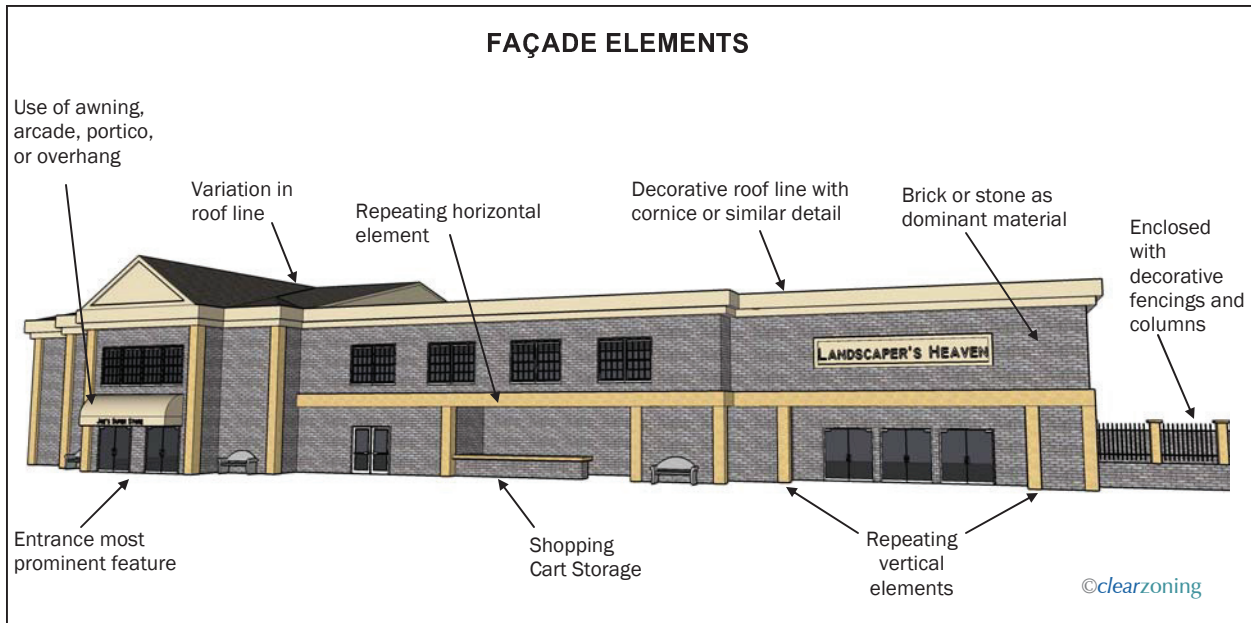
5 Site Standards

6 Development Procedures

7 Admin and Enforcement

- E. Must have factory applied permanent color finish and shall not be visible from adjacent residential uses or public roads.
- F. All buildings in Façade Materials Group #1, except those located within the I and LI District, shall have a minimum of thirty (30) percent brick.
- G. Aluminum siding shall be permitted only when used as fascia.
- H. For the rehabilitation of buildings fifty (50) years or older, the building materials and design shall be consistent with the Standards For Rehabilitation and Guidelines for Rehabilitation of Historic Buildings prepared by the U.S. Department of Interior.
- I. Awnings shall be permitted when located directly over a door or window opening. Awnings shall be complimentary to the building's architecture and design. The color of awnings shall be harmonious with the color of all façade materials used on the same building, as well as the color of façade materials used on adjacent buildings. The use of dissonant and intense colored materials shall be determined inconsistent with this Section.
- J. Colored glass is prohibited. Tinted and stained glass windows may be permitted with Planning Commission approval.
- K. Exterior insulation finishing system (EIFS) material shall not be used at the base of the building or as a dominant material.
- L. The following design guidelines shall be applicable to all facades visible from a public or private road for any building:
- i. One dominant material shall be used. Materials such as brick and stone, which convey permanence, substance and timelessness, are strongly encouraged.
 - ii. Facade entrances shall be the most prominent feature of the facade. Pedestrian entrances shall be enhanced with framing devices such as peaked roof forms, porches, overhangs, archways, larger door openings, display windows, accent colors, moldings, pedestrian-scale lighting and similar devices.
 - iii. Facades shall include repeating horizontal and vertical patterns in color, texture, material and plane to visually minimize the building scale.
- iv. Facades shall be visually divided into smaller units through the use and arrangement of appropriate architectural features and design elements to provide a changing and varying appearance. Such features and design elements may include, but are not limited to: projections, bays or recesses a minimum of three feet in depth; enhanced ornamentation and architectural detailing; variations in building height or window patterns; distinctively shaped roof forms, detailed parapets and cornice lines.
 - v. Rooflines shall be varied with a change in height of at least five feet every one hundred (100) linear feet.
 - vi. Outdoor or open air display and sales merchandise areas (i.e. garden centers or seasonal product sales) shall be shown on a site plan and shall be reviewed and approved as part of the proposed development. Such outdoor or open air areas shall be screened by a wall a minimum of four feet in height, on top of which may be black decorative metal fencing, sufficient to buffer the view of materials displayed or stored within that area, and regularly spaced columns consistent with the dominant material and design of the building. The exterior of the screen wall shall be treated consistently with the dominant material and design of the building. No merchandise products or services may be stored, displayed or sold from any area of the site other than an enclosed building or designated outdoor/open area. Merchandise and displays are specifically prohibited from the parking lot and sidewalks, including sidewalks abutting a building unless a Special Event Permit is issued.
 - vii. Outdoor storage of customer shopping carts shall be located adjacent to the building and screened by a wall a minimum of four feet in height to screen the carts from view. The exterior of the wall shall be treated consistently with the dominant material and design of the building.





viii. Shopping cart corrals provided in parking areas shall be designed as an integral part of the parking lot landscape island(s). The cart corral shall be a maximum of 10 feet in width and up to 40 feet in depth (generally the size of two back-to-back parking stalls). The cart corral area shall be flanked on each side by a landscape area a minimum of eight (8) feet in width and extending the full depth of the cart corral, and have a minimum six (6)-inch concrete curb to contain the carts between the landscape areas. Raised or depressed pavement may be used at the open end(s) of the cart corral to contain carts within. Plantings shall be provided within the landscape areas and shall include trees and hedges sufficient to obscure the view of stored carts to a height of three (3) feet. The landscape areas may count toward the interior parking lot landscaping requirements. No additional structures shall be permitted for storage of shopping carts in parking areas.

emergency vehicles and services can reach such structures readily, conveniently and safely. At a minimum, driveway construction shall consist of the removal of all unsuitable soil and placement of six inches of suitable road gravel. Driveways shall be a minimum of eight (8) feet wide with sufficient clearance of vegetation and other obstructions so as to provide for the access of all types of emergency vehicles providing emergency services in the Township.

5.25 SINGLE FAMILY RESIDENTIAL DRIVEWAYS

All driveways providing access for single family dwellings shall be constructed in such a manner as to provide a year-round access from public or private roads so that

5.26 SIGNS

1. Intent. These regulations are intended to permit signs that are needed for purposes of identification or advertising subject to limitations needed for safety, aesthetics, equal protection and fairness, sound land use planning objectives and other provisions as set forth herein. Nothing included in these provisions is intended to prohibit the rights of individual property owners to display political, religious, or personal messages on their own property. The requirements of this Section are intended to ensure that no sign will by reason of its size, location, construction, installation, maintenance, or manner of display endanger the health, safety, or welfare of the general public. Furthermore, it is the intent of this Ordinance to administer sign regulations in such a manner as to enhance the aesthetic appeal of the Township; to be fair to each property owner by establishing uniform standards that provide adequate exposure of



(c) **Exterior Wall Design Standards**

- (1) **Wall Materials.** The use of exterior wall materials on walls that are visible from a public road or a parking lot shall be in compliance with the maximum percentages permitted in Table 14-01. A table must be provided on the site plan depicting the percentage planned of each material.

Table 14-01 Schedule of Regulating Exterior Building Wall Materials					
Building Materials	Maximum Percent of Wall that can be Covered by Certain Building Materials by Zoning District				
	RM-1	OS	B-1 (a)	B-2 & B-3 (a)	I-1
Brick or Face Brick	100%	100%	100%	100%	100%
Stone	100%	100%	100%	100%	100%
Split Face Block	25%	25%	50%	50%	100%
Cast Stone	25%	25%	25%	25%	100%
Precast Concrete	0%	25%	0%	25%	75%
Concrete Formed in Place	0%	25%	0%	25%	75%
Metal (b)	0%	25%	0%	25%	50%
Reflective Glass	0%	50%	0%	0%	50%
Glass Block	25%	25%	25%	25%	25%
Wood Siding	75%	50%	50%	0%	0%
Vinyl Siding	75%	50%	50%	0%	0%
Finishes (c)	0%	25%	10%	25%	25%
Footnotes:					
(a) All walls exposed to public view from the road or an adjacent residential area shall be constructed of not less than seventy-five (75%) brick, face brick, stone, or cast stone.					
(b) Flat sheets and seamed or ribbed panels, including aluminum, porcelain and stainless steel and similar material. These materials shall not be used where contact with vehicles may occur, such as parking areas, traffic ways, and loading areas, unless the walls are adequately protected to prevent damage.					
(c) Includes fiberglass, reinforced concrete, polymer plastic (fypon), exterior insulation and finishing systems (EIFS), plaster, stucco, and similar materials. These materials shall not be used where contact with vehicles may occur, such as parking areas, traffic ways, and loading areas, unless the walls are adequately protected to prevent damage.					

10

15

Table 12.01.03
Schedule of Exterior Building Wall Materials.

Building Materials	Maximum Percent of Wall That May be Covered by Certain Building Materials by Zoning District (a)			
	Multiple Family Residential (b)	Office Service District (OSD), Public & Rec. Fac. District (PRF)	Commercial Districts (NSD, GCD, RCD) (c)	Industrial District (IND)
Brick or face brick	100 %	100 %	100 %	100 %
Stone	100 %	100 %	100 %	100 %
Split face block	0 %	25 %	25 %	100 %
Scored concrete block	0 %	25 %	25 %	100 %
Plain concrete block	0 %	25 %	25 %	25 %
Cast stone	100 %	100 %	100 %	100 %
Precast concrete	0 %	25 %	25 %	100 %
Concrete formed in place	0 %	25 %	25 %	25 %
Metal (d)	0 %	25 %	25 %	25 %
Reflective glass	0 %	100 %	50 %	75 %
Glass block	25 %	50 %	50 %	50 %
Wood siding	25 %	25 %	25 %	0 %
Vinyl or fiber cement siding	25 %	25 %	25 %	25 %
Finishes (e)	25 %	25 %	25 %	75 %

(as amended 3/5/10)

- (a) Does not include areas of façade consisting of doors and windows.
- (b) For all multiple family dwellings, all walls exposed to public view from a street shall be constructed of not less than seventy five percent (75%) brick, face brick or stone. The following materials are not permitted in the multiple family districts on building

(11) *Non-residential building materials.* The following exterior finish materials are required on the front facade and any façade facing a [street](#) or parking area. These requirements do not include areas devoted to windows and doors.

a. All walls exposed to public view from the street or parking area shall be constructed of not less than sixty percent (60%) brick or stone. Panel brick and tilt-up brick textured paneling shall not be permitted.

b. The remaining facade may include wood or fiber cement siding. Exterior finish insulation systems (EFIS) may be used for architectural detailing above the first floor. Vinyl siding may be used on walls above a height determined to be measured from the highest point of the [roof](#) to a level below which represents the highest forty percent (40%) of total [building height](#).

structures shall be a permitted use in all districts and not subject to the requirements of [Section 5.13](#).

5.15 Schedule Regulating Façade Materials

Façade Regions

Region 1	Buildings Located in the TC, TC-1 ⁽⁷⁾ , RC, RA, R, RM-1, RM-2 PSLR, and GE districts and all buildings located within 500 feet of the R.O.W. of a freeway or major thoroughfare, as defined in the City's Master Plan for land use.
Region 2	All buildings in districts other than I-1 and I-2, other than those in Region 1.
Region 3	Buildings in I-1 and I-2 districts, other than those in Region 1.

Maximum Allowable Percentages

Wall Materials	Region 1	Region 2	Region 3
Brick natural clay	100 ⁽⁹⁾	100	100
Glazed brick & ceramic tile	25	75	100 ⁽¹⁾
Panel brick	0	15	15
Limestone	50	100	100
Stone field, cobble, etc.	50	75	100
Granite/marble, polished	50	100	100
Fluted & split faced c.m.u.	10	50	75 ⁽²⁾⁽¹³⁾
Striated scored c.m.u.	0	0	25 ⁽²⁾⁽¹³⁾
Concrete "C" brick ⁽¹⁴⁾	25	50	75
Precast colored exposed agg.	0	25	50
Precast, other	0	0	0
Flat metal panels (urethane backed)	50 ⁽¹⁰⁾	50	75
Standing seam metal	25 ⁽⁸⁾	50	75 ⁽⁸⁾
Ribbed metal panels	0	25	50 ⁽⁸⁾
Spandrel glass	50	50	50
Glass block	0	25	50
Display glass	25	25	25 ⁽⁴⁾
Molded cornices, trim, columns, surrounds	15	15	15
Wood siding, painted, t & g and batten siding	0 ⁽¹¹⁾	25 ⁽¹¹⁾	50
Vinyl & aluminum siding	0	0	50 ⁽¹²⁾
E.I.F.S. (dryvit)	25	50	75 ⁽⁵⁾
Cast stone & G.F.R.C.	25	50	75
Cement plaster	0	25	25
Canvas awnings	10	15	15 ⁽⁶⁾
Asphalt shingles	25	25	50

2 Definitions

3 Zoning Districts

4 Use Standards

5 Site Standards

6 Development Procedures

7 Admin and Enforcement



- D. **Wall materials:** The use of exterior wall materials on walls that are visible from a public or private road or a parking lot shall be in compliance with the “Schedule of Regulating Exterior Building Wall Materials” table.

Table 26-1: Schedule of Exterior Building Wall Materials	
Building Material	Maximum amount of building wall area that can be covered (a)
Brick or face brick	100 %
Stone	100 %
Split face block	25 %
Scored concrete block	25 %

Table 26-1: Schedule of Exterior Building Wall Materials	
Building Material	Maximum amount of building wall area that can be covered (a)
Plain concrete block	25 %
Cast stone	100 %
Precast concrete	25 %
Concrete formed in place	25 %
Metal (b)	25 %
Reflective glass	50 %
Glass block	50 %
Wood siding	25 %
Vinyl siding or Hardie (fiber cement) board	25 %
Finishes (c)	25 %

Notes for Table 26-1:

SECTION 19.05. STRUCTURE AND SITE REQUIREMENTS.

The exterior of all buildings hereafter erected shall be constructed of brick and/or stone building materials or other similar durable, decorative building material approved by the Planning Department, subject to any additional requirements set forth in section 26.01, paragraph H. The architecture and exterior finish of any building shall be complementary and compatible in style and be of uniform finish on all sides of its exterior.

All portions of the site not used for parking, driveway and buildings shall be provided with a lawn or landscaping, as specified in section 24.02, approved by the Planning Department and so maintained in an attractive condition.

Every use involving the receipt or delivery of materials shall provide space for vehicle standing so loading or unloading will not take place in any public street, alley or right-of-way. Loading and unloading shall be provided in such a manner that backing from a public street with a right-of-way of 86 feet or greater will not be facilitated. Loading and unloading docks and truck wells are prohibited in required front yards along major thoroughfares and/or existing or proposed rights-of-way of 120 feet or greater. Along thoroughfares or rights-of-way of less than 120 feet, below grade loading shall be permitted in the required front yard. In no instance shall above grade or elevated loading be permitted in the required front yard.

Once a building line has been established by the construction of a principal building upon an approved site, no other principal building or use shall be located between the established building line and the front lot line (or side lot line abutting a side street) without first obtaining approval of the Planning Commission. The Planning Commission shall review the building and/or use proposed to be located in front of the established building to determine whether the building or use is of such location, size and character as to be in harmony with the appropriate and orderly development of the balance of the site, is not detrimental to the development of adjacent uses, does not create any vehicular traffic hazard and is aesthetically compatible with the buildings and uses located upon the site. Landscaping plans, site plans (including signs and the location of signs) and exterior elevations of all sides of any building to be constructed shall be submitted to enable the Planning Commission to determine whether the proposed additional building conforms with the requirements of this section. In reviewing this request, the Planning Commission shall apply the standards contained herein and in section 25.03(D) under the reasonable conditions as authorized by section 25.03(D) to ensure the standards are satisfied.

The Planning Department or Planning Commission shall review and approve exterior elevations. The exterior of all buildings shall be constructed of aesthetically pleasing brick and/or stone building materials or other similar durable decorative building materials approved by the Planning Department or Planning Commission. Approval shall be based on the quality of its design, relationship to surroundings, sensitive integration of form, textures and colors with the particular landscape and setting, including but not limited to the following: The Planning Department or Planning Commission shall review and approve exterior elevations. The exterior of all buildings shall be constructed of aesthetically pleasing brick and/or stone building materials or other similar durable decorative building materials approved by the Planning Department or Planning Commission. At least 50% of the exterior elevation(s) fronting on a public street and 50% of the total area of all other exterior elevations of the building shall be constructed of aesthetically pleasing brick and/or stone building materials or other similar durable decorative building materials approved by the Planning Department or Planning Commission. Approval shall be based on the quality of its design, relationship to surroundings, sensitive integration of form, textures and colors with the particular landscape and setting, including but not limited to the following:

Buildings shall avoid long, monotonous, uninterrupted walls or roof planes. Building wall offsets shall be used in order to add architectural interest and variety to the visual effect of a simple, long wall;

Roof types should be appropriate to the building's architecture. Roof line offsets or other architectural features shall be provided in order to provide architectural variety to the massing of a building and to relieve the effect of a single long roof. Asphalt shingles, standing metal seamed material or other compatible materials shall be used on pitched roofs. Other roof materials may be appropriate on flat roofs that are not visible to the public;

Buildings with more than one facade facing a public street shall be required to provide similar front facade treatments on each street. All sides of a building shall be architecturally designed to be consistent with regard to style, materials, colors and details. Elevations visible from public view shall not use blank walls or other monotonous surfaces.

Attachment: 15. Sterling Heights Material Standards (2011) : Ordinance Review Committee - Architectural

CHAPTER 8: INDUSTRIAL ZONE DISTRICTS – I-1 & I-2**Table of Contents:**

Section 8-101 Industrial Zone Districts Established

Section 8-201 Industrial Zone Districts

8-201.01 General Purposes

8-201.02 I-1 Light Industrial District

8-201.03 I-2 Heavy Industrial District

Section 8-301 Industrial Zone District Performance Standards

Section 8-302– Allowed Uses - SEE Combined Business and Industrial Use Table

Chapter 8: Industrial Zone Districts and District-Specific Standards

This Chapter of the Land Development Code identifies and establishes the Light Industrial (I-1) and the Heavy Industrial (I-2) zone districts for the unincorporated portions of Arapahoe County, as well as the (1) purpose and (2) regulations specific to each of these districts. The regulations contained in this Chapter for I-1 and I-2 are district-specific in that they apply on a county-wide basis and generally relate back to the stated purposes of the zone district. The standards and requirements provided in this Land Development Code also apply to development in each of these districts.

Section 8-101 Industrial Zone Districts Established

In order to carry out the purposes and intent of this Chapter of the Land Development Code, the following standard zone districts are established. They may be referred to throughout this Code by their name or district letter abbreviations.

Table 8-1: Industrial Zone Districts	
Abbreviation	Zone District Name
I-1	Light Industrial
I-2	Heavy Industrial

NOTE: See Section 8-300 for Industrial Zone District Performance Standards and Combined Business and Industrial Use Table for allowed uses.

Section 8-201 Industrial Zone Districts

This section sets forth all industrial zone districts in unincorporated Arapahoe County, including for each: (1) the district's specific intent and purpose; (2) the district's role in implementing the Comprehensive Plan's land-use policies; (3) location criteria that the County must consider in mapping such district to specific property; and (4) development and design standards specific to such district.

8-201.01 General Purposes

Among the County's primary land-use goals, as stated in the Comprehensive Plan, are goals to promote employment and commercial development in Growth Areas and plan for adequate public facilities and services in Growth Areas. The industrial-zone districts in this section are intended to implement these goals by promoting an economic base for unincorporated Arapahoe County.

Residential uses are generally not allowed in these districts, with the exception of well-planned light industrial business parks that are integrated with higher density residential units. These zone districts are intended to apply only within designated locations of Urban Service Areas/Urban Growth Boundaries and Rural Town Centers of Eastern Communities as designated in the Comprehensive Plan. These districts are generally not appropriate for properties located in a Rural Area, unless the proposed use is agricultural related.

While the County intends to foster economic development and employment opportunities in Growth Areas, this type of development should be balanced with other community values.

8-201.02 I-1 LIGHT INDUSTRIAL DISTRICT

A. Specific Purpose

All development in the district must respect and respond to the district's unique light industrial character. All development must be sited to avoid or mitigate any adverse impacts to the environment and sensitive development areas, including impacts on air quality and important riparian corridors that perform important drainage, habitat, and recreational functions.

All development must have no detrimental impacts on soil stability or ground water supplies or adversely impact the quality of ground water supplies. All development must mitigate impacts from runoff and/or from changes to the drainage characteristics of the land.

B. Relation to the Comprehensive Plan

The I-1 Zone District is intended to correspond to and implement the "Employment Center" land-use category designated in the Land Use Plan element of the Comprehensive Plan.

C. Location and Other Rezoning Criteria

In addition to satisfying the general rezoning criteria stated in this Land Development Code, the County may approve a rezoning to the I-1 Zone District only if the proposed district complies with all of the following specific criteria:

1. This zone district must be located in designated areas of the Urban Service Areas/Urban Growth Boundaries and Rural Town Centers of Eastern Communities as designated in the Comprehensive Plan and associated Sub-area Plans;
2. This zone district should be compatible with adjacent land uses;
3. This district should be located in areas convenient to railroads, airports or arterial roads and highways and within or near employment centers, especially for businesses that rely on movement of goods and materials.

D. District-Specific Standards

1. This zone district must accommodate and respect applicable environmental regulations and have no significant environmental impact on the site and surrounding areas, especially residential areas.
2. The effects of dust, fumes, odors, refuse, smoke, vapors, and noise shall not extend beyond property lines. Lighting is regulated in another chapter of the Land Development Code.
3. Industrial activities shall be oriented to minimize visual and audible impacts to residential uses, open space, natural areas and arterial roads. A combination of appropriate screening and landscaping must be used to enhance the compatibility of industrial uses to adjacent land uses.
 4. Long, unarticulated facades shall be avoided by employing at least four of the following to create visual interest and shadow lines: textured and/or patterned surfaces, projections of exterior building walls, recesses and reveals to exterior building walls, variations in color, window fenestration, roof overhangs, and/or changes in parapet height.
 5. On-site loading docks and service areas shall be located to minimize visibility from public streets or adjacent residential uses to the extent feasible, given the topography of the site and surrounding areas. Service and loading areas that are visible from residences or public streets shall be appropriately screened by fences, walls, landscaping berms or any combination thereof. Site design shall demonstrate efforts to minimize audible impacts to adjacent properties.
 6. All buildings shall provide architectural improvements that include at least four of the following: wainscoting, use of different colors and materials, placement of doors, window treatments, color bands, material changes, and an integral use of landscaping.
 7. Trash enclosures shall be shielded from view by placement within building, or by enclosure within walls or solid fencing that is a minimum of six feet in height. Trash enclosures are subject to applicable design standards of this code.

8. Outdoor storage shall be completely screened, to the extent feasible, given the topography of the site and surrounding areas, by a method that matches the thematic colors and materials of the building. The screen wall or solid fence shall not exceed ten feet in height, and storage materials shall not be stacked or be visible above the enclosure, when viewed from the property line.
9. The location of exterior mechanical equipment associated with industrial processing or manufacturing operations shall minimize visual and auditory impacts to adjacent property and public streets, and shall comply with other applicable design standards of this code.
10. Four-sided/360 degree architecture shall be used on all buildings, except where not visible from adjoining properties, public ROW, or private roadways within the development.
11. Live-Work: Reserved for future use.

8-201.03 I-2 HEAVY INDUSTRIAL DISTRICT

A. Specific Purpose

The I-2 Zone District is intended to provide land for heavy industrial and basic economic uses in designated Growth Areas of Urban Service Areas/Urban Growth Boundaries and Rural Town Centers of Eastern Communities in unincorporated Arapahoe County as designated "Heavy Industrial" in the Comprehensive Plan.

All development in the district must respect and respond to the district's unique site characteristics. Compatibility with surrounding land uses is very important. All development must be sited to avoid or mitigate any adverse environmental impacts such as air quality and water quality, including impacts on important riparian corridors that perform important drainage, habitat, and recreational functions.

All development must have no detrimental effects on soil stability or ground water supplies, or adversely impact the quality of ground water supplies. All development must mitigate impacts from runoff and/or from changes to the drainage characteristic of the land.

B. Relation to the Comprehensive Plan

The I-2 Zone District is intended to correspond to and implement the "Heavy Industrial" land-use category designated in the Land Use Plan element of the Comprehensive Plan.

C. Location Criteria

In addition to satisfying the general rezoning criteria stated in this Land Development Code, the County may approve a rezoning to the I-2 District only if the proposed district complies with all of the following specific criteria:

1. The proposed district is located in the Urban Service Areas/Urban Growth Boundaries or in Rural Town Centers of Eastern Communities as designated in the Comprehensive Plan/Sub-Area Plans;
2. Heavy industrial sites should have access to one or more major arterials or highways capable of handling heavy-truck traffic. Railroad or airport access may also be used.
3. This zone district focuses on regional heavy industrial uses that may serve a broader population and may provide industrial services outside of the local area.

D. District-Specific Standards

1. Traffic generated from heavy-industrial development shall not pass through residential areas.
2. This zone district will be adequately buffered from population centers and especially all residential zone districts.
3. This zone district must accommodate and respect applicable environmental regulations and have no significant environmental impact on the site and surrounding areas, especially residential areas.
4. The effects of dust, fumes, odors, refuse, smoke, vapors, and noise shall not extend beyond property lines. Lighting is regulated in another chapter of the Land Development Code.
5. Industrial activities shall be oriented to minimize visual and audible impacts to residential uses, open space, natural areas and arterial roads. A combination of appropriate screening and landscaping will enhance the compatibility of industrial uses to adjacent land uses.
6. Long, unarticulated facades shall be avoided by employing at least four of the following to create visual interest and shadow lines: textured and/or patterned surfaces, projections of exterior building walls, recesses and reveals to exterior building walls, variations in color, window fenestration, roof overhangs, and/or changes in parapet height.
7. On-site loading docks and service areas shall be located to minimize visibility from public streets or adjacent residential uses to the extent feasible, given the topography of the site and surrounding areas. Service and loading areas that are visible from residences or public streets shall be appropriately screened by fences, walls, landscaping berms or any combination thereof. Site design shall demonstrate efforts to minimize audible impacts to adjacent properties.
8. All buildings shall provide architectural improvements that include at least four of the following: wainscoting, use of different colors and materials, placement of doors, window treatments, color bands, material changes, and an integral use of landscaping.

9. Trash enclosures shall be shielded from view by placement within building, or by enclosure within walls or solid fencing that is a minimum of six feet in height. Trash enclosures are subject to applicable design standards of this code.
10. Outdoor storage shall be completely screened, to the extent feasible, given the topography of the site and surrounding areas, by a method that matches the thematic colors and materials of the building. The screen wall or solid fence shall not exceed ten feet in height, and storage materials shall not be stacked or be visible above the enclosure, when viewed from the property line.
11. The location of exterior mechanical equipment associated with industrial processing or manufacturing operations shall minimize visual and auditory impacts to adjacent property and public streets, and shall comply with other applicable design standards of this code.
12. Four-sided/360 degree architecture shall be used on all buildings except where not visible from adjoining properties, public ROW, or private roadways within the development.

NOTE: See Section 8-300 for Industrial Zone District Performance Standards and Combined Business and Industrial Use Table for allowed uses.

Section 8-301: I-1 and I-2 District Performance Standards

Table 8-3 A. Performance Standards I-1 & I-2	I-1	I-2
MINIMUM YARD REQUIREMENTS - Setbacks may differ subject to IBC requirements. Buildings are not permitted in easements unless a letter from utility easement holder(s) is provided.		
From any property lines abutting residential zones or uses	50'	100'
From any property lines abutting non-residential zones or uses	25'	50'
From any property lines abutting public right-of-way lines	25'	25'
Interior lot line setback	10'	10'
Minimum distance between structures	IBC	IBC
Minimum designated parking area setback from each property line	10'	10'
Note: Structures located on the south side of the streets or highways may be required to provide additional building setbacks, depending on structure height, to allow necessary snow and ice melt from adjacent streets and sidewalks.		
Note: May be subject to specific overlay district regulations (AIA, CAEPA, Strasburg Downtown Overlay, and others as specified in this Land Development Code – see Chapter 10)		
LOT SIZE		
All site designs must demonstrate compliance with all site development standards and applicable building codes		
BUILDING HEIGHT		
Maximum Building Height (Including roof-top mechanical appurtenances)	50'	50'
MINIMUM UNOBSTRUCTED OPEN SPACE		
Single story structure	20%	20%
For each additional story, an additional 5% open space will be required up to a maximum of 35%.		

Section 8-302– Allowed uses – I-1 & I-2

This section sets forth the uses anticipated in the Industrial zone districts. Furthermore the table included below indicates which uses are allowed in the Industrial zone districts as well as the extent to which they are allowed. Additional information is available in this Land Development Code for uses anticipated within the unincorporated areas of Arapahoe County.

Chapter 7 - Commercial and Chapter 8 - Industrial Uses have been included in one Use Table.

Use Table - Business and Industrial Zone Districts						
P=Permitted; NP=Not Permitted; A=Accessory; USR=Use by Special Review; SEU=Special Exception Use; 1041=See Land Development Code Regulations for 1041 CD = Certificate of Designation; R = Reserved for Future Code Amendment						
Use	B-1	B-3	B-4	B-5	I-1	I-2
Office	P	P	P	P	P	P
Event and Conference Center	P	P	P	P	P	USR
Day care	P	P	P	P	P	P
Animal Services						
Animal Day Care Facility – no outdoor kennels	P	P	P	P	P	P
Animal Day Care Facility – with outdoor kennels	NP	NP	P	P	P	P
Animal hospital and veterinary clinic (no outdoor kennels)	P	P	P	P	P	P
Animal hospital and veterinary clinic (with outdoor kennels)	NP	NP	P	P	P	P
Retail & Commercial Service						
Retail	A	P	P	P	A (25%)	A (25%)
Retail sale of any commodity manufactured, processed, fabricated and/or warehoused only on the premises (greater than 25%)	NP	NP	NP	NP	SEU	SEU
Retail sale of any commodity designed especially for use in agriculture, mining, industry, business, transportation, or construction	NP	NP	NP	NP	NP	SEU
Retail, Service	P	P	P	P	A	SEU
Bank (with or without drive-through)	P	P	P	P	P	A
Convenience store with or without gas pumps	NP	P	P	P	NP	NP
Convenience store, 24-hour operation, with or without gas pumps	NP	USR	USR	USR	USR	USR
Temporary seasonal “tent”/sidewalk sales not exceeding a total of thirty (30) days in any one calendar year, per shopping center	NP	P	P	P	NP	NP
Restaurant & Bars & Hospitality						
Restaurant – without drive through	A	P	P	P	P	P
Restaurant – with drive through	NP	P	P	P	P	P
Bar/Tavern	NP	P	P	P	NP	NP
Nightclub	NP	P	P	P	NP	NP
Microbrewery	NP	P	P	P	P	NP
Hotel/Motel	NP	P	P	P	P	USR
Recreation						
Health Club	P	P	P	P	P	A
Recreation – Indoor	NP	P	P	P	P	P

Use Table - Business and Industrial Zone Districts						
P=Permitted; NP=Not Permitted; A=Accessory; USR=Use by Special Review; SEU=Special Exception Use; 1041=See Land Development Code Regulations for 1041 CD = Certificate of Designation; R = Reserved for Future Code Amendment						
Use	B-1	B-3	B-4	B-5	I-1	I-2
Recreation – Outdoor	NP	P	P	P	P	USR
Fair or Carnival, Temporary (not to exceed 30 days in one year)	SEU	SEU	SEU	SEU	SEU	NP
Automotive & Parking						
Auto sales with or without minor auto repair as an accessory use	NP	P	P	P	P	P
Parking lot, commercial	NP	P	P	P	NP	NP
Parking lot, accessory	P	P	P	P	P	P
Auto service station	NP	P	P	P	P	P
Car wash and/or auto detailing	NP	P	P	P	P	P
Vehicle Repair, Minor	NP	P	P	P	P	P
Vehicle Repair, Major	NP	NP	P	USR	P	P
Vehicle Sales/Leasing/Rental	NP	P	P	P	P	P
Contractors & Trades						
Contractors including but not limited to plumbing, heating, and electrical (no outdoor storage)	NP	P	P	P	P	P
Contractors including but not limited to plumbing, heating, and electrical (with outdoor storage)	NP	NP	P	NP	P	P
Specialty Trade Shop, including but not limited to cabinet shop, electric shop, plumbing shop, heating shop, lithographic and/or printing shop, furniture reupholstering	NP	NP	P	P	P	P
Building/Landscape material sales yard (not including concrete mixing, creosote, or asphalt operation)	NP	NP	P	NP	P	P
Manufacturing, Warehousing, & Industrial						
Manufacturing, Light	NP	NP	P	NP	P	P
Manufacturing, Heavy	NP	NP	NP	NP	NP	P
Repair, rental, and servicing of commodities produced or warehoused in zone district	NP	NP	NP	NP	P	P
Wholesale business, storage, or warehousing	NP	NP	P	NP	P	P
Mini-warehouse/self storage	NP	NP	NP	P	P	P
Showroom/Warehouse	NP	NP	P	P	P	P
Greenhouses or fruit stands, wholesale or retail	NP	NP	P	P	P	NP
Laboratories	NP	P	P	P	P	P
Research & Development, indoor use only	NP	NP	P	P	P	P
Research & Development, with outdoor use	NP	NP	USR	NP	P	P
Junk Yard	NP	NP	NP	NP	NP	P
Automobile Wrecking/Salvage	NP	NP	NP	NP	NP	P

Use Table - Business and Industrial Zone Districts						
P=Permitted; NP=Not Permitted; A=Accessory; USR=Use by Special Review; SEU=Special Exception Use; 1041=See Land Development Code Regulations for 1041 CD = Certificate of Designation; R = Reserved for Future Code Amendment						
Use	B-1	B-3	B-4	B-5	I-1	I-2
Commercial sanitary landfill (subject to obtaining the required "Certificate of Designation," as well as all applicable State requirements)	NP	NP	NP	NP	NP	P
Resource recovery operation/recycling facility (subject to obtaining the required "Certificate of Designation," as well as all applicable State requirements)	NP	NP	NP	NP	NP	P
Residence required for caretaker or night watchman employed by the premises	NP	NP	NP	A	A	A
Gravel, mineral or sand extraction, quarry or sand	NP	NP	NP	NP	NP	USR
Major Electrical, Natural Gas and Petroleum-Derivative Facilities of a Private Company	NP	NP	NP	NP	NP	USR
Major Public Utility Facility (includes, but is not limited to power plant, transmission line, transmission substation, natural gas transmission pipeline, and natural gas transmission pump station)	1041	1041	1041	1041	1041	1041
Electric power plant transmission lines and transmission substation of a private company	NP	NP	NP	NP	NP	USR
Natural gas transmission pipeline or transmission pump station of a private company	NP	NP	NP	NP	NP	USR
Petroleum derivatives including refinery, transmission pipelines, processing of biofuels, and transmission pump stations of a private company	NP	NP	NP	NP	NP	USR
Minor public utility facility (underground distribution lines)	P	P	P	P	P	P
Minor public utility facility (distribution substation)	L&E	L&E	L&E	L&E	L&E	L&E
Minor public utility facility (including above-ground distribution lines)	NP	NP	NP	NP	P	P
Sewage disposal treatment plant	NP	NP	NP	NP	1041	1041
Telephone exchanges & similar buildings to house telephone or telecommunication equipment	NP	NP	NP	NP	P	P
Water treatment plant	NP	NP	NP	NP	1041	1041
Slaughter House	NP	NP	NP	NP	NP	USR
Other Uses						
Building and use customarily appurtenant to the permitted use	A	A	A	A	A	A
Uses not specifically listed above may be permitted if, in the opinion of the Zoning Administrator, they are similar in character to permitted uses in this district, and are in conformance with the intent of this district.	P	P	P	P	P	P
Special Review						
Sexually-oriented business (12-1000 requirements)	NP	NP	P	P	P	P

Use Table - Business and Industrial Zone Districts						
P=Permitted; NP=Not Permitted; A=Accessory; USR=Use by Special Review; SEU=Special Exception Use; 1041=See Land Development Code Regulations for 1041 CD = Certificate of Designation; R = Reserved for Future Code Amendment						
Use	B-1	B-3	B-4	B-5	I-1	I-2
CMRS	See Chapter 12-1100 CMRS Regulations					
Billboard and/or off-premise signage (12-300 signs)	NP	USR	USR	USR	USR	USR
Quasi-public use (church, etc.)	USR	USR	USR	USR	USR	USR
Helipad operations approved by the Federal Aviation Administration (F.A.A.) and not located closer than 1000' to any existing or planned residential dwelling unit	SEU	SEU	SEU	SEU	SEU	SEU
Live/Work	R	R	R	R	R	R

Table of Contents

Introduction2
 Vision.....2
 Area Character.....2
 Site Design.....2
 Interface with Residential Uses3
 Parking and Circulation3
 Parking Structures.....4
 Storage Yards/Service Facilities4
 Trash Enclosures5
 Loading Areas.....5
 Utility Equipment.....5
 Mechanical Equipment5
 Building Placement and Design6
 Building Design6
 Building Form and Scale.....6
 Building Elements6
 Finish Materials7
 Discouraged Building Elements..... 8
 Landscaping 8
 Parking Lot Landscaping 8
 Walls and Fences.....9
 Lighting10
 Use Specific Guidelines.....10
 Vehicle Dealerships.....10
 Service Stations and Car Washes..... 11
 Auto Repair Services..... 11
 Contractor, Building Supply, or Landscaping Yards..... 11
 Consumer Storage Facilities 11
 Sign Design Guidelines 12



**Light Industrial Area
 Design Guidelines**



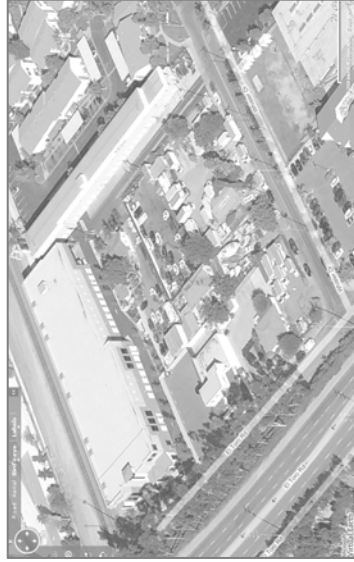
Introduction

The Light Industrial Design Guidelines are intended to serve as a point of reference to guide property owners, business owners, developers, architects, and other design professionals in understanding the objective of providing for well-designed, attractive, high quality industrial development in the Light Industrial Area (LIA). The LIA is contained within the City's El Toro Redevelopment Project Area and consists of 27 acres of light industrial, service commercial, and professional office development straddling the railroad tracks. The LIA is generally bound by El Toro Road to the north, Jeronimo Road to the east, Cherry Avenue to the south, and Front Street/Whisler Drive on the west.

Development standards and permitted uses for the LIA are listed within the El Toro Planned Community and the City's Zoning Ordinance. The Design Guidelines are intended to complement the two regulatory documents and will be used by the City to evaluate the design of industrial development in the LIA. The guidelines focus on industrial development only. Projects which are more retail commercial or office in nature should follow the applicable guidelines in the El Toro Redevelopment Project Area Design Guidelines.

The Design Guidelines should be viewed as qualitative rather than mandatory development standards and may be interpreted with some flexibility. Design Guidelines that utilize the term "shall" are to be applied as the preferred mechanism for developing projects. Guidelines that use the word "should" are discretionary and alternative measures may be considered if those measures meet or exceed the intent of the Guidelines.

Vision



As identified by LIA stakeholders during implementation of the Light Industrial Area Action Plan, the long-term vision for the LIA is a thriving, aesthetically-pleasing commercial and light industrial area that serves the community's needs while resulting in little impact to neighbors. The unique attributes of the area are well-suited to create unified themes for walls, landscape and signage.

Area Character

1. New development, including expansions, renovations, and any exterior modifications, should reflect the design characteristics of a surrounding area, including project design, architectural styles, and established landscape patterns, which are consistent with the LIA Design Guidelines.
2. Setback treatments for new buildings from streets should provide a positive image to the existing streetscape.
3. Generally, transitions between existing and new buildings should be gradual. The height and mass of new projects should not create abrupt changes in close proximity to existing buildings, unless the area is clearly transitioning to a more intense development pattern.

Site Design

1. Primary site and building entry points are strongly encouraged to generate visual interest with special design features such as decorative or textured paving, flowering accents, special lighting, monumentation, walls, shrubs, water features, and the use of sizeable specimen trees.

- 7. Structures and site improvements should be located and designed to avoid conflict with adjacent uses.
- 8. When appropriate, integrate spaces into a site plan for use by employees or customers to sit or rest.

2. The parking lot should not be the dominant visual element of the site as viewed from the street. Locate or place parking lots at the side and rear of buildings or use parking lot screening to soften their appearance.

3. On corner sites, establish a prominent streetscape presence and add visual interest by either locating buildings near the intersection to enliven the streetscape or using landscaping or planter walls to frame the intersection. Parking areas immediately adjacent to intersections are discouraged.

4. Project sites should be designed so that areas used for outdoor storage, and other potentially unsightly areas are screened from public view.

5. Consider views from the El Toro Road overpass and other views from above when siting and designing buildings, storage yards, utilities, and equipment.

6. Site accessories such as bicycle racks, trash receptacles, planters, benches, shade structures and lighting should be designed as an integral part of the project. The architectural character and use of materials for these accessories should be consistent with the overall project design.

Interface with Residential Uses



Project sites and structures should be located, designed, and/or screened to minimize impacts to nearby residential properties.

- 1. Loading areas, access and circulation driveways, trash, and storage areas, and rooftop equipment should have an adequate separation from adjacent residences.

- 2. Window orientation for industrial buildings should preclude a direct line of sight into adjacent residential private open spaces or windows. First floor windows may be appropriate if screened with appropriate fencing.
- 3. When industrial buildings back up to residential properties, the industrial setback should be landscaped or screened, as well as functionally and/or visually combined with residential open space where possible.

Parking and Circulation

- 1. Vehicular and pedestrian connections between adjacent developments are a priority within the Redevelopment Area and should be established when feasible.
- 2. Whenever possible, provide common driveways for access to more than one site or development which reduces the number of driveways and contributes to a continuous streetscape.
- 3. Gates to parking areas shall be located to prevent vehicle stacking or queuing on the street
- 4. Gates to parking areas should be designed with materials and color that are compatible with the site.

5. Parking areas visible from public streets shall be separated from buildings by either a raised walkway or landscape strip at least 4 feet wide. Situations where parking aisles or spaces directly abut the building are discouraged.

6. Separate vehicles and pedestrians. Design parking areas so that pedestrians walk parallel to moving cars. Minimize the need for the pedestrian to cross parking aisles and landscape areas. These features may be combined with required accessibility requirements.

7. Screen parking lots. Utilize a hedge (recommended height of 36 inches) with a rolling berm to screen parking at the street periphery (Minimum shrub container size should be 5 gallon.)

8. For new development, consider lowering the grade of the parking lot from the street or adding a landscaped berm buffer to screen views of automobiles while permitting views of buildings beyond.

9. The combined use of landscaping, and varied hardscape, such as contrasting pavement colors or materials, banding or pathways interspersed with alternate paver material, is encouraged.



Parking Structures

If used, parking structures should be designed with an integrated on-site circulation system.

1. Vehicular access to structured parking should be from a major street or the street where primary access to the site occurs.
2. Parking structures shall be architecturally consistent with the project. Plain, blank wall surfaces should be avoided. Ramped floors should not be visible from the street.
3. Setbacks for parking structures should match or exceed the setbacks for other on-site buildings.

4. Light fixtures within parking structures should be designed so that the light source is not visible from off-site. Exposed fluorescent tubes are strongly discouraged.

5. Design measures/features should be included to reduce noise generated from vehicles within the parking structure.

Storage Yards/Service Facilities

Providing adequate service facilities is critical to the efficient functioning of industrial buildings. The design of these facilities also presents an opportunity in preventing nuisance (noise, odor, visual) problems in the future.

1. Where appropriate and feasible, 'service yards' are encouraged over the dispersal of service facilities around the site. Service yards should include provisions for loading, trash bins (in lieu of a trash enclosure), utility cabinets, utility meters, transformers, and other outdoor mechanical equipment, when possible.
2. Loading and outdoor storage activities should be concentrated and located in a manner to minimize nuisances for the surrounding area.
3. All service yards and outdoor storage areas shall be enclosed or screened

from view from local streets. When designing these facilities, also consider the views from the El Toro Road overpass. Screening may include walls, buildings, gates, landscaping, berming, or combinations thereof.

4. Service yards should be located and designed for easy access by service vehicles and for convenient access by each tenant.
5. The design of service yard walls and similar accessory site elements should be compatible with the architecture of the main building(s), and should use a similar palette of materials and colors.

Trash Enclosures

1. Trash and storage enclosures should be architecturally compatible with the project design. Landscaping should be used to screen and deter graffiti.
2. Trash enclosures should be unobtrusive and should be conveniently accessible for trash disposal and collection.
3. Trash enclosures should be located away from residential uses to minimize nuisance to adjacent properties.
4. Trash receptacle design should coordinate with other streetscape furnishings.

5. Roof structures for trash enclosures should be architecturally compatible with buildings on the site.



manner which minimizes visibility from the street or the front of a site.

2. Utility equipment such as electric and gas meters, electrical panels, and junction boxes shall be screened from view or incorporated into the architecture of the building.

3. Utility devices, such as transformers and backflow preventers, should not dominate the front landscape area. When transformers are unavoidable in the front setback area, they should be screened by an enclosure or thick landscaping, in accordance with utility company regulations.

Loading Areas

1. To the fullest extent possible, loading areas and vehicle access doors should not be visible from public streets.
2. Loading driveways shall not back onto streets or encroach into landscaped setback areas.
3. Loading doors should be integrated into building elevations and given the same architectural treatment where feasible.

Utility Equipment

1. To the fullest extent possible, utility equipment should be located in a

4. All utility lines from the service drop to the site shall be located underground.

Mechanical Equipment

1. Mechanical equipment shall be located in a manner that minimizes visual impact and be screened from public view by enclosures or landscaping on all sides.
2. All mechanical equipment such as compressors, air conditioners, antennas, pumps, heating and ventilating equipment, emergency generators, chillers, elevator penthouses, water tanks, stand pipes, solar collectors, satellite dishes and

communications equipment, and any other type of mechanical equipment for the building shall be concealed from view of public streets, and to the fullest extent possible, public areas of neighboring properties.

3. For new construction, mechanical equipment shall not be located on the roof of a structure unless the equipment can be hidden by building elements that are designed as an integral part of the building design.
4. For exterior modifications of existing structures, all roof-mounted equipment must be screened in a manner that is compatible with the architecture and materials of the building.

Building Placement and Design

1. Buildings shall be designed with wall variations, such as insets and pop-outs. Façade elements, such as entryways, windows, etc should face the primary street frontage(s).
2. Buildings along streets should feature architecturally-detailed elevations and views of entries or activity areas.
3. Public entrances and primary building elevations should be oriented toward the street whenever possible.

4. Buildings in a single project should create a positive functional relationship with one another. Whenever possible, buildings should be clustered. This prevents long “barrack-like” rows of buildings. When clustering is impractical, a visual link should be established between buildings. This link can be accomplished through the use of landscape, an arcade system, trellis, colonnade, or other open structures.

Building Design



The design and placement of industrial buildings should respond to the general characteristics of the surroundings as well as to the vision of the Light Industrial Area.

Building Form and Scale

1. In order to relate to other nearby buildings, incorporate interesting

building elements from surrounding buildings.

2. Buildings should contain the three traditional parts of a building in appropriate proportions: base, mid section, and top.
3. The scale of new buildings should be compatible with adjacent buildings. Use transitions to achieve compatibility between larger buildings next to small scale buildings; transition techniques should include building elements of different heights, building or roof articulation, and building projections such as covered walkways.
4. Franchise architecture is generally discouraged, although the use of corporate identifying elements may be appropriate on a building that otherwise reflects the desired vision of the area.

Building Elements

1. A consistent architectural style should be used for a building, auxiliary structure, and all related site elements, such as screen walls, planters, trellises, and street furniture.
2. Expansions to existing buildings should provide for continuity between the old building and the new addition. The addition need not strictly match the

existing building, but should include prominent design elements of the old building or the addition of architectural elements to the old building to provide architecture compatibility between old and new.

3. Building Base – The lowest portion of a building at grade creates opportunity to establish an architectural base. This base may be a projection, a change in surface texture, or a change in material or color. The size of the base should be in proportion to the overall size of the building.

a. Base materials should be highly resistant to damage, defacement, and general wear and tear. Pre-cast decorative concrete, stone masonry, brick, slate, and commercial grade ceramic tile are examples of excellent base materials. The use of anti-graffiti coating on base materials is encouraged.

b. In general, the base materials should appear “heavier” and “darker” in appearance than the materials and color used for the building’s main exterior.

Windows, Doors, and Openings–

Windows, doors, and other openings should be detailed to emphasize them as important parts of the building.

Building Facades



1. Building entries should be framed with architectural embellishment for articulation, be visible from the street, and be easily recognizable.

2. Incorporate articulation (insets, pop outs, wing walls, etc.) to avoid unrelieved blank walls.

Roofs

Roofs should be an integral part of the building design and overall form of the structure. Views from the El Toro Road overpass shall be taken into consideration of roof designs.

1. Roof design should have the appearance of a full roof reflecting traditional forms (i.e., hipped, gabled, flat, etc.) and be integrated to the building, particularly on parapet walls

and roof elements used to screen equipment.

2. Earth-toned and durable roof materials are strongly encouraged to create a unifying image of an area. Terra cotta-colored tile roofs, which represent specific architectural styles, should be minimized.

3. Decorative cornices and parapet walls should be used to screen flat roofs and to delineate the building’s profile.

4. Vertical roof elements should be used to add interest to horizontally-oriented rooflines.

5. Roof overhangs and arcades are encouraged in that they complement a building’s design.

Finish Materials

1. Industrial buildings should be constructed using durable but attractive materials which convey a substantial quality appearance.

2. Exterior building treatments, including colors, materials, and architectural detailing, should be consistent throughout the building.

3. Exterior building colors should generally consist of earth-toned or

Landscaping



neutral colors, with vibrant or bright colors reserved for trim or accent use.

- 4. Building materials reflecting natural elements, such as stone or wood, are strongly encouraged.

Signage Areas

Signage placement shall be considered in the façade design.

Discouraged Building Elements

The following building elements and materials are discouraged in that they generally lack architectural interest and are inconsistent with the vision of the LIA.

- Square “box-like” buildings
- Large, blank, flat wall silhouettes
- Unrelieved flat roofs
- Brightly-colored roofs
- Unpainted concrete or cinder block
- Highly reflective surfaces
- Corrugated metal as a primary building exterior
- Exposed pipe columns
- Red or orange tiled roofs
- Pre-fabricated metal walls
- Plain aluminum siding

1. Landscaping should enhance the quality of developments by framing and softening the appearance of structures, defining site functions, screening, and buffering adjacent uses.

2. Landscaping used for screening purposes should be suitable to its purpose. Use trees to screen buildings or undesirable views and use shrubs for screening equipment.

3. To the fullest extent possible, landscaped areas should generally incorporate planting utilizing a three-tiered system: 1) grasses and ground covers, 2) shrubs and vines, and 3) trees, and taking into consideration the width of the planting area.

4. Landscaping may include accent treatments such as gravel, colored rock, tan-bark, and similar materials.

5. All landscaped areas should be served by an automatic irrigation system to ensure watering. Landscape design and construction should emphasize water-wise landscaping whenever and wherever possible. Water-conserving planting and irrigation design is encouraged.

6. The use of specimen trees (36-inch box or larger) at major focal points is encouraged.

7. Landscaping should be used to accentuate a building entry, when appropriate.

8. For vertical landscaping, vines and climbing plants on buildings or trash enclosures, trellises, and perimeter walls are encouraged.

9. For landscaping which abuts the public right-of-way, consider plant palettes that are compatible with nearby right-of-way (parkway or median) landscaping.

Parking Lot Landscaping

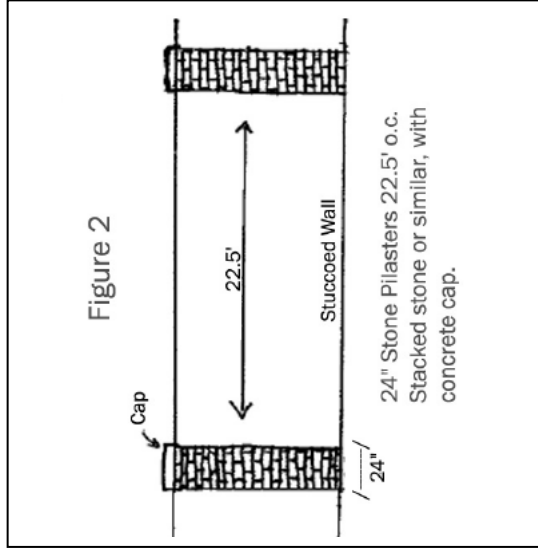
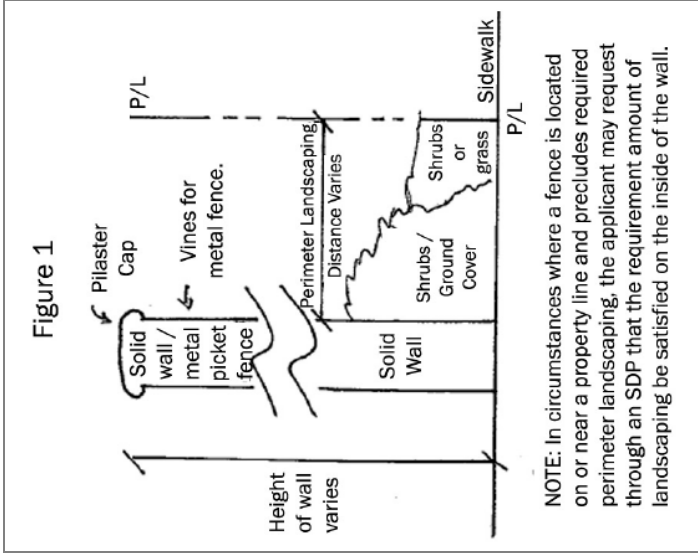
1. Parking lot landscaping should accent driveways, frame the major circulation aisles, and highlight pedestrian pathways.
2. Landscaping should be protected from vehicular and pedestrian encroachment

by raised planting surfaces, depressed walks, or the use of curbs. Concrete mow-strips separating turf and shrub areas should be provided.

3. A minimum of one shade canopy tree should be provided for the width of every 5 parking spaces and located in tree wells so as to visually break up long rows of parked vehicles. Landscaped planters should also be installed at the end of each drive aisle.
4. Landscaping materials which are used for screening edges of parking lots from the public right-of-way should be implemented by utilizing one or a combination of the following:
 - a. Evergreen hedges
 - b. Earth berm with a contoured, gradual slope and ground cover. (Maximum 42-inch)

Walls and Fences

All walls facing the public right-of-way should be consistent with the established perimeter wall and landscape “theme” for properties in the Light Industrial area, as shown in Figure 1.



1. Perimeter walls may be solid or be a combination fence with a solid block base and metal picket fence.
2. Solid walls should be finished in cement plaster and painted using earth-toned colors.
3. Solid walls should incorporate 24” stone pilasters spaced at 22.5’ on center, finished with stacked stone. Plaster shall include a concrete cap, in accordance with Figure 2. Also, use a pilaster to frame each the main entrance.

4. Metal fencing should be wrought iron or other durable metal, painted brown or black.
5. In circumstances where a fence is presently located or must be located on or near the property line, the required amount of perimeter landscaping must be satisfied on the inside of the wall.
6. Other walls and fences in public view should be built with attractive, durable materials such as wrought iron, or a solid wall with a finished cap. In general, all fences and walls should be designed to complement the site’s architecture through the use of materials and colors.

7. Chain-link fencing is strongly discouraged when facing public view and should only be used as interior fencing.

8. Landscaping shall be used in combination with walls to soften the otherwise blank surfaces visible from public streets or public areas. Vines planted on walls are strongly encouraged to hide flat wall surfaces and to help discourage graffiti.

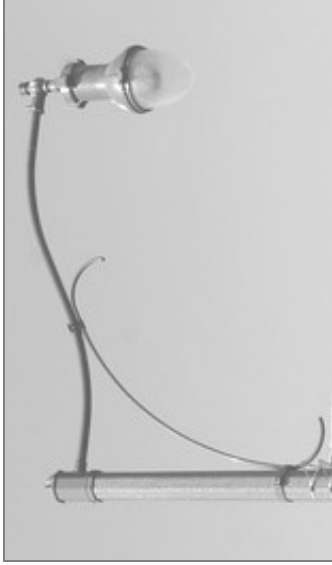
9. Security fencing – When security fencing is required, it should be a combination of solid walls with pillars and offsets, or short solid wall segments and segments with metal fencing.

10. Offset long walls – Walls should be varied in design, through offsets, height change, or landscaping, every 50 feet to reduce monotony. Landscape pockets along the wall should be provided at regular intervals, including perimeter walls.

Lighting

Lighting levels shall be sufficient for the safety of site occupants and visitors, but should not spill onto adjacent properties.

1. For safety, lighting should be provided for pedestrian walkways, parking lots, loading, and outdoor storage areas.



2. The height of light fixtures should be sensitive to areas adjacent to residential uses.

3. Parking area and vehicular circulation lighting should consider metal halide or high-pressure sodium cut-off type fixtures. Lighting for pedestrian activity areas (e.g., plazas, walkways) may use other lighting sources. Lighting of pedestrian paths with bollards and generally smaller fixtures at a human scale is encouraged.

4. Light standards should not exceed 25 feet in overall height from the finished grade of the parking facility. Light standards may be taller in larger parking areas (more than 500 spaces) if there will be no impact on surrounding uses, especially residential.

5. The general illumination of building walls is discouraged. This does not preclude illumination of wall signage.

6. Exterior light fixtures shall complement the architectural style of the building and add to overall design of the project.

Use Specific Guidelines

Vehicle Dealerships

1. Outdoor vehicle displays oriented toward streets should be limited to permanent at-grade display areas that are architecturally compatible with the project.

2. The showroom should be oriented toward major public streets.

3. Onsite loading areas, with access for trucks, should be made available for the unloading of vehicles from carriers.

4. No potentially noisy activity, such as vehicle repair, cleaning or testing, should be located outdoors or near and oriented toward residential properties.

5. Sufficient space should be provided for service drop-offs to prevent vehicle stacking on public streets.

6. The access points to the service bays should not be visible to the public.

- 7. All storage areas should be screened from public view from any adjoining property and from the public right-of-way by appropriately designed walls, fencing and landscaping.
- 8. Provisions should be made for a vehicle washing area. The wash rack should not be located visible or audible from any public street or residential area.
- 9. Landscaping should be provided along all display perimeters but may be maintained at a low level (less than 32 inches in height.)

Service Stations and Car Washes

- 1. Service and carwash bays should not face residential properties or the public street. The visibility of service bays and carwash opening should be minimized.
- 2. Gas pump canopies should be ancillary to the main building structure. The retail market/office building segment of the facility should be oriented along the street frontage, whenever possible.
- 3. Site-specific architectural design contextual to surroundings is strongly encouraged. Designs based solely on corporate or franchise models are strongly discouraged.
- 4. All structures on the site (including kiosks, carwash buildings, gas pump

- columns, etc.) should be architecturally consistent and related to an overall architectural theme.
- 5. Canopy light fixtures should be recessed into the canopy.
- 6. Outdoor equipment, such as vent risers and clean air separators, should be screened either with an enclosure or if site configuration topography permits, away from street view, screened with landscaping or located at a grade differential.

Auto Repair Services

- 1. Vehicle drop-off areas should be provided to prevent vehicle overflow to adjacent streets.
- 2. The interior of work bays should not be visible from a public street or any adjacent residential property or designated open space.
- 3. Building design should be stylistically consistent, and compatible with surrounding buildings through use of similar scale, materials, colors, and/or detailing.
- 4. Building materials should have the appearance of substance and permanency; lightweight metal or other temporary appearing structures are discouraged.

Contractor, Building Supply, or Landscaping Yards

- 1. Locate the main office or building along the street frontage to screen outdoor sales and minimize the visibility of storage of materials and vehicles.
- 2. Customer parking should be provided close to the building and not interspersed in the yard.
- 3. All outdoor contractor vehicle storage areas shall be enclosed with a screen of sufficient height and constructed with durable and high-quality materials that are compatible with the building and site.

Consumer Storage Facilities

- 1. A storage facility should be consistent with its surrounding area in scale and appearance, through the use of building size transitions, architecture, and landscaping.
- 2. The administrative office should be located in a building or building element that is human scale and located in proximity to the street.
- 3. Parking for visitors should be located near the administrative office, outside of any gated portion of the facility.

4. Loading doors for individual storage units should not face outward toward streets.
5. In order to break up the mass of larger buildings which containing storage units, provide horizontal and vertical articulation through the use of building offsets, windows, and variations in colors and materials.
6. Any area intended for the storage of automobiles and recreational vehicles should be located towards the rear of the site or screened with an enclosure of adequate height.

Sign Design Guidelines

As part of the vision of the Light Industrial Area, a unified and coordinated theme for signage is recommended. As such, properties should develop a common design (to be established through a Planned Sign Program) for monument signs, using materials and colors consistent with the unified wall and landscaping theme, which will be located at or near the entrance of the property.

For other signs, please consult the Sign Design Guidelines starting on Page 24 (Section G) of the El Toro Redevelopment Project Area Design Guidelines.

ARTICLE XXVII Light Industrial (LI) Zoning Use District *Editor's Note: Former Article XXVII, Business G District (Tourist Business), added 1-17-1995, as amended, was repealed 12-14-2004 by L.L. No. 53-2004. [Added 6-6-2006 by L.L. No. 18-2006]*

§ 108-134. Purpose and intent.

The purpose of this zoning use district is to provide for the development of manufacturing, assembly, warehousing, research and development, processing and packaging of goods or products from raw materials in which the goods produced are generally of high value in relation to bulk and which do not generate offensive noise, vibration, glare, dust, smoke, gas or other nuisances. It is a further goal of the Light Industrial Zoning Use District to encourage the development of employment-creating enterprises within buildings in an industrial park setting in accordance with modern development standards.

§ 108-135. Uses.

No building or premises shall be used and no building shall be erected, reconstructed, altered or added to except for the following permitted or accessory uses:

- A. Permitted uses.
 - (1) Light manufacturing.
 - (2) Research and development.
 - (3) Laboratories.
 - (4) Radio and television broadcasting studios.
 - (5) Warehouse and distribution of nonhazardous materials.
 - (6) Mariculture and floriculture facilities.
- B. Special permit uses.
 - (1) Wireless communication towers and antennas.
 - (2) Public utility buildings or structures.
 - (3) Day-care facilities.
- C. Accessory uses: those uses customarily incidental and subordinate to and in furtherance of any of the aforementioned principal uses. Accessory uses shall be for the sole use of the employees, tenants and guests of the principal use and not for the use by the general public and shall include the following:
 - (1) Cafeterias, not including diners, luncheonettes, drive-in and fast-food facilities, for the use of executives, employees and visitors of the principal use.
 - (2) Indoor and outdoor recreation facilities.
 - (3) In-service training schools for employees of the principal use.
 - (4) Auditoriums.
 - (5) Day-care facilities.
 - (6) Banks, automatic teller machines.
 - (7) Private garages for the storage and service of motor vehicles owned by the owner of the principal use or the executives or employees thereof, or visitors thereto.
 - (8) Heating and power plants accessory to the principal use and the service of all structures on the premises.
 - (9) Fully enclosed storage facilities incidental to the principal use.

- (10) Maintenance and utility shops incidental to the principal use.
- (11) The owner or lessee of property in the Light Industrial Zoning Use District may, as part of site plan approval and when necessary, be granted a runway use agreement consistent with the rules and regulations on the use of the runway as adopted and/or amended from time to time.

D. Prohibited uses.

- (1) Outdoor storage.
- (2) Adult uses as set forth in Article XLIII of this chapter.
- (3) Those uses set forth in 274A(6) of this chapter.
- (4) Retail sales of consumer merchandise.
- (5) Personal service uses unless permitted by § 108-135C(1) of this article.
- (6) Any uses not expressly permitted or specially permitted are prohibited.

§ 108-136. General lot, yard, and height requirements.

No buildings shall be erected nor any lot or land area utilized unless in conformity with the Zoning Schedule incorporated into this article by reference and made part hereof with the same force and effect as if such requirements were herein set forth in full as specified in said schedule, except as may be hereafter specifically modified. *Editor's Note: The Light Industrial District Schedule of Dimensional Regulations is included at the end of this chapter.*

§ 108-137. Design standards.

The following design standards shall apply to all uses within the Light Industrial Zoning Use District:

- A. Building design. The exterior appearances of buildings shall complement the character of existing development in the surrounding area. The objective of the building design standards is to provide overall high quality and complementary design of industrial and office buildings. Special emphasis is placed upon methods that tend to reduce the large-scale visual impact of buildings and to encourage imaginative design for individual buildings.
 - (1) Building mass. Solid and unarticulated buildings are discouraged. The mass and scale of buildings shall be reduced by staggered building walls or other architectural treatments at least every 150 feet to provide architectural interest and reduce the visual scale of a building. Buildings shall include the following elements:
 - (a) The use of variations in height, roof lines and grade definition is encouraged to reduce the perceived height and mass of a building.
 - (b) Building entries shall be readily identifiable through the use of canopies, marquees and architectural treatment.
 - (c) Where possible, buildings with smaller or multiple structures instead of one large building are preferred to reduce massive appearance.
 - (d) Clusters of mature landscaping and berms shall be provided along the building facade. The landscaping clusters shall include a variety of trees and tall shrubs.
 - (e) Wall texture changes shall be provided.
 - (f) Small-scale elements, such as planter walls and hedges, shall be clustered around building entrances.
 - (2) Materials.

- (a) One dominant material shall be selected and used through each building on a site.
 - (b) It is encouraged that the front and two side elevations of all buildings and/or structures be constructed of brick, architectural block or architectural precast concrete. Painted or natural utility concrete panels or masonry units should be confined to rear elevations and in loading dock areas.
 - (c) Roof design shall be as aesthetically pleasing as possible (e.g., color, material, grouping).
 - (d) Glass windows or some similar architectural treatment shall occupy at least 10% of the front elevation of a building.
- (3) Color and texture.
- (a) Texture patterns are encouraged to create shadow patterns which will reduce the high visibility of the building.
 - (b) Variations in color shall be kept to a minimum.
 - (c) Colors shall be subdued in tone.
 - (d) Accent colors may be used to express corporate identity.
- (4) Location.
- (a) No building shall be constructed closer than 25 feet to an adjacent building.
 - (b) Planters, walls and sign elements not exceeding six feet in height shall be permitted in yard areas. Roof overhangs may extend a maximum of six feet into setback areas.
- B. No more than 10% of the required parking shall be located in the front yard setback area.
- C. All service and loading areas shall be screened from the view from streets by a combination of walls, fencing, vegetation or berms.
- D. The front and side facades shall be constructed with masonry materials. At least 50% of the linear width of the front facade shall consist of transparent windows. Metal and prefabricated buildings are prohibited.
- E. Building shape, massing and siding shall reflect the prevalent character of surrounding buildings on the block.

§ 108-138. Additional requirements.

- A. Performance criteria.
- (1) All development subject to the provisions of Article 6 of County Sanitary Code shall meet the applicable requirements of the Suffolk County Department of Health.
 - (2) All development shall be connected to the appurtenances of the Calverton Sewer District.
 - (3) All development shall comply with the provisions of Articles 7 and 12 of the Suffolk Sanitary Code.
 - (4) All development involving significant discharges to groundwater and located proximate to public water supply wells shall require measures to mitigate impacts upon water quality as required under Article 17 of the New York State Environmental Conservation Law. The Suffolk County Department of Health Services' guidelines for private wells should be used for private wellhead protection.
 - (5) Development proposals for sites containing or abutting freshwater wetlands shall be separated by a nondisturbance buffer area which shall be in accordance with Article 24

of the New York State Environmental Conservation Law, the Wild, Scenic and Recreational Rivers Act and Chapter 107 of the Code of the Town of Riverhead, whichever is most restrictive. Distances shall be measured horizontally from the wetland edge as mapped by the New York State Department of Environmental Conservation, field delineation or local ordinance. Stricter buffer areas may be established for wetlands as appropriate. Buffer areas shall be delineated on development plans with conditions imposed to assure the preservation of the freshwater wetland resource. Said conditions shall be set forth in a declaration of covenants, conservation easement or similar instrument.

- (6) Development proposals for sites within the regulated area of the New York Wild, Scenic and Recreational Rivers Act shall conform to the standards of the Act. Variances from the Act shall meet all requirements imposed by the State of New York in order to be deemed to have met the requirements of this standard. Additional relief from the Town of Riverhead Zoning Board of Appeals shall not be required.
- (7) All stormwater generated by development shall be recharged on site unless surplus capacity exists in an off-site drainage system. In the review of development plans, the Town Board shall encourage the use of natural recharge areas or drainage system design which results in minimal disturbance of native vegetation with the use of natural swales and depressions as an alternative to excavated recharge basins where feasible. Development plans should include the use of ponds only if such ponds are designed to retain stormwater and are not merely constructed for aesthetic purposes. Adequate measures should be employed to control soil erosion and stormwater runoff during construction, as per guidelines promulgated by the New York State Department of Environmental Conservation.
- (8) No more than 65% of the LI District shall be cleared pursuant to the Central Pine Barrens Comprehensive Land Use Plan and the Pine Barrens Overlay District (Article XXXV) of the Zoning Code of the Town of Riverhead. The applicable clearance percentage shall be calculated over the entire parcel, including but not limited to public highways, roadways, building sites, parking areas, drainage structures and recharge areas. Development plans shall delineate the existing naturally vegetated areas, shall calculate those portions of the site that are already cleared due to previous activities, and shall contain calculations for the amount of disturbances of native vegetation and indicate the clearing limits thereof.
- (9) Land subdivision maps and site plans shall be designed to encourage the preservation of large unbroken blocks that provide for contiguous open spaces to be established when adjacent parcels are developed. Applications for subdivision and site plan shall contain calculations for clearing, and these limits shall become part of the filed map or approved drawings.
- (10) Development projects shall place no more than 15% of the entire site in fertilizer-dependent vegetation. Development designs shall consider native planting suggestions made part of the plan.
- (11) Development which will have a significant negative impact upon a habitat essential to those species identified on the New York State maintained lists as rare, threatened or of special concern, or upon the communities classified by the New York State Natural Heritage Program as G1, G2 or G3 or as S1, S2 or S3 or upon any federal listed endangered or threatened species, appropriate mitigation measures, as determined by the state, county or local government agency, shall be imposed to protect such species.
- (12) Development projects shall minimize disturbance of the natural grade and/or natural vegetation where slopes exceed 10%. Construction in areas with slopes exceeding 10% may be approved if the site design incorporates adequate soil stabilization and erosion control measures so as to mitigate negative environmental impacts. Where applicable, nondisturbance buffers shall be placed on those portions of the site where slopes

exceed 10%. Development plans shall include a slope analysis depicting existing slopes in the ranges of 0% to 10%, 11% to 15% and 15% or greater. Erosion and sediment control plans and details of retaining walls and erosion control structures shall be referred for construction in areas where slopes exceed 15% and for roads and driveways traversing slopes of 10%.

- (13) Prior to construction, soil erosion and sediment control plans shall be prepared and approved which achieve the following objectives:
 - (a) Minimize potential impacts associated with soil erosion and resulting in sedimentation of surface waters.
 - (b) Limit work areas to the immediate area of construction in order to minimize disruption of adjacent lands.
- (14) In order to provide for orderly development and the efficient provision of infrastructure, applications for development projects depicting either open space or reserve areas shall specify the conditions of ownership and the use of such lands, and such conditions shall be set forth in the deed of dedication, declaration of covenants, conservation easement or similar instrument.
- (15) Where applicable, development pursuant to the provisions of Article XX of this chapter shall be encouraged to preserve open spaces.
- (16) Any existing, expanded or new activity involving agricultural production or horticulture shall comply with best management practices as set forth in the plan, as may be amended from time to time.
- (17) Development plans shall indicate established recreational and educational trails and trail corridors, active recreational sites, scenic corridors, roads, vistas and viewpoints, sites of historical or cultural significance, including historic districts, sites on the State or National Register of Historic Places and historic structures listed on the State or National Register of Historic Places, or recognized by local law or statute, sensitive archaeological sites as identified by the New York State Historic Preservation Officer or the New York State Museum, within 500 feet of the proposed development, and shall provide adequate measures to protect such natural resources. The use of existing natural buffers or the restoration of degraded buffer areas, the use of signs or other man-made structures, consistent in style and scale with the community character, or other similar measures shall be taken to protect roadside areas as well as scenic and recreational resources.
- (18) All commercial or industrial development shall comply with the applicable provisions of the Suffolk County Sanitary Code and all other applicable federal, state or local laws.
- (19) A buffer of 1,000 feet and no more than 50% disturbance shall be permitted around verified endangered species breeding ponds pursuant to New York State Department of Environmental Conservation (NYSDEC) freshwater wetlands permit requirements.
- (20) Development within the LI District shall comply with the Noise Ordinance [Editor's Note: See Ch. 81, Noise Control.](#) of the Town of Riverhead, which limits such noise levels from commercial and industrial properties to neighboring properties to 65 dBA. In the event that such noise levels are exceeded, such additional noise abatement measures, including increasing such setbacks or the provision of noise walls or the provision of berms, fences, vegetation and the like, shall be provided for.

7.b.t



Attachment: 19. Photo Example 1

Packet Pg. 93

7.b.u

Attachment: 20. Photo Example 2

Packet Pg. 94

7.b.v



Packet Pg. 95



7.b.w

Attachment: 22. Photo Example 4 (2991 : Ordinance

7.b.x

Attachment: 23. Photo Example 5 (2991

Packet Pg. 97

7.b.y



Attachment: 24. Photo Example 6 (2991

Packet Pg. 98

7.b.z

Attachment: 25. Photo Example 7 (2991

Packet Pg. 99



Attachment: 26. Photo Example 8 (2991 : Ordinance Review Committee - Architectural Standards Industrial-Light Industrial)



7.b.ab

Attachmen

Packet Pg. 101



East Shore Wire Rope and Rigging Supply
the ROCHESTER corporation

Attachment: 28. Photo Example 10 (2991 : Ordinance Review Committee - Architectural Standards Industrial-Light Industrial)



Attachment: 29. Photo Example 11 (2991 : Ordinance Review Committee - Architectural Standards Industrial-Light Industrial)



7.b.ae

A

Packet Pg. 104



Attachment: 31. Photo Example 13 (2991 : Ordinance Review Committee -