



COMMUNITY DEVELOPMENT DEPARTMENT

45175 Ten Mile Road
Novi, MI 48375
(248) 347-0415 Phone
(248) 735-5600 Facsimile
www.cityofnovi.org

ZONING BOARD OF APPEALS STAFF REPORT

FOR: City of Novi Zoning Board of Appeals

ZONING BOARD APPEALS DATE: May 12, 2015

REGARDING: TACO BELL (CASE NO. PZ15-0006)

BY: Thomas M. Walsh, Building Official

I. GENERAL INFORMATION:

Applicant

James M. Barnwell

Variance Type

Dimensional Variance

Property Characteristics

Zoning District: B3, Business District
Site Location: 31172 Beck Road, east side of Beck Road south of Pontiac Trail
Parcel #: 50-22-04-100-039

Request

The applicant is requesting variances from the CITY OF NOVI, CODE OF ORDINANCES; Section 5.5 a variance from the required 6 ft. high obscuring wall requirement when abutting or adjacent to a B-3 District and Section 5.4.1 a variance from the required loading zone, (720 sq. ft. required, .0 sq. ft. proposed) to allow the construction of a 2,171 square foot drive-through Taco Bell restaurant.



II. ZONING AND LAND USE:

The table below lists the zoning district, existing land use and future land use for the subject site and surrounding parcels.

Parcel	Zoning District	Existing Land Use	Future Land Use
Subject Property	B3, Business District	Novi Shopping Center (out-lot)	Community Commercial
North	B3, Business District	Novi Shopping Center	Community Commercial
South	B3, Business District	K & S Plaza	Community Commercial
East	B3, Business District	Novi Shopping Center	Community Commercial
West	*****	City of Wixom	*****

III. STAFF COMMENTS:

Existing Condition

The subject property consists of one- (1) lot (vacant) located on the east side of Beck Road and south of Pontiac Trail. The parcel has approximately 540.0 feet of frontage on Beck Road and approximately 275.08 feet deep as measured along south side yard lot line.

Proposed Changes

The applicant is proposing to construct a 2,171 square foot drive-through Taco Bell restaurant with associated parking and landscaping on an existing shopping center out-lot on the east side of Beck south of Pontiac Trail. The restaurant would also include a sit-down dining area with access provided from the existing shopping center. The proposed drive-through would wrap around the north side of the building with the pick-up window located on the west side of the building.

The new building would result in a setback of 47.68 feet from the west side yard lot line, 157.25 feet from the east side yard lot line, and 53.42 feet from the south side yard lot line.

IV. SITE STANDARDS:

1. Loading Space (Section 5.4.1). 720 square foot loading space is required in the B-3 District and none has been provided. **The applicant requesting a variance (of 720 SF) from this requirement as loading will be done after operating hours.** Staff would support this variance request provided a note is added to the plan to indicate after-hours loading and unloading.
2. Obscuring Walls (Section 5.1). The ordinance requires a 6 ft. obscuring wall be placed along drive-through restaurant property boundaries bordering specific districts, which are not separated from the proposed restaurant by a road, highway or freeway. **The applicant requesting a variance from this requirement.** Additionally, the property to the south is the rear/service area of the existing building.

V. RECOMMENDATION:

The Zoning Board of Appeals may take one of the following actions:

1. Grant I move that we grant the variance(s) in Case No. PZ15-0006, sought by _____, for _____ because the Petitioner has established that _____ causes a practical difficulty relating to the property, including some or all of the following criteria:

(a) Petitioner has established that the property is unique because _____, or that the physical condition of the property creates the need for a variance because _____.

And, the condition is not a personal or economic hardship.

(b) The need for the variance is not self-created, because _____.

(c) Strict compliance with dimensional regulations of the Zoning Ordinance, including _____, will (either):

- 1. unreasonably prevent Petitioner from using the property for the permitted purpose as a _____, because _____, and/or,
2. will make it unnecessarily burdensome to comply with the regulation because _____.

(d) Petitioner has established that variance is the minimum variance necessary because a lesser variance would not _____.

(e) The requested variance will not cause adverse impact on surrounding property, property values, or the enjoyment of property in the neighborhood or zoning district, because _____.

(f) The variance granted is subject to the conditions that:

- 1. _____
2. _____
3. _____
4. _____

Zoning Board Of Appeals

Taco Bell
Case # PZ15-0006

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2. Deny I move that we **deny** the variance in Case No. **PZ15-0006**, sought by _____, for _____ because the Petitioner has **not** established a practical difficulty because:

(a) Petitioner has shown no unique circumstance or physical condition of the property because petitioner can reasonably comply with the ordinance by _____.

(b) The difficulty described by the Petitioner is a personal or economic difficulty only in that Petitioner stated _____.

(c) The need for the variance is self-created because Petitioner _____.

(d) Conforming to the ordinance would not (either):

1. be unnecessarily burdensome because _____, or,

2. unreasonably prevent petitioner from using the property for _____, because _____.

(e) A lesser variance consisting of _____ would do substantial justice to Petitioner and surrounding property owner's because _____.

(f) The proposed variance would have adverse impact on surrounding property because _____.

Should you have any further questions with regards to the matter please feel free to contact me at (248) 347-0417



Thomas M. Walsh
Building Official
City of Novi



PLAN REVIEW CENTER REPORT

March 10, 2015

Planning Review

Taco Bell

JSP15-05

Petitioner

Sundance Inc.

Review Type

Preliminary Site Plan and Special Land Use Permit

Property Characteristics

- Site Location: 31172 Beck Road, south of Pontiac Trail and east side of Beck Road (Section 4)
- Site Zoning: B-3, General Business
- Adjoining Zoning: North, South, and East: B-3; West (across Beck Road in Wixom): RM-2, Multiple-Family Residential
- Current Site Use: Vacant
- Adjoining Uses: North, South and East: existing shopping centers; West (across Beck Road in Wixom): existing multiple-family
- School District: Walled Lake District
- Site Size: 1.23 acres
- Plan Date: 02-20-15

Project Summary

The applicant is proposing to construct a 2,171 square foot drive-through Taco Bell restaurant with associated parking and landscaping on an existing shopping center outlot on the east side of Beck south of Pontiac Trail. The restaurant would also include a sit-down dining area with access provided from the existing shopping center. The proposed drive-through would wrap around the north side of the building with the pick-up window located on the west side of the building.

Recommendation

Provided the applicant receives the necessary variances from the Zoning Board of Appeals, staff **recommends approval of the Preliminary Site Plan and Special Land Use Permit**. Planning Commission approval of the Preliminary Site Plan and Special Land Use Permit is required.

Ordinance Requirements

This project was reviewed for conformance with the Zoning Ordinance with respect to Article 4.40 (B-3, General Business District), Article 4 (Use Standards), Article 5 (Site Standards) and any other applicable provisions of the Zoning Ordinance. Items in **bold** below must be addressed by the applicant.

1. Obscuring Wall: The ordinance requires a 6 ft. obscuring wall be placed along drive-through restaurant property boundaries bordering specific districts, including B-3. **The applicant has indicated they will seek a variance from this requirement and submitted an application to the Zoning Board of Appeals stating the proposed restaurant is meant to be "an integral part of the Shoppes at the Trail center". Additionally, the property to the south is the rear/service area of the existing building. Staff would support this variance.**
2. Parking Space Dimensions: It appears dimensions for the proposed parking space length for the bank of 6 spaces each 17 ft. in length may have been taken from the back of curb. **The applicant should note all dimensions are to be to the face of curb and confirm adequate length for all spaces.**

Planning Review

Taco Bell
JSP15-05

March 10, 2015

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3. Loading Space: Loading space is required in the B-3 District and none has been provided. **The applicant has indicated they will seek a variance from this requirement as loading will be done after operating hours. Staff would support this variance request provided a note is added to the plan to indicate after-hours loading and unloading.**
4. Economic Impact: **The applicant should provide information regarding the total cost of the proposed building and site improvements and the number of anticipated jobs created both during and after construction as part of their response letter.**
5. Lighting Plan: There are several pieces of information missing from the proposed site lighting plan. **The applicant should address the items identified in the lighting review chart as part of the final site plan.** Additionally, it appears wall packs are not proposed for the building. **The applicant should confirm this or add any proposed building lighting to the site lighting plan.**
6. Bicycle Parking: Bicycle parking is located near front doors and is appropriately connected to sidewalks through the site. **A detail of the bike rack should be provided on the detail sheet.**
7. Signage: Exterior Signage is not regulated by the Planning Division or Planning Commission. Please contact Jeannie Niland (248.347.0438) for information regarding sign permits.

Special Land Use Considerations

In the B-3 District, a drive-through restaurant falls under the Special Land Use requirements. Section 6.2.C of the Zoning Ordinance outlines specific factors the Planning Commission shall consider in the review of the Special Land Use Permit request:

- Whether, relative to other feasible uses of the site, the proposed use will cause any detrimental impact on existing thoroughfares in terms of overall volumes, capacity, safety, vehicular turning patterns, intersections, view obstructions, line of sight, ingress and egress, acceleration/deceleration lanes, off-street parking, off-street loading/unloading, travel times and thoroughfare level of service.
- Whether, relative to other feasible uses of the site, the proposed use will cause any detrimental impact on the capabilities of public services and facilities, including water service, sanitary sewer service, storm water disposal and police and fire protection to service existing and planned uses in the area.
- Whether, relative to other feasible uses of the site, the proposed use is compatible with the natural features and characteristics of the land, including existing woodlands, wetlands, watercourses and wildlife habitats.
- Whether, relative to other feasible uses of the site, the proposed use is compatible with adjacent uses of land in terms of location, size, character, and impact on adjacent property or the surrounding neighborhood.
- Whether, relative to other feasible uses of the site, the proposed use is consistent with the goals, objectives and recommendations of the City's Master Plan for Land Use.
- Whether, relative to other feasible uses of the site, the proposed use will promote the use of land in a socially and economically desirable manner.
- Whether, relative to other feasible uses of the site, the proposed use is (1) listed among the provision of uses requiring special land use review as set forth in the various zoning districts of this Ordinance, and (2) is in harmony with the purposes and conforms to the applicable site design regulations of the zoning district in which it is located.

Site Addressing

The applicant should contact the Building Division for an address prior to applying for a building permit. Building permit applications cannot be processed without a correct address. The address application can be found on the Internet at www.cityofnovi.org under the forms page of the Community Development Department.

Planning Review

Taco Bell
JSP15-05

March 10, 2015

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Please contact Jeannie Niland [248.347.0438] in the Community Development Department with any specific questions regarding addressing of sites.

Pre-Construction Meeting

Prior to the start of any work on the site, Pre-Construction (Pre-Con) meetings must be held with the applicant's contractor and the City's consulting engineer. Pre-Con meetings are generally held after Stamping Sets have been issued and prior to the start of any work on the site. There are a variety of requirements, fees and permits that must be issued before a Pre-Con can be scheduled. If you have questions regarding the checklist or the Pre-Con itself, please contact Sarah Marchioni [248.347.0430 or smarchioni@cityofnovi.org] in the Community Development Department.

Chapter 26.5

Chapter 26.5 of the City of Novi Code of Ordinances generally requires all projects be completed within two years of the issuance of any starting permit. Please contact Sarah Marchioni at 248-347-0430 for additional information on starting permits. The applicant should review and be aware of the requirements of Chapter 26.5 before starting construction.

Response Letter

A letter from either the applicant or the applicant's representative addressing comments in this and other review letters is required prior to consideration by the Planning Commission and with the next plan submittal.

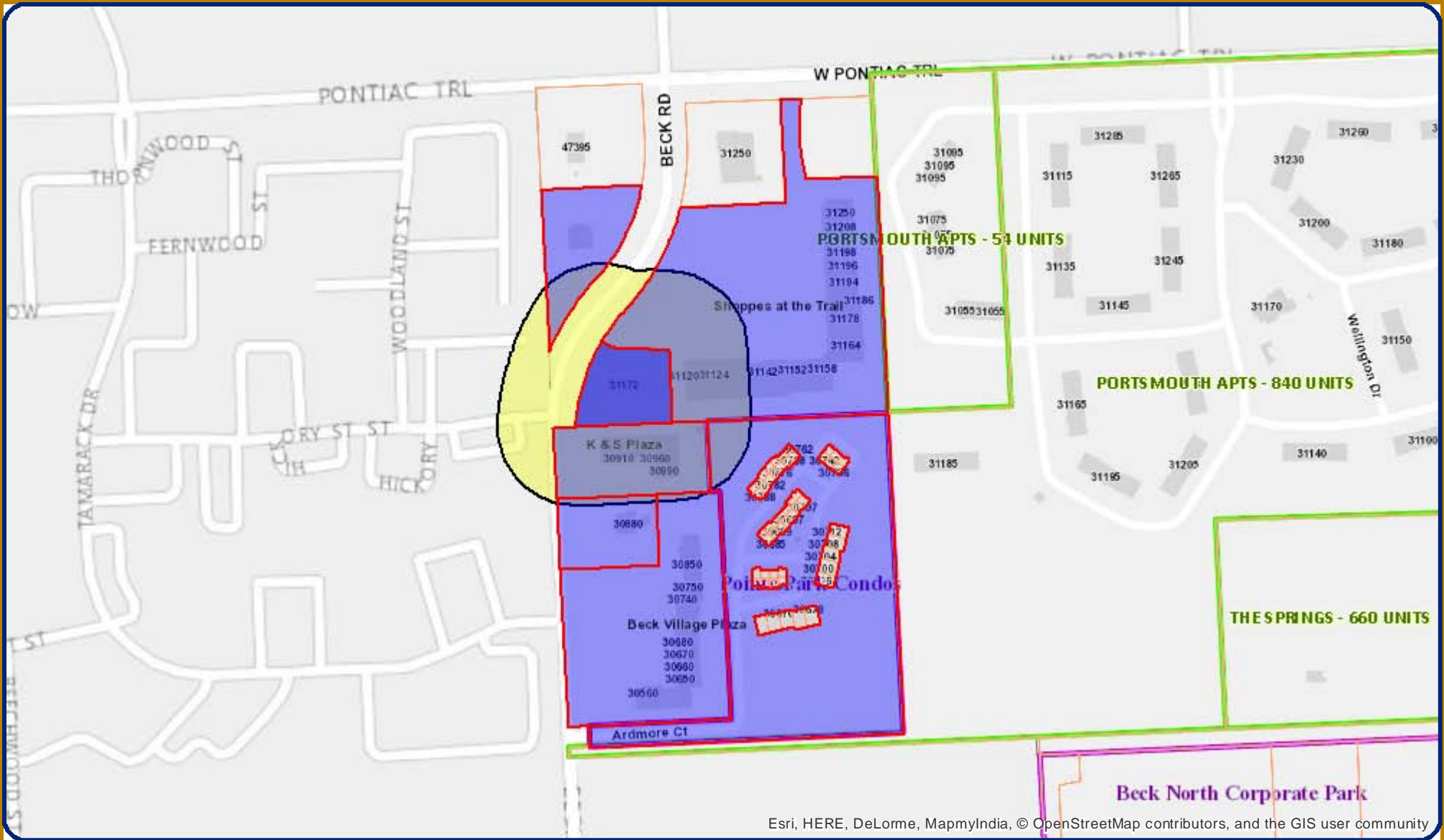
If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.347.0586 or kkapelanski@cityofnovi.org.



Kristen Kapelanski, Planner, 248.347.0586 or kkapelanski@cityofnovi.org

Attachments: planning and lighting review chart

Novi, MI 31172 BECK RD



Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community



Map Produced Using the
City of Novi, Michigan
Internet Mapping Portal



Author:
Date: 3/3/2015

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map. This map was produced under the terms of the City's Internet Site Use Policy available at <http://cityofnovi.org/Resources/SiteUsePolicy.asp>



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ZONING BOARD OF APPEALS APPLICATION

APPLICATION MUST BE FILLED OUT COMPLETELY

Application Fee: _____

Meeting Date: _____

ZBA Case #: PZ _____

I. PROPERTY INFORMATION (Address of subject ZBA Case)			
PROJECT NAME / SUBDIVISION NOVI TACO BELL			
ADDRESS 31172 BECK ROAD		LOT/SIUTE/SPACE #	
SIDWELL # 50-22-04 - 100 - 039		May be obtain from Assessing Department (248) 347-0485	
CROSS ROADS OF PROPERTY BECK ROAD AND PONTIAC TRAIL			
IS THE PROPERTY WITHIN A HOMEOWNER'S ASSOCIATION JURISDICTION? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		REQUEST IS FOR: <input type="checkbox"/> RESIDENTIAL <input checked="" type="checkbox"/> COMMERCIAL <input type="checkbox"/> VACANT PROPERTY <input type="checkbox"/> SIGNAGE	
DOES YOUR APPEAL RESULT FROM A NOTICE OF VIOLATION OR CITATION ISSUED? <input type="checkbox"/> YES <input type="checkbox"/> NO			
II. APPLICANT INFORMATION			
A. APPLICANT		EMAIL ADDRESS jimb@desineinc.com	CELL PHONE NO.
NAME JAMES M. BARNWELL		TELEPHONE NO. 810 227-9533	
ORGANIZATION/COMPANY DESINE INC.		FAX NO. 810 227-9460	
ADDRESS 2183 PLESS DRIVE	CITY BRIGHTON	STATE MI	ZIP CODE 48114
B. PROPERTY OWNER <input type="checkbox"/> CHECK HERE IF APPLICANT IS ALSO THE PROPERTY OWNER			
Identify the person or organization that owns the subject property:		EMAIL ADDRESS bkassab@k2lawyers.com	CELL PHONE NO.
NAME NICK SANDIHA		TELEPHONE NO. 248 538-2200 CONTACT BURT KASSAB, ATTN Y	
ORGANIZATION/COMPANY NOVI SHOPPING CENTER LLC		FAX NO.	
ADDRESS 31000 NORTHWESTERN HWY SUITE 200	CITY FARMINGTON HILLS	STATE MI	ZIP CODE 48334
III. ZONING INFORMATION			
A. ZONING DISTRICT			
<input type="checkbox"/> R-A <input type="checkbox"/> R-1 <input type="checkbox"/> R-2 <input type="checkbox"/> R-3 <input type="checkbox"/> R-4 <input type="checkbox"/> RM-1 <input type="checkbox"/> RM-2 <input type="checkbox"/> MH <input type="checkbox"/> I-1 <input type="checkbox"/> I-2 <input type="checkbox"/> RC <input type="checkbox"/> TC <input type="checkbox"/> TC-1 <input type="checkbox"/> OTHER <u>B-3</u>			
B. VARIANCE REQUESTED			
INDICATE ORDINANCE SECTION (S) AND VARIANCE REQUESTED:			
1. Section <u>4.40 F</u>	Variance requested	<u>FROM REQUIREMENT TO INSTALL OBSCURING WALL BETWEEN SITE AND ADJACENT B-3 DISTRICTS</u>	
2. Section <u>5.4</u>	Variance requested	<u>FROM REQUIREMENT TO DESIGNATE A SEPERATE UNLOADING/LOADING AREAS</u>	
3. Section _____	Variance requested _____	_____	
4. Section _____	Variance requested _____	_____	
IV. FEES AND DRAWINGS			
A. FEES			
<input type="checkbox"/> Single Family Residential (Existing) \$200 <input type="checkbox"/> (With Violation) \$250 <input type="checkbox"/> Single Family Residential (New) \$250 <input checked="" type="checkbox"/> Multiple/Commercial/Industrial \$300 <input type="checkbox"/> (With Violation) \$400 <input type="checkbox"/> Signs \$300 <input type="checkbox"/> (With Violation) \$400 <input type="checkbox"/> House Moves \$300 <input type="checkbox"/> Special Meetings (At discretion of Board) \$600			
B. DRAWINGS 1-COPY & 1 DIGITAL COPY SUBMITTED AS A PDF			
<ul style="list-style-type: none"> • Dimensioned Drawings and Plans • Site/Plot Plan • Existing or proposed buildings or addition on the property • Number & location of all on-site parking, if applicable • Existing & proposed distance to adjacent property lines • Location of existing & proposed signs, if applicable • Floor plans & elevations • Any other information relevant to the Variance application 			



ZONING BOARD OF APPEALS APPLICATION

V. VARIANCE

A. VARIANCE (S) REQUESTED

DIMENSIONAL USE SIGN

There is a five-(5) hold period before work/action can be taken on variance approvals.

B. SIGN CASES (ONLY)

Your signature on this application indicates that you agree to install a **Mock-Up Sign ten-(10) days** before the schedule ZBA meeting. Failure to install a mock-up sign may result in your case not being heard by the Board, postponed to the next schedule ZBA meeting, or cancelled. A mock-up sign is **NOT** to be actual sign. Upon approval, the mock-up sign must be removed within five-(5) days of the meeting. If the case is denied, the applicant is responsible for all costs involved in the removal of the mock-up or actual sign (if erected under violation) within five-(5) days of the meeting.

C. ORDINANCE

City of Novi Ordinance, Section 3107 – Miscellaneous

No order of the Board permitting the erection of a building shall be valid for a period longer than one-(1) year, unless a building permit for such erection or alteration is obtained within such period and such erection or alteration is started and proceeds to completion in accordance with the terms of such permit.

No order of the Board permitting a use of a building or premises shall be valid for a period longer than one-hundred and eighty-(180) days unless such use is establish within such a period; provided, however, where such use permitted is dependent upon the erection or alteration of a building such order shall continue in force and effect if a building permit for such erection or alteration is obtained within one-(1) year and such erection or alteration is started and proceeds to completion in accordance with the terms of such permit.

D. APPEAL THE DETERMINATION OF THE BUILDING OFFICIAL

PLEASE TAKE NOTICE:

The undersigned hereby appeals the determination of the Building Official / Inspector or Ordinance made

CONSTRUCT NEW HOME/BUILDING ADDITION TO EXISTING HOME/BUILDING SIGNAGE
 ACCESSORY BUILDING USE OTHER _____

VI. APPLICANT & PROPERTY SIGNATURES

A. APPLICANT

James M. Barnell
Applicant Signature

2-22-15
Date

B. PROPERTY OWNER

If the applicant is not the owner, the property owner must read and sign below:

The undersigned affirms and acknowledges that he, she or they are the owner(s) of the property described in this application, and is/are aware of the contents of this application and related enclosures.

[Signature]
Property Owner Signature

2/25/15
Date

VII. FOR OFFICIAL USE ONLY

DECISION ON APPEAL:

GRANTED DENIED

The Building Inspector is hereby directed to issue a permit to the Applicant upon the following and conditions:

Chairperson, Zoning Board of Appeals

Date



**REVIEW STANDARDS
USE VARIANCE
CITY OF NOVI
Community Development Department
(248) 347-0415**

For Use Variances: A use variance may be granted by the Zoning Board of Appeals only in cases where the applicant demonstrates in the official record of the public hearing that undue hardship exists by showing all of the following:

In the space below, and on additional paper if necessary, explain how the proposed project meets each of the following standards.

Standard #1. Cannot Be Reasonably Used.

Explain how the land, building or structure cannot be reasonably used for any of the uses permitted by right or by special land use permit in the zoning district in which it is located.

SEE Attached.

Standard #2. Circumstances or Physical Conditions.

Explain how the need for the requested variance is due to unique circumstances or physical conditions of the property involved, such as narrowness, shallowness, shape, water, topography, or similar physical conditions and is not due to the applicant's personal or economic hardship.

SEE Attached.

Standard #3. Character of the Neighborhood.

Explain how the proposed use will not alter the essential character of the neighborhood.

SEE Attached.

Standard #4. Not Self-Created.

Explain how the need for the requested variance is not the result of actions of the property owner or previous property owners (i.e., is not self-created).

SEE Attached.

City of Novi Zoning Board of Appeals Application:

Novi Taco Bell 31172 Beck Road

Standard #1. Cannot Be Reasonably Used.

The proposed Taco Bell Development is located on a Future Development parcel within the “Shoppes at the Trail”. The original plans for the development indicated a restaurant use on this site. Conditions of a drive thru include an obscuring wall on three sides of this parcel. This development provided a cohesive land plan for the property such that joint access ways, utility service, storm water management and landscaping was provided. The obscuring walls would segregate this parcel from the originally intended development. Access would be hindered as well as the utilities which were stubbed to serve this parcel. The wall on the property line to the south would impact current storm water flows, the existing watermain easement and the landscaping in this area. The wall facing the property on the building to the south is a block wall with service door entrances. A service drive abuts this building to the south. The existing landscaping, the intent of the development makes the installation of an obscuring wall an impediment to development.

The applicant is proposing that deliveries occur during off hours to avoid any conflicts with patrons utilizing the facility. The addition of a dedicated loading and unloading zone would require patron parking areas to be more remote form the facility and would increase the impervious surfaces on site. The permitting of unloading and loading to occur during off hours permits the proposed configuration of parking to remain adjacent to the building while minimizing any effect of additional pavement on the stormwater system.

Standard #2 Circumstances or Physical Conditions.

The physical layout of the parcel was created in concert with the development of the “Shoppes at the Trail”. This layout created an efficient internal drive system and stormwater management system which served the whole development. Access and utility service is provided jointly with the whole development. As shown on the development plans, this parcel was to be included in the development and not isolated with obscuring walls. Trees were planted and landscape improvements were made to provide a future development site which would be conducive with and in keeping with the area. To the south abutting the commercial property no wall exists, however trees and landscaping were installed during the construction of the “Shoppes at the Trail”. Additionally a watermain serving the development is located along the southern line.

The proposed Taco Bell has limited deliveries. The site is 1.23 acres which was integrated with the “Shoppes at the Trail”. The east side of the parcel is shared with the development and serves as the drive to the Taco Bell Dumpster. It is a 30 foot wide drive which impacts the usable area of the site. With this shared driveway and setbacks impacts the siting of a loading and unloading area. The applicant is requesting that the City waive this requirement due to the fact that this site is unique in that it is part of the larger development and loading and unloading will be restricted to off hours.

Standard # 3 Character of the Neighborhood.

The physical layout of the parcel was created in concert with the development of the “Shoppes at the Trail”. This layout created an efficient internal drive system and stormwater management system which served the whole development. Landscaping exists and is proposed around the perimeter of the site. The site was designed to be developed and is consistent with the neighboring businesses and uses.

The loading and unloading will be limited such that it does not interfere with the applicants or the adjoining businesses. The applicant operates over 100 Taco Bells in which truck deliveries occur twice a week. This can be readily accommodated during off hours and will have minimal impact on the neighboring properties.

Standard #4 Not Self Created.

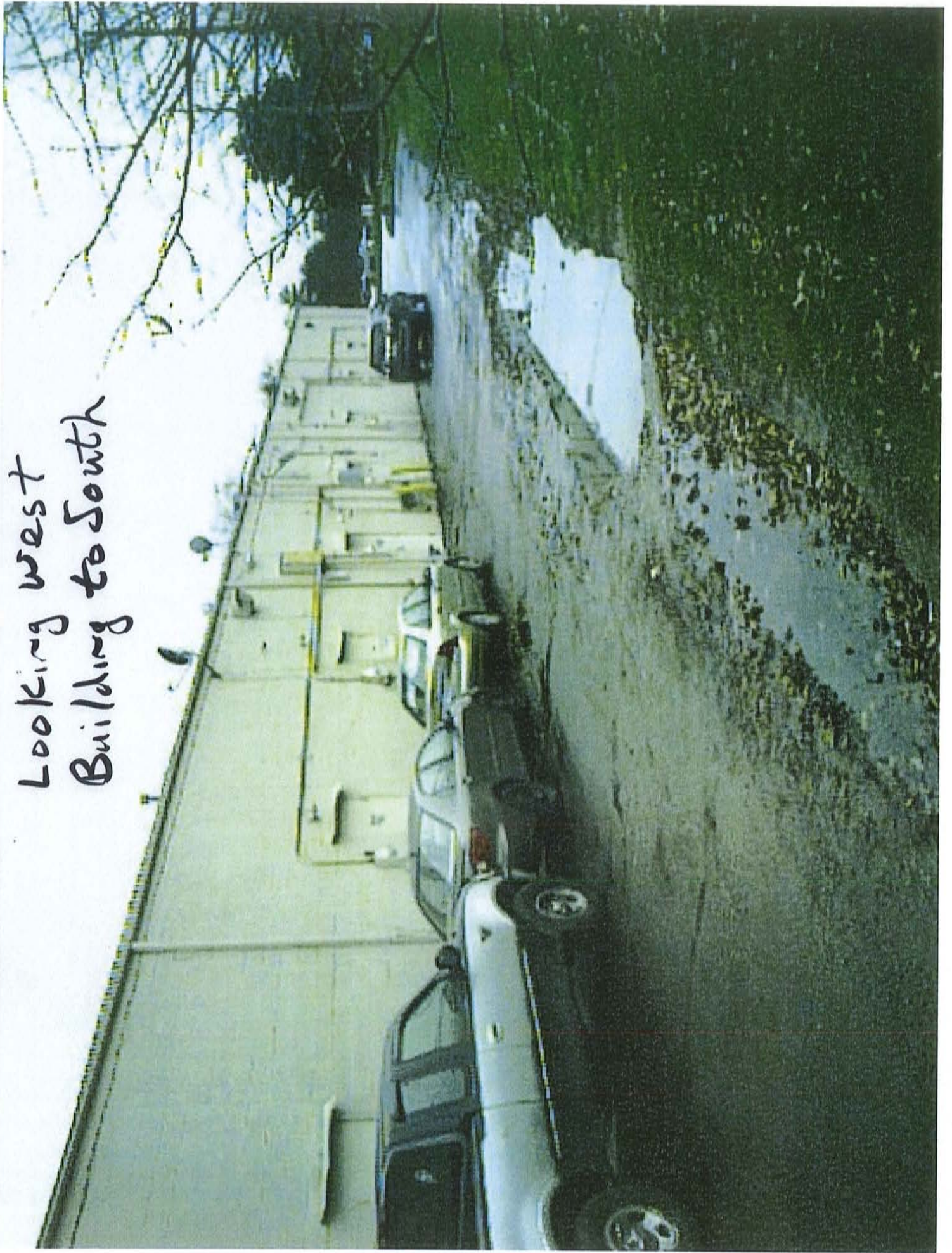
The applicant is purchasing the property from the current developer who incorporated this site into the larger overall development at the corner of Beck Road and Pontiac Trail. The development was intended to be incorporate an efficient design of the entire parcel and maintain a harmonious and congruent development. An obscuring wall would be contrary to the intent of the original development. The improvements already constructed including landscaping were performed by prior owners with the intent of having an integrated development. The applicant does not want to detract from the development with the construction of obscuring walls.

The site characteristics, the operations of the facility, and the goal of providing patrons with easy access to the restaurants minimizes any need for a designated loading and unloading area. With two deliveries per week during off hours, adequate loading and unloading area is provided within the proposed drive and parking areas.

Looking East
Building to South



Looking west
Building to South



PRELIMINARY SITE PLAN OF TACO BELL - NOVI, MI. 31172 BECK ROAD, SECTION 4, T1N, R6E CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

LEGAL DESCRIPTION OF RECORD
Reference: Commitment for Title Insurance Issued by
Transworld Title Company, LLC,
Underwritten by Chicago Title Insurance Company,
Commitment No. 14128301,
Effective Date: December 1, 2014 at 08:00 am

The land referred to in this Commitment is described as follows:

Land situated in the City of Novi, County of Oakland, State of Michigan, described as:

Part of the Northwest 1/4 of Section 4, Town 1 North, Range 8 East, City of Novi, Oakland County, Michigan, being more particularly described as: **BEGINNING** at a point distant N87°01'29"E 360.45 feet to the Southwest Corner of Section 33, Town 2 North, Range 8 East, (Commerce Township), and N87°14'37"E 590.79 feet along the North line of said Section 4 and the centerline of Pontiac Trail (120.00 feet wide), and S03°25'05"E 956.49 feet and S86°55'27"W 612.86 feet from the Northwest Corner of Section 4 to a Point of Beginning; thence continuing S86°55'27"W 275.08 feet to a point on the Easterly right of way line of Beck Road (120.00 feet wide); thence along said line, 254.88 feet (254.58 feet measured) along an arc of a curve to the right, radius of 540.00 feet, central angle 27°00'44", chord bears N16°24'08"E 252.23 feet; thence 8.26 feet along an arc of a curve to the right, radius of 25.00 feet, central angle 18°55'26", chord bears S67°06'15"E 8.22 feet; thence S59°15'34"E 11.63 feet; thence 50.17 feet along an arc of a curve to the left, radius of 85.00 feet, central angle 33°48'59", chord bears S76°10'03"E 49.44 feet; thence N86°55'27"E 69.19 feet; thence S85°41'41"E 48.83 feet; thence 9.15 feet along an arc of a curve to the right, radius of 90.00 feet, central angle 05°49'34", chord bears S82°46'54"E 9.15 feet; thence S03°04'33"E 205.44 feet to the point of beginning.

Commonly known as: 31172 Beck Road, Novi, Michigan 48377
Tax ID: 22-04-100-039

CONTAINS 53,606 SQ FT; 1.23 ACRES



AERIAL PHOTOGRAPHY BY:
Google maps

Aerial photographic underlay is an unrectified image and is oriented to the engineering line work with reasonable accuracy and precision, and may not accurately depict current site conditions.



LOCATION MAP
1" = 3000'±

SHEET INDEX

EX	EXISTING CONDITIONS & DEMOLITION PLAN
SP	SITE PLAN
UT	UTILITY PLAN
GR	GRADING PLAN
WS	WATER SHED & SOIL EROSION CONTROL PLAN
L-1	LANDSCAPE PLAN
LT	LIGHTING PLAN & DETAILS
DT1	TACO BELL CORPORATE NOTES & DETAILS
DT2	PAVING NOTES & DETAILS
DT3	SITE FEATURE NOTES & DETAILS
	REFER TO CITY OF NOVI STANDARD DETAILS & SPECIFICATIONS FOR WATER, SANITARY SEWER AND STORM SEWER INSTALLATION.
A1.0	FLOOR PLAN
A2	EXTERIOR ELEVATIONS

ARCHITECT
PUCCI + VOLLMAR ARCHITECTS, PC
508 E. GRAND RIVER AVE. STE. 100B
BRIGHTON, MI. 48116-1566
(810) 225-2930

OWNER/DEVELOPER
SUNDANCE INC.
7915 KENSINGTON CT.
BRIGHTON, MI. 48116
(248) 446-0100
CONTACT : RICK ECCLES

CIVIL ENGINEER/LAND SURVEYOR
DESINE INC.
2183 PLESS DRIVE
BRIGHTON, MI. 48114
(810) 227-9533



(810) 227-9533
CIVIL ENGINEERS
LAND SURVEYORS
2183 PLESS DRIVE
BRIGHTON, MICHIGAN 48114

REVISED	SCALE: NONE
	PROJECT No.: 142495
	DWG NAME: 2495 COV
	PRINT: FEB. 20, 2015

CORPORATE LIMITS OF CITY OF WIXOM

CORPORATE LIMITS OF CITY OF WIXOM

COMMERCE TOWNSHIP

SOUTH LINE OF SECTION 33, T. 2 N., R. 8 E.
N87°14'37"E 590.79'
NORTH CORPORATE LINE OF CITY OF NOVI &
NORTH LINE OF SECTION 4, T. 1 N., R. 8 E.

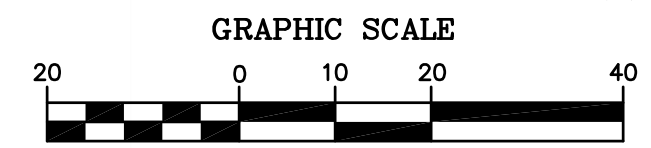
NORTH 1/4 CORNER SECTION 4
T. 1 N., R. 8 E.

SOUTH LINE OF SECTION 32, T. 2 N., R. 8 E. N87°01'29"E 360.45'
NORTH CORPORATE LINE OF CITY OF NOVI - NORTH LINE OF SECTION 4, T. 1 N., R. 8 E.

SOUTHWEST CORNER SECTION 33
T. 2 N., R. 8 E.
COMMERCE TOWNSHIP
OAKLAND COUNTY
MICHIGAN

NORTHWEST CORNER SECTION 4
T. 1 N., R. 8 E.
CITY OF NOVI
OAKLAND COUNTY
MICHIGAN

CORPORATE LIMITS OF CITY OF NOVI



LEGEND

- PROPERTY LINE
- - - EX. EASEMENT LINE
- - - BUILDING SETBACK
- ☆ EX. LIGHT POLE
- ☆ EX. SIGN
- EX. MISC. FIXTURE, AS LABELED
- EX. CURB
- EX. EDGE OF PAVEMENT
- EX. TREE
- SA EX. SANITARY SEWER
- EX. CLEANOUT
- ST EX. MANHOLE
- ST EX. STORM SEWER
- EX. CATCHBASIN
- EX. YARD BASIN
- W EX. WATER MAIN
- EX. HYDRANT
- GAS EX. GAS LINE
- OU EX. OVERHEAD UTILITY LINE
- EX. UTILITY POLE
- EX. 1' CONTOUR
- EX. 5' CONTOUR
- EX SPOT ELEVATION
- T/W TOP OF WALK
- T/P TOP OF PAVEMENT

BENCHMARK

- ELEVATIONS BASED ON CITY OF NOVI DATUM
- BENCHMARK #13 (CITY OF NOVI)**
"Y" ON EAST NORTHEAST FLANGE BOLT OF FIRE HYDRANT, LOCATED 14 FEET NORTHWEST OF SIDEWALK, 90 FEET.
ELEVATION = 961.837
REF: POINT #13
- BENCHMARK #1**
ARROW ON HYDRANT, LOCATED 225± FEET EAST OF CURB OF BECK ROAD, 80± FEET NORTH OF #31120 BLDG CORNER OF "SHOPPES AT THE TRAIL".
ELEVATION = 962.65
REF: POINT #14
- BENCHMARK #2**
STEAMER VALVE ON HYDRANT, LOCATED 14± FEET EAST OF CURB OF BECK ROAD, NEAR CENTERLINE OF #31172 (VACANT LAND) AND 134± NORTH OF DRIVE FOR "K & S PLAZA".
ELEVATION = 962.79
REF: POINT #15

POINT LISTING
STATE PLANE COORDINATE

NUMBER	NORTHING	EASTING
302	374659.12	13352213.39
303	371443.51	13352497.17
2001	373924.00	13352597.84
2002	373718.88	13352608.97
2003	373703.98	13352334.33

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OR VISIT CALL811.COM

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CIVIL ENGINEERS
LAND SURVEYORS
2183 PLESS DRIVE
BRIGHTON, MICHIGAN 48114

EXISTING TREE SCHEDULE

No.	DESCRIPTION
1	MAPLE 5"
2	MAPLE 5"
3	MAPLE 5"
4	MAPLE 5"
5	MAPLE 5"
6	MAPLE 5"
7	MAPLE 5"
8	MAPLE 9"
9	MAPLE 5"
10	MAPLE 7"
11	MAPLE 5"
12	MAPLE 9"
13	MAPLE 5"
14	MAPLE 5"
15	MAPLE 5"
16	CHERRY 3"
17	CHERRY 3"
18	CHERRY 3"
19	MAPLE 5"
20	MAPLE 5"
21	MAPLE 10"
22	MAPLE 10"
23	MAPLE 10"
24	MAPLE 5"
25	MAPLE 8"
26	MAPLE 3"
27	CHERRY 3"
28	CHERRY 3"
29	CHERRY 3"
30	MAPLE 8"
31	MAPLE 8"
32	MAPLE 4"
33	MAPLE 4"
34	MAPLE 4"
35	MAPLE 4"
36	MAPLE 4" TBR
37	MAPLE 4" TBR
38	MAPLE 4" TBR
39	MAPLE 4"
40	MAPLE 4"
41	MAPLE 4"
42	MAPLE 4"
43	MAPLE 4"
44	MAPLE 6"

POINT# 303
WEST 1/4 CORNER SECTION 4
T. 1 N., R. 8 E.

ZONED B3

CITY OF WIXOM
ZONED RM-2
MULTI-FAMILY RESIDENTIAL

ZONED RM-1

PARCEL #
22-04-100-039
ZONED B3

31172 BECK ROAD
VACANT
FUTURE DEVELOPMENT AREA "B"
"SHOPPES AT THE TRAIL"

ZONED B3

DESIGN:	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
JMB						
JHG						
JMB						

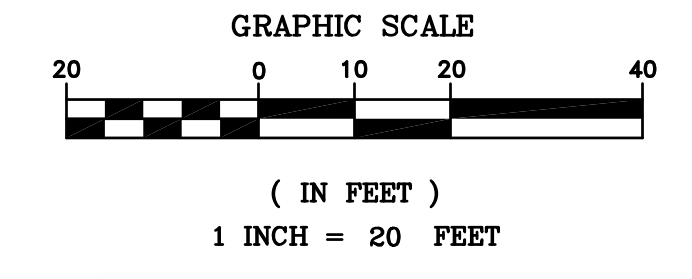
TACO BELL
31172 BECK RD. NOVI, MI
SECTION 4, T1N, R6E

EXISTING CONDITIONS AND DEMOLITION PLAN

CLIENT: SUNDANCE INC.
7915 KENSINGTON CT.
BRIGHTON, MICHIGAN 48116
248-448-0100

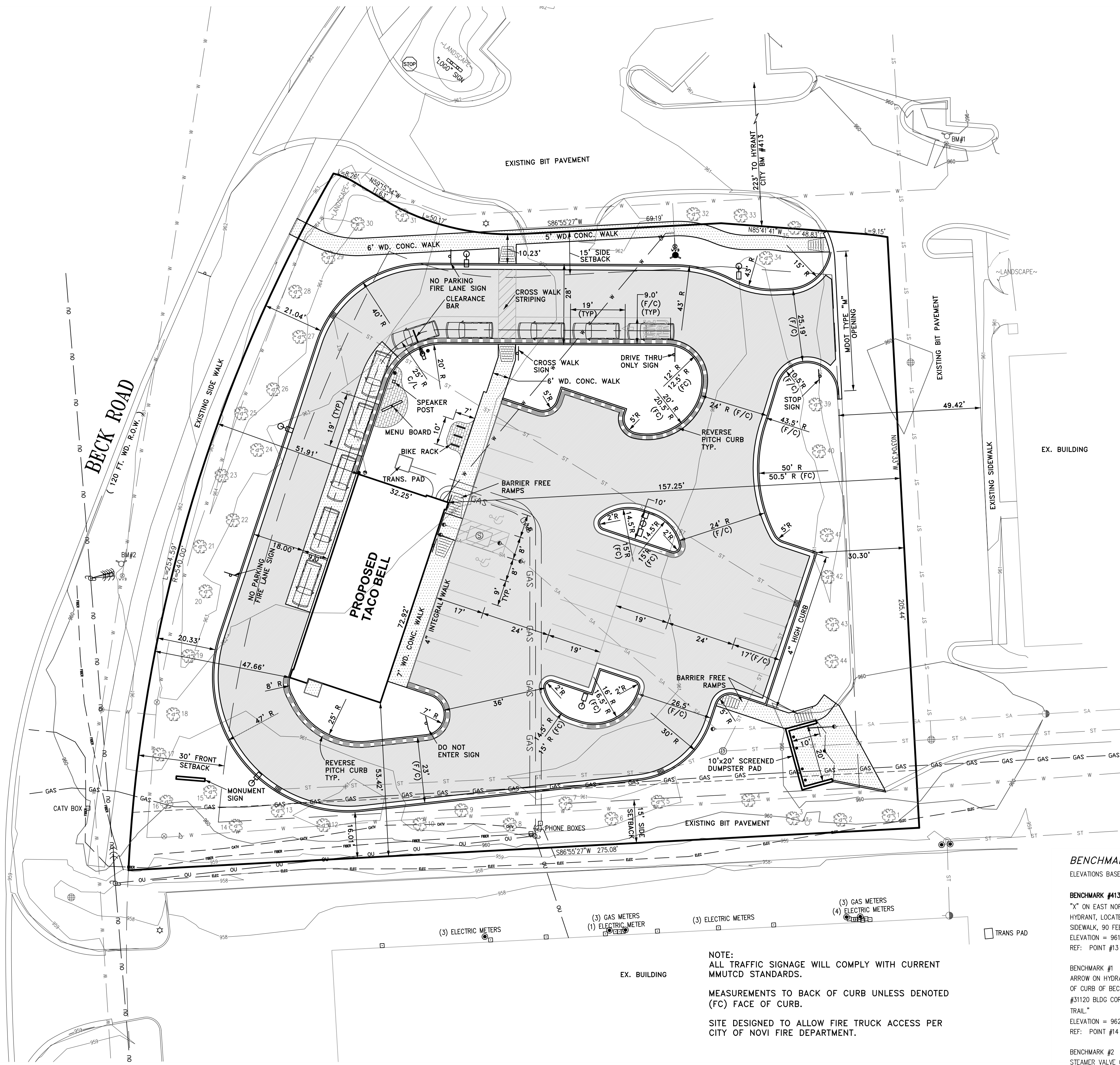
SCALE: 1in. = 20ft.
PROJECT No.: 142495
DWG NAME: 2495-EX
ISSUED: FEB. 20, 2015

EX



LEGEND

---	PROPERTY LINE
---	EX. EASEMENT LINE
---	BUILDING SETBACK
---	EX. SIGN
□	EX. MISC. FIXTURE, AS LABELED
---	EX. CURB
---	EX. EDGE OF PAVEMENT
SA	EX. SANITARY SEWER
ST	EX. CLEANOUT
ST	EX. MANHOLE
ST	EX. STORM SEWER
ST	EX. CATCHBASIN
W	EX. YARD BASIN
W	EX. WATER MAIN
W	EX. HYDRANT
GAS	EX. GAS LINE
OU	EX. OVERHEAD UTILITY LINE
OU	EX. UTILITY POLE
---	EX. 1' CONTOUR
---	EX. 5' CONTOUR
---	PROP. 2' CONC. CURB
---	PROP. 2' CONC. CURB (REVERSE)
---	PROP. EDGE OF PAVEMENT
---	PROP. EASEMENT LINE
SA	PROP. SANITARY SEWER
ST	PROP. CLEANOUT
W	PROP. WATER MAIN
W	PROP. HYDRANT
W	PROP. WATER SHUTOFF
ST	PROP. FDC
ST	PROP. STORM SEWER
ST	PROP. CATCHBASIN
ST	PROP. STORM MANHOLE
---	PROP. UNDERDRAIN
---	PROP. LIGHT POLES
---	PROP. SIGNS
---	PROP. BOLLARD
---	PROP. CONCRETE
---	PROP. BITUMINOUS PAVEMENT
---	PROPOSED BRICK EMBOSSED CONCRETE W/ TERRACOTA - LITHOCHROME COLOR HARDENER FROM LM SCHOFIELD



SITE DATA
 CITY OF NOVI, OAKLAND COUNTY, MICHIGAN
 REQUIREMENTS FOR A B-3, GENERAL BUSINESS DISTRICT ZONING. USE PERMITTED WITH SPECIAL LAND USE APPROVAL (4.4)

FEATURE:	REQUIRED:	PROPOSED:
FRONT BUILDING SETBACK:	30 FEET (3.1.12 D)	47.6 FEET
SIDE BUILDING SETBACK:	15 FEET (3.1.12 D)	53.4 FEET
REAR BUILDING SETBACK:	20 FEET (3.1.12 D)	157.2 FEET
FRONT PARKING SETBACK:	20 FEET (3.1.12 D)	20.3 FEET
SIDE PARKING SETBACK:	10 FEET (3.1.12 D)	10.2 FEET
REAR PARKING SETBACK:	10 FEET (3.1.12 D)	30.3 FEET
MAX BUILDING HEIGHT:	30 FEET	24 FEET / 1 STORY
MIN. BUILDING AREA:	NONE	2367 GROSS SQ. FT.
MIN. LOT AREA:		1.23 AC / 53606 SF
MIN. LOT WIDTH:		236.26 FEET
REQUIRED PARKING SPACES SECTION 5.2.12 C	1 FOR EVERY 2 EMPLOYEES = 6 / 2 = 3 PLUS 1 FOR EVERY TWO CUSTOMERS AT MAX CAPACITY 50/2 = 25 TOTAL REQUIRED = 28 SPACES	28 SPACES
REQ. NO. BARRIER FREE SPACES:	PER STATE & FEDERAL (5.2.13)	2 B.F. SPACES
REQ. NO. OF STACKING SPACES SECTION 5.3.11	10 SPACES (9FT x 19 FT) (5.11 E & H) 18 FT WD ESCAPE LANE (5.3.11D)	10 SPACES
LOADING AREA	10 SF FOR EACH FRONT FOOT OF BUILDING 720 Q. FT. REQ'D SEC. 5.4	APPLICANT REQUESTING VARIANCE (SEE NOTE BELOW)
MIN. PARCEL DIST TO RESIDENTIAL	60 FEET (4.40 B)	120 FT ROW OF BECK RD.
MIN. DISTANCE FROM DRIVE THRU LANE TO RESIDENTIAL	150 FEET (4.40 C)	159 FEET across BECK ROAD (includes 120 ft. ROW)

BENCHMARK
 ELEVATIONS BASED ON CITY OF NOVI DATUM

BENCHMARK #13 (CITY OF NOVI)
 "X" ON EAST NORTHEAST FLANGE BOLT OF FIRE HYDRANT, LOCATED 1± FEET NORTHWEST OF SIDEWALK, 90 FEET. ELEVATION = 961.837 REF: POINT #13

BENCHMARK #1
 ARROW ON HYDRANT, LOCATED 225± FEET EAST OF CURB OF BECK ROAD, 80± FEET NORTH OF #31120 BLDG CORNER OF "SHOPPES AT THE TRAIL". ELEVATION = 962.65 REF: POINT #14

BENCHMARK #2
 STEAMER VALVE ON HYDRANT, LOCATED 14± FEET EAST OF CURB OF BECK ROAD, NEAR CENTERLINE OF #31172 (VACANT LAND) AND 134± NORTH OF DRIVE FOR "K & S PLAZA". ELEVATION = 962.79 REF: POINT #15

ALL TRAFFIC SIGNAGE WILL COMPLY WITH CURRENT MMUTCD STANDARDS.

NOTE:
 ALL TRAFFIC SIGNAGE WILL COMPLY WITH CURRENT MMUTCD STANDARDS.
 MEASUREMENTS TO BACK OF CURB UNLESS DENOTED (FC) FACE OF CURB.
 SITE DESIGNED TO ALLOW FIRE TRUCK ACCESS PER CITY OF NOVI FIRE DEPARTMENT.

DESIGN: JMB	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: JMB						

TACO BELL
 31172 BECK RD. NOVI, MI
 SECTION 4, T1N, R6E

SITE PLAN

CLIENT: SUNDANCE INC. 7915 KENSINGTON CT. BRIGHTON, MICHIGAN 48116 248-446-0100	SCALE: 1in. = 20ft. PROJECT No.: 142495 DWG NAME: 2495-SP ISSUED: FEB. 20, 2015	SP
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MATERIALS

STORM
 2' DIAM. RCP CATCH BASIN 2
 4' DIAM. RCP CATCH BASIN 2
 4' DIAM. RCP MANHOLE 1
 8" SCH. 40 PVC 57 LF
 12" C-76 CL. V RCP 403 LF
 15" C-76 CL. V RCP 22LF

SANITARY
 4" CLEANOUT 1
 6" CLEANOUT 4
 4" SDR. 23.5 PVC 32 LF
 6" SDR. 23.5 PVC 153 LF

WATER
 FIRE HYDRANT ASSEMBLY 1
 2" WATER SHUT OFF 1
 2" TYPE "K" COPPER 121 LF

INVERTS

SANITARY CLEAN OUT #1
 RIM/CENTER 959.97
 INVERTS NOT AVAILABLE

SANITARY SEWER MANHOLE #2
 RIM/CENTER 960.66
 WEST 6" 951.26
 EAST 6" 951.21

STORM MANHOLE #3
 RIM/CENTER 958.95
 SOUTH 6" 954.15
 EAST 6" 954.05

CATCH BASIN #4 - ROUND
 RIM/CENTER 959.25
 WEST 15" RCP 955.25
 NORTH 24" RCP 953.75
 EAST 18" RCP 954.05

CATCH BASIN #5 - ROUND
 RIM/CENTER 959.74
 NORTH 27" RCP 953.09
 SOUTH 24" RCP 953.24

YARD BASIN #6
 NORTHWEST RIM 957.55
 TOP / CENTER 957.84 (NOT USED FOR
 INVERTS NOT AVAILABLE

PROPOSED INVERTS

MH 101 - 4" DIA
 RIM 961.50
 12" W 956.08
 12" NE 955.31
 15" E 954.79

CB 111 - 4' DIA
 RIM 960.12
 12" NW 955.74
 12" SW 955.60

CB 112 - 2' DIA
 RIM 960.92
 12" SE 956.70

CB 102 - 4' DIA
 RIM 960.62
 12" W 956.33
 12" E 956.20

CB 103 - 2' DIA
 RIM 961.25
 12" E 957.00

PROPOSED STORM WATER RUN-OFF

"Area"	0.90 Pavement	0.90 Building	0.20 Lawn	1.00 Water	(ACRES) Area	"C" Factor
CB 112	0.10	0.05	0.10	0.00	0.25	0.62
CB 111	0.28	0.00	0.06	0.00	0.34	0.78
CB 103	0.07	0.00	0.03	0.00	0.10	0.69
CB 102	0.05	0.00	0.02	0.00	0.07	0.70
Perimeter area to Ex. CBs	0.19	0.00	0.28	0.00	0.47	0.48

TOTAL SITE AREA = 1.23 ACRES
 RUN-OFF COEFFICIENT = 0.62

Overall 0.69 0.05 0.49 0 1.23 0.62

STORM WATER MANAGEMENT PLAN ANTICIPATED A C FACTOR OF 0.70 FOR THE SITE.
 (SEE SHEET 7 OF "SHOPPES AT THE TRAIL")

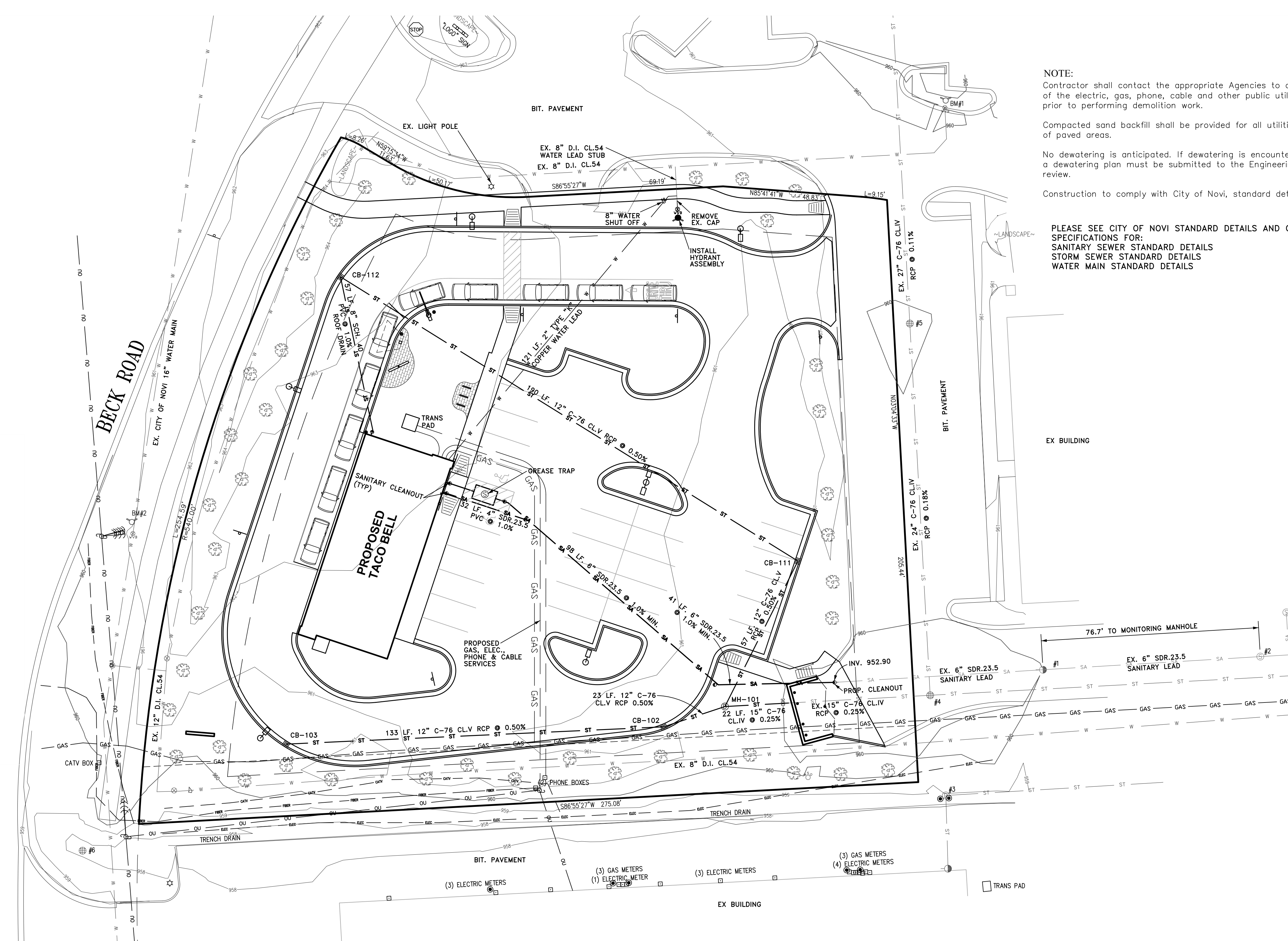
Project: Novi Taco Bell - Beck Road

Design Criteria: 10 year event (I = 175/t + 25) SLOPP n= 0.013

Project#: 142495

Date: 7/25/2014

From MH# CB# FES#	To MH# CB# FES#	Inc. Acres "A"	Eqv. Area 100% "C"	Total Area 100% CA	T Time Min.	I Inch Per Hour	Q (CIA) c.f.s.	Dia. of pipe inch	Slope pipe %	Slope H.G. %	Length of line ft.	Vel. Flow full ft./sec.	Time of flow min.	Cap of pipe c.f.s.	H.G. Elev. upper end	Ground Elev. Upper end	Lower end	Invert Elev. Upper end	Lower end
CB103	CB102	0.10	0.69	0.07	0.07	15.0	4.38	0.31	12	0.50	0.01	133	0.7	2.52	958.00	961.25	960.62	957.00	956.33
CB102	MH101	0.07	0.70	0.05	0.12	15.7	4.30	0.52	12	0.50	0.02	23	0.1	2.52	957.20	960.62	961.50	956.20	956.08
CB112	CB111	0.25	0.62	0.16	0.16	15.0	4.38	0.70	12	0.50	0.04	190	3.21	2.52	957.70	960.92	960.12	956.70	955.74
CB111	MH101	0.34	0.78	0.27	0.43	16.0	4.27	1.84	12	0.50	0.27	58	3.21	2.52	956.60	960.12	961.50	955.60	955.31
MH101	EX CB 6	0.00	0.00	0.00	0.55	15.9	4.28	2.35	15	0.25	0.13	72	2.63	2.52	954.79	961.50	959.50	954.79	954.61



NOTE:

Contractor shall contact the appropriate Agencies to coordinate connection of the electric, gas, phone, cable and other public utilities as necessary prior to performing demolition work.

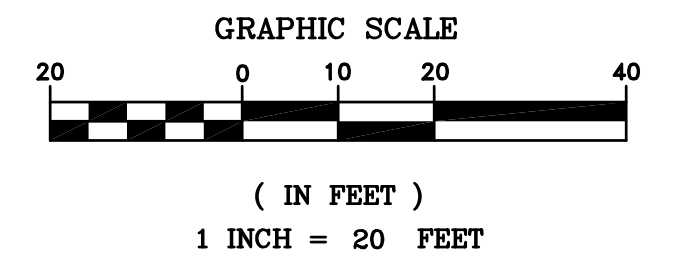
Compacted sand backfill shall be provided for all utilities within the influence of paved areas.

No dewatering is anticipated. If dewatering is encountered during construction a dewatering plan must be submitted to the Engineering Department for review.

Construction to comply with City of Novi, standard details and specifications.

PLEASE SEE CITY OF NOVI STANDARD DETAILS AND CONSTRUCTION

SPECIFICATIONS FOR:
 SANITARY SEWER STANDARD DETAILS
 STORM SEWER STANDARD DETAILS
 WATER MAIN STANDARD DETAILS



LEGEND

- PROPERTY LINE
- EX. EASEMENT LINE
- BUILDING SETBACK
- EX. LIGHT POLE
- EX. SIGN
- EX. MISC. FIXTURE, AS LABELED
- EX. CURB
- EX. EDGE OF PAVEMENT
- EX. SANITARY SEWER
- EX. CLEANOUT
- EX. MANHOLE
- EX. STORM SEWER
- EX. CATCHBASIN
- EX. YARD BASIN
- EX. WATER MAIN
- EX. WATER VALVE BOX
- EX. HYDRANT
- EX. GAS LINE
- EX. OVERHEAD UTILITY LINE
- EX. UTILITY POLE
- EX. 1" CONTOUR
- EX. 5' CONTOUR
- PROP. 2' CONC. CURB
- PROP. 2' CONC. CURB (REVERSE)
- PROP. EDGE OF PAVEMENT
- PROP. EASEMENT LINE
- PROP. SANITARY SEWER
- PROP. CLEANOUT
- PROP. WATER MAIN
- PROP. HYDRANT
- PROP. WATER SHUTOFF
- PROP. FDC
- PROP. STORM SEWER
- PROP. CATCHBASIN
- PROP. STORM MANHOLE
- PROP. UNDERDRAIN
- PROP. LIGHT POLES
- PROP. SIGNS

BENCHMARK

ELEVATIONS BASED ON CITY OF NOVI DATUM

BENCHMARK #413 (CITY OF NOVI)

"X" ON EAST NORTHEAST FLANGE BOLT OF FIRE HYDRANT, LOCATED 1 1/2 FEET NORTHWEST OF SIDEWALK, 90 FEET.
 ELEVATION = 961.837
 REF: POINT #13

BENCHMARK #1

ARROW ON HYDRANT, LOCATED 2254 FEET EAST OF CURB OF BECK ROAD, 80.4 FEET NORTH OF #31120 BLDG CORNER OF "SHOPPES AT THE TRAIL".
 ELEVATION = 962.65
 REF: POINT #14

BENCHMARK #2

STEAMER VALVE ON HYDRANT, LOCATED 144 FEET EAST OF CURB OF BECK ROAD, NEAR CENTERLINE OF #31172 (VACANT LAND) AND 134.4 NORTH OF DRIVE FOR "K & S PLAZA".
 ELEVATION = 962.79
 REF: POINT #15

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 BRIGHTON, MICHIGAN 48114

DESIGN: JMB	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: JMB						

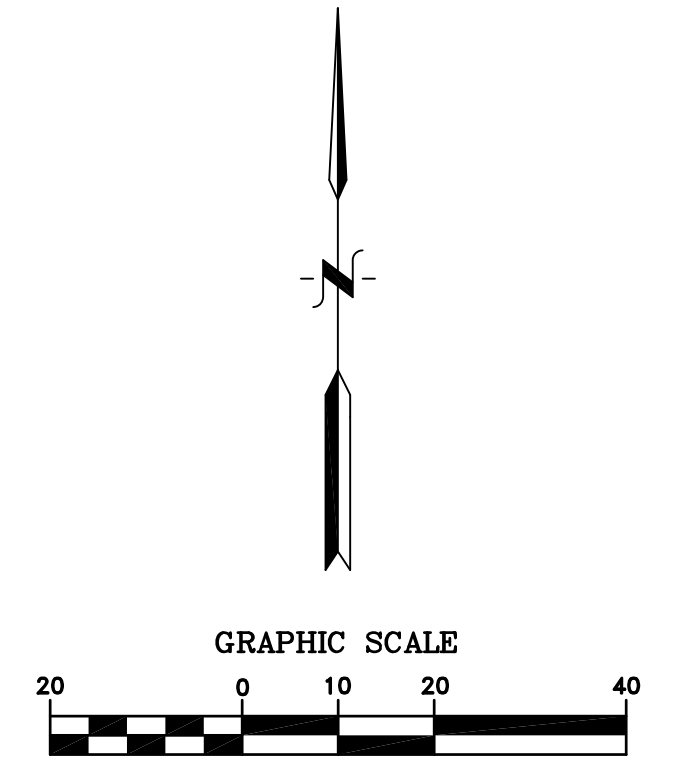
TACO BELL
 31172 BECK RD. NOVI, MI
 SECTION 4, T1N, R6E

UTILITY PLAN

CLIENT: SUNDANCE INC.
 7915 KENSINGTON CT.
 BRIGHTON, MICHIGAN 48116
 248-446-0100

SCALE: 1in. = 20ft.
 PROJECT No.: 142495
 DWG NAME: 2495-UT
 ISSUED: FEB. 20, 2015

UT



(IN FEET)
1 INCH = 20 FEET

LEGEND

---	PROPERTY LINE
---	EX. EASEMENT LINE
---	BUILDING SETBACK
☆	EX. LIGHT POLE
☆	EX. SIGN
□	EX. MISC. FIXTURE, AS LABELED
---	EX. CURB
---	EX. EDGE OF PAVEMENT
SA	EX. SANITARY SEWER
---	EX. CLEANOUT
---	EX. MANHOLE
---	EX. STORM SEWER
---	EX. CATCHBASIN
---	EX. YARD BASIN
---	EX. WATER MAIN
---	EX. WATER VALVE BOX
---	EX. HYDRANT
---	EX. GAS LINE
---	EX. OVERHEAD UTILITY LINE
---	EX. UTILITY POLE
---	EX. 1' CONTOUR
---	EX. 5' CONTOUR
---	EX. SPOT ELEVATIONS
---	PROP. 2' CONC. CURB
---	PROP. 2' CONC. CURB (REVERSE)
---	PROP. EDGE OF PAVEMENT
---	PROP. EASEMENT LINE
SA	PROP. SANITARY SEWER
---	PROP. CLEANOUT
---	PROP. WATER MAIN
---	PROP. HYDRANT
---	PROP. WATER SHUTOFF
---	PROP. FDC
---	PROP. STORM SEWER
---	PROP. CATCHBASIN
---	PROP. STORM MANHOLE
---	PROP. UNDERDRAIN
---	PROP. 1' CONTOUR
---	PROP. SPOT ELEVATIONS
B/C	BACK OF CURB
T/P	TOP OF PAVEMENT
---	RIM ELEVATION

BENCHMARK
ELEVATIONS BASED ON CITY OF NOVI DATUM

BENCHMARK #13 (CITY OF NOVI)
"X" ON EAST NORTHEAST FLANGE BOLT OF FIRE HYDRANT, LOCATED 1± FEET NORTHWEST OF SIDEWALK, 90 FEET.
ELEVATION = 961.837
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BENCHMARK #1
ARROW ON HYDRANT, LOCATED 225± FEET EAST OF CURB OF BECK ROAD, 80± FEET NORTH OF #31120 BLDG CORNER OF "SHOPPES AT THE TRAIL."
ELEVATION = 962.65
REF: POINT #14

BENCHMARK #2
STEAMER VALVE ON HYDRANT, LOCATED 14± FEET EAST OF CURB OF BECK ROAD, NEAR CENTERLINE OF #31172 (HACANT LAND) AND 134± NORTH OF DRIVE FOR "K & S PLAZA."
ELEVATION = 962.79
REF: POINT #15

INVERTS

SANITARY CLEAN OUT #1
RIM/CENTER 959.97
INVERTS NOT AVAILABLE

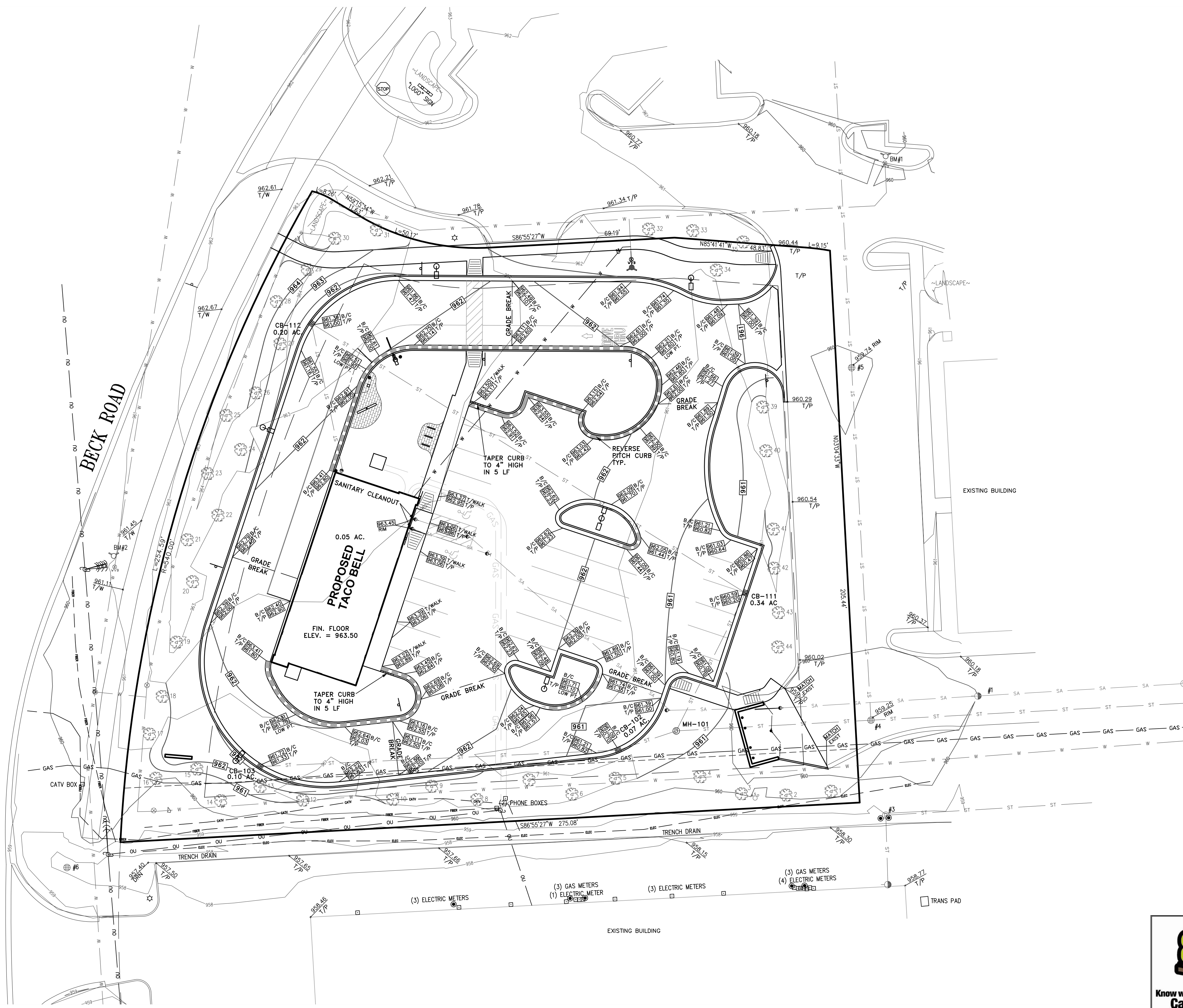
SANITARY SEWER MANHOLE #2
RIM/CENTER 960.66
WEST 6" 951.26
EAST 6" 951.21

STORM MANHOLE #3
RIM/CENTER 958.95
SOUTH 6" 954.15
EAST 6" 954.05

CATCH BASIN #4 - ROUND
RIM/CENTER 959.25
WEST 15" RCP 955.25
NORTH 24" RCP 953.75
EAST 18" RCP 954.05

CATCH BASIN #5 - ROUND
RIM/CENTER 959.74
NORTH 27" RCP 953.09
SOUTH 24" RCP 953.24

YARD BASIN #6
NORTHWEST RIM 957.55
TOP / CENTER 957.84 (NOT USED FOR INVERTS NOT AVAILABLE)



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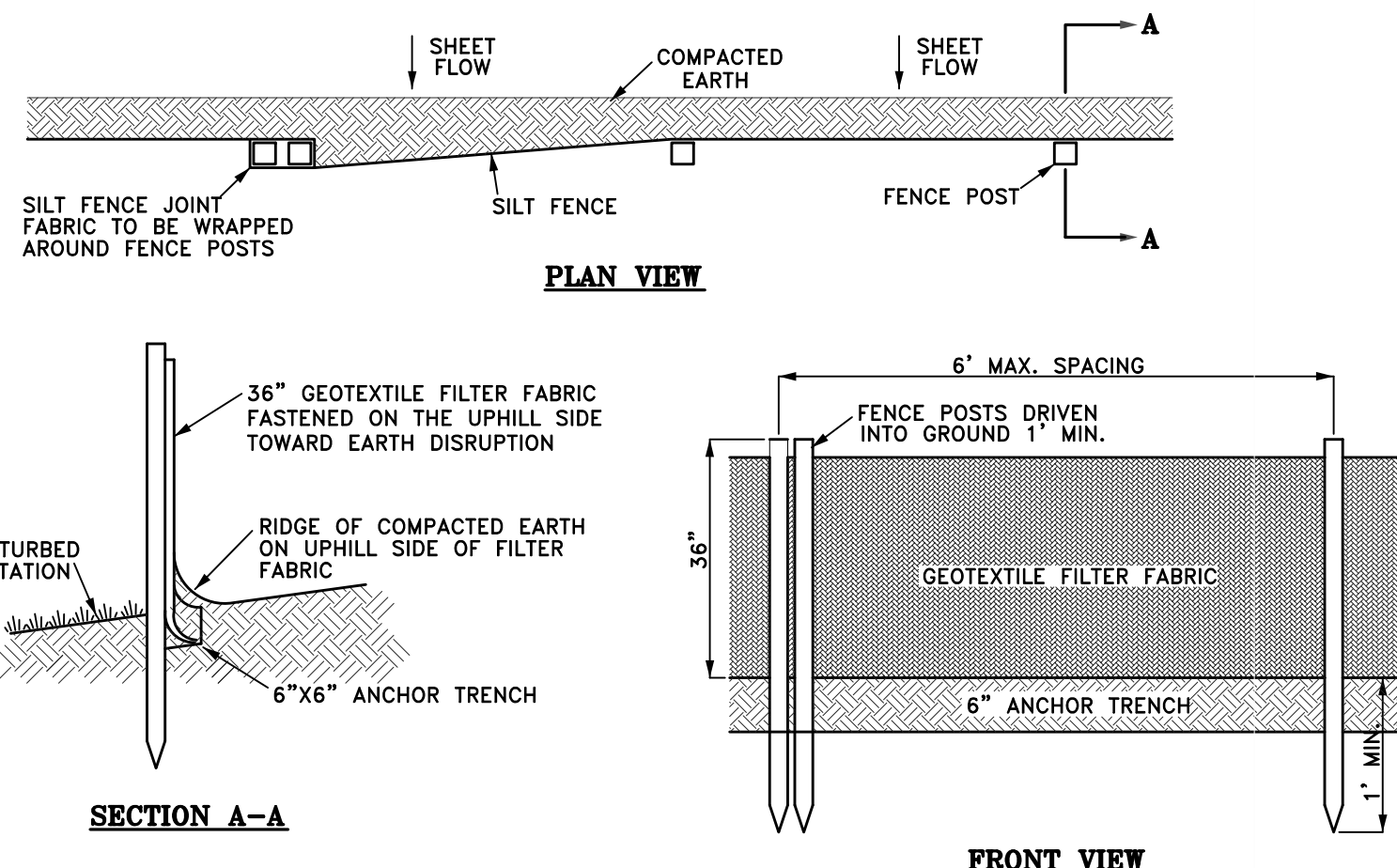
TACO BELL
31172 BECK RD. NOVI, MI
SECTION 4, T1N, R6E

GRADING PLAN

CLIENT: SUNDANCE INC.
7915 KENSINGTON CT.
BRIGHTON, MICHIGAN 48116
248-446-0100

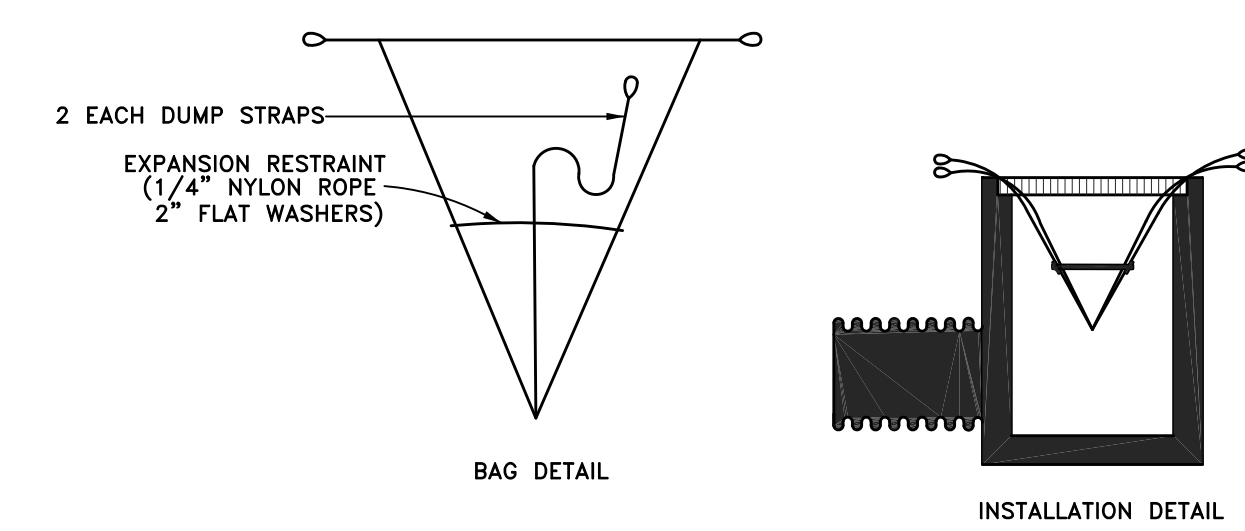
SCALE: 1in. = 20ft.
PROJECT No.: 142495
DWG NAME: 2495-GR
ISSUED: FEB. 20, 2015

GR

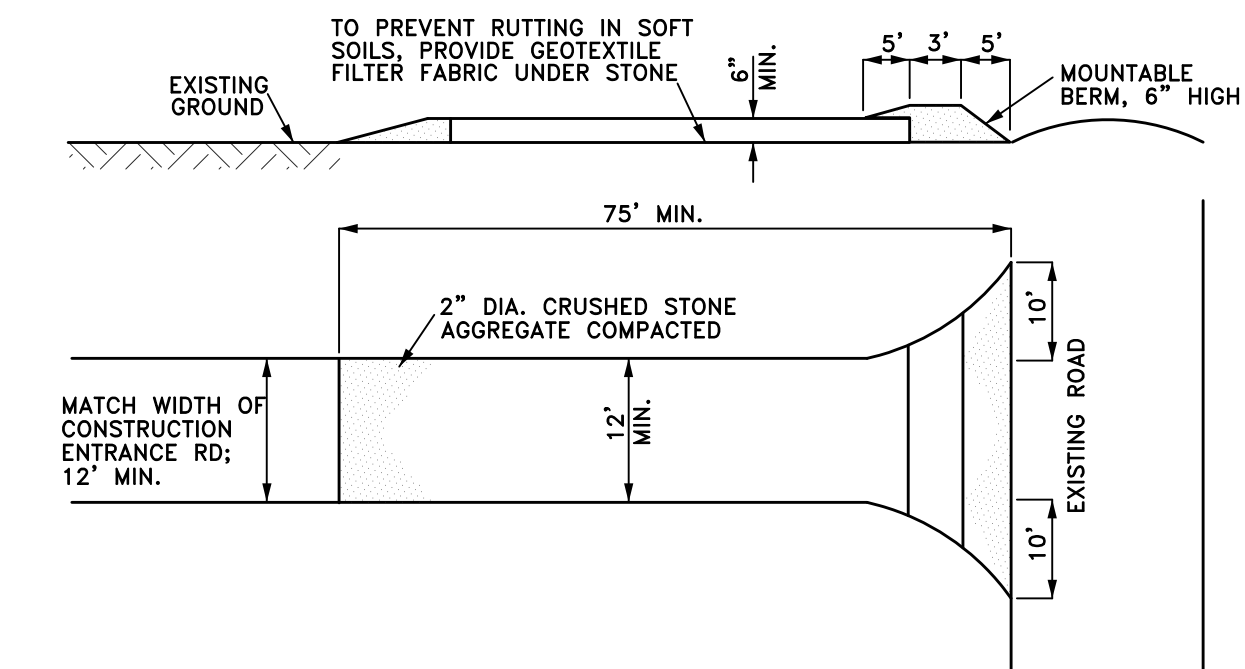


55 SILT FENCE
NOT TO SCALE

- NOTES:
- REPAIR AND REPLACE SILT FENCE AS NEEDED, INCIDENTAL.
 - FIELD LOCATE SILT FENCE TO FOLLOW CONSTANT CONTOUR ELEVATIONS.
 - OVERLAP FENCES AT JOINTS.
 - INSTALL FILTER BERM AT LOW POINTS WHERE INDICATED ON PLANS.



58 INLET SEDIMENT FILTER
NOT TO SCALE



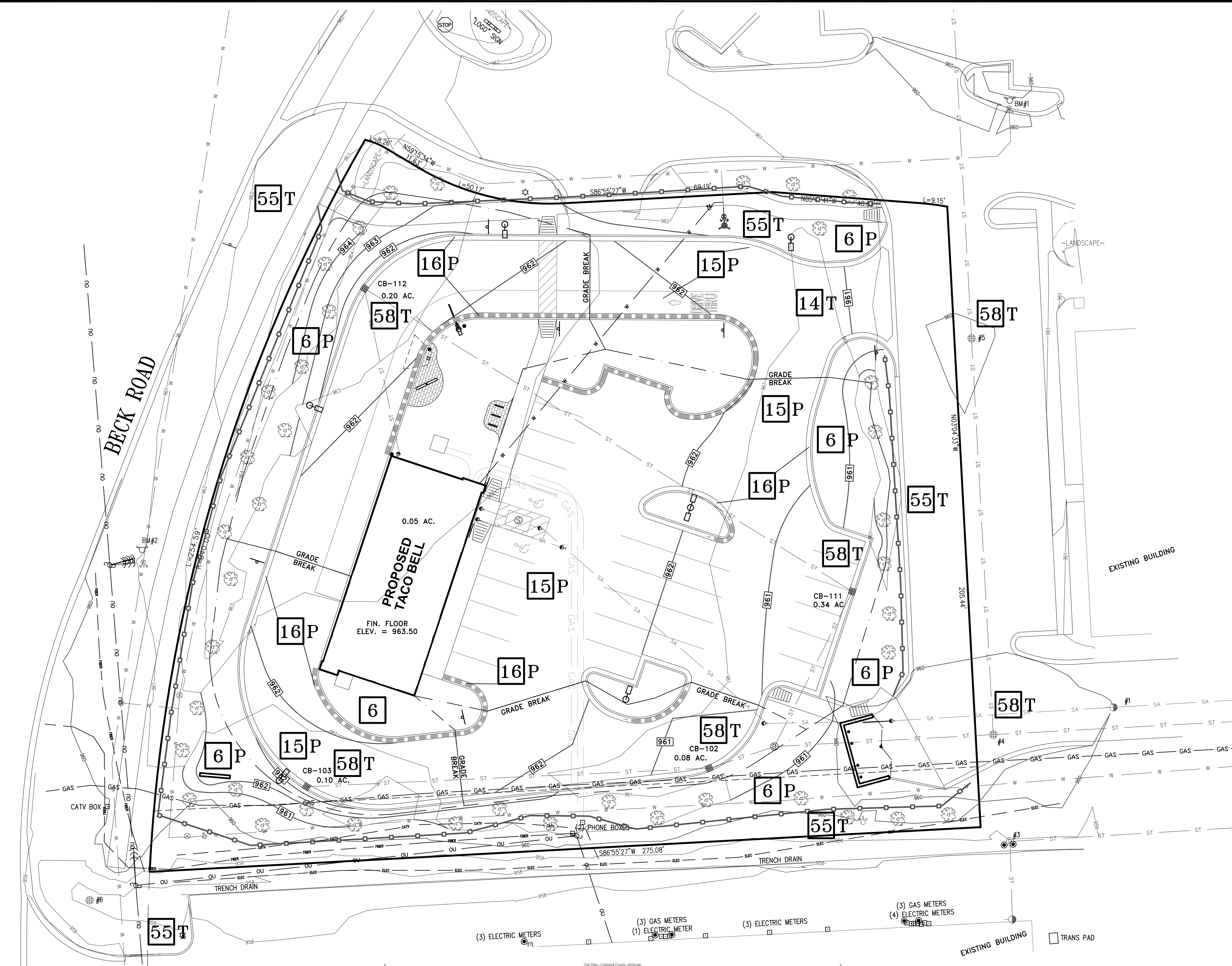
14 MUD TRACKING CONTROL DEVICE
NOT TO SCALE

NOTE:
WHEN ACCEPTABLE TO ENGINEER, CONTRACTOR MAY INSTALL STONE BELOW THE SUBGRADE ELEVATION; THIS STONE MAY BE LEFT IN PLACE BELOW PAVEMENT.

TIME LINE OF SOIL EROSION CONTROL AND CONSTRUCTION SEQUENCE

CONSTRUCTION & WORK CATEGORIES*	2015				
	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5
1 - OBTAIN PERMITS					
2 - SESC MEASURES					
3 - INSPECT / MAINTAIN					
4 - DEMOLITION WORK					
5 - EARTH WORK					
6 - UTILITIES					
7 - BUILDING					
8 - PAVEMENT					
9 - IRRIGATION					
10 - TOPSOIL/VEGETATION					
11 - LANDSCAPING					
12 - RESTORATION					
13 - PERMIT CLOSURE					

*REFER TO THE MAJOR WORK ITEMS OUTLINED IN THE SOIL EROSION CONTROL AND CONSTRUCTION SEQUENCE NOTES.



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
10B	Marlette sandy loam, 1 to 6 percent slopes	15.1	24.0%
11B	Capac sandy loam, 0 to 4 percent slopes	19.8	31.5%
12	Brookston and Colwood loams	0.0	0.0%
27	Houghton and Adrian mucks	6.9	11.0%
34B	Kibbie fine sandy loam, 0 to 4 percent slopes	0.0	0.0%
59	Urban land	20.9	33.3%
Totals for Area of Interest		62.8	100.0%

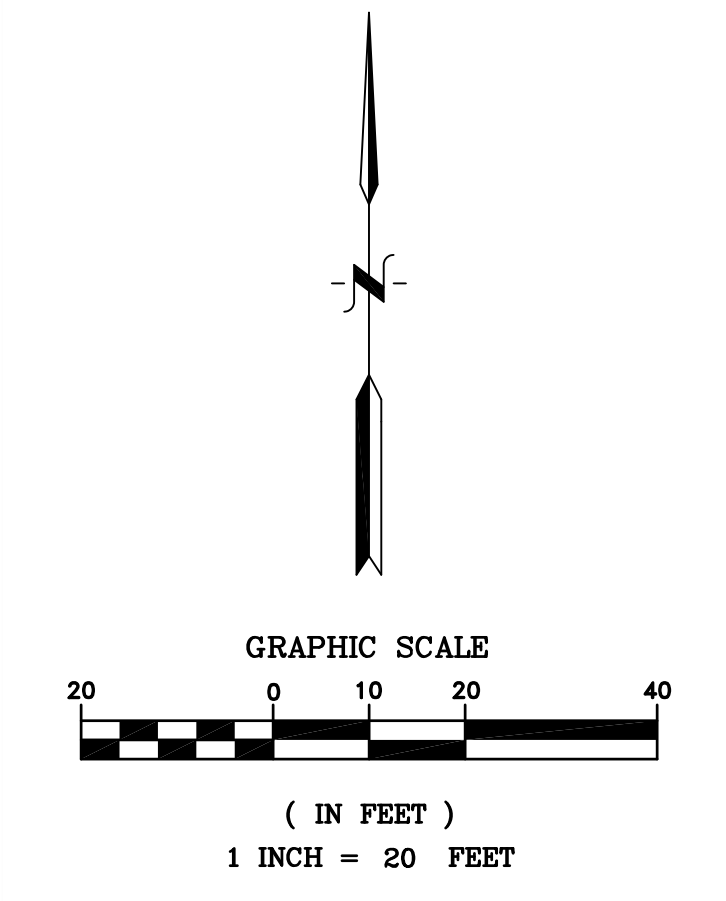


NOTE:
SEE UTILITY PLAN FOR STORM SEWERS

AREA OF DISTURBANCE = 1.07 AC.

6	SEEDING WITH MULCH AND/OR MATING	FACILITATES ESTABLISHMENT OF VEGETATIVE COVER EFFECTIVE FOR DRAINAGEWAYS WITH LOW VELOCITY. EASY TO PLACE IN SMALL QUANTITIES BY UNEXPERIENCED PERSONNEL. SHOULD INCLUDE PREPARED TOPSOIL BED.
14	AGGREGATE COVER	STABILIZES SOIL SURFACE, THIS MINIMIZES EROSION. PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER. MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS.
15	PAVING	PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED, BUT INCREASES RUNOFF, VOLUME AND VELOCITY. IRREGULAR SURFACE WILL HELP SLOW VELOCITY.
16	CURB & CUTTER	KEEPS HIGH VELOCITY RUNOFF ON PAVED AREAS FROM LEAVING PAVED SURFACE. COLLECTS AND CONDUCTS RUNOFF TO ENCLOSED DRAINAGE SYSTEM OR PREPARED DRAINAGEWAY.
55	GEOTEXTILE SILT FENCE	USES GEOTEXTILE AND POSTS OR POLES. MAY BE CONSTRUCTED OR PREPACKAGED. EASY TO CONSTRUCT AND LOCATE AS NECESSARY.
58	INLET SEDIMENT FILTER	USES PREPACKAGED GEOTEXTILE SHOTS. FILTERS SEDIMENT FROM RUNOFF AT CATCH BASIN INLET. EASY TO INSTALL AND MAINTAIN.

T = TEMPORARY P = PERMANENT



- LEGEND**
- PROPERTY LINE
 - EX. EASEMENT LINE
 - BUILDING SETBACK
 - EX. SIGN
 - EX. MISC. FIXTURE, AS LABELED
 - EX. CURB
 - EX. EDGE OF PAVEMENT
 - EX. CLEANOUT
 - EX. SANITARY SEWER
 - EX. STORM SEWER
 - EX. CATCHBASIN
 - EX. YARD BASIN
 - EX. WATER MAIN
 - EX. HYDRANT
 - EX. GAS LINE
 - EX. OVERHEAD UTILITY LINE
 - EX. UTILITY POLE
 - EX. 1' CONTOUR
 - EX. 5' CONTOUR
 - PROP. 2" CONC. CURB
 - PROP. 2" CONC. CURB (REVERSE)
 - PROP. EDGE OF PAVEMENT
 - PROP. EASEMENT LINE
 - PROP. SANITARY SEWER
 - PROP. CLEANOUT
 - PROP. WATER MAIN
 - PROP. HYDRANT
 - PROP. WATER SHUTOFF
 - PROP. FDC
 - PROP. STORM SEWER
 - PROP. CATCHBASIN
 - PROP. STORM MANHOLE
 - PROP. UNDERDRAIN
 - PROP. LIGHT POLES
 - PROP. SIGNS

BENCHMARK
ELEVATIONS BASED ON CITY OF NOV DATUM

- BENCHMARK #413 (CITY OF NOV)**
"X" ON EAST NORTHEAST FLANGE BOLT OF FIRE HYDRANT, LOCATED 1 1/2 FEET NORTHWEST OF SIDEWALK, 90 FEET.
ELEVATION = 961.837
REF: POINT #13
- BENCHMARK #1**
ARROW ON HYDRANT, LOCATED 2254 FEET EAST OF CURB OF BECK ROAD, 804 FEET NORTH OF #31120 BLDG CORNER OF "SHOPPING AT THE TRAIL".
ELEVATION = 962.65
REF: POINT #14
- BENCHMARK #2**
STEAMER VALVE ON HYDRANT, LOCATED 144 FEET EAST OF CURB OF BECK ROAD, NEAR CENTERLINE OF #31172 (VACANT LAND) AND 1344 NORTH OF DRIVE FOR "K & S PLAZA".
ELEVATION = 962.79
REF: POINT #15

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CIVIL ENGINEERS
LAND SURVEYORS
2183 PLESS DRIVE
BRIGHTON, MICHIGAN 48114

DESIGN: JMB	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG			
CHECK: JMB			

TACO BELL
31172 BECK RD. NOVI, MI
SECTION 4, T1N, R6E

WATER SHED AND SOIL EROSION CONTROL PLAN

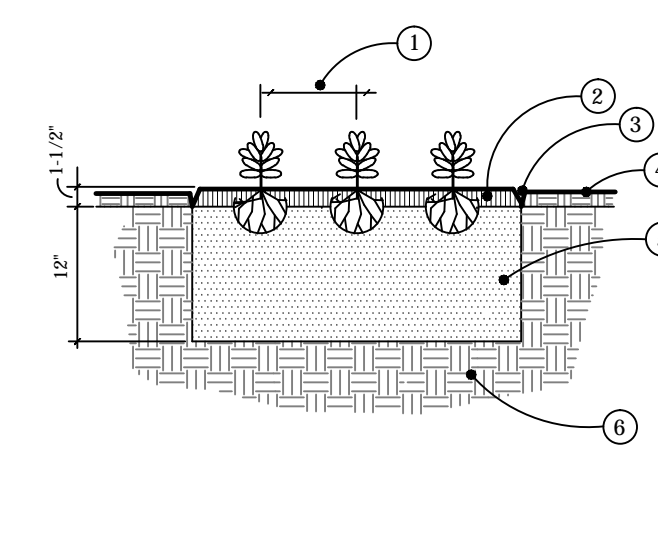
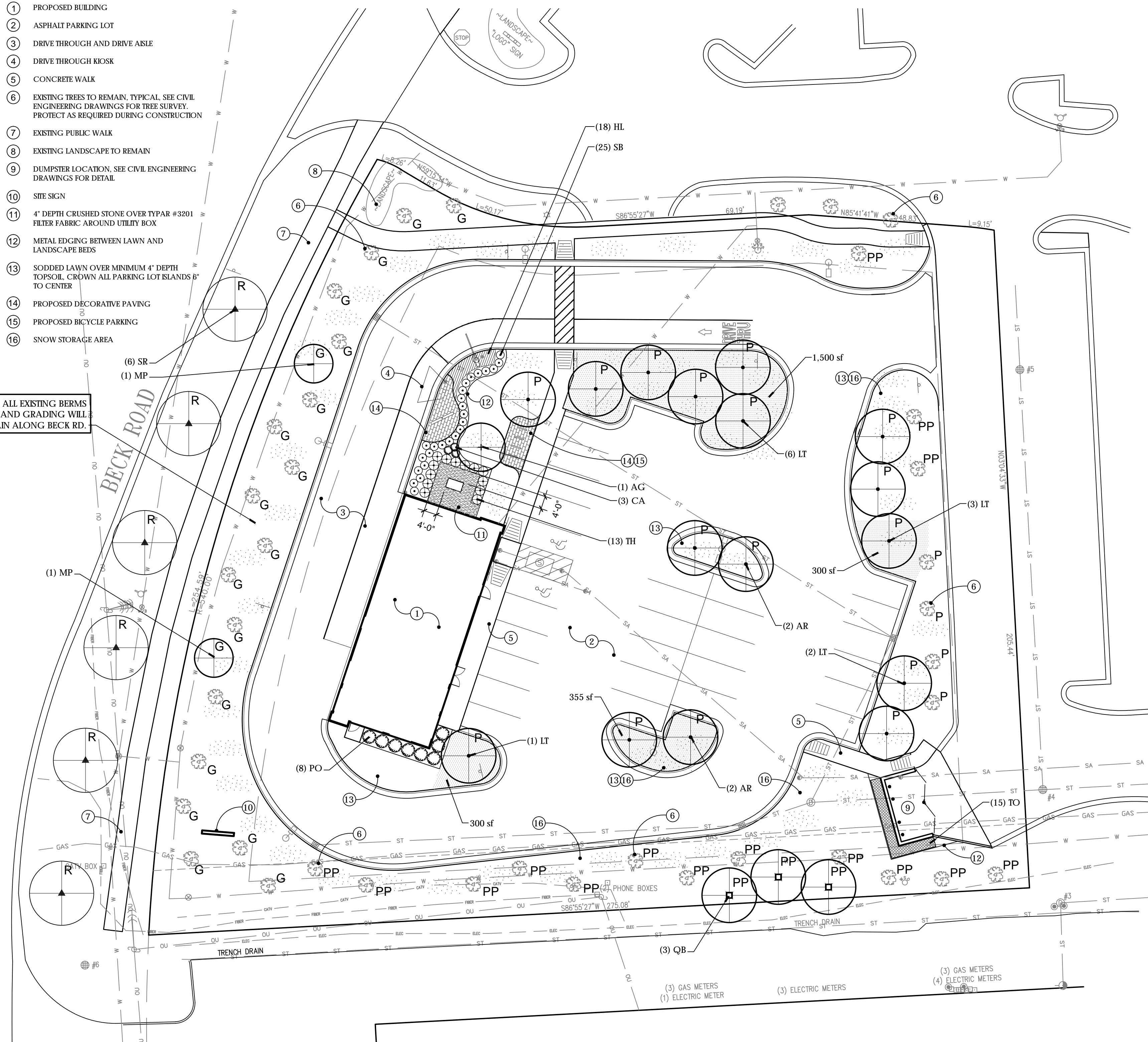
CLIENT:	SUNDANCE INC. 7915 KENSINGTON CT. BRIGHTON, MICHIGAN 48116 248-448-0100
SCALE:	1in. = 20ft.
PROJECT No.:	142495
DWG NAME:	2495-WS
ISSUED:	FEB. 20, 2015

WS

NOTE KEY:

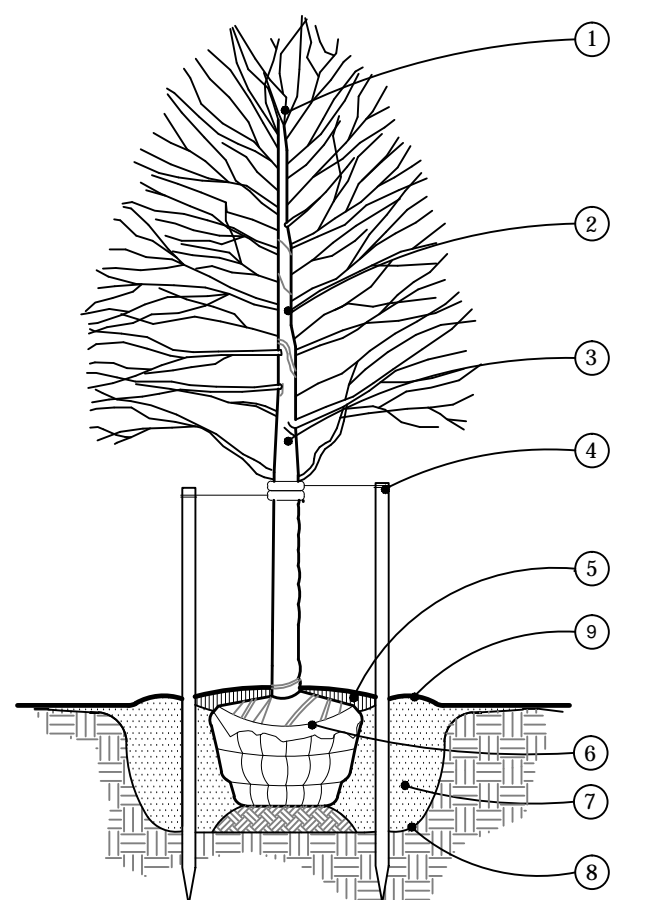
- ① PROPOSED BUILDING
- ② ASPHALT PARKING LOT
- ③ DRIVE THROUGH AND DRIVE AISLE
- ④ DRIVE THROUGH KIOSK
- ⑤ CONCRETE WALK
- ⑥ EXISTING TREES TO REMAIN, TYPICAL SEE CIVIL ENGINEERING DRAWINGS FOR TREE SURVEY. PROJECT AS REQUIRED DURING CONSTRUCTION
- ⑦ EXISTING PUBLIC WALK
- ⑧ EXISTING LANDSCAPE TO REMAIN
- ⑨ DUMPSTER LOCATION. SEE CIVIL ENGINEERING DRAWINGS FOR DETAIL
- ⑩ SITE SIGN
- ⑪ 4" DEPTH CRUSHED STONE OVER TYPAR #3201 FILTER FABRIC AROUND UTILITY BOX
- ⑫ METAL EDGING BETWEEN LAWN AND LANDSCAPE BEDS
- ⑬ SODDED LAWN OVER MINIMUM 4" DEPTH TOPSOIL. CROWN ALL PARKING LOT ISLANDS 6" TO CENTER
- ⑭ PROPOSED DECORATIVE PAVING
- ⑮ PROPOSED BICYCLE PARKING
- ⑯ SNOW STORAGE AREA

NOTE: ALL EXISTING BERMS AND GRADING WILL REMAIN ALONG BECK RD.



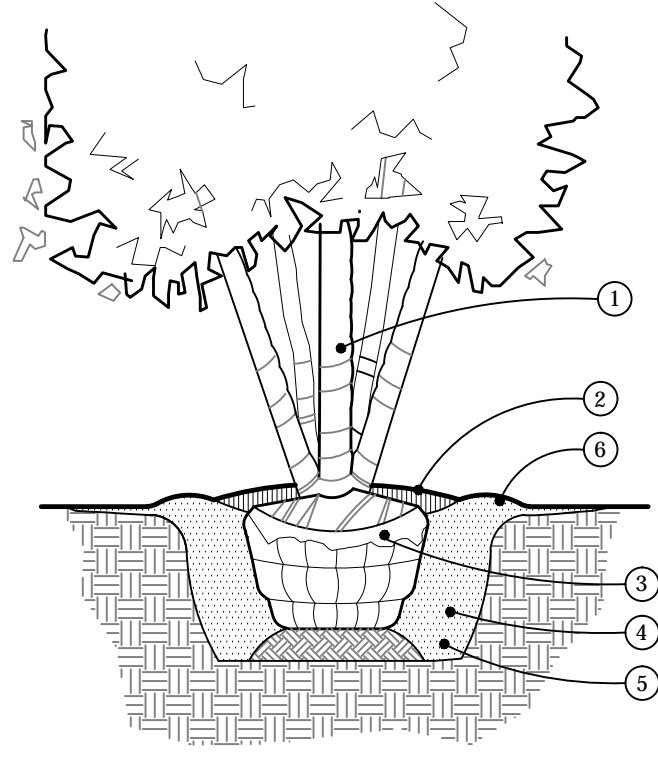
4 PERENNIAL / GROUNDCOVER PLANTING
NOT TO SCALE

- NOTES:
1. CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION
- ① SEE PLANT LIST FOR SPACING
 - ② 1-1/2" DEPTH CANADIAN PEAT TOP DRESSING OR 1-1/2" DOUBLE SHREDDED HARDWOOD MULCH
 - ③ SHOVEL CUT EDGE
 - ④ FINISH GRADE
 - ⑤ EXCAVATE EXISTING SOIL TO 12" DEPTH. REPLACE WITH PLANT MIX
 - ⑥ UNDISTURBED SUBGRADE



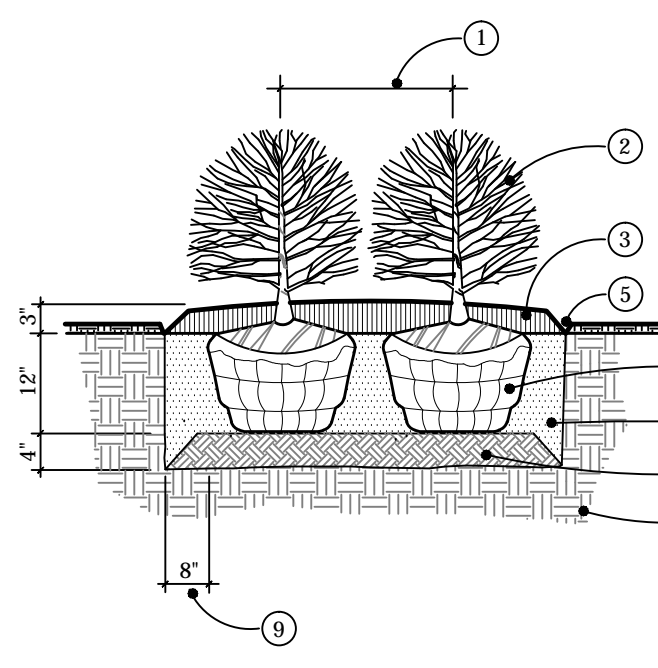
3 DECIDUOUS TREE PLANTING
NOT TO SCALE

- ① REMOVE SECONDARY LEADERS. DO NOT PRUNE TERMINAL LEADER OR BRANCH TOPS. PRUNE ALL DEAD AND BROKEN BRANCHES.
 - ② REMOVE ALL TAGS, STRINGS, PLASTICS, AND ANY OTHER MATERIALS WHICH ARE UNSIGHTLY OR COULD CAUSE GIRDLING.
 - ③ STAKE TREES JUST BELOW FIRST BRANCH W/ 2-3" WIDE BELT-LIKE FABRIC STRAPS ONLY. ARBOR OR APPROVED EQUAL. CONNECT FROM TREE TO STAKE OPPOSITE FROM EACH OTHER. ALLOW FOR SOME "FLEXING". DO NOT USE WIRE OR ROPE THROUGH A HOSE. REMOVE AFTER ONE YEAR.
 - ④ 2" X 2" HARDWOOD STAKES OR EQUIVALENT DRIVEN 4"-8" OUTSIDE OF ROOTBALL. REMOVE AFTER ONE YEAR.
 - ⑤ COVER PLANTING W/ 3" DOUBLE SHREDDED HARDWOOD BARK MULCH. MINIMUM 6" DIA. LEAVE 3" CIRCLE OF BARE SOIL AROUND THE BASE OF THE TRUNK.
 - ⑥ REMOVE ALL NON-BIODEGRADABLE MATERIALS FROM THE ROOTBALL. FOLD DOWN ALL BURLAP AND REMOVE WIRE BASKET FROM THE TOP 1/3 OF THE ROOTBALL.
 - ⑦ PLANT MIX
 - ⑧ TREE PIT TO BE 3 TIMES WIDTH OF ROOTBALL
 - ⑨ 4" TOPSOIL SAUCER
- NOTE:
TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE. IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.



2 MULTSTEM TREE PLANTING
NOT TO SCALE

- NOTES:
1. CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION
- ① REMOVE ALL TAGS, STRINGS, PLASTICS, AND ANY OTHER MATERIALS WHICH ARE UNSIGHTLY OR COULD CAUSE GIRDLING.
 - ② COVER PLANTING W/ 3" DOUBLE SHREDDED HARDWOOD BARK MULCH. MINIMUM 6" DIA. LEAVE 3" CIRCLE OF BARE SOIL AROUND BASE OF THE STEMS.
 - ③ REMOVE ALL NON-BIODEGRADABLE MATERIALS FROM THE ROOTBALL. FOLD DOWN ALL BURLAP AND REMOVE WIRE BASKET FROM THE TOP 1/3 OF THE ROOTBALL.
 - ④ PLANT MIX
 - ⑤ TREE PIT TO BE THREE TIMES WIDTH OF ROOTBALL
 - ⑥ 4" TOPSOIL SAUCER



1 SHRUB PLANTING
NOT TO SCALE

- NOTES:
1. CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION
- ① SEE PLAN FOR SPACING
 - ② SHRUBS, SEE PLANT SCHEDULE
 - ③ 3" DEPTH DOUBLE SHREDDED HARDWOOD MULCH, TYPICAL
 - ④ REMOVE ALL NON-BIODEGRADABLE TWINE FROM ENTIRE ROOTBALL. REMOVE BURLAP FROM TOP 1/2 OF ROOTBALL
 - ⑤ SHOVEL CUT EDGE
 - ⑥ EXCAVATE EXISTING SOIL TO 12" DEPTH. REPLACE WITH PLANT MIX
 - ⑦ SCARIFY TO 4" DEPTH AND RECOMPACT
 - ⑧ UNDISTURBED SUBGRADE
 - ⑨ MINIMUM 6" BETWEEN ROOTBALL AND EDGE OF PLANTING PIT

City of Novi Maintenance Notes

MAINTENANCE OR REQUIRED PLANTINGS BY THE OWNER SHALL BE CARRIED OUT SO AS TO PRESENT A HEALTHY, NEAT AND ORDERLY APPEARANCE FREE FROM REFUSE AND DEBRIS.

ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN ONE (1) YEAR, OR THE NEXT APPROPRIATE PLANTINGS PRIOR, WHICHEVER OCCURS FIRST.

ALL LANDSCAPED AREAS SHALL BE PROVIDED AND AUTOMATIC IRRIGATION SYSTEM (SEE ATTACHED PLANS).

TREE STAKES, GUY WIRES AND TREE WRAP SHALL BE REMOVED AFTER ONE WINTER SEASON.

PLANTINGS SHALL BE GUARANTEED FOR TWO (2) GROWING SEASONS AFTER DATE OF THE ACCEPTANCE OF INSTALLATION.

IF GRASS OR WEEDS EXCEED THE HEIGHT SPECIFIED IN CHAPTER 21 OF THE NOVI CODE OF ORDINANCES, OR IF SHRUBS ARE ALLOWED TO OBSTRUCT VISION ACROSS ANY PORTION OF THE ISLAND AND THE RESPONSIBLE PARTY IS UNWILLING TO RECTIFY THE PROBLEM THE CITY WILL ABATE SUCH VIOLATIONS AND SHALL ACCESS THE COST OF SUCH ABATEMENT MEASURES IN THE MANNER PROPOSED BY THE DEVELOPER AND APPROVED BY THE CITY IN SUCH INSTRUMENT.

City of Novi Standard Notes

ALL LANDSCAPE MATERIALS, INSTALLATION, AND MAINTENANCE SHALL COMPLY W/ SECTION 2509- SECTIONS 5, INSTALLATION, 6, MAINTENANCE AND THE LANDSCAPE DESIGN MANUAL SECTION 3: PLANT MATERIAL REQUIREMENTS.

ALL PLANT MATERIAL SHALL BE LOCALLY GROWN OR OF THIS NORTH MIDWEST AMERICAN REGION AND CONFORM TO THE CURRENT AAN STANDARDS. USE NO.1 GRADE PLANT MATERIAL.

PLANTING PERIOD SHALL BE: MARCH 15 - NOV. 15
ANTICIPATED: 2015-2016

ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION FREE OF WEEDS AND DEBRIS WITH ONE CULTIVATION FOR WEED CONTROL PER MONTH DURING JUNE, JULY AND AUGUST. THIS ESTABLISHMENT PERIOD SHALL BE TWO (2) YEARS FROM THE DATE OF APPROVAL OF PLANTINGS BY THE CITY OF NOVI. REPLACEMENT OF ANY FALLING PLANT MATERIAL, INCLUDING TREES, SHALL BE GUARANTEED DURING THE TWO (2) YEAR ESTABLISHMENT PERIOD. FALLING PLANT MATERIAL SHALL BE REPLACED WITHIN ONE YEAR, OR THE NEXT GROWING SEASON.

ALL LANDSCAPE AREAS SHALL BE IRRIGATED BY AN AUTOMATIC IRRIGATION SYSTEM.

ALL TREE WRAP, STAKES AND GUY WIRES SHALL BE REMOVED AFTER ONE WINTER SEASON.

NO PLANTINGS GREATER THAN 12" HIGH SHALL BE PLANTED WITHIN TEN (10) FEET OF FIRE HYDRANTS. PLANT MATERIAL SHALL NOT BLOCK VISIBILITY OF HYDRANT.

ANY AND ALL SUBSTITUTIONS OR DEVIATIONS SHALL BE APPROVED BY THE CITY PRIOR TO INSTALLATION.

NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK ONLY- SEE PLANTING DETAILS FOR DEPTH.

General Notes:

NO REGULATED TREE ARE EXISTING ON SITE

ALL DISTURBED AREAS ARE TO BE FINE GRADED AND SODDED OVER MINIMUM 4" DEPTH TOPSOIL

Site Landscape Calculations - Novi

INTERIOR PARKING AREA LANDSCAPE REQUIREMENTS:

26 PARKING SPACES (9x19) @ 171 SF EA. = 4,446 SF
2 B.F. SPACE (8x19) @ 152 SF EA. = 304 SF
1 B.F. AISLE (8x19) @ 152 SF EA. = 152 SF
TOTAL = 4,902 SF

A: TOTAL SF LANDSCAPE REQ'D : 4,902 SF X 10% = 491 SF

B: VEHICULAR USE AREA = 19,250 SF X 5% = 963 SF

C: TOTAL REQ'D AREA FOR PARKING LOT LANDSCAPING A+B: 1,454 SF
TOTAL LANDSCAPE AREA PROVIDED : 2,455 SF

D: REQ'D DECID. SHADE TREES IN PARKING LOT AREAS (P) : 1,454 SF(C) / 75)

TOTAL TREES REQ'D PER PARKING LOT AREA: 20
TOTAL TREES PROVIDED: 20 (4 EXISTING TO REMAIN)

E. A MINIMUM OF ONE CANOPY TREE PER 35 LF SURROUNDING PARKING AND ACCESS AREAS IS REQUIRED (PP): 727 LF / 35

TOTAL CANOPY TREES REQ'D: 21
TOTAL TREES PROVIDED: 18 (15 EXISTING TO REMAIN)

Note: The applicant agrees to pay into the City Tree Fund for any deficiencies in tree plantings required by this ordinance.

BUILDING FOUNDATION REQUIRED LANDSCAPE:

214 lf. x 8 = 1,712 SF LANDSCAPE REQUIRED
2,204 SF LANDSCAPE PROVIDED

R.O.W. STREET TREE REQUIREMENTS (R):

Beck Road:
254 LF NOT ADJ. TO PARKING / 45 = 6 TREES

TOTAL R.O.W. TREES REQUIRED: 6
TOTAL R.O.W. TREES PROVIDED: 6

GREENBELT REQUIRED LANDSCAPE:

CANOPY / EVERGREEN TREES (G)
Beck Road:
254 LF NOT ADJ. TO PARKING / 40 = 7 TREES

TOTAL CANOPY / EVERGREEN TREES REQUIRED: 7
TOTAL CANOPY / EVERGREEN TREES PROVIDED: 7 (existing)

SUB-CANOPY TREES
Beck Road:
254 LF ADJ. TO PARKING / 20 = 13 TREES

TOTAL SUB-CANOPY TREES REQUIRED: 13
TOTAL SUB-CANOPY TREES PROVIDED: 13 (11 existing)

TREE PLANTING CLARIFICATION:

P - REQUIRED PARKING LOT TREE
PP - REQUIRED PERIMETER PARKING LOT TREE
R - REQUIRED R.O.W STREET TREE
G - REQUIRED GREENBELT TREE

PLANT SCHEDULE

Trees							
sym.	qty.	botanical name	common name	size	spacing	root	comments
AG	1	Amelanchier x g. 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7'-8'	as shown	B&B	Minimum 5 stems
AR	4	Acer r. 'Redpointe'	Redpointe Red Maple	2.5" cal.	as shown	B&B	Single straight stem
LT	12	Lindodendron tulipifera	Tulip Tree	2.5" cal.	as shown	B&B	Single straight stem
MP	2	Malus 'Prairie Fire'	Prairie Fire Crabapples	2.0" cal.	as shown	B&B	Single straight stem
QB	3	Quercus bicolor	Swamp White Oak	2.5" cal.	as shown	B&B	Single straight stem
SR	6	Syringa r. 'Mory Silk'	Mory Silk Japanese Tree Lilac	2.0" cal.	as shown	B&B	Single straight stem
Shrubs							
PO	8	Physocarpus o. 'Summer Wine'	Summer Wine Ninebark	#5	as shown	cont.	min. 24" ht.
SB	25	Spirea x b. 'Anthony Waterer'	Anthony Waterer Spirea	#5	as shown	cont.	min. 24" ht.
TH	13	Taxus x m. 'Hicksii'	Hicksii Yew	30" ht.	30" o.c.	B&B	Trim to hedge
TO	15	Thuja x o. 'Emerald Green'	Emerald Green Arborvitae	5'-6' ht.	30" o.c.	B&B	
Perennials							
CA	3	Calamagrostis o. 'Karl Foerster'	Karl Foerster Feather Reed Grass	#2	as shown	cont.	
HL	18	Hemerocallis 'Little Grapette'	Little Grapette Daylily	#1	18" o.c.	cont.	



Issued For:
01.23.2015 Preliminary City Review
02.19.2015 Site Plan Approval

Project:
Taco Bell
Novi, Michigan

Landscape Plan

Sheet Name:



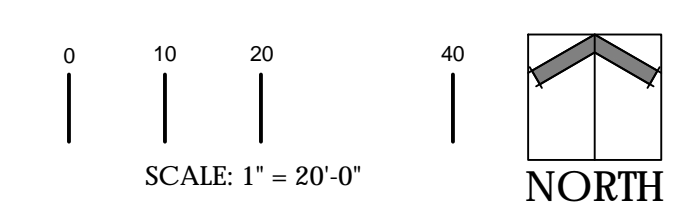
Drawn: JG
Checked: JG
Date: 01.20.2015
Scale: 1" = 20'-0"

Project Number:
15.012

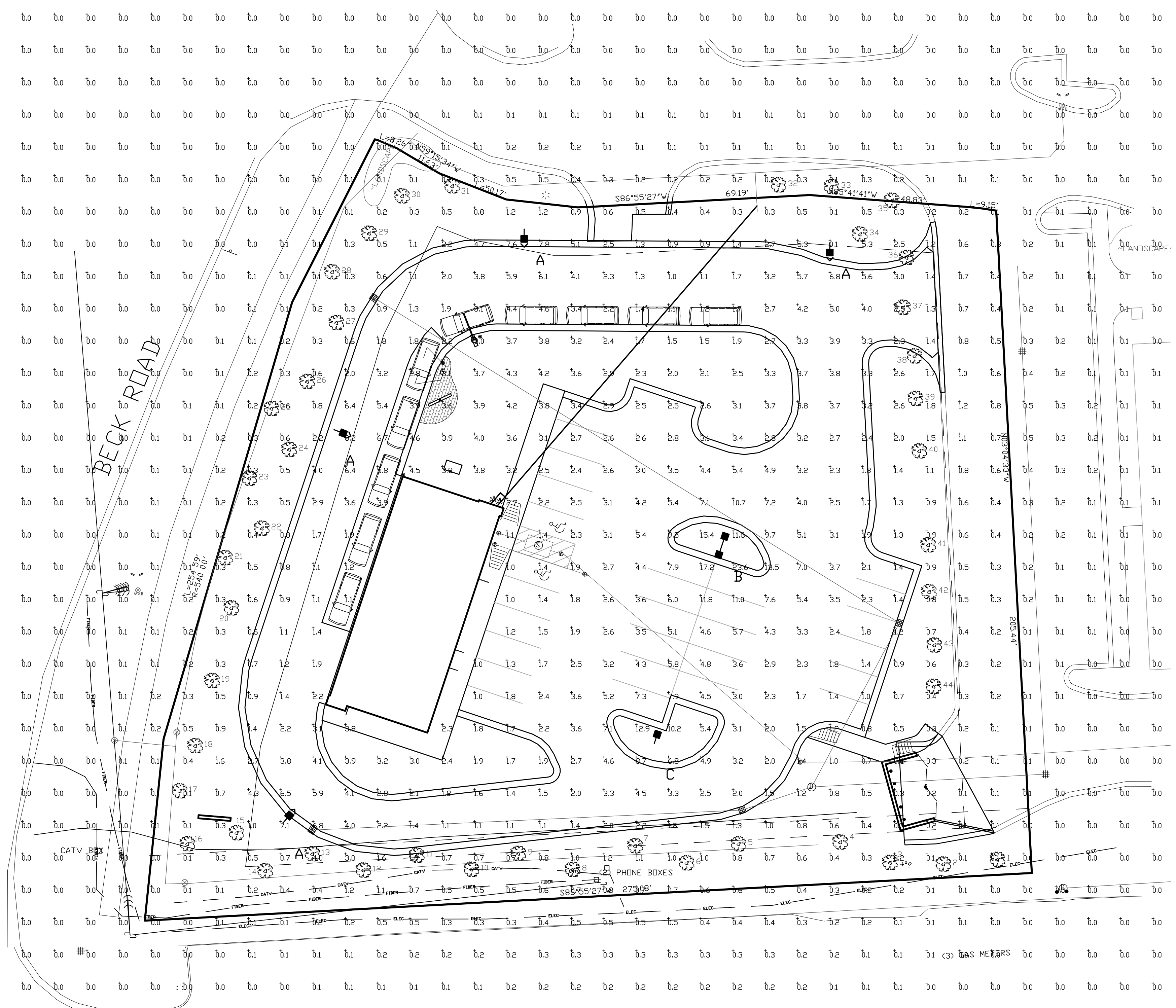
Sheet Number:
L-1

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NOT FOR CONSTRUCTION



Luminaire Schedule					LLF	Lumens/Lamp	Arr. Lum. Lumens	Arr. Watts
Symbol	Qty	Label	Arrangement	Description				
	4	A	SINGLE	XLCM-FT-LED-SS-CW-HSS SINGLE ON 22' POLE + 3' BASE	1.000	N.A.	16656	191.7
	1	B	D-180	XLCM-5-LED-SS-CW D180 ON 22' POLE + 2' BASE	1.000	N.A.	45768	383.8
	1	C	SINGLE	XLCM-5-LED-SS-CW SINGLE ON 22' POLE + 2' BASE	1.000	N.A.	22884	191.9



LED AREA LIGHTS - LSI SLICE MEDIUM (XLCM)



DOE LIGHTING FACTS
 Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog sheets.

Type	Lumens (Nominal)		Watts (Nominal)
	Type FT	Type S	
88	22880	22880	192
80	20160	20160	279
88	19680	19680	192
80	24160	24160	279

SMART-EC™ LSI drivers feature integral sensor which reduces drive current, when ambient temperatures exceed rated temperature.

ENERGY SAVING CONTROL OPTION - DIM - 0-10 volt dimming enabled with controls by others. Available with High Output (HO) drive current only.

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI website for specific guidance.

LED'S - Select high-brightness LEDs in Cool White (5000K nominal), or Neutral White (4000K nominal) color temperature, 70 CRI (nominal).

DISTRIBUTION PERFORMANCE - Types FT, FT-L, FT-R and S, FT-L and FT-R allow for D-180 mounting configurations with factory set optics for applications such as automotive front row. Exceptional uniformity creates bright environment at lower light levels.

HOUSING - One-piece die-formed aluminum housing contains factory powered driver. Wiring access door (with safety lanyard) located underneath.

OPTICAL UNIT - Clear tempered glass lens permanently sealed to weather-tight aluminum optic frame creates an IP66 rated optical unit (includes pressure-stabilizing breather). Optic frame recessed into housing cavity and sealed to the housing with one-piece EPDM gasket.

MOUNTING - Tapered rear design allows fixtures to be mounted in 90° and 120° configurations without the need for extension arms. Use with 3" reduced drilling pattern. A round pole plate is required for mounting to round poles. Wall mount available by ordering wall mounting bracket (BKS-XBO-WM-CLR). See Accessory Ordering Information chart for all brackets.

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets Location Category C Low. Available with universal voltage power supply 120-277 VAC (50/60Hz input), and 247-480 VAC. Optional battery-type photocells (P1) are available in 100, 200, 240, 277 or 347 volt (supply voltage must be specified).

DRIVER - Available in SS (Super Save) and HO (High Output) drive currents. Components are fully enclosed in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F)

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Available in black, bronze and white. Other standard LSI finishes available. Consult factory.

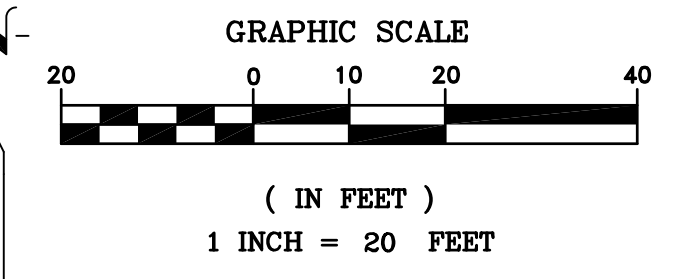
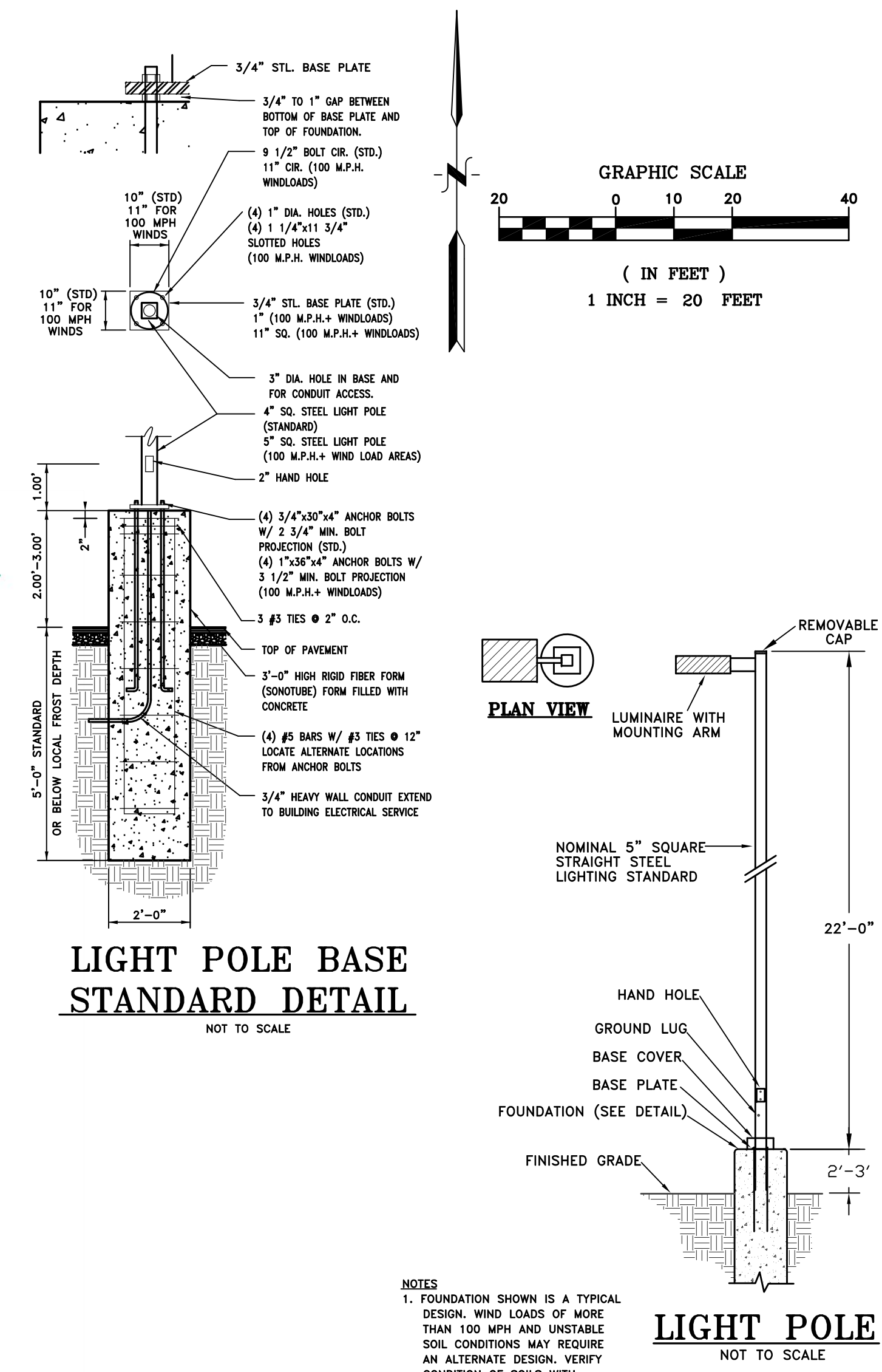
WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our website at www.lsi-industries.com for detailed photometric data.

SHIPPING WEIGHT (in carton) - One fixture: 25.25 lbs. (11.5 kg). Packed two per carton: 43.5 lbs. (19.7 kg).

LISTING - UL listed to U.S. and international safety standards. Suitable for wet locations. For a list of the specific products in this series, that are E.C. listed, please consult the LED Lighting section of our website or the Design Lights website at www.designlights.org.

This product or selected versions of it is product of the standard light fixture. Please consult factory for year specific requirements.



- NOTES**
- FOUNDATION SHOWN IS A TYPICAL DESIGN. WIND LOADS OF MORE THAN 100 MPH AND UNSTABLE SOIL CONDITIONS MAY REQUIRE AN ALTERNATE DESIGN. VERIFY CONDITION OF SOILS WITH SOILS REPORT.
 - FOUNDATIONS SHALL EXTEND BELOW FROST DEPTH PER LOCAL CODES.
 - CONCRETE SHALL HAVE MIN 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted.

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts	Illuminance	Fc	1.14	23.6	0.0	N.A.	N.A.
PARKING/DRIVE SUMMARY		Illuminance	Fc	3.59	23.6	1.0	23.60

DESIGN: JMB	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: JMB						

TACO BELL
 31172 BECK RD. NOVI, MI
 SECTION 4, T1N, R6E

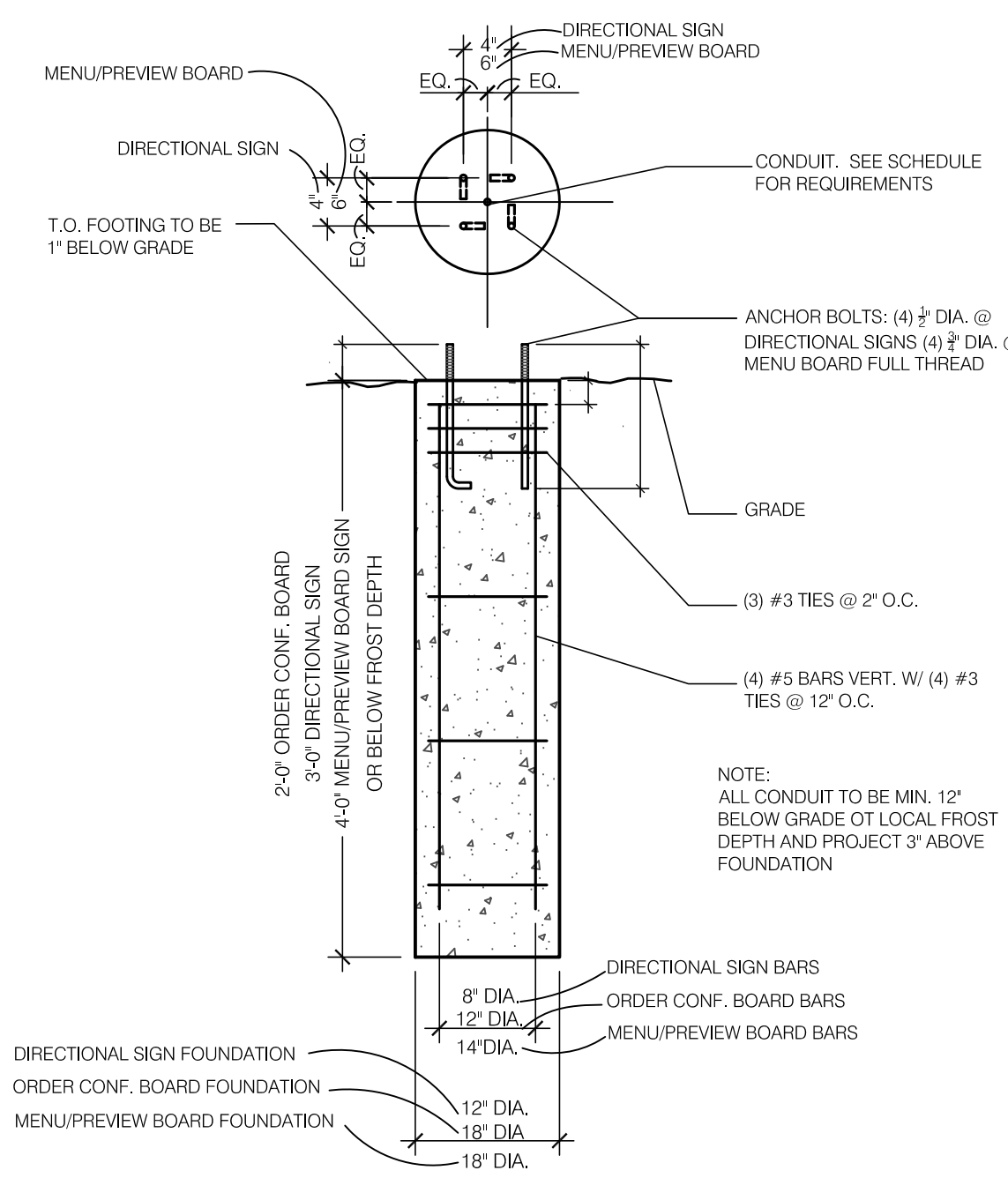
LIGHTING PLAN

CLIENT: SUNDANCE INC. 7915 KENSINGTON CT. BRIGHTON, MICHIGAN 48116 248-448-0100	SCALE: 1in. = 20ft. PROJECT No.: 142495 DWG NAME: 2495-LT ISSUED: FEB. 20, 2015	811 Know what's below. Call before you dig. 3 WORKING DAYS BEFORE YOU DIG CALL 811 OR 1-800-482-7171 (TOLL FREE) OR VISIT CALL811.COM	DESIGN INC (810) 227-9533 CIVIL ENGINEERS LAND SURVEYORS 2183 PLESS DRIVE BRIGHTON, MICHIGAN 48114
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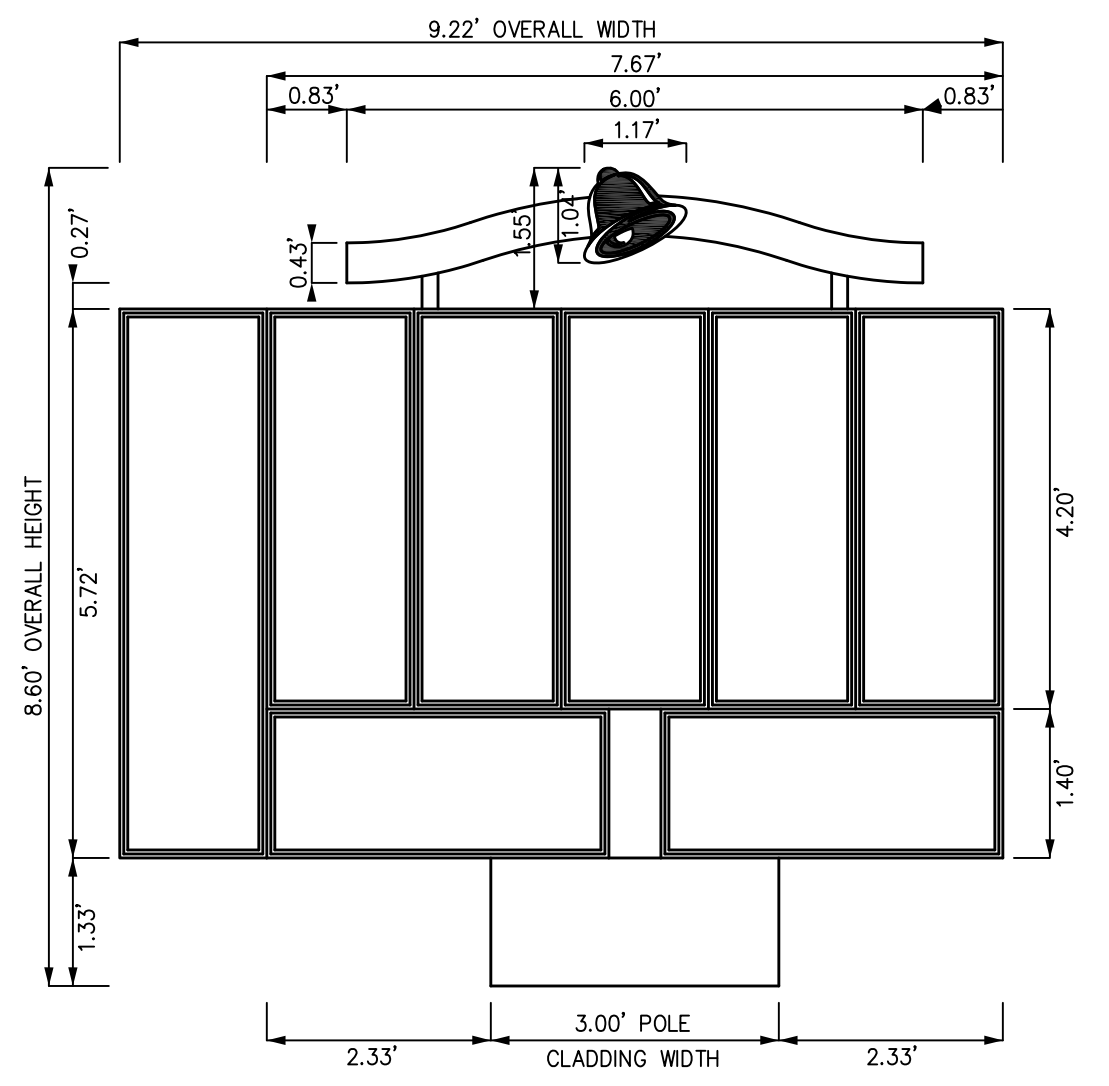
LT

NOTE:
BOLT PATTERN PROVIDED AS
EXAMPLE - OBTAIN ANCHOR
BOLT TEMPLATE FROM
SUPPLIER

CONDUIT SCHEDULE		
DEVICE	POWER	DATA
DIRECTIONAL	(1) 3/4"	
OCB	(1) 3/4"	(3) 1"
MENU BOARD	(1) 3/4"	

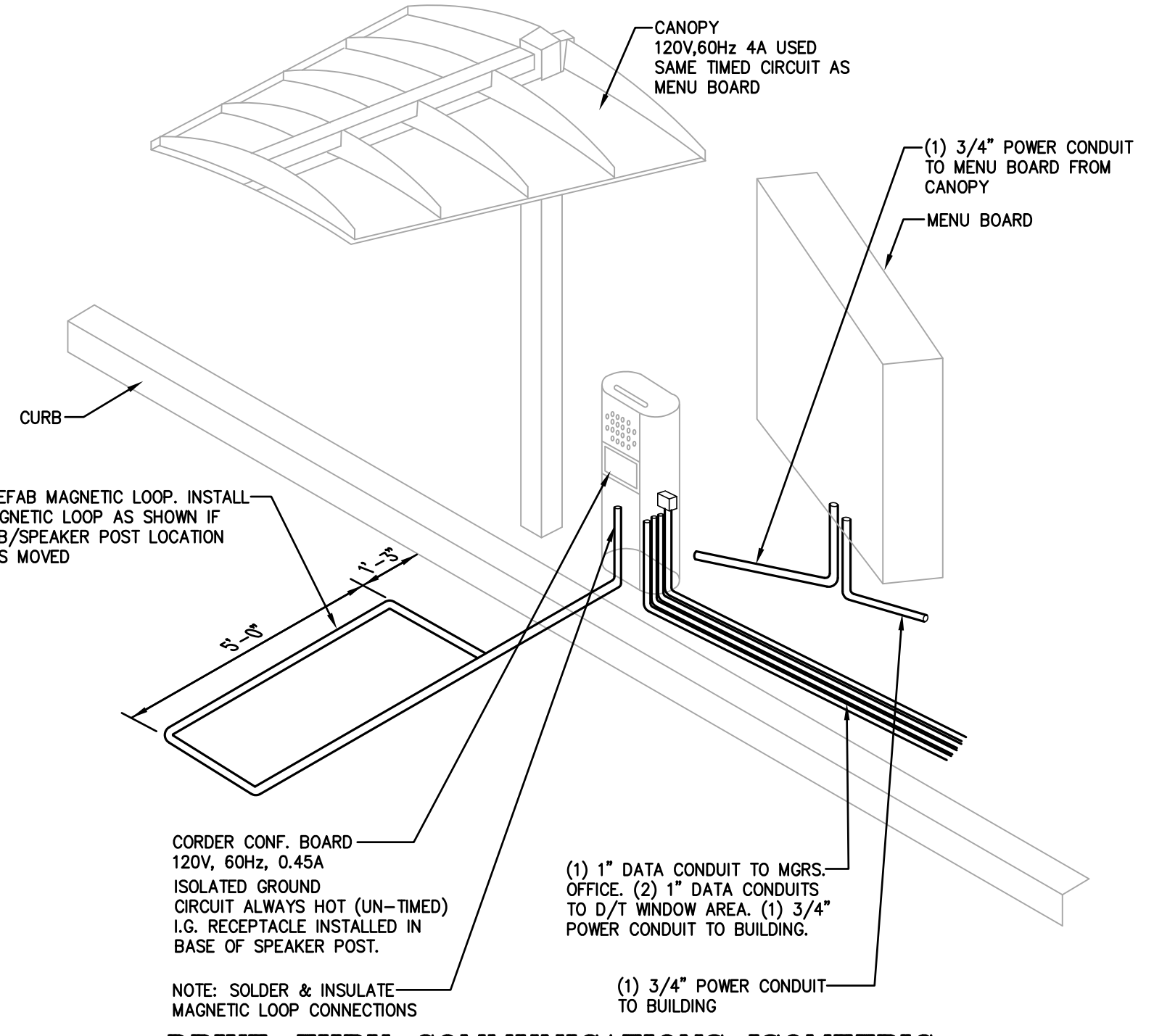
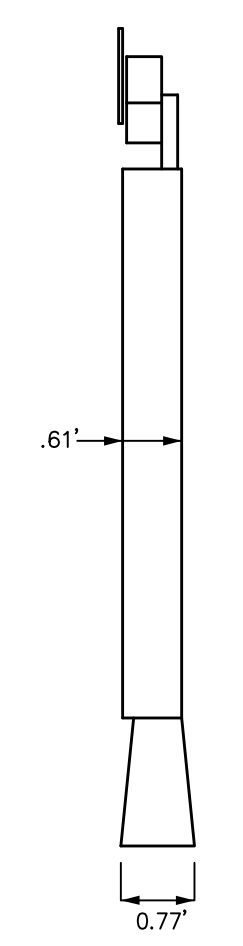


SIGN BASE FOUNDATION
NOT TO SCALE

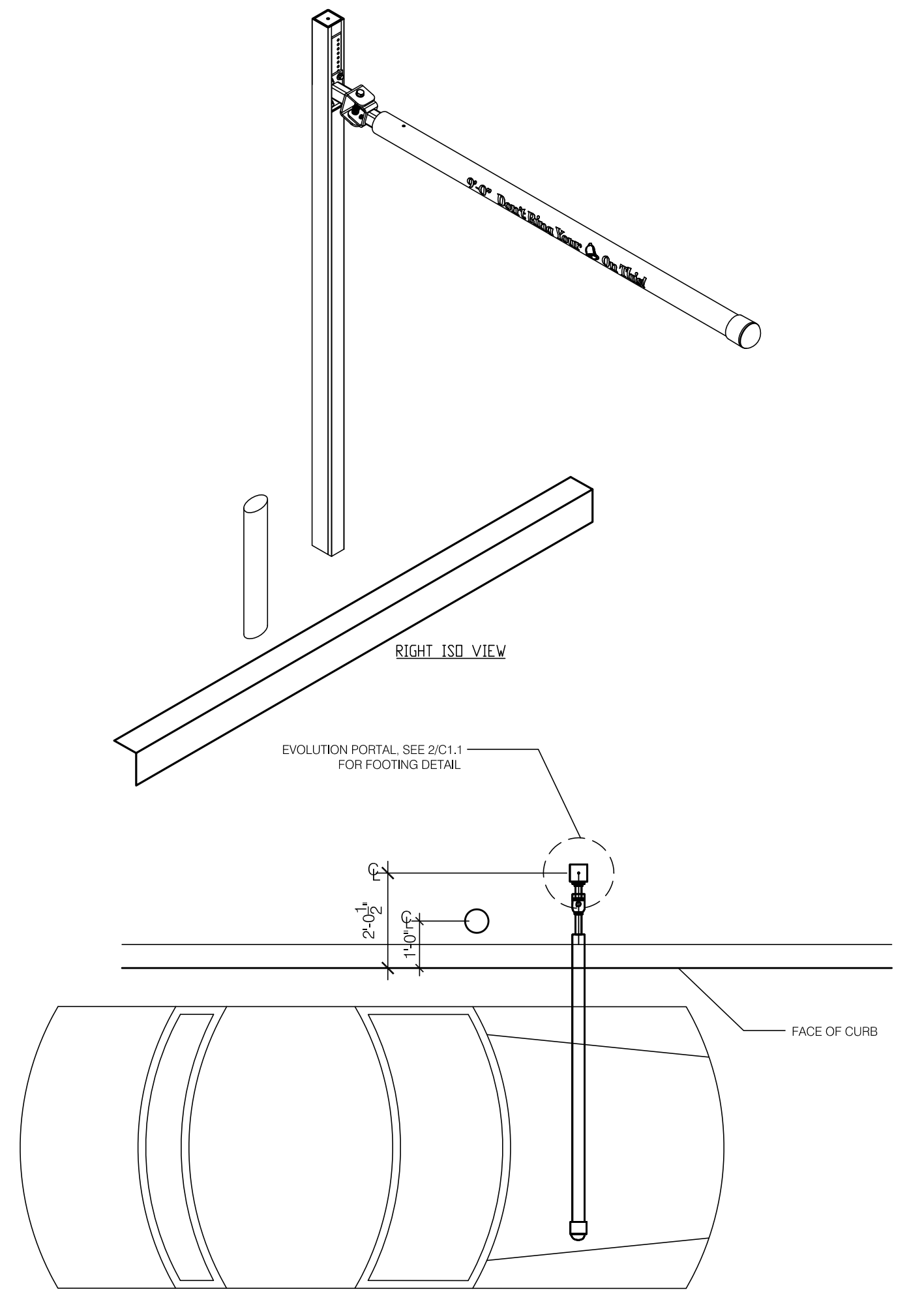


MENUBOARD
NOT TO SCALE

- NOTES:
1. SPEAKER POST AS MANUFACTURED BY: DELPHI DISPLAY SYSTEMS (1-800-456-0060)
2. MENU BOARD AS MANUFACTURED BY: EVERBRITE (608)429-2121



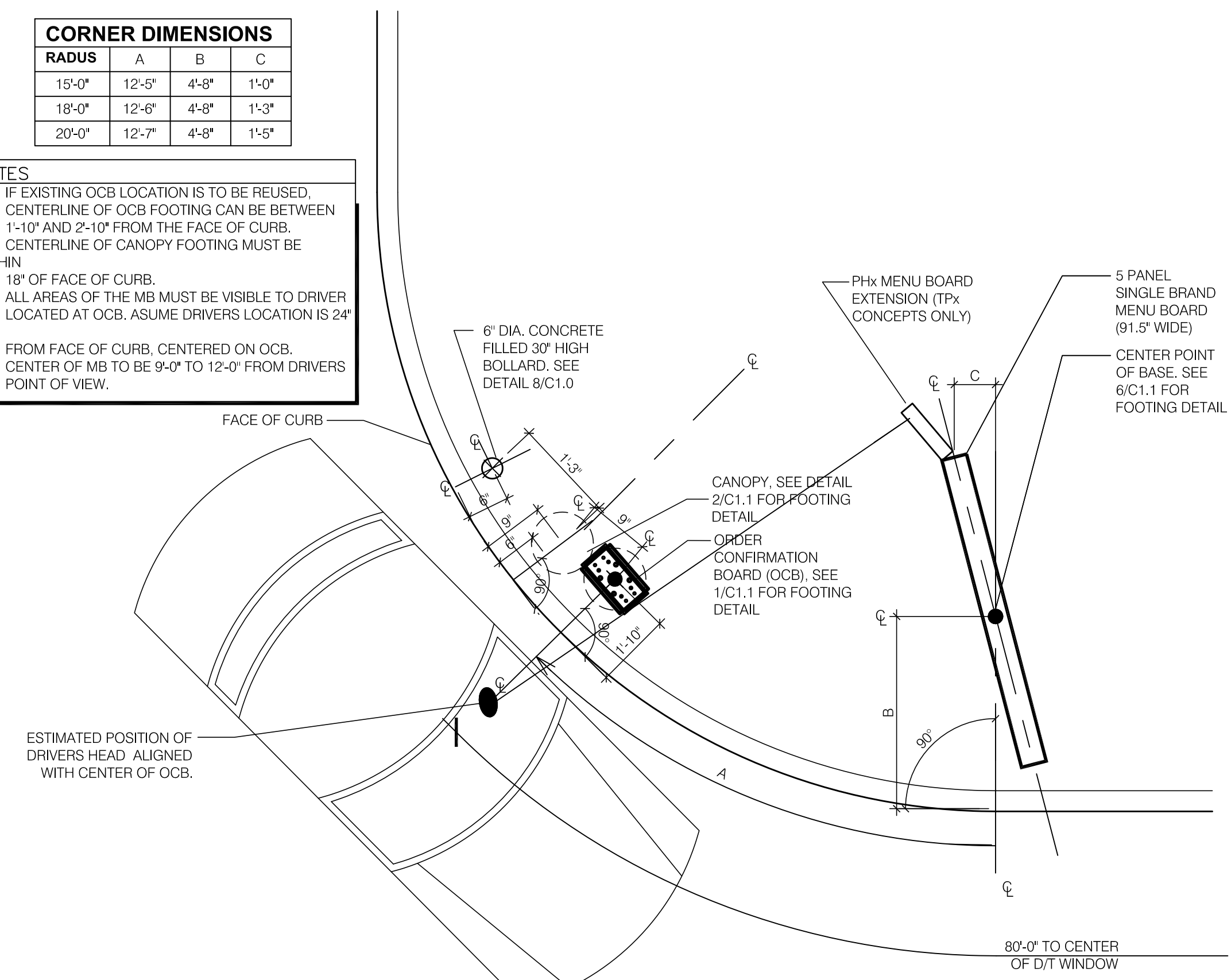
DRIVE-THRU COMMUNICATIONS ISOMETRIC
NOT TO SCALE



CLEARANCE BAR
NOT TO SCALE

CORNER DIMENSIONS			
RADIUS	A	B	C
15'-0"	12'-5"	4'-8"	1'-0"
18'-0"	12'-6"	4'-8"	1'-3"
20'-0"	12'-7"	4'-8"	1'-5"

- NOTES:
1. IF EXISTING OCB LOCATION IS TO BE REUSED, CENTERLINE OF OCB FOOTING CAN BE BETWEEN 1'-10" AND 2'-10" FROM THE FACE OF CURB.
2. CENTERLINE OF CANOPY FOOTING MUST BE WITHIN 18" OF FACE OF CURB.
3. ALL AREAS OF THE MB MUST BE VISIBLE TO DRIVER LOCATED AT OCB. ASSUME DRIVERS LOCATION IS 24" FROM FACE OF CURB, CENTERED ON OCB.
4. CENTER OF MB TO BE 9'-0" TO 12'-0" FROM DRIVERS POINT OF VIEW.



MENU BOARD DETAIL AT CURVED CURB
NOT TO SCALE

Drive-Thru Sound Pressure Levels From the Menu Board or Speaker Post

The sound pressure levels from the menu board or speaker post are as follows:
1. Sound pressure level (SPL) contours (A weighted) were measured on a typical HME SPP2 speaker post. The test condition was for pink noise set to 84 dBA at 1 foot in front of the speaker. All measurements were conducted outside with the speaker post placed 8 feet from a non-absorbing building wall and at an oblique angle to the wall. These measurements should not be construed to guarantee performance with any particular speaker post in any particular environment. They are typical results obtained under the conditions described above.
2. The SPL levels are presented for different distances from the speaker post:

Distance from the Speaker (Feet)	SPL (dBA)
1 foot	84 dBA
2 feet	78 dBA
4 feet	72 dBA
8 feet	66 dBA
16 feet	60 dBA
32 feet	54 dBA

3. The above levels are based on factory recommended operating levels, which are preset for HME components and represent the optimum level for drive-thru operations in the majority of the installations.

Also, HME incorporates automatic volume control (AVC) into many of our Systems. AVC will adjust the outbound volume based on the outdoor, ambient noise level. When ambient noise levels naturally decrease at night, AVC will reduce the outbound volume on the system. See below for example:

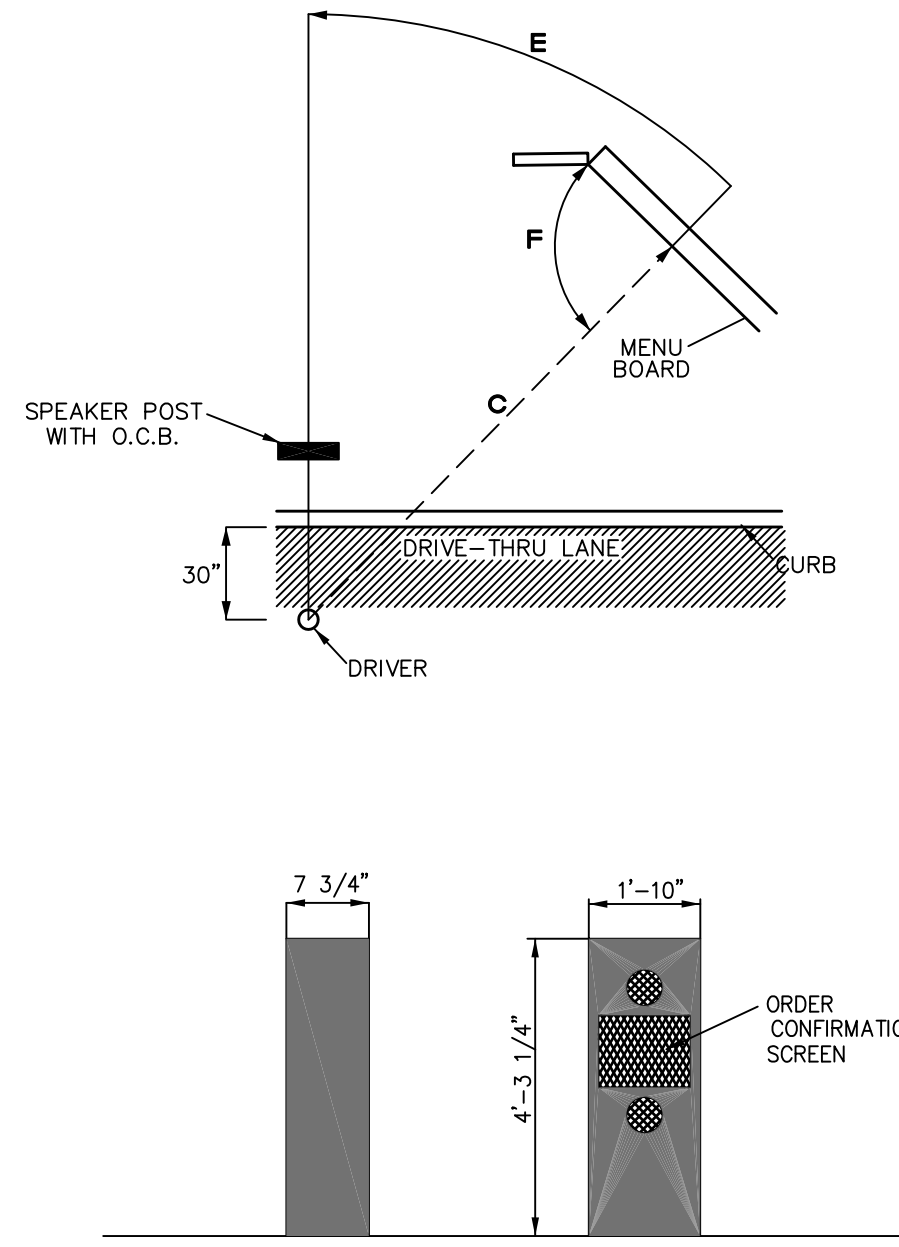
Distance from Outside Speaker	Decibel Level of standard system with 45 dB of outside noise without AVC	Decibel level of standard system with 45 dB of outside noise with AVC active
	1 foot	84 dBA
2 feet	78 dBA	54 dBA
4 feet	72 dBA	48 dBA
8 feet	66 dBA	42 dBA
16 feet	60 dBA	36 dBA

If there are any further questions regarding this issue please contact HME customer service at 1-800-848-4468.

Thank you for your interest in HME's products.

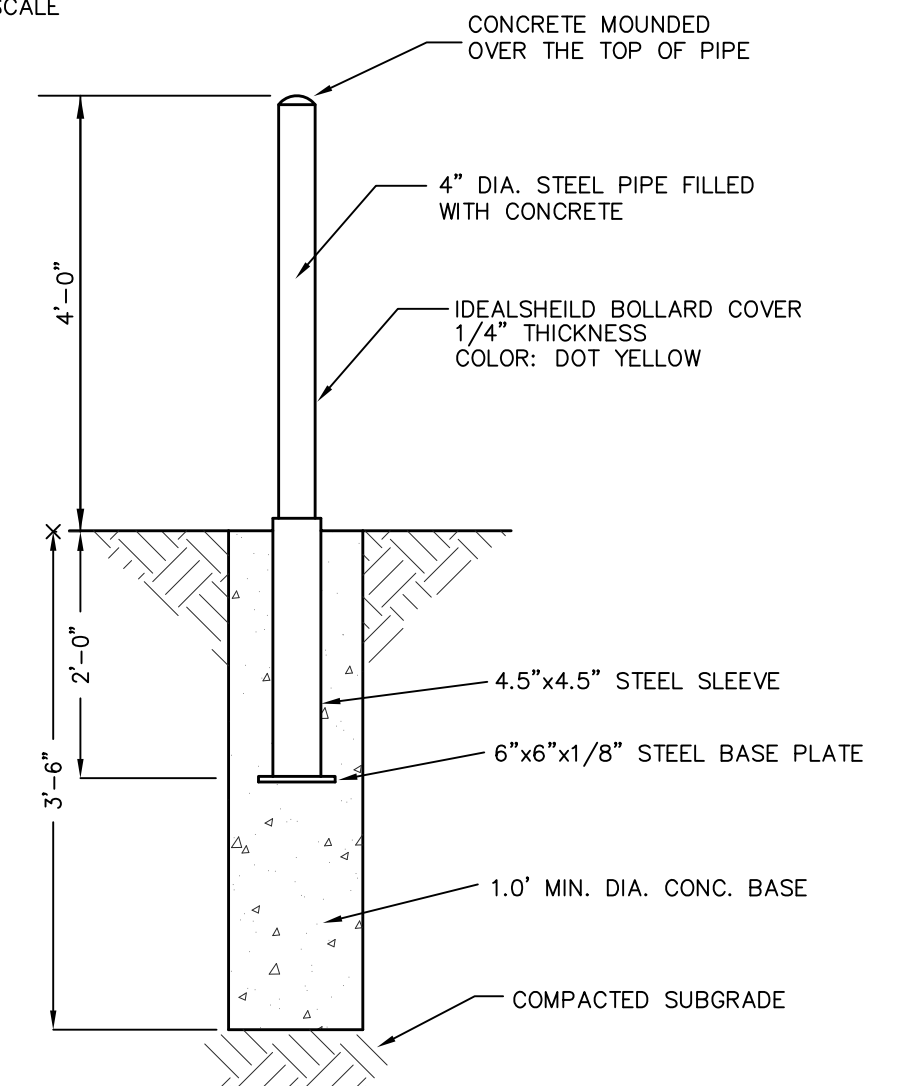
HME SOUND PRESSURE LEVELS

NOTE: SYSTEM WITH AUTOMATIC VOLUME CONTROL TO BE INSTALLED.



SPEAKER POST / MENUBOARD
NOT TO SCALE

- NOTES:
1. SPEAKER POST AS MANUFACTURED BY: DELPHI DISPLAY SYSTEMS (1-800-456-0060)
2. MENU BOARD AS MANUFACTURED BY: EVERBRITE (608)429-2121
3. SIGN AREA = 66.44 sq.ft.



GUARD POST DETAIL
NOT TO SCALE

NOTE: PAINT ALL EXTERIOR SURFACES WITH ONE COAT METAL PRIMER AND ONE COAT EXT. PAINT



DESIGN: JMB	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: JMB						

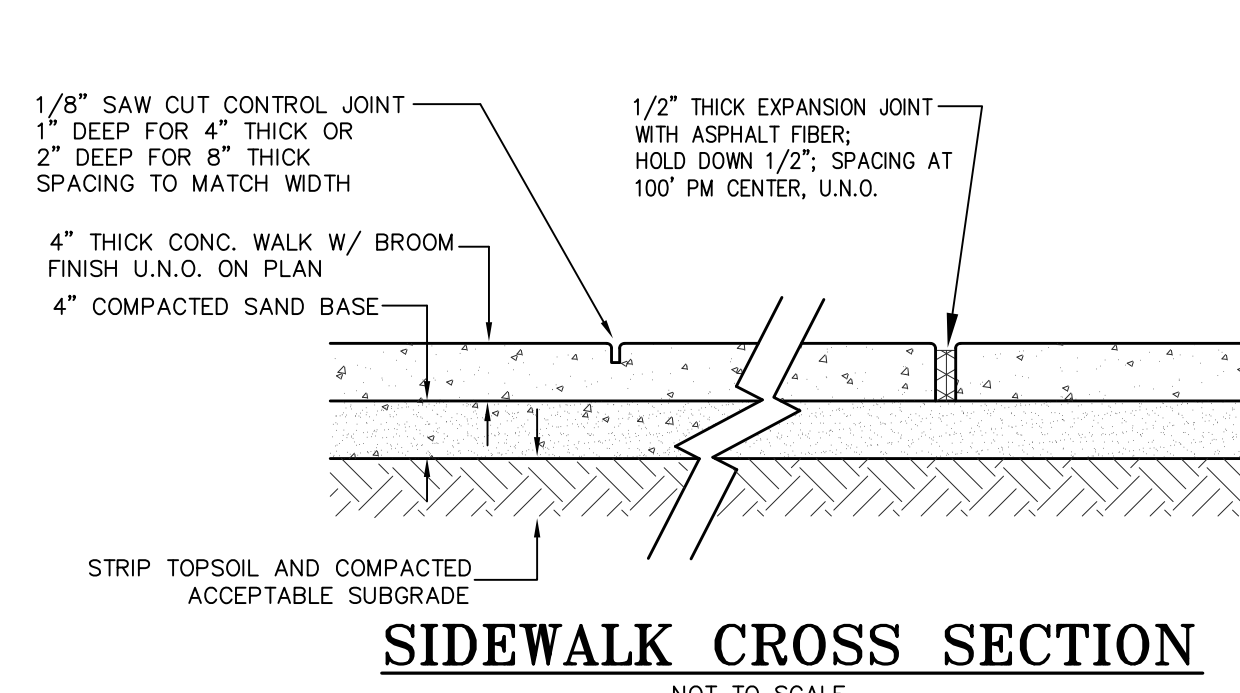
TACO BELL
31172 BECK RD. NOVI, MI
SECTION 4, T1N, R6E

TACO BELL CORPORATE
NOTES AND
DETAILS

CLIENT:
SUNDANCE INC.
7915 KENSINGTON CT.
BRIGHTON, MI. 48116
(248) 446-0100

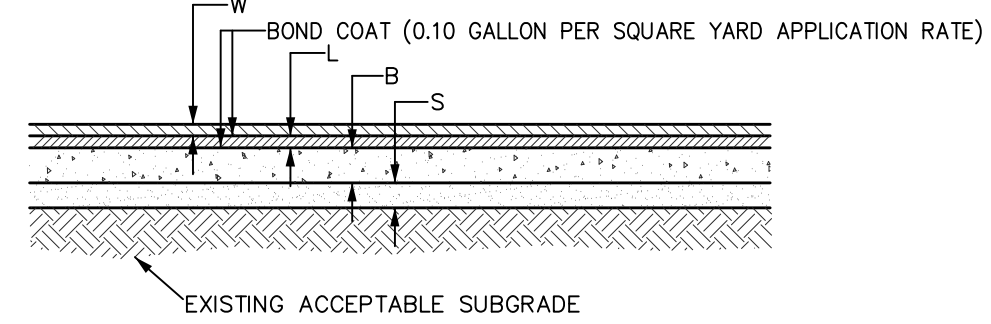
SCALE: N/A
PROJECT No.: 142495
DWG NAME: 2495-DT
ISSUED: FEB. 20, 2015

DT1



SIDEWALK CROSS SECTION
NOT TO SCALE

- NOTES:
- SEE PLAN FOR WIDTH OF SIDEWALK.
 - PROVIDE CONCRETE TYPE PER LOCAL CODE. (3500 PSI AIR ENTRAINED)
 - WALK THROUGH DRIVEWAY SHALL BE 8" THICK.

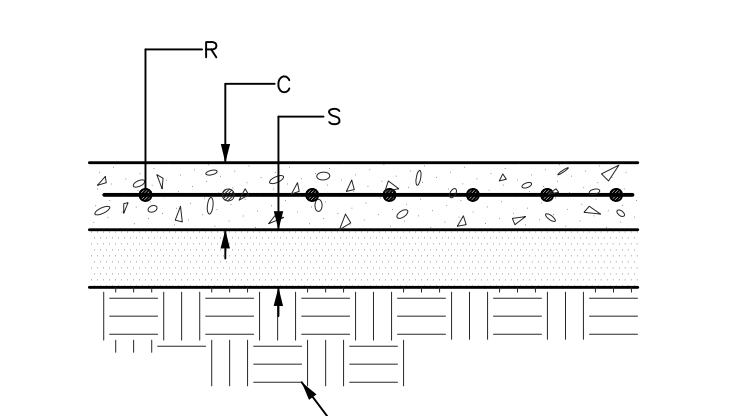


PAVEMENT CROSS SECTION
NOT TO SCALE

- PAVEMENT CROSS SECTION NOTES:**
- Refer to the General Notes, Road Construction Notes and Typical Road Cross Section detail on the project plans for additional requirements.
 - Unsuitable soils found within the 1 on 1 influence zone of the roadway, such as muck, peat, topsoil, marl, silt or other unstable materials shall be excavated and replaced up to the proposed subgrade elevation with MDOT Class III granular material compacted to 95% maximum unit weight, modified proctor.
 - Contractor shall proof roll prepared subgrade as directed by Engineer. Unacceptable areas of subgrade shall be undercut and replaced as directed by Engineer. See Subgrade Undercut & Replacement Cross Section detail for additional requirements.
 - Owner/Developer may delay placement of the bituminous wearing course. Repair of the bituminous leveling course may be necessary due to any delay in placement of the bituminous wearing course. Substantial repair to the bituminous leveling course may be necessary if placement of the bituminous leveling course is delayed for more than 12 months after placement of the bituminous leveling course. The bituminous leveling course shall be repaired as directed by Engineer prior to placement of the bituminous wearing course.

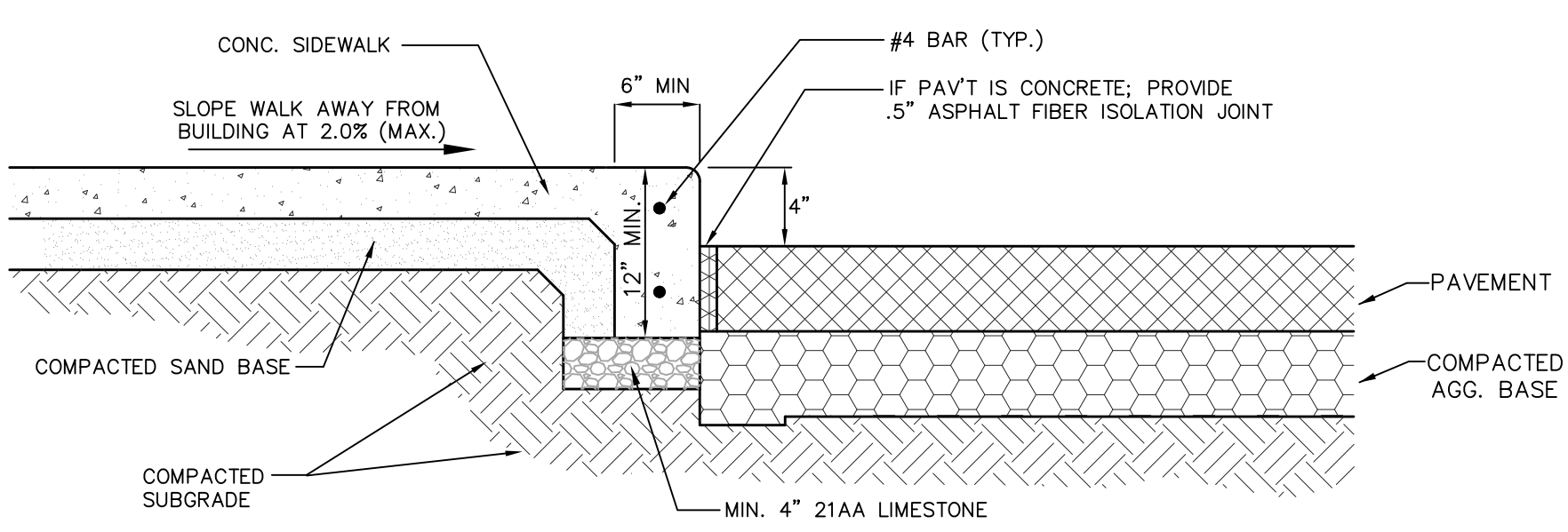
KEY	DESCRIPTION	MATERIAL SPECIFICATION	MINIMUM COMPACTED THICKNESS
W	WEARING COURSE	MDOT 4C,1100T *	2"
L	LEVELING COURSE	MDOT 3C,1100T *	2"
B	AGGREGATE BASE	MDOT 21AA LIMESTONE	9"
S	GRANULAR SUBBASE	N/A	N/A

* PLACE BITUMINOUS BOND COAT @ 0.10 GALLON/S.Y. BETWEEN LEVELING COURSE AND AGGREGATE BASE AND BETWEEN WEARING COURSE AND LEVELING COURSE.

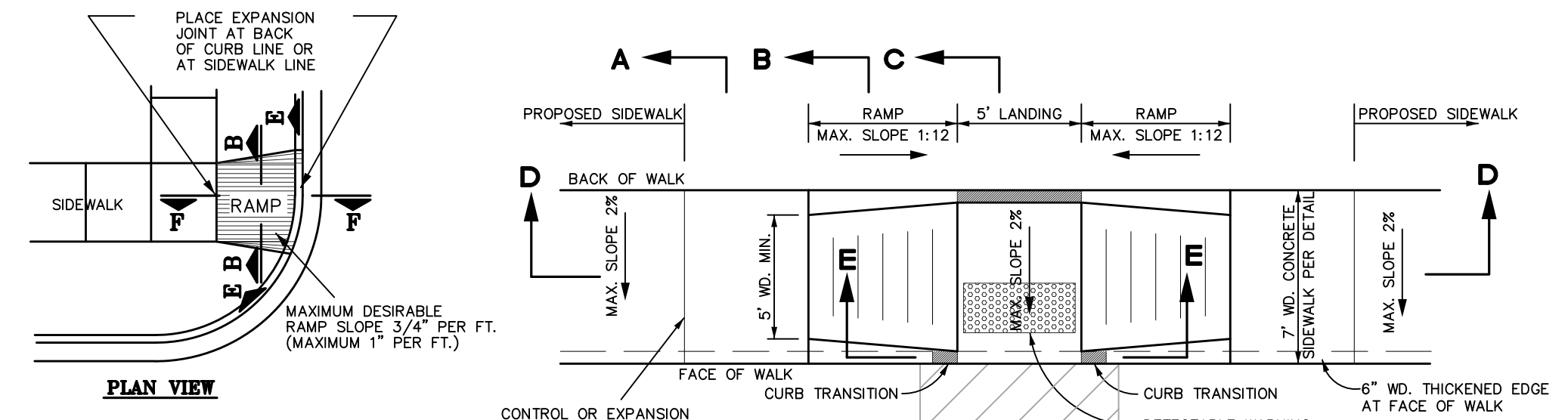


CONCRETE PAVEMENT CROSS-SECTION
NOT TO SCALE

KEY	DESCRIPTION	MATERIAL SPECIFICATION	MINIMUM THICKNESS
R	REINFORCEMENT	N/A	N/A
C	CONCRETE	MDOT 601, P1	8"
S	AGG. BASE	21AA	6"

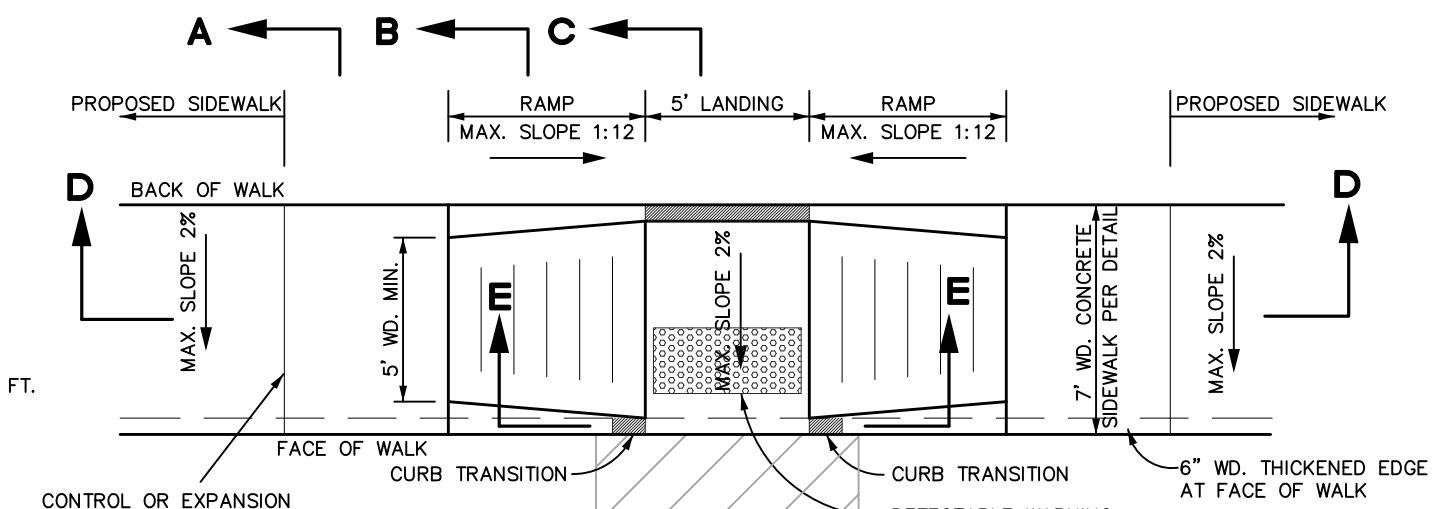


INTEGRAL WALK/CURB & ISOLATION JOINT DETAIL
NOT TO SCALE

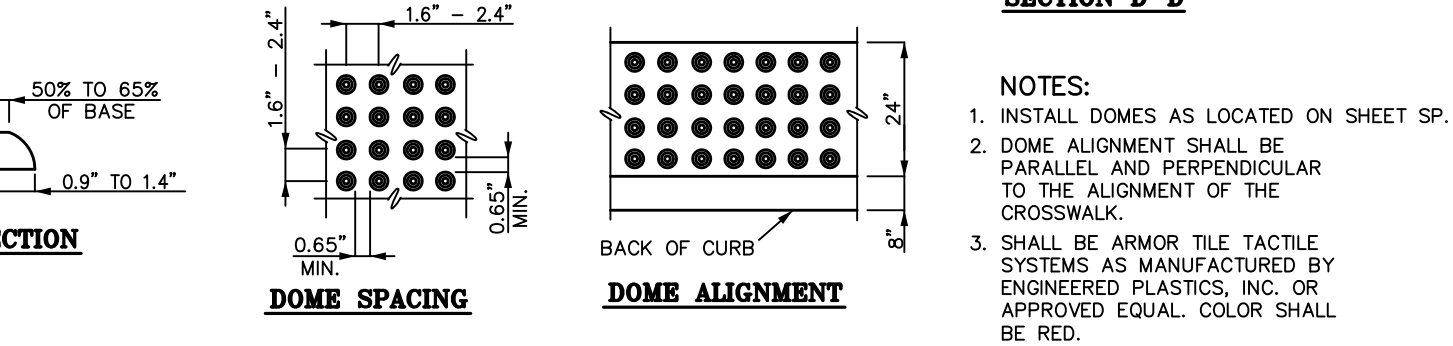
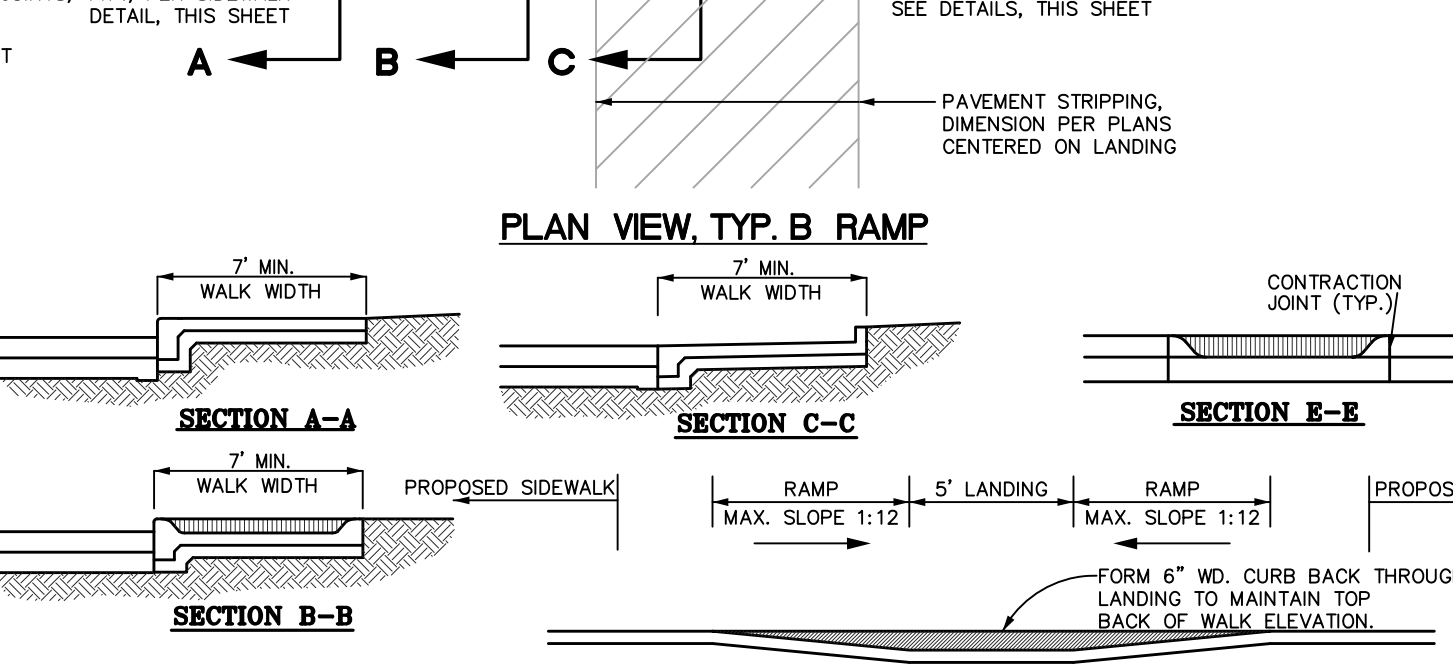


PLAN VIEW

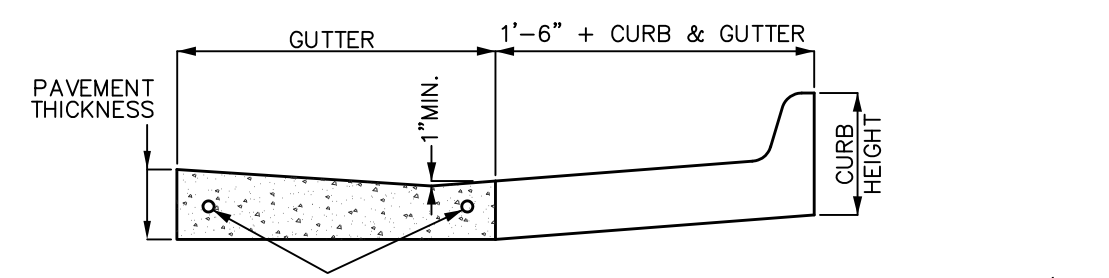
PLAN VIEW, TYP. A RAMP



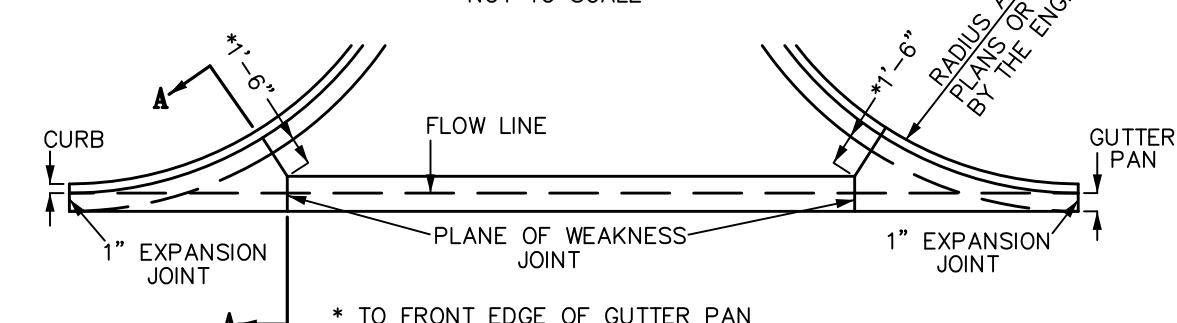
PLAN VIEW, TYP. B RAMP



BARRIER FREE RAMP AND DETECTABLE WARNING DETAILS
NOT TO SCALE



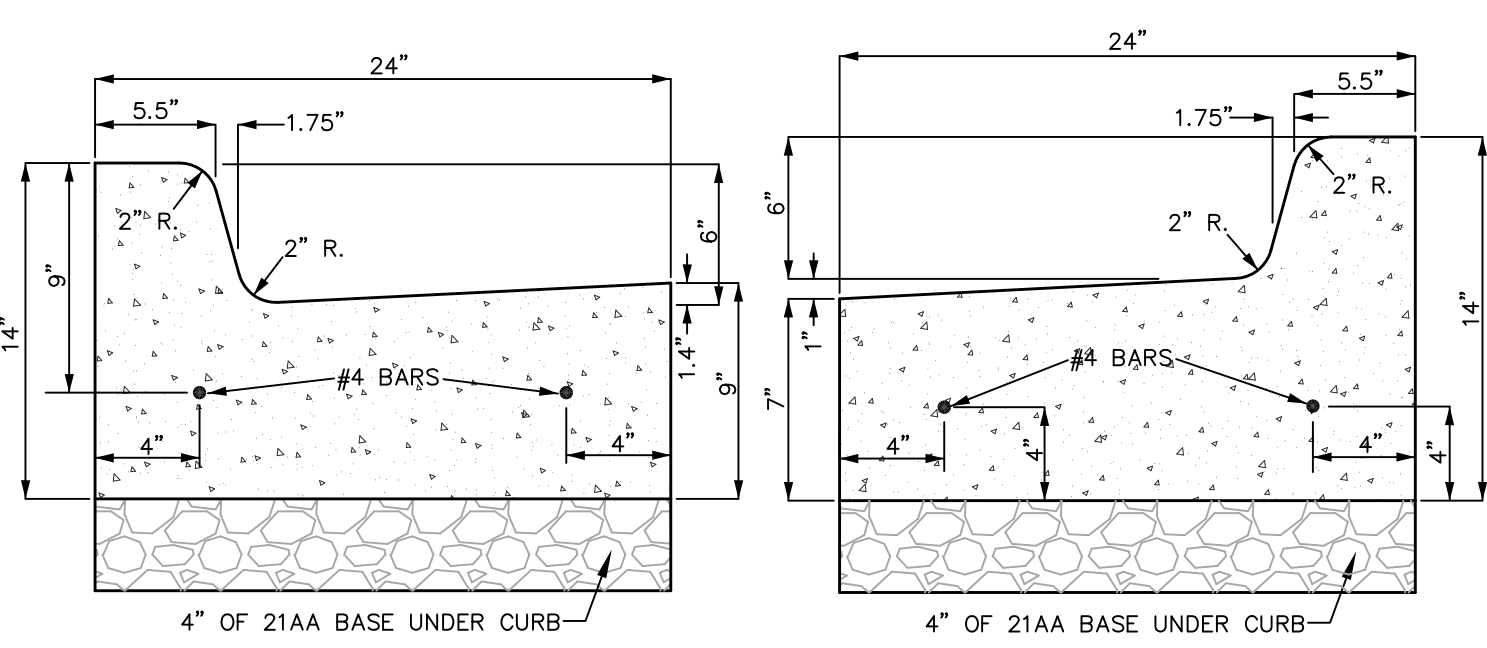
SECTION A-A
NOT TO SCALE



CONCRETE DRIVEWAY OPENING MDOT DETAIL 'M'
NOT TO SCALE

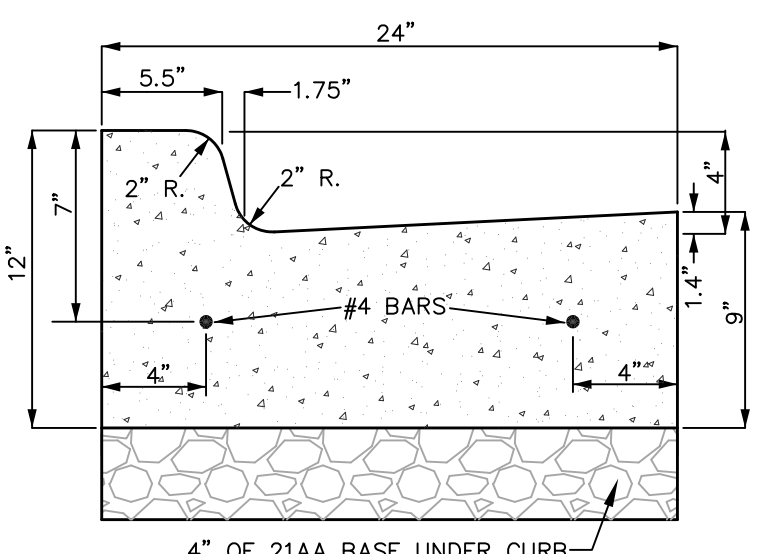
DRIVEWAY AND PARKING LOT CONSTRUCTION NOTES:

- The grading, driveway and parking lot specifications of the Local Municipality are a part of this work. Refer to the General Notes on the project plans for additional requirements.
- Driveway and Parking Lot work shall include site clearing of vegetation and tree stumps; stripping and stockpiling of topsoil for reuse; mass grading cuts and fills; removal of unsuitable soils from the paved surface influence area; culvert placement; subgrade preparation including fine grading and proof roll; subgrade undercuts and/or placement of geotextile fabric if needed; placement and preparation of granular subbase and aggregate base courses including fine grading and compaction; placement of concrete curb and gutter; watering of aggregate base within 24 hours of paving to obtain optimum moisture content; bituminous and/or concrete pavement including placement, compaction and bond coats; cleaning of bituminous pavements between courses if needed; preparation, finish work and restoration as needed to connect to existing pavements, ditches, driveways, etc.; adjustment of storm and utility structure castings to match finish grade; placement of shoulders and finish grading of ditches; pavement markings; topsoil placement; seed & mulch; site cleanup; restoration; and other work as shown on the project plans and specifications.
- Existing and proposed grades shown in the driveway profile view(s) are along the centerline of each driveway. Refer to the plan view and curve tables on the project plans for horizontal alignment and curve data. Proposed contours for ditches, curbs, driveway crown and pavement slope may not be shown in the plan view and/or grading plan.
- Contractor shall coordinate scheduling a Pre-Construction Meeting with Engineer prior to commencement of driveway and/or parking lot work.
- Contractor shall coordinate construction staking, testing, documentation submittal and observation with the appropriate Agency, Surveyor and/or Engineer as required for construction, certification and/or acceptance of the driveway(s) and/or parking lot(s). All materials used and work done shall meet or exceed the requirements and specifications noted on the project plans. Any materials used or work done that does not meet said requirements and/or specifications shall be replaced and/or redone at Contractor's expense. The Owner/Developer may wait for test results, certifications and/or Agency reviews prior to accepting work.
- Contractor shall take all appropriate job site safety precautions. Refer to the Traffic Control specifications of the appropriate Regulatory Agency for work within a public road right of way.
- Contractor shall take precautions to prevent contamination of driveway and/or parking lot materials during handling, installation and construction procedures. Contaminated materials shall be removed and replaced at Contractor's expense.
- Clear vision areas shall be created where required; refer to the Clear Vision Area detail on the project plans. Relocate existing signs/utilities as acceptable to the appropriate Agency. Owner/Developer shall coordinate installation of permanent street signage after completion of roadwork.
- When side slopes within utility easements exceed 1 on 10 (10%), Contractor shall rough grade a flat shelf within the easement area as acceptable to Engineer and restore following underground utility installation.

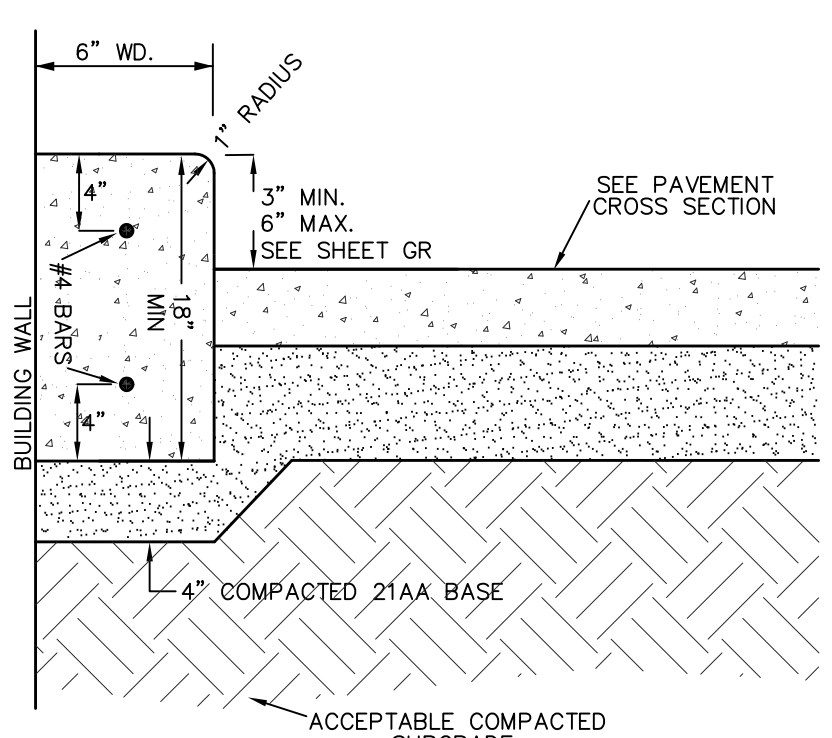


CONC. CURB DETAIL -MDOT TYPE F
NOT TO SCALE

CONC. CURB DETAIL -MDOT TYPE F REVERSE PITCH
NOT TO SCALE



CONC. CURB DETAIL -MDOT TYPE F
NOT TO SCALE



DRIVE-THRU CURB
NOT TO SCALE

PRIVATE DEVELOPMENT CURB NOTES:

- Refer to the project plans for the proposed locations of the specific curb types.
- The construction specifications of the appropriate Local Municipality are a part of this work. Refer to the Private Road Construction Notes and Driveway and Parking Lot Construction Notes and the General Notes on the project plans for additional requirements.
- Concrete material shall meet or exceed the specification requirements of the appropriate Local Municipality. Unless specified otherwise by the Local Municipality, concrete material shall be air-entrained and shall have a minimum 28-day class design strength of 3500 psi. Contractor shall submit concrete mix design and aggregate mechanical analysis report to the Local Municipality and Engineer for review and approval prior to use.
- Install transverse contraction control joints in accordance with the Local Municipality requirements. If not specified by the Local Municipality, then install transverse contraction control joints in curb with 1" minimum depth at 10' on center. Tool joints in fresh concrete or saw cut within 8 hours.
- Install transverse expansion control joints in accordance with the Local Municipality requirements. If not specified by the Local Municipality, then install transverse expansion control joints in curb as follows: 300' maximum on center, at spring points of intersecting streets and within 10' on each side of catch basins. Transverse expansion control joints shall be 1" thick asphalt fiber joint filler matching entire curb cross section.
- Provide 0.5" asphalt fiber control joint between back of curb and all other concrete structures, such as concrete sidewalks and concrete driveways.
- Curb Contractor shall provide final adjustment of catch basin castings in curb line. Castings shall be tack pointed to structure water tight with concrete or mortar inside and outside of casting.
- Install curb cuts for all existing and proposed sidewalks and pedestrian ramps in accordance with the American Disabilities Act and the Barrier Free Design requirements of the appropriate Local, County and/or State Agency. Install curb cuts for all existing and proposed vehicular ramps and drives as noted on the project plans.

- GENERAL NOTES:**
- Contractor shall perform the work in accordance with the requirements of the appropriate Local, County and State Agencies and all other Government and Regulatory Agencies with jurisdiction over the project. Contractor shall notify the appropriate Agencies in advance of each stage of work in accordance with each Agency's requirements.
 - Contractor shall comply with all permit, insurance, licensing and inspection requirements associated with the work. Prior to construction, Contractor and Owner/Developer shall determine who is responsible for obtaining each required permit. Contractor shall verify that the each required permit has been obtained prior to commencement of the stage of work associated with the required permit(s).
 - Contractor shall furnish liability insurance and property damage insurance to save harmless the Owner, Developer, Architect, Engineer, Surveyor and Government Agencies for any accident occurring during the construction period. Refer to the appropriate Local, County and State Agencies for additional requirements. Copies of insurance certifications shall be made available to the Owner/Developer.
 - Contractor shall conduct and perform work in a safe and competent manner. Contractor shall perform all necessary measures to provide for traffic and pedestrian safety from the start of work and through substantial completion. Contractor shall determine procedures and provide safety equipment such as traffic controls, warning devices, temporary pavement markings and signs as needed. Contractor shall comply with the safety standards of the State Department of Labor, the occupational health standards of the State Department of Health and safety regulations of the appropriate Local, County, State and Federal Agencies. Refer to the safety specifications of the appropriate Regulatory Agencies. The Contractor shall designate a qualified employee with complete job site authority over the work and safety precautions; said designated employee shall be on site at all times during the work.
 - Contractor shall coordinate scheduling of all work in the proper sequence, including work by Subcontractors. Additional costs due to improper planning by Contractor or work done out of sequence as determined by standard acceptable construction practices, shall be Contractor's responsibility.
 - Contractor shall contact the MISS DIG locating system, or other appropriate local underground utility locating Agency, a minimum of three (3) working days prior to construction. Existing utility information on the project plans may be from information disclosed to this firm by the Utility Companies, Local, County or State Agencies, and/or various other sources. No guarantee is given as to the completeness or accuracy thereof. Prior to construction, locations and depths of all existing utilities (in possible conflict with the proposed improvements) shall be verified in the field.
 - Contractor shall coordinate scheduling a Pre-Construction Meeting with Engineer prior to commencement of work.
 - The Local Municipality, County and/or State in which the project is located may require an Engineer's Certification of construction of the proposed site improvements. Contractor shall verify the certification requirements with Engineer prior to commencement of work. Contractor shall coordinate construction staking, testing, documentation submittal and observation with the appropriate Agency, Surveyor and/or Engineer as required for Engineer's Certification and Government Agency Acceptance. All materials used and work done shall meet or exceed the requirements of certification and acceptance, the contract documents and the material specifications noted on the project plans. Any materials used or work done that does not meet said requirements, contract documents and/or specifications shall be replaced and/or redone at Contractor's expense. The Owner/Developer may wait for test results, certifications and/or Agency reviews prior to accepting work.
 - Engineer may provide subsurface soil evaluation results, if available, to Contractor upon request. Subsurface soil evaluation results, soils maps and/or any other documentation does NOT guarantee existing soil conditions or that sufficient, acceptable on-site granular material is available for use as structural fill, pipe bedding, pipe backfill, road subbase or use as any other granular material specified on the project plans. On-site granular material that meets or exceeds the material specifications noted on the project plans may be used as structural fill, pipe bedding, pipe backfill and/or road subbase material. On-site granular material shall be stockpiled and tested as acceptable to the appropriate Agency and/or Engineer prior to use.
 - During the performance of their work, Contractor shall be solely responsible for determining soil conditions and appropriate construction methods based on the actual field conditions. Contractor shall furnish, install and maintain sheeting, shoring, bracing and/or other tools and equipment and/or construction techniques as needed for the safety and protection of the workers, pedestrians and vehicular traffic and for protection of adjacent structures and site improvements.
 - Contractor shall install temporary and permanent soil erosion and sedimentation control devices at the appropriate stages of construction in accordance with the appropriate regulatory Agencies. Refer to Soil Erosion and Sedimentation Control Plans and Notes on the project plans.
 - Structural fill shall be placed as specified on the project plans and within the 1 on 1 influence zone of all structures, paved areas and other areas subject to vehicular traffic. Structural fill shall be placed using the controlled density method (12" maximum lifts, compacted to 95% maximum unit weight, modified proctor). Fill material shall meet or exceed the specifications noted on the project plans or as directed by Engineer when not specified on the project plans.
 - All existing monuments, property corners, ground control and benchmarks shall be protected and preserved; and if disturbed by Contractor, shall be restored at Contractor's expense. Contractor shall notify Surveyor of any conflicts between existing monuments, property corners, ground control and/or benchmarks and the proposed site improvements.
 - Contractor shall notify Owner/Developer and Engineer immediately upon encountering any field conditions, which are inconsistent with the project plans and/or specifications.
 - When noted on the project plans for demolition and/or removal, Contractor shall remove existing structures, building and debris and recycle and/or dispose of in accordance with Local, County, State and Federal regulations.
 - Contractor shall remove excess construction materials and debris from site and perform restoration in accordance with the project plans and specifications. Disposing of excess materials and debris shall be performed in accordance with Local, County, State and Federal regulations.
 - Construction access to the site shall be located as acceptable to the Owner/Developer and to the appropriate Local, County and/or State Agency with jurisdiction over the road(s) providing access to the site. Construction access shall be maintained and cleaned in accordance with the appropriate Local, County and/or State Agencies and as directed by Owner/Developer and/or Engineer.
 - Contractor shall take necessary precautions to protect all site improvements from heavy equipment and construction procedures. Damage resulting from Contractor actions shall be repaired at Contractor's expense.

DESIGN: JMB	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: JMB						

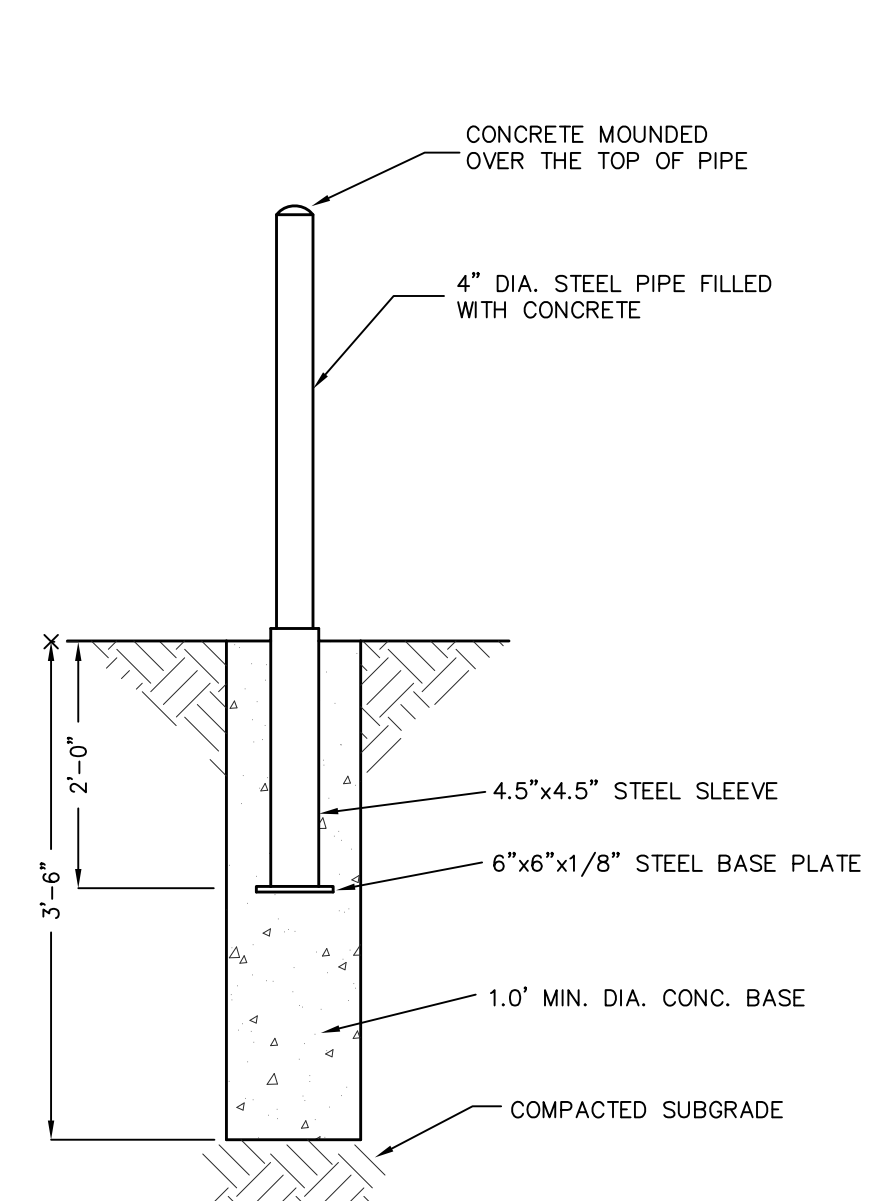
TACO BELL
31172 BECK RD. NOVI, MI
SECTION 4, T1N, R6E

PAVING NOTES AND DETAILS

CLIENT: SUNDANCE INC. 7915 KENSINGTON CT. BRIGHTON, MI. 48116 (248) 446-0100	SCALE: N/A PROJECT No.: 142495 DWG NAME: 2495-DT ISSUED: FEB. 20, 2015
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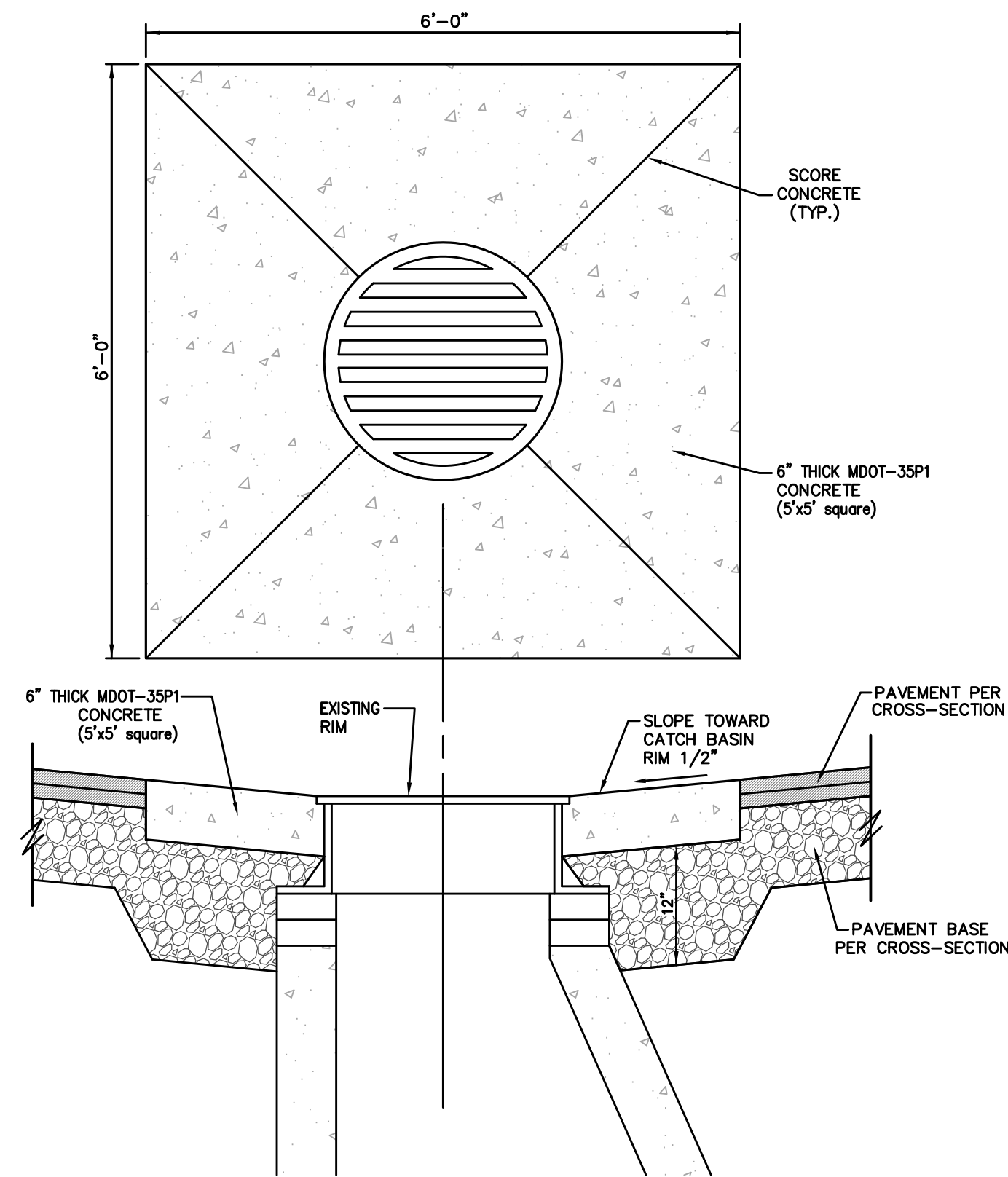
DT2



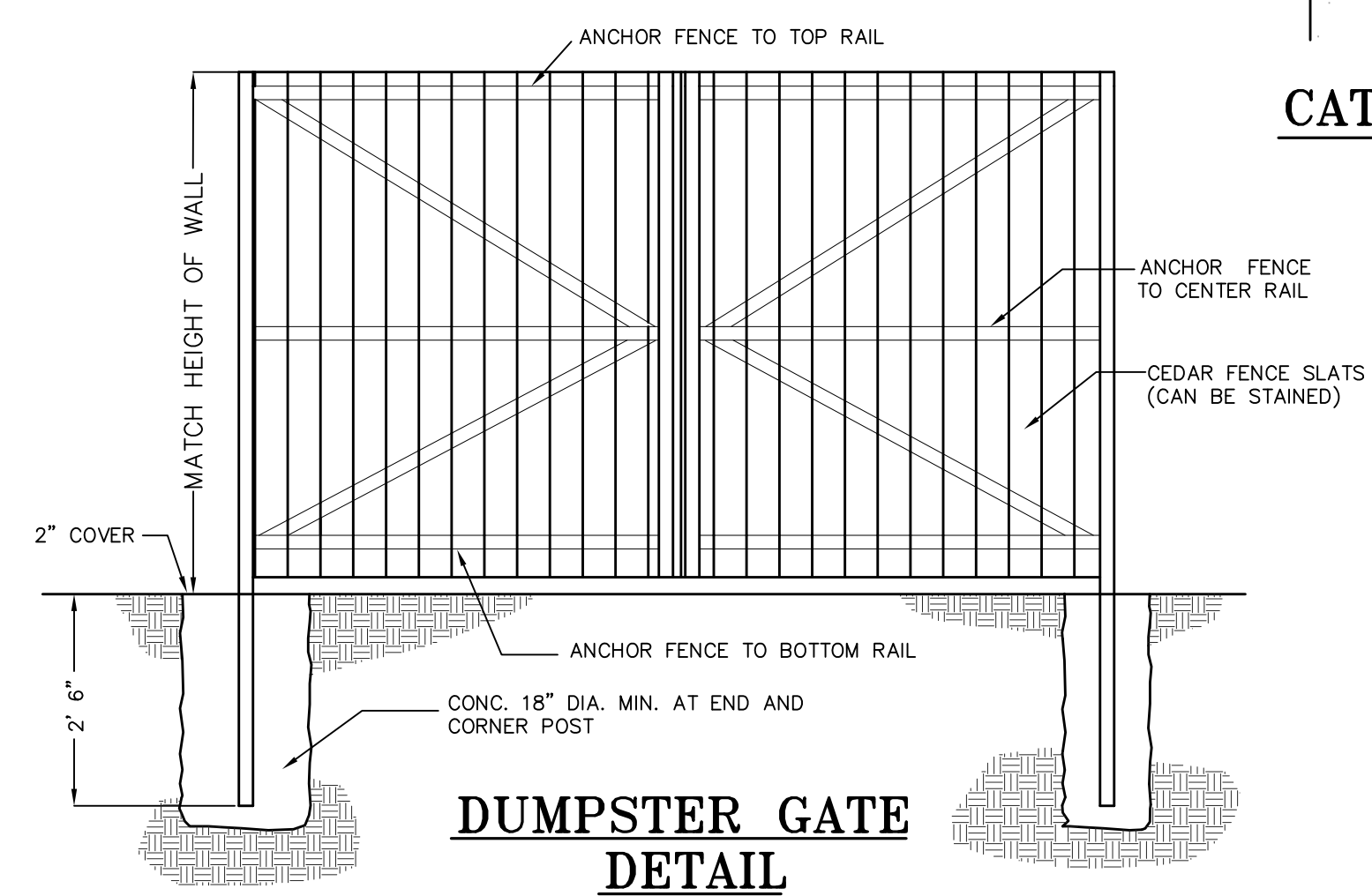


GUARD POST DETAIL
NOT TO SCALE

NOTE:
PAINT ALL EXTERIOR SURFACES
WITH ONE COAT METAL PRIMER
AND ONE COAT EXT. PAINT

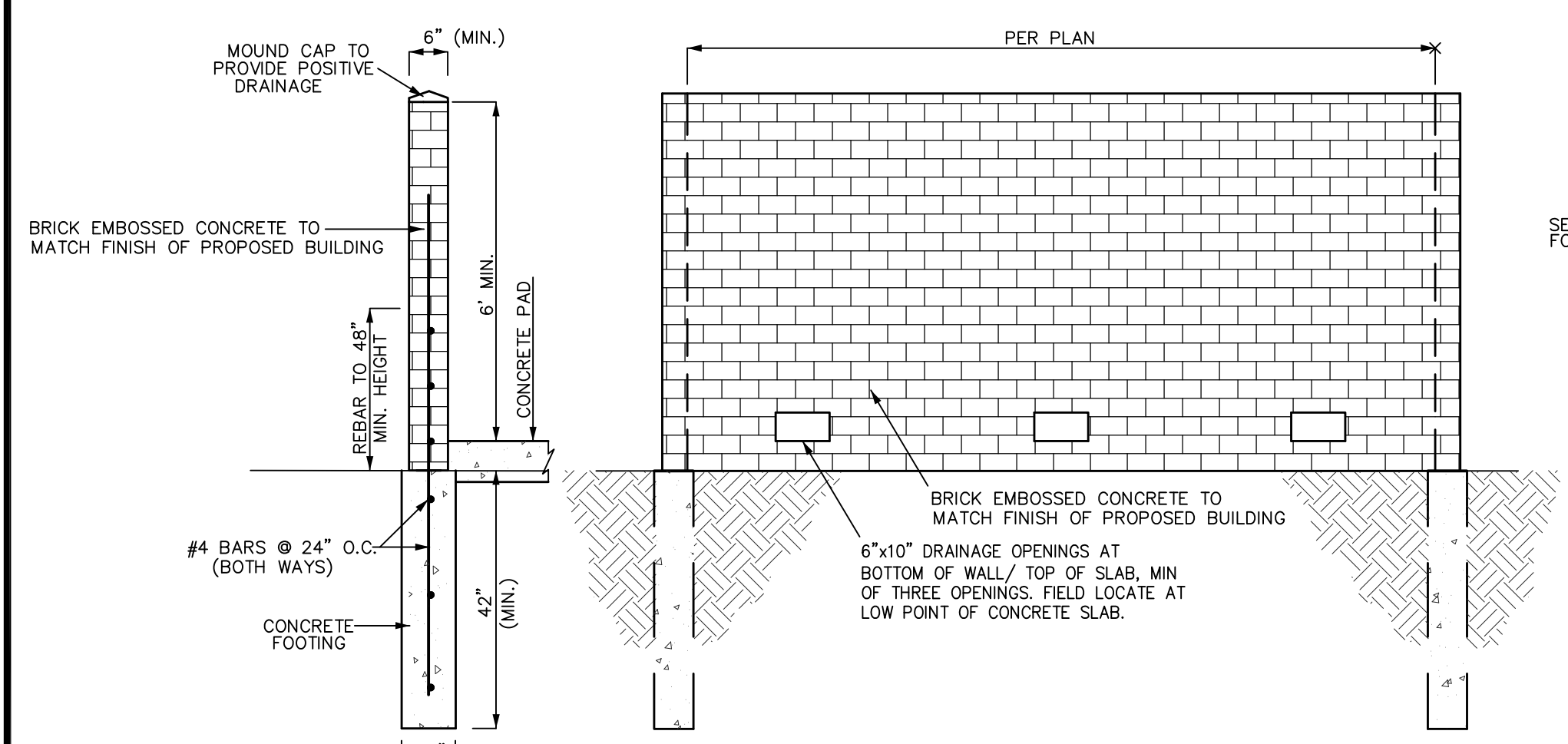


CATCH BASIN COLLAR
NO SCALE



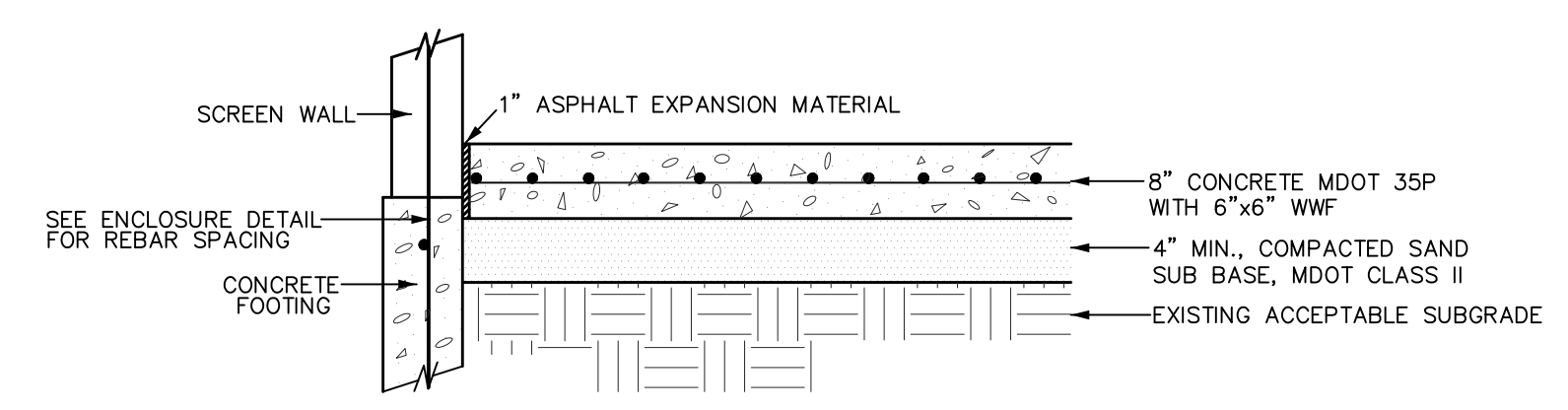
DUMPSTER GATE DETAIL
NOT TO SCALE

NOTE: ALL POLES, RAILS AND HARDWARE
SHALL BE PRIMED AND PAINTED STEEL.



DUMPSTER ENCLOSURE DETAIL
NOT TO SCALE

NOTES:
SPLIT FACED BLOCK OR BRICK MAY BE SUBSTITUTED FOR
THE BRICK EMBOSSED CONCRETE PER OWNERS DISCRETION.
WALL SHALL HAVE COLOR IMPREGNATED CONCRETE OR
STAIN TO MATCH PROPOSED BUILDING



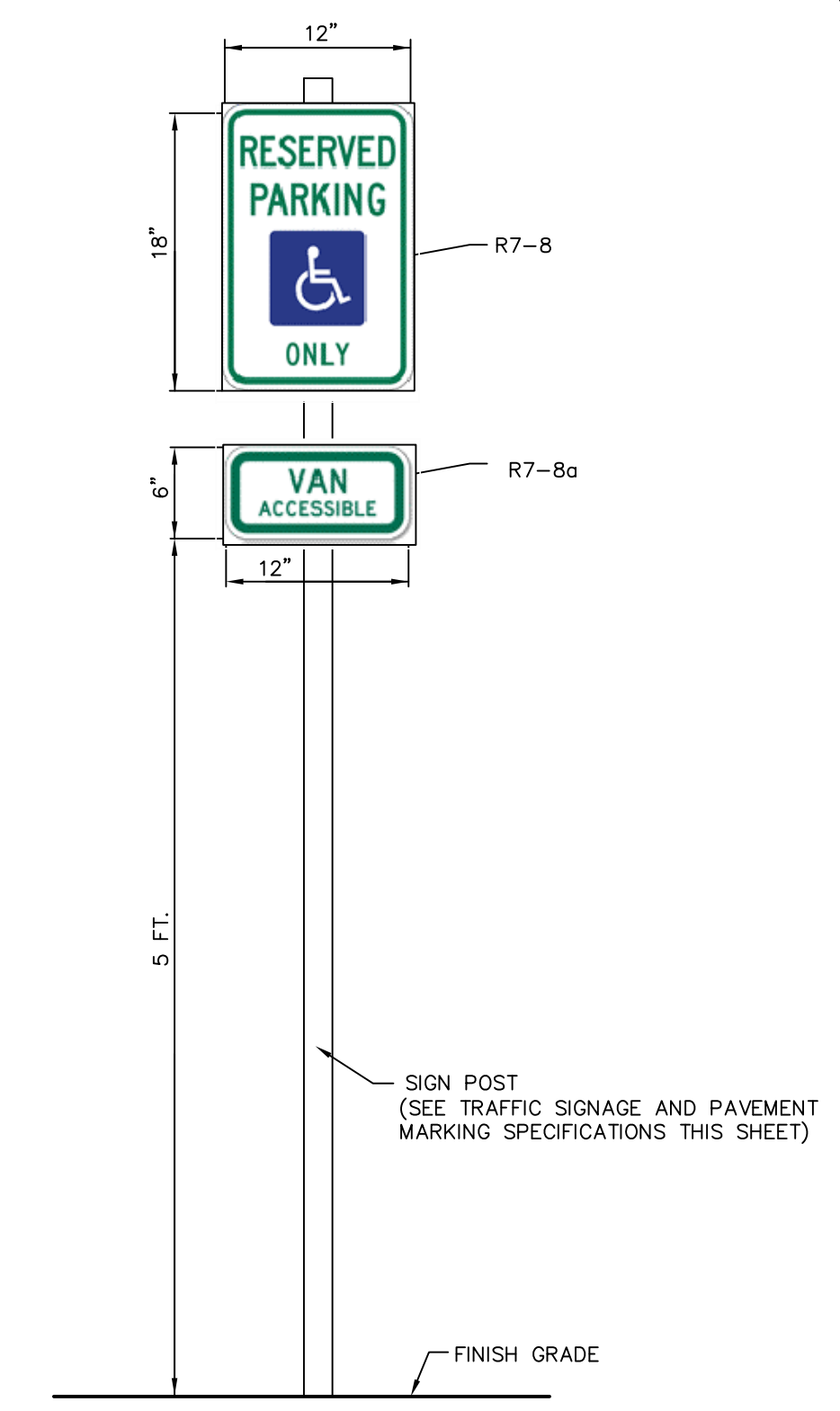
DUMPSTER PAD SLAB CROSS-SECTION
NOT TO SCALE

PAVEMENT NOTES:
1. UNSUITABLE SOILS, SUCH AS MUCK, PEAT, TOPSOIL, MARL, SILT OR OTHER UNSTABLE MATERIALS, SHALL BE UNDERCUT AND REPLACED WITH COMPACTED SAND SUBGRADE FILL. WHERE INCIDENTAL TO ROUGH GRADING.
2. AREAS OF SUBGRADE FILL SHALL BE CONSTRUCTED USING 12" THICK LIFTS OF COMPACTED SAND, MDOT CLASS III OR EQUIVALENT ON-SITE MATERIAL; WHEN INSIDE ROAD INFLUENCE ZONE.

SIGN SCHEDULE

SIGN	KEY	SIZE (W x H)	TYPE OR MOUNT	MOUNTING HEIGHT	QUANTITY
	R7-8	12" x 18"	POST MOUNTED	7'-6"	2
	R7-8a	12" x 6"	POST MOUNTED	7'-0"	1
	R1-1	30" x 30"	POST MOUNTED	7'-0"	1
	FIRE LANE	12" x 18"	POST MOUNTED	7'-0"	2
	R5-1	30" x 30"	POST MOUNTED	7'-0"	1

ALL TRAFFIC SIGNAGE WILL COMPLY WITH CURRENT MMUTCD STANDARDS.



BARRIER FREE PARKING SIGN DETAIL
NOT TO SCALE

SIGN POST (SEE TRAFFIC SIGNAGE AND PAVEMENT MARKING SPECIFICATIONS THIS SHEET)

DESIGN: JMB	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: JMB						

TACO BELL
31172 BECK RD. NOVI, MI
SECTION 4, T1N, R6E

**SITE FEATURE
NOTES AND
DETAILS**

CLIENT:
SUNDANCE INC.

7915 KENSINGTON CT.
BRIGHTON, MI 48116
(248) 446-0100

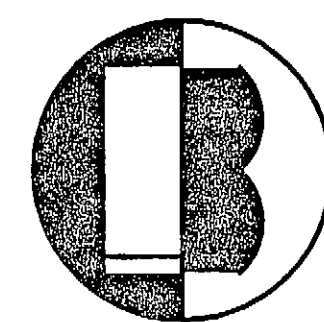
SCALE: N/A
PROJECT No.: 142495
DWG NAME: 2495-DT
ISSUED: FEB. 20, 2015



DT3

CIVIL ENGINEERING DRAWINGS FOR
 "SHOPPES AT THE TRAIL"

PART OF THE N.W. 1/4 SECTION 4, T1N., R.8E.,
 CITY OF NOVI
 OAKLAND COUNTY, MICHIGAN



PROJECT ENGINEER
BOULDER DESIGN SERVICES, L.L.C.

30078 SCHOENHERR
 WARREN, MICH. 48088
 (586) 563-1500

AS BUILTS PREPARED BY:

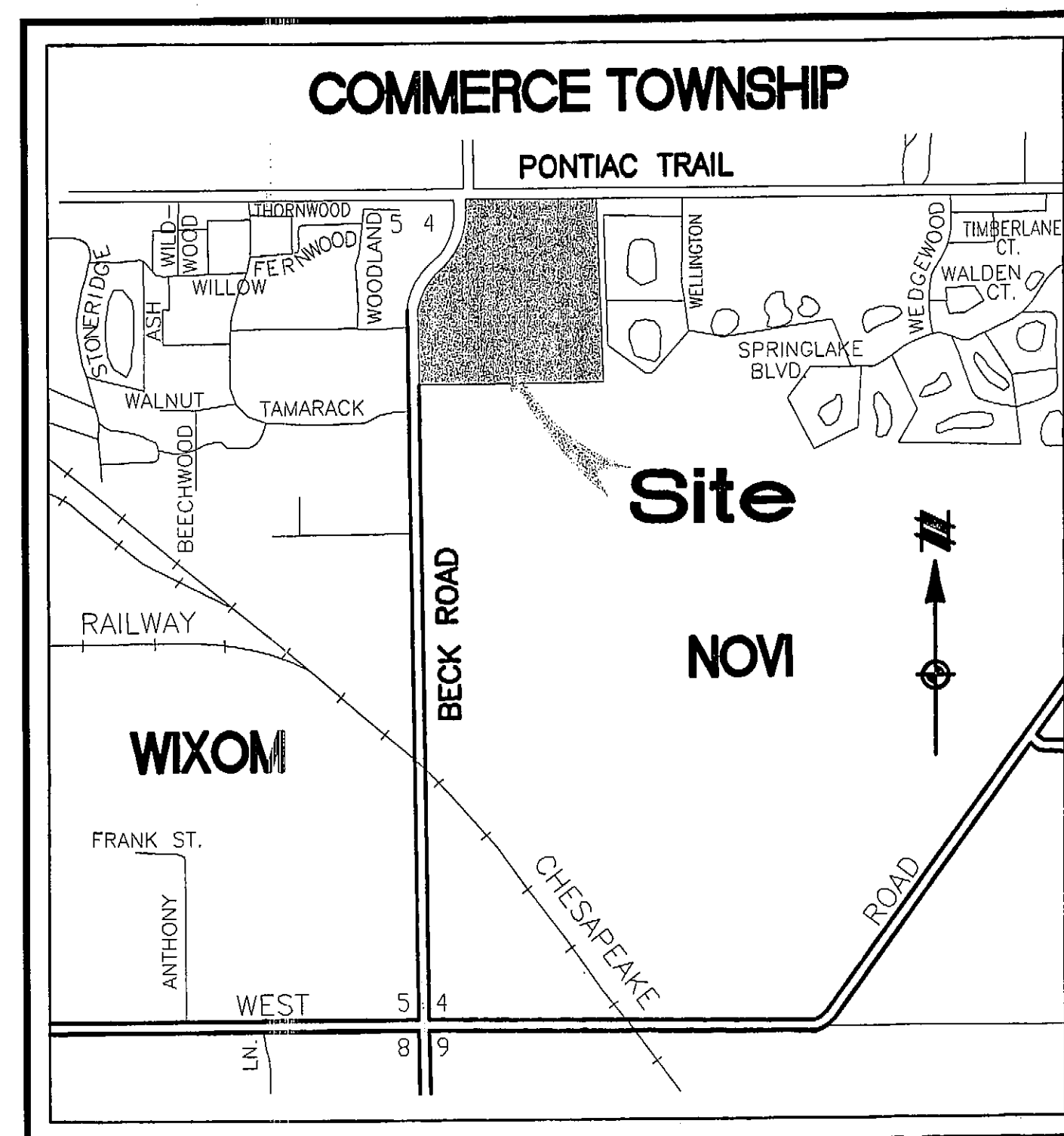
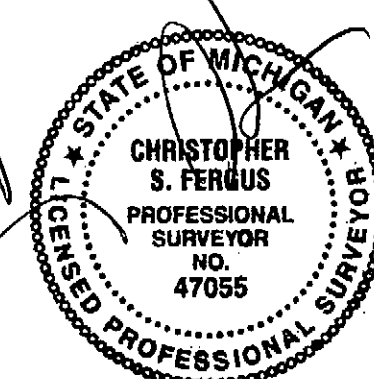
BOSS ENGINEERING
 ENGINEERS • SURVEYORS • PLANNERS
 LANDSCAPE ARCHITECTS
 (E-MAIL: be@bosseng.com)

LIVINGSTON COUNTY: 3121 E. GRAND RIVER AVE. HOWELL, MI. 48843 (800) 246-6735; FAX (517) 548-1670
 OAKLAND COUNTY: 24435 HALSTED ROAD FARMINGTON HILLS, MI. 48335 (800) 763-0390; FAX (248) 626-9480

RECORD DRAWING
 02-26-06

NOTES:

1. ITALIC TEXT INDICATES AS-BUILT INFORMATION (IE: 909.00 *902.00*)
2. **AB** DENOTES AS-BUILT MEASUREMENT.
3. **RD** DENOTES RECORDED MEASUREMENT. (ALNM, Inc. Inspection Reports)



LOCATION MAP NO SCALE

INDEX OF SHEETS:

- C-1 COVER SHEET
- C-2 SITE DIMENSION PLAN
- C-3 GRADING AND PAVING PLAN
- C-4 PONTIAC TRAIL IMPROVEMENT PLAN
- C-5 BECK ROAD IMPROVEMENT PLAN
- C-6 UTILITY PLAN
- C-7 DRAINAGE AREAS MAP AND S.E.S.C. PLAN
- C-8 STORM WATER MANAGEMENT PLAN
- C-9 STORM AND SANITARY SEWER PROFILES
- C-10 STORM SEWER PROFILES
- C-11 WATER MAIN PROFILES
- C-12 STORM WATER MANAGEMENT NOTES AND DETAILS
- C-13 NOTES AND DETAILS
- C-14 TRAFFIC SIGNS
- C-15 TOPOGRAPHIC AND TREE SURVEY
- C-16 WETLAND PLAN
- ~~C-17 CITY OF NOVI WATER MAIN DETAILS & NOTES~~
- ~~C-18 CITY OF NOVI WATER MAIN DETAILS & NOTES~~
- ~~C-19 CITY OF NOVI STORM SEWER DETAILS & NOTES~~
- ~~C-20 O.C.D.C. STORM DRAIN NOTES & DETAILS~~
- ~~C-21 CITY OF NOVI SANITARY SEWER DETAILS & NOTES~~
- ~~C-22 CITY OF NOVI SANITARY SEWER DETAILS & NOTES~~
- ~~C-23 O.C.D.P.W. SANITARY SEWER DETAILS & NOTES~~

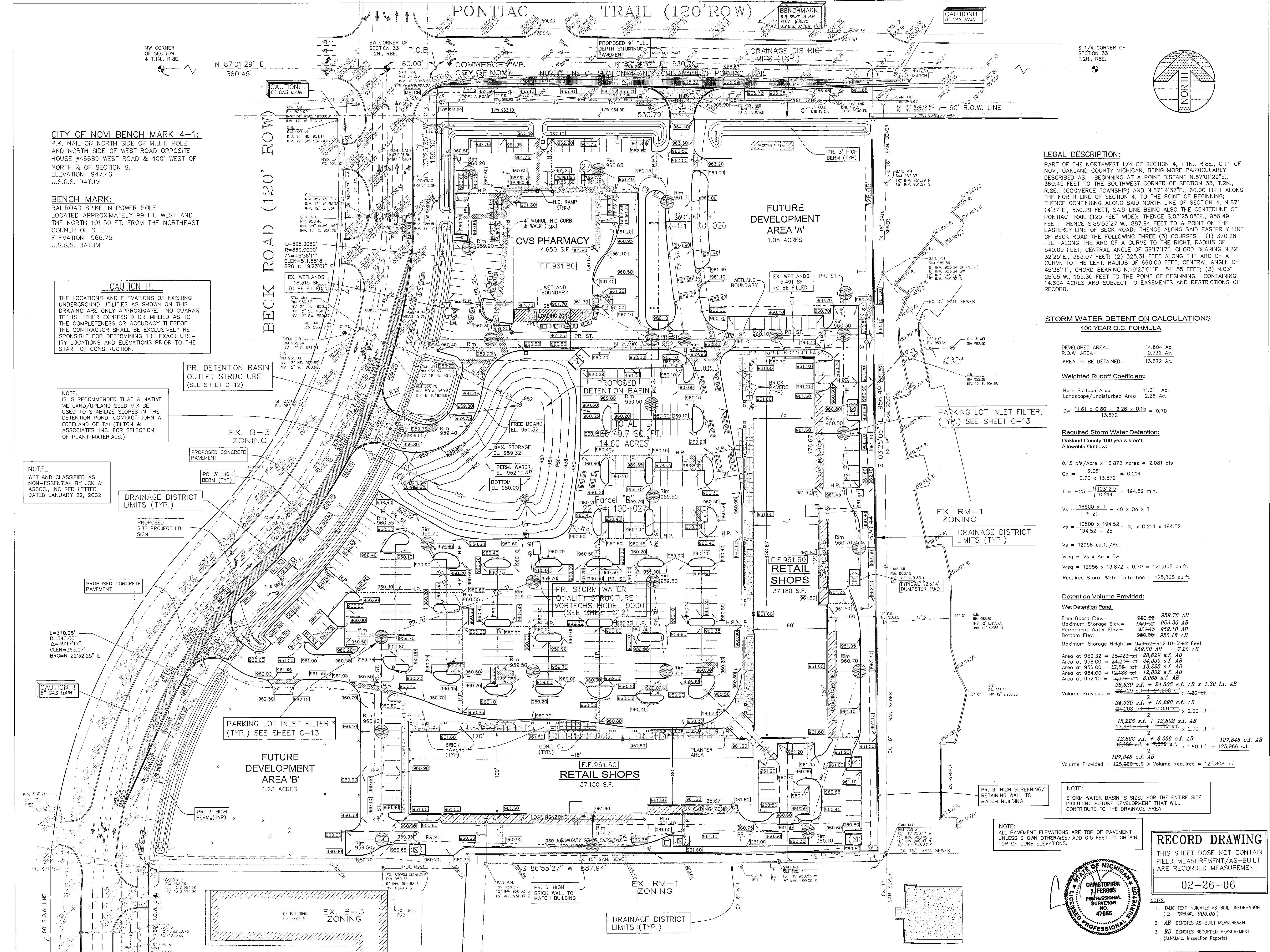
DEVELOPER
SKY DEVELOPMENT L.L.C.

3800 WOODWARD AVENUE, SUITE 206
 DETROIT, MICHIGAN 48201

Ph. (313) 831-2220
 Fax (313) 831-0819

ENGINEERING PLANS

By: MORRIS LEVINE MI.62010-11076



CITY OF NOVI BENCH MARK 4-1:
 P.K. NAIL ON NORTH SIDE OF M.B.T. POLE AND NORTH SIDE OF WEST ROAD OPPOSITE HOUSE #46689 WEST ROAD & 400' WEST OF NORTH 1/4 OF SECTION 9.
 ELEVATION: 947.46
 U.S.G.S. DATUM

BENCH MARK:
 RAILROAD SPIKE IN POWER POLE LOCATED APPROXIMATELY 99 FT. WEST AND NORTH 101.50 FT. FROM THE NORTHEAST CORNER OF SITE.
 ELEVATION: 966.75
 U.S.G.S. DATUM

CAUTION!!!
 THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

NOTE:
 IT IS RECOMMENDED THAT A NATIVE WETLAND/UPLAND SEED MIX BE USED TO STABILIZE SLOPES IN THE DETENTION POND. CONTACT JOHN A. FREELAND OF TAI (TILTON & ASSOCIATES, INC. FOR SELECTION OF PLANT MATERIALS.)

NOTE:
 WETLAND CLASSIFIED AS NON-ESSENTIAL BY JCK & ASSOC., INC PER LETTER DATED JANUARY 22, 2002.

LEGAL DESCRIPTION:
 PART OF THE NORTHWEST 1/4 OF SECTION 4, T.1N., R.8E., CITY OF NOVI, OAKLAND COUNTY MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS: BEGINNING AT A POINT DISTANT N.87°01'29"E., 360.45 FEET TO THE SOUTHWEST CORNER OF SECTION 33, T.2N., R.8E., (COMMERCE TOWNSHIP) AND N.87°14'37"E., 60.00 FEET ALONG THE NORTH LINE OF SECTION 4, N.87°14'37"E., 530.79 FEET, SAID LINE BEING ALSO THE CENTERLINE OF PONTIAC TRAIL (120 FEET WIDE); THENCE S.03°25'05"E., 956.49 FEET; THENCE S.66°55'27"W., 867.94 FEET TO A POINT ON THE EASTERLY LINE OF BECK ROAD; THENCE ALONG SAID EASTERLY LINE OF BECK ROAD THE FOLLOWING THREE (3) COURSES: (1) 370.28 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, RADIUS OF 540.00 FEET, CENTRAL ANGLE OF 39°17'17", CHORD BEARING N.22°32'25"E., 363.07 FEET; (2) 525.31 FEET ALONG THE ARC OF A CURVE TO THE LEFT, RADIUS OF 660.00 FEET, CENTRAL ANGLE OF 45°31'11", CHORD BEARING N.19°23'01"E., 511.55 FEET; (3) N.03°25'05"W., 159.30 FEET TO THE POINT OF BEGINNING. CONTAINING 14.60 ACRES AND SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

STORM WATER DETENTION CALCULATIONS
 100 YEAR O.C. FORMULA

DEVELOPED AREA= 14.804 Ac.
 R.O.W. AREA= 0.732 Ac.
 AREA TO BE DETAINED= 13.872 Ac.

Weighted Runoff Coefficient:

Hard Surface Area 11.61 Ac.
 Landscape/Undisturbed Area 2.26 Ac.

$C_w = \frac{11.61 \times 0.80 + 2.26 \times 0.15}{13.872} = 0.70$

Required Storm Water Detention:
 Oakland County 100 years storm
 Allowable Outflow:

$0.15 \text{ cfs/Acre} \times 13.872 \text{ Acres} = 2.081 \text{ cfs}$
 $Q = \frac{2.081}{0.70 \times 13.872}$
 $T = -25 + \frac{10312.5}{0.214} = 194.52 \text{ min.}$

$V_s = \frac{16500 \times T}{T + 25} = 40 \times 0.214 \times T$
 $V_s = \frac{16500 \times 194.52}{194.52 + 25} = 12956 \text{ cu.ft.}$

$V_s = 12956 \text{ cu.ft./Ac.}$
 $V_{req} = V_s \times A_c \times C_w$
 $V_{req} = 12956 \times 13.872 \times 0.70 = 125,808 \text{ cu.ft.}$
 Required Storm Water Detention = 125,808 cu.ft.

Detention Volume Provided:

Wet Detention Pond:

Free Board Elev. = 960.00
 Maximum Storage Elev. = 959.32
 Permanent Water Elev. = 958.10
 Bottom Elev. = 948.00

Maximum Storage Height = 959.32 - 952.10 = 7.22 Feet
 959.30 AB 7.20 AB

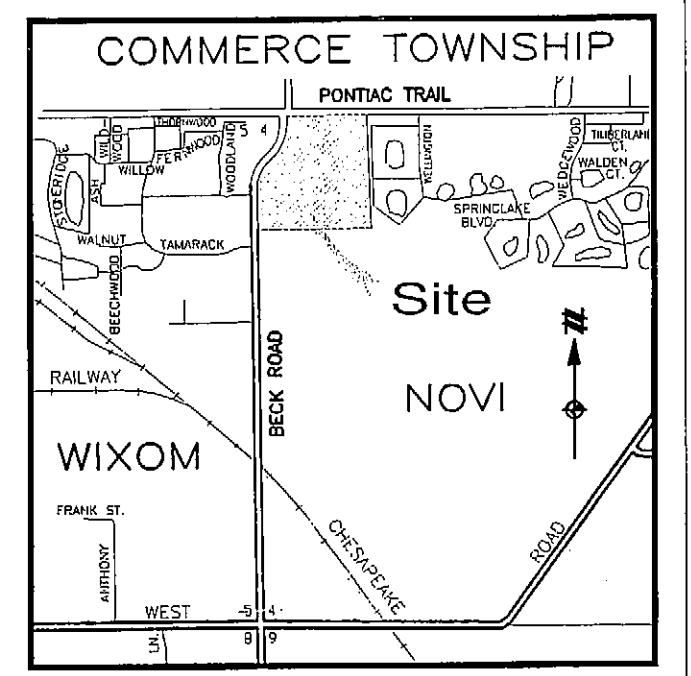
Area at 959.32 = 28,729 s.f. 28,029 s.f. AB
 Area at 958.00 = 24,208 s.f. 24,335 s.f. AB
 Area at 956.00 = 13,881 s.f. 10,228 s.f. AB
 Area at 954.00 = 12,186 s.f. 12,802 s.f. AB
 Area at 952.10 = 2,679 s.f. 0,068 s.f. AB

Volume Provided = $\frac{28,729 - 24,208}{2} + \frac{24,208 - 13,881}{2} \times 2.00 \text{ f.f.} + \frac{13,881 - 12,186}{2} + \frac{12,186 - 2,679}{2} \times 2.00 \text{ f.f.} + \frac{2,679 - 0,068}{2} \times 1.90 \text{ f.f.} = 125,966 \text{ c.f.}$

Volume Provided = 125,966 c.f. > Volume Required = 125,808 c.f.

DATE	DESCRIPTION
05-19-03	REVISED
10-22-03	FINAL SUBMITTAL
05-14-04	STAMPING SET
08-24-04	SET-CVS INCLUDED
10-04-04	FINAL SUBMITTAL-CVS INCLUDED
01-05-05	STAMPING SET-CVS INCLUDED
01-18-06	RECORD DRAWING (BOSS ENGINEERING)
03-28-07	STANTEC REVIEW (BOSS ENGINEERING)

DRAWN BY: S.M.L./M.P.S.
 CHECKED BY: M.L.
 DATE ISSUED: 4-07-03



SITE LOCATION MAP
 Scale: 1"=2000'

LEGEND

- EX. STORM SEWER
- EX. SANITARY SEWER
- EX. WATER MAIN
- OVERHEAD LINES
- GAS LINE
- FENCE
- GUARD RAIL
- MAIL BOX
- UNIDENTIFIED STRUCTURE
- LIGHT POLE
- TELEPHONE RISER
- STREET SIGN
- WATER SHUT OFF VALVE
- EXISTING CONTOUR
- EXISTING GROUND SHOT
- PR. WATER MAIN
- PR. SANITARY SEWER
- PR. STORM SEWER
- PR. GROUND ELEV. 960.00
- HEAVY DUTY ASPHALT

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE)

DATE	DESCRIPTION
05-19-03	REVISED
10-22-03	FINAL SUBMITTAL
05-14-04	STAMPING SET
08-24-04	SET-CVS INCLUDED
10-04-04	FINAL SUBMITTAL-CVS INCLUDED
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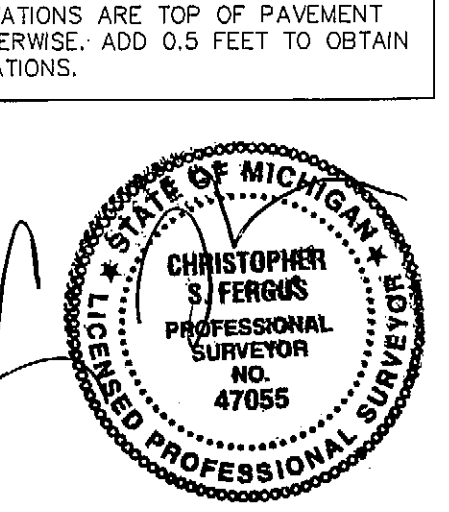
DRAWN BY: S.M.L./M.P.S.
 CHECKED BY: M.L.
 DATE ISSUED: 4-07-03

DEVELOPER
 SKY DEVELOPMENT L.L.C.
 3800 WOODWARD AVENUE, SUITE 206
 DETROIT, MICHIGAN 48201
 Ph. (313) 831-2220
 Fax (313) 831-0819

PROJECT ENGINEER
 BOULDER DESIGN SERVICES LLC
 30078 SCHOENHERR, STE. 300
 WARREN, MI 48088
 Ph. (586) 563-1500
 Fax (586) 563-1595
 e-mail bouldercon.com

PROJECT
 SHOPPES AT THE TRAIL
 Beck Rd. & Pontiac Rd
 Section 4, City of Novi

PROJECT NO. 03-302 SCALE: 1" = 50'
 STORM WATER MANAGEMENT PLAN SHEET C-8

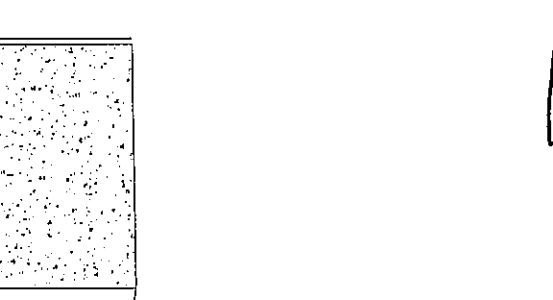


RECORD DRAWING
 THIS SHEET DOES NOT CONTAIN FIELD MEASUREMENT/AS-BUILT ARE RECORD MEASUREMENT
 02-26-06

NOTE:
 ALL PAVEMENT ELEVATIONS ARE TOP OF PAVEMENT UNLESS SHOWN OTHERWISE. ADD 0.5 FEET TO OBTAIN TOP OF CURB ELEVATIONS.

NOTE:
 STORM WATER BASIN IS SIZED FOR THE ENTIRE SITE INCLUDING FUTURE DEVELOPMENT THAT WILL CONTRIBUTE TO THE DRAINAGE AREA.

NOTE:
 PR. 6" HIGH SCREENING/RETAINING WALL TO MATCH BUILDING



BENCH MARK:
RAILROAD SPIKE IN POWER POLE
LOCATED APPROXIMATELY 99 FT.
WEST AND THE NORTH 101.50
FT. FROM THE NORTHEAST
CORNER OF SITE.
ELEVATION: 966.75
U.S.G.S. DATUM

CITY OF NOVI BENCH MARK 4-1:
P.K. NAIL ON NORTH SIDE OF M.B.T. POLE AND
NORTH SIDE OF WEST ROAD OPPOSITE HOUSE
#46689 WEST ROAD & 400' WEST OF NORTH 1/4
OF SECTION 9.
ELEVATION: 947.46
U.S.G.S. DATUM

LEGAL DESCRIPTION:
Part of the Northwest 1/4 of Section 4, T.1N., R.8E., City of Novi, Oakland County Michigan, being
more particularly described as: Beginning at a point distant N.87°01'29"E., 360.45 feet to the
Southwest corner of Section 33, T.2N., R.8E., (Commerce Township) and N.87°14'37"E., 60.00 feet
along the North line of Section 4, to the Point of Beginning; thence continuing along said North
line of Section 4, N.87°14'37"E., 530.79 feet, said line being also the centerline of Pontiac Trail
(120 feet wide); thence S.03°25'05"E., 956.49 feet; thence S.86°55'27"W., 887.94 feet to a point
on the Easterly line of Beck Road; thence along said Easterly line of Beck Road the following
three (3) courses: (1) 370.28 feet along the arc of a curve to the right, radius of 540.00 feet,
central angle of 39°17'17", chord bearing N.22°32'25"E., 363.07 feet; (2) 525.31 feet along the arc
of a curve to the left, radius of 660.00 feet, central angle of 45°36'11", chord bearing
N.19°23'01"E., 511.55 feet; (3) N.03°25'05"W., 159.30 feet to the point of beginning. Containing
14.60 acres and subject to easements and restrictions of record.

TOPO. NOTES:

- THIS SURVEY WILL NOT SHOW ALL EASEMENTS OF RECORD UNTIL AN UPDATED TITLE POLICY HAS BEEN FURNISHED TO THE SURVEYOR BY THE OWNER.
- ALL ELEVATIONS ARE EXISTING ELEVATIONS
- FEMA MAP HAS BEEN ORDERED BUT NOT RECEIVED BY THE DATE UNTIL IT IS RECEIVED WE CANNOT LABEL FLOOD PLAINS (IF ANY)
- THE LOCATION OF THE EXISTING UTILITIES AS SHOWN WERE OBTAINED FROM MUNICIPAL AND UTILITY COMPANIES RECORDS. NO GUARANTEE CAN BE MADE REGARDING THE COMPLETENESS OR EXACTNESS OF THE UTILITIES LOCATION. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY IN THE FIELD THE LOCATION OF ALL UTILITIES. ANY POTENTIAL CONFLICT SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT MISS DIG 3 WORKING DAYS PRIOR TO CONSTRUCTION.
- NO WATER MAIN IN IMMEDIATE AREA

BECK ROAD (120' ROW)

EX. B-3 ZONING

EX. RM-1 ZONING

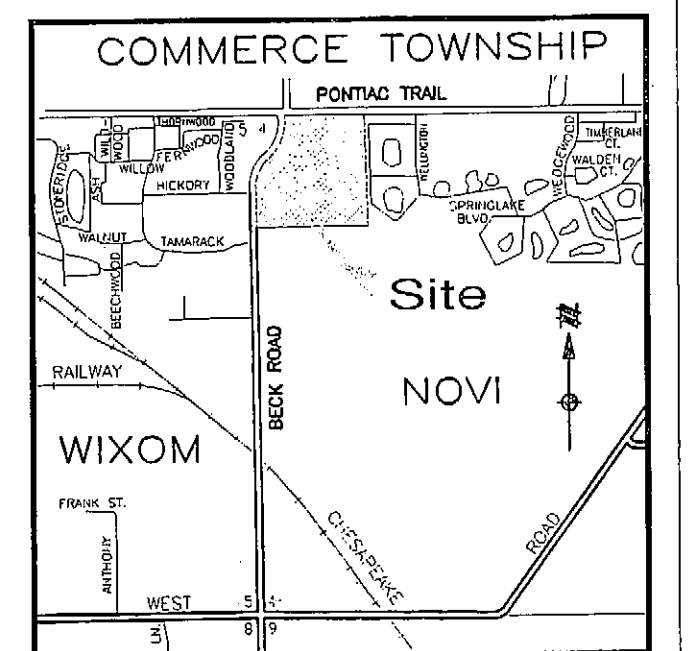
TOTAL
636149.7 SQ. FT.
14.60 ACRES

Parcel "A"
22-04-100-026

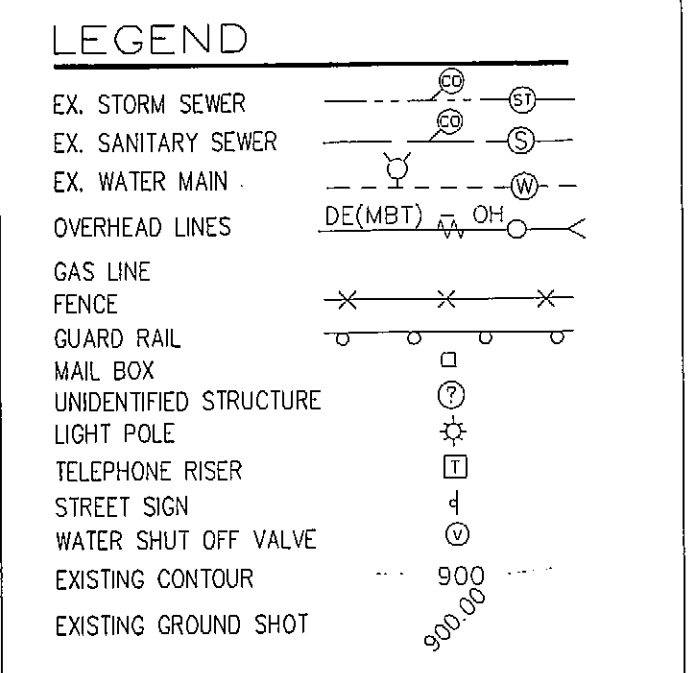
Parcel "B"
22-04-100-027

Tree Lists

Tag	Size	Common Name	Botanical Name	(Dead)
1785	8"	Ash	Fraxinus Pennsylvanica	
1786	8"	Cherry	Prunus Virginiana	
1787	8"	Cherry	Prunus Virginiana	
1788	10"	Cherry	Prunus Virginiana	
1789	8"	Walnut	Juglans Nigra	
1790	8"	Locust	Robinia Pseudoacacia	
1791	8"	Cherry	Prunus Virginiana	
1792	10"	Elm	Ulmus Americana	
1793	8"	Cherry	Prunus Virginiana	
1794	8"	Elm	Ulmus Americana	
1795	8"	Elm	Ulmus Americana	
1796	8"	Elm	Ulmus Americana	
1797	8"	Maple	Acer Pennsylvanicum	
1798	8"	Poplar	Populus balsamifera	
1799	10"	Maple	Acer Pennsylvanicum	
1800	8"	Maple	Acer Pennsylvanicum	
1801	10"	Maple	Acer Pennsylvanicum	
1802	6"	Elm	Ulmus Americana	
1803	10"	Ash	Fraxinus Pennsylvanica	
1804	14"	Ash	Fraxinus Pennsylvanica	
1805	6"	Locust	Robinia Pseudoacacia	
1806	6"	Locust	Robinia Pseudoacacia	
1807	7"	Locust	Robinia Pseudoacacia	
1808	14"	Box Elder	Acer Negundo	
1809	6"	Locust	Robinia Pseudoacacia	
1810	6"	Locust	Robinia Pseudoacacia	
1811	6"	Locust	Robinia Pseudoacacia	
1812	6"	Locust	Robinia Pseudoacacia	
1813	6"	Locust	Robinia Pseudoacacia	
1814	12"	Locust	Robinia Pseudoacacia	
1815	8"	Locust	Robinia Pseudoacacia	
1816	6"	Locust	Robinia Pseudoacacia	
1817	6"	Locust	Robinia Pseudoacacia	
1818	10"	Locust	Robinia Pseudoacacia	
1819	8"	Apple	Malus Sylvestris	
1820	30"	Apple	Malus Sylvestris	
1821	14"	Elm	Ulmus Americana	
1822	8"	Locust	Robinia Pseudoacacia	
1823	8"	Locust	Robinia Pseudoacacia	
1824	12"	Locust	Robinia Pseudoacacia	
1825	8"	Locust	Robinia Pseudoacacia	
1826	8"	Locust	Robinia Pseudoacacia	
1827	8"	Locust	Robinia Pseudoacacia	
1828	20"	Box Elder	Acer Negundo	
1829	2-12"	Cottonwood	Populus deltoides Bartram	
1830	12"	Cottonwood	Populus deltoides Bartram	
1831	12"	Ash	Fraxinus Pennsylvanica	
1832	18"	Ash	Fraxinus Pennsylvanica	
1833	20"	Box Elder	Acer Negundo	
1834	10"	Ash	Fraxinus Pennsylvanica	
1835	12"	Ash	Fraxinus Pennsylvanica	
1836	24"	Cottonwood	Populus deltoides Bartram	
1837	18"	Cottonwood	Populus deltoides Bartram	
1838	10"	Oak	Quercus borealis Michaux	
1839	3-12"	Maple	Acer Pennsylvanicum	
1840	2-12"	Cottonwood	Populus deltoides Bartram	
1841	12"	Ash	Fraxinus Pennsylvanica	
1842	12"	Ash	Fraxinus Pennsylvanica	
1843	2-10"	Maple	Acer Pennsylvanicum	
1844	2-10"	Maple	Acer Pennsylvanicum	
1845	18"	Walnut	Juglans Nigra	
1846	12"	Walnut	Juglans Nigra	
1847	10"	Walnut	Juglans Nigra	
1848	18"	Walnut	Juglans Nigra	
1849	2-12"	Walnut	Juglans Nigra	
1850	18"	Cherry	Prunus Virginiana	
1851	10"	Locust	Robinia Pseudoacacia	
1852	10"	Cherry	Prunus Virginiana	
1853	14"	Cherry	Prunus Virginiana	
1854	18"	Oak	Quercus macrocarpa Michaux	
1855	18"	Cherry	Prunus Virginiana	
1856	24"	Elm	Ulmus Americana	
1857	30"	Maple	Acer Pennsylvanicum	
1858	18"	Cherry	Prunus Virginiana	
1859	18"	Oak	Quercus macrocarpa Michaux	
1860	2-12"	Cottonwood	Populus deltoides Bartram	
1861	14"	Cottonwood	Populus deltoides Bartram	
1862	14"	Cottonwood	Populus deltoides Bartram	
1863	10"	Oak	Quercus macrocarpa Michaux	
1864	8"	Oak	Quercus macrocarpa Michaux	
1865	12"	Oak	Quercus macrocarpa Michaux	
1866	8"	Oak	Quercus macrocarpa Michaux	
1867	8"	Oak	Quercus macrocarpa Michaux	
1868	3-12"	Cherry	Prunus Virginiana	
1869	14"	Ash	Fraxinus Pennsylvanica	
1870	10"	Cherry	Prunus Virginiana	
1871	10"	Cherry	Prunus Virginiana	
1872	8"	Cherry	Prunus Virginiana	
1873	8"	Cherry	Prunus Virginiana	
1874	12"	Elm	Ulmus Americana	
1875	12"	Elm	Ulmus Americana	
1876	10"	Cottonwood	Populus deltoides Bartram	
1877	8"	Ash	Fraxinus Pennsylvanica	
1878	10-12"	Maple	Acer Pennsylvanicum	
1879	10"	Ulmus Americana	Ulmus Americana	
1880	10"	Oak	Quercus macrocarpa Michaux	
1881	14"	Elm	Ulmus Americana	
1882	10"	Elm	Ulmus Americana	
1883	10"	Elm	Ulmus Americana	
1884	12"	Cherry	Prunus Virginiana	
1885	12"	Cherry	Prunus Virginiana	
1886	10"	Elm	Ulmus Americana	
1887	8"	Apple	Malus Sylvestris	
1888	12"	Elm	Ulmus Americana	
1889	30"	Cherry	Prunus Virginiana	
1890	12"	Elm	Ulmus Americana	
1891	8"	Ash	Fraxinus Pennsylvanica	
1892	10"	Ash	Fraxinus Pennsylvanica	
1893	10"	Ash	Fraxinus Pennsylvanica	
1894	10"	Elm	Ulmus Americana	
1895	10"	Elm	Ulmus Americana	
1896	12"	Apple	Malus Sylvestris	
1897	12"	Elm	Ulmus Americana	
1898	20"	Cherry	Prunus Virginiana	
1899	10"	Cherry	Prunus Virginiana	
1900	12"	Elm	Ulmus Americana	
1901	12"	Elm	Ulmus Americana	
1902	12"	Elm	Ulmus Americana	
1903	12"	Elm	Ulmus Americana	
1904	12"	Elm	Ulmus Americana	
1905	12"	Elm	Ulmus Americana	
1906	12"	Elm	Ulmus Americana	
1907	12"	Elm	Ulmus Americana	
1908	12"	Elm	Ulmus Americana	
1909	12"	Elm	Ulmus Americana	
1910	12"	Elm	Ulmus Americana	
1911	12"	Elm	Ulmus Americana	
1912	12"	Elm	Ulmus Americana	
1913	12"	Elm	Ulmus Americana	
1914	12"	Elm	Ulmus Americana	
1915	12"	Elm	Ulmus Americana	
1916	12"	Elm	Ulmus Americana	
1917	12"	Elm	Ulmus Americana	
1918	12"	Elm	Ulmus Americana	
1919	12"	Elm	Ulmus Americana	
1920	12"	Elm	Ulmus Americana	
1921	12"	Elm	Ulmus Americana	
1922	12"	Elm	Ulmus Americana	
1923	12"	Elm	Ulmus Americana	
1924	12"	Elm	Ulmus Americana	
1925	12"	Elm	Ulmus Americana	
1926	12"	Elm	Ulmus Americana	
1927	12"	Elm	Ulmus Americana	
1928	12"	Elm	Ulmus Americana	
1929	12"	Elm	Ulmus Americana	
1930	12"	Elm	Ulmus Americana	
1931	12"	Elm	Ulmus Americana	
1932	12"	Elm	Ulmus Americana	
1933	12"	Elm	Ulmus Americana	
1934	12"	Elm	Ulmus Americana	
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1938	12"	Elm	Ulmus Americana	
1939	12"	Elm	Ulmus Americana	
1940	12"	Elm	Ulmus Americana	
1941	12"	Elm	Ulmus Americana	
1942	12"	Elm	Ulmus Americana	
1943	12"	Elm	Ulmus Americana	
1944	12"	Elm	Ulmus Americana	
1945	12"	Elm	Ulmus Americana	
1946	12"	Elm	Ulmus Americana	
1947	12"	Elm	Ulmus Americana	
1948	12"	Elm	Ulmus Americana	
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1966	12"	Elm	Ulmus Americana	
1967	12"	Elm	Ulmus Americana	
1968	12"	Elm	Ulmus Americana	
1969	12"	Elm	Ulmus Americana	
1970	12"	Elm	Ulmus Americana	
1971	12"	Elm	Ulmus Americana	
1972	12"	Elm	Ulmus Americana	
1973	12"	Elm	Ulmus Americana	
1974	12"	Elm	Ulmus Americana	
1975	12"	Elm	Ulmus Americana	
1976	12"	Elm	Ulmus Americana	
1977	12"	Elm	Ulmus Americana	
1978	12"	Elm	Ulmus Americana	
1979	12"	Elm	Ulmus Americana	
1980	12"	Elm	Ulmus Americana	
1981	12"	Elm	Ulmus Americana	
1982	12"	Elm	Ulmus Americana	
1983	12"	Elm	Ulmus Americana	
1984	12"	Elm	Ulmus Americana	
1985	12"	Elm	Ulmus Americana	
1986	12"	Elm	Ulmus Americana	
1987	12"	Elm	Ulmus Americana	
1988	12"	Elm	Ulmus Americana	
1989	12"	Elm	Ulmus Americana	
1990	12"	Elm	Ulmus Americana	
1991	12"	Elm	Ulmus Americana	
1992	12"	Elm	Ulmus Americana	
1993	12"	Elm	Ulmus Americana	
1994	12"	Elm	Ulmus Americana	
1995	12"	Elm	Ulmus Americana	
1996	12"	Elm	Ulmus Americana	
1997	12"	Elm	Ulmus Americana	
1998	12"	Elm	Ulmus Americana	
1999	12"	Elm	Ulmus Americana	
2000	12"	Elm	Ulmus Americana	



SITE LOCATION MAP
Scale: 1"=2000'



LEGEND

EX. STORM SEWER

EX. SANITARY SEWER

EX. WATER MAIN

OVERHEAD LINES

GAS LINE

FENCE

GUARD RAIL

MAIL BOX

UNIDENTIFIED STRUCTURE

LIGHT POLE

TELEPHONE RISER

STREET SIGN

WATER SHUT OFF VALVE

EXISTING CONTOUR

EXISTING GROUND SHOT

DATE	DESCRIPTION
05-19-03	REVISED
10-22-03	FINAL SUBMITTAL
05-14-04	STAMPING SET
06-24-04	SET-CVS INCLUDED
10-04-04	FINAL SUBMITTAL-CVS INCLUDED
01-05-05	STAMPING SET-CVS INCLUDED
03-28-07	STANTEC REVIEW (BOSS ENGINEERING)

DRAWN BY: S.M.L.
CHECKED BY: M.L.
DATE ISSUED: 4-07-03

DEVELOPER

SKY DEVELOPMENT L.L.C.
3800 WOODWARD AVENUE, SUITE 206
DETROIT, MICHIGAN 48201
Ph. (313) 831-2220
Fax (313) 831-0819

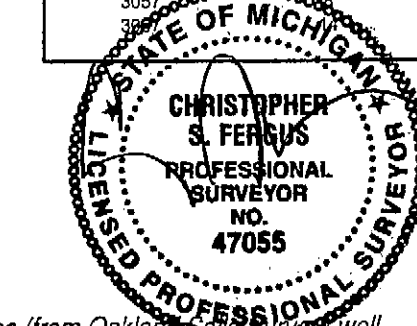
PROJECT ENGINEER

BOULDER DESIGN SERVICES LLC
30078 SCHOENHERR, STE. 300
WARREN, MI 48088
Ph. (586) 563-1500
Fax (586) 563-1595
e-mail bouldercon.com

SHOPPES AT THE TRAIL
Beck Rd. & Pontiac Rd
Section 4, City of Novi

PROJECT NO. 03-302
Topographic and Tree Survey

SCALE: 1" = 50'
SHEET C-15



RECORD DRAWING

THIS SHEET DOES NOT CONTAIN FIELD MEASUREMENT/AS-BUILT ARE RECORDED MEASUREMENT

02-26-06

Soil Types:
Marlette (riddles from Oaklawn) (from Oaklawn) well drained, loamy soils, on till plains and moraines.

Disclaimer:
Topographic Survey was prepared by Mickalich and Associates, Inc. May 12, 1998.
Tree Survey was prepared by Boulder Design Services, L.L.C. (Re-Tagged and Identified Trees only)

NOTES:

- ITALIC TEXT INDICATES AS-BUILT INFORMATION (IE: 969.00, 902.00)
- AB DENOTES AS-BUILT MEASUREMENT.
- RD DENOTES RECORDED MEASUREMENT. (ALM, Inc. Inspection Reports)