



PLANNING COMMISSION MEETING AGENDA REGULAR MEETING

500 W. Big Beaver
Troy, MI 48084
(248) 524-3364
www.troymi.gov
planning@troymi.gov

Donald Edmunds, Chair, Philip Sanzica, Vice Chair
Ollie Apahidean, Karen Crusse, Carlton M. Faison, Michael W. Hutson
Tom Krent, Padma Kuppa and John J. Tagle

December 8, 2015

7:00 P.M.

Council Board Room

1. ROLL CALL
2. APPROVAL OF AGENDA
3. MINUTES – November 10, 2015
4. PUBLIC COMMENT – For Items Not on the Agenda
5. ZONING BOARD OF APPEALS (ZBA) REPORT
6. DOWNTOWN DEVELOPMENT AUTHORITY (DDA) REPORT
7. PLANNING AND ZONING REPORT

PRELIMINARY SITE PLAN REVIEWS

8. PRELIMINARY SITE PLAN REVIEW (File Number SP 1010) – Proposed Bradley Square Condominiums, East side of Rochester between Bradley and Shallowdale, Section 14, Currently Zoned RT (One-Family Attached Residential) and R-1C (One Family Residential) Districts
9. PRELIMINARY SITE PLAN REVIEW (File Number SP 1003) – Proposed DTE Ariel Substation, South of Maple, East of Doyle (Parcel 88-20-31-226-029), Section 31, Currently Zoned IB (Integrated Industrial and Business) District

OTHER BUSINESS

10. 2016 PLANNING COMMISSION MEETING DATES
11. PUBLIC COMMENT – Items on Current Agenda
12. PLANNING COMMISSION COMMENT

ADJOURN

NOTICE: People with disabilities needing accommodations for effective participation in this meeting should contact the City Clerk by e-mail at clerk@troymi.gov or by calling (248) 524-3317 at least two working days in advance of the meeting. An attempt will be made to make reasonable accommodations.

Chair Edmunds called the Regular meeting of the Troy City Planning Commission to order at 7:00 p.m. on November 10, 2015 in the Council Board Room of the Troy City Hall.

1. ROLL CALL

Present:

- Ollie Apahidean
- Karen Crusse
- Donald Edmunds
- Michael W. Hutson
- Tom Krent
- Philip Sanzica
- John J. Tagle

Absent:

- Carlton M. Faison
- Padma Kuppa

Also Present:

- R. Brent Savidant, Planning Director
- Allan Motzny, Assistant City Attorney
- Kathy L. Czarnecki, Recording Secretary

2. APPROVAL OF AGENDA

Resolution # PC-2015-11-067

- Moved by: Apahidean
- Seconded by: Crusse

RESOLVED, To approve the Agenda as prepared.

- Yes: All present (7)
- Absent: Faison, Kuppa

MOTION CARRIED

3. APPROVAL OF MINUTES

Resolution # PC-2015-11-068

- Moved by: Apahidean
- Seconded by: Tagle

RESOLVED, To approve the minutes of the October 27, 2015 Regular meeting as published.

- Yes: All present (7)
- Absent: Faison, Kuppa

MOTION CARRIED

4. PUBLIC COMMENT – Items not on the Agenda

There was no one present who wished to speak.

PRELIMINARY SITE PLAN REVIEW

5. PRELIMINARY SITE PLAN REVIEW (File Number SP 1011) – Proposed SRB Medical Dental Building, East side of Crooks, South of Wattles (3960 Crooks), Section 21, Currently Zoned NN “I” (Neighborhood Node “I”) District

Mr. Savidant reviewed revisions to the site plan and reported the Planning Department recommends approval of the Preliminary Site Plan application with the condition as noted in the Planning Consultant report dated November 3, 2015.

David Hunter of Professional Engineering Associates and Terry Nosan of Nosan Ventures were present.

Resolution # PC-2015-11-069

Moved by: Krent

Seconded by: Sanzica

RESOLVED, That Preliminary Site Plan approval, pursuant to Article 8 of the Zoning Ordinance, as requested for the proposed SRB Medical Dental Building, located on the east side of Crooks and south of Wattles (3960 Crooks), Section 21, within the NN “I” (Neighborhood Node “I”) District, be granted, subject to the following:

1. Stub the drive-aisle to the southern property line.

Yes: All present (7)

Absent: Faison, Kuppa

MOTION CARRIED

OTHER BUSINESS

6. PROPOSED ZONING ORDINANCE TEXT AMENDMENT (File Number ZOTA 248) – Woodland Protection

Mr. Savidant identified several documents that would be modified to make consistent with the proposed text amendment.

The Planning Commission concurred to schedule the item for a Public Hearing.

7. PUBLIC COMMENT – Items on Current Agenda

There was no one present who wished to speak.

8. PLANNING COMMISSION COMMENT

There were general Planning Commission comments.

The Regular meeting of the Planning Commission adjourned at 7:25 p.m.

Respectfully submitted,

Donald Edmunds, Chair

Kathy L. Czarnecki, Recording Secretary

G:\Planning Commission Minutes\2015 PC Minutes\Draft\2015 11 10 Regular Meeting_Draft.doc

DATE: December 4, 2015

TO: Planning Commission

FROM: R. Brent Savidant, Planning Director

SUBJECT: PRELIMINARY SITE PLAN REVIEW (File Number SP 1010) – Proposed Bradley Square Condominiums, East side of Rochester, between Bradley and Shallowdale, Section 14, Currently Zoned RT (One-Family Attached Residential) and R-1C (One Family Residential) Districts

The petitioner Robertson Brothers submitted the above referenced Preliminary Site Plan Approval application for a 31-unit condominium development.

The property is currently primarily zoned RT (One-Family Attached Residential) with a small portion zoned R-1C (One Family Residential) District. The Planning Commission is responsible for granting Preliminary Site Plan Approval for this item.

The attached report prepared by Carlisle/Wortman Associates, Inc. (CWA), the City's Planning Consultant, summarizes the project. CWA prepared the report with input from various City departments including Planning, Engineering, Public Works and Fire. City Management supports the findings of fact contained in the report and the recommendations included therein.

Attachments:

1. Maps
2. Report prepared by Carlisle/Wortman Associates, Inc.

G:\SITE PLANS\SP 1010 Bradley Square Sec 14\SP-1010 PC Memo 124 08 2015.docx

PRELIMINARY SITE PLAN REVIEW

PRELIMINARY SITE PLAN REVIEW (File Number SP 1010) – Proposed Bradley Square Condominiums, East side of Rochester, between Bradley and Shallowdale, Section 14, Currently Zoned RT (One-Family Attached Residential) and R-1C (One Family Residential) Districts

Resolution # PC-2015-12-

Moved by:

Seconded by:

RESOLVED, That Preliminary Site Plan Approval, pursuant to Article 8 of the Zoning Ordinance, as requested for the proposed Bradley Square Condominiums, including thirty-one (31) units, located on the east side of Rochester between Bradley and Shallowdale, Section 14, within the RT (One-Family Attached Residential) and R-1C (One Family Residential) Districts, be

(granted, for the following reasons: _____) or

(denied, for the following reasons: _____) or

(postponed, for the following reasons: _____)

Yes:

No:

MOTION CARRIED/FAILED



Legend:

- Aerial
- Red: Band_1
 - Green: Band_2
 - Blue: Band_3

367 0 183 367 Feet

Scale 1:2,200



CARLISLE

WORTMAN
associates, inc.

605 S. Main Street, Ste. 1
Ann Arbor, MI 48104

(734) 662-2200
(734) 662-1935 Fax

Date: December 3, 2015

Site Condominium Review For City of Troy, Michigan

Applicant:	Robertson Brothers
Project Name:	Bradley Park
Location:	East side of Rochester Road between Bradley and Shallowdale
Plan Date:	November 12, 2015
Current Zoning:	RT, One-Family Attached Residential
Action Requested:	Site Plan Review
Required Information:	As noted in review.

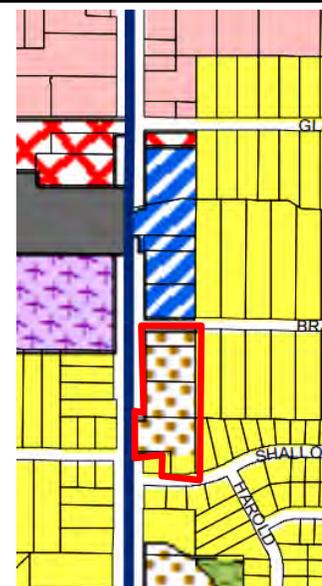
BACKGROUND

The applicant is seeking approval for a thirty-one (31) unit condominium development. Thirty (30) of the units are attached and accessed off Bradley and one (1) unit is a detached single-family home that fronts on Shallowdale Drive.

The site is currently four (4) separate parcels. The three northern parcels are zoned RT, one-family attached residential. The southernmost parcel, which fronts on both Shallowdale Drive and Rochester Road, has split zoning of RT and R1-C.

The RT portion of the entire development totals 3.46 acres, and will be developed as thirty (30) attached units. These units are grouped into three (3) and four (4) unit buildings. Attached single-family residential is a permitted use in the RT district.

The R1-C portion of the development is 10,500 square feet and will be



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developed as a single-family home that fronts on accessed off Shallowdale Drive. The development of this lot as a single-family home will be consistent with surrounding properties that front on Shallowdale Drive.

Please note that the R-1C parcel at the northeast corner of Shallowdale Drive and Rochester Road is not part of the proposed development.

Location of Subject Property:

East side of Rochester Road between Bradley and Shallowdale.



Size of Subject Property:

The total development is 3.7 net acres in area.

Current Use of Subject Property:

The subject properties are currently vacant

Current Zoning:

RT, One-Family Attached Residential and R1-C, single-family residential

Surrounding Property Details:

Direction	Zoning	Use
North	O, Office	Office
South	R-1C, One-family Residential District	Single-family homes
East	R-1C, One-family Residential District	Single-family homes
West	R-1C, One Family Residential District	Single-family homes

SITE ARRANGEMENT

The RT portion of the development is arranged to accommodate 30-units attached residential units. All RT units are accessed off a new private drive off Bradley Drive. There will not be a curbcut on Rochester Road. The units will be served with a circular private drive, which is designed for a one-way traffic circulation pattern, separated by a landscape island and guest parking. Each unit includes a two-car garage. A stormwater detention pond is located in the southwest corner of the site adjacent to Rochester Road.

In initial meetings with the applicant we had noted a desire to front more buildings on Rochester in order to create a unified streetwall and better screen the parking and circulation areas. The applicant considered the site rearrangement but notes that they do not wish to have more homes front on Rochester because high traffic volumes on Rochester make those homes less desirable, and secondly, the intended target market desires east facing homes.

Items to be Addressed: none

AREA, WIDTH, HEIGHT, SETBACKS

Required and Provided Dimensions:

Table 4.07.C establishes the requirements for the RT District. The requirements and the proposed dimensions are as follows:

	<u>Required:</u>	<u>Provided:</u>	<u>Compliance:</u>
Front	25 feet	42 feet	Complies
Major Arterial Setback	50 feet	62 feet	Complies
Rear	35 feet	38 feet	Complies
Side	5 feet each / 15 total	65 feet	Complies
Average Lot Size	5,000 sq/ft per unit	5,024 sq/ft per unit	Complies
Minimum Floor Area Per Unit	1,000 sq/ft	+ 1,000 sq/ft	Complies
Maximum Height	2 ½ stories, 30 feet	2 stories, 30 feet	Complies
Maximum Lot Area Covered by Buildings	30%	13.1%	Complies

The development meets all RT dimensional requirements. In addition, the R1-C lot complies with all dimensional requirements.

Items to be addressed: none

SITE ACCESS AND CIRCULATION

All RT units are accessed from a new private drive off Bradley Drive. There will be no curb cut on Rochester Road. The units will be served with a circular private drive, which is designed for a one-way traffic circulation pattern, separated by a landscape island and guest parking.

The applicant has added internal walks, which connect to Rochester Road sidewalks, Bradley Dive sidewalks, and Shallowdale sidewalks.

Items to be addressed: none

PARKING

Section 13.06.G of the Zoning Ordinance requires:

Residential	Required	Provided
2 Spaces per unit	2 spaces X 30 units= 60 spaces	60 spaces in 2 car garages and 23 guest spaces = 83 spaces

In addition to the required 60 required spaces, the applicant is providing twenty-three (23) guest parking spaces. The five (5) guest parking spaces adjacent to the stormwater distension facility do not meet the 9.5-foot width requirement.

Items to be addressed: Increase the width of the five (5) spaces adjacent to stormwater detention facility to 9.5-feet.

LANDSCAPING

The applicant proposes extensive internal and periphery landscaping. All proposed species fall within Troy regulations and are not prohibited. Site condominium and subdivision landscaping are regulated by Section 13.02.F.2.

	<u>Required:</u>	<u>Provided:</u>	<u>Compliance:</u>
Livernois Road Screening	Abutting streets greater than 120-wide ROW, requires one evergreen tree for every 10 lineal feet. feet = 41 trees	22 trees on Livernois,	Has provided additional trees within development to compensate.
Bradley Drive	1 tree every 30 feet of road frontage = 9 trees	9 trees	Compliant
Property abutting single family	1 tree every 10 feet = 44 trees	23 trees	Has provided additional trees within development to compensate.
Additional Trees	Not Required	30 trees	N/A
Total Trees	Required = 94 trees	Provided = 129 trees	Total number of trees exceeds minimum but as noted location is varied.

Items to be Addressed: Compliant if Planning Commission approves varied location

STORMWATER DETENTION

The applicant is proposing a stormwater detention at the southwest corner of the site. The detention pond will be seeded and landscaped with trees and shrubs. We have encouraged the applicant to incorporate naturalized stormwater management techniques. The applicant should consider:

- Bioswales in the guest parking islands
- Bioswales adjacent to the single-family properties to the north
- Bioswales along Rochester Road
- Pervious paving
- Strategically placed rain gardens

Items to be Addressed: Incorporate naturalized stormwater management techniques.

ELEVATIONS

The applicant has submitted floor plans, elevations, and a color rendering. The elevations or renderings do not indicate material samples. Recently the Planning Commission has asked for perspectives or sketch-up models to better visualize proposed developments in context of the surrounding areas. A

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rendering or model will assist in visually understanding the development, especially in its relationship to adjacent properties and context and impact along Rochester Road. The applicant has been asked to provide material samples, and a color perspective/model of the development.

As set forth in the RT district requirements in section 4.07, one-family detached residential dwellings shall vary in their appearance. Section 4.07.D.1 states: *A dwelling's front elevation shall not re-occur in the same or a substantially similar structural form on another dwelling within the same street frontage without there being at least one (1) other dwelling with a different elevation between the dwellings that repeat the frontage elevation. Different colors alone will not constitute different front elevations.*

The Planning Commission should consider if the elevations meet the variation change requirement as set forth in section 4.07.

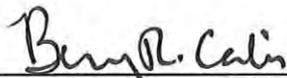
The rear (garage door facing) elevations will be visible from Rochester Road, especially for units 14-19. The applicant should consider architectural treatments, or revised elevations to break up the garage door dominance of this elevation.

Items to be Addressed: 1). *Provide color material samples, and color perspective;* 2). *The Planning Commission should consider if the elevations meet the variation change requirement as set forth in section 4.07;* and 3). *Provide architectural treatments, or revised elevations to break up the garage door dominance of this elevation.*

RECOMMENDATION

We support the development of this site, which adds additional housing alternatives to Troy. The project meets all applicable area and bulk regulations.

However, the Planning Commission should consider the proposed site layout, stormwater features, and architectural elements and give direction to the applicant for any necessary amendments to the proposed plans.



CARLISLE/WORTMAN ASSOC., INC.
Benjamin R. Carlisle, LEED AP, AICP

Owner / Developer

ROBERTSON BROTHERS CO.
6905 TELEGRAPH ROAD
SUITE 200
BLOOMFIELD HILLS, MI 48301
CONTACT:
MR. JIM CLARKE
PH: 248-282-1432
FAX: 248-282-1423

Civil Engineer

NOWAK & FRAUS ENGINEERS
46777 Woodward Ave.
Pontiac, MI 48342-5032
Contact:
Mr. Brad W. Brickel
Tel. (248) 332-7931
Fax. (248) 332-8257

Architect

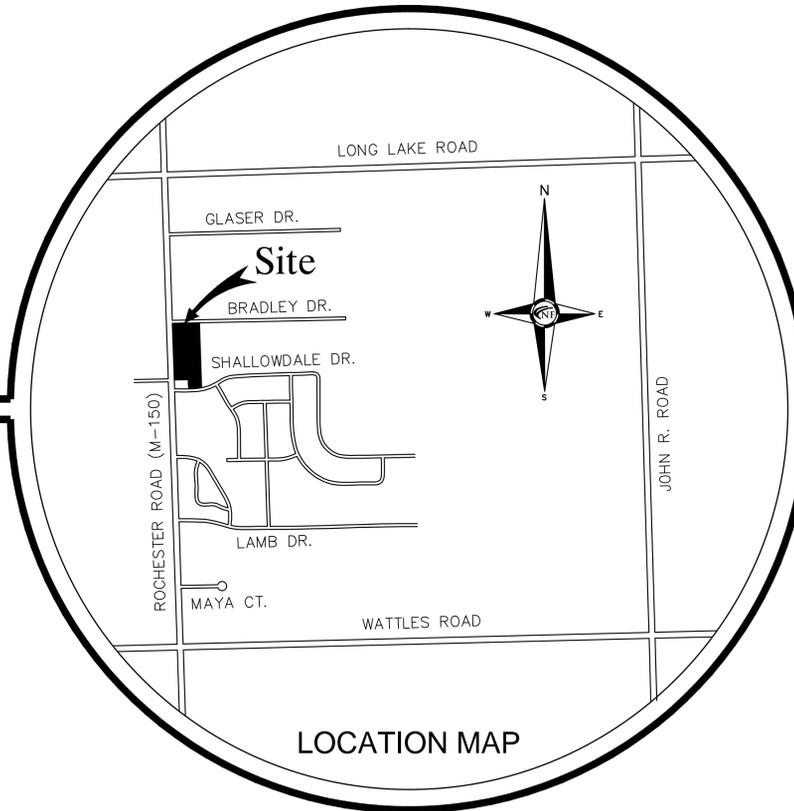
ALEXANDER V. BOGAERS + ASSOCIATES, P.C.
2445 FRANKLIN ROAD
BLOOMFIELD HILLS, MI 48302
CONTACT:
248.334.5000 PHONE

Landscape Architect

LAND DESIGN STUDIO
18161 W. THIRTEEN MILE RD., SUITE B-4
SOUTHFIELD, MI 48076
CONTACT:
MR. TAD KREAR
248.594.3220 PHONE
248.230.4168 FAX

City of Troy, Oakland County, Michigan Preliminary Site Plan Documents Prepared For Robertson Brothers Homes

PART OF THE NW 1/4
OF SECTION 14, T.2N., R.11E.
CITY OF TROY, OAKLAND COUNTY, MICHIGAN



LOCATION MAP

Project Name

Bradley Park



LEGAL DESCRIPTION - Combined Parcels

LOTS 78 THROUGH 82, ROCHESTER ROAD FARMS, A SUBDIVISION OF PART OF THE NORTHWEST 1/4 OF SECTION 14, TOWN 2 NORTH, RANGE 11 EAST, TROY TOWNSHIP (NOW CITY OF TROY), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 60 OF PLATS, PAGE 22, OAKLAND COUNTY RECORDS AND PART OF THE NORTHWEST 1/4 OF SECTION 14, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT DISTANT NORTH 00 DEGREES 33 MINUTES 57 SECONDS WEST 497.00 FEET ALONG THE WEST LINE OF SAID SECTION FROM THE WEST 1/4 CORNER AND SOUTH 89 DEGREES 45 MINUTES 34 SECONDS EAST 74.98 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF ROCHESTER ROAD (WIDTH VARIES); THENCE NORTH 00 DEGREES 36 MINUTES 20 SECONDS WEST 596.31 FEET ALONG THE EAST RIGHT-OF-WAY LINE OF SAID ROCHESTER ROAD TO THE NORTHWEST CORNER OF SAID LOT 78, ALSO BEING A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF BRADLEY DRIVE (60' WIDE); THENCE SOUTH 89 DEGREES 41 MINUTES 02 SECONDS EAST 250.00 FEET ALONG THE SOUTH RIGHT-OF-WAY LINE OF SAID BRADLEY DRIVE TO THE NORTHEAST CORNER OF SAID LOT 78; THENCE SOUTH 00 DEGREES 36 MINUTES 20 SECONDS EAST 695.45 FEET TO THE SOUTHWEST CORNER OF LOT 1 OF SHALLOWBROOK SUBDIVISION AS RECORDED IN LIBER 144 OF PLATS, PAGES 20-22, ALSO BEING A POINT ON THE NORTH RIGHT-OF-WAY LINE OF SHALLOWDALE DRIVE (60' WIDE); THENCE THE FOLLOWING TWO (2) COURSES ALONG THE NORTH RIGHT-OF-WAY LINE OF SAID SHALLOWDALE DRIVE: 1) ALONG A CURVE TO RIGHT, RADIUS OF 450.00 FEET; CHORD BEARS SOUTH 85 DEGREES 44 MINUTES 22 SECONDS WEST 70.14 FEET A DISTANCE OF 70.21 FEET AND 2) NORTH 89 DEGREES 47 MINUTES 15 SECONDS WEST 47.57 FEET; THENCE NORTH 00 DEGREES 36 MINUTES 20 SECONDS WEST 105.00 FEET; THENCE NORTH 89 DEGREES 45 MINUTES 34 SECONDS WEST 132.43 FEET TO THE POINT OF BEGINNING.

SHEET INDEX

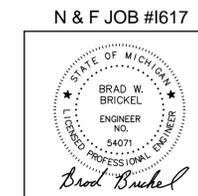
- SP0 Cover Sheet
- SP1 ALTA/ACSM Land Title / Topographic / Tree Survey
- SP2 General Site Plan
- SP3 Preliminary Paving & Grading
- SP4 Fire Truck Turning Plan
- SP5 Tree Preservation Plan
- L-1 Overall Landscape Plan
- L-2 Detention Basin Seed Plan
- L-3 Details
- A1 Architectural Floor Plan
- A2 Architectural Elevations Plan

REVISIONS:
08-31-15 ISSUED FOR PRELIMINARY SITE PLAN REVIEW
10-13-15 REVISED PER CITY REVIEW
11-12-15 REVISED PER CITY REVIEW



CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257



LEGEND

	EXISTING SANITARY SEWER
	EXISTING SAN. CLEAN OUT
	EXISTING WATER MAIN
	EXISTING STORM SEWER
	EX. R.Y. CATCH BASIN
	EX. UNDERGROUND (UG.) CABLE
	OVERHEAD (OH.) LINES
	EXISTING GAS MAIN
	FOUND
	CONC. CONCRETE
	FOUND
	GP GUARD POST
	R.O.W. RIGHT-OF-WAY
	SPK SET PK NAIL
	TYP TYPICAL
	(R) RECORD
	(M) MEASURED
	C/L CENTERLINE
	MB MAILBOX
	A/C AIR CONDITIONING UNIT
	F.F. FINISH FLOOR
	LS LANDSCAPE

Tree Inventory List

Tree ID	Botanical Name	Common Name	DBH	Tree Type	Other Data	Condition	Comments
401	Ulmus americana	American Elm	7			Good	
402	Ulmus americana	American Elm	7			Good	
403	Acer saccharinum	Silver Maple	7			Fair	Lg bow in trunk
404	Ulmus americana	American Elm	7			Good	
405	Ulmus americana	American Elm	7			Good	
406	Ulmus americana	American Elm	7			Good	
407	Malus spp.	Craspinella spp.	7			Fair	Some in-rolled trunk seams, wood exposed
408	Acer negundo	Northern Sycamore	7			Poor	Poor structure, cracks in trunk
409	Acer negundo	Northern Sycamore	7			Poor	Poor structure, cracks in trunk
410	Acer negundo	Northern Sycamore	7			Poor	Poor structure, cracks in trunk
411	Juglans nigra	Black Walnut	7			Good	
412	Pinus strobus	Scotch Pine	7			Good	
413	Populus alba	White Poplar	7			Good	
414	Pinus strobus	Scotch Pine	7			Good	
415	Populus alba	White Poplar	7			Good	
416	Acer negundo	Northern Sycamore	7			Multiple	Poor structure, stump succor sprouts
417	Pinus strobus	Scotch Pine	7			Multiple	
418	Acer saccharinum	Silver Maple	7			Multiple	Excessive trunk lean
419	Acer negundo	Northern Sycamore	7			Multiple	7" trunk leaning approx. 30°
420	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
421	Acer negundo	Northern Sycamore	7			Multiple	7.7' Fair
422	Acer negundo	Northern Sycamore	7			Multiple	Poor
423	Ulmus americana	American Elm	7			Multiple	Poor
424	Acer negundo	Northern Sycamore	7			Multiple	Poor
425	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
426	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
427	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
428	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
429	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
430	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
431	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
432	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
433	Acer negundo	Northern Sycamore	7			Multiple	Excessive trunk lean
434	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
435	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
436	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
437	Acer negundo	Northern Sycamore	7			Multiple	Excessive trunk lean
438	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
439	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
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442	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
443	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
444	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
445	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
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452	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
453	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
454	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean
455	Ulmus americana	American Elm	7			Multiple	Excessive trunk lean

LEGAL DESCRIPTION - PER TITLE COMMITMENT

LAND SITUATED IN THE COUNTY OF OAKLAND, CITY OF TROY, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:

PARCEL 1:
LOT 78 OF ROCHESTER ROAD FARMS, ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 60 OF PLATS, PAGE 22 OF OAKLAND COUNTY RECORDS.

TAX ITEM NO. 20-14-151-001
ADDRESS: VACANT LAND, TROY, MI 48304

PARCEL 2:
LOTS 79 AND 80 OF ROCHESTER ROAD FARMS, ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 60 OF PLATS, PAGE 22 OF OAKLAND COUNTY RECORDS.

TAX ITEM NO. 20-14-151-023
ADDRESS: 4646 ROCHESTER ROAD, TROY, MI 48304

PARCEL 3:
LOTS 81 AND 82 OF ROCHESTER ROAD FARMS, ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 60 OF PLATS, PAGE 22 OF OAKLAND COUNTY RECORDS.

TAX ITEM NO. 20-14-151-024
ADDRESS: 4572 ROCHESTER ROAD, TROY, MI 48304

PARCEL 4:
PART OF THE NORTHWEST 1/4 OF SAID SECTION 14, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT DISTANT NORTH 00 DEGREES 36 MINUTES 30 SECONDS WEST 497.00 FEET FROM THE WEST 1/4 CORNER, THENCE NORTH 00 DEGREES 36 MINUTES 30 SECONDS WEST 165.41 FEET; THENCE SOUTH 89 DEGREES 42 MINUTES 41 SECONDS EAST 325.34 FEET; THENCE SOUTH 00 DEGREES 36 MINUTES 30 SECONDS EAST 285.45 FEET; THENCE ALONG A CURVE TO THE RIGHT, RADIUS OF 450.00 FEET, CHORD BEARS SOUTH 85 DEGREES 44 MINUTES 22 SECONDS WEST 70.19 FEET, A DISTANCE OF 70.21 FEET; THENCE NORTH 89 DEGREES 42 MINUTES 41 SECONDS WEST 105.00 FEET; THENCE NORTH 89 DEGREES 42 MINUTES 41 SECONDS WEST 105.00 FEET TO THE POINT OF BEGINNING, EXCEPT THE WEST 75.00 FEET TAKEN FOR PUBLIC HIGHWAY PURPOSES BY DECLARATION OF TAKING RECORDED IN LIBER 7445, PAGE 452, OAKLAND COUNTY RECORDS.

TAX ITEM NO. 20-14-151-025
ADDRESS: 4564 ROCHESTER ROAD, TROY, MI 48304

LEGAL DESCRIPTION - AS SURVEYED

LOTS 78 THROUGH 82, ROCHESTER ROAD FARMS, A SUBDIVISION OF PART OF THE NORTHWEST 1/4 OF SECTION 14, TOWN 2 NORTH, RANGE 11 EAST, TROY TOWNSHIP (NOW CITY OF TROY), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 60 OF PLATS, PAGE 22, OAKLAND COUNTY RECORDS AND PART OF THE NORTHWEST 1/4 OF SECTION 14, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT DISTANT NORTH 00 DEGREES 33 MINUTES 57 SECONDS WEST 497.00 FEET ALONG THE WEST LINE OF SAID SECTION 14 FROM THE WEST 1/4 CORNER AND SOUTH 89 DEGREES 45 MINUTES 34 SECONDS EAST 74.98 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF ROCHESTER ROAD (WIDTH VARIES); THENCE NORTH 00 DEGREES 36 MINUTES 30 SECONDS WEST 596.31 FEET ALONG THE EAST RIGHT-OF-WAY LINE OF SAID ROCHESTER ROAD TO THE NORTHWEST CORNER OF SAID LOT 78, ALSO BEING A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF BRADLEY DRIVE (60' WIDE); THENCE SOUTH 89 DEGREES 41 MINUTES 00 SECONDS EAST 250.00 FEET ALONG THE SOUTH RIGHT-OF-WAY LINE OF SAID BRADLEY DRIVE TO THE NORTHWEST CORNER OF SAID LOT 78; THENCE SOUTH 00 DEGREES 36 MINUTES 30 SECONDS WEST 430.00 FEET TO THE SOUTHWEST CORNER OF LOT 1 OF SHALLOWBROOK SUBDIVISION AS RECORDED IN LIBER 144 OF PLATS, PAGES 20-22, ALSO BEING A POINT ON THE NORTH RIGHT-OF-WAY LINE OF SHALLOWDALE DRIVE (60' WIDE); THENCE THE FOLLOWING TWO (2) COURSES ALONG THE NORTH RIGHT-OF-WAY LINE OF SAID SHALLOWDALE DRIVE: 1) ALONG A CURVE TO THE RIGHT, RADIUS OF 450.00 FEET, CHORD BEARS SOUTH 85 DEGREES 44 MINUTES 22 SECONDS WEST 70.14 FEET A DISTANCE OF 70.21 FEET AND 2) NORTH 89 DEGREES 41 MINUTES 00 SECONDS EAST 250.00 FEET ALONG THE NORTH 89 DEGREES 41 MINUTES 00 SECONDS EAST 250.00 FEET TO THE POINT OF BEGINNING.

FLOOD HAZARD NOTE
BY GRAPHIC PLOTTING ONLY, PORTIONS OF THE PROPERTY DESCRIBED ON THIS SURVEY LIES WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE OF 0.2% ANNUAL CHANCE FLOOD) AND ZONE X-SHAPED (AREAS OF 0.2% ANNUAL CHANCE FLOOD OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NO. 261205C034F BEARING AN EFFECTIVE DATE OF SEPT. 29, 2006).

TOPOGRAPHIC SURVEY NOTES
ALL ELEVATIONS ARE EXISTING ELEVATIONS, UNLESS OTHERWISE NOTED.
UTILITY LOCATIONS WERE OBTAINED FROM MUNICIPAL OFFICIALS AND RECORDS OF UTILITY COMPANIES, AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, OR EXACTNESS OF LOCATION.

TITLE REPORT NOTES

REFERENCE FIRST AMERICAN TITLE INSURANCE COMPANY FILE NUMBER: 702379 REVISION C, EFFECTIVE DATE: JUNE 22, 2015, DATE PRINTED: JULY 6, 2015.

SCHEDULE BIII - EXCEPTIONS:
EXCEPTIONS: 1, 2, 3, 4, 5, 7, 8, 10, 11, 12, 13 AND 15 REFER TO THE OWNERSHIP OF THE PROPERTY AND/OR ARE NOT PLOTTABLE.

6. RIGHT OF WAY IN FAVOR OF DETROIT EDISON COMPANY AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 4711, PAGE 407, AS TO LOT 80. (NOT A PLOTTABLE EXCEPTION)

9. COVENANTS, CONDITIONS, RESTRICTIONS AND OTHER PROVISIONS BUT OMITTING RESTRICTIONS, IF ANY, BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILIAL STATUS OR NATIONAL ORIGIN AS CONTAINED IN INSTRUMENT RECORDED IN LIBER 2471, PAGE 492, AS TO PARCELS 1, 2 AND 3. (REFERS TO 40' BUILDING SETBACK)

14. NO RIGHTS OF INGRESS AND EGRESS TO, FROM AND BETWEEN HIGHWAY AND PARCEL 4 AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 7445, PAGE 452. (AS PLOTTED HEREON)

ALTA SURVEY NOTES

THERE IS NO EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS, EXCEPT AS NOTED.

THERE IS NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES AND THERE IS NO EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIR, EXCEPT AS NOTED.

THERE IS NO EVIDENCE OF SITE USE AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.

THERE IS NO EVIDENCE OF ANY WETLAND AREAS.

BASIS OF BEARING NOTE

ALL BEARINGS ARE IN RELATION TO THE PREVIOUSLY ESTABLISHED WEST LINE OF LOT 1 OF "SHALLOWBROOK SUBDIVISION" AS RECORDED IN LIBER 144 OF PLATS, PAGES 20-22, OAKLAND COUNTY RECORDS. (N.00°36'20"W.)

SITE DATA

SITE AREA:
PARCEL 1: 21,497.22 SQUARE FEET OR 0.494 ACRES
PARCEL 2: 42,994.44 SQUARE FEET OR 0.987 ACRES
PARCEL 3: 42,994.44 SQUARE FEET OR 0.987 ACRES
PARCEL 4: 51,748.88 SQUARE FEET OR 1.188 ACRES
OVERALL: 161,229.98 SQUARE FEET OR 3.701 ACRES

ZONING:
PARCEL 1: RT, ONE FAMILY ATTACHED RESIDENTIAL DISTRICT
PARCEL 2: R-1C, ONE FAMILY ATTACHED RESIDENTIAL DISTRICT
PARCEL 3: RT, ONE FAMILY ATTACHED RESIDENTIAL DISTRICT
PARCEL 4: RT, ONE FAMILY ATTACHED RESIDENTIAL DISTRICT (N. 106'±) AND R-1C, ONE FAMILY RESIDENTIAL DISTRICT (S. 105'±)

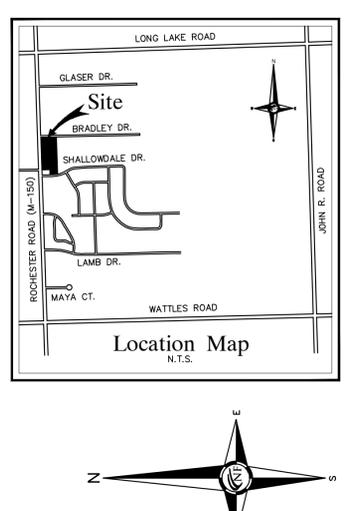
PARKING SPACES:
NO STRIPPED PARKING SPACES (VACANT SITE)

CERTIFICATE OF SURVEY

CERTIFIED TO:
-ROBERTSON BROTHERS CO., A MICHIGAN CORPORATION, ON BEHALF OF AN ENTITY TO BE FORMED
-DEPORRE FAMILY, LLC, AS TO PARCEL 1 AND PARCEL 2
-DEPORRE FAMILY, LLC, A MICHIGAN LIABILITY COMPANY, AS TO PARCELS 3 AND PARCEL 4
-FIRST AMERICAN TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDE ITEMS 1, 2, 3, 4, 6(a), 7(c), 7(d), 8, 9, 11(c), 13, 14, 16, 17, 18, 19 AND 21 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON JUNE 4, 2015.

KEVIN NAVAROLI, P.S. NO. 53503 DATE 7-9-2015

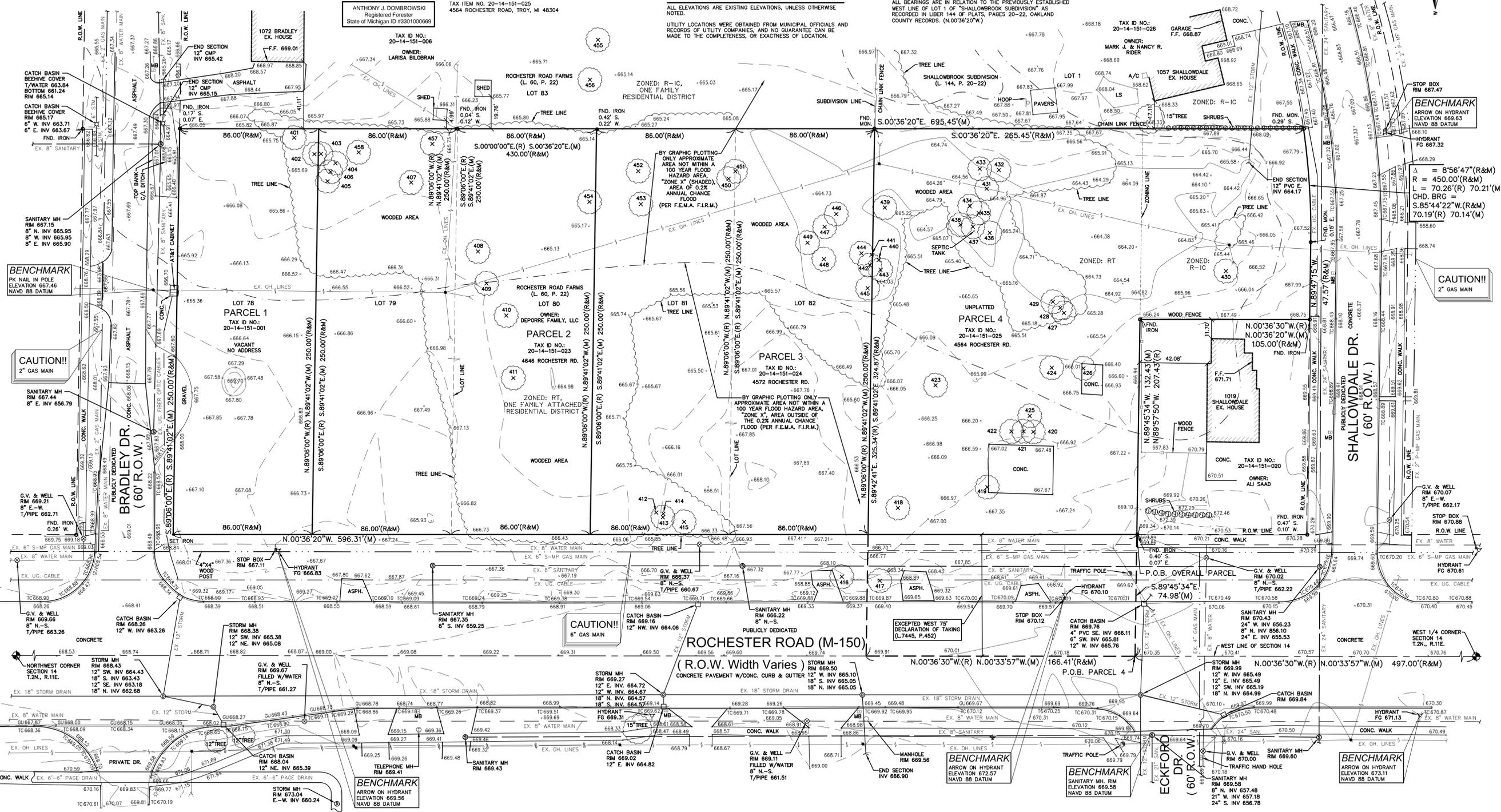


NF ENGINEERS

CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
4677 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257

STATE OF MICHIGAN
KEVIN NAVAROLI
PROFESSIONAL SURVEYOR
NO. 53503
REGISTERED PROFESSIONAL SURVEYOR



PROJECT
DePorre Property - Rochester Road between Bradley & Shallowdale Troy, MI 48304

CLIENT
Robertson Brothers Homes
6905 Telegraph Road, Suite 200
Bloomfield Hills, MI 48301

Contact: Tim Loughrin
248.282.1428 - Phone
248.282.1432 - Fax

PROJECT LOCATION
Part of the NW 1/4 of Section 14 T.2N., R.11E. City of Troy, Oakland County, Michigan

SHEET
ALTA/ACSM Land Title / Topographic / Tree Survey

REVISIONS
08-31-15 ISSUED FOR PRELIM. SITE PLAN
10-13-15 REVISED PER CITY REVIEW
11-12-15 REVISED PER CITY REVIEW

DRAWN BY:
M. Carnaghi

DESIGNED BY:
K. Navaroli

APPROVED BY:
K. Navaroli

DATE:
June 15, 2015

SCALE: 1" = 30'

NFE JOB NO. SHEET NO.
I617 SP1

FIRE DEPARTMENT NOTE

THE FOUR (4) INCH STEAMER CPAS ON ALL HYDRANTS WILL BE PAINTED ACCORDING TO THE FOLLOWING:

- WHITE ON 4.00 INCH MAINS
- RED ON 6.00 INCH MAINS
- ORANGE ON 8.00 INCH MAINS
- GREEN ON 12.00 INCH MAINS
- BLUE ON 16.00 INCH OR LARGER MAINS

NO PARKING SHALL BE PERMITTED AND/OR NO OBSTRUCTIONS SHALL BE PLACED OR CONSTRUCTED WITHIN FIFTEEN (15) FEET OF ANY FIRE HYDRANT OR FIRE DEPARTMENT CONNECTION, PUBLIC OR PRIVATE.

THE FIRE DEPARTMENT CONNECTION MUST BE LOCATED WITHIN ONE HUNDRED (100) FEET OF A FIRE HYDRANT AND WITHIN FIFTY (50) FEET OF A MINIMUM EIGHTEEN (18) FOOT WIDE PAVED DRIVEWAY OR STREET.

GAS METER, PROPANE TANKS, OVERHEAD ELECTRICAL SERVICE, AND TRANSFORMERS MUST NOT BE LOCATED ON THE SAME SIDE OF THE BUILDING OR STRUCTURE AS THE FIRE DEPARTMENT CONNECTION UNLESS A CLEAR DISTANCE OF ONE HUNDRED FIFTY (150) FEET CAN BE MAINTAINED BETWEEN UTILITIES AND THE FIRE DEPARTMENT CONNECTION.

ALL DRIVE AREAS MUST BE POSTED AS FIRE LANES WITH UNIFORM SIGNS IN KEEPING WITH THE STANDARD ESTABLISHED IN THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. SIGNS MUST BE ERECTED ON BOTH SIDES OF THE FIRE LANES WITH SPACING BETWEEN SIGNS NOT TO EXCEED ONE HUNDRED (100) FEET.

DESIGNATED EXIT DOORS ONTO DRIVES OR PARKING AREAS MUST BE PROTECTED WITH GUARD POSTS OR PARKING BARRIERS.

A WHITE HIGH VISIBILITY STRIPE SHALL BE PAINTED ON THE UPPER FLANGE OF ALL FIRE HYDRANTS.

Weighted Run-off Coefficient Calculation

Site Area:	150,725.54 S.F. or 3.460 Acres
Surface No. 1 - Pavement:	43,567.00 S.F. or 1.000 Acres
Surface No. 2 - Building:	19,800.00 S.F. or 0.455 Acres
Surface No. 3 - Landscape:	87,358.54 S.F. or 2.005 Acres
Surface No. 4 - Other:	0.00 S.F. or 0.000 Acres
Sum of Individual Areas:	150,725.54 S.F. or 3.460 Acres

Surface No. 1 - Coefficient:	0.90
Surface No. 2 - Coefficient:	0.90
Surface No. 3 - Coefficient:	0.15
Surface No. 4 - Coefficient:	0.00

Required Formula:

$$C \text{ (Average)} = \frac{\text{Area 1} \cdot C1 + \text{Area 2} \cdot C2 + \text{Area 3} \cdot C3 + \text{Area 4} \cdot C4}{\text{Area 1} + \text{Area 2} + \text{Area 3} + \text{Area 4}}$$

C (Average) =	0.465
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Detention Calculations - Oakland County Method
(25 Year Storm Event - With Outlet Orifice)

Contributing Area:	3.46 Acres
Allowable Outflow, Qo:	0.200 CFS / Acre
Runoff Coefficient, C:	0.465 Imperviousness
Maximum Allowable Outflow, Qo:	0.430 CFS / Acre * Imperv.
Ts Storage Time (25 Yr):	111.914 Minutes
Vs Storage Time (25 Yr):	8,619.105 CF / Acre * Imperv.
Vt Total Volume (25 Yr):	13,867.277 Cubic Feet
Volume Required:	13,867.277 Cubic Feet

Detention Basin Volume Calculation
Formula: Conical Frustum

$$\text{Formula: } V = 1/3 \times h \times (A1 + (A1 \times A2)^{0.5} + A2)$$

Area, A1:	7,425.00 Square Feet
Area, A2:	325.00 Square Feet
Storage Elevation:	664.50 Feet
Outlet Elevation:	659.50 Feet
Depth of Storage, h:	5.00 Feet
Volume Provided:	15,595.71 Cubic Feet

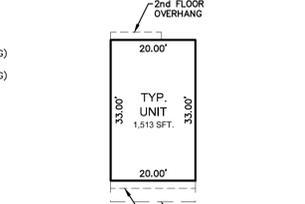
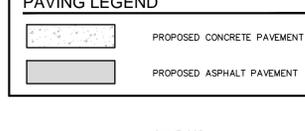
SITE DATA - TOWNHOMES

SITE AREA GROSS:	150,725.54 SQUARE FEET OR 3.46 ACRES
SITE DENSITY UNITS / 5,000 SFT OF SITE AREA:	30 UNITS
ALLOWABLE UNITS 150,725.54 / 5,000:	30 UNITS
BUILDING HEIGHT MAXIMUM PERMITTED:	30' HEIGHT
PROPOSED:	30' HEIGHT TO MID POINT
ZONING EXISTING:	RT (ONE FAMILY ATTACHED)
SETBACKS:	REQUIRED PROVIDED
FRONT:	50.0'(TO BUILDING FACE) 50.0'(TO BUILDING FACE)
FRONT:	25'(NORTH) 40.8'(2ND FLOOR OVERHANG)
FRONT:	15'(SOUTH) 38.1'(TO BUILDING FACE)
REAR:	35'(EAST) 38.2'(2ND FLOOR OVERHANG)
PARKING REQUIRED:	2 SPACES PER EACH DWELLING UNIT = 60 REQUIRED
PROVIDED:	63 TOTAL SPACES PROVIDED (60 GARAGE SPACES + 23 SURFACE SPACES INCLUDING 1 BARRIER FREE SPACE)

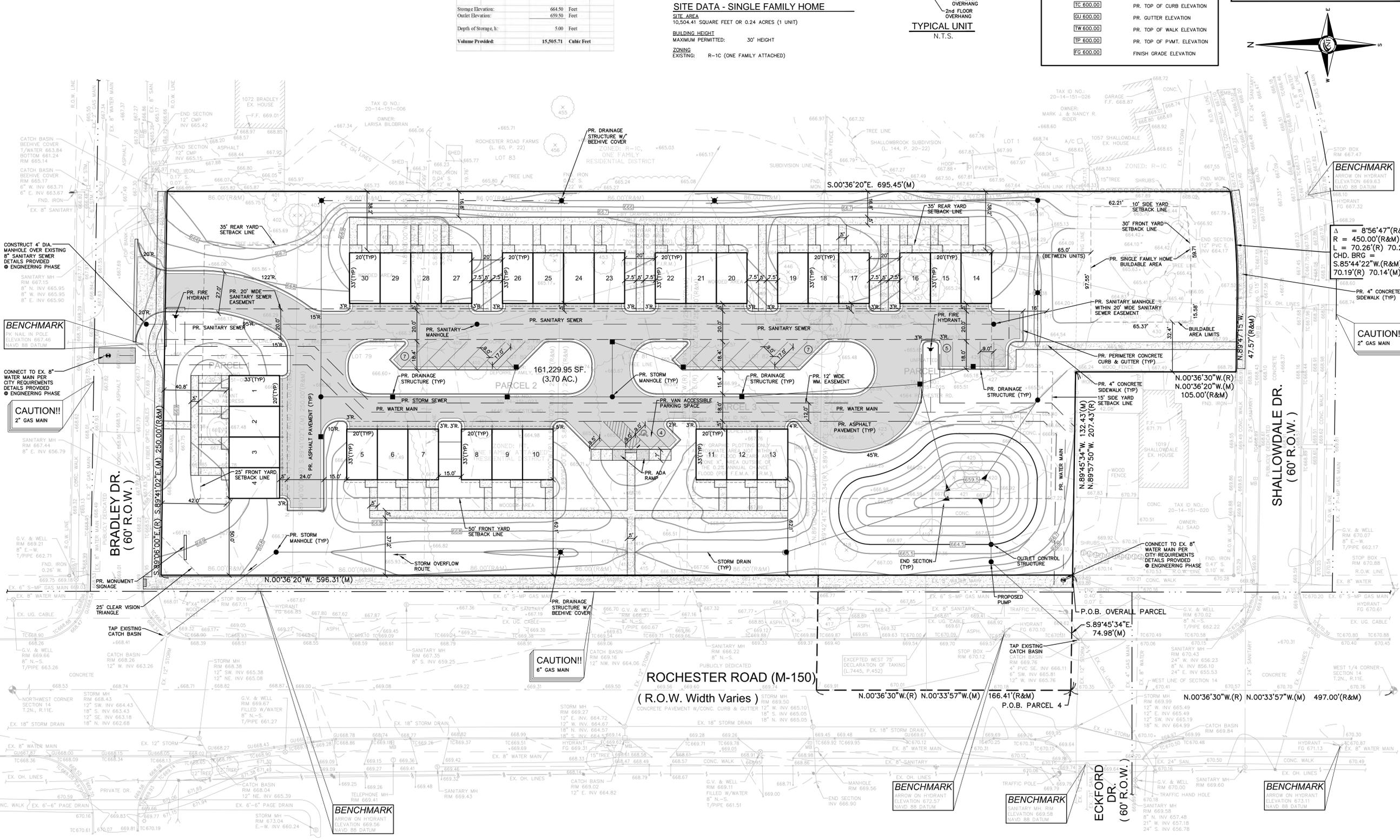
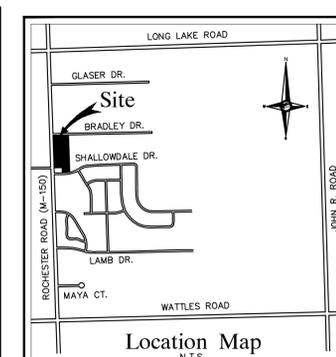
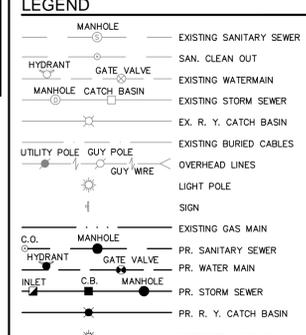
SITE DATA - SINGLE FAMILY HOME

SITE AREA:	10,504.41 SQUARE FEET OR 0.24 ACRES (1 UNIT)
BUILDING HEIGHT MAXIMUM PERMITTED:	30' HEIGHT
ZONING EXISTING:	R-1C (ONE FAMILY ATTACHED)

PAVING LEGEND



LEGEND



NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
4677 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257

SEAL

Brad Brickel

PROJECT
DePore Property -
Bradley & Shallowdale
Troy, MI 48304

CLIENT
Robertson Brothers Homes
6905 Telegraph Road,
Suite 200
Bloomfield Hills, MI 48301

Contact: Tim Loughrin
248.282.1428 - Phone
248.282.1432 - Fax

PROJECT LOCATION
Part of the NW 1/4
of Section 14
T.2N., R.11E.
City of Troy,
Oakland County, Michigan

SHEET
General Site Plan

REVISIONS
08-31-15 ISSUED FOR PRELIM. SITE PLAN
10-13-15 REVISED PER CITY REVIEW
11-12-15 REVISED PER CITY REVIEW

DRAWN BY:
R. Johnson

DESIGNED BY:
B. Brickel

APPROVED BY:
B. Brickel

DATE:
June 15, 2015

SCALE: 1" = 30'

NFE JOB NO. SHEET NO.
I617 SP2

SEAL



PROJECT
DePore Property -
Rochester Road between
Bradley & Shallowdale
Troy, MI 48304

CLIENT
Robertson Brothers Homes
6905 Telegraph Road,
Suite 200
Bloomfield Hills, MI 48301

Contact: Tim Loughrin
248.282.1428 - Phone
248.282.1432 - Fax

PROJECT LOCATION
Part of the NW 1/4
of Section 14
T.2N., R.11E.
City of Troy,
Oakland County, Michigan

SHEET
Fire Truck Turning Plan



REVISIONS
08-31-15 ISSUED FOR PRELIM. SITE PLAN
10-13-15 REVISED PER CITY REVIEW
11-12-15 REVISED PER CITY REVIEW

DRAWN BY:
R. Johnson

DESIGNED BY:
B. Brickel

APPROVED BY:
B. Brickel

DATE:
June 15, 2015

SCALE: 1" = 30'

30 15 0 15 30 45

NFE JOB NO. SHEET NO.

I617 SP4

FIRE DEPARTMENT NOTE

THE FOUR (4) INCH STEAMER CPAS ON ALL HYDRANTS WILL BE PAINTED ACCORDING TO THE FOLLOWING:

- WHITE ON 4.00 INCH MAINS
- RED ON 6.00 INCH MAINS
- GREEN ON 8.00 INCH MAINS
- ORANGE ON 12.00 INCH MAINS
- BLUE ON 16.00 INCH OR LARGER MAINS

NO PARKING SHALL BE PERMITTED AND/OR NO OBSTRUCTIONS SHALL BE PLACE OR CONSTRUCTED WITHIN FIFTEEN (15) FEET OF ANY FIRE HYDRANT OR FIRE DEPARTMENT CONNECTION, PUBLIC OR PRIVATE.

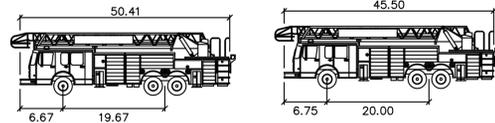
THE FIRE DEPARTMENT CONNECTION MUST BE LOCATED WITHIN ONE HUNDRED (100) FEET OF A FIRE HYDRANT AND WITHIN FIFTY (50) FEET OF A MINIMUM EIGHTEEN (18) FOOT WIDE PAVED DRIVEWAY OR STREET.

GAS METER, PROPANE TANKS, OVERHEAD ELECTRICAL SERVICE, AND TRANSFORMERS MUST NOT BE LOCATED ON THE SAME SIDE OF THE BUILDING OR STRUCTURE AS THE FIRE DEPARTMENT CONNECTION UNLESS A CLEAR DISTANCE OF ONE HUNDRED FIFTY (150) FEET CAN BE MAINTAINED BETWEEN UTILITIES AND THE FIRE DEPARTMENT CONNECTION.

ALL DRIVE AREAS MUST BE POSTED AS FIRE LANES WITH UNIFORM SIGNS IN KEEPING WITH THE STANDARD ESTABLISHED IN THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. SIGNS MUST BE ERCTED ON BOTH SIDES OF THE FIRE LANES WITH SPACING BETWEEN SIGNS NOT TO EXCEED ONE HUNDRED (100) FEET.

DESIGNATED EXIT DOORS ONTO DRIVES OR PARKING AREAS MUST BE PROTECTED WITH GUARD POSTS OR PARKING BLOCKS.

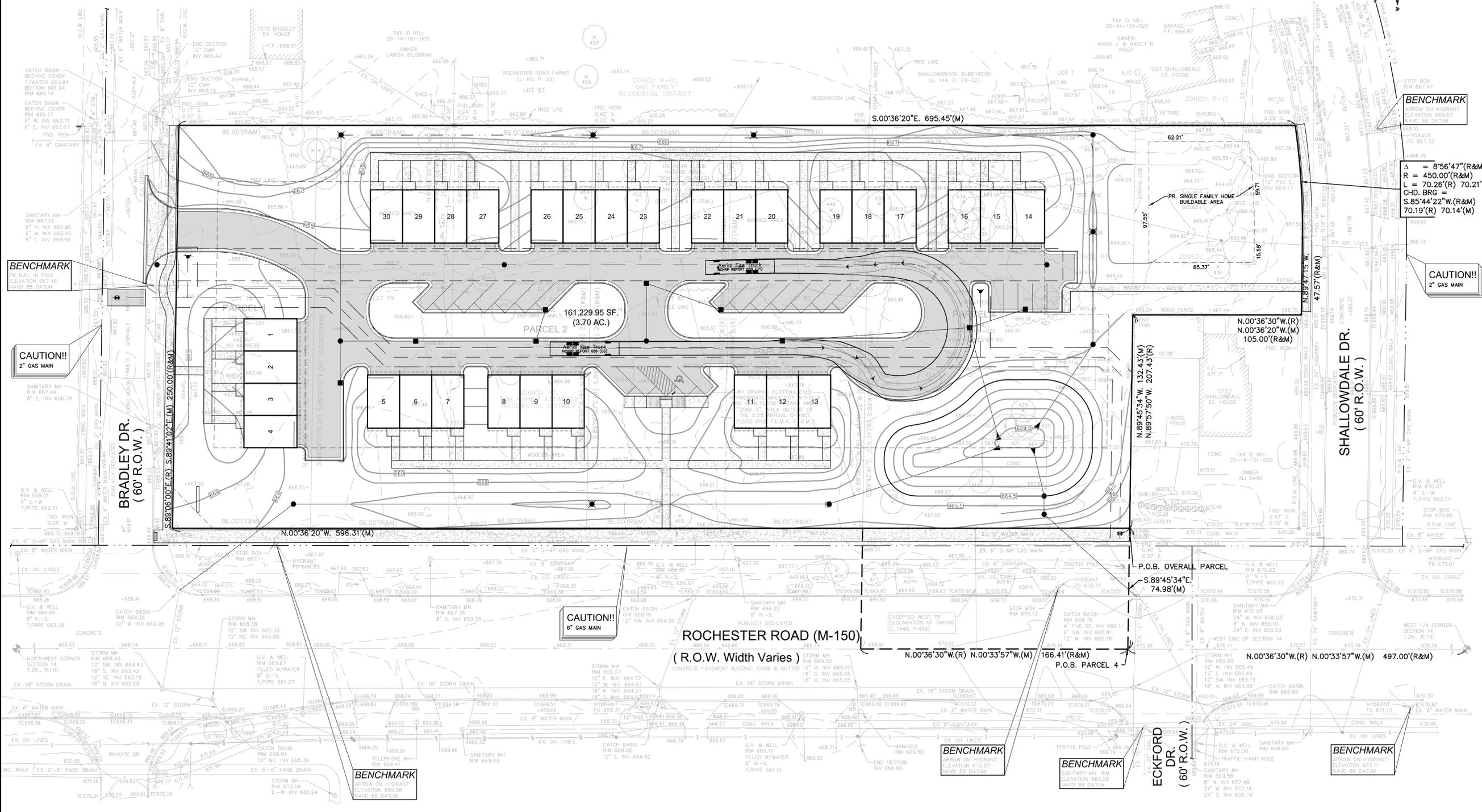
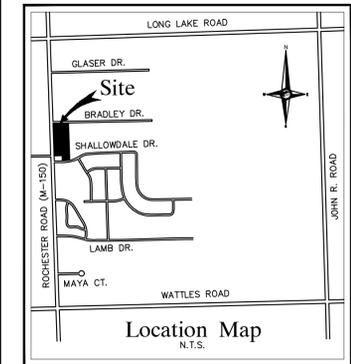
A WHITE HIGH VISIBILITY STRIPE SHALL BE PAINTED ON THE UPPER FLANGE OF ALL FIRE HYDRANTS.



Dimension	Value	Unit
Width	8.33	feet
Track	8.33	feet
Lock to Lock Time	6.0	seconds
Steering Angle	33.3	degrees

LEGEND

MANHOLE	EXISTING SANITARY SEWER
HYDRANT	SAN. CLEAN OUT
MANHOLE CATCH BASIN	EXISTING WATERMAIN
UTILITY POLE	EXISTING STORM SEWER
GUY POLE	EX. R. Y. CATCH BASIN
GUY WIRE	EXISTING BURIED CABLES
4	OVERHEAD LINES
1	LIGHT POLE
1	SIGN
C.O.	EXISTING GAS MAIN
HYDRANT	PR. SANITARY SEWER
INLET	PR. WATER MAIN
C.B.	PR. STORM SEWER
MANHOLE	PR. R. Y. CATCH BASIN
PROPOSED LIGHT POLE	PR. R. Y. CATCH BASIN
TC 600.00	PR. TOP OF CURB ELEVATION
GU 600.00	PR. GUTTER ELEVATION
TW 600.00	PR. TOP OF WALK ELEVATION
TP 600.00	PR. TOP OF P.W.M. ELEVATION
FG 600.00	FINISH GRADE ELEVATION



LEGAL DESCRIPTION - PER TITLE COMMITMENT

LAND SITUATED IN THE COUNTY OF OAKLAND, CITY OF TROY, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:

PARCEL 1:
LOT 78 OF ROCHESTER ROAD FARMS, ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 60 OF PLATS, PAGE 22 OF OAKLAND COUNTY RECORDS.

TAX ITEM NO. 20-14-151-001
ADDRESS: VACANT LAND, TROY, MI 48304

PARCEL 2:
LOTS 79 AND 80 OF ROCHESTER ROAD FARMS, ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 60 OF PLATS, PAGE 22 OF OAKLAND COUNTY RECORDS.

TAX ITEM NO. 20-14-151-023
ADDRESS: 4646 ROCHESTER ROAD, TROY, MI 48304

PARCEL 3:
LOTS 81 AND 82 OF ROCHESTER ROAD FARMS, ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 60 OF PLATS, PAGE 22 OF OAKLAND COUNTY RECORDS.

TAX ITEM NO. 20-14-151-024
ADDRESS: 4572 ROCHESTER ROAD, TROY, MI 48304

PARCEL 4:
PART OF THE NORTHWEST 1/4 OF SAID SECTION 14, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT DISTANT NORTH 00 DEGREES 36 MINUTES 30 SECONDS WEST 497.00 FEET FROM THE WEST 1/4 CORNER; THENCE NORTH 00 DEGREES 36 MINUTES 30 SECONDS WEST 166.41 FEET; THENCE SOUTH 89 DEGREES 42 MINUTES 41 SECONDS EAST 325.34 FEET; THENCE SOUTH 00 DEGREES 36 MINUTES 30 SECONDS EAST 265.45 FEET; THENCE ALONG A CURVE TO THE RIGHT, RADIUS OF 450.00 FEET, CHORD BEARS SOUTH 65 DEGREES 44 MINUTES 22 SECONDS WEST 70.19 FEET, A DISTANCE OF 70.19 FEET; THENCE NORTH 89 DEGREES 47 MINUTES 15 SECONDS WEST 47.57 FEET; THENCE NORTH 00 DEGREES 36 MINUTES 30 SECONDS WEST 105.00 FEET; THENCE NORTH 89 DEGREES 57 MINUTES 50 SECONDS WEST 207.43 FEET TO THE POINT OF BEGINNING, EXCEPT THE WEST 75.00 FEET TAKEN FOR PUBLIC HIGHWAY PURPOSES BY DECLARATION OF TAKING RECORDED IN LIBER 7445, PAGE 452, OAKLAND COUNTY RECORDS.

TAX ITEM NO. 20-14-151-025
ADDRESS: 4564 ROCHESTER ROAD, TROY, MI 48304

LEGAL DESCRIPTION - AS SURVEYED

LOTS 78 THROUGH 82, ROCHESTER ROAD FARMS, A SUBDIVISION OF PART OF THE NORTHWEST 1/4 OF SECTION 14, TOWN 2 NORTH, RANGE 11 EAST, TROY TOWNSHIP (NOW CITY OF TROY), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 60 OF PLATS, PAGE 22, OAKLAND COUNTY RECORDS AND PART OF THE NORTHWEST 1/4 OF SECTION 14, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT DISTANT NORTH 00 DEGREES 33 MINUTES 57 SECONDS WEST 497.00 FEET ALONG THE WEST LINE OF SAID SECTION FROM THE WEST 1/4 CORNER AND SOUTH 89 DEGREES 45 MINUTES 34 SECONDS EAST 74.88 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF ROCHESTER ROAD (WIDTH VARIES); THENCE NORTH 00 DEGREES 36 MINUTES 20 SECONDS WEST 596.31 FEET ALONG THE EAST RIGHT-OF-WAY LINE OF SAID ROCHESTER ROAD TO THE NORTHWEST CORNER OF SAID LOT 78, ALSO BEING A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF BRADLEY DRIVE (60' WIDE); THENCE SOUTH 89 DEGREES 41 MINUTES 00 SECONDS EAST 290.00 FEET ALONG THE SOUTH RIGHT-OF-WAY LINE OF SAID BRADLEY DRIVE TO THE NORTHEAST CORNER OF SAID LOT 78; THENCE SOUTH 00 DEGREES 36 MINUTES 20 EAST 695.45 FEET TO THE SOUTHWEST CORNER OF LOT 1 OF SHALLOWDALE SUBDIVISION AS RECORDED IN LIBER 144 OF PLATS, PAGES 20-22, ALSO BEING A POINT ON THE NORTH RIGHT-OF-WAY LINE OF SHALLOWDALE DRIVE (60' WIDE); THENCE THE FOLLOWING TWO (2) COURSES ALONG THE NORTH RIGHT-OF-WAY LINE OF SAID SHALLOWDALE DRIVE: 1) ALONG A CURVE TO THE RIGHT, RADIUS OF 450.00 FEET, CHORD BEARS SOUTH 85 DEGREES 44 MINUTES 22 SECONDS WEST 70.14 FEET A DISTANCE OF 70.21 FEET AND 2) NORTH 89 DEGREES 47 MINUTES 15 SECONDS WEST 47.57 FEET; THENCE NORTH 00 DEGREES 36 MINUTES 20 SECONDS WEST 105.00 FEET; THENCE NORTH 89 DEGREES 45 MINUTES 34 SECONDS WEST 132.43 FEET TO THE POINT OF BEGINNING.

FLOOD HAZARD NOTE

BY GRAPHIC PLOTTING ONLY, PORTIONS OF THE PROPERTY DESCRIBED ON THIS SURVEY (IES WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE OF A 100 YEAR FLOOD) AND ZONE X-SHADING (AREAS OF 0.2% ANNUAL CHANCE FLOOD) OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NO. 26120C0534F BEARING AN EFFECTIVE DATE OF SEPT. 29, 2006.

TOPOGRAPHIC SURVEY NOTES

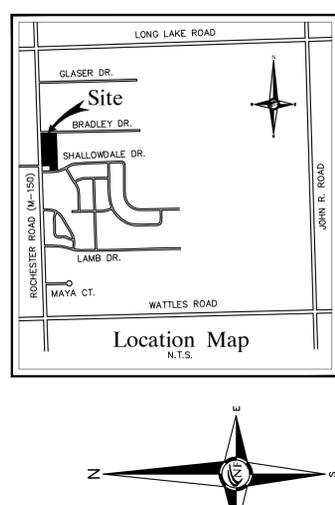
ALL ELEVATIONS ARE EXISTING ELEVATIONS, UNLESS OTHERWISE NOTED.

UTILITY LOCATIONS WERE OBTAINED FROM MUNICIPAL OFFICIALS AND RECORDS OF UTILITY COMPANIES, AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, OR EXACTNESS OF LOCATION.

Tree Inventory List #	Botanical Name	Common Name	DBH	Type	Other Data	Condition	Comments
001	Ulmus americana	White Elm	8"	Single		Good	
002	Acer rubrum	Red Maple	8"	Single		Fair	Light brown bark
003	Ulmus americana	White Elm	8"	Single		Good	
004	Ulmus americana	White Elm	8"	Single		Good	
005	Ulmus americana	White Elm	8"	Single		Good	
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100	Ulmus americana	White Elm	8"	Single		Good	

LEGEND

MANHOLE(MH)	EXISTING SANITARY SEWER
HYDRANT	EXISTING SAN. CLEAN OUT
MANHOLE	EXISTING WATER MAIN
CATCH BASIN(CB)	EXISTING STORM SEWER
	EX. R.Y. CATCH BASIN
	EX. UNDERGROUND (UG.) CABLE
UTILITY POLE	OVERHEAD (OH.) LINES
GUY POLE	LIGHT POLE
GUY WIRE	SIGN
	EXISTING GAS MAIN
DS	DOWNSPOUT
CONC.	CONCRETE
FND.	FOUND
GP	GUARD POST
R.O.W.	RIGHT-OF-WAY
SPK	SET PK NAIL
TYP	TYPICAL
(R)	RECORD
(M)	MEASURED
C/L	CENTERLINE
MB	MAILBOX
A/C	AIR CONDITIONING UNIT
F.F.	FINISH FLOOR
LS	LANDSCAPE

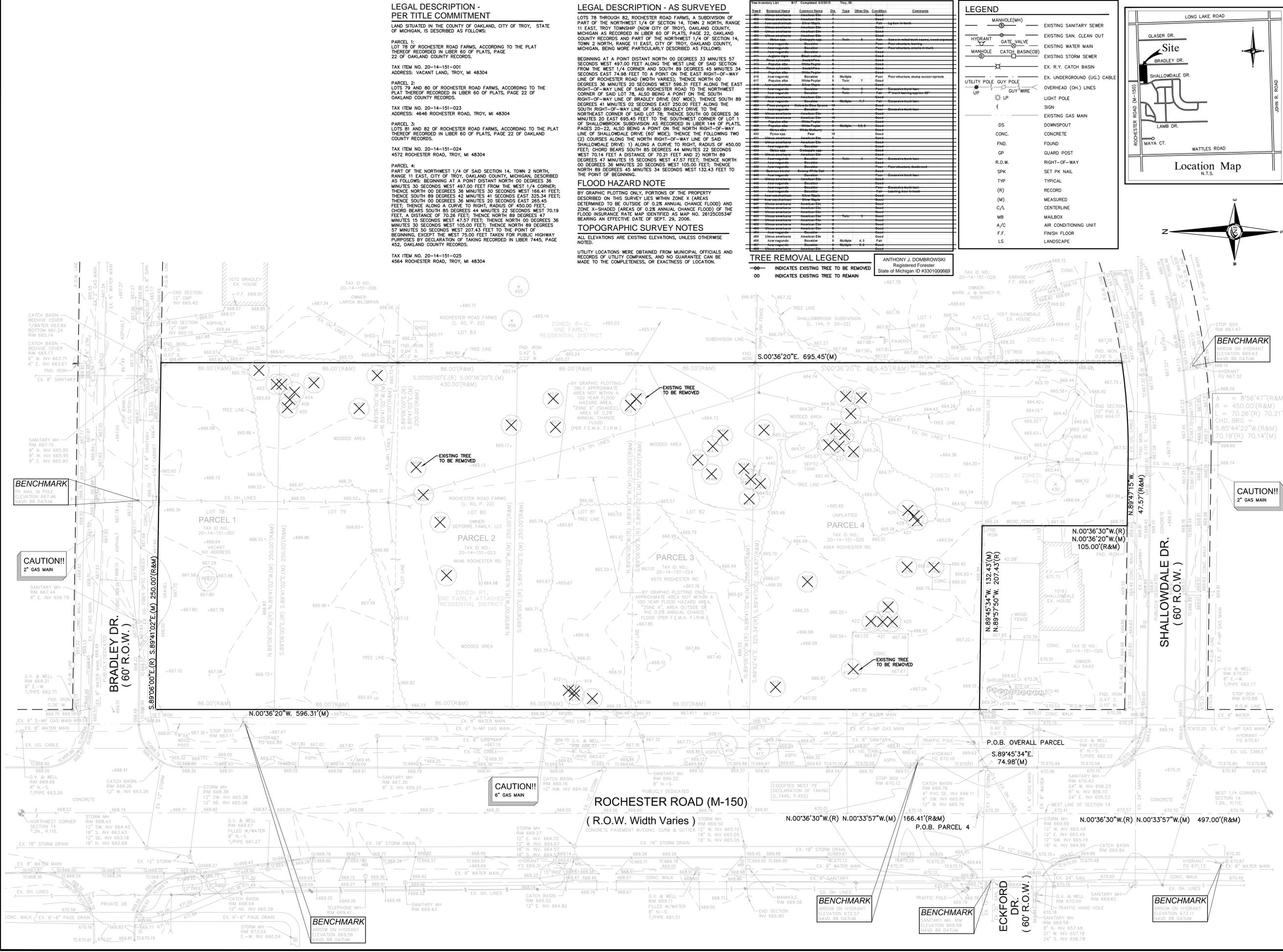


NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
4677 WOODWARD AVE.
PONTIAC, MI 48342-7931
TEL. (248) 332-7931
FAX. (248) 332-8257

SEAL

STATE OF MICHIGAN
KEVIN NAVAROLI
PROFESSIONAL SURVEYOR
NO. 55303
LICENSED PROFESSIONAL SURVEYOR



PROJECT
DePore Property - Rochester Road between Bradley & Shallowdale Troy, MI 48304

CLIENT
Robertson Brothers Homes
6905 Telegraph Road,
Suite 200
Bloomfield Hills, MI 48301

Contact: Tim Loughrin
248.282.1428 - Phone
248.282.1432 - Fax

PROJECT LOCATION
Part of the NW 1/4 of Section 14
T.2N., R.11E.
City of Troy,
Oakland County, Michigan

SHEET
Tree Preservation Plan

811
Know what's below
Call before you dig.

REVISIONS
08-31-15 ISSUED FOR PRELIM. SITE PLAN
10-13-15 REVISED PER CITY REVIEW
11-12-15 REVISED PER CITY REVIEW

DRAWN BY:
M. Carnaghi
DESIGNED BY:

APPROVED BY:
K. Navaroli

DATE:
June 15, 2015

SCALE: 1" = 30'

NFE JOB NO. SHEET NO.
I617 SP5

LEGEND

-  = Deciduous Shade Tree, typ.
-  = Deciduous Evergreen Tree, typ.
-  = Deciduous Ornamental Tree, typ.



sheet title:
Overall Landscape Plan

project title:
Bradley Square

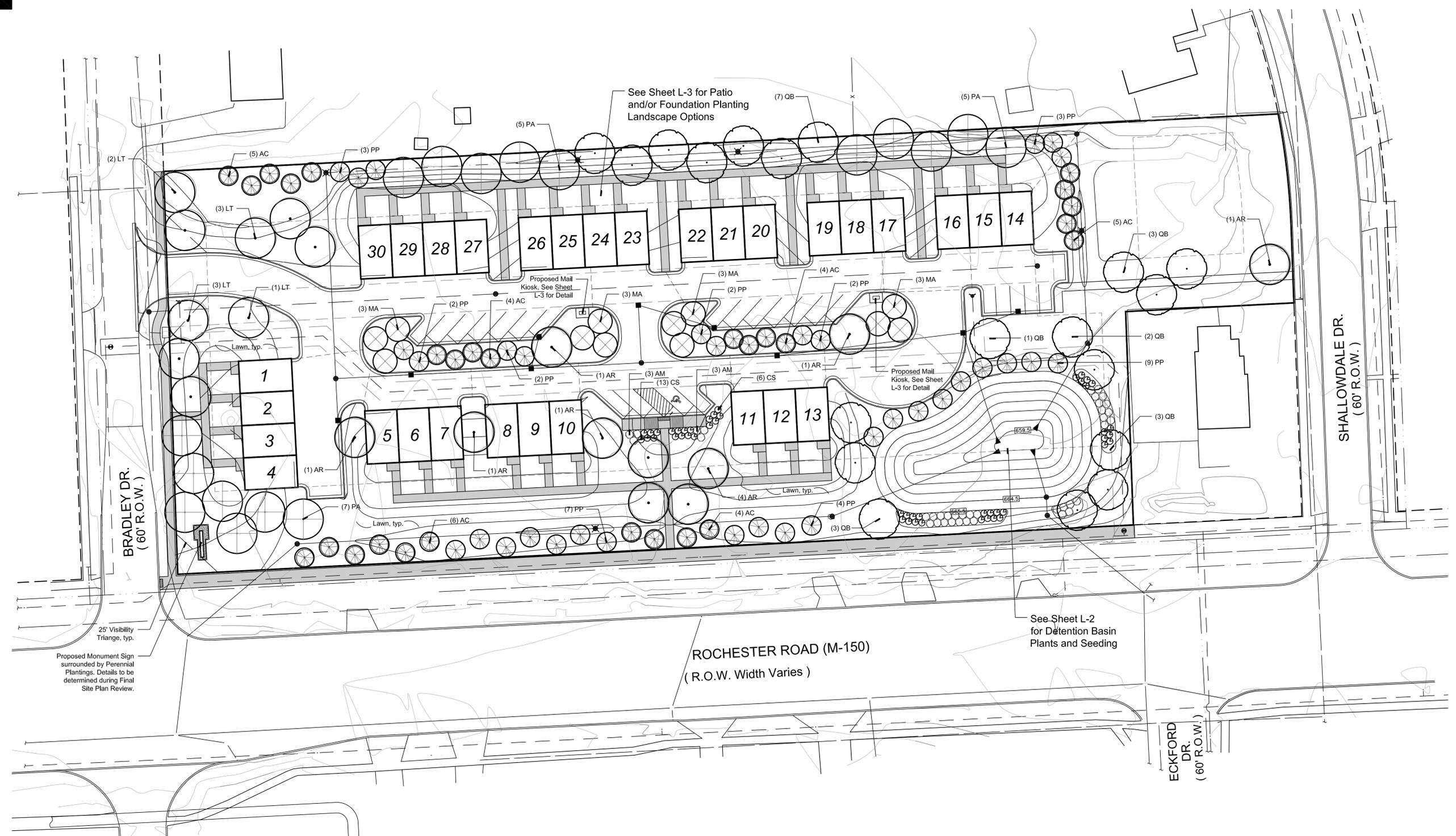
City of Troy, MI
prepared for:
Robertson Brothers Homes
6905 Telegraph Rd. - Suite 200
Bloomfield Hills, MI 48301

Phone: 248.282.1454

job number: 14036
date: 08.27.2015

drawn by: EJ
checked by: WTK

revisions:
10.12.15 Revisions Per Municipal Review
11.12.15 Revisions Site Plan Adjustment



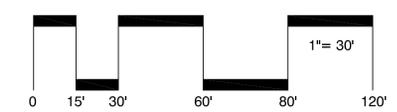
Site Data

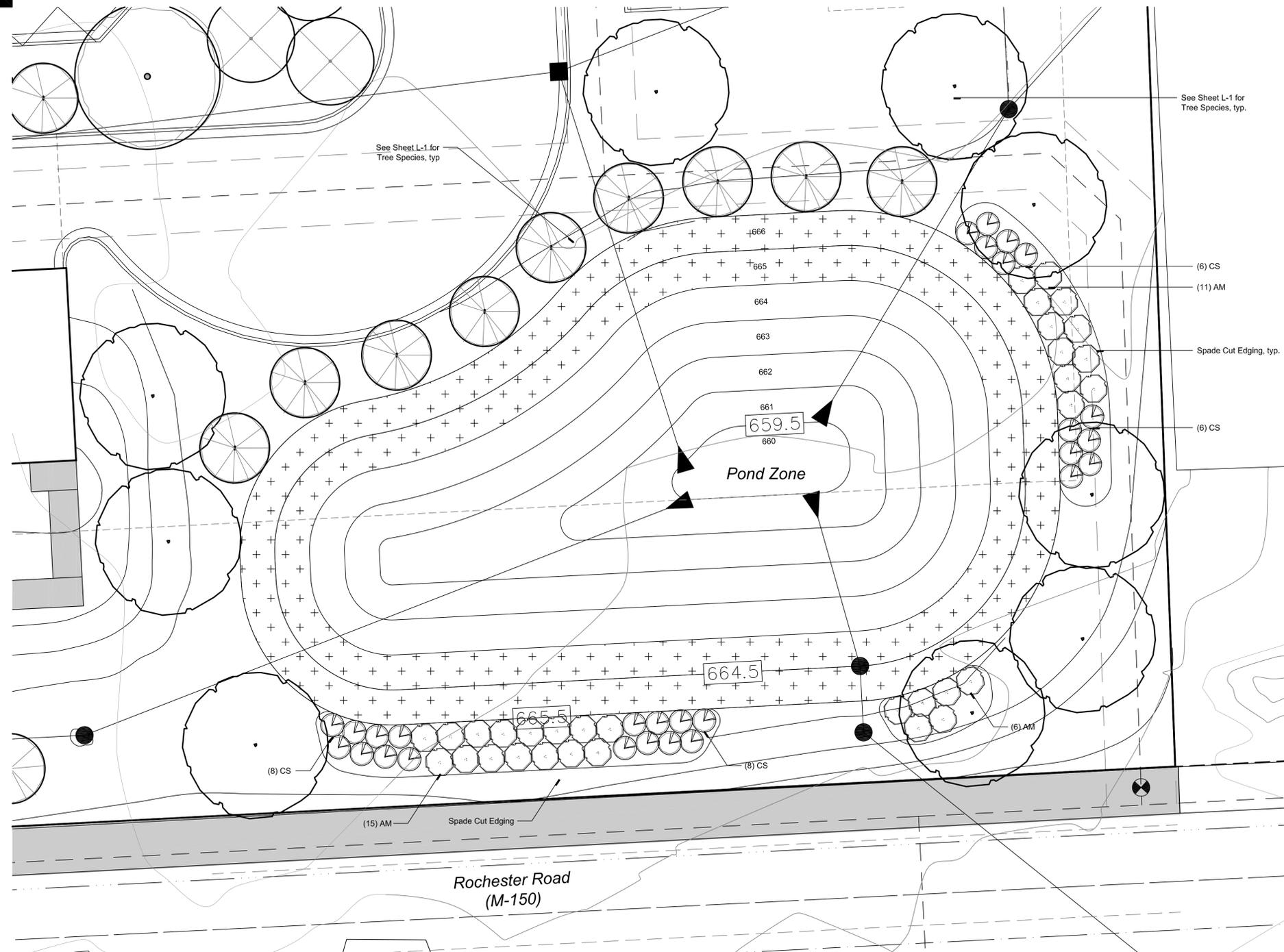
- Parking Lot Tree Requirements:**
 - 23 Total Parking Spaces
 - 1 Tree Required / 8 Parking Spaces
 - Trees Required = 3
 - Trees Provided = 3
- Green Belt Requirements:**
 - Rochester Road:**
 - 409.68 L.F. Road Frontage
 - Rochester R.O.W. at Site = 120'
 - 1 Tree Required / 10 L.F. of Frontage
 - Trees Required = 41
 - Trees Provided = 22
 - Bradley Road:**
 - 250 L.F. Road Frontage
 - 1 Tree Required / 30 L.F. of Frontage
 - Trees Required = 9
 - Trees Provided = 9
- General Site Landscaping Requirements:**
 - Total Site Area = 161,229.95 S.F. (3.70 Ac)
 - Total Open/Landscape Area = 89,715.04 S.F. (2.06 Ac)
 - Total Open/Landscape Area Required = 20%
 - Total Open/Landscape Area Provided = 55%

- Internal Street Tree Requirements:**
 - 1,450.38 L.F. of Interior Street Frontage
 - Trees Required = 30
 - Trees Provided = 30
 - *All Interior Street Trees are provided in the two center islands due to reverse orientation of the Proposed Building Units
- Trees Being Removed = 58**
- Prohibited Species Being Removed = 49**
- Extra Trees being Provided = 54**
- *Extra Trees are included as additional screening and for aesthetic purposes

Plant Schedule

Trees						
sym.	qty.	botanical name	common name	size	spacing	root
AC	28	<i>Abies concolor</i>	White Fir	6' Ht.	12' o.c.	B&B
AR	10	<i>Acer rubrum 'Armstrong'</i>	Armstrong Red Maple	3" cal.	per plans	B&B
LT	9	<i>Liriodendron tulipifera</i>	Tulip Tree	3" cal.	per plans	B&B
MA	12	<i>Malus 'Adirondack'</i>	Adirondack Flowering Crab	2.5" cal.	15' o.c.	B&B
PA	17	<i>Platanus x acerifolia</i>	London Plane Tree	3" cal.	per plans	B&B
PP	34	<i>Picea pungens</i>	Colorado Blue Spruce	6' Ht.	12' o.c.	B&B
QB	19	<i>Quercus bicolor</i>	Swamp White Oak	3" cal.	per plans	B&B
Shrubs						
sym.	qty.	botanical name	common name	size	spacing	root
AM	6	<i>Aronia melanocarpa</i>	Black Chokeberry	#3	5' o.c.	cont.
CS	19	<i>Cornus sericea 'Farrow'</i>	Arctic Fire Red Twig Dogwood	#3	48" o.c.	cont.





Seed Mix Schedule

Botanical Name	Common Name	PLS Ounces/Acre	Seeds/Oz	Seeds/SQ FT
Stormwater Seed Mix				
Permanent Grasses/Sedges/Rushes:				
<i>Carex crinitella</i>	Crested Oval Sedge	1.00	59000	1.35
<i>Carex lurida</i>	Bottlebrush Sedge	2.00	12000	0.55
<i>Carex vulpinoidea</i>	Brown Fox Sedge	6.00	125000	17.22
<i>Elymus virginicus</i>	Virginia Wild Rye	12.00	4375	1.21
<i>Glyceria striata</i>	Fowl Manna Grass	1.25	125000	3.59
<i>Juncus effusus</i>	Common Rush	1.00	281000	6.45
<i>Juncus torreyi</i>	Torrey's Rush	0.25	1134000	6.51
<i>Laersia cryocoides</i>	Rice Cut Grass	1.00	94500	2.17
<i>Panicum virgatum</i>	Switch Grass	8.00	28356	5.21
<i>Scirpus atrovirens</i>	Dark Green Rush	1.00	187500	4.30
<i>Scirpus cyperus</i>	Wool Grass	0.50	562500	6.46
<i>Scirpus fluviatilis</i>	River Bulrush	0.25	275000	0.16
<i>Scirpus validus</i>	Great Bulrush	6.00	37813	5.21
		Total	40.25	60.38
Temporary Cover:				
<i>Avena sativa</i>	Common Oat	360.00	8125	67.15
<i>Lolium multiflorum</i>	Annual Rye	100.00	14188	32.57
		Total	460.00	99.72
Forbs & Shrubs:				
<i>Alisma spp.</i>	Water Plantain (Varic)	4.25	70175	6.85
<i>Asclepias incarnata</i>	Swamp Milkweed	1.50	4540	0.16
<i>Bidens spp.</i>	Bidens (Various Mix)	2.00	14175	0.65
<i>Helianthus autumnale</i>	Sneezeweed	2.00	141750	6.51
<i>Lycopus americanus</i>	Common Water Hore	0.25	235000	1.35
<i>Mimulus ringens</i>	Monkey Flower	1.00	283500	6.51
<i>Penthorum sedoides</i>	Ditch Stonecrop	0.50	36033	0.41
<i>Polygonum persyvanicu</i>	Pinkweed	4.00	4033	0.37
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Si	1.00	46000	1.06
<i>Sagittaria latifolia</i>	Common Arrowhead	1.00	56700	1.30
<i>Senna hebecarpa</i>	Wild Senna	1.00	1400	0.03
<i>Thalictrum dasycarpum</i>	Purple Meadow Rue	2.00	13500	0.62
		Total	20.50	25.82

Detention Basin Seeding Summary

Edge Zone - Elev. 664'-666'

4,087 s.f.
 32.6 lbs. per Acre Application Rate
 19.9 lbs. of Stormwater Seed Mix
 3"-6" of Topsoil or Wetland Mulch Shall be Placed in this Area. Use Seed Mat.

Detention Pond Summary

Detention Pond Elevations
 Permanent Water 664.50'
 Free Board 665.50'

Plant Schedule

Shrubs						
sym.	qty.	botanical name	common name	size	spacing	root
AM	32	<i>Aronia melanocarpa</i>	Black Chokeberry	#3	5' o.c.	cont.
CS	28	<i>Cornus sericea 'Farrow'</i>	Arctic Fire Red Twig Dogwood	#3	48" o.c.	cont.

18161 W. Thirteen Mile Rd, Suite B-4
 Southfield, MI 48076
 T: 248.594.3220
 F: 248.594.3260

LEGEND



Detention Basin Seed Plan

project title:
Bradley Square
 City of Troy, MI

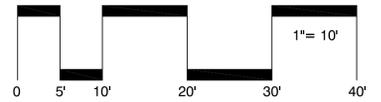
prepared for:
 Robertson Brothers Homes
 6905 Telegraph Rd. - Suite 200
 Bloomfield Hills, MI 48301

Phone: 248.282.1454

job number: 14036
 date: 08.27.2015

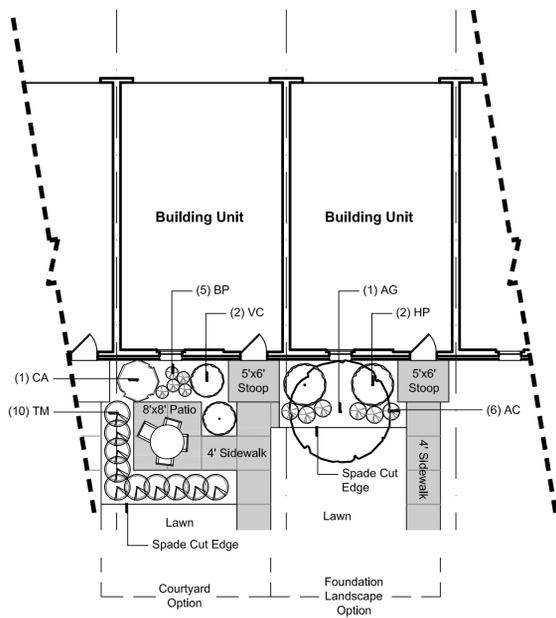
drawn by: EJ
 checked by: WTK

revisions:
 10.12.15 Revisions Per Municipal Review
 11.12.15 Revisions Per Site Plan Adjustments



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LEGEND



North and East Exposure Typical Unit Landscape Detail

Scale: 1" = 10'-0"

Foundation Landscape Plant Schedule

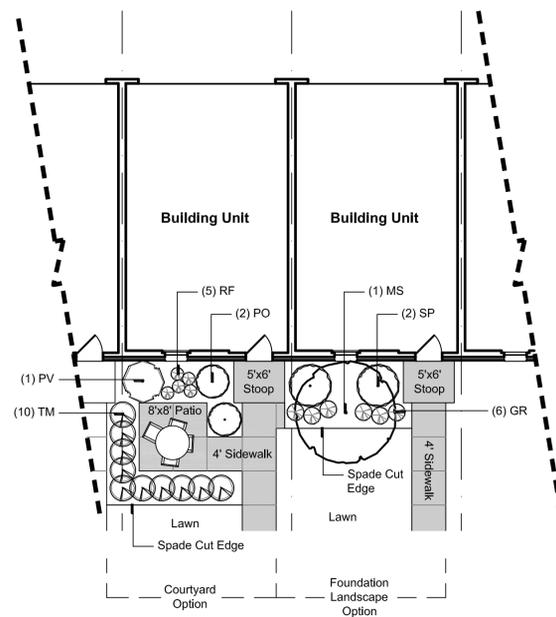
Trees					
sym.	qty.	botanical name	common name	size	root
AG	1	<i>Amelanchier x grandiflora</i> 'Autumn Brilliance'	Autumn Brilliance Serviceberry	2" cal	B&B
Shrubs					
sym.	qty.	botanical name	common name	size	root
HP	2	<i>Hydrangea paniculata</i> 'Pinky Winky'	Pinky Winky Panicle Hydrangea	#5	cont.
Ornamental Grasses, Perennials & Bulbs					
sym.	qty.	botanical name	common name	size	root
AC	6	<i>Astilbe chinensis</i> 'Visions'	Visions Astilbe	#1	cont.

Courtyard Landscape Plant Schedule

Shrubs					
sym.	qty.	botanical name	common name	size	root
CA	1	<i>Clethra alnifolia</i> 'Ruby Spice'	Ruby Spice Summersweet	#5	cont.
TM	8	<i>Taxus x media</i> 'Hicksii'	Hick's Yew	24"-30"	cont.
VC	2	<i>Viburnum carlesii</i>	Korean Spice Viburnum	24"-30"	B&B
Ornamental Grasses, Perennials & Bulbs					
sym.	qty.	botanical name	common name	size	root
BP	5	<i>Bergenia</i> 'Pink Dragonfly'	Pink Dragonfly Bergenia	#1	cont.

Landscape Notes

- All plant material shall be true to name, free from physical damage and wind burn.
- Plants shall be full, well-branched, and in healthy vigorous growing condition.
- Plants shall be watered before and after planting is complete.
- All trees must be staked, fertilized and mulched and shall be guaranteed to exhibit a normal growth cycle for at least one (1) full year following planting.
- All material shall conform to the guidelines established in the most recent edition of the American Standard for Nursery Stock.
- Provide clean backfill soil, using material stockpiled on site. Soil shall be screened and free of any debris, foreign material, and stone.
- "Agriform" tabs or similar slow-release fertilizer shall be added to the planting pits before being backfilled.
- Amended planting mix shall consist of 1/3 screened topsoil, 1/3 sand and 1/3 peat, mixed well and spread to the depth as indicated in planting details.
- All plantings shall be mulched with shredded hardwood bark, spread to a minimum depth of 4". Mulch is to be free from debris and foreign material, and shall contain no pieces of inconsistent size.
- The Landscape Contractor shall be responsible for all work shown on the landscape drawings and specifications.
- No substitutions or changes of location, or plant types shall be made without the approval of the Landscape Architect or owner's representative.
- The Landscape Architect shall be notified of any discrepancies between the plans and field conditions prior to installation.
- The Landscape Contractor shall be responsible for maintaining all plant material in a vertical condition throughout the guaranteed period.
- The Landscape Architect shall have the right, at any stage of the installation, to reject any work or material that does not meet the requirements of the plans and specifications, if requested by owner/owner's representative.
- Contractor shall be responsible for checking plant quantities to ensure quantities on drawings and plant list are the same. In the event of a discrepancy, the quantities on the plans shall prevail.
- The Landscape Contractor shall seed and mulch or sod (as indicated on plans) all areas disturbed during construction, throughout the contract limits.
- A pre-emergent weed control agent, "Preen" or equal, shall be applied uniformly to all planting beds prior to mulching.
- All lawn areas to be irrigated.
- Plant material shall be field adjusted to screen utility boxes and condensers.
- The Developer & Landscape Architect reserve the right to change location of plant material and alter species / variety at the time of installation based upon availability and quality of material as well as site conditions. Materials will be of similar size, appearance and growth habit.



West Exposure Typical Unit Landscape Detail

Scale: 1" = 10'-0"

Foundation Landscape Plant Schedule

Trees					
sym.	qty.	botanical name	common name	size	root
MS	1	<i>Malus 'Sutyam'</i>	Sugar Tyme Flowering Crabapple	2" cal	B&B
Shrubs					
sym.	qty.	botanical name	common name	size	root
SP	2	<i>Syringa pubescens subsp. patula</i> 'Miss Kim'	Miss Kim Lilac	#5	cont.
Ornamental Grasses, Perennials & Bulbs					
sym.	qty.	botanical name	common name	size	root
GR	6	<i>Geranium 'Rozanne'</i>	Rozanne Geranium	#1	cont.

Courtyard Landscape Plant Schedule

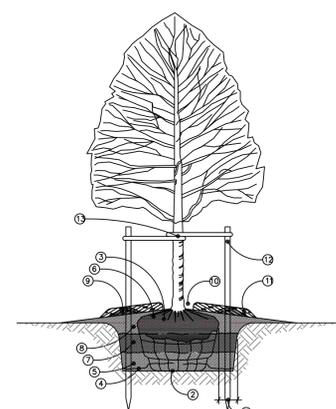
Shrubs					
sym.	qty.	botanical name	common name	size	root
PO	2	<i>Physocarpus opulifolius</i> 'Seward'	Summer Wine Ninebark	#5	cont.
TM	8	<i>Taxus x media</i> 'Hicksii'	Hick's Yew	24"-30"	cont.
Ornamental Grasses, Perennials & Bulbs					
sym.	qty.	botanical name	common name	size	root
PV	1	<i>Panicum virgatum</i> 'Northwind'	Northwind Switch Grass	#3	cont.
RF	5	<i>Rudbeckia fulgida var. sullivanti</i> 'Goldsturm'	Goldsturm Black-Eyed Susan	#1	cont.



Mail Kiosk Detail

Manufacture: Salisbury Industries
(1-800-624-5299)
Mailboxes.com

Product: Cluster Box Unit (CBU)
(16) "A" Mail Compartments.
(2) Parcel lockers.
(1) Pedestal.
Color per owner/ developer.



DECIDUOUS TREE PLANTING DETAIL

Tree 4" Cal. & Under
NOT TO SCALE

- INSTALLATION NOTES:**
- DIG PLANT POCKET 12" WIDER THAN EDGE OF ROOTBALL.
 - THOROUGHLY COMPACT BOTTOM OF PLANT POCKET.
 - REMOVE ALL TWINE FROM TOP OF ROOTBALL. EXAMINE TRUNK COLLAR & REMOVE EXCESS SOIL FROM TOP OF ROOTBALL DOWN TO THE UPPER LEVEL OF THE ROOT SYSTEM. SET ROOTBALL WITH TOP 18" OF BALL ABOVE FINISH GRADE.
 - PLACE BACKFILL UNDER & ALONGSIDE BASE OF BALL TO STRAIGHTEN TREE. THOROUGHLY COMPACT TO FILL ALL VOIDS.
 - BACKFILL PLANT POCKET 1/3 WITH PLANTING MIX CONSISTING OF 50% TOPSOIL & 50% NATIVE SOIL & COMPACT THOROUGHLY, ASSURING TREE IS STILL STRAIGHT.
 - BEFORE CONTINUING WITH BACKFILL, REMOVE TOP WIRE LOOPS, OR BEND DOWN UNTIL THEY TOUCH SIDE OF BALL. REMOVE EXCESS BURLAP.
 - BACKFILL PLANT POCKET SECOND 1/3 WITH PLANTING MIX & COMPACT THOROUGHLY, ASSURING TREE IS STILL STRAIGHT.
 - BACKFILL PLANT POCKET LAST 1/3 WITH PLANTING MIX & COMPACT THOROUGHLY, ASSURING TREE IS STILL STRAIGHT. SLOPE GRADE AWAY FROM TREE.
 - IF PLANTED IN NON-IRRIGATED AREAS, FORM A SAUCER WITH SOIL AT OUTSIDE EDGE OF ROOTBALL.
 - SHREDED BARK MULCH, 3" DEPTH. MULCH TO BE NATURAL IN COLOR. LEAVE 2-3" RING EXPOSED AT BASE OF TRUNK.
 - MULCH RINGS TO BE CONSISTENT WITH PLANT TYPE/SIZE THROUGHOUT PROJECT & SHOULD NOT EXTEND BEYOND PLANT POCKET.
 - MINIMUM 2"x2"x40" HARDWOOD STAKES TO EXTEND INTO UNDISTURBED SOIL UNDER PLANT POCKET. STAKE LOCATIONS PER TREE TO BE CONSISTENT THROUGHOUT PROJECT.
 - 1" WIRE BELL LIKE NYLON, PLASTIC, OR OTHER ACCEPTABLE MATERIAL, NO WIRE OR HOSE TO BE USE TO GUY TREES. TWO (2) GUYS PER TREE.

sheet title:

Details

project title:

Bradley Square

City of Troy, MI

prepared for:
Robertson Brothers Homes
6905 Telegraph Rd. - Suite 200
Bloomfield Hills, MI 48301

Phone: 248.282.1454

job number: date:

14036 08.27.2015

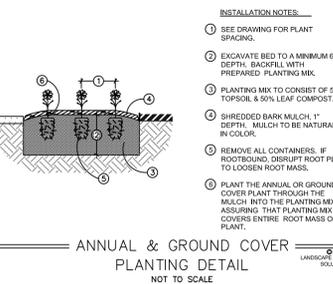
drawn by: checked by:

EJ WTK



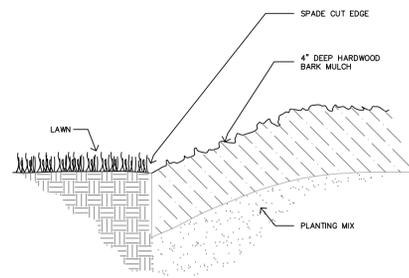
revisions:
10.12.15 Revisions Per Municipal Review
11.12.15 Revisions Per Site Plan Adjustments

sheet no.



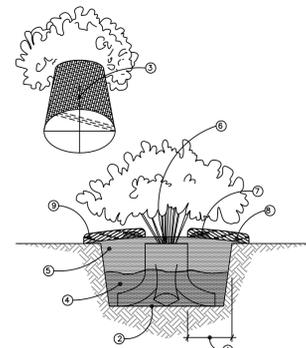
ANNUAL & GROUND COVER PLANTING DETAIL

NOT TO SCALE



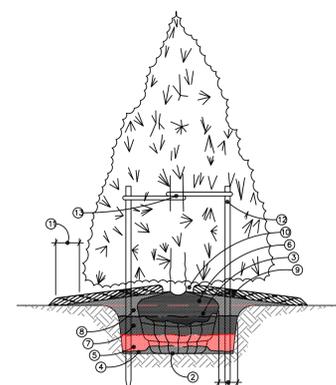
Spade Cut Edge Detail

NTS



CONTAINER SHRUB PLANTING DETAIL

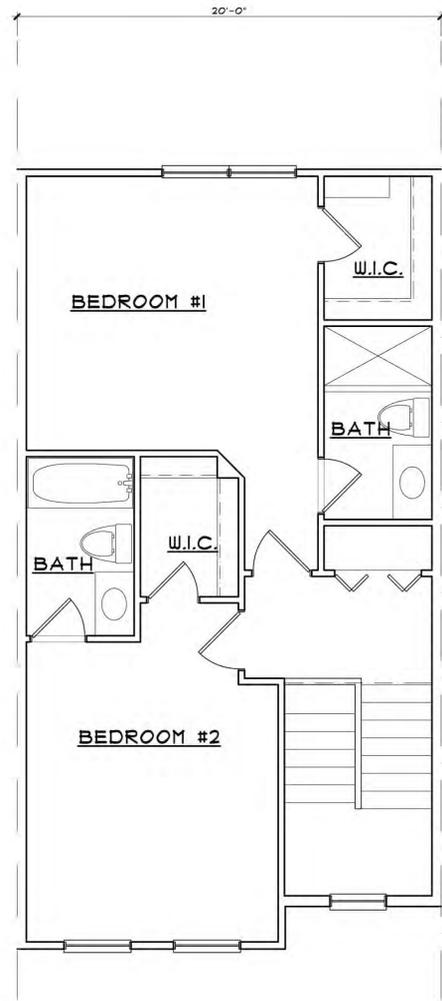
POT BOUND SHRUBBERY
NOT TO SCALE



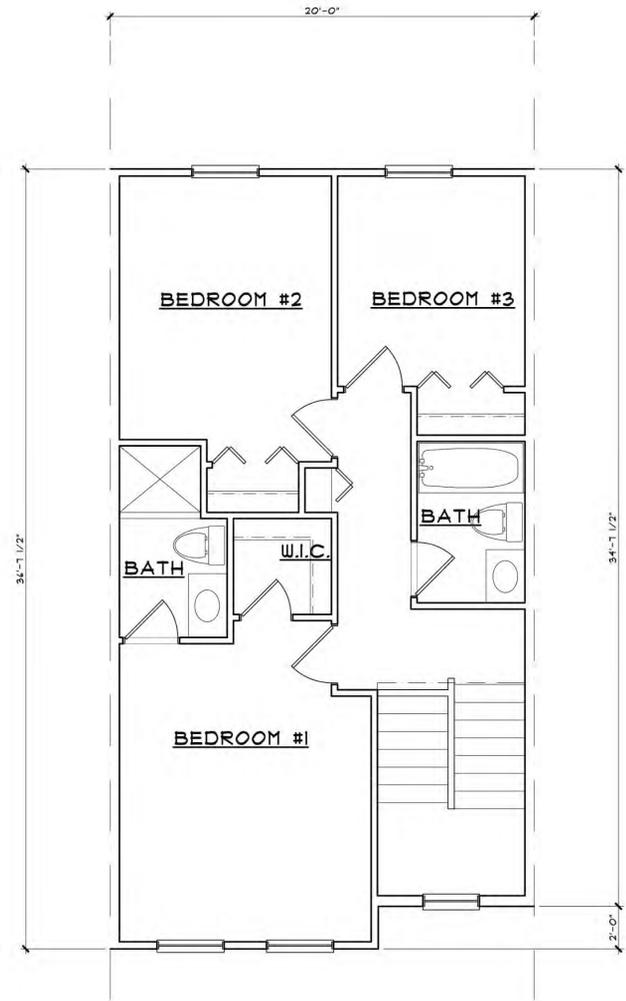
EVERGREEN TREE PLANTING DETAIL

Trees 10' Ht. & Under
NOT TO SCALE

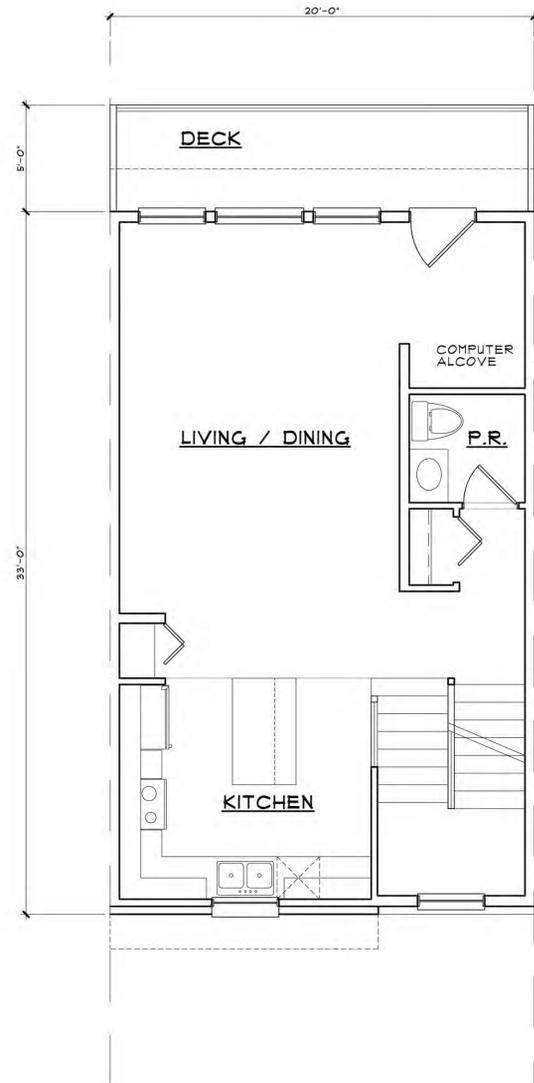
- INSTALLATION NOTES:**
- DIG PLANT POCKET 12" WIDER THAN EDGE OF ROOTBALL.
 - THOROUGHLY COMPACT BOTTOM OF PLANT POCKET.
 - REMOVE ALL TWINE FROM TOP OF ROOTBALL. EXAMINE TRUNK COLLAR & REMOVE EXCESS SOIL FROM TOP OF ROOTBALL DOWN TO THE UPPER LEVEL OF THE ROOT SYSTEM. SET ROOTBALL WITH TOP 18" OF BALL ABOVE FINISH GRADE.
 - PLACE BACKFILL UNDER & ALONGSIDE BASE OF BALL TO STRAIGHTEN TREE. THOROUGHLY COMPACT TO FILL ALL VOIDS.
 - BACKFILL PLANT POCKET 1/3 WITH PLANTING MIX CONSISTING OF 50% TOPSOIL & 50% NATIVE SOIL & COMPACT THOROUGHLY, ASSURING TREE IS STILL STRAIGHT.
 - BEFORE CONTINUING WITH BACKFILL, REMOVE TOP WIRE LOOPS, OR BEND DOWN UNTIL THEY TOUCH SIDE OF BALL. REMOVE EXCESS BURLAP.
 - BACKFILL PLANT POCKET SECOND 1/3 WITH PLANTING MIX & COMPACT THOROUGHLY, ASSURING TREE IS STILL STRAIGHT.
 - BACKFILL PLANT POCKET LAST 1/3 WITH PLANTING MIX & COMPACT THOROUGHLY, ASSURING TREE IS STILL STRAIGHT. SLOPE GRADE AWAY FROM TREE.
 - IF PLANTED IN NON-IRRIGATED AREAS, FORM A SAUCER WITH SOIL AT OUTSIDE EDGE OF ROOTBALL.
 - SHREDED BARK MULCH, 3" DEPTH. MULCH TO BE NATURAL IN COLOR. LEAVE 2-3" RING EXPOSED AT BASE OF TRUNK.
 - MULCH RINGS TO BE CONSISTENT WITH PLANT TYPE/SIZE THROUGHOUT PROJECT & SHOULD NOT EXTEND BEYOND LOWEST BRANCH OF EVERGREEN TREES.
 - MINIMUM 2"x2"x40" HARDWOOD STAKES TO EXTEND INTO UNDISTURBED SOIL UNDER PLANT POCKET. STAKE LOCATIONS PER TREE TO BE CONSISTENT THROUGHOUT PROJECT.
 - 1" WIRE BELL LIKE NYLON, PLASTIC, OR OTHER ACCEPTABLE MATERIAL, NO WIRE OR HOSE TO BE USE TO GUY TREES. TWO (2) GUYS PER TREE.



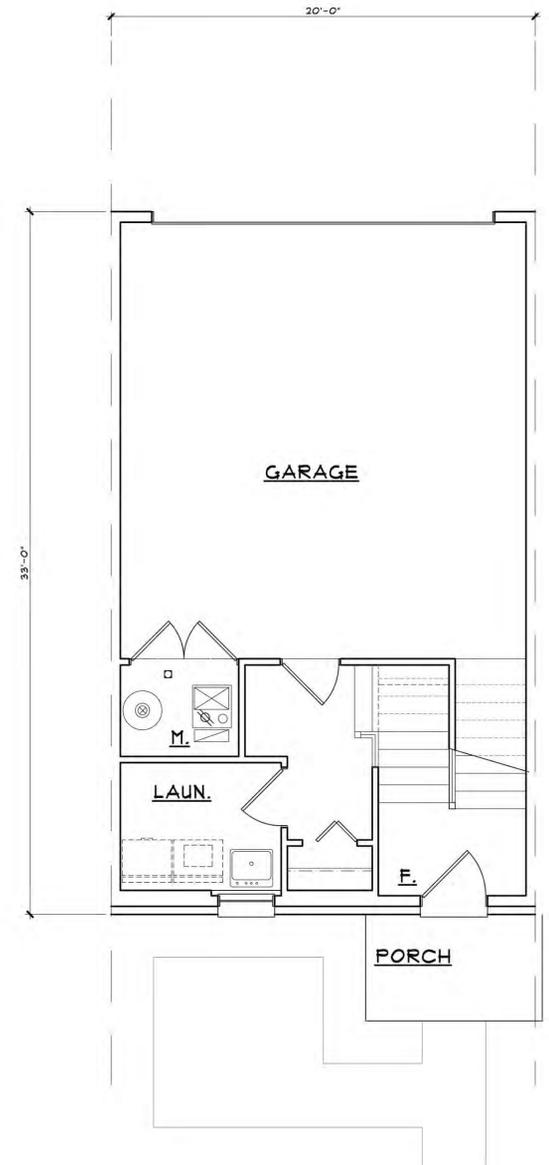
SECOND FLOOR PLAN
 2 BEDROOM UNIT- ELEVATIONS 'A' & 'C' SCALE: 1/4" = 1'-0"



SECOND FLOOR PLAN
 3 BEDROOM UNIT- ELEVATIONS 'A' & 'C' SCALE: 1/4" = 1'-0"



FIRST FLOOR PLAN
 SCALE: 1/4" = 1'-0"



LOWER LEVEL PLAN
 SCALE: 1/4" = 1'-0"

SQUARE FOOTAGE	
LOWER LEVEL	212 SQ FT
1ST FLOOR	440 SQ FT
2ND FLOOR	641 SQ FT
TOTAL	1,513 SQ FT

BRADLEY SQUARE
 ROBERTSON BROTHERS

TROY, MICHIGAN

Alexander V Bogaerts + Associates, P.C.
 Architecture • Planning • Interior Design
 2445 Franklin Road
 Bloomfield Hills, MI 48302
 248 • 334 • 5000





LEFT SIDE ELEVATION

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



REAR ELEVATION

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



FRONT ELEVATION

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



RIGHT SIDE ELEVATION

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

BRADLEY SQUARE
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TROY, MICHIGAN

Alexander V Bogaerts + Associates, P.C.
Architecture • Planning • Interior Design
2445 Franklin Road
Bloomfield Hills, MI 48302
248-334-5000



DATE: December 4, 2015

TO: Planning Commission

FROM: R. Brent Savidant, Planning Director

SUBJECT: PRELIMINARY SITE PLAN REVIEW (File Number SP 1003) – Proposed DTE Ariel Substation, South of Maple, East of Doyle (Parcel 88-20-31-226-029), Section 31, Currently Zoned IB (Integrated Industrial and Business) District

The petitioner DTE Energy submitted the above referenced Preliminary Site Plan application for the proposed DTE Ariel Substation on Doyle Drive, just north of the Transit Center on the west side of Doyle Drive.

The property is currently zoned IB (Integrated Industrial and Business) District. The Planning Commission is responsible for granting Preliminary Site Plan approval for this item.

The attached report prepared by Carlisle/Wortman Associates, Inc. (CWA), the City's Planning Consultant, summarizes the project. CWA prepared the report with input from various City departments including Planning, Engineering, Public Works and Fire. City Management supports the findings of fact contained in the report and the recommendations included therein.

Attachments:

1. Maps
2. Report prepared by Carlisle/Wortman Associates, Inc.

G:\SITE PLANS\SP 1003 DTE Ariel Substation Sec 31\SP-1003 PC Memo 12 08 2015.docx

PROPOSED RESOLUTION

PRELIMINARY SITE PLAN REVIEW (File Number SP 1003) – Proposed DTE Ariel Substation, South of Maple, East of Doyle (Parcel 88-20-31-226-029), Section 31, Currently Zoned IB (Integrated Industrial and Business) District

Resolution # PC-2015-12-

Moved by:

Seconded by:

RESOLVED, That Preliminary Site Plan Approval, pursuant to Article 8 of the Zoning Ordinance, as requested for the proposed DTE Ariel Substation, located south of Maple, East of Doyle (Parcel 88-20-31-226-029), Section 31, within the IB (Integrated Industrial and Business) District, be granted, subject to the following:

_____) or

(denied, for the following reasons: _____) or

(postponed, for the following reasons: _____)

Yes:

No:

MOTION CARRIED/FAILED



Legend:

- Aerial
- Red: Band_1
 - Green: Band_2
 - Blue: Band_3

333 0 167 333Feet

Scale 1:2,000

Date: December 3, 2015

Site Plan For City of Troy, Michigan

Applicant:	DTE Energy
Project Name:	DTE Substation
Plan Date:	March 31, 2015
Location:	Doyle Drive
Zoning:	IB, Integrated Industrial and Business
Action Requested:	Preliminary Site Plan Approval

PROJECT AND SITE DESCRIPTION

DTE Energy is requesting preliminary site plan approval to construct a new substation on Doyle Drive. Doyle Drive is connected perpendicular to Maple Road and serves the Transit Center. The applicant has purchased the southernmost triangle of the existing self-storage facility that is adjacent to Doyle Drive and is located behind the LA Fitness (and soon to be Whole Foods) on Maple Drive. Construction traffic to the site will be via an easement through the existing self-storage building facility. Post construction, permanent access will be via a new curb cut on Doyle Drive.

Doyle Drive includes sections that are public and private. The portion of Doyle Drive off Maple Road is private and controlled by Grand Sakwa. Doyle Drive becomes public where it is adjacent to the Transit Center parking lot. The section of Doyle Drive where the new curb cut is proposed is public.

The DTE equipment includes four (4) 78-foot poles, two (2) 70-foot lighting masts, and various ground equipment that is approximately 22-feet in height. The site will be screened with a 12-foot tall concrete slat wall and landscaping.

Utility facilities are a permitted use in the IB District. There will be no outdoor storage on site.

The table below summarizes the zoning districts and land uses surrounding the subject site.

	North	South	East	West
Zoning District	IB	IB (Consent Judgement)	IB (Consent Judgement)	Birmingham
Land Use	Commercial	Transit Center	Commercial	Utilities/industrial

An aerial photograph of the subject site is shown below.

Figure 1
Aerial Image of Subject Site and Vicinity



The site has been cleared and previously developed as a self-storage facility. The proposed changes will not affect the sites natural resources.

Items to be Addressed: None

SITE ACCESS

Most construction traffic to the site will be via an easement through the existing self-storage building facility. However, due to the size of the proposed equipment limited construction traffic will use Doyle Drive. The applicant will vacate the easement through the self-storage building facility once construction is completed.

Post construction, permanent access will be via a new curb cut on Doyle Drive. The section of Doyle Drive where the new curb cut is proposed is public. Once construction is complete overall traffic to the site is minimal and only for servicing and maintenance. Access to the equipment will be via a gate that fronts towards the Transit Center, not to Doyle Drive.

Items to be Addressed: none

ENGINEERING AND LEGAL

The Engineering and Legal Department has been working with the applicant regarding easements, access, and indemnification.

The Engineering Department has reviewed and approved the proposed construction plan. Final engineering will be required prior to construction if preliminary site plan approval is granted.

The Legal Department has reviewed and approved the required easement documents and indemnification.

Items to be Addressed: none

LANDSCAPING & SCREENING

The applicant proposes a 12-foot high precast concrete slat wall. The provided rendering appears to show the wall as brown. The applicant will supplement the wall with a variety of evergreen and ornamental trees. Tree varieties include Douglas Fir, White Spruce, Blue Spruce, Snowdrift Crab, and Flowering Crab. The ornamental crabs are located along Doyle Drive to provide decorative screening from the wall.

Items to be Addressed: none

LIGHTING

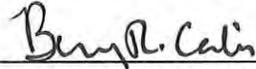
The applicant notes a limited amount of site lighting; however such lighting will only be used during an emergency switching or maintenance operations.

Items to be Addressed: none

DTE Substation
December 3, 2015

RECOMMENDATIONS

We recommend that the Planning Commission grant preliminary site plan approval.



CARLISLE/WORTMAN ASSOC., INC.
Benjamin R. Carlisle, LEED AP, AICP

LEGEND

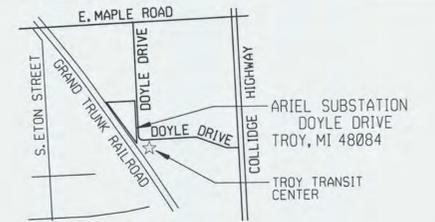
---	000	EXISTING CONTOUR LINES
---	000	ABANDONED CONTOUR LINES
---	000	NEW CONTOUR LINES
×	000.00	EXISTING SPOT ELEVATION
---	000.00	NEW SPOT ELEVATIONS
---		CENTER LINES (C/L)
---		STATION FENCE LINES
---		PROPERTY LINE
---	SF	SEDIMENTATION CONTROL FABRIC FENCE (SF)
●		DTE POLE
○		DTE POLE (REMOVED)
---		GUY ANCHOR
---	E	OVERHEAD CONDUCTORS (E)
---	UE	UNDERGROUND ELECTRICAL DUCT (UE)
○		EXISTING TREES
○		EXISTING TREES (REMOVED)
○		FIRE HYDRANT
○		WATER SHUT OFF
☆		LIGHT POLE

LEGAL DESCRIPTION

PART OF THE NORTHEAST 1/4 OF SECTION 31, T. 2 N., R. 11 E., CITY OF TROY, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 31; THENCE ALONG THE NORTH LINE OF SAID SECTION 31, N. 88°09'00" W. 1412.60 FEET; THENCE S. 01°59'00" W. 1203.31 FEET TO THE POINT OF BEGINNING; THENCE S. 01°59'00" W. 459.11 FEET TO A NON-TANGENT CURVE AND THE NORTHEASTLY RIGHT OF WAY LINE OF GRAND TRUNK RAILROAD; THENCE 540.96 FEET ALONG A CURVE TO THE LEFT, RADIUS 22961.83 FEET, CENTRAL ANGLE 1°20'59", CHORD BEARING AND DISTANCE OF N. 30°04'40" W. 540.94 FEET; THENCE S. 88°09'00" E. 287.15 FEET TO THE POINT OF BEGINNING, CONTAINING 1.500 ACRES OF LAND MORE OR LESS.

SURVEY NOTE:
THIS DRAWING IS SET UP IN THE MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, INTERNATIONAL FOOT. THE HORIZONTAL DATUM IS NAD 83 (2011). THE ELEVATIONS ARE IN FEET AND DECIMALS THEREOF AND ARE REFERENCED TO THE NAVD 88 DATUM. CONTOURS INDICATED ARE AT 1 FOOT INTERVALS. BEARING STRUCTURE IS BASED ON ALTA/ACSM LAND TITLE SURVEY BY PROFESSIONAL ENGINEERING ASSOC., JOB NO. 2006-146, DATED FEB. 8, 2008. THE PROPERTY LINES INDICATED HEREON ARE FOR REFERENCE ONLY. NO BOUNDARY SURVEY WORK HAS BEEN PERFORMED AT THIS DATE.

- REFERENCE DRAWINGS:**
- 5A1419-2 PLOT PLAN
 - 5A1419-3 SERVICE DRIVE PLAN AND DETAILS
 - 5A1419-4 POWER DELIVERY CENTER (PDC) PLAN AND ELEVATIONS
 - 5A1419-5 LANDSCAPE PLAN
 - 5A1419-6 SITE SECTIONS



LOCATION MAP
NO SCALE

GENERAL NOTES

1. FIELD VERIFY THE CONDITIONS THAT AFFECT THE WORK. INFORM THE ARCHITECTS/ENGINEERS OF ANY DISCREPANCIES IN DIMENSIONS, SIZE, LOCATIONS AND CONDITIONS BEFORE PROCEEDING WITH THE WORK.
2. ALL EXISTING INFORMATION SHOWN IS OBTAINED FROM THE SURVEY DRAWING PREPARED BY DTE ENERGY'S SURVEYING SERVICE, DWG. 55E 1419-001, DATED: 8-25-14.
3. CALL "MISS DIG" (811) 3 WORKING DAYS PRIOR TO START OF CONSTRUCTION.
4. ARIEL SUBSTATION IS AN UNMANNED ELECTRIC DISTRIBUTION SUBSTATION. AFTER CONSTRUCTION IS COMPLETE, AN OPERATOR WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH TO PERFORM ROUTINE MAINTENANCE AND DATA COLLECTION.
5. STATION LIGHTING: EXTERIOR LIGHTING CONSISTS OF 60W COMPACT FLUORESCENT LIGHT (CFL) FIXTURES MOUNTED ON THE PDC & CONTROL CENTER WALL NEAR THE DOORWAY AND 100W HIGH PRESSURE SODIUM (HPS) FIXTURES MOUNTED ON THE EQUIPMENT SUPPORT STEEL. ALL LIGHTS ARE SWITCHED; NO PHOTO CELLS ARE USED. ALL LIGHTS ARE NORMALLY OFF EXCEPT DURING EMERGENCY SWITCHING OR MAINTENANCE OPERATIONS.
6. THERE WILL BE NO TRASH RECEPTACLES ON SITE, NO TRASH WILL BE LEFT ON SITE OVERNIGHT.
7. THIS FACILITY WILL NOT BE USED FOR OUTDOOR STORAGE.
8. REMOVE ALL EXISTING CONCRETE SLABS, FOOTINGS, ASPHALT PAVINGS, DIRT PILES AND DEBRIS FROM THIS SITE PRIOR TO CONSTRUCTION. SEE DEMOLITION PLAN DWG. 5C1419-3.
9. BACKFILL MATERIAL TO MEET MEET CLASS II SPECIFICATION. COMPACT BACKFILL IN 8" LIFTS TO 95% MAX. DENSITY AS DETERMINED BY MODIFIED PROCTOR TEST (ASTM D 1557).
10. PROVIDE SEDIMENTATION CONTROL FABRIC FENCE WHERE, AND AS, REQUIRED. SEE DETAIL 2/A3.
11. SEE DETAIL 6/A3 FOR TYPICAL CONCRETE SLAT WALL DETAILS.
12. ALL LAWN AREAS ARE EXISTING. IF LAWN AREAS ARE DISTURBED DURING CONSTRUCTION, OPERATOR SHALL FINE GRADE, FERTILIZE, SEED (WITH APPROVED SEED MIX) AND MULCH ON A MINIMUM 3", WELL-DRAINED, SCREENED, ORGANIC TOPSOIL.
13. SUBSTATION PARCEL ZONED: IB (INTEGRATED INDUSTRIAL AND BUSINESS DISTRICT) AND CONTAINS 1.5+ ACRES.
14. TEMPORARY TREE PROTECTION BARRIER FENCE IS TO BE ERECTED AROUND 7 TREES ALONG DOYLE ROAD/DTE EAST PROPERTY LINE PRIOR TO ANY EARTHWORK OR CONSTRUCTION AND IS TO REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE (SEE DETAIL 1/A5).
15. REMOVE 3 EXISTING TREES (7" DBH AND 15' TALL) AT DTE DRIVE APPROACH. REMAINING TREES ALONG DOYLE DRIVE/DTE PROPERTY LINE ARE 7" DBH AND 15' TALL.
16. NEW BENCH MARK TO BE ESTABLISHED AFTER NEW HYDRANT IS LOCATED.
17. ALL 12" HIGH PRECAST CONCRETE SLAT WALL DIMENSIONS ARE FROM CENTER LINE OF POST/WALL TO CENTER LINE OF POST/WALL EXCEPT AT GATE OPENING (20'-0" WIDE).

MAPLE ROAD 120 FEET WIDE

NORTH LINE OF SECTION 31

PROPERTY OWNER/APPLICANT/DEVELOPER:

DTE ELECTRIC COMPANY/MARK FAIRLESS
ONE ENERGY PLAZA
DETROIT, MICHIGAN 48226-1279
(313) 235-8269 FAX (313) 235-0478

ARCHITECTURAL:

DTE ELECTRIC COMPANY/GORDON YEE
ONE ENERGY PLAZA, 560 S.B.
DETROIT, MICHIGAN 48226-1279
(313) 235-9214 FAX (313) 235-0478

ADDRESS:

ARIEL SUBSTATION
DOYLE DRIVE
TROY, MICHIGAN 48084



NOTE TO FIELD

FIELD IS NOT AUTHORIZED TO CHANGE OR MODIFY THIS DESIGN WITHOUT FIRST CONTACTING THE ENGINEER.

ARCHITECTURAL DESIGNER	GORDON K YEE	(313) 235-9214
CIVIL ENGINEER	RAJ BHATNAGAR	(313) 235-6784

USE DIMENSIONS ONLY
DO NOT SCALE

PROJ DESIGN				PROJ DESIGN				PROJ DESIGN				OTHER			
DATE	PROJ DESIGNER	PROJ MANAGER	OTHERS	DATE	PROJ DESIGNER	PROJ MANAGER	OTHERS	DATE	PROJ DESIGNER	PROJ MANAGER	OTHERS	DATE	PROJ DESIGNER	PROJ MANAGER	OTHERS

PDL #				WO NO:				PDL #				WO NO:			
MADE BY	DATE	A/C/T/UG/SUR	RELAY	MADE BY	DATE	A/C/T/UG/SUR	RELAY	MADE BY	DATE	A/C/T/UG/SUR	RELAY	MADE BY	DATE	A/C/T/UG/SUR	RELAY

APPROVALS			
PROJECT MANAGER	DATE	ENGINEERING	DATE

DATE		SUBMITTED FOR	

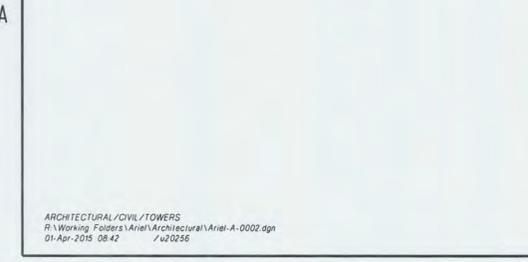
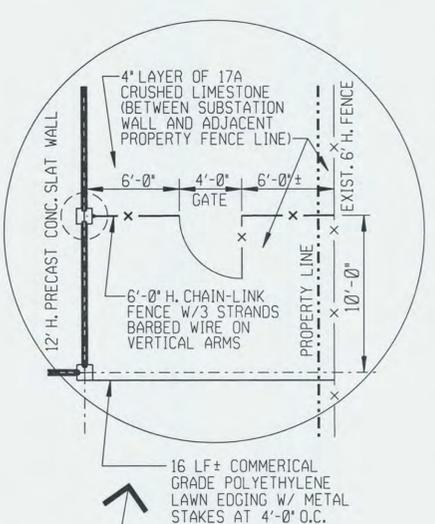
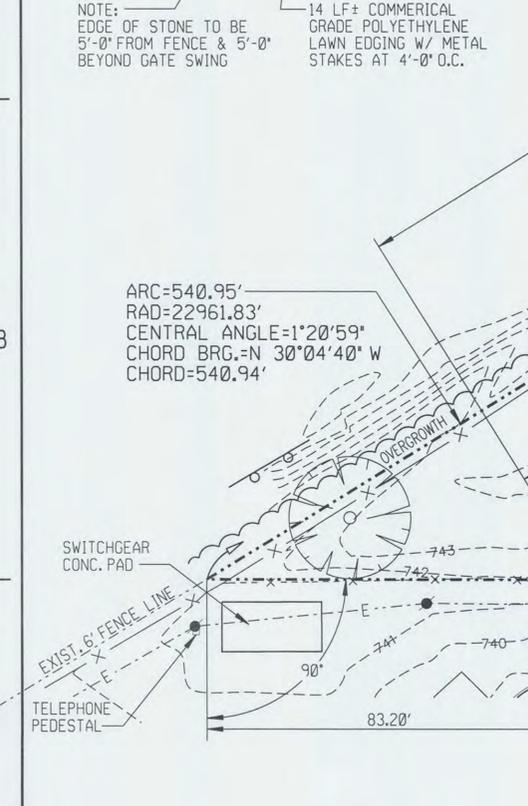
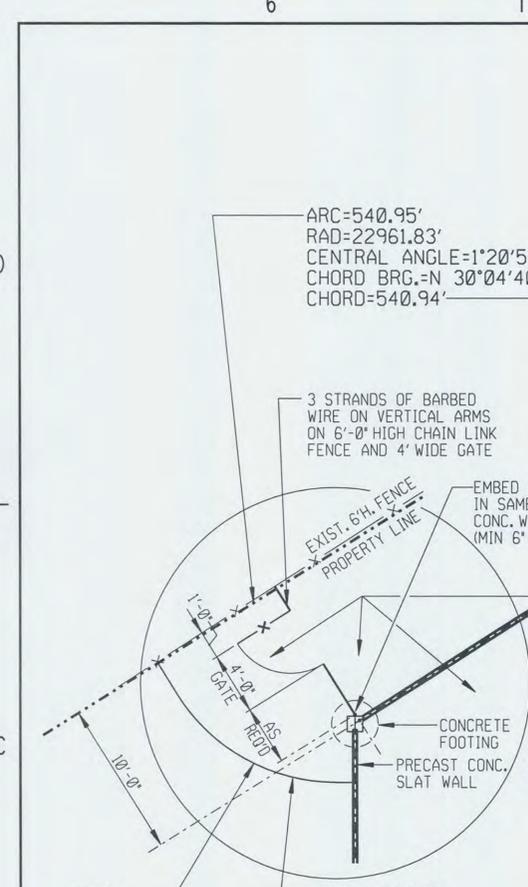
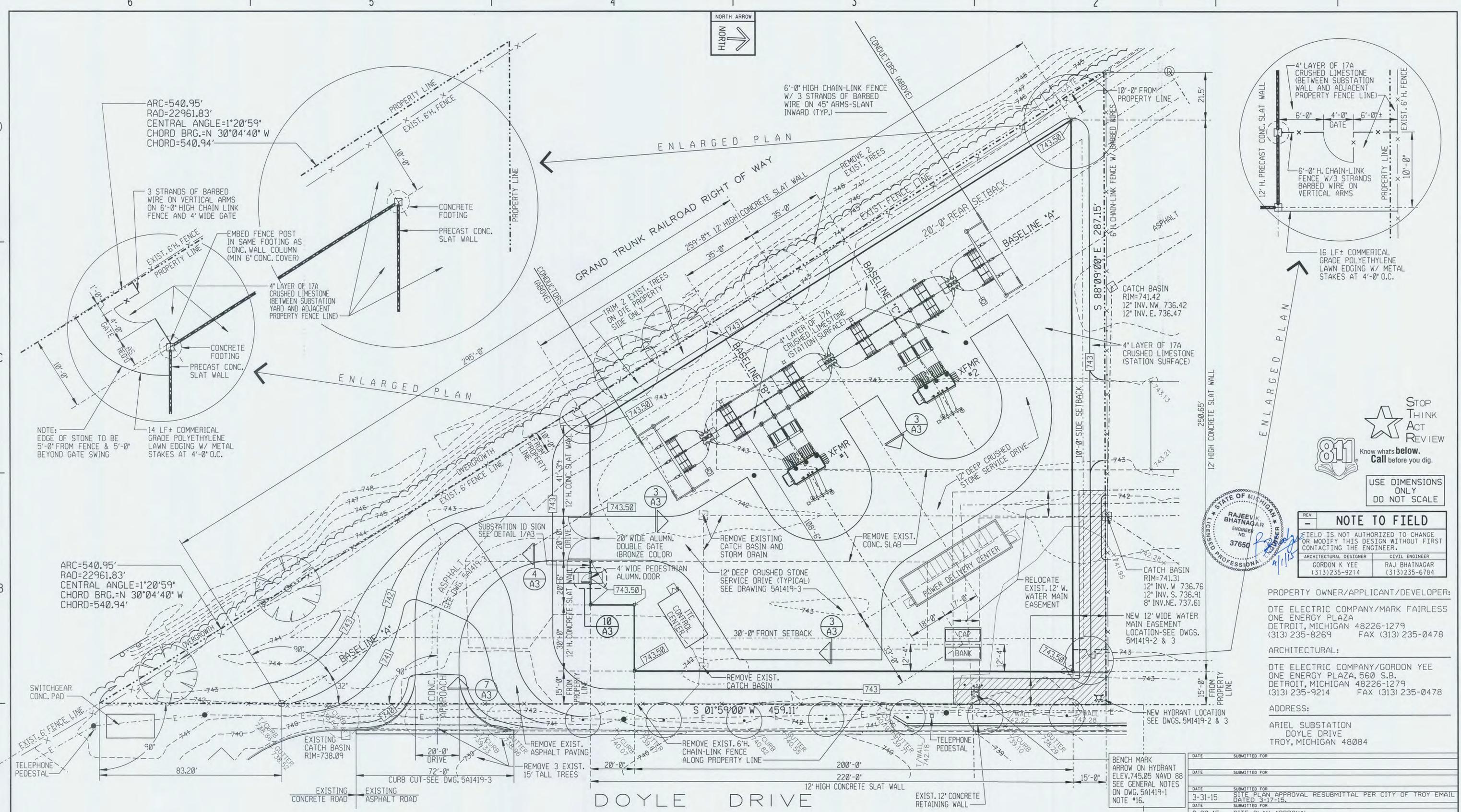
DATE		SUBMITTED FOR	

DATE		SUBMITTED FOR	

DATE		SUBMITTED FOR	

SITE PLAN AND NOTES

LOCATION NAME	REGION	SCALE
ARIEL SUBSTATION		1"=30'-0"
DRAWING NUMBER	NO NUMBER	PROJECT DOCUMENT LIST
5A1419-1	41577803	



NOTE:
ALL 12' HIGH PRECAST CONCRETE SLAT WALL DIMENSIONS ARE FROM CENTER LINE OF POST/WALL EXCEPT AT GATE OPENING (20'-0" WIDE).



NOTE TO FIELD	
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ARCHITECTURAL DESIGNER GORDON K YEE (313) 235-9214	CIVIL ENGINEER RAJ BHATNAGAR (313) 235-6784

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DETROIT, MICHIGAN 48226-1279
(313) 235-8269 FAX (313) 235-0478

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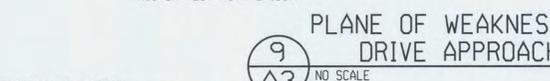
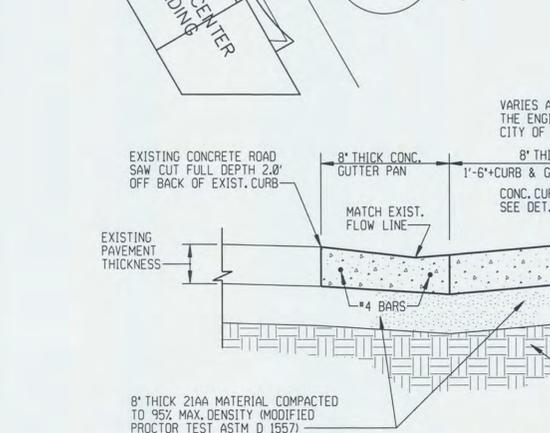
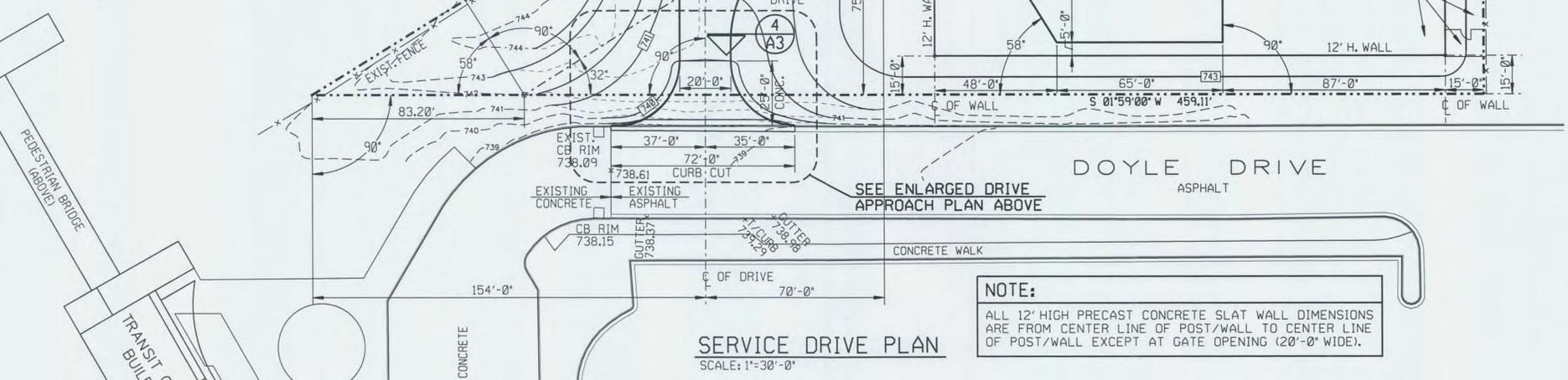
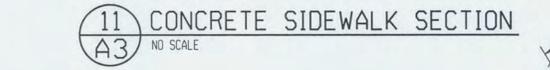
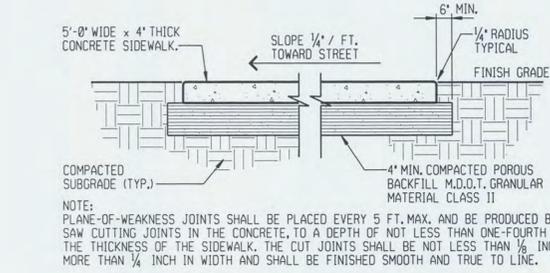
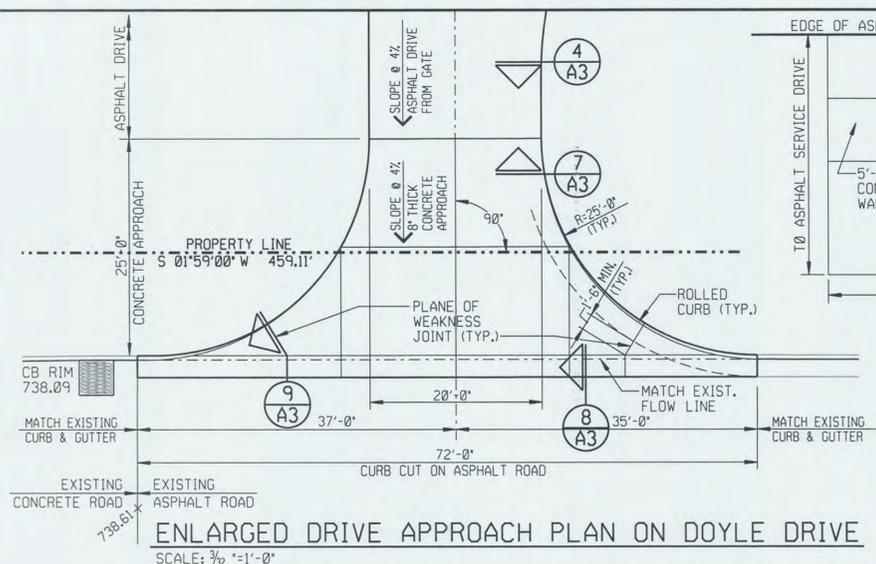
ADDRESS:
ARIEL SUBSTATION
DOYLE DRIVE
TROY, MICHIGAN 48084

DATE	SUBMITTED FOR
3-31-15	SITE PLAN APPROVAL RESUBMITTAL PER CITY OF TROY EMAIL DATED 3-17-15.
2-20-15	SITE PLAN APPROVAL.

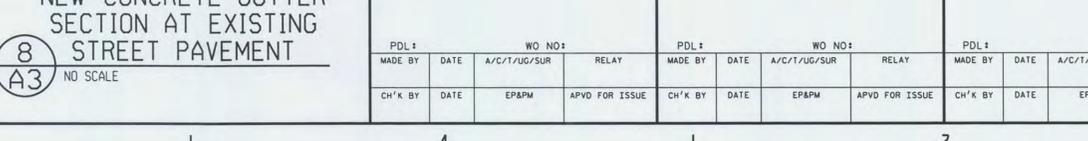
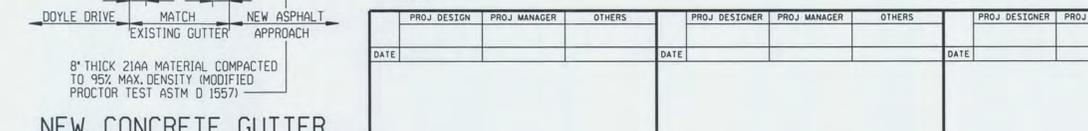
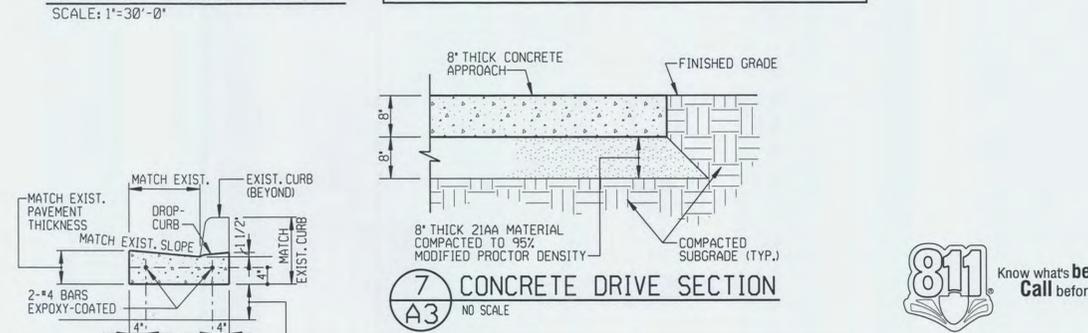
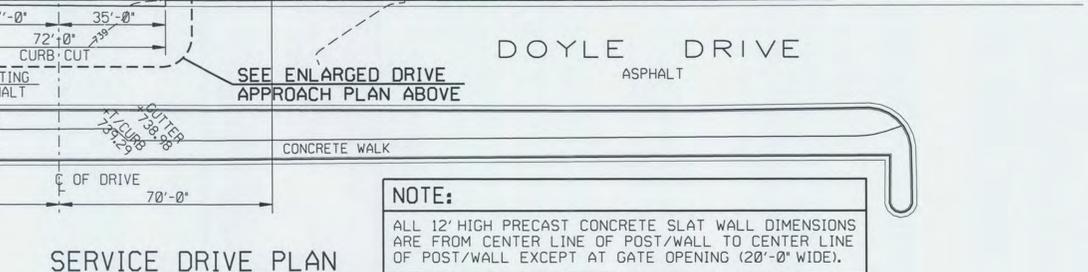
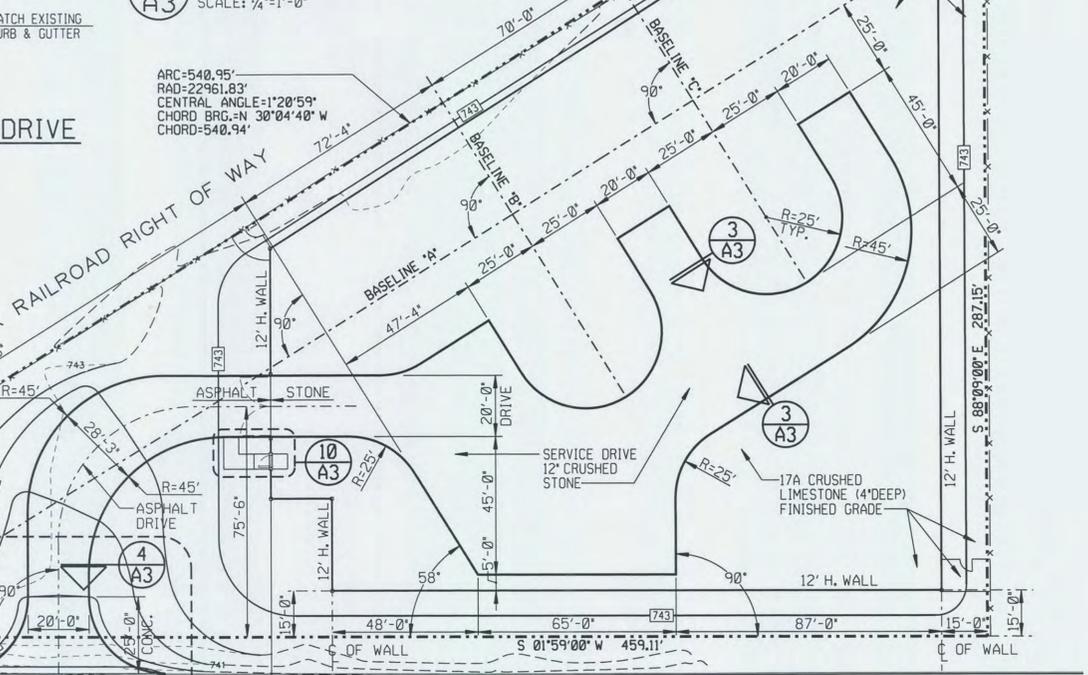
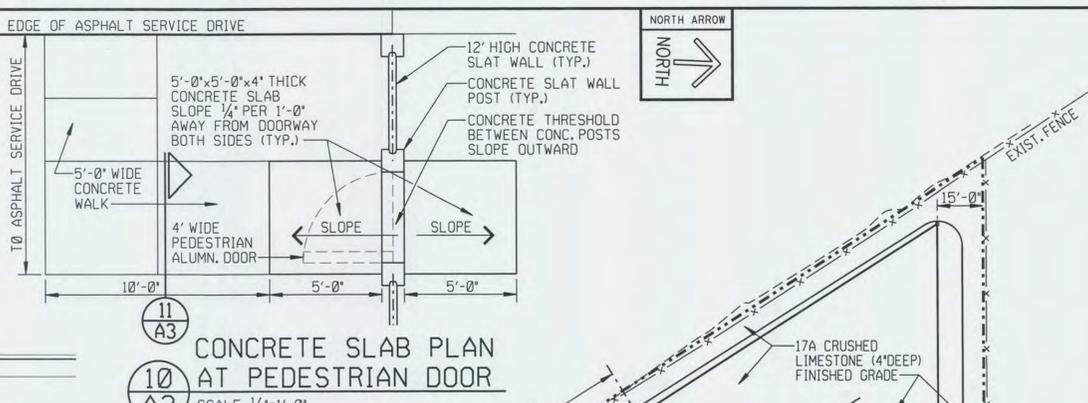
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DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	

PROJECT MANAGER	ENGINEERING
GORDON K. YEE	MADE BY 11-14-14
	LAYOUT BY DATE
	CHECKED BY DATE
	MARK FAIRLESS 1-30-15
	PROJECT DESIGN/ELECT DATE
	A/C/T/UG/SUR DATE
	MARK FAIRLESS
	APPROVED FOR ISSUE DATE
	MARK FAIRLESS

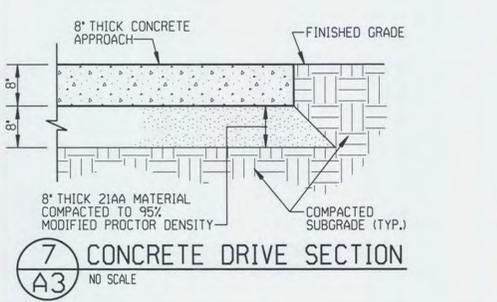
DTE Energy			DTE Electric Company	Central Design
PLOT PLAN				
LOCATION NAME	REGION	SCALE		
ARIEL SUBSTATION		1"=20'-0"		
DRAWING NUMBER	NO NUMBER	PROJECT DOCUMENT LIST		
5A1419-2	41577803			



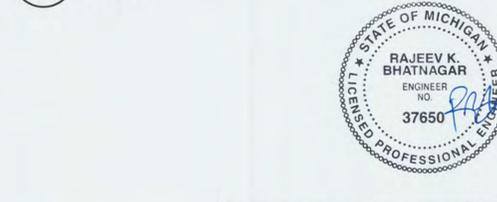
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01-Apr-2015 08:54 7/20256



NOTE:
ALL 12' HIGH PRECAST CONCRETE SLAT WALL DIMENSIONS ARE FROM CENTER LINE OF POST/WALL TO CENTER LINE OF POST/WALL EXCEPT AT GATE OPENING (20'-0" WIDE).



PROJ DESIGN	PROJ MANAGER	OTHERS	PROJ DESIGNER	PROJ MANAGER	OTHERS	PROJ DESIGNER	PROJ MANAGER	OTHERS
DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE



REV	DATE	DESCRIPTION
-		NOTE TO FIELD

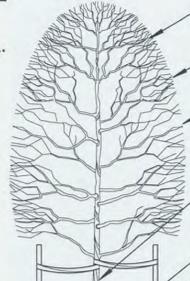
APPROVALS	DATE	DATE
PROJECT MANAGER	GORDON K. YEE	11-25-14
CHECKED BY	MARK FAIRLESS	3-24-15
ARCHITECTURAL DESIGNER	GORDON K. YEE	
CIVIL ENGINEER	RAJ BHATNAGAR	

DATE	SUBMITTED FOR
3-31-15	SITE PLAN APPROVAL RESUBMITTAL PER CITY OF TROY EMAIL DATED 3-17-15.
2-20-15	SITE PLAN APPROVAL.

LOCATION NAME	REGION	SCALE
ARIEL SUBSTATION		1" = 30'-0"
DRAWING NUMBER	NO NUMBER	PROJECT DOCUMENT LIST
5A1419-3	41577803	

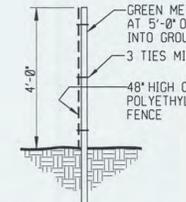
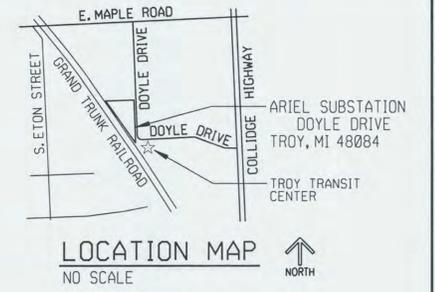
TREE STAKING

- STAKE WITH 2x2 HARDWOOD STAKES OR APPROVED EQUAL DRIVEN 6'-8" OUTSIDE OF ROOTBALL. EXTEND STAKES TO 18" BELOW BOTTOM OF HOLE.
- LOOSELY STAKE TREE TRUNK TO ALLOW FOR TRUNK FLEXING.
- USE 2-3" WIDE BELT-LIKE, NYLON OR PLASTIC STRAPS (2 PER TREE, ON OPPOSITE SIDES OF TREE, CONNECT FROM TREE TO STAKE HORIZONTALLY. DO NOT USE ROPE OR WIRE THROUGH A HOSE.) ATTACH STRAPS JUST BELOW FIRST BRANCH ON DECIDUOUS TREES. ATTACH STRAPS 2/3 UP ON EVERGREEN TREES.
- REMOVE ALL STAKING MATERIALS AFTER ONE YEAR.



- REMOVE SECONDARY LEADERS. DO NOT PRUNE TERMINAL LEADER OR BRANCH TIPS.
- PRUNE AWAY DEAD OR BROKEN BRANCHES ONLY. DO NOT PRUNE TO SHAPE CANOPY.
- REMOVE ALL TAGS, STRINGS, PLASTIC AND ANY OTHER NON-BIODEGRADABLE MATERIAL.
- WRAP TRUNK WITH TREE WRAP AND SECURE WITH BIODEGRADABLE MATERIAL AT TOP AND BOTTOM. REMOVE AFTER FIRST WINTER.
- PRUNE SUCKERS OFF.
- SET ROOTBALL LEVEL TO GRADE OR SLIGHTLY ABOVE GRADE (1/2") IF IN CLAY SOIL.
- 4" DEEP SHREDDED HARDWOOD BARK MULCH. LEAVE 3" CIRCLE OF BARE SOIL AROUND TRUNK OF TREE.
- 4" HIGH EARTH BERM TO FORM WATER BASIN.
- FOLD DOWN ALL BURLAP FROM TOP 1/3 OF ROOTBALL. REMOVE ALL NON-BIODEGRADABLE MATERIALS. DO NOT REMOVE SOIL FROM ROOTBALL.
- BREAK UP (SCARIFY) SIDES OF PLANTING HOLE.
- CENTER ROOTBALL IN PLANTING HOLE. LEAVE BOTTOM OF PLANTING HOLE FIRM. DO NOT AMEND SOIL UNLESS PLANTING IN POOR OR SEVERELY DISTURBED SOIL OR BUILDING RUBBLE. USE WATER TO SETTLE SOIL AND REMOVE AIR POCKETS AND FIRMLY SET TREE. GENTLY TAMP IF NEEDED.

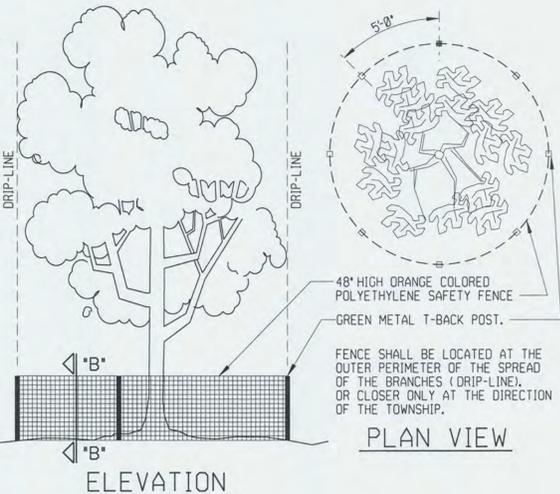
DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



SECTION "B-B"

TREE PROTECTION NOTES

1. ALL TREES TO BE REMOVED WILL BE IDENTIFIED BY RED FLAGGING.
2. TREE PROTECTION FENCING IS TO BE ERRECTED PRIOR TO ANY EARTHWORK OR CONSTRUCTION AND IS TO REMAIN IN PLACE UNTIL CONSTRUCTION GRADING IS COMPLETE.
3. ALL DEBRIS, FILL, EQUIPMENT OR MATERIAL IS TO BE KEPT CLEAR OF AREA WITHIN PROTECTIVE FENCE. NO CLEANING OF EQUIPMENT OR MATERIAL OR STORAGE OR DISPOSAL OF ANY MATERIAL WITHIN THE DRIP LINE OF ANY TREES TO BE SAVED.



1 A5 TEMPORARY TREE PROTECTION BARRIER FENCE DETAIL
NO SCALE

LANDSCAPE NOTES:

1. ALL EXISTING AND PROPOSED UTILITIES SHALL BE FIELD LOCATED AND FLAGGED PRIOR TO ANY LANDSCAPE CONSTRUCTION ON-SITE.
2. ALL SPECIFIED AND INSTALLED LANDSCAPE MATERIAL SHALL SATISFY THE AMERICAN ASSOCIATION OF NURSERYMAN STANDARDS (LATEST EDITION) AND BE:
 - A. NURSERY GROWN.
 - B. STATE DEPARTMENT OF AGRICULTURE INSPECTED AND APPROVED.
 - C. NO. 1 GRADE WITH STRAIGHT UNSCARED TRUNKS AND WELL DEVELOPED UNIFORM CROWNS ON ALL TREES (PARK GRADE TREES WILL NOT BE ACCEPTED).
3. PROPOSED SHREDDED HARDWOOD BARK MULCH SHALL BE SEASONED FOR A MINIMUM SIX MONTHS, DARK BROWN IN COLOR, AND INSTALLED 4" DEEP IN ALL CIRCLES AROUND EACH PROPOSED TREE (INCLUDED IN THE UNIT PRICE OF EACH TREE).
4. TREES & SHRUBS SHALL BE REPLACED IF UNACCEPTABLE (DISEASED, DAMAGED OR DEAD MATERIALS) WITHIN FIRST YEAR.
5. LAWN AREAS INDICATED ON THIS LANDSCAPE PLAN; CONTRACTOR SHALL FINE GRADE, FERTILIZE, SEED (SEE SEEDING MIXTURES BELOW) AND MULCH ON A MINIMUM 3", WELL-DRAINED, SCREENED, ORGANIC TOPSOIL.
6. TEMPORARY TREE PROTECTION BARRIER FENCE IS TO BE ERRECTED AROUND 7 TREES ALONG DOYLE ROAD/DTE EAST PROPERTY LINE PRIOR TO ANY EARTHWORK OR CONSTRUCTION AND IS TO REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE (SEE DETAIL 1/A5).

SEEDING MIXTURES			
GRASS KIND	PURITY	GERMINATION	PROPORTIONS BY WEIGHT
PERENNIAL RYEGRASS	98%	90%	30%
KENTUCKY BLUE	90%	75%	30%
CREEPING RED FESCUE	98%	80%	40%

PROVIDE CLEAN, DRY AND NEW CROP GRASS SEED. WEED CONTENT SHALL NOT EXCEED 0.3 PERCENT.

STOP THINK ACT REVIEW

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

PROPERTY OWNER/APPLICANT/DEVELOPER:

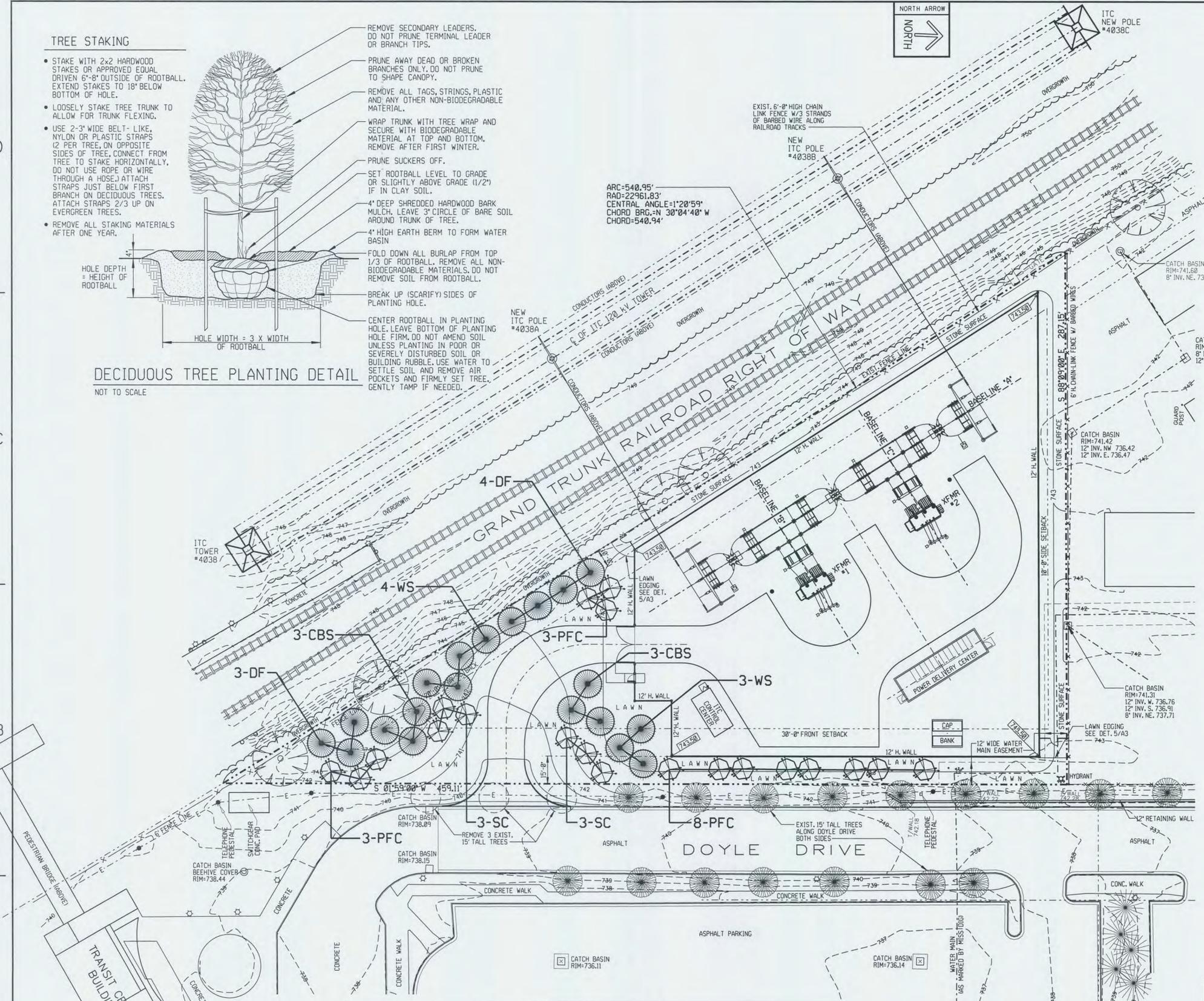
DTE ELECTRIC COMPANY/MARK FAIRLESS
ONE ENERGY PLAZA
DETROIT, MICHIGAN 48226-1279
(313) 235-8269 FAX (313) 235-0478

ARCHITECTURAL:

DTE ELECTRIC COMPANY/GORDON YEE
ONE ENERGY PLAZA, 674 S.B.
DETROIT, MICHIGAN 48226-1279
(313) 235-9214 FAX (313) 235-0478

ADDRESS:

ARIEL SUBSTATION
DOYLE DRIVE
TROY, MICHIGAN 48084



PLANT MATERIAL LIST

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
DF	7	PSEUDOTSUGA	DOUGLAS FIR	8-10' HT.	B & B, BRANCHED TO GROUND, UNSHEARED, SPACE 15' O.C.
WS	7	PICEA GLAUCA	WHITE SPRUCE	8-10' HT.	B & B, BRANCHED TO GROUND, UNSHEARED, SPACE 15' O.C.
CBS	6	PICEA PUNGENS 'GLAUCA'	COLORADO BLUE SPRUCE	8-10' HT.	B & B, BRANCHED TO GROUND, UNSHEARED, SPACE 15' O.C.
SC	6	MALUS 'SNOWDRIFT'	SNOWDRIFT CRAB	2 1/2" CAL.	B & B, SINGLE-STEM (10' O.C.)
PFC	14	MALUS 'PRAIRIFIRE'	PRAIRIFIRE FLOWERING CRAB	2 1/2" CAL.	B & B, SINGLE-STEM (10' O.C.)
	40	TOTAL TREES			

USE DIMENSIONS ONLY
DO NOT SCALE

NOTE TO FIELD

FIELD IS NOT AUTHORIZED TO CHANGE OR MODIFY THIS DESIGN WITHOUT FIRST CONTACTING THE ENGINEER.

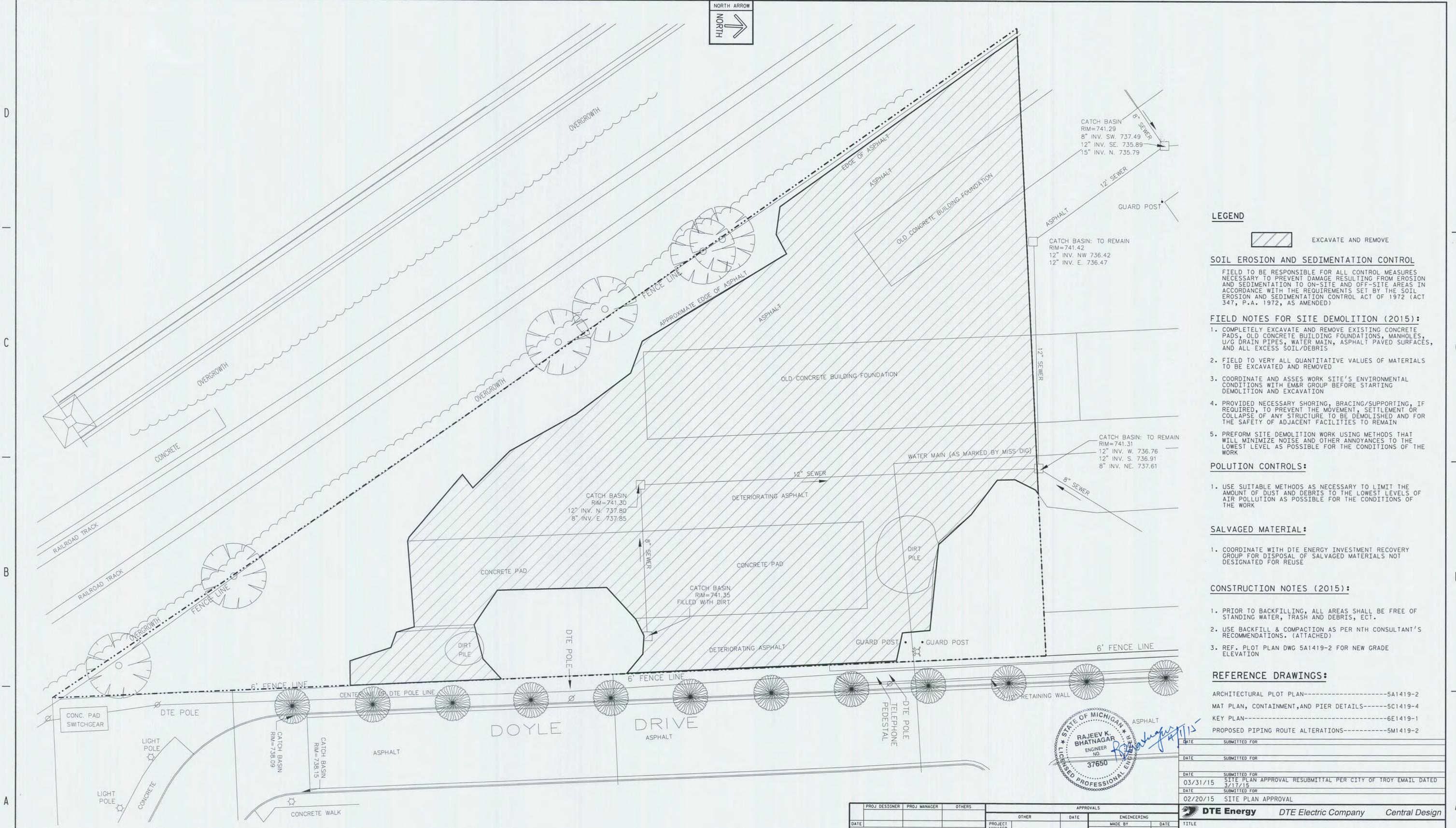
ARCHITECTURAL DESIGNER GORDON K YEE (313)235-9214	CIVIL ENGINEER RAJ BHATNAGAR (313)235-6784
---------------------------------------------------------	--------------------------------------------------

REV	DATE	SUBMITTED FOR
1	3-31-15	SITE PLAN APPROVAL RESUBMITTAL PER CITY OF TROY EMAIL DATED 3-17-15.
2	2-20-15	SITE PLAN APPROVAL.

PROJ DESIGNER			PROJ MANAGER			OTHERS		
DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE

APPROVALS			
PROJECT MANAGER	ENGINEERING	DATE	TITLE
RELAY	MADE BY GORDON K. YEE	10-17-14	
	LAYOUT BY	3-24-15	
EP&PM	CHECKED BY MARK FAIRLESS	1-30-15	
ARCH CIVIL TOWERS UG/SUR	PROJECT DESIGN/ELECT	DATE	

DTE Energy DTE Electric Company Central Design	
LANDSCAPE PLAN	
LOCATION NAME ARIEL SUBSTATION	SCALE 1"=30'-0"
DRAWING NUMBER 5A1419-5	PROJECT DOCUMENT LIST



LEGEND

EXCAVATE AND REMOVE

SOIL EROSION AND SEDIMENTATION CONTROL

FIELD TO BE RESPONSIBLE FOR ALL CONTROL MEASURES NECESSARY TO PREVENT DAMAGE RESULTING FROM EROSION AND SEDIMENTATION TO ON-SITE AND OFF-SITE AREAS IN ACCORDANCE WITH THE REQUIREMENTS SET BY THE SOIL EROSION AND SEDIMENTATION CONTROL ACT OF 1972 (ACT 347, P.A. 1972, AS AMENDED)

FIELD NOTES FOR SITE DEMOLITION (2015):

1. COMPLETELY EXCAVATE AND REMOVE EXISTING CONCRETE PADS, OLD CONCRETE BUILDING FOUNDATIONS, MANHOLES, U/C DRAIN PIPES, WATER MAIN, ASPHALT PAVED SURFACES, AND ALL EXCESS SOIL/DEBRIS
2. FIELD TO VERIFY ALL QUANTITATIVE VALUES OF MATERIALS TO BE EXCAVATED AND REMOVED
3. COORDINATE AND ASSES WORK SITE'S ENVIRONMENTAL CONDITIONS WITH EM&R GROUP BEFORE STARTING DEMOLITION AND EXCAVATION
4. PROVIDED NECESSARY SHORING, BRACING/SUPPORTING, IF REQUIRED, TO PREVENT THE MOVEMENT, SETTLEMENT OR COLLAPSE OF ANY STRUCTURE TO BE DEMOLISHED AND FOR THE SAFETY OF ADJACENT FACILITIES TO REMAIN
5. PREFORM SITE DEMOLITION WORK USING METHODS THAT WILL MINIMIZE NOISE AND OTHER ANNOYANCES TO THE LOWEST LEVEL AS POSSIBLE FOR THE CONDITIONS OF THE WORK

POLLUTION CONTROLS:

1. USE SUITABLE METHODS AS NECESSARY TO LIMIT THE AMOUNT OF DUST AND DEBRIS TO THE LOWEST LEVELS OF AIR POLLUTION AS POSSIBLE FOR THE CONDITIONS OF THE WORK

SALVAGED MATERIAL:

1. COORDINATE WITH DTE ENERGY INVESTMENT RECOVERY GROUP FOR DISPOSAL OF SALVAGED MATERIALS NOT DESIGNATED FOR REUSE

CONSTRUCTION NOTES (2015):

1. PRIOR TO BACKFILLING, ALL AREAS SHALL BE FREE OF STANDING WATER, TRASH AND DEBRIS, ECT.
2. USE BACKFILL & COMPACTION AS PER NTH CONSULTANT'S RECOMMENDATIONS. (ATTACHED)
3. REF. PLOT PLAN DWG 5A1419-2 FOR NEW GRADE ELEVATION

REFERENCE DRAWINGS:

- ARCHITECTURAL PLOT PLAN-----5A1419-2
- MAT PLAN, CONTAINMENT, AND PIER DETAILS-----5C1419-4
- KEY PLAN-----6E1419-1
- PROPOSED PIPING ROUTE ALTERATIONS-----5M1419-2



REV	NOTE TO FIELD
-	FIELD IS NOT AUTHORIZED TO CHANGE OR MODIFY THIS DESIGN WITHOUT FIRST CONTACTING THE ENGINEER.
DRAWN BY: J. WIERENGA (313)235-4474	
CIVIL ENGINEER: RAJEEV BHATNAGAR (313)235-6784	

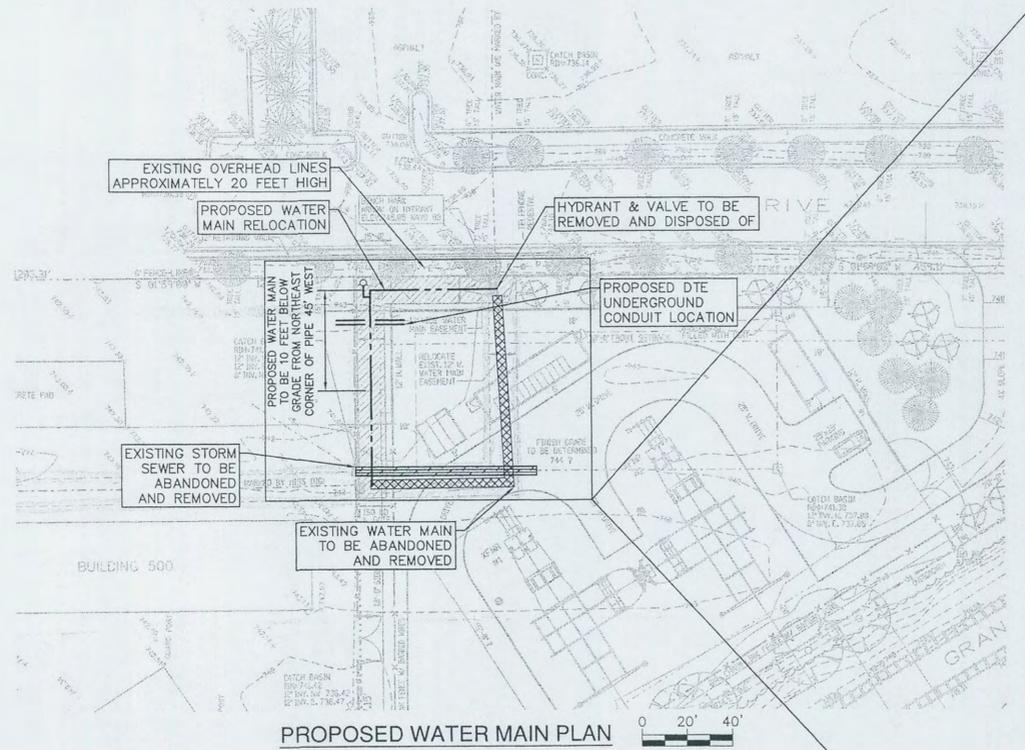
USE DIMENSIONS ONLY DO NOT SCALE



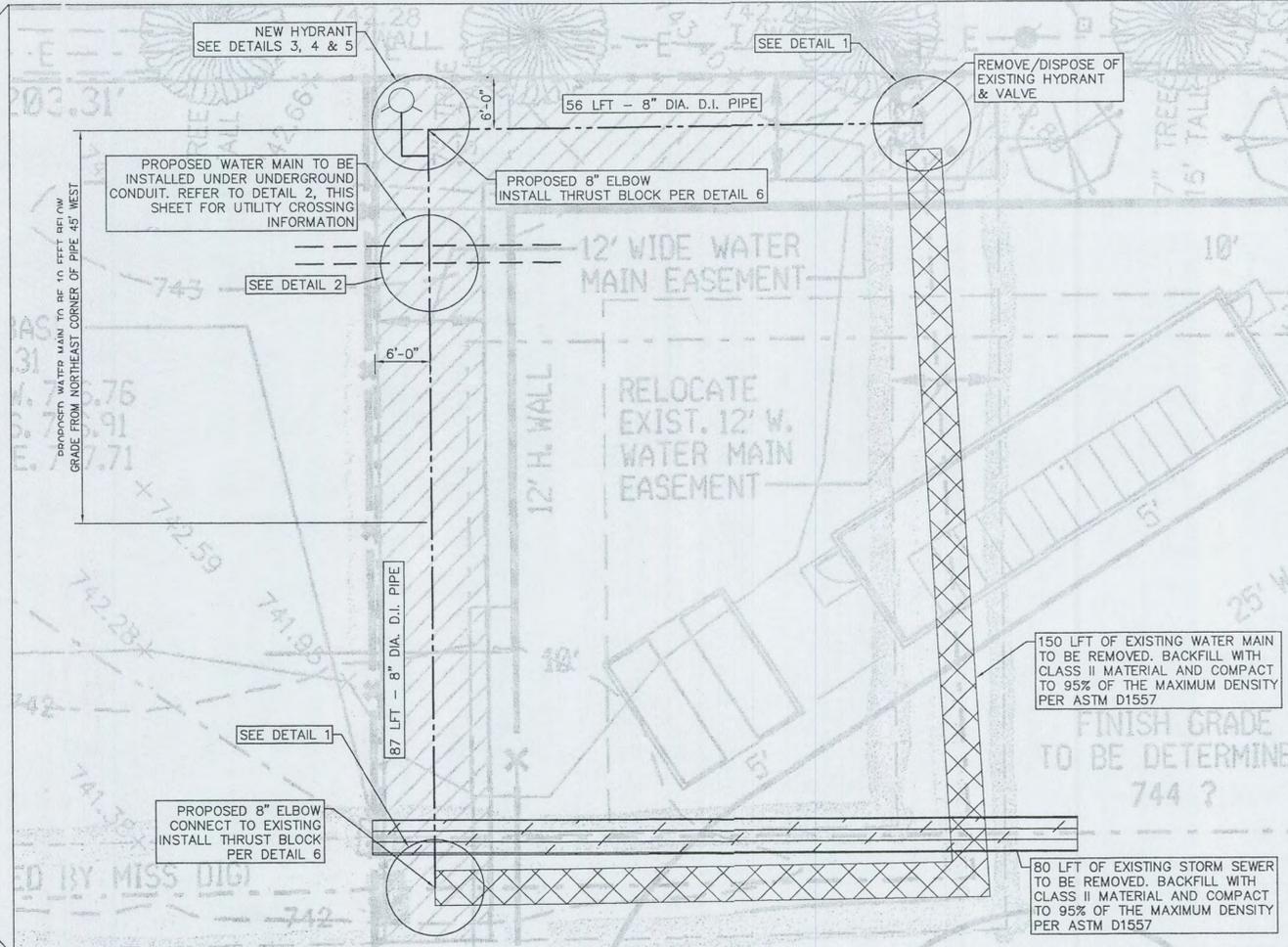
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DATE			OTHER	DATE
			PROJECT MANAGER	MADE BY
			RELAY	J. WIERENGA
			EP&PM	DATE
			ARCH CIVIL TOWERS US/SUR	LAYOUT BY
				DATE
			PROJECT DESIGN/ELECT	CHECKED BY
				DATE
PDL 1	WO NO 1			
MADE BY	DATE	A/C/T/UG/SUR	RELAY	A/C/T/UG/SUR
CH'K BY	DATE	EP&PM	APVD FOR ISSUE	DATE
			OTHERS	APPROVED FOR ISSUE
				M. FAIRLESS
				DATE
				01-30-15

DATE	SUBMITTED FOR
DATE	SUBMITTED FOR
03/31/15	SITE PLAN APPROVAL RESUBMITTAL PER CITY OF TROY EMAIL DATED 3/17/15
DATE	SUBMITTED FOR
02/20/15	SITE PLAN APPROVAL

DTE Energy		DTE Electric Company	Central Design
TITLE: EXISTING CONDITION DEMOLITION PLAN			
LOCATION NAME	REGION	SCALE	
ARIEL SUBSTATION		NONE	
DRAWING NUMBER	WO NUMBER	PROJECT DOCUMENT LIST	
5C1419-3	41577803	ARIEL-PDL-A-41577803	



PROPOSED WATER MAIN PLAN



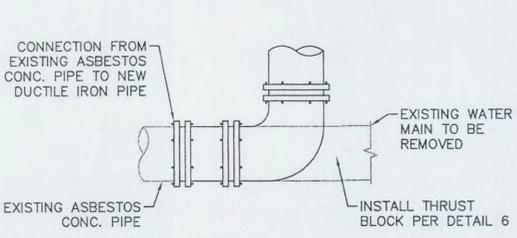
DETAILED PLAN

LEGEND

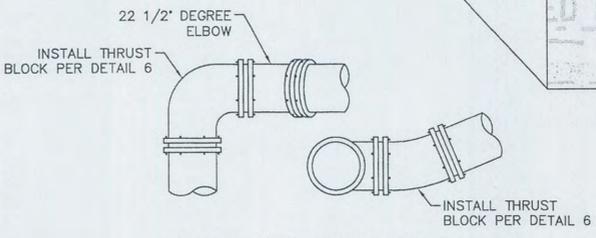
- PROPOSED 8" DIA. WATER MAIN
- - - PROPOSED UNDERGROUND CONDUIT
- XXXXX WATER MAIN TO BE ABANDONED & REMOVED
- XXXXX NEW 12' WATER MAIN EASEMENT
- XXXXX STORM SEWER TO BE ABANDONED & REMOVED

NOTES:

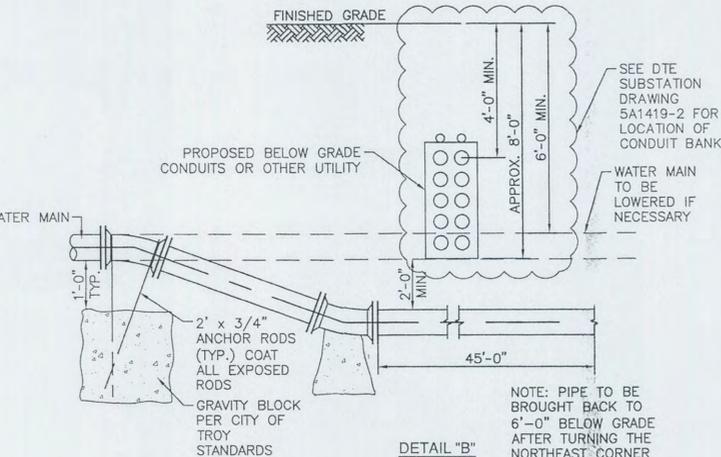
1. LOCATE, CUT, & REMOVE EXISTING PIPE; RE-ROUTE WATER MAIN AROUND PERIMETER OF SUBSTATION PROPERTY.
2. A PORTION OF THE EXISTING EASEMENT SHALL BE ABANDONED AND A NEW EASEMENT FOR THE RELOCATED PIPE SHALL BE CREATED.
3. THE RELOCATED PIPE SHALL BE CLASS 54 DUCTILE IRON PIPE AND INSTALLED IN ACCORDANCE WITH CITY OF TROY SPECIFICATIONS AND STANDARD DETAILS ON SHEET 5M1419-3.
4. CONNECTION BETWEEN EXISTING ASBESTOS CEMENT PIPE AND NEW DUCTILE IRON PIPE TO BE EJP FC2A OR EQUIVALENT.
5. PRESSURE TESTING AND DISINFECTION TO BE PERFORMED PER CITY OF TROY SPECIFICATIONS.
6. SEE CITY OF TROY STANDARD WATER MAIN DETAILS--NOTE 3 FOR PIPE WRAPPING.



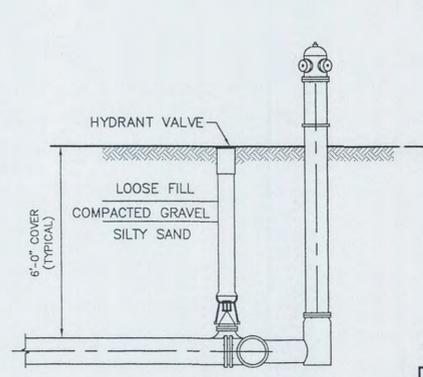
1 PROPOSED CONNECTION NOT TO SCALE



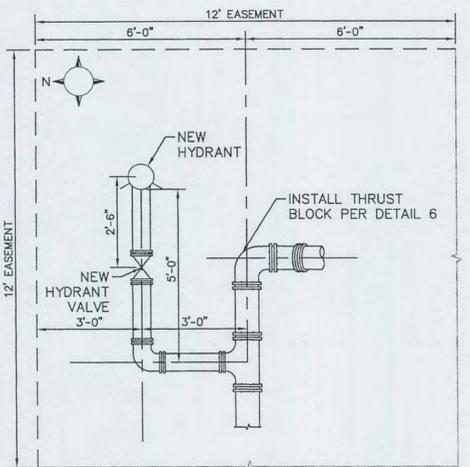
3 NORTHEAST CORNER DETAIL NOT TO SCALE



2 TYPICAL WATER MAIN CROSSING OBSTRUCTION DETAIL NOT TO SCALE



4 CROSS SECTION OF NEW HYDRANT NOT TO SCALE



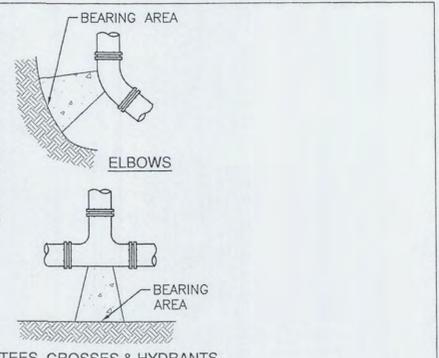
5 PLAN VIEW OF NEW HYDRANT CONNECTION NOT TO SCALE

TEES, CROSSES & HYDRANTS		ELBOWS				
PIPE Ø INCHES	BEARING AREA SQUARE FEET	PIPE Ø INCHES	BEARING AREA SQUARE FEET			
			90°	45°	22 1/2°	11 1/4°
4	1.5	4	2.1	1.1	0.6	0.3
6	2.9	6	4.1	2.2	1.1	0.6
8	4.8	8	6.8	3.7	1.9	0.9
10	7.1	10	10.1	5.5	2.8	1.4
12	10.0	12	14.1	7.6	3.9	2.0
16	17.1	16	24.2	13.0	6.7	3.3
18	21.0	18	30.0	16.3	8.3	4.2
20	26.0	20	36.8	19.9	10.1	5.1

SOIL CHARACTERISTICS	FACTOR
(A) LOOSE COARSE OR MEDIUM SAND; COMPACT FINE SAND; COMPACT SAND-CLAY SOILS; STIFF CLAY	0.33
(B) FIRM FINE SAND; COMPACT INORGANIC SILT; FIRM SAND-CLAY SOILS; MEDIUM CLAY	0.50
(C) LOOSE FINE SAND; FIRM INORGANIC SILT	0.67
(D) LOOSE SAND-CLAY SOILS; LOOSE INORGANIC SILT; SOFT CLAY	1.00

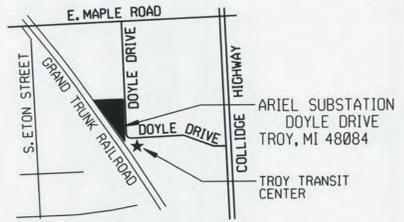
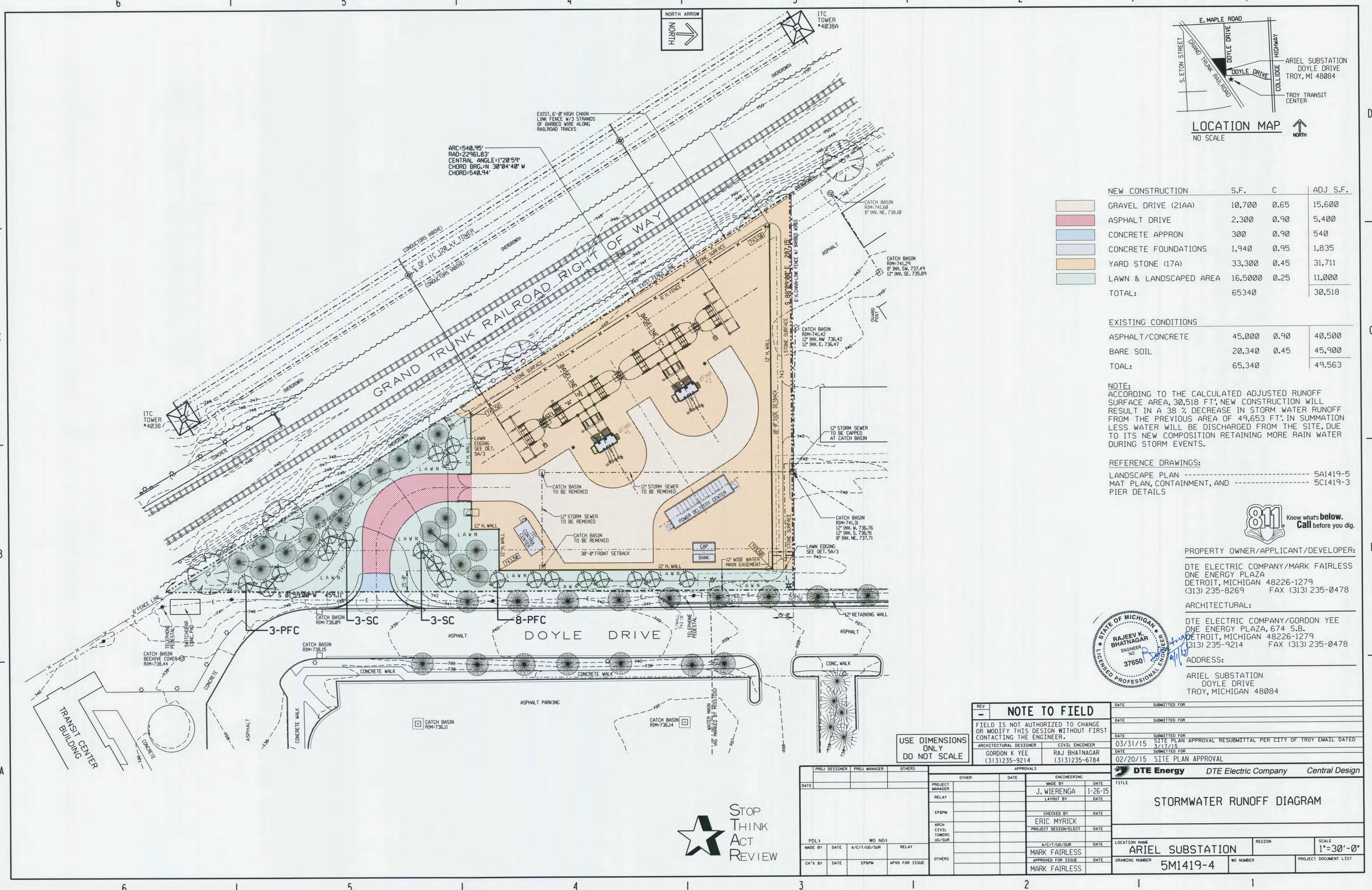
"BEARING AREA" x FACTOR = ACTUAL BEARING AREA 2.1 x .5 = 1.05 SQ. FT. BASED UPON 150# TEST PRESSURE

6 THRUST BLOCK REQUIREMENTS NOT TO SCALE



- NOTES:
1. CONCRETE FOR ALL THRUST BLOCKS SHALL BE MIN. 3000 PSI, 28 DAY STRENGTH.
 2. ALL THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
 3. BOLTS, FITTINGS & JOINTS SHALL BE KEPT CLEAR OF CONCRETE.
 4. A BEARING CAPACITY OF 2000# PER FOOT WAS USED IN DETERMINING THE MINIMUM "BEARING AREAS" IN THE ABOVE TABLE.
 5. THE CROSS SECTION OF THE THRUST BLOCKS SHALL BE SQUARE.

PROJ DESIGN			PROJ DESIGNER			PROJ DESIGNER			APPROVALS			DTE Energy																																			
DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE																																	
<table border="1"> <tr><td>PROJECT MANAGER</td><td>MADE BY</td><td>DATE</td></tr> <tr><td>RELAY</td><td>K. DAVE</td><td>2/18/15</td></tr> <tr><td></td><td>LAYOUT BY</td><td>DATE</td></tr> <tr><td></td><td>S. LOUX</td><td>2/18/15</td></tr> <tr><td>EP&M</td><td>CHECKED BY</td><td>DATE</td></tr> <tr><td></td><td>D. LOMAS</td><td>2/18/15</td></tr> <tr><td>ARCH CIVIL TOWERS UG/SUR</td><td>PROJECT DESIGN/ELECT</td><td>DATE</td></tr> <tr><td></td><td>A/C/T/UG/SUR</td><td>DATE</td></tr> <tr><td></td><td>R. BHATNAGAR</td><td></td></tr> <tr><td>OTHERS</td><td>APPROVED FOR ISSUE</td><td>DATE</td></tr> <tr><td></td><td>M. FAIRLESS</td><td></td></tr> </table>												PROJECT MANAGER	MADE BY	DATE	RELAY	K. DAVE	2/18/15		LAYOUT BY	DATE		S. LOUX	2/18/15	EP&M	CHECKED BY	DATE		D. LOMAS	2/18/15	ARCH CIVIL TOWERS UG/SUR	PROJECT DESIGN/ELECT	DATE		A/C/T/UG/SUR	DATE		R. BHATNAGAR		OTHERS	APPROVED FOR ISSUE	DATE		M. FAIRLESS		PROPOSED PIPING ROUTE ALTERATIONS LOCATION NAME: ARIEL SUBSTATION REGION: NOT TO SCALE DRAWING NUMBER: 5M1419-2 PROJECT DOCUMENT LIST: ARIEL-PDL-A-41577803 WO NUMBER: 41577803		
PROJECT MANAGER	MADE BY	DATE																																													
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OTHERS	APPROVED FOR ISSUE	DATE																																													
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LOCATION MAP
NO SCALE

NEW CONSTRUCTION	S.F.	C	ADJ S.F.
GRAVEL DRIVE (21AA)	10,700	0.65	15,600
ASPHALT DRIVE	2,300	0.90	5,400
CONCRETE APRRON	300	0.90	540
CONCRETE FOUNDATIONS	1,940	0.95	1,835
YARD STONE (17A)	33,300	0.45	31,711
LAWN & LANDSCAPED AREA	16,5000	0.25	11,000
TOTAL:	65340		30,518

EXISTING CONDITIONS	S.F.	C	ADJ S.F.
ASPHALT/CONCRETE	45,000	0.90	40,500
BARE SOIL	20,340	0.45	45,900
TOAL:	65,340		49,563

NOTE:
ACCORDING TO THE CALCULATED ADJUSTED RUNOFF SURFACE AREA, 30,518 FT²; NEW CONSTRUCTION WILL RESULT IN A 38% DECREASE IN STORM WATER RUNOFF FROM THE PREVIOUS AREA OF 49,653 FT². IN SUMMATION LESS WATER WILL BE DISCHARGED FROM THE SITE, DUE TO ITS NEW COMPOSITION RETAINING MORE RAIN WATER DURING STORM EVENTS.

REFERENCE DRAWINGS:
LANDSCAPE PLAN ----- 5A1419-5
MAT PLAN, CONTAINMENT, AND ----- 5C1419-3
PIER DETAILS



PROPERTY OWNER/APPLICANT/DEVELOPER:
DTE ELECTRIC COMPANY/MARK FAIRLESS
ONE ENERGY PLAZA
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ARCHITECTURAL:
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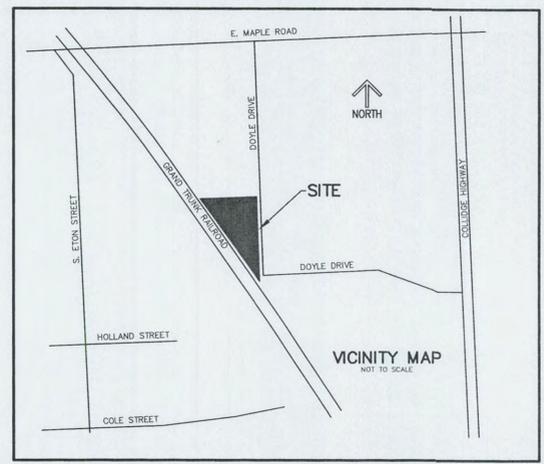


USE DIMENSIONS ONLY
DO NOT SCALE

REV	NOTE TO FIELD	DATE	SUBMITTED FOR
-	FIELD IS NOT AUTHORIZED TO CHANGE OR MODIFY THIS DESIGN WITHOUT FIRST CONTACTING THE ENGINEER.		
		03/31/15	3/17/15
		02/20/15	SITE PLAN APPROVAL

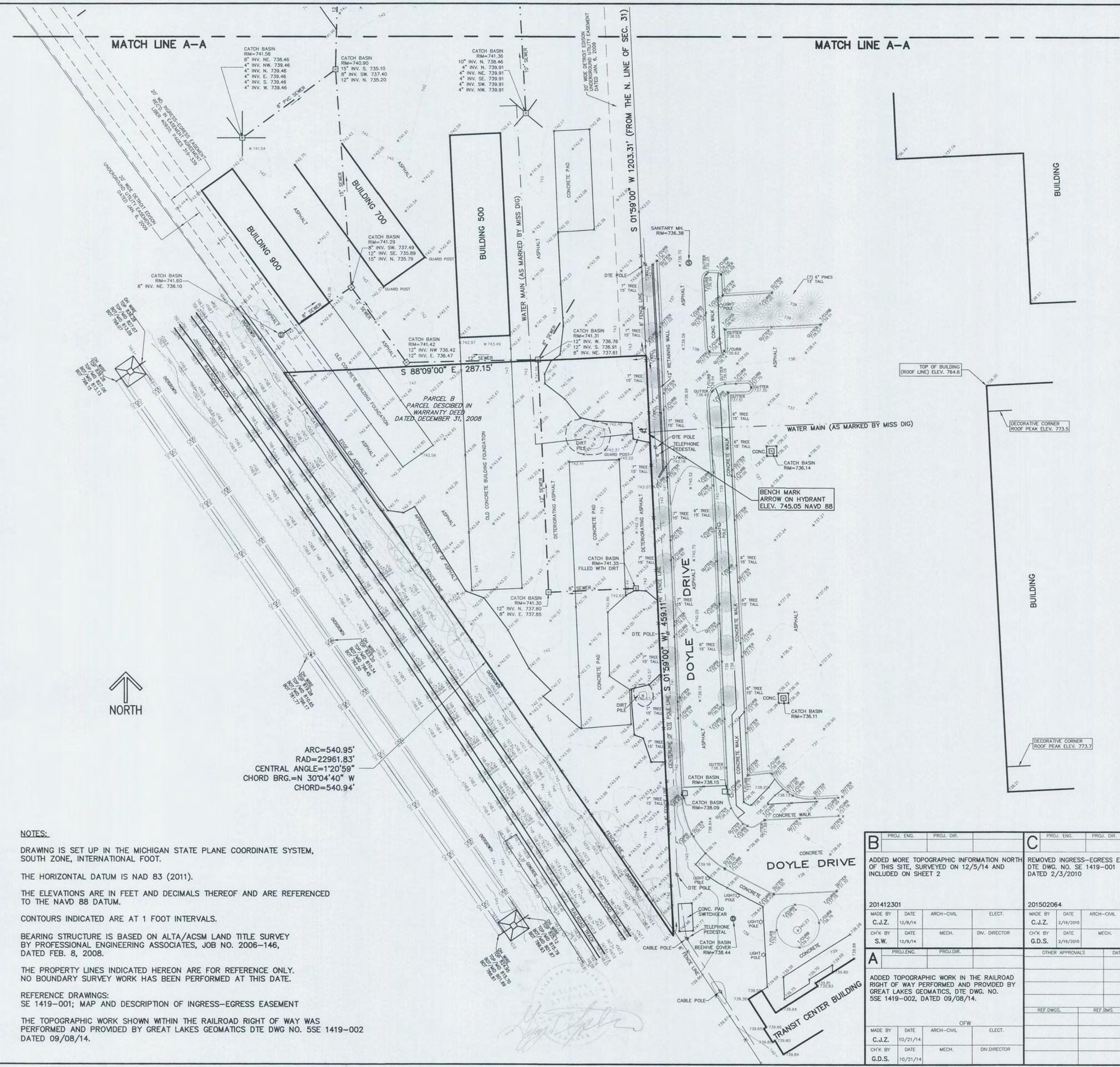
PROJ DESIGNER	PROJ MANAGER	OTHERS	APPROVALS	TITLE																						
			<table border="1"> <tr> <th>ENGINEERING</th> <th>DATE</th> </tr> <tr> <td>MADE BY</td> <td>DATE</td> </tr> <tr> <td>J. WIERENGA</td> <td>1-26-15</td> </tr> <tr> <td>LAYOUT BY</td> <td>DATE</td> </tr> <tr> <td>CHECKED BY</td> <td>DATE</td> </tr> <tr> <td>ERIC MYRICK</td> <td></td> </tr> <tr> <td>PROJECT DESIGN/ELECT</td> <td>DATE</td> </tr> <tr> <td>A/C/T/U/S/SUR</td> <td>DATE</td> </tr> <tr> <td>MARK FAIRLESS</td> <td></td> </tr> <tr> <td>APPROVED FOR ISSUE</td> <td>DATE</td> </tr> <tr> <td>MARK FAIRLESS</td> <td></td> </tr> </table>	ENGINEERING	DATE	MADE BY	DATE	J. WIERENGA	1-26-15	LAYOUT BY	DATE	CHECKED BY	DATE	ERIC MYRICK		PROJECT DESIGN/ELECT	DATE	A/C/T/U/S/SUR	DATE	MARK FAIRLESS		APPROVED FOR ISSUE	DATE	MARK FAIRLESS		DTE Energy DTE Electric Company Central Design
ENGINEERING	DATE																									
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<table border="1"> <tr> <th>PROJ DESIGNER</th> <th>PROJ MANAGER</th> <th>OTHERS</th> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>				PROJ DESIGNER	PROJ MANAGER	OTHERS				STORMWATER RUNOFF DIAGRAM																
PROJ DESIGNER	PROJ MANAGER	OTHERS																								
<table border="1"> <tr> <th>MADE BY</th> <th>DATE</th> <th>A/C/T/U/S/SUR</th> <th>RELAY</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>				MADE BY	DATE	A/C/T/U/S/SUR	RELAY					LOCATION NAME: ARIEL SUBSTATION REGION: SCALE: 1"=30'-0"														
MADE BY	DATE	A/C/T/U/S/SUR	RELAY																							
<table border="1"> <tr> <th>CH'K BY</th> <th>DATE</th> <th>EP&PM</th> <th>APVD FOR ISSUE</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>				CH'K BY	DATE	EP&PM	APVD FOR ISSUE					DRAWING NUMBER: 5M1419-4 PROJECT DOCUMENT LIST														
CH'K BY	DATE	EP&PM	APVD FOR ISSUE																							





MATCH LINE A-A

MATCH LINE A-A



ARC=540.95'
 RAD=22961.83'
 CENTRAL ANGLE=1°20'59"
 CHORD BRG.=N 30°04'40" W
 CHORD=540.94'



NOTES:
 DRAWING IS SET UP IN THE MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, INTERNATIONAL FOOT.
 THE HORIZONTAL DATUM IS NAD 83 (2011).
 THE ELEVATIONS ARE IN FEET AND DECIMALS THEREOF AND ARE REFERENCED TO THE NAVD 88 DATUM.
 CONTOURS INDICATED ARE AT 1 FOOT INTERVALS.
 BEARING STRUCTURE IS BASED ON ALTA/ACSM LAND TITLE SURVEY BY PROFESSIONAL ENGINEERING ASSOCIATES, JOB NO. 2006-146, DATED FEB. 8, 2008.
 THE PROPERTY LINES INDICATED HEREON ARE FOR REFERENCE ONLY. NO BOUNDARY SURVEY WORK HAS BEEN PERFORMED AT THIS DATE.
 REFERENCE DRAWINGS:
 SE 1419-001; MAP AND DESCRIPTION OF INGRESS-EGRESS EASEMENT DATED 09/08/14.
 THE TOPOGRAPHIC WORK SHOWN WITHIN THE RAILROAD RIGHT OF WAY WAS PERFORMED AND PROVIDED BY GREAT LAKES GEOMATICS DTE DWG. NO. 5SE 1419-002 DATED 09/08/14.

LEGAL DESCRIPTION

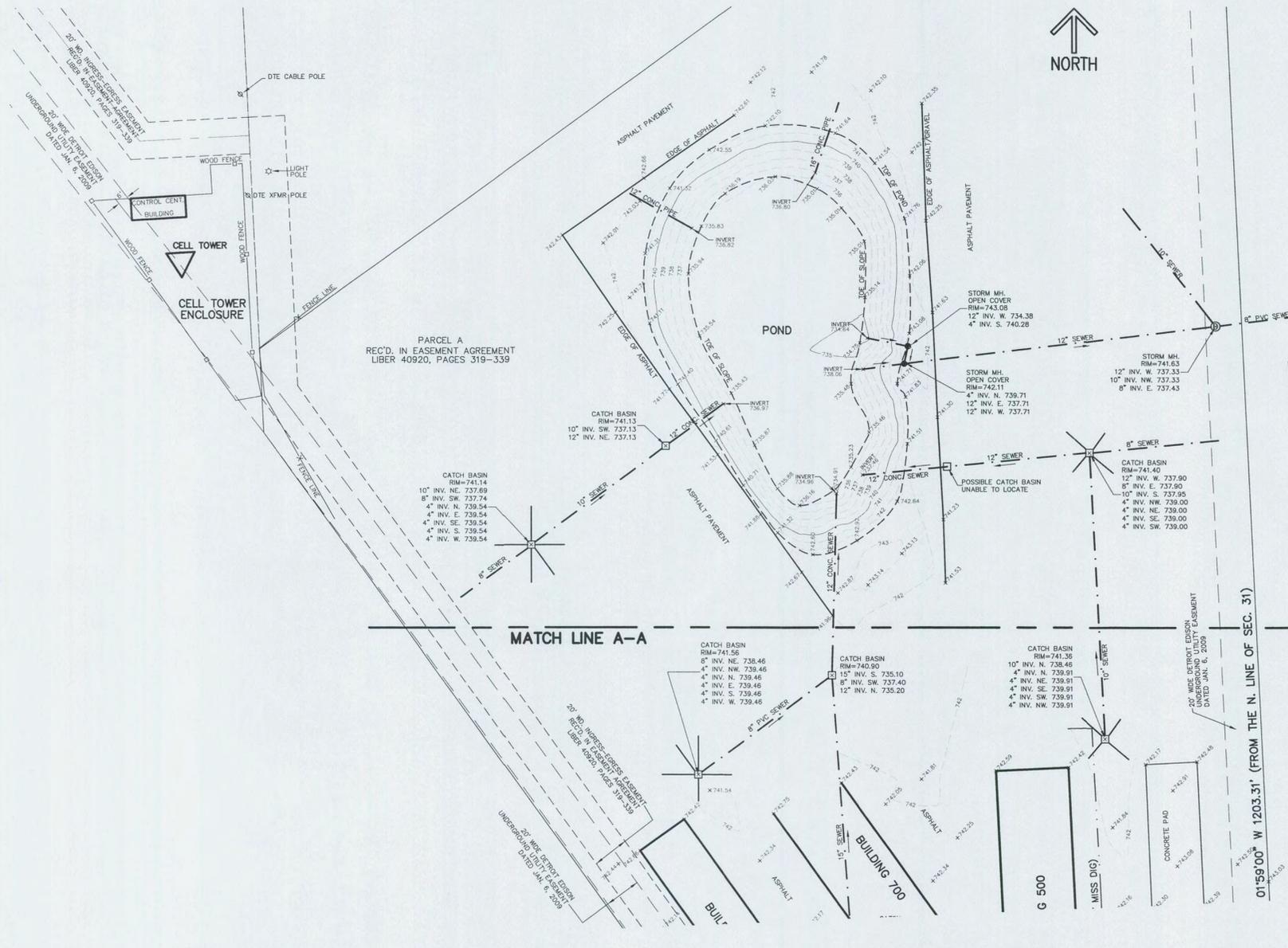
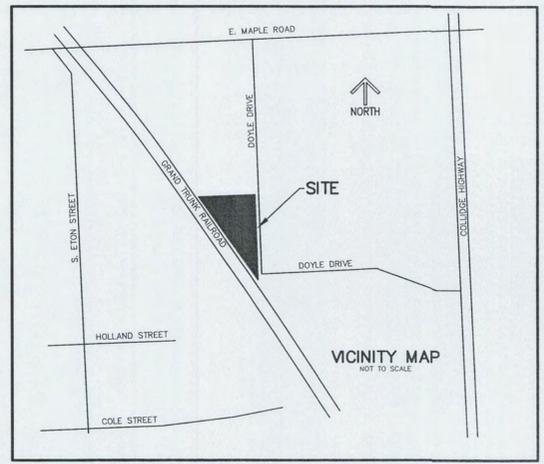
PART OF THE NORTHEAST 1/4 OF SECTION 31, T. 2 N., R. 11 E., CITY OF TROY, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 31; THENCE ALONG THE NORTH LINE OF SAID SECTION 31, N. 88°09'00" W. 1412.60 FEET; THENCE S. 01°59'00" W. 1203.31 FEET TO THE POINT OF BEGINNING; THENCE S. 01°59'00" W. 459.11 FEET TO A NON-TANGENT CURVE AND THE NORTHEASTERLY RIGHT OF WAY LINE OF GRAND TRUNK RAILROAD; THENCE 540.95 FEET ALONG A CURVE TO THE LEFT, RADIUS 22961.83 FEET, CENTRAL ANGLE 1°20'59", CHORD BEARING AND DISTANCE OF N. 30°04'40" W. 540.94 FEET; THENCE S. 88°09'00" E. 287.15 FEET TO THE POINT OF BEGINNING, CONTAINING 1.500 ACRES OF LAND MORE OR LESS.

THIS DRAWING AND THE WORK PERFORMED TO CREATE THIS DRAWING ARE A PRODUCT OF:
DTE ENERGY'S SURVEYING SERVICES
 560 SERVICE BUILDING
 (313) 235-5046



B		C	
PROJ. ENG.	PROJ. DIR.	PROJ. ENG.	PROJ. DIR.
ADDED MORE TOPOGRAPHIC INFORMATION NORTH OF THIS SITE, SURVEYED ON 12/5/14 AND INCLUDED ON SHEET 2		REMOVED INGRESS-EGRESS EASEMENT DTE DWG. NO. SE 1419-001 DATED 2/3/2010	
201412301	201502064		
MADE BY	DATE	ARCH-CIVIL	ELECT.
C.J.Z.	12/8/14	C.J.Z.	2/19/2015
CH'K BY	DATE	MECH.	DIV. DIRECTOR
S.W.	12/9/14	G.D.S.	2/19/2015
A		OTHER APPROVALS	
PROJ. ENG.	PROJ. DIR.	DATE	DIVISION SUPERVISOR
ADDED TOPOGRAPHIC WORK IN THE RAILROAD RIGHT OF WAY PERFORMED AND PROVIDED BY GREAT LAKES GEOMATICS, DTE DWG. NO. SSE 1419-002, DATED 09/08/14.		DATE	DATE
MADE BY	DATE	ARCH-CIVIL	ELECT.
C.J.Z.	10/21/14		
CH'K BY	DATE	MECH.	DIV. DIRECTOR
G.D.S.	10/21/14		

DTE Energy - DTE Electric Company		Central Design	
TITLE			
TOPOGRAPHIC SURVEY			
OF PART OF THE NORTHEAST 1/4 OF SECTION 31, T. 2 N., R. 11 E., CITY OF TROY, OAKLAND COUNTY, MICHIGAN			
SHEET 1 OF 2			
LOCATION NAME		ARIEL SUBSTATION	
ORIGINATING SOURCE	SCALE	USE DIMENSIONS ONLY DO NOT SCALE	
SURVEYING SERVICES	1"=40'		
DRAWING NUMBER	JOB NUMBER		
5SE 1419-001	201408225		



NOTES:

DRAWING IS SET UP IN THE MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, INTERNATIONAL FOOT.

THE HORIZONTAL DATUM IS NAD 83 (2011).

THE ELEVATIONS ARE IN FEET AND DECIMALS THEREOF AND ARE REFERENCED TO THE NAVD 88 DATUM.

CONTOURS INDICATED ARE AT 1 FOOT INTERVALS.

BEARING STRUCTURE IS BASED ON ALTA/ACSM LAND TITLE SURVEY BY PROFESSIONAL ENGINEERING ASSOCIATES, JOB NO. 2006-146, DATED FEB. 8, 2008.

THE PROPERTY LINES INDICATED HEREON ARE FOR REFERENCE ONLY. NO BOUNDARY SURVEY WORK HAS BEEN PERFORMED AT THIS DATE.

THE TOPOGRAPHIC WORK SHOWN WITHIN THE RAILROAD RIGHT OF WAY WAS PERFORMED AND PROVIDED BY GREAT LAKES GEOMATICS DTE DWG NO. 5SE 1419-002 DATED 09/08/14.

MATCH LINE A-A

MATCH LINE A-A

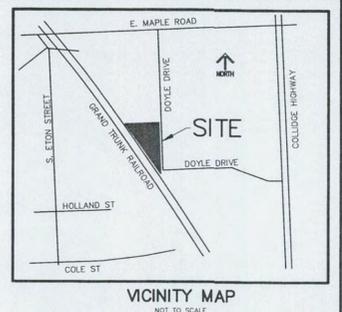
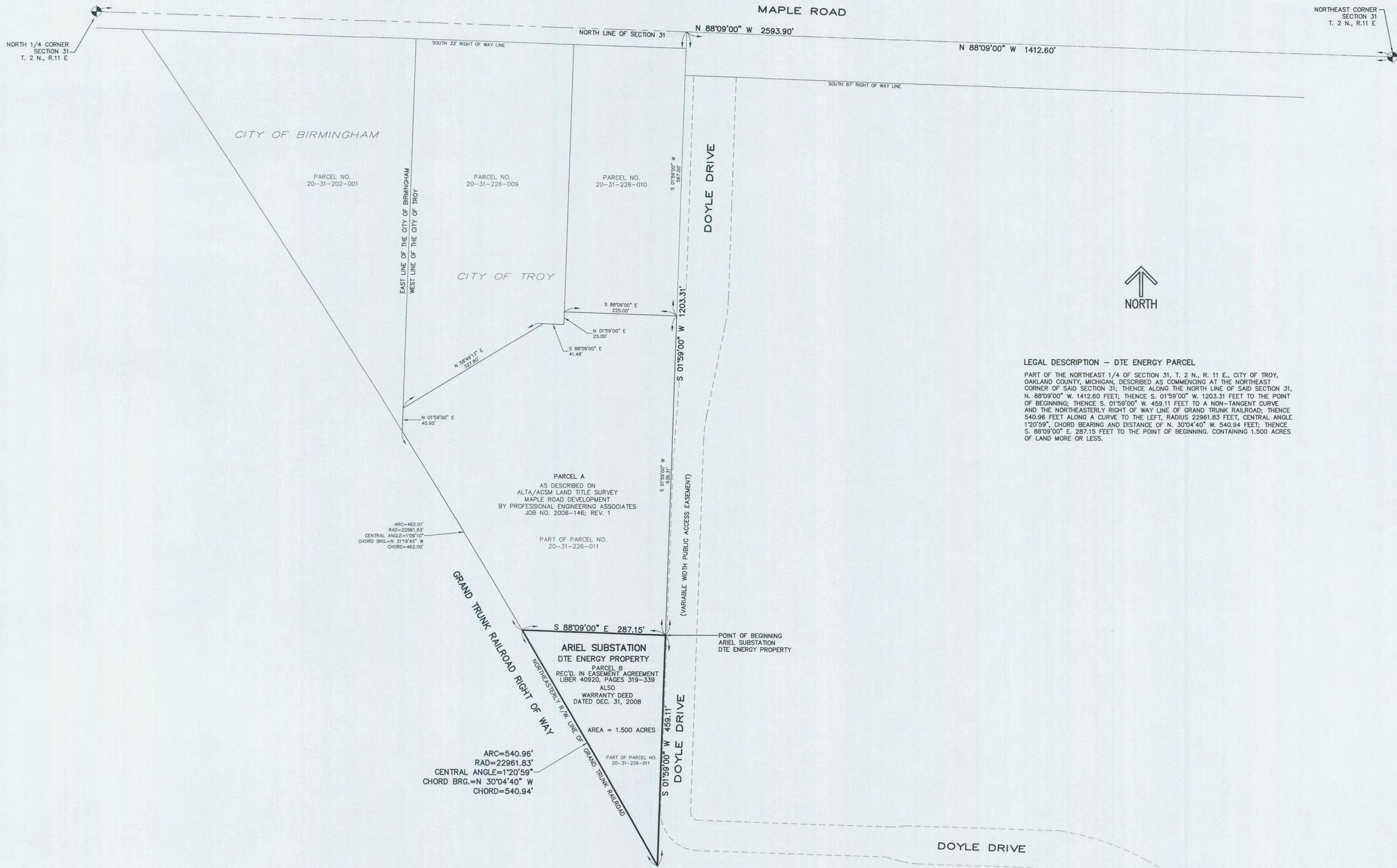


THIS DRAWING AND THE WORK PERFORMED TO CREATE THIS DRAWING ARE A PRODUCT OF:
DTE ENERGY'S SURVEYING SERVICES
 560 SERVICE BUILDING
 (313) 235-5046

DTE Energy - DTE Electric Company Central Design	
TITLE TOPOGRAPHIC SURVEY OF PART OF THE NORTHEAST 1/4 OF SECTION 31, T. 2 N., R. 11 E., CITY OF TROY, OAKLAND COUNTY, MICHIGAN	
LOCATION NAME ARIEL SUBSTATION	SHEET 2 OF 2
ORIGINATING SOURCE SURVEYING SERVICES	SCALE 1"=40'
DRAWING NUMBER 5SE 1419-001	USE DIMENSIONS ONLY DO NOT SCALE 201408225

PROJ. ENG.	PROJ. DIR.	PROJ. ENG.	PROJ. DIR.	PROJ. ENG.	PROJ. DIR.	OTHER APPROVALS	DATE	DIVISION	SUPERVISOR	DATE	PRODUCED ON AUTOCAD BY	DATE
C		B		A				ARCH-CIVIL			C. ZBOCH	12/8/14
REMOVED INGRESS-EGRESS EASEMENT DTE DWG. NO. SE 1419-001 DATED 2/3/2010		ADDED MORE TOPOGRAPHIC INFORMATION NORTH OF THIS SITE, SURVEYED ON 12/5/14 AND INCLUDED ON SHEET 2		ADDED TOPOGRAPHIC WORK IN THE RAILROAD RIGHT OF WAY PERFORMED AND PROVIDED BY GREAT LAKES GEOMATICS, DTE DWG. NO. 5SE 1419-002, DATED 09/08/14.				CONTROL & ELECT.			S. WLAZLIK, K. BALL	8/19/14
201502064 MADE BY: C.J.Z. 2/19/2015 ARCH-CIVIL CH'K BY: G.D.S. 2/19/2015 MECH. DIV. DIRECTOR		201412301 MADE BY: C.J.Z. 12/8/14 ARCH-CIVIL CH'K BY: S.W. 12/9/14 MECH. DIV. DIRECTOR		OFW MADE BY: C.J.Z. 10/21/14 ARCH-CIVIL CH'K BY: G.D.S. 10/21/14 MECH. DIV. DIRECTOR				MECH.			S. WLAZLIK, K. BALL	8/16/14
								STATIONS ENG.			G.D. STEPHENS	8/26/14
											T. VANDEKERCKHOVE	8/26/14





LEGAL DESCRIPTION - DTE ENERGY PARCEL
 PART OF THE NORTHEAST 1/4 OF SECTION 31, T. 2 N., R. 11 E., CITY OF TROY, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 31; THENCE ALONG THE NORTH LINE OF SAID SECTION 31, N. 88°09'00\"/>



BASED ON MY KNOWLEDGE, INFORMATION AND BELIEF, I CERTIFY THAT AS A RESULT OF A SURVEY MADE ON THE GROUND TO THE NORMAL STANDARDS OF CARE OF PROFESSIONAL (LAND) SURVEYORS IN THE STATE OF MICHIGAN, THAT THE MAP DELINEATED HEREON CORRECTLY REPRESENTS SUCH SURVEY AND THAT RATIO OF CLOSURE OF THE UNADJUSTED FIELD OBSERVATIONS OF SUCH SURVEY WAS 1:_____ AND THAT ALL APPLICABLE REQUIREMENTS OF P.A. 132 OF 1970, AS AMENDED BY P.A. 24 OF 1986, HAVE BEEN COMPLIED WITH.
 SURVEYOR: Gregory D. Stephens 29252 PS NO. DATE: 2-19-2015

THIS DRAWING AND THE WORK PERFORMED TO CREATE THIS DRAWING ARE A PRODUCT OF:
DTE ENERGY'S SURVEYING SERVICES
 545 SERVICE BUILDING
 (313) 235-5046



PROJ. ENG.	PROJ. DIR.	OTHER APPROVALS	DATE	DIVISION	SUPERVISOR	DATE	PRODUCED ON AUTOCAD BY	DATE
				ARCH-CIVIL			C. ZBOCH	2/19/2015
				CONTROL & ELECT.			S. WLAZLIK, K. BALL	8/19/2014
				MECH.			G.D. STEPHENS	2/19/2015
				STATIONS ENG.			G.D. STEPHENS	2/19/2015
							M. FAIRLESS	

DTE Energy - DTE Electric Company Central Design

TITLE: **BOUNDARY SURVEY**
 OF DTE ENERGY PROPERTY
 IN PART OF THE NORTHEAST 1/4 OF SECTION 31,
 T. 2 N., R. 11 E., CITY OF TROY, OAKLAND COUNTY, MICHIGAN

LOCATION NAME: **ARIEL SUBSTATION**

ORIGINATING SOURCE: **SURVEYING SERVICES**

DRAWING NUMBER: **5SE 1419-005**

JOB NUMBER: **201502064**

SCALE: **1" = 100'**

USE DIMENSIONS ONLY DO NOT SCALE

SHEET 1 OF 1



DATE: 2-20-15										SUBMITTED FOR: SITE PLAN APPROVAL.																																																																					
PROJECT DESIGNER										PROJECT MANAGER										OTHERS										APPROVALS																																																	
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PDL #										WO NO:										PDL #										WO NO:										PROJECT MANAGER										DATE																													
MADE BY										A/C/T/UG/SUR										RELAY										MADE BY										DATE										J. WIERENGA										02-20-15																			
CH'K BY										DATE										EP&PM										APVD FOR ISSUE										LAYOUT BY										DATE																													
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MADE BY										A/C/T/UG/SUR										RELAY										MADE BY										DATE										GORDON YEE										02-20-15																			
CH'K BY										DATE										EP&PM										APVD FOR ISSUE										PROJECT DESIGN/ELECT										DATE																													
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MADE BY										A/C/T/UG/SUR										RELAY										MADE BY										DATE										MARK FAIRLESS										02-20-15																			
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MADE BY										A/C/T/UG/SUR										RELAY										MADE BY										DATE										LOCATION NAME										REGION										SCALE									
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MADE BY										A/C/T/UG/SUR										RELAY										MADE BY										DATE										5A1419-2X										41577803																			
CH'K BY										DATE										EP&PM										APVD FOR ISSUE										DATE										DATE										DATE										DATE									

**CITY OF TROY
MICHIGAN
PUBLIC NOTICE
CITY PLANNING COMMISSION**

In accordance with the provisions of the Michigan State Law, Notice is hereby given that the Planning Commission of the City of Troy will hold Public Meetings in the City Hall, 500 West Big Beaver Road, Troy, Michigan, (248) 524-3364, on the following dates:

2016 PLANNING COMMISSION REGULAR MEETING DATES

January 12	July 12
January 26	July 26
February 9	August 9
February 23	August 23
March 8	September 13
March 22	September 27
April 12	October 11
April 18 (Joint City Council) *	October 24 (Joint City Council) *
April 26	October 25
May 10	November 8 (Election Day)
May 24	November 22 (Thanksgiving, Nov 24)
June 14	December 13
June 28	

All meetings are held in City Hall and are open to the public.
The Agenda and City website will reflect any changes in meeting times and/or rooms.

Regular Planning Commission meetings begin at 7:00 p.m. and are held in the Council Board Room. Meetings are subject to be held in the Council Chamber based on anticipated audience capacity.

*Joint City Council/Planning Commission meetings begin at 6:00 p.m. and are held in the Council Board Room.

This notice is hereby posted as required by Section 4 of the Open Meetings Act (MCLA 15.261 et seq.)

R. Brent Savidant, AICP / PCP
Planning Director

Posted: xxxx

NOTICE: People with disabilities needing accommodations for effective participation in this meeting should contact the City Clerk by e-mail at clerk@troymi.gov or by calling (248) 524-3316 at least two working days in advance of the meeting. An attempt will be made to make reasonable accommodations.