

GENERAL SITE NOTES:

- WHERE INDICATED, PROVIDE 12" X 18" ALUMINUM "RESERVED PARKING" SIGN WITH SILK-SCREEN SYMBOL AND LETTERING EQUAL TO R7-8 AS REQUIRED BY THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
- SIGNS SHALL BE MOUNTED ON 1 1/2" SQUARE GALVANIZED STEEL POST, WALL OR FENCE MOUNTED AS INDICATED ON THE PLANS. LOCATE AND INSTALL IN ACCORDANCE WITH ALL APPLICABLE STANDARDS AND REGULATIONS.
- PARKING STALL STRIPES SHALL BE PAINTED AS SHOWN ON THE DRAWINGS. LINES SHALL BE 4" WIDE, APPLIED IN ONE COAT USING A STANDARD STRIPING MACHINE. PAINT SHALL BE WHITE AS REQUIRED TO CONFORM TO THE MUTCD.
- PROVIDE STRIPING AT NEW PAVEMENT AS INDICATED ON THE DRAWINGS.
- ALL SITE LIGHTING SHALL BE SHIELDED DOWNWARD AND AWAY FROM ADJACENT PROPERTY.
- SITE IDENTIFICATION SIGNAGE SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE ROCHESTER HILLS STANDARDS.
- EXTERIOR CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING CRITERIA.
 - CURB RAMPS SHALL BE PROVIDED WHERE EVER AN ACCESSIBLE ROUTE CROSSES A CURB.
 - MAXIMUM SLOPE SHALL BE 1:12. THE TRANSITION FROM WALKS, GUTTERS OR STREETS SHALL BE FLUSH.
 - THE MINIMUM WIDTH SHALL BE 36", EXCLUSIVE OF FLARES, UNLESS OTHERWISE NOTED ON THE PLANS.
 - CURB RAMPS SHALL HAVE A DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCHES A HEIGHT OF NOMINAL 0.2 INCHES AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.
- A DETECTABLE WARNING SHALL BE PROVIDED IN SIDEWALKS WHERE A WALK CROSSES OR ADJOINS A VEHICULAR WAY, AND THE WALKING SURFACES ARE NOT SEPARATED BY CURBS, RAILINGS OR OTHER ELEMENTS. THE BOUNDARY BETWEEN THE AREAS SHALL BE DEFINED BY A CONTINUOUS DETECTABLE WARNING WHICH IS 36" WIDE MINIMUM. THE DETECTABLE WARNING SHALL COMPLY WITH THE CRITERIA STATED ABOVE FOR CURB RAMPS.
- CALL MISS DIG 72 HOURS PRIOR TO CONSTRUCTION.
- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS.
- ALL ROOF TOP AND/OR GROUND MOUNTED MECHANICAL UNITS SHALL BE SCREENED AS REQUIRED BY ROCHESTER HILLS.
- NO SIGNS (OTHER THAN OFFICIAL TRAFFIC CONTROL SIGNS) ARE APPROVED AS PART OF THIS SITE PLAN APPROVAL. PRIOR TO ERECTION OF A SIGN, AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE BUILDING DEPARTMENT FOR REVIEW, APPROVAL AND ISSUANCE OF A SIGN PERMIT.

PARCEL 1 SITE STATISTICS:

EXISTING ZONING: B3 SHOPPING CENTER BUSINESS
 USE GROUP: (M) MERCANTILE (UNLIMITED AREA BUILDING)
 CONSTRUCTION TYPE: II B
 GROSS SITE AREA: 1.5 ACRES = 65,565 S.F.
 NET SITE AREA: 1.2 ACRES = 48,750 S.F.

SET BACKS:
 FRONT REQUIRED = 75'-0"
 FRONT PROVIDED = 59'-0"
 BACK REQUIRED = 75'-0"
 BACK PROVIDED = 31'-8"
 SIDE REQUIRED = 25'-0" EACH = 50'-0" TOTAL
 SIDE PROVIDED = 57'-3" (NORTH) 115'-8" (SOUTH) = 172'-11" TOTAL

BUILDING AREA: 8,154 S.F.
 ACTUAL LOT COVERAGE: 8,154 S.F. / 48,750 S.F. = 17%
 ALLOWABLE LOT COVERAGE: 50%
 BUILDING HEIGHT: 20'-0"

FIRE DEPARTMENT NOTES:

- FIRE LANES SHALL BE DESIGNATED BY THE FIRE CODE OFFICIAL AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FEET APART. FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE," AND SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. FIRE PREVENTION ORDINANCE CHAPTER 58, SEC. 303.
- CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC 2006 CHAPTER 14.
- OPEN BURNING IS NOT PERMITTED INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN THE CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. FIRE PREVENTION ORDINANCE CHAPTER 58, SEC. 307.6.2 & 307.6.2.3

ENGINEERING DEPARTMENT NOTES:

- INDIVIDUAL GREASE TRAPS FOR ANY FUTURE RESTAURANTS WILL BE PROVIDED AS REQUIRED BY THE CITY OF ROCHESTER HILLS.
- THE EXISTING SANITARY SEWER SYSTEM WAS DESIGNED AND WAS PREVIOUSLY OPERATING FOR A SINGLE LARGER SCALE RESTAURANT OF EQUAL SIZE TO THE PROPOSED BUILDING.
- THE EXISTING STORM SEWER SYSTEM WILL BE LEFT AS CURRENTLY DESIGNED FOR PARKING LOT AREAS. THE PROPOSED BUILDING WILL BE BUILT ON THE EXISTING BUILDING PAD FROM PREVIOUS RESTAURANT STRUCTURE.

APPLICANT INFORMATION:

CAMPUS CORNERS ASSOCIATES
 1334 MAPLE LAWN
 TROY, MICHIGAN 48084
 PHONE: (248) 649-2924

PARKING CALCULATIONS

EXISTING BUILDING AREA: 135,800 S.F. + 8,095 S.F. = 143,895 S.F.
 PROPOSED BUILDING AREA: 8,154 S.F.
 TOTAL BUILDING AREA: 143,895 S.F. + 8,154 S.F. = 152,049 S.F.

REQ. PARKING SPACES PER AREA: 152,049 S.F./300 = 507 SPACES
 REQ. STACKING SPACES: 10 X 2 WINDOWS = 20 STACKING SPACES

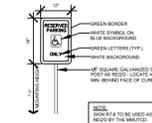
TOTAL PARKING SPACES PROVIDED: 651
 STACKING SPACES PROVIDED: 20

NOTE:

ALL SIGNS MUST MEET SECTION 135-8.603 AND CHAPTER 134 OF THE CITY CODE OF ORDINANCES, APPROVED UNDER A SEPARATE PERMIT.

FIRE DEPT. NOTES:

A KNOX KEY SYSTEM SHALL BE INSTALLED, IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE FROM THE KNOX COMPANY AT KNOXBOX.COM



TYP. BARRIER FREE PARKING SIGN DETAIL

Consultants

Project title

PROPOSED BUILDING FOR:
CAMPUS CORNERS OUTLOT

185 S. LIVERNOIS
 ROCHESTER HILLS, MICHIGAN

Issued dr/ch

SITE PLAN REVIEW	11.14.17
SITE PLAN REVIEW	12.29.17
PER CITY REVIEW	03.09.18
2 SITE PLAN REVIEW	03.13.19
REV. PLAN FOR REVIEW	03.22.19
3 REV. PER CITY	04.22.19

Sheet title

SITE PLAN

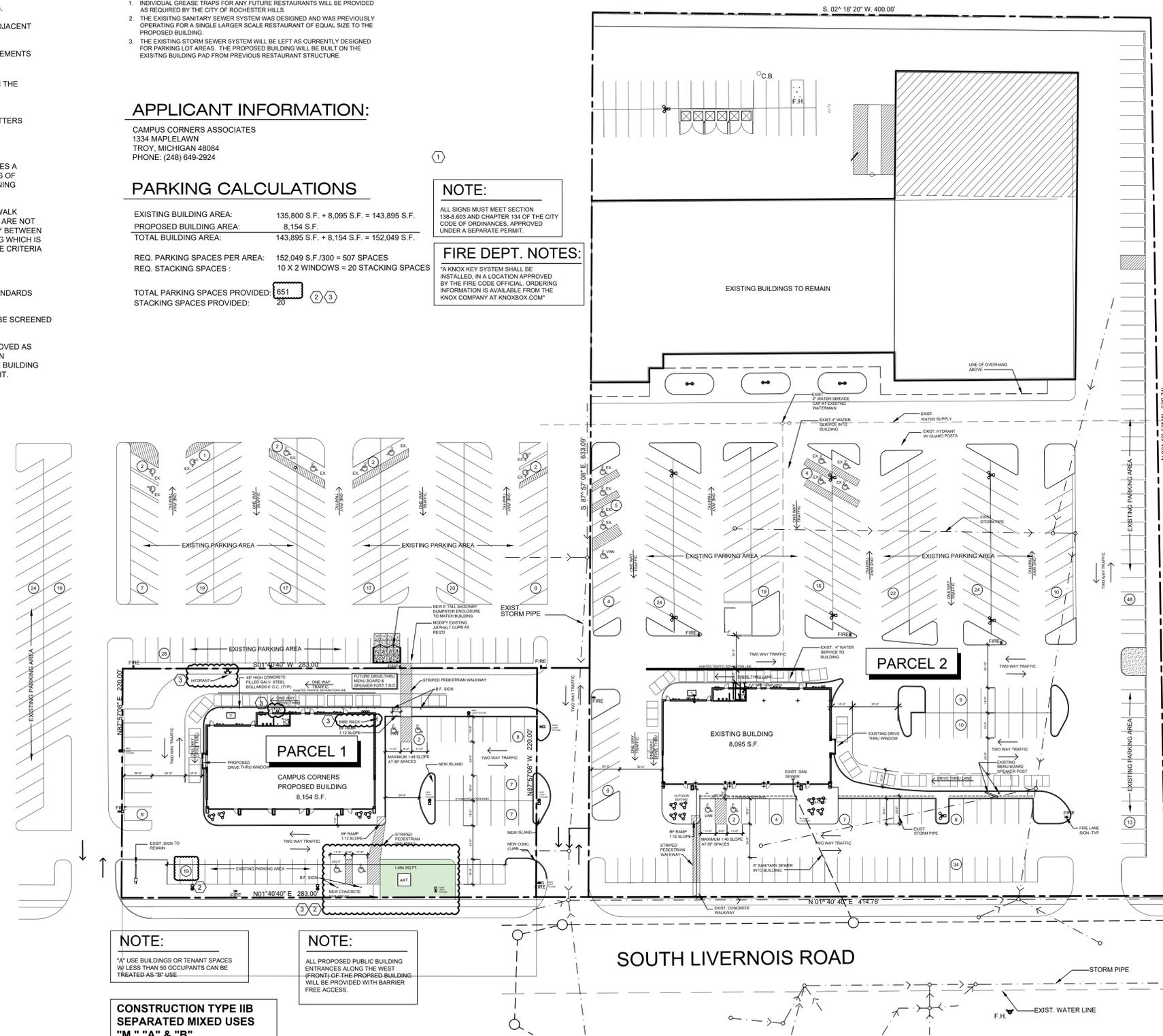


Project no.

2001-17

Sheet no.

SP.101



NOTE:
 A USE BUILDINGS OR TENANT SPACES W/ LESS THAN 50 OCCUPANTS CAN BE TREATED AS "B" USE.

CONSTRUCTION TYPE II B SEPARATED MIXED USES "M," "A" & "B"

NOTE:
 ALL PROPOSED PUBLIC BUILDING ENTRANCES ALONG THE WEST (FRONT) OF THE PROPOSED BUILDING WILL BE PROVIDED WITH BARRIER FREE ACCESS.

NOTE:
 SHARED PARKING AGREEMENT W/ ADJACENT SHOPPING CENTER PROPERTY.

NOTE:
 BUILDING IS NOT PROVIDED WITH A NET FIRE SUPPRESSION SYSTEM.

NOTE:
 ALL PROPOSED BUILDING MOUNTED LIGHTS WILL BE SHIELDED

NOTE:
 PROVIDE PARKING LOT STRIPING AND DIRECTIONAL ARROWS PER TENANT'S CONSTRUCTION DOCUMENTS AND PER LOCAL CODE.

DRIVE THRU NOTE:
 FURNISH AND INSTALL REINFORCED CONCRETE PIER AND ANCHOR BOLTS PER TENANT'S PIER DETAILS AT LOCATIONS AS SPECIFIED BY TENANT FOR THE FOLLOWING ITEMS:
 (1) ORDER MENU BOARD
 (2) SPEAKER POST
 (3) DIRECTIONAL SIGNAGE
 (4) HEIGHT RESTRICTION BAR
 (5) TENANT'S DEDICATED MONUMENT SIGN / PYLON SIGN

NOTE:
 FURNISH AND INSTALL 6" DIAMETER STEEL PIPE BOLLARDS, FILLED WITH CONCRETE, PAINTED AND LOCATED PER TENANT'S CONSTRUCTION DOCUMENTS.

CITY FILE #: 18-001



SITE PLAN
 SCALE: 1"=40'

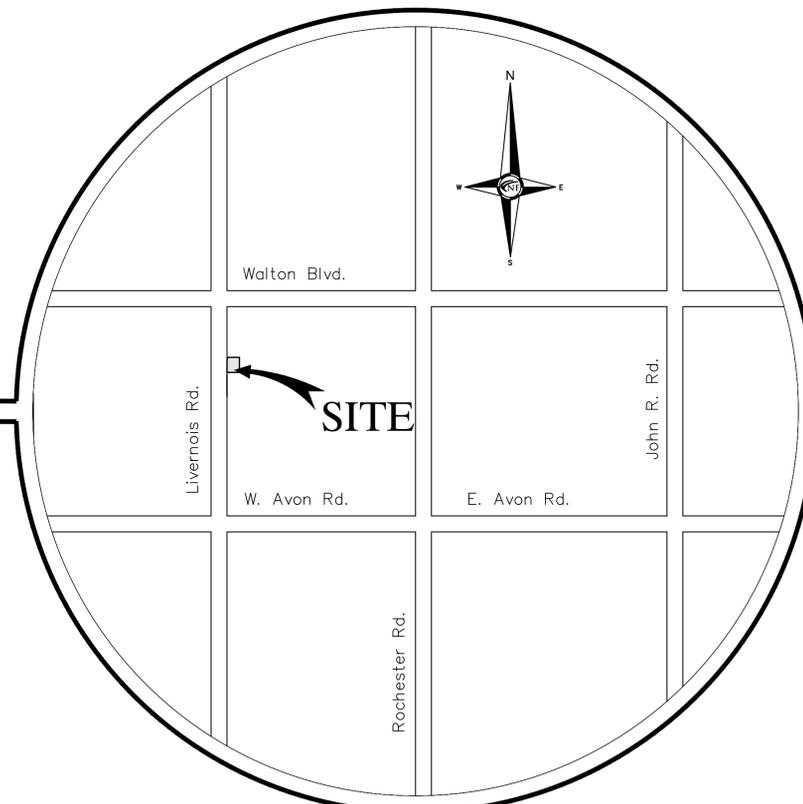
Construction Documents

Campus Corners Shopping Center at 175 Livernois Road

Prepared For
Frankel Development Company
 1334 Maplelawn Drive City of Troy Oakland County, Michigan

ROAD COMMISSION FOR OAKLAND COUNTY NOTES

1. CONTRACTOR SHALL CALL INSPECTOR OR PERMIT SUPERVISOR BEFORE BEGINNING ANY WORK WITHIN THE LIVERNOIS ROAD RIGHT-OF-WAY.
2. PROPER SIGNING IS REQUIRED BEFORE ANY WORK IN RIGHT OF WAY COMMENCES.
3. LANE CLOSURES SHALL BE RESTRICTED TO 9 AM THROUGH 3 PM, MONDAY THROUGH FRIDAY.
4. CONTRACTOR SHALL MAINTAIN TWO WAY TRAFFIC ON LIVERNOIS ROAD AT ALL TIMES.
5. A FLAG PERSON IS REQUIRED FOR TEMPORARY ONE LANE ROADS.



REVISIONS:
 May 30, 2018 - Submitted for City Approval
 September 15, 2018 - Revised Per City Review
 April 22, 2018 - PRELIM Site Plan Submittal

Civil Engineer

Nowak & Fraus Engineers
 46777 Woodward Avenue
 Pontiac, Michigan 48342

Contact: Mr. Mark Collins, P.E.
 Phone: (248) 332-7931
 Fax: (248) 332-8257

Electric

DTE Energy
 37849 Interchange Drive
 Farmington Hills, MI 48335

Contact: Mr. Tour'e Kelsey
 Phone: (586) 997-2161

Cable Television

Comcast - Michigan East Region
 36250 Van Dyke, Building B
 Sterling Heights, MI 48312

Contact: Mr. James Stitzel
 Phone: (248) 883-7253

Natural Gas

Consumers Energy
 1030 Featherstone Road
 Pontiac, MI 48342

Contact: Mr. Mike Jablonski
 Phone: (248) 858-4405

Telephone

AT&T
 54 N. Mill Street
 Pontiac, MI 48342

Contact: Mr. Dean Jones
 Phone: (248) 972-0139

SHEET INDEX

- C0 COVER
- C1 BOUNDARY/TOPOGRAPHIC SURVEY
- C2 DEMOLITION PLAN
- C3 PAVING AND GRADING PLAN
- C4 UTILITY PLAN
- C5 PROFILE, DETAILS AND CALCULATIONS PLAN
- C6 SOIL EROSION/DRAINAGE AREA PLAN
- L1 LANDSCAPE PLAN
- L2 STORM SYSTEM STANDARD DETAILS
- WATER MAIN DETAIL 1
- WATER MAIN DETAIL 2
- WATER MAIN DETAIL 3
- SANITARY DETAILS 1
- SANITARY DETAILS 2

Location Map
 N.T.S.

**Part of the NW 1/4 of Section 15 T.3N., R.11E.,
 City of Rochester Hills, Oakland County, Michigan**

LEGAL DESCRIPTION
 LAND SITUATED IN THE COUNTY OF OAKLAND, CITY OF ROCHESTER HILLS, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:
 PART OF THE NORTHWEST 1/4 OF SECTION 15, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS: BEGINNING AT A POINT DISTANT SOUTH 01 DEGREE 40 MINUTES 40 SECONDS WEST, ALONG THE WEST LINE OF SAID SECTION 15, 625.84 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 15; THENCE SOUTH 87 DEGREES 57 MINUTES 08 SECONDS EAST, 220.00 FEET; THENCE SOUTH 01 DEGREE 40 MINUTES 40 SECONDS WEST, 283.00 FEET; THENCE NORTH 87 DEGREES 57 MINUTES 08 SECONDS WEST, 220.00 FEET TO THE WEST LINE OF SAID SECTION 15; THENCE NORTH 01 DEGREE 40 MINUTES 40 SECONDS EAST, ALONG SAID LINE, 283.00 FEET TO THE POINT OF BEGINNING, EXCEPT THE WEST 60.00 FEET THEREOF CONVEYED TO THE BOARD OF COUNTY ROAD COMMISSIONERS OF THE COUNTY OF OAKLAND, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 6248, PAGE 573, OAKLAND COUNTY RECORDS, ALSO EXCEPT THAT PART DESCRIBED AS: BEGINNING AT A POINT DISTANT SOUTH 01 DEGREE 40 MINUTES 40 SECONDS WEST, 625.84 FEET ALONG THE WEST LINE OF SAID SECTION 15; THENCE SOUTH 87 DEGREES 57 MINUTES 08 SECONDS EAST, 60.00 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 15 TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 87 DEGREES 57 MINUTES 08 SECONDS EAST, 10.00 FEET; THENCE SOUTH 11 DEGREES 38 MINUTES 21 SECONDS WEST, 57.81 FEET; THENCE NORTH 01 DEGREE 40 MINUTES 40 SECONDS EAST, 57.00 FEET ALONG A LINE 60.00 FEET EAST OF, MEASURED AT RIGHT ANGLES TO AND PARALLEL WITH THE WEST LINE OF SAID SECTION 15, TO THE POINT OF BEGINNING, CONVEYED TO THE BOARD OF COUNTY ROAD COMMISSIONERS OF THE COUNTY OF OAKLAND, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 15627, PAGE 525, OAKLAND COUNTY RECORDS.

TAX ID: 15-15-101-014



NFE JOB # 3553-03



CIVIL ENGINEERS
 LAND SURVEYORS
 LAND PLANNERS

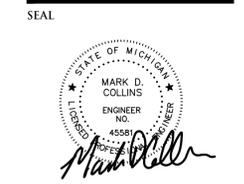
NOWAK & FRAUS ENGINEERS
 46777 WOODWARD AVE.
 PONTIAC, MI 48342-5032
 TEL. (248) 332-7931
 FAX. (248) 332-8257

NA:3000-FILES\3553-03\Office\Construction Documents\3553-03_ENGR.dwg, 4/22/2019 2:17:50 PM, mhuha



CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
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PROJECT
Campus Corners Shopping
Center
175 Livernois Road
CLIENT
Frankel Development
Company
1334 Maplelawn Drive
City of Troy
Oakland County, Michigan

Contact: Stuart Frankel
Phone: (248)649-2924

PROJECT LOCATION
Part of the NW 1/4
of Section 15
T.3N., R.11E.,
City of Rochester Hills,
Oakland County, Michigan

SHEET
Boundary / Topographic /
Tree Survey



DATE ISSUED/REVISED
APRIL 19, 2019 - FIRE TRUCK RADIUS ADDED
APRIL 22, 2019 - FREELIM SITE PLAN SUBMITTAL

CITY REVIEW /SECTION
18-001/15

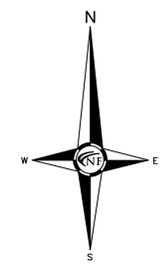
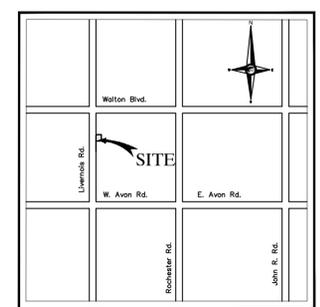
DRAWN BY:
D. McConkey

DESIGNED BY:
N/A

APPROVED BY:
B. Fraus

DATE:
December 4, 2017

SCALE: 1" = 20'
20 10 0 10 20 30
NFE JOB NO. SHEET NO.
3553-03 CI



LEGAL DESCRIPTION

LAND SITUATED IN THE COUNTY OF OAKLAND, CITY OF ROCHESTER HILLS, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:
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TAX ID: 15-15-101-014

FLOOR HAZARD NOTE

THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE X OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NO. 26125C00392F BEARING AN EFFECTIVE DATE OF 9-26-2006.

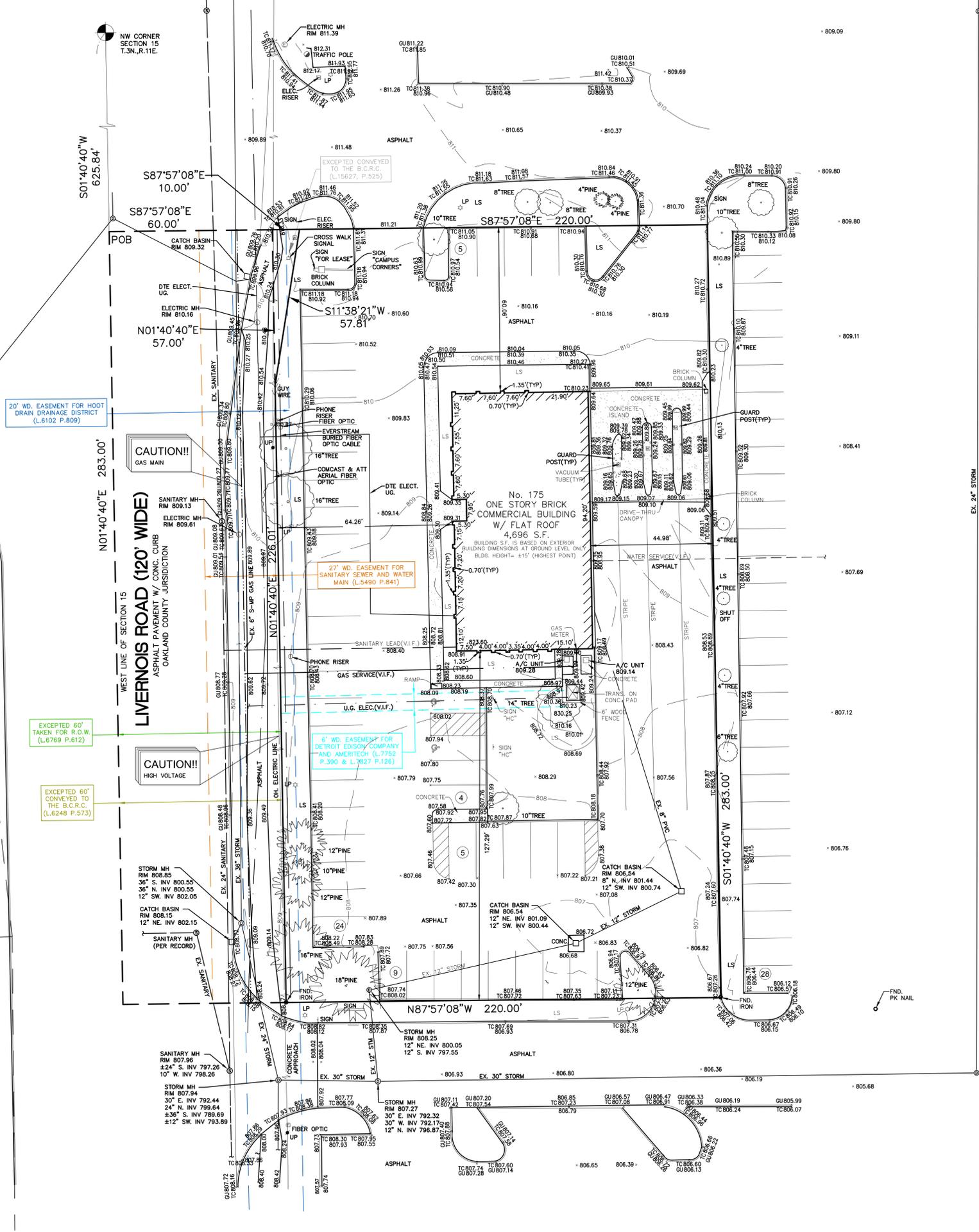
MISS DIG / UTILITY DISCLAIMER NOTE

A MISS DIG TICKET NUMBER B072921311, PURSUANT TO MICHIGAN PUBLIC ACT 174 WAS ENTERED FOR THE SURVEYED PROPERTY. DUE TO THE EXTENDED REPORTING PERIOD FOR UNDERGROUND FACILITY OWNERS TO PROVIDE THEIR RECORDS, THE SURVEY MAY NOT REFLECT ALL THE UTILITIES AT THE TIME THE SURVEY WAS ISSUED ON 10-20-2017. THE SURVEY ONLY REFLECTS THOSE UTILITIES WHICH COULD BE OBSERVED BY THE SURVEYOR IN THE FIELD OR AS DISCLOSED BY THE UTILITY COMPANY RECORDS FURNISH PRIOR TO THE DATE THIS SURVEY WAS ISSUED. THE CLIENT AND/OR THEIR AUTHORIZED AGENT SHALL VERIFY WITH THE FACILITY OWNERS AND/OR THEIR AUTHORIZED AGENTS, THE COMPLETENESS AND EXACTNESS OF THE UTILITIES LOCATION.

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.
THIS SURVEY MAY NOT SHOW ALL EASEMENTS OF RECORD UNLESS AN UPDATED TITLE POLICY IS FURNISHED TO THE SURVEYOR BY THE OWNER.

LEGEND table with symbols for Manhole, Hydrant, Gate Valve, Catch Basin, Utility Pole, GUY WIRE, Existing Sanitary Sewer, Existing San. Clean Out, Existing Water Main, Existing Storm Sewer, Ex. R.Y. Catch Basin, Existing Buried Cables, Overhead Lines, Light Pole, Sign, Existing Gas Main.



20' WD. EASEMENT FOR HOOT DRAIN DRAINAGE DISTRICT (L.6102 P.809)

EXCEPTED 60' TAKEN FOR R.O.W. (L.6769 P.612)

EXCEPTED 60' CONVEYED TO THE B.C.R.C. (L.6248 P.573)

CAUTION!! GAS MAIN

CAUTION!! HIGH VOLTAGE

LIVERNOIS ROAD (120' WIDE)
ASPHALT PAVEMENT W/ CONC. CURB
OAKLAND COUNTY JURISDICTION

27' WD. EASEMENT FOR SANITARY SEWER AND WATER MAIN (L.5490 P.841)

6' WD. EASEMENT FOR DETROIT EDISON COMPANY (L.7752 P.126)

S01°40'40"W 625.84'

S87°57'08"E 10.00'

S87°57'08"E 60.00'

N01°40'40"E 57.00'

N01°40'40"E 283.00'

WEST LINE OF SECTION 15

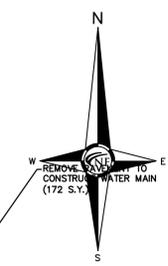
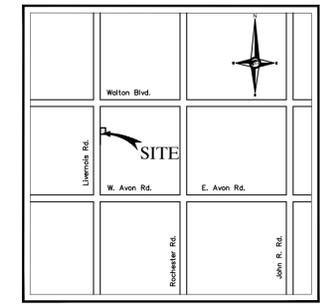
CAUTION!! HIGH VOLTAGE

N87°57'08"W 220.00'

S01°40'40"W 283.00'

EX. 24" STORM

FND. PK. NAIL



SEAL



PROJECT
Campus Corners Shopping Center

175 Livernois Road

CLIENT
Frankel Development Company
1334 Maplelawn Drive
City of Troy
Oakland County, Michigan

Contact: Stuart Frankel
Phone: (248)649-2924

PROJECT LOCATION
Part of the NW 1/4 of Section 15
T.3N., R.11E.,
City of Rochester Hills,
Oakland County, Michigan

ESTIMATED QUANTITIES
DEMOLITION

DESCRIPTION	QUANTITY	UNITS
REMOVE EX. CURB	650	L.F.
REMOVE PAVEMENT	3,892	S.Y.
REMOVE CONCRETE PAVEMENT	354	S.Y.
REMOVE EXISTING TREES	3	EA
REMOVE EXCESS MILLINGS	1	EA
REMOVE EXISTING LIGHTS	1	EA
ABANDON EX. 2" WATER SERVICE	1	EA

TOPOGRAPHIC SURVEY NOTES

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LEGEND

	EXISTING SANITARY SEWER
	EXISTING SAN. CLEAN OUT
	EXISTING WATER MAIN
	EXISTING STORM SEWER
	EX. R. Y. CATCH BASIN
	EXISTING BURIED CABLES
	OVERHEAD LINES
	LIGHT POLE
	SIGN
	EXISTING GAS MAIN
	EXISTING UTILITY TO BE REMOVED
	EXISTING UTILITY TO BE ABANDONED
	INDICATES EXISTING TREE TO BE REMOVED
	INDICATES AREAS OF PAVEMENT, BUILDINGS, ETC. TO BE REMOVED
	BUTT JOINT
	CRUSH AND SHAPE EX. ASPHALT PAVEMENT

DATE ISSUED/REVISED
APRIL 19, 2019 - FIRE TRUCK RADI ADDED
APRIL 22, 2019 - PRELIM SITE PLAN SUBMITTAL

CITY REVIEW /SECTION
18-001/15

DRAWN BY:
M. Huhta

DESIGNED BY:
M. Huhta

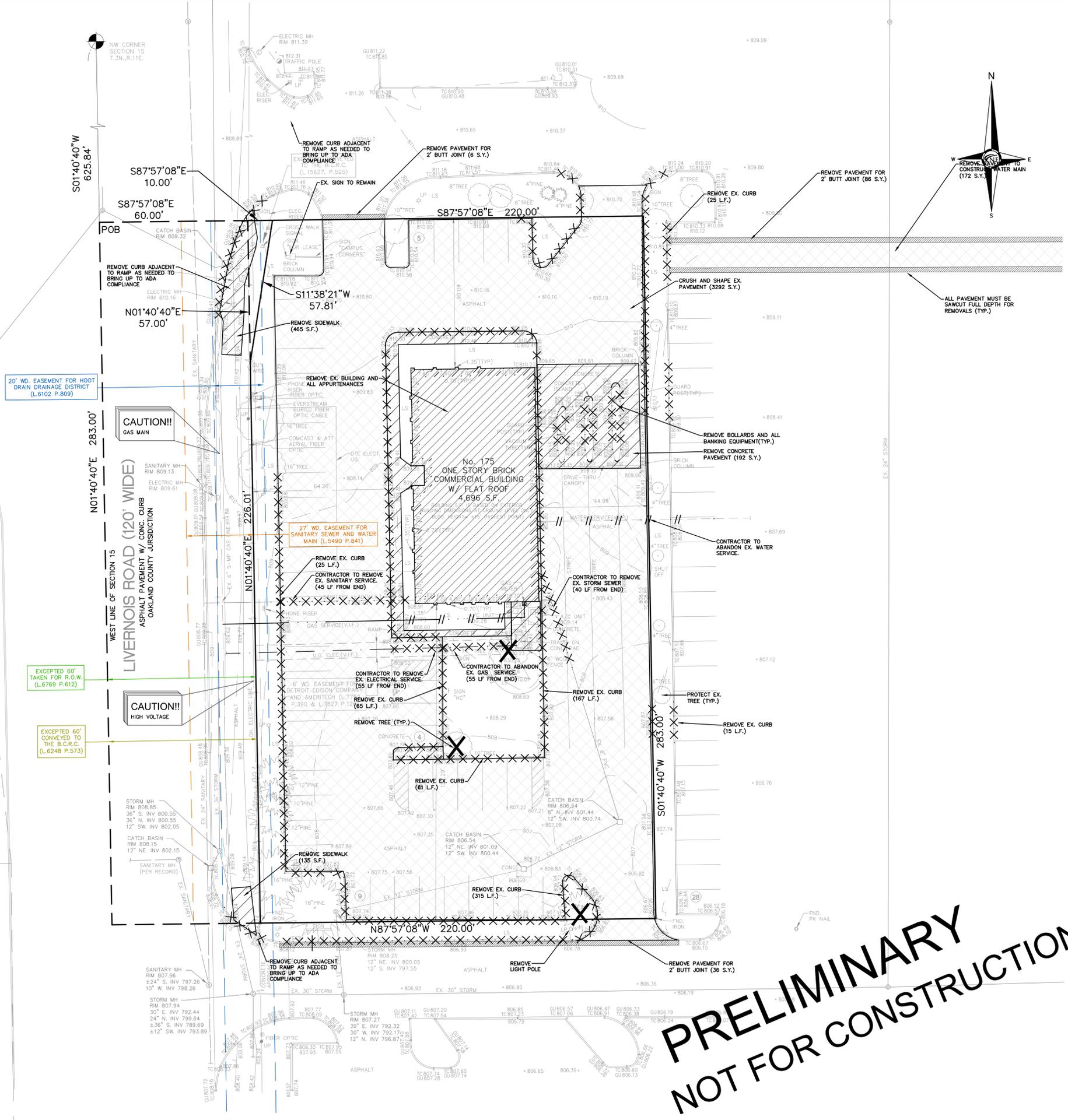
APPROVED BY:
M. Collins

DATE:
December 4, 2017

SCALE: 1" = 20'
20 10 0 10 20 30

NFE JOB NO. 3553-03 **SHEET NO.** C2

**PRELIMINARY
NOT FOR CONSTRUCTION**



20' WD. EASEMENT FOR HOOT DRAIN DRAINAGE DISTRICT (L.6102 P.809)

CAUTION!!
GAS MAIN

LIVernois ROAD (120' WIDE)
ASPHALT PAVEMENT W/ CONC. CURB
OAKLAND COUNTY JURISDICTION

CAUTION!!
HIGH VOLTAGE

EXCEPTED 60' TAKEN FOR R.O.W. (L.6769 P.612)

EXCEPTED 60' CONVEYED TO THE B.C.R.C. (L.6248 P.573)

27' WD. EASEMENT FOR SANITARY SEWER AND WATER MAIN (L.5490 P.841)

REMOVE EX. CURB (25 L.F.)
CONTRACTOR TO REMOVE EX. SANITARY SERVICE (45 L.F. FROM END)

CONTRACTOR TO REMOVE EX. ELECTRICAL SERVICE (55 L.F. FROM END)
AND AMERITECH (L.77 P.390 & L.7827 P.12) (65 L.F.)

REMOVE EX. CURB (187 L.F.)

REMOVE EX. CURB (15 L.F.)

REMOVE EX. CURB (61 L.F.)

REMOVE EX. CURB (315 L.F.)

REMOVE EX. CURB (25 L.F.)
CONTRACTOR TO REMOVE EX. SANITARY SERVICE (45 L.F. FROM END)

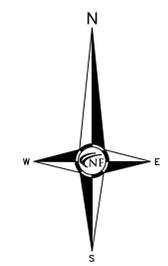
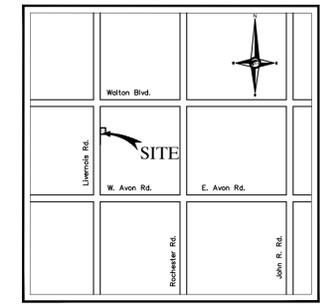
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REMOVE EX. CURB (25 L.F.)
CONTRACTOR TO REMOVE EX. SANITARY SERVICE (45 L.F. FROM END)

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CONTRACTOR TO REMOVE EX. SANITARY SERVICE (45 L.F. FROM END)

REMOVE EX. CURB (25 L.F.)
CONTRACTOR TO REMOVE EX. SANITARY SERVICE (45 L.F. FROM END)



GENERAL PAVING NOTES

PAVEMENT SHALL BE OF THE TYPE, THICKNESS AND CROSS SECTION AS INDICATED ON THE PLANS AND AS FOLLOWS:

CONCRETE: PORTLAND CEMENT TYPE IA (AIR-ENTRAINED) WITH A MINIMUM CEMENT CONTENT OF SIX SACKS PER CUBIC YARD, MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,500 PSI AND A SLUMP OF 1 1/2 TO 3 INCHES.

ASPHALT: BASE COURSE - MDT BITUMINOUS MIXTURE NO. 1100L, 20AA; SURFACE COURSE - MDT BITUMINOUS MIXTURE NO. 1100T, 20AA; ASPHALT CEMENT PENETRATION GRADE 85-100, BOND COAT - MDT SS-H EMULSION AT 0.10 GALLON PER SQUARE YARD; MAXIMUM 2 INCH LIFT.

PAVEMENT BASE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY (MODIFIED PROCTOR) PRIOR TO PLACEMENT OF PROPOSED PAVEMENT. EXISTING SUB-BASE SHALL BE PROOF-ROLLED IN THE PRESENCE OF THE ENGINEER TO DETERMINE STABILITY.

ALL CONCRETE PAVEMENT, DRIVEWAYS, CURB & GUTTER, ETC., SHALL BE SPRAY CURED WITH WHITE MEMBRANE CURING COMPOUND IMMEDIATELY FOLLOWING FINISHING OPERATION.

ALL CONCRETE PAVEMENT JOINTS SHALL BE FILLED WITH HOT POURED RUBBERIZED ASPHALT JOINT SEALING COMPOUND IMMEDIATELY AFTER SAWCUT OPERATION. FEDERAL SPECIFICATION SS-5164.

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION.

ALL TOP OF CURB ELEVATIONS, AS SHOWN ON THE PLANS, ARE CALCULATED FOR A 6" CONCRETE CURB UNLESS OTHERWISE NOTED.

ALL SIDEWALK RAMPS, CONFORMING TO PUBLIC ACT NO. 8, 1993, SHALL BE INSTALLED AS INDICATED ON THE PLANS.

CONSTRUCTION OF A NEW OR RECONSTRUCTED DRIVE APPROACH CONNECTING TO AN EXISTING STATE OR COUNTY ROADWAY SHALL BE ALLOWED ONLY AFTER AN APPROVED PERMIT HAS BEEN SECURED FROM THE AGENCY HAVING JURISDICTION OVER SAID ROADWAY.

FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY, THE CONTRACTOR SHALL PAY FOR AND SECURE ALL NECESSARY PERMITS AND LIKEWISE ARRANGE FOR ALL INSPECTION.

EXISTING TOPSOIL, VEGETATION AND ORGANIC MATERIALS SHALL BE STRIPPED AND REMOVED FROM PROPOSED PAVEMENT AREA PRIOR TO PLACEMENT OF BASE MATERIALS.

EXPANSION JOINTS SHOULD BE INSTALLED AT THE END OF ALL INTERSECTION RADII.

SIDEWALK RAMPS, CONFORMING TO PUBLIC ACT NO. 8, 1973, SHALL BE INSTALLED AS SHOWN AT ALL STREET INTERSECTIONS AND AT ALL BARRIER FREE PARKING AREAS AS INDICATED ON THE PLANS.

ALL PAVEMENT AREAS SHALL BE PROOF-ROLLED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF BASE MATERIALS AND PAVING MATERIALS.

FILL AREAS SHALL BE MACHINE COMPACTED IN UNIFORM LIFTS NOT EXCEEDING 9 INCHES THICK TO 98% OF THE MAXIMUM DENSITY (MODIFIED PROCTOR) PRIOR TO PLACEMENT OF PROPOSED PAVEMENT.

SEAL



PROJECT
Campus Corners Shopping Center

175 Livernois Road
CLIENT
Frankel Development Company
1334 Maplelawn Drive
City of Troy
Oakland County, Michigan

Contact: Stuart Frankel
Phone: (248)649-2924

PROJECT LOCATION
Part of the NW 1/4 of Section 15
T.3N., R.11E.,
City of Rochester Hills,
Oakland County, Michigan

SHEET
Paving & Grading Plan



Know what's below
Call before you dig.

DATE ISSUED/REVISED
APRIL 19, 2019 - FIRE TRUCK RADI ADDED
APRIL 22, 2019 - PRELIM SITE PLAN SUBMITTAL

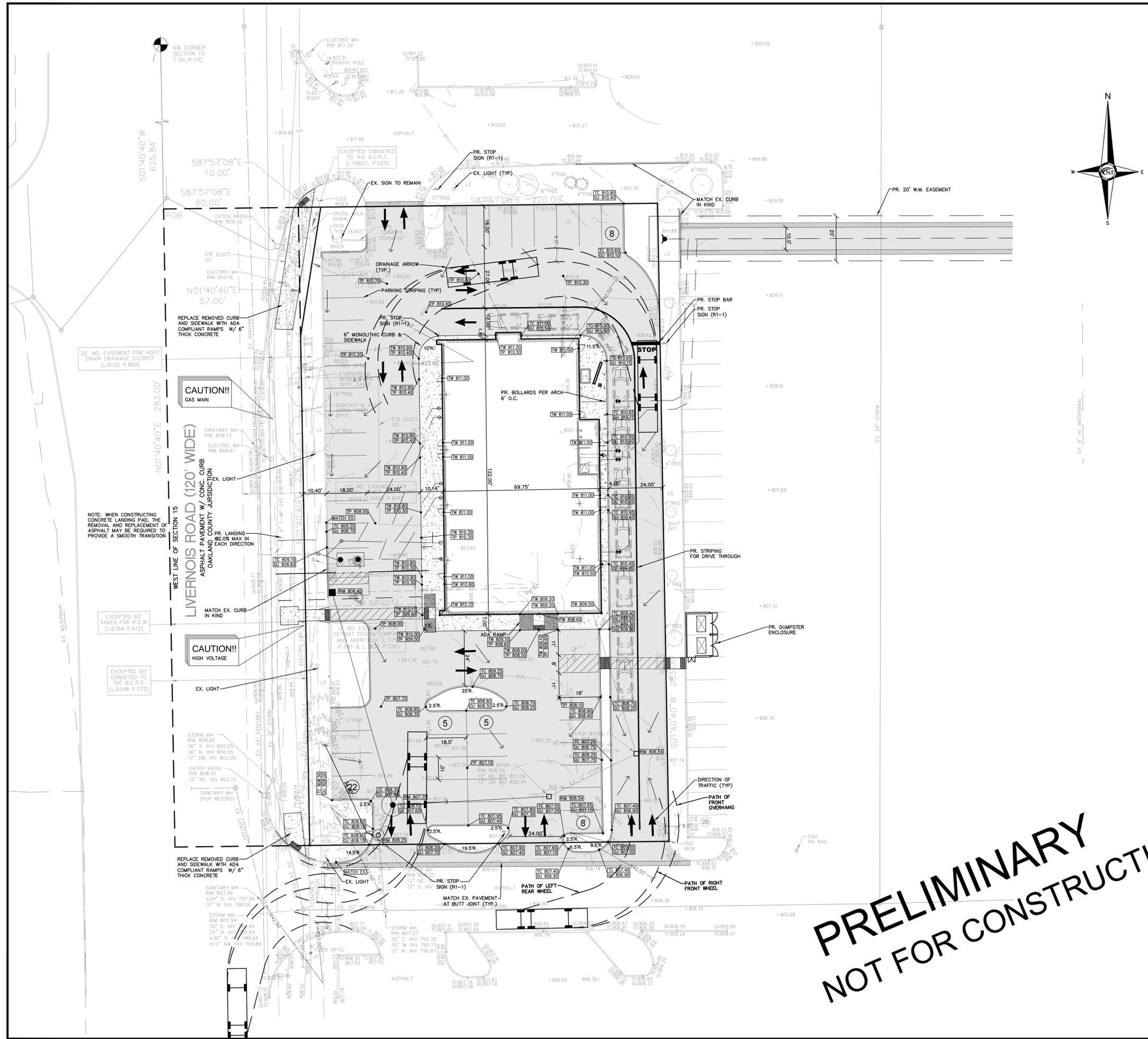
CITY REVIEW /SECTION
18-001/15
DRAWN BY:
M. Huhta
DESIGNED BY:
M. Huhta
APPROVED BY:
M. Collins

DATE:
December 4, 2017

SCALE: 1" = 20'
20 10 0 10 20 30

NFE JOB NO. SHEET NO.
3553-03 C3

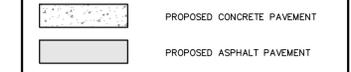
**PRELIMINARY
NOT FOR CONSTRUCTION**



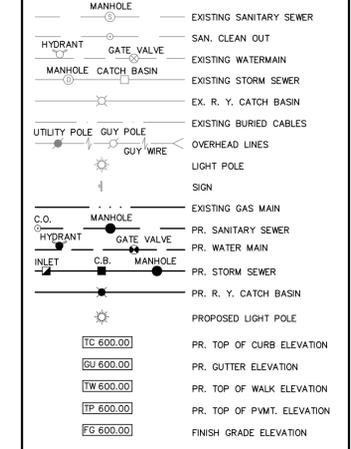
ESTIMATED QUANTITIES

DESCRIPTION	QUANTITY	UNITS
6" REINFORCED CONC. ON 4" 21AA BASE	545	S.F.
4" ASPHALT ON 6" (REPAIR OR REPLACE)	3,600	S.Y.
6" MONOLITHIC CURB AND WALK	1,820	S.F.
6" CONCRETE	1,850	S.F.
6" CONCRETE CURB & GUTTER	725	L.F.

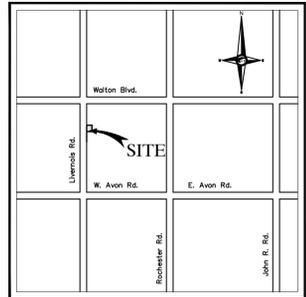
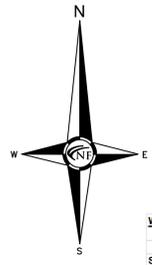
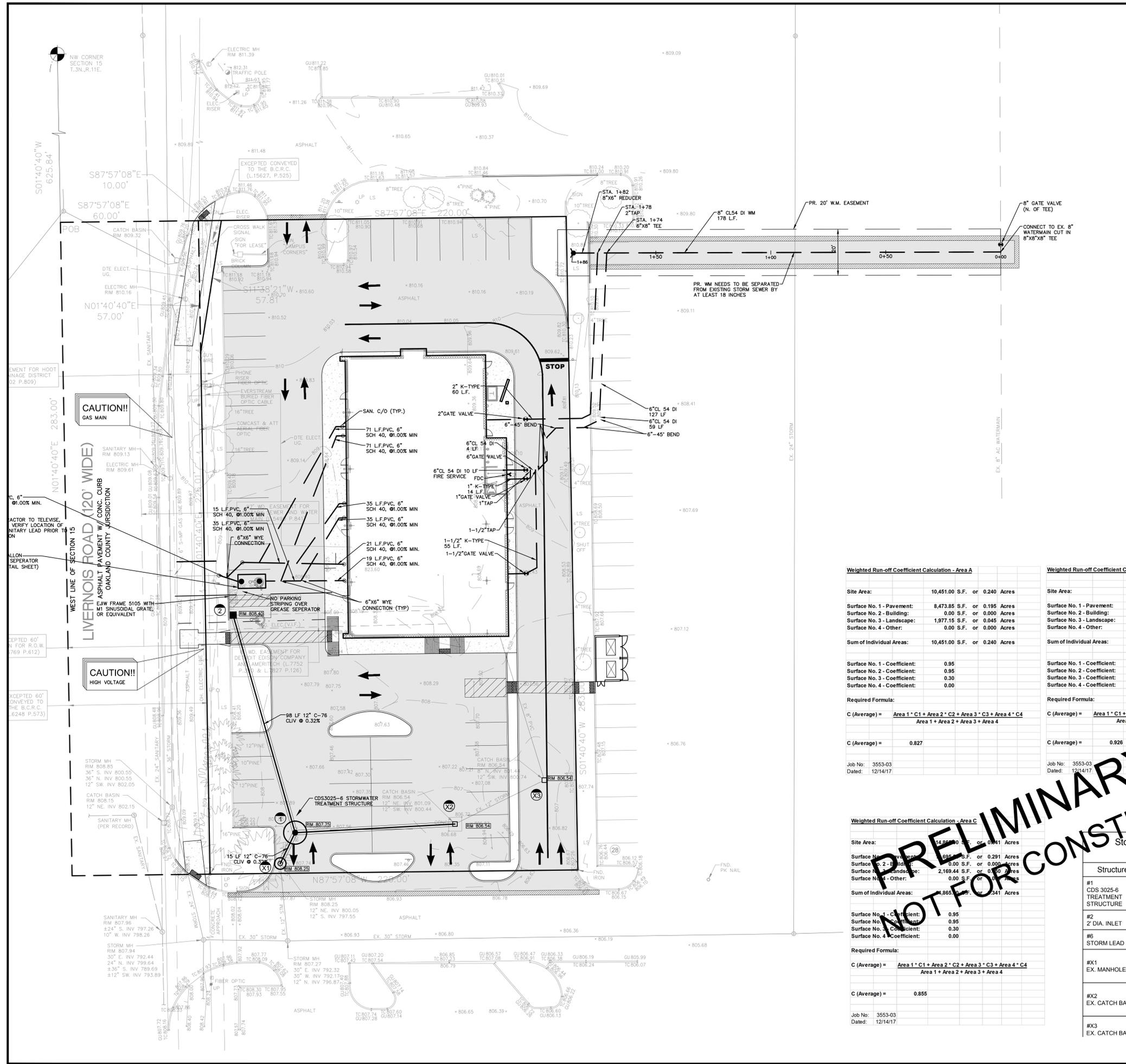
PAVING LEGEND



LEGEND



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Weighted Run-off Coefficient Calculation - Site

Site Area:	44,984.00 S.F. or 1.033 Acres
Surface No. 1 - Pavement:	31,862.14 S.F. or 0.731 Acres
Surface No. 2 - Building:	8,240.70 S.F. or 0.189 Acres
Surface No. 3 - Landscape:	4,881.16 S.F. or 0.112 Acres
Surface No. 4 - Other:	0.00 S.F. or 0.000 Acres
Sum of Individual Areas:	44,984.00 S.F. or 1.033 Acres
Surface No. 1 - Coefficient:	0.95
Surface No. 2 - Coefficient:	0.95
Surface No. 3 - Coefficient:	0.30
Surface No. 4 - Coefficient:	0.00
Required Formula:	C (Average) = Area 1 * C1 + Area 2 * C2 + Area 3 * C3 + Area 4 * C4
C (Average) =	0.879
Job No:	3553-03
Dated:	12/14/17

I = 1.8 1 Year Storm Event Intensity

TOTAL Area (Acres)	Drainage Area (Acres)	Runoff Coefficient (C)	Equivalent Area (C*A) (Acres)	Total Area (C*A) (Acres)	Time of Concentration (Minutes)	Rainfall Intensity (Inches/Hr)	Actual Discharge (CFS)
TOTAL	1.03	0.88	0.908	0.908	15.54	1.800	1.634

TREATMENT STRUCTURE NOTE
 THE PROPOSED CDS 3025-6 STORMWATER TREATMENT STRUCTURE HAS A TREATMENT FLOW RATE OF 1.7 CFS AT 75 MICRONS (FINEST AVAILABLE FILTER), WHILE THE SITE CREATES A DISCHARGE RATE OF 1.6 CFS FOR A 1-YEAR STORM. THUS, THE CDS 3025-6 IS ADEQUATE.
 GENERIC DETAIL AVAILABLE ON SHEET C5.

Weighted Run-off Coefficient Calculation - Area A

Site Area:	10,451.00 S.F. or 0.240 Acres
Surface No. 1 - Pavement:	8,473.85 S.F. or 0.195 Acres
Surface No. 2 - Building:	0.00 S.F. or 0.000 Acres
Surface No. 3 - Landscape:	1,977.15 S.F. or 0.045 Acres
Surface No. 4 - Other:	0.00 S.F. or 0.000 Acres
Sum of Individual Areas:	10,451.00 S.F. or 0.240 Acres
Surface No. 1 - Coefficient:	0.95
Surface No. 2 - Coefficient:	0.95
Surface No. 3 - Coefficient:	0.30
Surface No. 4 - Coefficient:	0.00
Required Formula:	C (Average) = Area 1 * C1 + Area 2 * C2 + Area 3 * C3 + Area 4 * C4
C (Average) =	0.827
Job No:	3553-03
Dated:	12/14/17

Weighted Run-off Coefficient Calculation - Area B

Site Area:	19,668.00 S.F. or 0.452 Acres
Surface No. 1 - Pavement:	10,692.73 S.F. or 0.245 Acres
Surface No. 2 - Building:	9,240.70 S.F. or 0.210 Acres
Surface No. 3 - Landscape:	734.57 S.F. or 0.017 Acres
Surface No. 4 - Other:	0.00 S.F. or 0.000 Acres
Sum of Individual Areas:	19,668.00 S.F. or 0.452 Acres
Surface No. 1 - Coefficient:	0.95
Surface No. 2 - Coefficient:	0.95
Surface No. 3 - Coefficient:	0.30
Surface No. 4 - Coefficient:	0.00
Required Formula:	C (Average) = Area 1 * C1 + Area 2 * C2 + Area 3 * C3 + Area 4 * C4
C (Average) =	0.926
Job No:	3553-03
Dated:	12/14/17

Weighted Run-off Coefficient Calculation - Area C

Site Area:	14,865.00 S.F. or 0.341 Acres
Surface No. 1 - Pavement:	8,865.00 S.F. or 0.201 Acres
Surface No. 2 - Building:	0.00 S.F. or 0.000 Acres
Surface No. 3 - Landscape:	2,169.44 S.F. or 0.050 Acres
Surface No. 4 - Other:	0.00 S.F. or 0.000 Acres
Sum of Individual Areas:	14,865.00 S.F. or 0.341 Acres
Surface No. 1 - Coefficient:	0.95
Surface No. 2 - Coefficient:	0.95
Surface No. 3 - Coefficient:	0.30
Surface No. 4 - Coefficient:	0.00
Required Formula:	C (Average) = Area 1 * C1 + Area 2 * C2 + Area 3 * C3 + Area 4 * C4
C (Average) =	0.855
Job No:	3553-03
Dated:	12/14/17

Storm Sewer Structure Schedule

Structure Name	Structure Details
#1 CDS 3025-6 TREATMENT STRUCTURE	PR. RIM 807.75 PR. 12" N. INV. 800.22 PR. 12" SW. INV. 800.22 PR. 12" E. INV. 800.22
#2 2" DIA. INLET	PR. RIM 808.40 PR. 12" S. INV. 800.53
#6 STORM LEAD	PR. RIM -3.16 8" S. INV. 801.44 EX.
#X1 EX. MANHOLE	PR. RIM 808.25 EX. 12" NE. INV. 800.17 EX. 12" E. INV. 800.05 PR. 12" S. INV. 797.55 EX.
#X2 EX. CATCH BASIN	EX. RIM 806.54 EX. 12" NE. INV. 801.09 PR. 12" W. INV. 800.44 EX. 12" W. INV. 800.44 EX.
#X3 EX. CATCH BASIN	EX. RIM 806.55 PR. 12" SW. INV. 800.74 PR. 8" N. INV. 801.44

ESTIMATED QUANTITIES

STORM SEWER

DESCRIPTION	QUANTITY	UNITS
12" C-76, CLASS IV, SEWER PIPE	110	L.F.
2" DIA. INLET	1	EA.
MECHANICAL FOREBAY	1	EA.
SEWER TAP/CONNECTION	1	EA.
ADJUST STORM CATCH BASIN	2	EA.

WATER MAIN (PRIVATE)

DESCRIPTION	QUANTITY	UNITS
6" CL 54 DUCTILE IRON PIPE	136	L.F.
6" GATE VALVE & BOX	1	EA.
2" K-TYPE SERVICE LEAD	115	L.F.
2" GATE VALVE & BOX	1	EA.
1-1/2" K-TYPE SERVICE LEAD	55	L.F.
1-1/2" GATE VALVE & BOX	1	EA.
1" K-TYPE SERVICE LEAD	14	L.F.
1" GATE VALVE & BOX	1	EA.

WATER MAIN (PUBLIC)

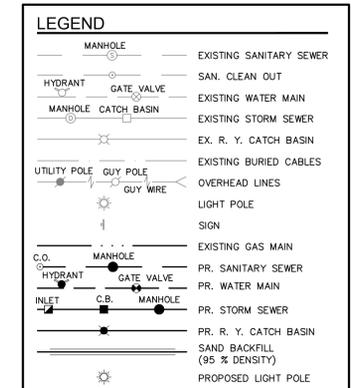
DESCRIPTION	QUANTITY	UNITS
8" CL 54 DUCTILE IRON PIPE	182	L.F.
6" CL 54 DUCTILE IRON PIPE	4	L.F.
6" GATE VALVE & BOX	1	EA.
HYDRANT ASSEMBLY	1	EA.

SANITARY SEWER

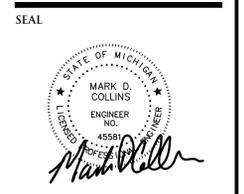
DESCRIPTION	QUANTITY	UNITS
PVC, SDR 35.5, BUILDING LEAD	310	L.F.
2400 GALLON GREASE TRAP COMPLETE	1	EA.
SEWER TAP/CONNECTION	1	EA.
SEWER CLEANOUTS	8	EA.

MISCELLANEOUS

DESCRIPTION	QUANTITY	UNITS
TRAFFIC CONTROL	1	L.S.
STOP SIGNS	4	EA.



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



PROJECT
 Campus Corners Shopping Center
 175 Livernois Road
 CLIENT
 Frankel Development Company
 1334 Maplelawn Drive
 City of Troy
 Oakland County, Michigan

Contact: Stuart Frankel
 Phone: (248)649-2924

PROJECT LOCATION
 Part of the NW 1/4 of Section 15
 T.3N., R.11E.,
 City of Rochester Hills,
 Oakland County, Michigan

SHEET
 Utility Plan



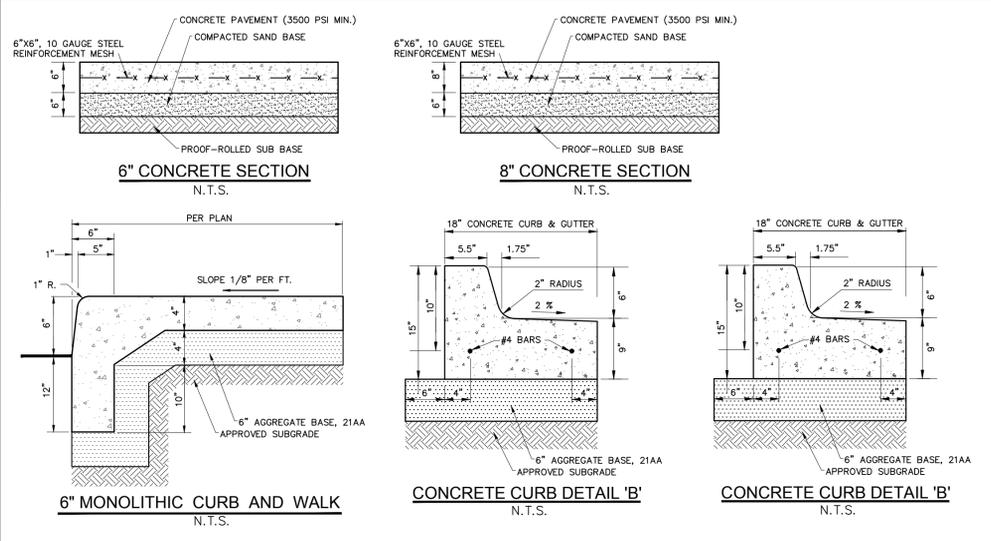
DATE ISSUED/REVISED
 APRIL 19, 2019 - FIRE TRUCK RADII ADDED
 APRIL 22, 2019 - PRELIM SITE PLAN SUBMITTAL

CITY REVIEW /SECTION
 18-001/15
DRAWN BY:
 M. Huhta
DESIGNED BY:
 M. Huhta
APPROVED BY:
 M. Collins

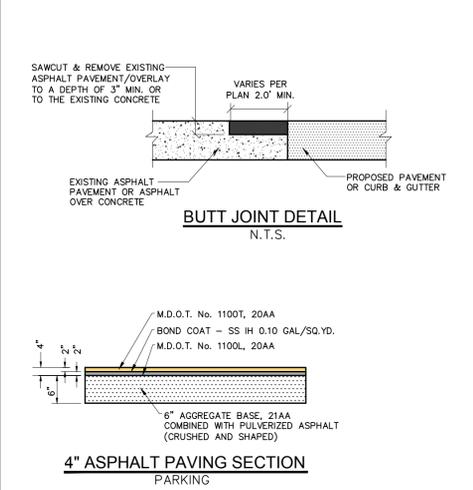
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SCALE: 1" = 20'
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NFE JOB NO. SHEET NO.
 3553-03 C4

PRELIMINARY NOT FOR CONSTRUCTION

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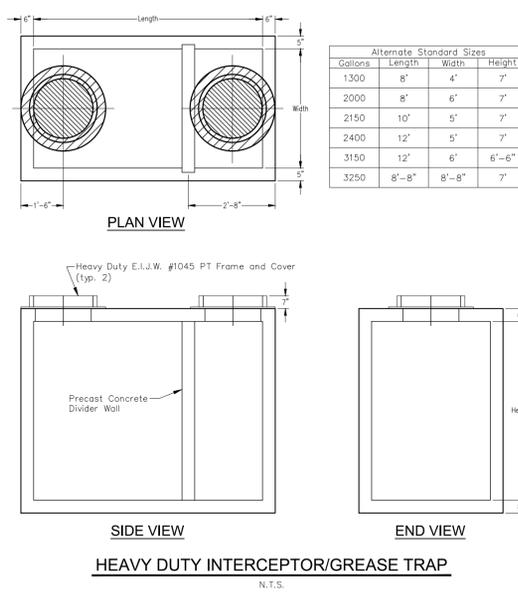
UTILITIES
 AT LEAST 72 HOURS (3 WORKING DAYS) PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY MISS DIG AND THE LOCAL COMMUNITY (WHERE APPLICABLE) TO STAKE LOCATIONS OF EXISTING UTILITIES.
 THE CONTRACTOR SHALL EXPOSE AND VERIFY EXISTING UTILITIES FOR LOCATION, SIZE, DEPTH, MATERIAL AND CONFIGURATION PRIOR TO COMMENCING WORK. COSTS FOR EXPLORATORY EXCAVATION IS AN INCIDENTAL COST AND SHALL NOT BE CONSIDERED AN EXTRA TO THE CONTRACT.
 THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY EXISTING UTILITIES WHICH DO NOT MATCH THE PLANS AND SPECIFICATIONS PRIOR TO COMMENCING WORK. ANY FIELD CHANGES OF THE PROPOSED UTILITIES SHALL BE APPROVED BY THE OWNER AND ENGINEER BEFORE THE WORK IS DONE.
 THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES FROM DAMAGE. ANY SERVICE OR UTILITY DAMAGED OR REMOVED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE EXPENSE OF THE CONTRACTOR, IN CONFORMANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY PROVIDER.
DAMAGE TO PRIVATE PROPERTY
 ALL SIDEWALKS, DRIVEWAYS, LAWNS, FENCING, TREES, SHRUBS, SPRINKLERS, LANDSCAPING, ETC., THAT ARE DAMAGED DURING CONSTRUCTION MUST BE REPAIRED OR REPLACED, IN KIND OR BETTER, BY THE CONTRACTOR. ALL STREET SIGNS, MAIL BOXES, ETC., REMOVED SHALL BE REPLACED IN KIND OR BETTER, BY THE CONTRACTOR. ALL THE REPAIRS OR REPLACEMENTS DUE TO THE CONTRACTOR'S WORK ARE TO BE INCLUDED IN THE CONTRACT PRICE(S) AND SHALL NOT BE AN EXTRA TO THE CONTRACT.
 THE CONTRACTOR SHALL SECURE PERMISSION IN WRITING FROM ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON ANY ADJACENT PROPERTIES, UNLESS OFFSITE PERMITS HAVE ALREADY BEEN OBTAINED BY THE OWNER AND ARE PART OF THE CONTRACT DOCUMENTS.
DEWATERING OF TRENCH AND EXCAVATIONS
 IF NOT SPECIFICALLY PROVIDED FOR IN THE CONSTRUCTION DESIGN DOCUMENTS, THE DESIGN OR QUALITATIVE ANALYSIS OF GROUND WATER DEWATERING SYSTEMS IS BEYOND THE SCOPE OF DESIGN FOR THESE DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING AND PROVIDING APPROPRIATE EXCAVATION DEWATERING SYSTEMS FOR USE DURING CONSTRUCTION.
 THE DEWATERING METHOD SELECTED BY THE CONTRACTOR WILL NOT ADVERSELY AFFECT ADJACENT PAVEMENTS OR STRUCTURES PRIOR TO BEGINNING DEWATERING CONDITIONS. MEANS AND METHODS OF DEWATERING ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF DEWATERING WILL BE CONSIDERED INCLUDED IN THE WORK OF CONSTRUCTING THE UNDERGROUND UTILITIES UNLESS SPECIFICALLY IDENTIFIED OTHERWISE.
BY-PASS PUMPING
 FROM TIME TO TIME IT MAY BE NECESSARY FOR THE CONTRACTOR TO BY-PASS PUMP TO COMPLETE THE WORK INDICATED ON THE PLANS. THE COST OF BY-PASS PUMPING, THE METHODS, EQUIPMENT AND MEANS OF PROVIDING THAT WORK ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CONSIDERED PART OF THE WORK WHETHER SPECIFICALLY CALLED OUT ON THE PLANS OR NOT.
MEANS AND METHODS FOR PIPE CONSTRUCTION
 IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE MEANS AND METHODS FOR CONSTRUCTING THE UNDERGROUND PIPE SYSTEMS PROPOSED ON THE PLANS, INCLUDING BUT NOT LIMITED TO THE NEED FOR SHORING/BRACING OF TRENCHES, DEWATERING OF TRENCHES, SCHEDULING THE WORK AT OFF PEAK HOURS, AND/OR MAINTAINING EXISTING FLOWS THAT MAY BE ENCOUNTERED VIA PUMPING, BY-PASS PIPING OR OTHER MEANS. THE CONTRACTOR SHALL NOT BE PAID ANY ADDITIONAL COMPENSATION TO IMPLEMENT ANY MEANS AND METHODS TO SATISFACTORILY COMPLETE THE CONSTRUCTION.
PAVEMENT REMOVAL
 THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE THICKNESS OF THE PAVEMENT REMOVAL. PAVEMENT CORE SAMPLES ARE FOR INFORMATIONAL PURPOSES ONLY AS TO THE THICKNESS OF THE PAVEMENT AT THE LOCATION OF THE SAMPLE. THE OWNER AND ENGINEER MAKE NO REPRESENTATION, WARRANTY OR GUARANTEE THAT THE SAMPLES ACCURATELY REFLECT THE PAVEMENT THICKNESS ON THE PROJECT.
MAINTENANCE OF TRAFFIC
 DURING THE PROGRESS OF THE WORK THE CONTRACTOR SHALL ACCOMMODATE BOTH VEHICULAR AND PEDESTRIAN TRAFFIC IN THE ROAD RIGHTS OF WAY. THE CONTRACTOR'S EQUIPMENT AND OPERATIONS ON PUBLIC STREETS SHALL BE GOVERNED BY ALL APPLICABLE LOCAL, COUNTY AND STATE ORDINANCES, REGULATIONS AND LAWS. THE CONTRACTOR SHALL OBTAIN AND SATISFY ANY AND ALL PERMIT REQUIREMENTS BY THE LOCAL, COUNTY AND STATE GOVERNMENTAL AGENCIES.
 IN ADDITION, WHERE THE WORK REQUIRES THE CLOSURE OF ONE OR MORE LANES OR IS WITHIN THE INFLUENCE OF THE ROAD OR PEDESTRIAN RIGHT OF WAY, THE CONTRACTOR SHALL PROVIDE ALL SIGNS, BARRICADES, FLAG PERSONS AND OTHER TRAFFIC CONTROL MEASURES AS REQUIRED BY MDOT, THE COUNTY, OR THE COMMUNITY HAVING JURISDICTION OF THE ROAD AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
 COMPENSATION FOR TRAFFIC CONTROL SHALL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE(S) UNLESS SPECIFIC TRAFFIC CONTROL ITEMS ARE INCLUDED IN THE ACCEPTED BID PROPOSAL.
IRRIGATION
 THE CONTRACTOR SHALL MAINTAIN OR REPAIR ANY EXISTING IRRIGATION SYSTEMS WITHIN THE PROJECT AREA UNLESS THE DRAWINGS CALL FOR THE IRRIGATION SYSTEM TO BE REMOVED. THE OWNER AND NFE MAKE NO REPRESENTATIONS, WARRANTY OR GUARANTEE AS TO THE LOCATION OF THE IRRIGATION SYSTEM. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT THE IRRIGATION SYSTEM DURING CONSTRUCTION ACTIVITIES. COMPENSATION FOR MAINTAINING OR REPAIRING EXISTING IRRIGATION SYSTEMS SHALL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE(S) UNLESS SPECIFIC IRRIGATION SYSTEM REPAIR ITEMS ARE INCLUDED IN THE ACCEPTED BID PROPOSAL.
SUB-SOIL CONDITIONS
 ANY SOIL BORING PROVIDED BY THE OWNER AND/OR ENGINEER IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THIS INFORMATION IS NOT OFFERED AS EVIDENCE OF GROUND CONDITIONS THROUGHOUT THE PROJECT AND ONLY REFLECT THE GROUND CONDITIONS AT THE LOCATION OF THE BORING ON THE DATE THEY WERE TAKEN.
 THE ACCURACY AND RELIABILITY OF THE SOIL LOGS AND REPORT ARE NOT WARRANTED OR GUARANTEED IN ANY WAY BY THE OWNER OR ENGINEER AS TO THE SUB-SOIL CONDITIONS FOUND ON THE SITE. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION AND SUB-SOIL INVESTIGATION AND SECURE OTHER SUCH INFORMATION AS THE CONTRACTOR CONSIDERS NECESSARY TO DO THE WORK PROPOSED AND IN PREPARATION OF THEIR BID.
SUBGRADE UNDERCUTTING AND PREPARATION
 IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ANY AND ALL SOILS WHICH DO NOT CONFORM TO THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A SUBGRADE IN CONFORMANCE WITH THE PROJECT PLANS AND/OR SPECIFICATIONS. THE MEANS AND METHODS USED TO ACHIEVE THE REQUIRED RESULT SHALL REST SOLELY WITH THE CONTRACTOR.
 ANY AREAS OF UNDERCUTTING THAT RESULT IN ADDITIONAL OR EXTRA WORK BECAUSE THEY COULD NOT BE IDENTIFIED BY THE CONTRACTOR'S PRE-BID SITE OBSERVATION OR ARE NOT SET FORTH IN THE PLANS AND SPECIFICATIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE ANY EXTRA WORK IS PERFORMED. THE CONTRACTOR SHALL MAKE A REQUEST FOR ANY ADDITIONAL COMPENSATION FOR THE UNDERCUTTING IN WRITING AND THE REQUEST SHALL CONFORM TO THE CONTRACT'S CHANGE ORDER PROVISIONS.
STRUCTURE BACKFILL
 STRUCTURAL BACKFILL SHALL BE PLACED IN CONFORMANCE WITH THE PROJECT PLANS, SPECIFICATIONS OR AS REQUIRED BY THE COMMUNITY, GOVERNMENT AGENCY OR UTILITY THAT HAS JURISDICTION OVER THE WORK.
TRENCH BACKFILL
 TRENCH BACKFILL SHALL BE PLACED IN CONFORMANCE WITH THE PLANS AND/OR SPECIFICATIONS. TRENCH BACKFILL SHALL ALSO BE INSTALLED IN CONFORMANCE WITH THE COMMUNITY REQUIREMENTS OR AGENCY/UTILITY GOVERNING SAID TRENCH CONSTRUCTION, IN THE CASE OF CONFLICTING REQUIREMENTS, THE MORE STRINGENT SHALL APPLY.
EARTH BALANCE / GRADING
 IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE WHETHER THE SITE EARTHWORK BALANCES OR NOT. ANY EXCESS CUT MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR, IN A LIKE MANNER, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO IMPORT APPROVED FILL MATERIAL AND PLACE IT AS REQUIRED TO ATTAIN THE SITE GRADE AND COMPACTION REQUIREMENTS PER THE ENGINEER'S PLAN AND ALL APPLICABLE GOVERNMENTAL STANDARDS. THE ENGINEER AND OWNER MAKE NO REPRESENTATION AS TO THE QUANTITIES THAT MAY BE NEEDED TO CREATE A BALANCED EARTHWORK CONDITION OR THAT THE SITE EARTHWORK IS BALANCED.
SOIL EROSION / SEDIMENTATION CONTROL
 THE CONTRACTOR SHALL OBTAIN THE REQUIRED SOIL EROSION PERMIT AND SATISFY ALL REGULATORY REQUIREMENTS FOR CONTROLLING SOIL EROSION AND SEDIMENT TRANSPORT. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS. THE ENGINEER AND OWNER ARE NOT RESPONSIBLE FOR INSPECTION OR APPROVAL OF THE CONTRACTOR'S WORK IN CONNECTION WITH SATISFYING THE SOIL EROSION PERMIT REQUIREMENTS UNLESS SPECIFICALLY STATED IN THE CONTRACT DOCUMENTS.



Project: Campus Corners
Date: 12-14-17

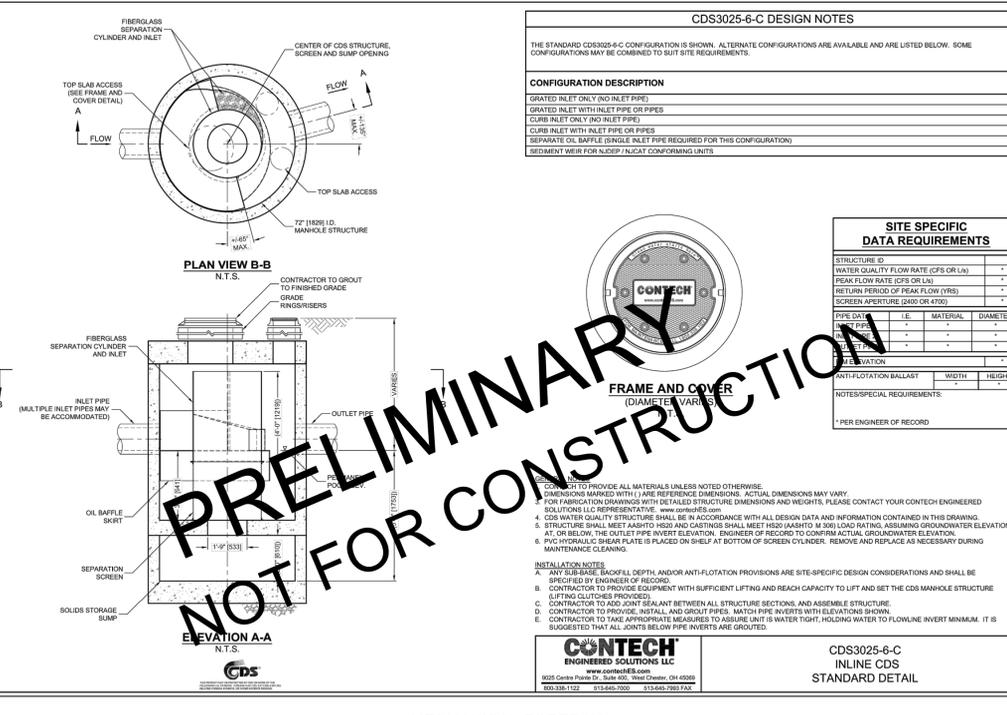
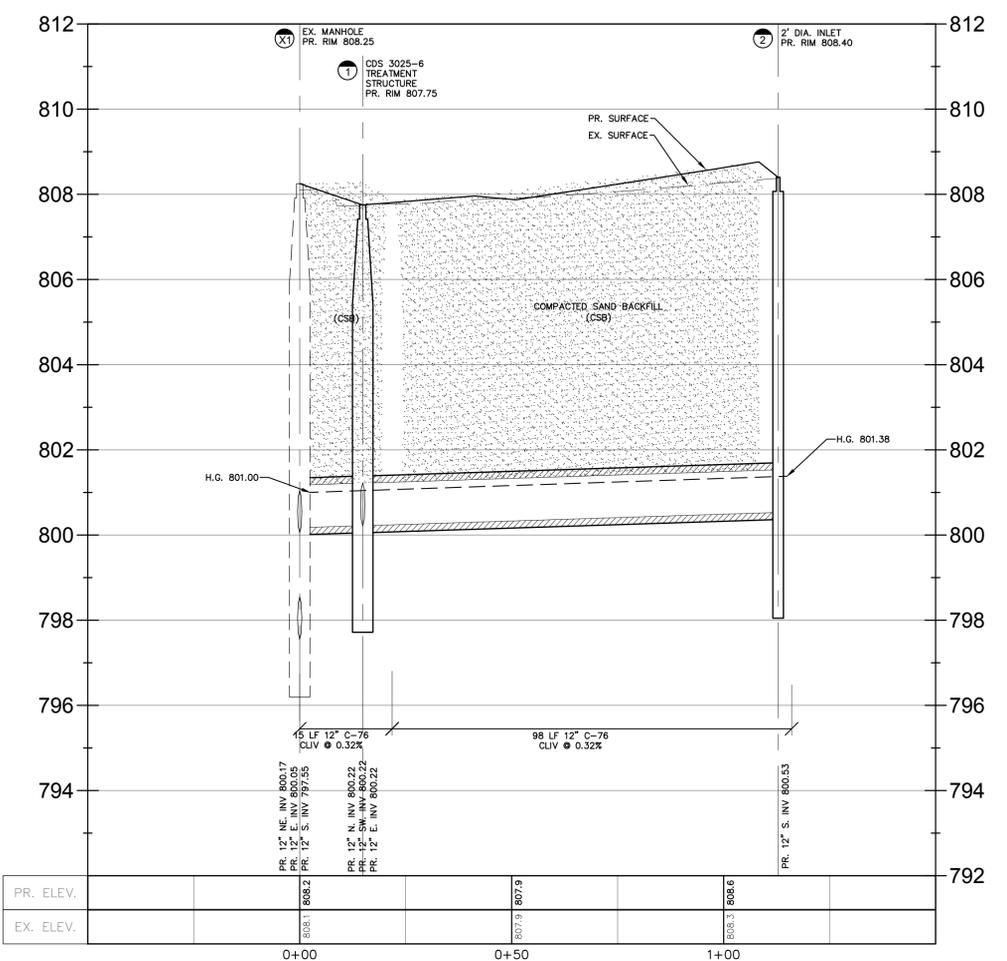
SANITARY SEWER BASIS OF DESIGN

RESTAURANT SQUARE FOOTAGE	4080 S.F.
3 R.E.U. PER 1000 S.F.	12 REU
RETAIL SQUARE FOOTAGE	4080 S.F.
0.3 R.E.U. PER 1000 S.F.	1 REU
*NOTE: 1 R.E.U. EQUALS 100 G.P.D.	
AVE Q. =	(100 G.P.C.P.D. * NO PEOPLE)
	(86,400 SEC/DAY * 7.48 GAL./C.F.)
	= 0.007 cfs.
Peaking Factor	100 (18 + P^0.5)/(4+P^0.5)
	(P=POP. IN THOUSANDS)
	= 4.00
PEAK Q =	(G.P.C.P.D. * NO. PEOPLE)
	(86,400 SEC/DAY * 7.48 GAL./C.F.)
	= 0.03 cfs.
SIZE OF SANITARY SEWER	= 6 inch
PIPE SLOPE	= 1.00 %
PIPE CAPACITY	= 0.56 cfs.



T=	15 Minutes	Time of Concentration	Campus Corners
I =	151.8 / (T+19.9)	10 Year Storm Event Intensity	Proposed Storm Sewer Calculator
n (Conc.)	0.013	Manning's Roughness Coefficient	
n (Pvc)	0.011	Manning's Roughness Coefficient	

Project No:	3553-03
Project Name:	Campus Corners
Location:	Rochester Hills
Dated:	December 18, 2017
Revised:	December 18, 2017



MECHANICAL FOREBAY

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

PROJECT
 Campus Corners Shopping Center

175 Livernois Road

CLIENT
 Frankel Development Company
 1334 Maplelawn Drive
 City of Troy
 Oakland County, Michigan

Contact: Stuart Frankel
 Phone: (248)649-2924

PROJECT LOCATION
 Part of the NW 1/4 of Section 15
 T.3N., R.11E.,
 City of Rochester Hills,
 Oakland County, Michigan

SHEET
 Profile, Details and
 Calculations Plan

811
 Know what's below
 Call before you dig.

DATE ISSUED/REVISED
 APRIL 19, 2019 - FIRE TRUCK RADH ADDED
 APRIL 22, 2019 - PRELIM SITE PLAN SUBMITTAL

CITY REVIEW /SECTION
 18-001/15

DRAWN BY:
 M. Huhta

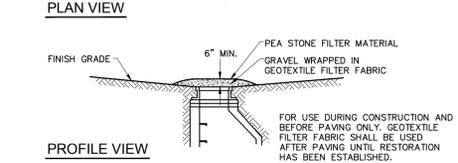
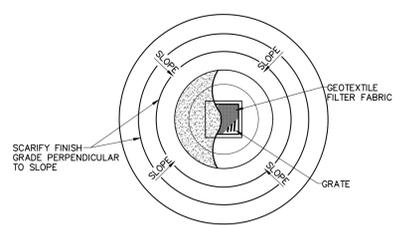
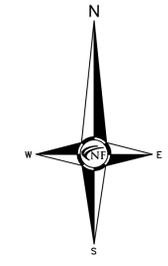
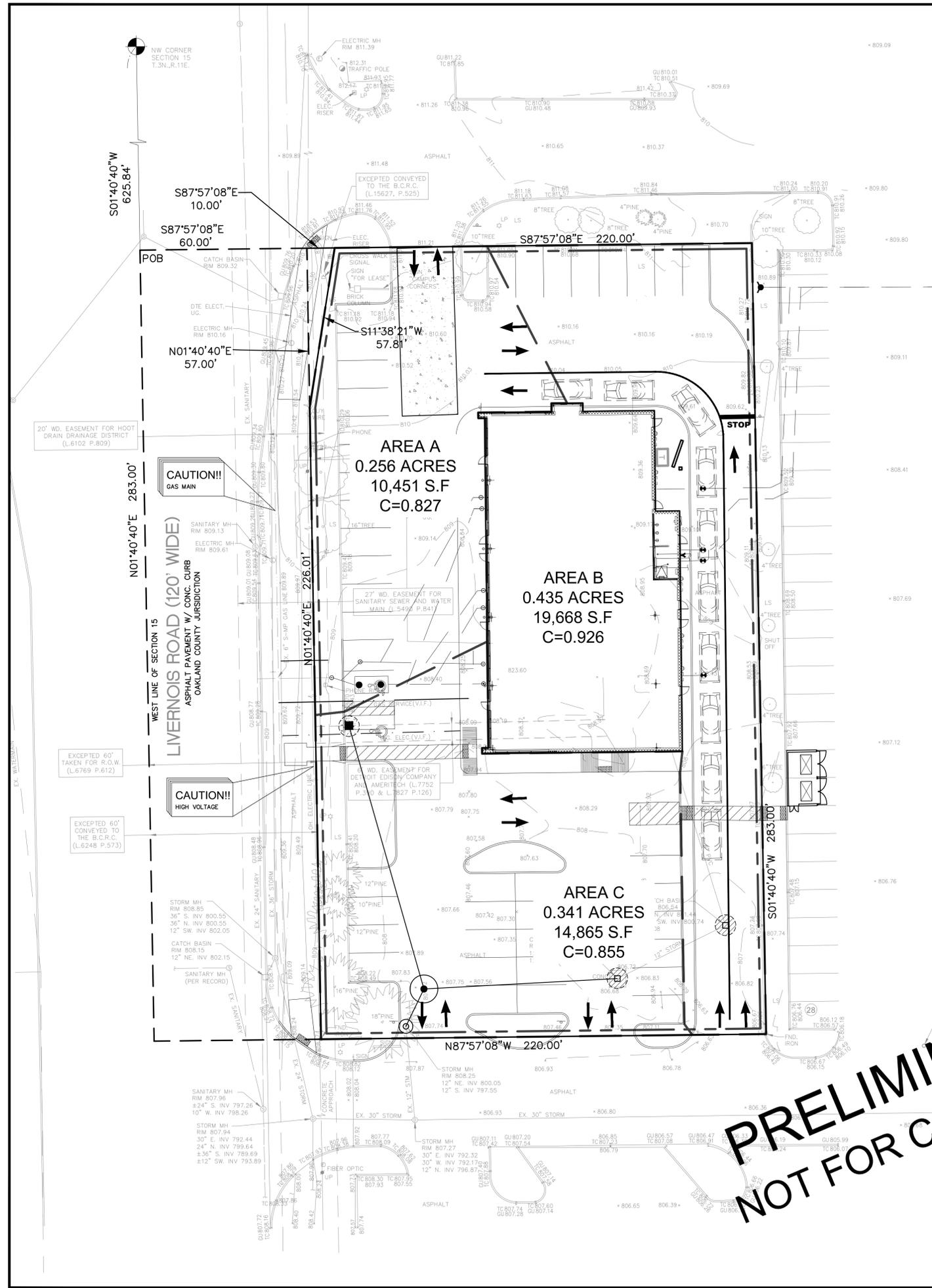
DESIGNED BY:
 M. Huhta

APPROVED BY:
 M. Collins

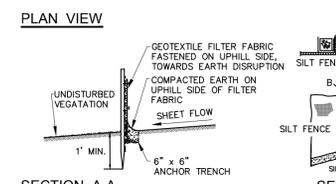
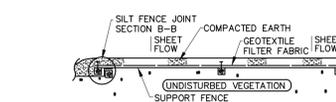
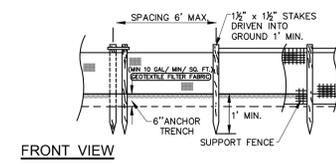
DATE
 December 4, 2017

SCALE: 1" = 20' / 1" = 2'

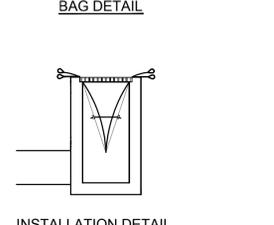
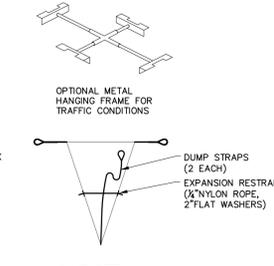
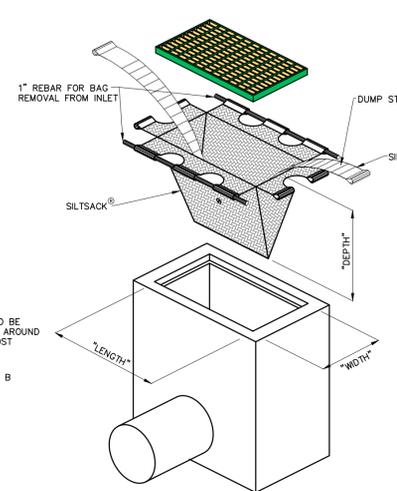
NFE JOB NO. SHEET NO.
3553-03 C5



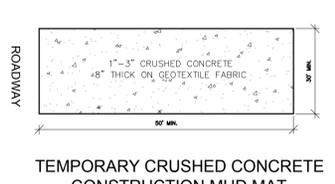
LOW POINT INLET FILTER
N.T.S.



SILTFENCE DETAIL
N.T.S.



SILT SACK FILTER DETAIL



TEMPORARY CRUSHED CONCRETE CONSTRUCTION MUD MAT

CONSTRUCTION SEQUENCE / TIMING SCHEDULE	
1. INSTALL PERIMETER FILTER FABRIC FENCING AND STONE FILTER WHERE REQUIRED.	-
2. MASS GRADE SITE.	-
3. COMMENCE UNDERGROUND UTILITY WORK.	-
4. INSTALL INLET FILTERS ON PROPOSED DRAINAGE STRUCTURES.	-
5. FILL IN SEDIMENTATION TRAP AND PUMP OUT SEDIMENT.	-
6. COMPLETE ALL BUILDINGS AND LANDSCAPE ACTIVITY.	-
7. JET VAC STORM SEWER SYSTEM AS REQUIRED.	-
8. REMOVE ALL TEMPORARY SOIL EROSION MEASURES.	-

SOIL EROSION CONTROL

CUTTING, FILLING AND GRADING SHALL BE MINIMIZED AND THE NATURAL TOPOGRAPHY OF THE SITE SHALL BE PRESERVED TO THE MAXIMUM POSSIBLE EXTENT, EXCEPT WHERE SPECIFIC FINDINGS DEMONSTRATE THAT MAJOR ALTERATIONS WILL STILL MEET THE PURPOSES AND REQUIREMENTS OF THIS ORDINANCE.

DEVELOPMENT SHALL BE STAGED TO KEEP THE EXPOSED AREAS OF SOIL AS SMALL AS PRACTICABLE.

SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED BETWEEN THE DISTURBED AREA AND ANY WATERCOURSES, INCLUDING RIVERS, STREAMS, CREEKS, LAKES, PONDS AND OTHER WATERCOURSES, WETLANDS, OR ROADWAYS ON OR NEAR THE SITE.

SEDIMENT RESULTING FROM ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE THAT WATER LEAVES THE SITE.

TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF WATER AROUND, THROUGH, OR AWAY FROM THE SITE SHALL BE DESIGNED TO LIMIT THE WATER FLOW TO A NON-EROSIVE VELOCITY.

TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE REMOVED AFTER PERMANENT SOIL EROSION CONTROL MEASURES HAVE BEEN IMPLEMENTED. ALL SITES SHALL BE STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES.

IF LAKES, PONDS, CREEKS, STREAMS, OR WETLANDS ARE LOCATED ON OR NEAR THE SITE, EROSION CONTROL MEASURES WHICH DIVERT RUNOFF AND TRAP SEDIMENT MUST BE PROVIDED AT STRATEGIC LOCATIONS. STRAW BALE BERMS MAY BE USED AS TEMPORARY STORMWATER DIVERSION STRUCTURES, BUT WILL NOT BE CONSIDERED SUFFICIENT FOR TRAPPING SEDIMENT. THE USE OF SEDIMENT BASINS, FILTER FABRIC, VEGETATED BUFFER STRIPS, AND ROCK FILTERS IN LIEU OF STRAW BALE BERMS SHALL BE STRONGLY ENCOURAGED. OTHER MEASURES MAY BE REQUIRED IF REASONABLY DETERMINED TO BE NECESSARY TO PROTECT A WATERCOURSE OR WETLAND.

WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH CHANGE HAS BEEN COMPLETED OR WHEN SIGNIFICANT EARTH CHANGE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED.

PERMANENT EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 15 (FIFTEEN) CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH CHANGE HAS BEEN COMPLETED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.

VEGETATED BUFFER STRIPS SHALL BE CREATED OR RETAINED ALONG THE EDGES OF ALL LAKES, PONDS, CREEKS, STREAMS, OTHER WATERCOURSES, OR WETLANDS.

EROSION AND SEDIMENTATION CONTROL MEASURES SHALL RECEIVE REGULAR MAINTENANCE TO ASSURE PROPER FUNCTIONING.

ALL GRADING PLANS AND SPECIFICATIONS, INCLUDING EXTENSIONS OF PREVIOUSLY APPROVED PLANS, SHALL INCLUDE PROVISIONS FOR EROSION AND SEDIMENT CONTROL. IN ACCORDANCE WITH, BUT NOT LIMITED TO, THE STANDARDS CONTAINED IN THE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PUBLISHED BY THE OAKLAND SOIL CONSERVATION DISTRICT.

NOTES

REFER TO THE WRC SOIL EROSION AND SEDIMENTATION CONTROL DETAIL SHEET FOR ALL ADDITIONAL NOTES & DETAILS (TYP)

A DISTANCE OF 4,000 FEET TO THE CLINTON RIVER.

THE TOTAL AREA OF EARTH DISRUPTION IS 1.033 ACRES.

THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVENT BY CONTRACTOR

A SOIL EROSION PERMIT IS REQUIRED FROM THE OAKLAND COUNTY.

SOIL DATA

THIS SITE CONSISTS OF "URBAN LAND" BASED ON OAKLAND COUNTY SOIL SURVEY.

BASED ON DATA PROVIDED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE.

ESTIMATED QUANTITIES

DESCRIPTION	QUANTITY	UNITS
SILT FABRIC FENCING	865	L.F.
INLET FILTER	1	EA.
SILT SACK OR EQUAL	2	EA.

LEGEND

	INDICATES LIMITS OF SILT FABRIC FENCE
	INDICATES LIMITS OF DRAINAGE DISTRICT AREA
	INDICATES LIMITS OF SOIL DISRUPTION
	INDICATES LOW POINT INLET FILTER OR PROPOSED DRAINAGE STRUCTURE
	INDICATES SILT SACK OR EQUAL ON EXISTING DRAINAGE STRUCTURE

**CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS**

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46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
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FAX. (248) 332-8257

SEAL

PROJECT
Campus Corners Shopping Center

175 Livernois Road

CLIENT
Frankel Development Company
1334 Maplelawn Drive
City of Troy
Oakland County, Michigan

Contact: Stuart Frankel
Phone: (248)649-2924

PROJECT LOCATION
Part of the NW 1/4 of Section 15
T.3N., R.11E.,
City of Rochester Hills,
Oakland County, Michigan

SHEET
Soil Erosion Control /
Drainage Area Plan

Know what's below
Call before you dig.

DATE ISSUED/REVISED
APRIL 19, 2019 - FIRE TRUCK RADH ADDED
APRIL 22, 2019 - PRELIM SITE PLAN SUBMITTAL

CITY REVIEW /SECTION
18-001/15

DRAWN BY:
M. Huhta

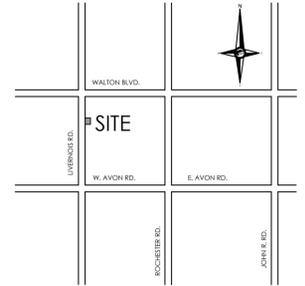
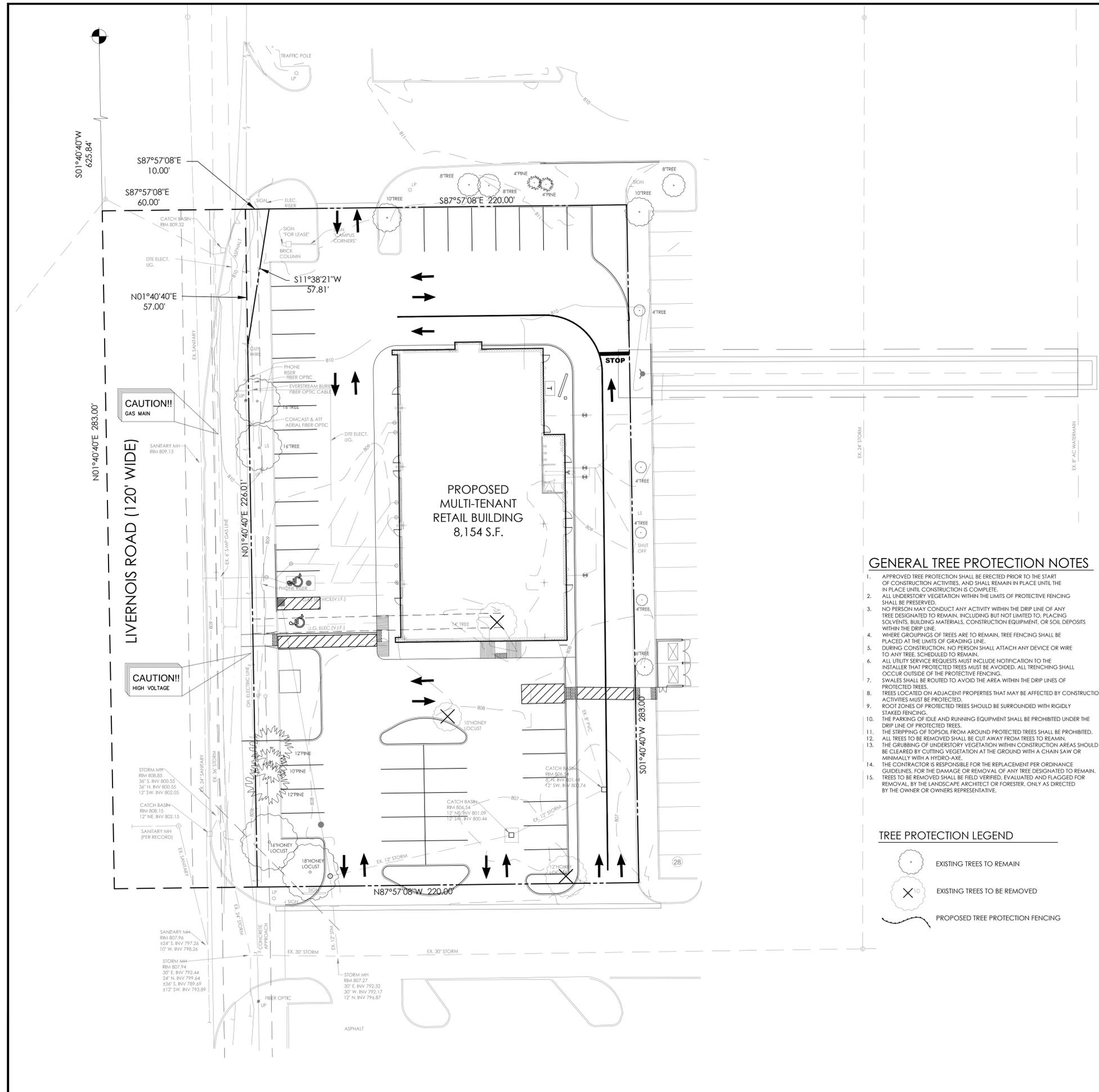
DESIGNED BY:
M. Huhta

APPROVED BY:
M. Collins

DATE:
December 4, 2017

SCALE: 1" = 20'

NFE JOB NO. SHEET NO.
3553-03 C6



TREE PRESERVATION SUMMARY

TREES ≥6" DBH SHALL BE REPLACED AT 1:1

7" CAL. DECIDUOUS = 1 CREDIT
 2.5" CAL. DECIDUOUS = 1.5 CREDIT
 3" CAL. DECIDUOUS = 2 CREDITS
 8" HT. EVERGREEN = 1 CREDIT
 10" HT. EVERGREEN = 2 CREDITS

TOTAL TREES SURVEYED:	22
TOTAL DEAD TREES ON-SITE:	0
TOTAL NET REGULATED TREES:	22
TOTAL TREES TO BE SAVED:	19
TOTAL TREES TO BE REMOVED:	3
TOTAL REPLACEMENT CREDITS REQUIRED:	3
TOTAL REPLACEMENT CREDITS PROVIDED:	3 (2 TREES X 1.5 CREDITS)

LOCATION MAP

NOTE:

NO DIGGING, GRADING (CUT OR FILL), TRENCHING OR ANY OTHER CONSTRUCTION OPERATION IS PERMITTED WITHIN THE DRIPLINE OF ANY TREE DESIGNATED FOR PRESERVATION.

NOTE:

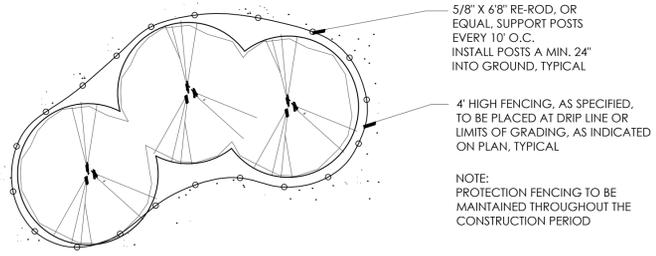
SEE SHEET L2, LANDSCAPE PLAN FOR PROPOSED TREE REPLACEMENT LOCATIONS

GENERAL TREE PROTECTION NOTES

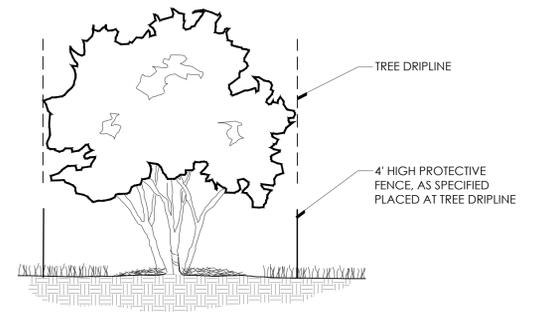
- APPROVED TREE PROTECTION SHALL BE ERECTED PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND SHALL REMAIN IN PLACE UNTIL THE IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
- ALL UNDERSTORY VEGETATION WITHIN THE LIMITS OF PROTECTIVE FENCING SHALL BE PRESERVED.
- NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN, INCLUDING BUT NOT LIMITED TO, PLACING SOLVENTS, BUILDING MATERIALS, CONSTRUCTION EQUIPMENT, OR SOIL DEPOSITS WITHIN THE DRIP LINE.
- WHERE GROUPINGS OF TREES ARE TO REMAIN, TREE FENCING SHALL BE PLACED AT THE LIMITS OF GRADING LINE.
- DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY TREE SCHEDULED TO REMAIN.
- ALL UTILITY SERVICE REQUESTS MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING.
- SWALES SHALL BE ROUTED TO AVOID THE AREA WITHIN THE DRIP LINES OF PROTECTED TREES.
- TREES LOCATED ON ADJACENT PROPERTIES THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED.
- ROOT ZONES OF PROTECTED TREES SHOULD BE SURROUNDED WITH RIGIDLY STAKED FENCING.
- THE PARKING OF IDLE AND RUNNING EQUIPMENT SHALL BE PROHIBITED UNDER THE DRIP LINE OF PROTECTED TREES.
- THE STRIPPING OF TOPSOIL FROM AROUND PROTECTED TREES SHALL BE PROHIBITED.
- ALL TREES TO BE REMOVED SHALL BE CUT AWAY FROM TREES TO REMAIN.
- THE GRUBBING OF UNDERSTORY VEGETATION WITHIN CONSTRUCTION AREAS SHOULD BE CLEARED BY CUTTING VEGETATION AT THE GROUND WITH A CHAIN SAW OR MINIMALLY WITH A HYDRO-AXE.
- THE CONTRACTOR IS RESPONSIBLE FOR THE REPLACEMENT PER ORDINANCE GUIDELINES, FOR THE DAMAGE OR REMOVAL OF ANY TREE DESIGNATED TO REMAIN.
- TREES TO BE REMOVED SHALL BE FIELD VERIFIED, EVALUATED AND FLAGGED FOR REMOVAL BY THE LANDSCAPE ARCHITECT OR FORESTER, ONLY AS DIRECTED BY THE OWNER OR OWNERS REPRESENTATIVE.

TREE PROTECTION LEGEND

- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- PROPOSED TREE PROTECTION FENCING



TREE PROTECTION DETAIL-PLAN



TREE PROTECTION DETAIL-SECTION



NOWAK & FRAUS ENGINEERS
 46777 WOODWARD AVE.
 PONTIAC, MI 48342-5032
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SEAL



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Contact: Stuart Frankel
 Phone: (248)649-2924

PROJECT LOCATION
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 T.3N., R.11E.,
 City of Rochester Hills,
 Oakland County, Michigan

SHEET
 Tree Preservation Plan



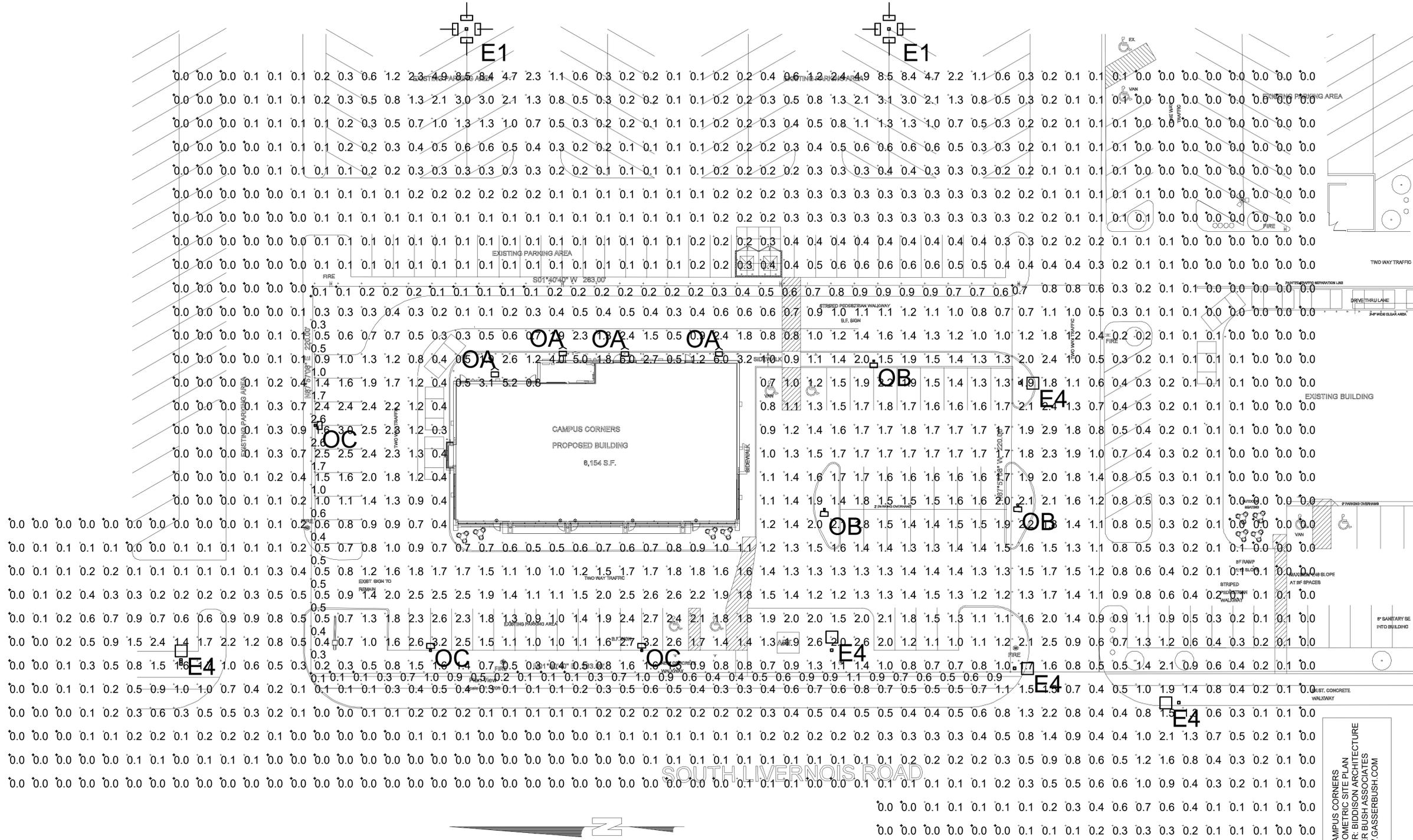
DATE	ISSUED/REVISED
08/30/18	REVISED PER CITY
03/13/19	REVISED PER CITY

DRAWN BY:
 G. Ostrowski
DESIGNED BY:
 G. Ostrowski
APPROVED BY:
 G. Ostrowski

DATE:
 May 15, 2018

SCALE: 1" = 20'

NFE JOB NO. 3553-03 **SHEET NO.** L1



GENERAL CONTROLS NOTES:
 UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013 OR APPLICABLE ENERGY CODE. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705

GENERAL LIGHTING NOTES:
 - SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
 - SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
 - CORRIDOR CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0" AFG.
 THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.
 THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

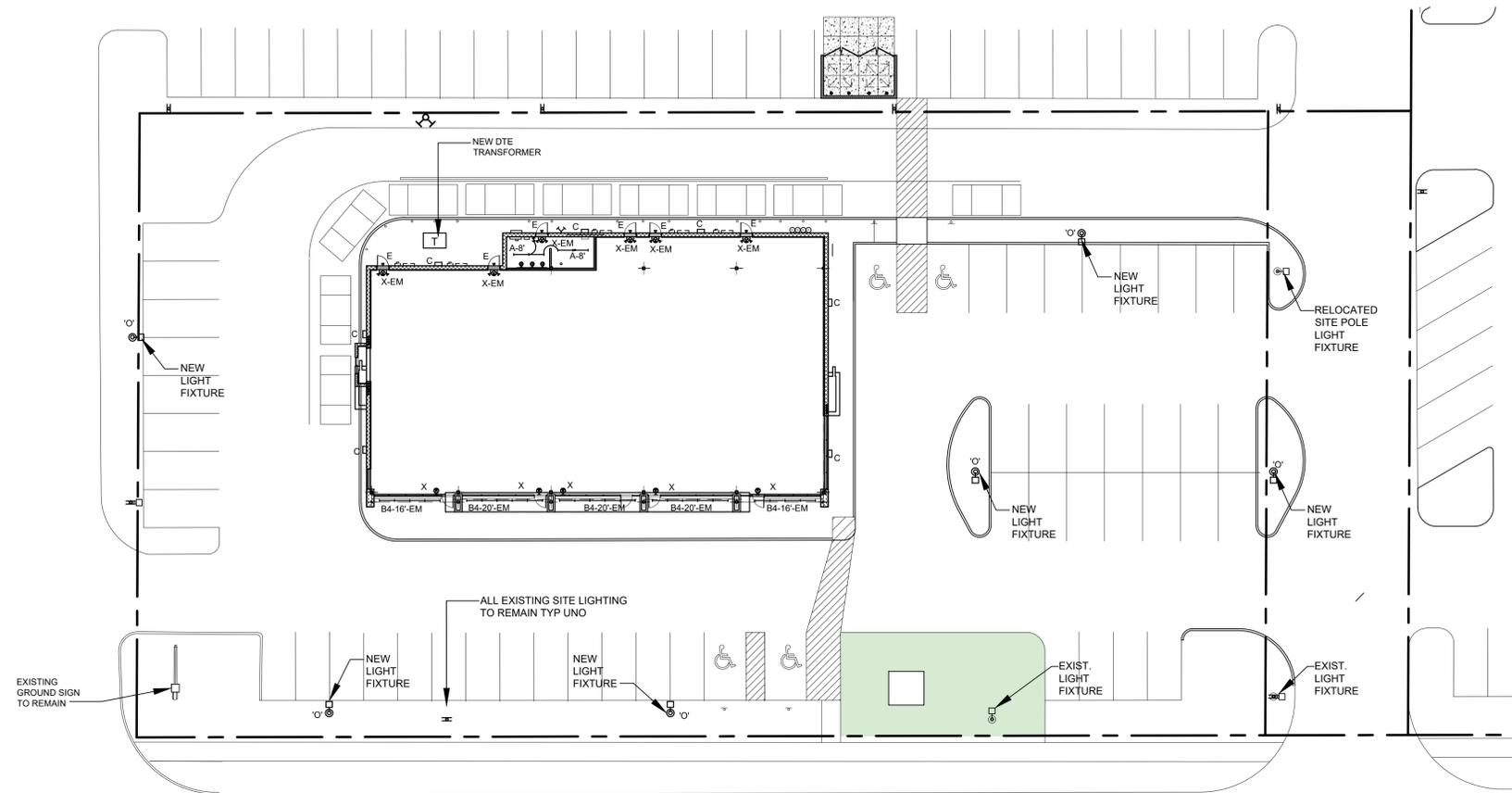
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number of Lamps	Filename	Lumens per Lamp	LLF	Wattage
	E1	2	EXISTING	EXISTING	EXISTING - SPEC ASSUMED	ONE 400-WATT CLEAR ET-18 HIGH PRESSURE SODIUM, HORIZONTAL POSITION.	1	TFR_400S_TA.ies	50000	0.3	1872
	E4	5	EXISTING	EXISTING	EXISTING - SPEC ASSUMED	ONE 250-WATT CLEAR BT-28 METAL HALIDE, HORIZONTAL POSITION.	1	KAD_250M_SR3_PRO BEJ.ies	20000	0.3	297

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number of Lamps	Filename	Lumens per Lamp	LLF	Wattage	Mounting Height
	OA	4	Lithonia Lighting	WST LED P1 40K VF MVOLT	WST LED, Performance package 1, 4000 K, visual comfort forward throw, MVOLT	LED	1	WST_LED_P1_40K_VF_MVOLT.ies	1639	0.9	12	10'-0"
	OB	3	Lithonia Lighting	DSX0 LED P5 40K TSW MVOLT	DSX0 LED P5 40K TSW MVOLT	LED	1	DSX0_LED_P5_40K_TSW_MVOLT.ies	12047	0.9	89	20'-0"
	OC	3	Lithonia Lighting	DSX0 LED P5 40K TFTM MVOLT HS	DSX0 LED P5 40K TFTM MVOLT with house side shield	LED	1	DSX0_LED_P5_40K_TFTM_MVOLT_HS.ies	9119	0.9	89	20'-0"

CAMPUS CORNERS
 PHOTOMETRIC SITE PLAN
 PREPARED FOR: BIDDISON ARCHITECTURE
 GASSER BUSH ASSOCIATES
 WWW.GASSERBUSH.COM
 Designer: LMAAM
 Date: 5/24/2018
 REV 3/28/2019
 REV 04/22/2019
 Scale: Not to Scale
 Drawing No. #18-17390-V2
 1 of 1

* REFER TO PHOTOMETRIC PLAN FOR MOUNTING HEIGHTS

LIGHT FIXTURE SCHEDULE						EM = FIXTURES W/ REMOTE EMERGENCY BATTERY BACK-UP
TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LAMP	FINISH	MOUNTING
'A'	INDUSTRIAL STRIP LED FIXTURE	LITHONIA OR APPROV. EQUAL	ZL1N LENSED	LED 4000K	WHITE	CABLE HUNG
'B4-'	SEALED WATER PROOF EXTERIOR LIGHT FIXTURES #165 RATED SEE PLAN FOR LENGTH	AXIS LIGHTING OR APPROV. EQUAL	WET BEAM 4 SATIN LENS DIRECT LIGHT	LED 4000K	SILVER	WALL MOUNTED TO EXPOSED STEEL LINTEL BEAM
'C'	EXTERIOR WALL PACK LIGHTING	LITHONIA	WST	LED 4000K	SILVER	WALL MOUNTED
'E'	WATERPROOF EXTERIOR EGRESS LIGHT FIXTURE MOUNTED ABOVE DOOR - POWERED BY BATTERY BACK-UP	ETON	LUMIERE LANTERRA 1002 ONE HEAD	LED 4000K	SILVER	WALL MOUNTED
'X'	INTERNALLY LIT EMERGENCY EXIT SIGN W/ BATTERY BACK-UP	LITHONIA	TBD	LED	WHITE	
'X-EM'	INTERNALLY LIT EXIT SIGN - EMERGENCY LIGHT FIXTURE W/ (2) ADJUSTABLE HEADS AND + BATTERY BACK-UP	LITHONIA	TBD	LED	WHITE	
'O'	POLE MOUNTED LIGHT FIXTURE	LITHONIA	DSX0	LED 4000K	SILVER	POLE MOUNTED



PROPOSED BUILDING FOR:
CAMPUS CORNERS OUTLOT

185 S. LIVERNOIS
ROCHESTER HILLS, MICHIGAN

1	PER CITY REVIEW	03.09.18
	REV. PER CITY	03.13.19
	REV. PER CITY	04.22.19

SITE ELECTRICAL PLAN

2001-17

SE.101



Know what's below
Call before you dig.

ENLARGED
ELECTRICAL SITE PLAN

SCALE: 1"=20'



CITY FILE #18-001

1 NOTE: SHOULD ANY FUTURE TENANT SPACE BE A RESTAURANT OR SIMILAR USE AND HAVE AN AREA GREATER THAN 5,000 S.F. OR AN OCCUPANT LOAD OF 100 OR GREATER, A FIRE SUPPRESSION SYSTEM WILL BE REQUIRED PER SECTION 903.1.1.2.

NOTE: SAFETY GLAZING MUST HAVE PERMANENT IDENTIFICATION IN ACCORDANCE WITH SECTION 2406.1.1 OF THE 2015 MICHIGAN BUILDING CODE.

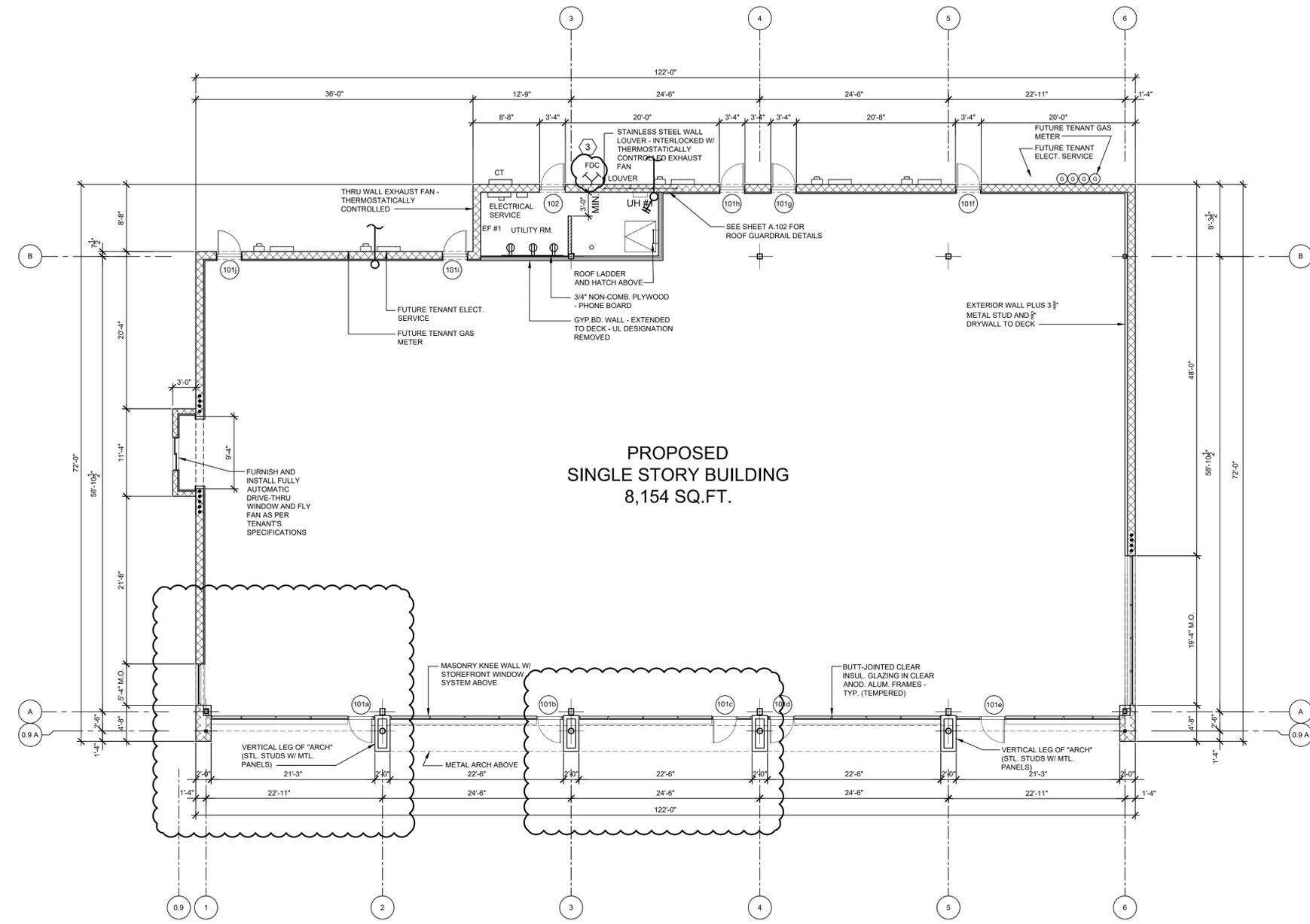
NOTE: ALL ENTRANCE AND EXIT DOORS HAVE BARRIER FREE ACCESSIBILITY.

WALL LEGEND

INTERIOR GYP. BD. TO HAVE A 'LEVEL IV' FINISH AT ALL GYP. BOARD SURFACES AS CALLED OUT ON SHEET A.116. REFER TO CHAPTER 5 OF USG GYPSUM CONSTRUCTION HANDBOOK FOR FINISH DEFINITIONS.

TENANT DEMISING WALLS:
1 HR. RATED WALL TO COMPLY W/ UL # 412.
W/ (2) LAYERS OF 5/8" GYP. BD. TYPE 'X' EACH SIDE OF 3 5/8" MTL. STUD FRAMING @ 16" O.C. WALLS TO EXTEND TO DECK ABOVE. PROVIDE FIRE CAULK SIM. OR EQ. TO HILTI SELF-LEVELING FIRESTOP SEALANT @ ALL WALL PENETRATIONS AND AT FLOOR DECK ABOVE.

EXTERIOR WALLS:
REINF. CONC. MASONRY WALL
- REFER TO ELEVATIONS, SECTIONS AND NOTE BOX FOR FINISHES



Project title
PROPOSED BUILDING FOR:
CAMPUS CORNERS OUTLOT

185 S. LIVERNOIS
ROCHESTER HILLS, MICHIGAN

Issued dr/ch

SITE PLAN REVIEW	11.14.17
SITE PLAN REVIEW	12.29.17
1 PER CITY REVIEW	03.09.18
REV. PER CITY	03.13.19
REV. PLAN FOR REVIEW	03.22.19
3 REV. PER CITY	04.22.19

Sheet title
FLOOR PLAN



Project no.
2001-17

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

CITY FILE #: 18-001

Sheet no.
A.101

