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 CITY OF WAYNE STORM SEWER STANDARD DETAILS

LEGAL DESCRIPTION – QUICKLANE

PART OF LOT 191 OF "SUPERVISORS NANKIN PLAT No. 6" OF PART OF THE NORTHEAST 1/4 OF SECTION 31, T. 2 S., R. 9 E., NANKIN TOWNSHIP (NOW CITY OF WAYNE), WAYNE COUNTY, MICHIGAN AS RECORDED IN LIBER 65 OF PLATS, PAGE 64, WAYNE COUNTY RECORDS DESCRIBED AS: COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 191; THENCE S 76°19'55" W 3.81 FEET ALONG THE NORTH RIGHT OF WAY OF MICHIGAN AVENUE (204 FEET WIDE); THENCE S 76°34'55" W 23.95 FEET ALONG SAID NORTH RIGHT OF WAY LINE TO THE POINT OF BEGINNING; THENCE CONTINUING S 76°34'55" W 177.09 FEET ALONG SAID NORTH RIGHT OF WAY LINE TO THE SOUTHWEST CORNER OF SAID LOT 191; THENCE N 06°38'50" W 340.65 FEET ALONG THE WEST LINE OF SAID LOT 191; THENCE S 89°39'05" E 121.87 FEET ALONG THE NORTH LINE OF SAID LOT 191 TO A NORTHEASTERLY CORNER OF SAID LOT 191; THENCE S 00°02'05" W 70.00 FEET; THENCE S 89°39'05" E 90.00 FEET TO A POINT ON THE WESTERLY RIGHT OF LINE OF NEWBURGH ROAD (120 FEET WIDE); AND THENCE S 00°02'05" W 225.98 FEET ALONG SAID WESTERLY RIGHT OF WAY LINE TO THE POINT OF BEGINNING. CONTAINING 1.26 ACRES OF LAND, MORE OR LESS.

BENCHMARKS

BM #1
 DISK STAMPED 82667 2006 SET IN A 16 INCH DIAMETER CONCRETE POST FLUSH WITH THE GROUND LOCATED 420' EAST OF THE CENTERLINE OF TREADWELL STREET, 53.5 FEET WEST OF THE EASTERLY MOST CENTER OF THE DRIVE INTO THE REPUBLIC WASTE SERVICES ADDRESS 36850, 32.6 FEET NORTH OF THE CENTERLINE OF VAN BORN ROAD, 26.0 FEET EAST OF THE TOP OF A FIRE HYDRANT AND 3.2 FEET NORTH OF A CARSONITE WITNESS POST.
 ELEVATION: 663.88 NAVD 88

BM #2
 ARROW ON THE HYDRANT LOCATED ON THE NORTHWEST CORNER OF MICHIGAN AVENUE AND NEWBURGH ROADS.
 ELEVATION: 654.97 NAVD 88

ZONING & SETBACKS

ZONED: B-3 BUSINESS EXTENSIVE
 SETBACK REQUIREMENTS:
 FRONT: NONE
 REAR: NONE
 SIDES: NONE
 BUILDING CANNOT BE CLOSER THAN 20' TO A RESIDENTIAL BUILDING

FLOODPLAIN

APPROXIMATELY 49569sf (1.14ac) OF THE SUBJECT PROPERTY LIES IN FLOOD ZONE "X" WHICH IS AN AREA DETERMINED TO OUTSIDE THE 0.2 ANNUAL CHANCE FLOODPLAIN "X", APPROXIMATELY 9436sf (0.12ac) LIES IN FLOOD ZONE "A" WHICH IS AN AREA THAT NO BASE ELEVATION HAS BEEN DETERMINED PER FLOOD INSURANCE RATE MAP FOR THE CITY OF WAYNE, WAYNE COUNTY, MICHIGAN.
 COMMUNITY-PANEL NUMBER 261630218E
 EFFECTIVE DATE: FEBRUARY 2, 2012

UTILITY NOTE

UNDERGROUND UTILITY LINES AND STRUCTURES SHOWN ARE PER RECORDS MADE AVAILABLE BY UTILITY OR MUNICIPALITY, AND BY FIELD OBSERVATION WHERE POSSIBLE. ALL MUNICIPALITIES AND UTILITY COMPANIES SHOULD BE NOTIFIED BY CONTRACTOR FOR FIELD LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

UTILITY COMPANIES

- AT&T
 31100 PLYMOUTH ROAD
 ROOM 105
 LIVONIA, MI 48150
 (734) 523-7564
 (734) 523-7589 FAX
- DETROIT EDISON
 ONE ENERGY PLAZA
 105 GROUP, 518 SB
 DETROIT, MI 48226
 (313) 235-8811
 (313) 235-9366 FAX
- CONSUMERS ENERGY
 GAS INFORMATION MANAGEMENT
 530 WEST WILLOW STREET
 P.O. BOX BOX 30162
 LANSING, MI 48909
 (877) 240-9602
- COMCAST REGIONAL DESIGN CENTER
 25626 TELEGRAPH ROAD
 SOUTHFIELD, MI 48034
 (248) 809-2749
 (248) 809-2721 FAX

LEGAL DESCRIPTION – STORAGE BUILDING

LOT 190 OF "SUPERVISORS NANKIN PLAT No. 6" OF PART OF THE NORTHEAST 1/4 OF SECTION 31, T. 2 S., R. 9 E., NANKIN TOWNSHIP (NOW CITY OF WAYNE), WAYNE COUNTY, MICHIGAN AS RECORDED IN LIBER 65 OF PLATS, PAGE 64, WAYNE COUNTY RECORDS. CONTAINING 0.76 ACRES OF LAND, MORE OR LESS.

MUNICIPALITY

CITY OF WAYNE
 3355 SOUTH WAYNE ROAD
 WAYNE, MI 48184

MAIN: 734-722-2000
 COMMUNITY DEVELOPMENT: 734-722-2022
 BUILDING/ENGINEERING: 734-728-9100

SURVEYOR/ENGINEER

GLA SURVEYORS & ENGINEERS
 8495 NORTH TERRITORIAL ROAD
 PLYMOUTH, MI 48170
 (734)-416-9650
 (734)-416-9657 FAX

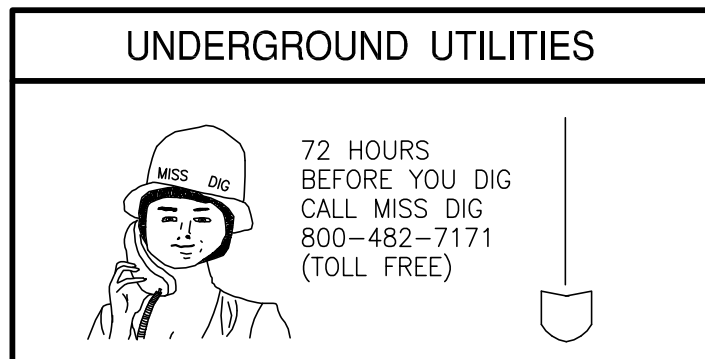
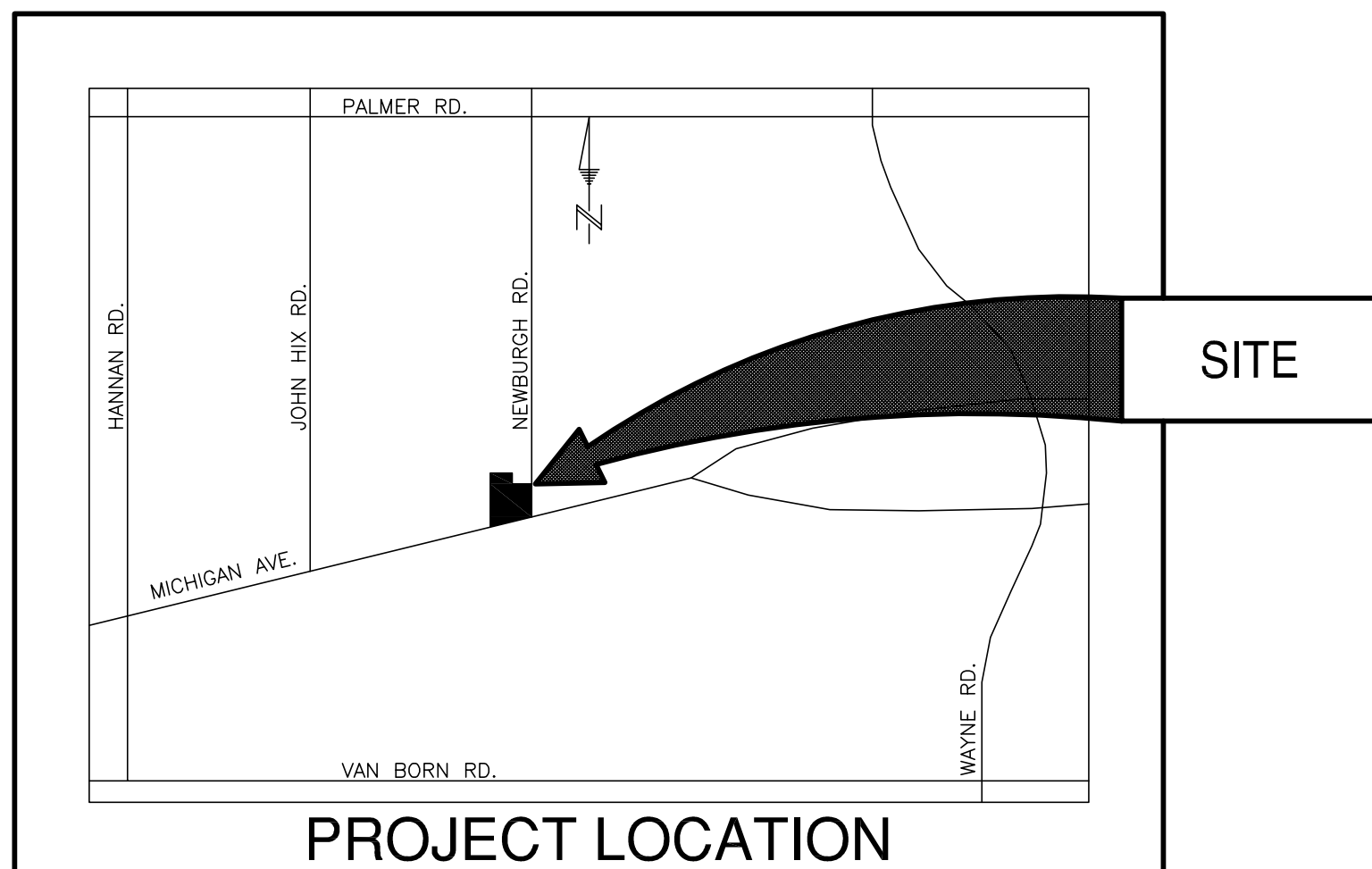
PROFESSIONAL SURVEYOR:
 GREG L. ASH, MICHIGAN REGISTRATION No. 28400

PROFESSIONAL ENGINEER:
 LAMI TAWEL, MICHIGAN REGISTRATION No. 21989

PROJECT ENGINEER/CONTACT PERSON:
 SCOTT SCHUMACHER

JACK DEMMER FORD QUICKLANE

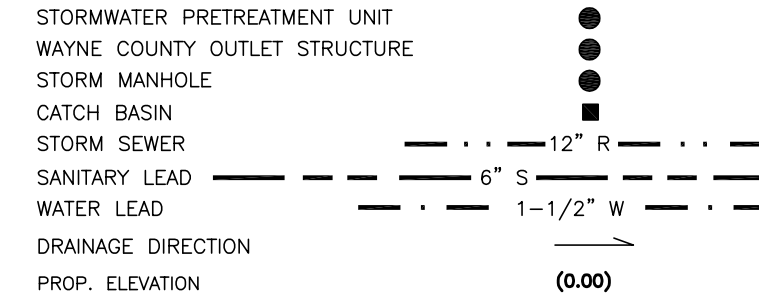
**37410 MICHIGAN AVENUE
 CITY OF WAYNE
 WAYNE COUNTY, MICHIGAN**



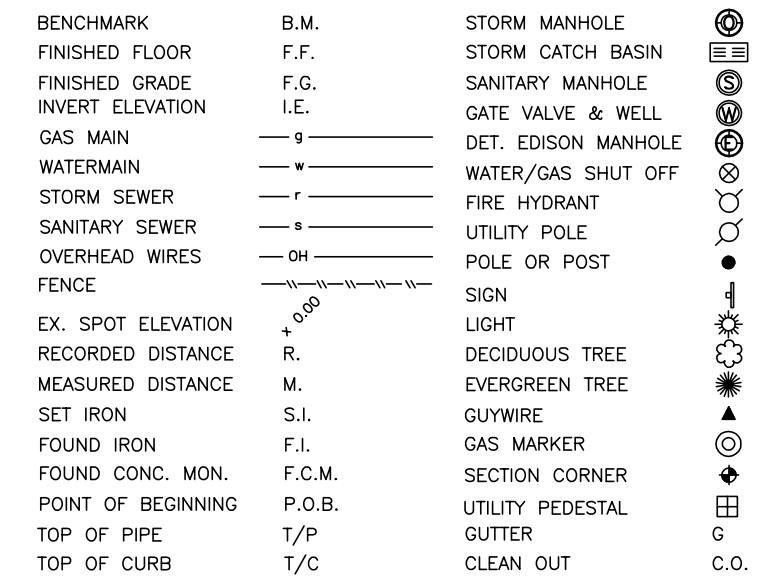
WAYNE COUNTY GENERAL NOTES

1. ALL WORK WITHIN THE WAYNE COUNTY ROAD RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS, INCLUDING SOIL EROSION AND SEDIMENTATION CONTROL OF THE WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES; AND MDOT 2012 SPECIFICATIONS FOR CONSTRUCTION.
2. THESE PLANS ARE NOT VALID WITHOUT ATTACHMENT OF THE WAYNE COUNTY PERMIT SPECIFICATIONS FOR CONSTRUCTION WITHIN ROAD RIGHT-OF-WAY, PARKS, DRAIN EASEMENT OR SANITARY SEWER UNDER JURISDICTION OF THE WAYNE COUNTY (07/01/93) REVISED 12/15/2004.
3. CONTRACTOR SHALL NOTIFY WAYNE COUNTY 72 HOURS PRIOR TO START OF CONSTRUCTION. CONTACT MR. CHARLES SMITH AT (734) 595-6504 EXTENSION 2009.
4. THE STORM DRAINAGE SYSTEM FROM THE MECHANICAL TREATMENT SYSTEM TO THE DISCHARGE POINT SHALL BE WAYNE COUNTY TESTED MATERIAL.
5. PLACE THE PROPOSED SEWERS AND DRAINAGE STRUCTURES UNDER WAYNE COUNTY JURISDICTION PER COUNTY DETAIL "S-12" OR AS DIRECTED BY THE COUNTY ENGINEER. DETAIL HAS BEEN ADDED TO SHEETS C-8, C-8a, C-9, C-9a AND C-10.
6. THE MANUFACTURER OF THE STORM TREATMENT SYSTEM MUST CONTACT THE WAYNE COUNTY TESTING OFFICE AT 734-595-6504 EXT. 2015 THREE BUSINESS DAYS PRIOR TO FABRICATIONS TO SCHEDULE INSPECTION DURING FABRICATION OF STORM WATER TREATMENT SYSTEM (STRUCTURE, DETENTION PIPES, ECT.)

PROPOSED LEGEND



LEGEND



CLIENT:	11/14/13
JACK DEMMER FORD	1/15/14 SITE DEVELOPMENT PERMIT
37300 MICHIGAN AVENUE	2/10/14 PER CITY OF WAYNE REVIEW
WAYNE, MI 48184	5/16/14 PER WAYNE COUNTY/MDEQ
	7/28/14 PER WAYNE COUNTY
	9/29/14 AMEND PER #37458
	10/6/14 PER MEETING

8495 N. TERRITORIAL RD.
 PLYMOUTH, MI 48170
 PHONE: (734) 416-9650
 FAX: (734) 416-9657
 www.glasurveyors.com

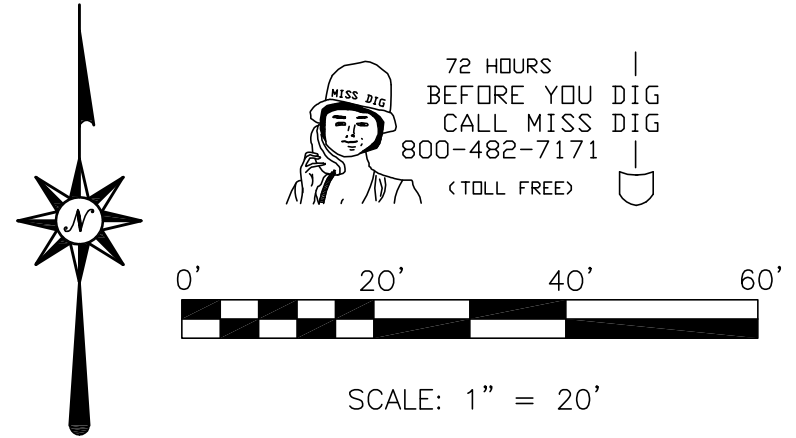
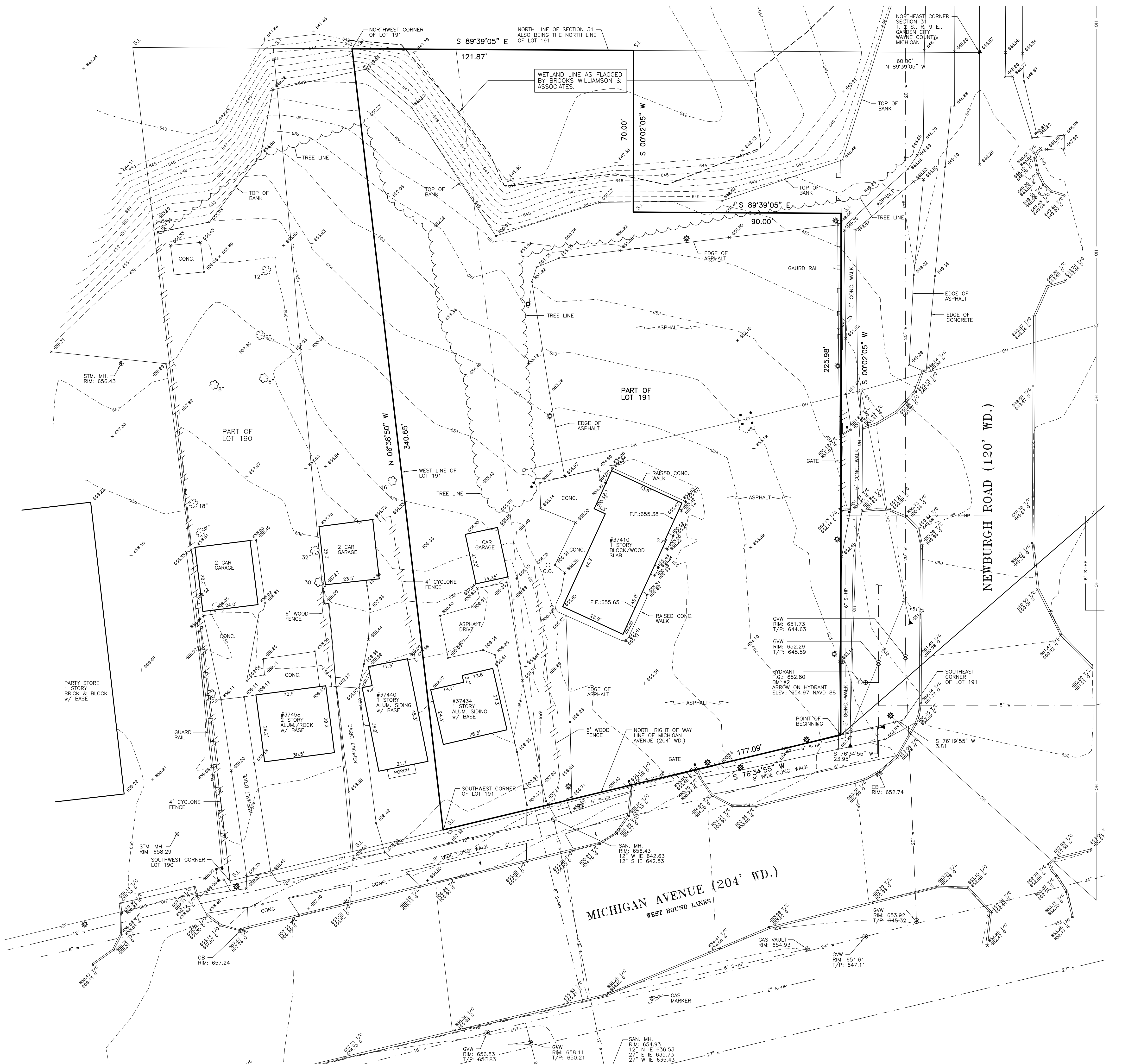
GLA SURVEYORS & ENGINEERS

TITLE SHEET
JACK DEMMER FORD – QUICKLANE
 37410-37434 MICHIGAN AVENUE
 PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
 CITY OF WAYNE, WAYNE COUNTY, MICHIGAN

FILE NO.: 689-190ENG	DWG. NO.: 689-190ENG
DESIGNED BY: S.A.S.	SHEET No. T-1
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	



WAYNE COUNTY PLAN PERMIT # C-47783
 WAYNE COUNTY PLAN REVIEW # R13-340



LEGAL DESCRIPTION

PART OF LOTS 190 AND 191 OF "SUPERVISORS NANKIN PLAT NO. 6" OF PART OF THE NORTHEAST 1/4 OF SECTION 31, T. 2 S., R. 9 E., NANKIN TOWNSHIP (NOW CITY OF WAYNE), WAYNE COUNTY, MICHIGAN AS RECORDED IN LIBER 65 OF PLATS, PAGE 64, WAYNE COUNTY RECORDS DESCRIBED AS: COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 191; THENCE S 76°19'55" W 3.81 FEET ALONG THE NORTH RIGHT OF WAY OF MICHIGAN AVENUE (204 FEET WIDE); THENCE S 76°34'55" W 23.95 FEET ALONG SAID NORTH RIGHT OF WAY LINE TO A POINT ON THE WESTERLY RIGHT OF LINE OF NEWBURGH ROAD (120 FEET WIDE); AND THENCE S 00°02'05" W 177.09 FEET ALONG SAID NORTH RIGHT OF WAY LINE TO THE SOUTHWEST CORNER OF SAID LOT 191; THENCE N 06°38'50" W 340.65 FEET ALONG THE WEST LINE OF SAID LOT 191; THENCE S 89°39'05" E 121.87 FEET ALONG THE NORTH LINE OF SAID LOT 191 TO A NORTHEASTERLY CORNER OF SAID LOT 191; THENCE S 00°02'05" W 70.00 FEET; THENCE S 89°39'05" E 90.00 FEET TO A POINT ON THE WESTERLY RIGHT OF LINE OF NEWBURGH ROAD (120 FEET WIDE); AND THENCE S 00°02'05" W 225.98 FEET ALONG SAID WESTERLY RIGHT OF WAY LINE TO THE POINT OF BEGINNING. CONTAINING 1.26 ACRES OF LAND, MORE OR LESS.

BENCHMARKS

BM #1
DISK STAMPED 82667 2006 SET IN A 1.6 INCH DIAMETER CONCRETE POST FLUSH WITH THE GROUND LOCATED 420' EAST OF THE CENTERLINE OF TREADWELL STREET, 53.5 FEET WEST OF THE EASTERLY MOST CENTER OF THE DRIVE INTO THE REPUBLIC WASTE SERVICES ADDRESS 36850, 32.6 FEET NORTH OF THE CENTERLINE OF VAN BORN ROAD, 26.0 FEET EAST OF THE TOP OF A FIRE HYDRANT AND 3.2 FEET NORTH ELEVATION: 663.88 NAVD 88

BM #2
ARROW ON THE HYDRANT LOCATED ON THE NORTHWEST CORNER OF MICHIGAN AVENUE AND NEWBURGH ROADS. ELEVATION: 654.97 NAVD 88

ZONING & SETBACKS

ZONED: B-3 BUSINESS EXTENSIVE

SETBACK REQUIREMENTS:
FRONT: NONE
REAR: NONE
SIDES: NONE

BUILDING CANNOT BE CLOSER THAN 20' TO A RESIDENTIAL BUILDING

FLOODPLAIN

APPROXIMATELY 49569sf (1.14ac) OF THE SUBJECT PROPERTY LIES IN FLOOD ZONE "X" WHICH IS AN AREA DETERMINED TO BE OUTSIDE THE 0.2 ANNUAL CHANCE FLOODPLAIN "X". APPROXIMATELY 5439sf (0.12ac) LIES IN FLOOD ZONE "A" WHICH IS AN AREA THAT NO BASE ELEVATION HAS BEEN DETERMINED PER FLOOD INSURANCE RATE MAP FOR THE CITY OF WAYNE, WAYNE COUNTY, MICHIGAN. COMMUNITY-PANEL NUMBER 2663C0218E EFFECTIVE DATE: FEBRUARY 2, 2012

UTILITY NOTE

UNDERGROUND UTILITY LINES AND STRUCTURES SHOWN ARE PER RECORDS MADE AVAILABLE BY UTILITY OR MUNICIPALITY, AND BY FIELD OBSERVATION WHERE POSSIBLE. ALL MUNICIPALITIES AND UTILITY COMPANIES SHOULD BE NOTIFIED BY CONTRACTOR FOR FIELD LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

MUNICIPALITY

CITY OF WAYNE
3355 SOUTH WAYNE ROAD
WAYNE, MI 48184

MAIN: 734-722-2000
COMMUNITY DEVELOPMENT: 734-722-2002
BUILDING/ENGINEERING: 734-728-9100

LEGEND

BENCHMARK	B.M.	STORM MANHOLE	
FINISHED FLOOR	F.F.	STORM CATCH BASIN	
FINISHED GRADE	F.G.	SANITARY MANHOLE	
INVERT ELEVATION	I.E.	GATE VALVE & WELL	
GAS MAIN		DET. EDISON MANHOLE	
WATERMAIN		WATER/GAS SHUT OFF	
STORM SEWER		FIRE HYDRANT	
SANITARY SEWER		UTILITY POLE	
OVERHEAD WIRES		POLE OR POST	
FENCE		SIGN	
EX. SPOT ELEVATION		LIGHT	
RECORDED DISTANCE	R.	DECIDUOUS TREE	
MEASURED DISTANCE	M.	EVERGREEN TREE	
SET IRON	S.I.	CULWIRE	
FOUND IRON	F.I.	GAS MARKER	
FOUND CONC. MON.	F.C.M.	SECTION CORNER	
POINT OF BEGINNING	P.O.B.	UTILITY PEDESTAL	
TOP OF PIPE	T/P	GUTTER	
TOP OF CURB	T/C	CLEAN OUT	

FILE NO.: 689-190 DWG. NO.: 689-190ENG

DRAWN BY: S.A.S.
CHECKED BY: G.L.A.
SCALE: 1" = 20'

SHEET No.
S-1

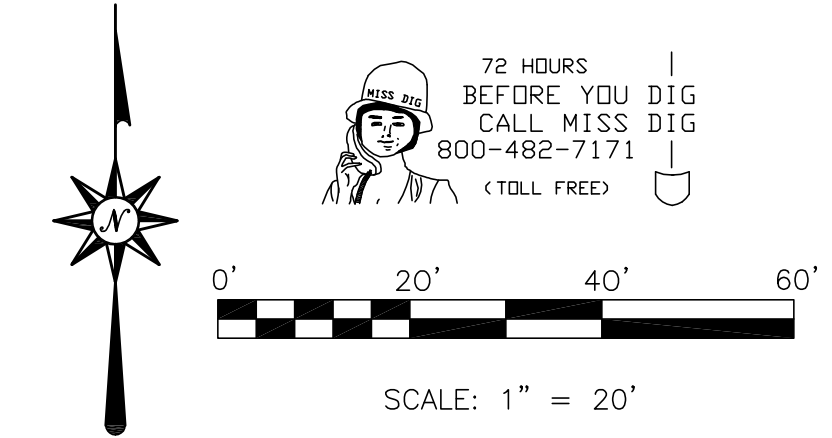
CLIENT:
11/14/13
72 HOURS BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

JACK DEMMER FORD
37300 MICHIGAN AVENUE
WAYNE, MI 48184

8495 N. TERRITORIAL RD.
PLYMOUTH, MI 48170
PHONE: (734) 416-9650
FAX: (734) 416-9657
www.glsurveyors.com

GLA SURVEYORS & ENGINEERS

BOUNDARY/TOPOGRAPHIC SURVEY
JACK DEMMER FORD
37410-37434 MICHIGAN AVENUE
PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
CITY OF WAYNE, WAYNE COUNTY, MICHIGAN



DEMOLITION NOTE

1. ALL DEMOLITION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE CITY OF WAYNE, WAYNE COUNTY AND THE STATE OF MICHIGAN.
2. LOCATION OF UNDERGROUND UTILITIES SERVICING THE EXISTING BUILDING ARE UNKNOWN AT THIS TIME.

DEVELOPER / CONTRACTOR NOTE

1. THE DEVELOPER / CONTRACTOR IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES WHICH ARE A RESULT OF THE DEVELOPER AND/OR CONTRACTORS ACTIVITIES.

DEMOLITION ITEMS

- A. REMOVE APPROXIMATELY 900 L.F. OF TREE AND BRUSH LINE AS NEEDED TO NEW PROPOSED TREE LINE.
- B. REMOVE LIGHT/LIGHT POLE AND BASE AS REQUIRED AND SHOWN. (3 TYP.)
- C. REMOVE ASPHALT PARKING LOT PAVEMENT, APPROXIMATELY 26,000 sf.
- D. REMOVE UTILITY POLE (2 TYP.) AND OVERHEAD WIRES PER REQUIREMENTS OF THE UTILITY COMPANIES.
- E. REMOVE CONCRETE BOLLARDS. (8 TYP.)
- F. REMOVE CONCRETE SIDEWALK AND CONCRETE ADJACENT AND BEHIND THE EXISTING BUILDING #37410. APPROXIMATELY 970 sf.
- G. REMOVE EXISTING BLOCK BUILDING, CONCRETE SLAB AND FOUNDATIONS OF #37410.
- H. REMOVE APPROXIMATELY 100 L.F. OF 6' HIGH WOOD FENCE.
- J. REMOVE ASPHALT DRIVEWAY LOCATED @ #37434. APPROXIMATELY 1900 sf.
- K. REMOVE GARAGE, CONCRETE SLAB AND FOUNDATION @ #37434
- L. REMOVE HOUSE, BASEMENT WALLS, FOUNDATION AND HOUSE UTILITIES @ #37434
- M. REMOVE THE CONCRETE DRIVE APPROACH WITHIN THE MICHIGAN AVE. RIGHT-OF-WAY PER MDOT PERMIT ONCE PERMIT IS ISSUED.
- N. REMOVE CONCRETE OF EXISTING SIDEWALK AS NECESSARY TO THE NEAREST JOINT TO FACILITATE THE INSTALLATION OF THE SANITARY LEAD AND WATER SERVICE PER MDOT PERMIT ONCE PERMIT IS ISSUED.
- P. REMOVE EXISTING DAMAGED CONCRETE SIDEWALK FROM 24 FEET WEST OF, THROUGH, AND TO 8 FEET EAST, OR THE NEAREST JOINT OF THE EXISTING DRIVE APPROACH TO THE SITE. ALSO THE PORTION THROUGH THE EXISTING APPROACH IS TO FACILITATE THE REMOVAL OF A PORTION OF CURB THAT CURRENTLY EXIST PER MDOT PERMIT ONCE PERMIT IS ISSUED.
- R. REMOVE CONCRETE SIDEWALK THROUGH THE APPROACH TO #37434 MICHIGAN AVENUE PER MDOT PERMIT ONCE PERMIT IS ISSUED.
- S. REMOVE APPROXIMATELY 24 FEET OF EXISTING GUTTER ALONG MICHIGAN AVENUE TO FACILITATE NEW CURB AND GUTTER ONCE THE DRIVE APPROACH HAS BEEN REMOVED PER MDOT PERMIT ONCE PERMIT IS ISSUED.

UTILITY COMPANIES

AT&T
3100 PLYMOUTH ROAD
ROOM 105
LIVONIA, MI 48150
(734) 523-7564
(734) 523-7589 FAX

DETROIT EDISON
ONE ENERGY PLAZA
105 WEST WILLOW STREET
DETROIT, MI 48226
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(877) 240-9602

COMCAST REGIONAL DESIGN CENTER
25626 TELEGRAPH ROAD
SOUTHFIELD, MI 48034
(248) 809-2749
(248) 809-2721 FAX

UTILITY NOTE

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MUNICIPALITY

CITY OF WAYNE
3355 SOUTH WAYNE ROAD
WAYNE, MI 48184

MAIN: 734-722-2000
COMMUNITY DEVELOPMENT: 734-722-2002
BUILDING/ENGINEERING: 734-728-9100

LEGEND

BENCHMARK	B.M.	STORM MANHOLE	
FINISHED FLOOR	F.F.	STORM CATCH BASIN	
FINISHED GRADE	F.G.	SANITARY MANHOLE	
INVERT ELEVATION	I.E.	GATE VALVE & WELL	
GAS MAIN		DET. EDISON MANHOLE	
WATERMAIN		WATER/GAS SHUT OFF	
STORM SEWER		FIRE HYDRANT	
SANITARY SEWER		UTILITY POLE	
OVERHEAD WIRES		POLE OR POST	
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EX. SPOT ELEVATION		LIGHT	
RECORDED DISTANCE	R.	DECIDUOUS TREE	
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SET IRON	S.I.	CULWIRE	
FOUND IRON	F.I.	GAS MARKER	
FOUND CONC. MON.	F.C.M.	SECTION CORNER	
POINT OF BEGINNING	P.O.B.	UTILITY PEDESTAL	
TOP OF PIPE	T/P	GUTTER	
TOP OF CURB	T/C	CLEAN OUT	

CLIENT	11/14/13
1/15/15 SITE DEVELOPMENT PERMIT	
5/16/14 PER WAYNE COUNTY/MDEQ	
7/28/14 PER WAYNE COUNTY	
9/29/14 AMEND PER #37458	
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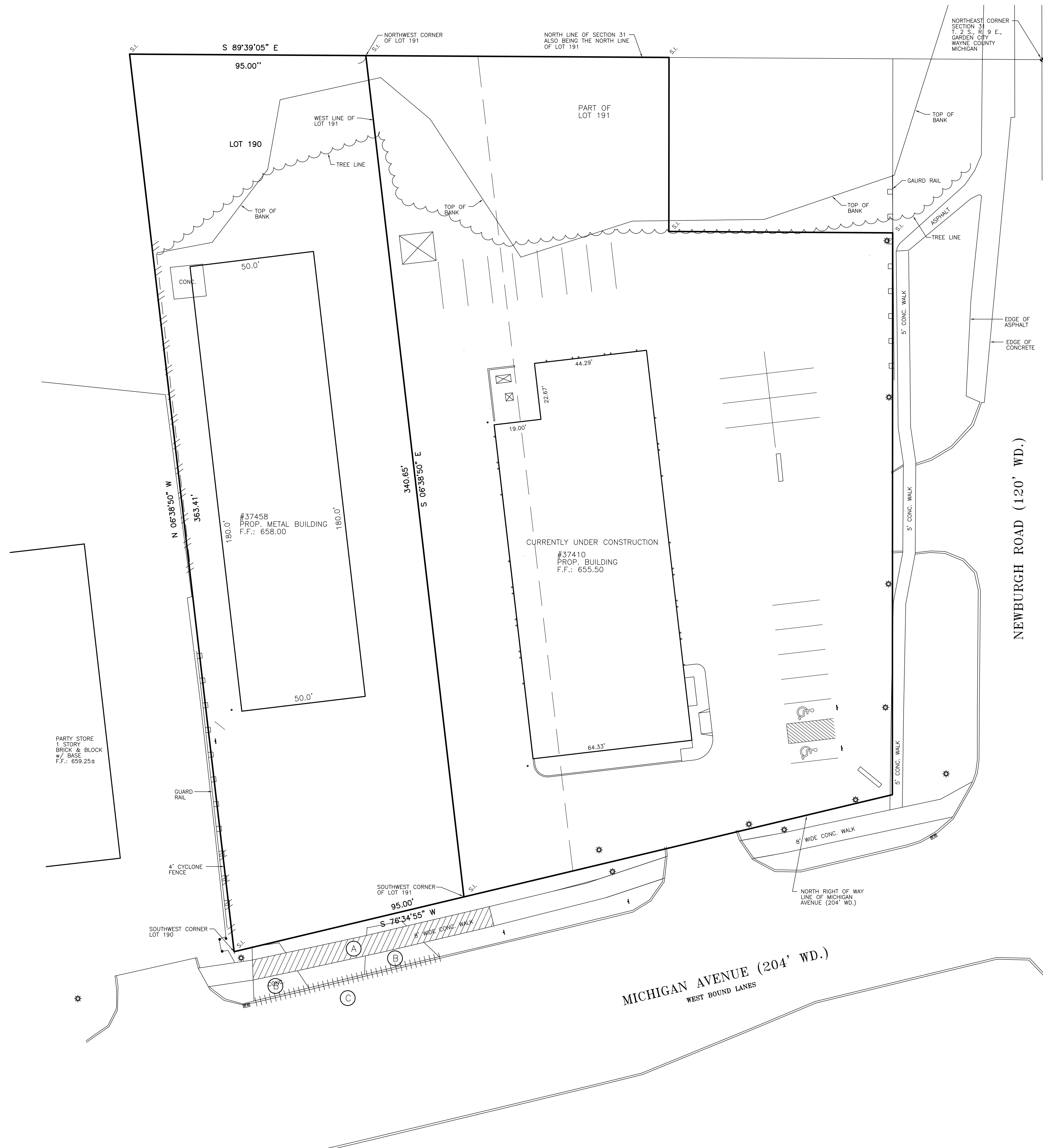
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PHONE: (734) 416-9650
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GLA SURVEYORS & ENGINEERS

DEMOLITION PLAN
JACK DEMMER FORD
37410-37434 MICHIGAN AVENUE
PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
CITY OF WAYNE, WAYNE COUNTY, MICHIGAN

FILE NO.: 689-190	DWG. NO.: 689-190ENG
DESIGNED BY: S.A.S.	SHEET No. C-1
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
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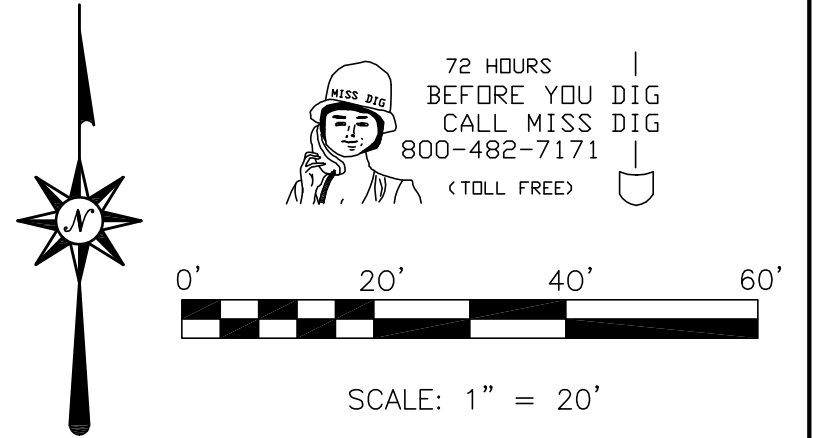


DEMOLITION NOTE

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DEVELOPER / CONTRACTOR NOTE

1. THE DEVELOPER / CONTRACTOR IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES WHICH ARE A RESULT OF THE DEVELOPER AND/OR CONTRACTORS ACTIVITIES.



DEMOLITION ITEMS

- A. REMOVE EXISTING DAMAGED CONCRETE SIDEWALK HAS SHOWN ALSO THE PORTION THROUGH THE EXISTING APPROACH TO FACILITATE THE REMOVAL OF A PORTION OF CURB THAT CURRENTLY EXIST PER MDOT PERMIT ONCE PERMIT IS ISSUED.
- B. REMOVED CONCRETE DRIVEWAY APPROACHES AS SHOWN.
- C. REMOVE APPROXIMATELY 24 FEET OF EXISTING CURB AND GUTTER ALONG MICHIGAN AVENUE TO FACILITATE NEW DRIVE APPROACH PER MDOT PERMIT ONCE PERMIT IS ISSUED.

UTILITY COMPANIES

AT&T
 31100 PLYMOUTH ROAD
 ROOM 105
 LIVONIA, MI 48150
 (734) 523-7564
 (734) 523-7589 FAX

DETROIT EDISON
 ONE ENERGY PLAZA
 ICS GROUP, 518 SB
 DETROIT, MI 48226
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COMCAST REGIONAL DESIGN CENTER
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 (248) 809-2749
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UTILITY NOTE

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 3335 SOUTH WAYNE ROAD
 WAYNE, MI 48184

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 COMMUNITY DEVELOPMENT: 734-722-2002
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FINISHED FLOOR	F.F.	STORM CATCH BASIN	
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RECORDED DISTANCE	R.	DECIDUOUS TREE	
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TOP OF PIPE	T/P	GUTTER	
TOP OF CURB	T/C	CLEAN OUT	

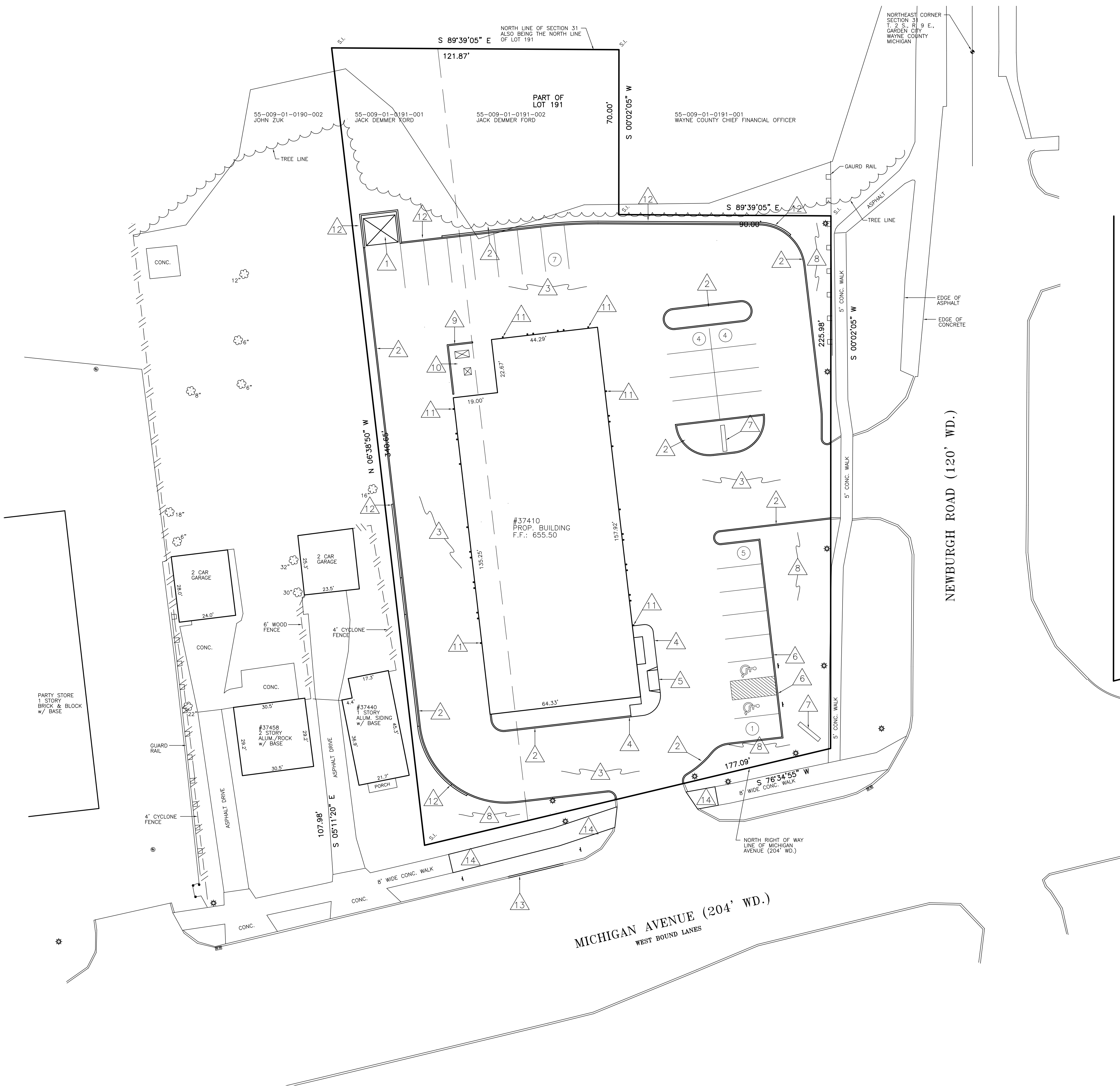
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DESIGNED BY: S.A.S.	SHEET No. C-1a
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

CLIENT	9/25/14
PER MEETING	10/6/14
CLIENT: JACK DEMMER FORD 37300 MICHIGAN AVENUE WAYNE, MI 48184	

8495 N. TERRITORIAL RD.
 PLYMOUTH, MI 48170
 PHONE: (734) 416-9650
 FAX: (734) 416-9657
 www.glsurveyors.com

GLS SURVEYORS & ENGINEERS

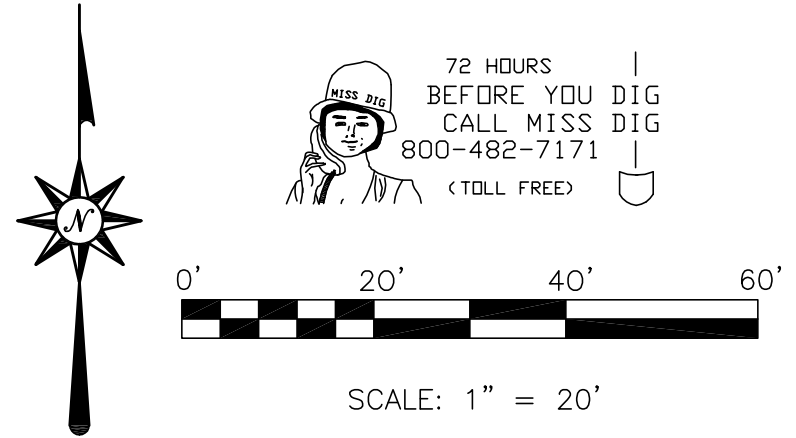
DEMOLITION PLAN
 JACK DEMMER FORD - STORAGE
 37458 MICHIGAN AVENUE
 PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
 CITY OF WAYNE, WAYNE COUNTY, MICHIGAN



BENCHMARKS

BM #1
DISK STAMPED 82667 2006 SET IN A 16 INCH DIAMETER CONCRETE POST FLUSH WITH THE GROUND LOCATED 420' EAST OF THE CENTERLINE OF TREADWELL STREET, 53.5 FEET WEST OF THE EASTERLY MOST CENTER OF THE DRIVE INTO THE REPUBLIC WASTE SERVICES ADDRESS 36850, 32.6 FEET NORTH OF THE CENTERLINE OF VAN BORN ROAD, 26.0 FEET EAST OF THE TOP OF A FIRE HYDRANT AND 3.2 FEET NORTH OF A CARSONITE WITNESS POST. ELEVATION: 663.88 NAVD 88

BM #2
ARROW ON THE HYDRANT LOCATED ON THE NORTHWEST CORNER OF MICHIGAN AVENUE AND NEWBURGH ROADS. ELEVATION: 654.97 NAVD 88



SITE ITEMS

- DUMPSTER ENCLOSURE SET ON 16' x 15' CONCRETE PAD, SEE DETAIL ON DETAIL SHEET
- M.D.O.T. TYPE F-1 CURB (REVERSE CURB), SEE DETAIL ON DETAIL SHEET
- BITUMINOUS PAVEMENT, SEE PAVEMENT DETAIL OF DETAIL SHEET
- INTEGRAL CURB AND SIDEWALK, SEE DETAIL ON DETAIL SHEET
- ADA PEDESTRIAN BUILDING ACCESS, SEE DETAIL ON DETAIL SHEET
- INSTALL HANDICAPPED PARKING SIGN, SEE DETAIL ON DETAIL SHEET
- GROUND SIGN LOCATION, THIS ILLUSTRATION DOES NOT DEPICT THE ACTUAL SIGN SIZE
- GRASS AND LANDSCAPE AREA
- 6' HIGH MASONARY WALL
- ELECTRICAL TRANSFORMER, A/C UNIT AREA, WATER METER, GAS METER
- 6" DIA. CONCRETE BOLLARDS (28 TYP.)
- 8" WIDE KEYSTONE RETAINING WALL. "BY OTHERS".
- INSTALL APPROXIMATELY 24 FEET OF NEW CONCRETE CURB AND GUTTER ALONG MICHIGAN AVENUE OR TO THE NEAREST JOINT AT THE REMOVE DRIVE APPROACH FOR #37434 MICHIGAN AVENUE PER MDOT PERMIT ONCE PERMIT ISSUED.
- INSTALL NEW 8 FEET WIDE CONCRETE WALK AS NECESSARY PER REMOVED CONCRETE SIDEWALK AS LISTED ON SHEET C-1. THE REPLACE SIDEWALK SHALL NOT BE CURBED AT THE SIDES OF THE APPROACH. INSTALLATION TO BE PER MDOT PERMIT ONCE PERMIT ISSUED.

ZONING & SETBACKS

ZONED: B-3 BUSINESS EXTENSIVE

SETBACK REQUIREMENTS:
FRONT: NONE
REAR: NONE
SIDES: NONE

BUILDING CANNOT BE CLOSER THAN 20' TO A RESIDENTIAL BUILDING

PROPOSED
SITE: 1.26 ACRES
PAVING/HARD SURFACE: 0.92 AC (73.2%)
LANDSCAPE/GREENBELT: 0.34 AC (26.8%)
BUILDING FOOTPRINT: 9,563 sf

MUNICIPALITY

CITY OF WAYNE
3355 SOUTH WAYNE ROAD
WAYNE, MI 48184

MAIN: 734-722-2000
COMMUNITY DEVELOPMENT: 734-722-2002
BUILDING/ENGINEERING: 734-728-9100

UTILITY NOTE

UNDERGROUND UTILITY LINES AND STRUCTURES SHOWN ARE PER RECORDS MADE AVAILABLE BY UTILITY OR MUNICIPALITY, AND BY FIELD OBSERVATION WHERE POSSIBLE. ALL MUNICIPALITIES AND UTILITY COMPANIES SHOULD BE NOTIFIED BY CONTRACTOR FOR FIELD LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

LEGEND

BENCHMARK	B.M.	STORM MANHOLE	
FINISHED FLOOR	F.F.	STORM CATCH BASIN	
FINISHED GRADE	F.G.	SANITARY MANHOLE	
INVERT ELEVATION	I.E.	GATE VALVE & WELL	
GAS MAIN		DET. EDISON MANHOLE	
WATERMAIN		WATER/GAS SHUT OFF	
STORM SEWER		FIRE HYDRANT	
SANITARY SEWER		UTILITY POLE	
OVERHEAD WIRES		POLE OR POST	
FENCE		SIGN	
EX. SPOT ELEVATION		LIGHT	
RECORDED DISTANCE	R.	DECIDUOUS TREE	
MEASURED DISTANCE	M.	EVERGREEN TREE	
SET IRON	S.I.	CULWIRE	
FOUND IRON	F.I.	GAS MARKER	
FOUND CONC. MON.	F.C.M.	SECTION CORNER	
POINT OF BEGINNING	P.O.B.	UTILITY PEDESTAL	
TOP OF PIPE	T/P	GUTTER	
TOP OF CURB	T/C	CLEAN OUT	

FILE NO.: 689-190	DWG. NO.: 689-190ENG
DESIGNED BY: S.A.S.	SHEET No. C-2
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

CLIENT

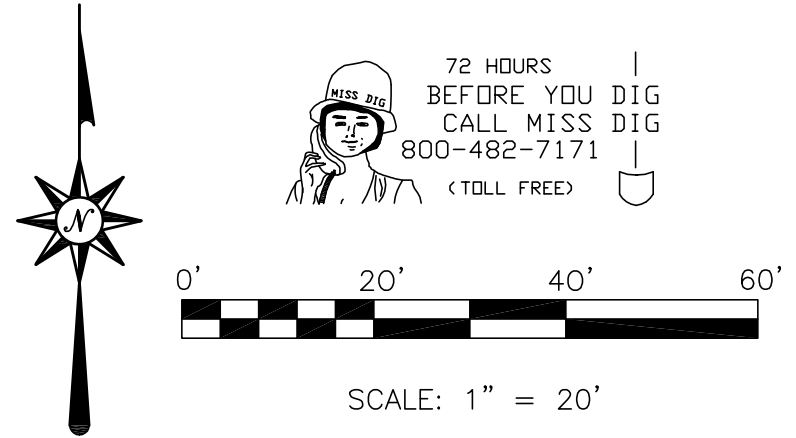
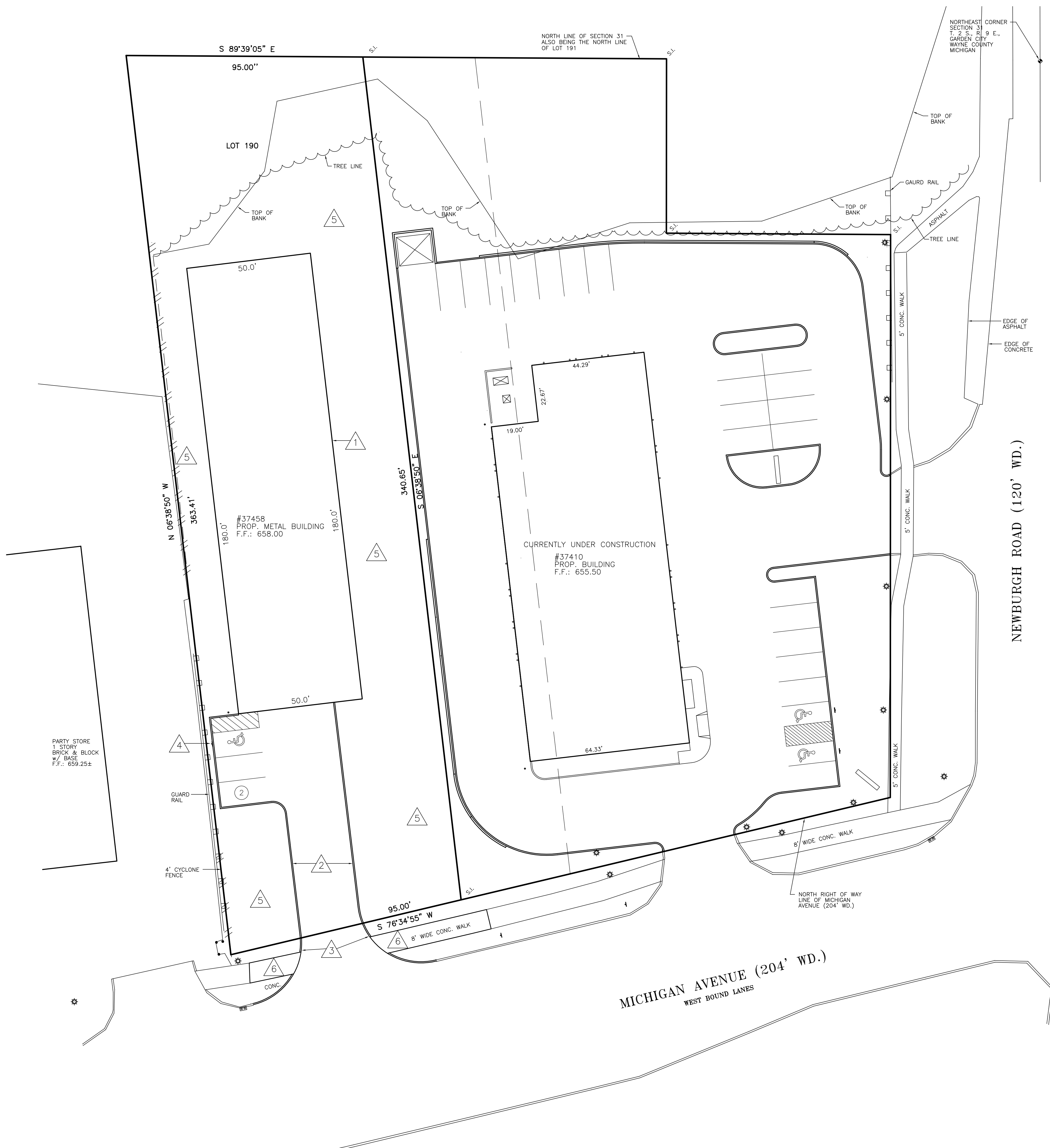
11/14/13
7/15/14 SITE DEVELOPMENT PERMIT
5/16/14 PER WAYNE COUNTY/MDOT
7/28/14 PER WAYNE COUNTY
9/29/14 AMEND PER #37458
10/7/14 PER MEETING

CLIENT:
JACK DEMMER FORD
37300 MICHIGAN AVENUE
WAYNE, MI 48184

8495 N. TERRITORIAL RD.
PLYMOUTH, MI 48170
PHONE: (734) 416-9650
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GLA SURVEYORS & ENGINEERS

SITE PLAN
JACK DEMMER FORD
37410-37434 MICHIGAN AVENUE
PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
CITY OF WAYNE, WAYNE COUNTY, MICHIGAN



SITE ITEMS

1. PROPOSED METAL BUILDING, APPROX. 9,000sf
2. CONCRETE PAVEMENT w CONCRETE CURB & GUTTER PER DETAIL
3. NEW ENTRANCE WITHIN M.D.O.T. RIGHT-OF-WAY, CONCRETE w/ CONCRETE CURB & GUTTER
4. HANDICAP PARKING SIGN
5. GRASS & LANDSCAPE AREA
6. INSTALL NEW 8 FEET WIDE CONCRETE WALK AS SHOWN PER THE REMOVED CONCRETE SIDEWALK AS LISTED ON SHEET C-1. THE REPLACED SIDEWALK SHALL NOT BE CURBED AT THE SIDES OF THE APPROACH. INSTALLATION TO BE PER M.D.O.T. PERMIT ONCE PERMIT IS ISSUED.

LEGAL DESCRIPTION

PART OF LOTS 190 OF "SUPERVISORS NANKIN PLAT No. 6" OF PART OF THE NORTHEAST 1/4 OF SECTION 31, T. 2 S., R. 9 E., NANKIN TOWNSHIP (NOW CITY OF WAYNE), WAYNE COUNTY, MICHIGAN AS RECORDED IN LIBER 65 OF PLATS, PAGE 64, WAYNE COUNTY RECORDS. CONTAINING 0.76 ACRES OF LAND, MORE OR LESS.

BENCHMARKS

BM #1
DISK STAMPED 82667 2006 SET IN A 16 INCH DIAMETER CONCRETE POST FLUSH WITH THE GROUND LOCATED 420' EAST OF THE CENTERLINE OF TREADWELL STREET, 53.5 FEET WEST OF THE EASTERLY MOST CENTER OF THE DRIVE INTO THE REPUBLIC WASTE SERVICES ADDRESS 36850, 32.6 FEET NORTH OF THE CENTERLINE OF VAN BORN ROAD, 26.0 FEET EAST OF THE TOP OF A FIRE HYDRANT AND 3.2 FEET NORTH OF A CARSONITE WITNESS POST.
ELEVATION: 663.88 NAVD 88

BM #2
ARROW ON THE HYDRANT LOCATED ON THE NORTHWEST CORNER OF MICHIGAN AVENUE AND NEWBURGH ROADS.
ELEVATION: 654.97 NAVD 88

ZONING & SETBACKS

ZONED: B-3 BUSINESS EXTENSIVE

SETBACK REQUIREMENTS:
FRONT: NONE
REAR: NONE
SIDES: NONE

BUILDING CANNOT BE CLOSER THAN 20' TO A RESIDENTIAL BUILDING

PROPOSED
SITE: 0.76 ac
PAVING/HARD SURFACE: 0.27.8 ac (36.6%)
LANDSCAPE/GREENBELT: 0.48.2 ac (63.4%)

FLOODPLAIN

APPROXIMATELY 31650.1sf (0.72ac) OF THE SUBJECT PROPERTY LIES IN FLOOD ZONE "X" WHICH IS AN AREA DETERMINED TO OUTSIDE THE 0.2 ANNUAL CHANCE FLOODPLAIN "X" APPROXIMATELY 1552.5sf (0.04ac) LIES IN FLOOD ZONE "A" WHICH IS AN AREA THAT NO BASE ELEVATION HAS BEEN DETERMINED PER FLOOD INSURANCE RATE MAP FOR THE CITY OF WAYNE, WAYNE COUNTY, MICHIGAN. COMMUNITY-PANEL NUMBER 2663C0218E EFFECTIVE DATE: FEBRUARY 2, 2012

MUNICIPALITY

CITY OF WAYNE
3355 SOUTH WAYNE ROAD
WAYNE, MI 48184

MAIN: 734-722-2000
COMMUNITY DEVELOPMENT: 734-722-2002
BUILDING/ENGINEERING: 734-728-9100

UTILITY NOTE

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FOUND CONC. MON.	F.C.M.	SECTION CORNER	
POINT OF BEGINNING	P.O.B.	UTILITY PEDESTAL	
TOP OF PIPE	T/P	GUTTER	
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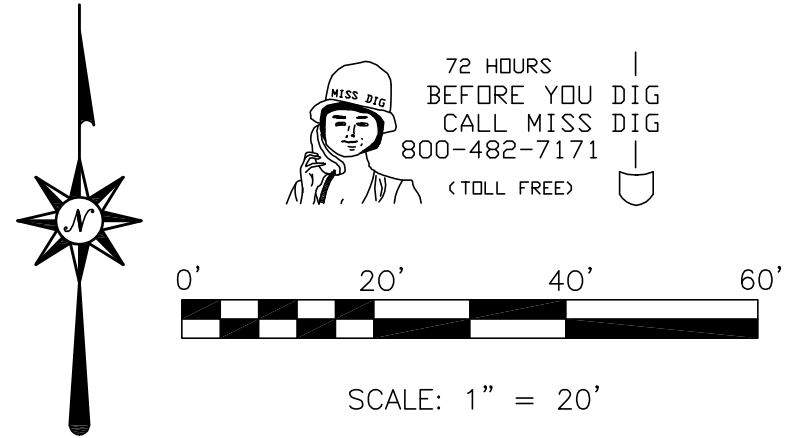
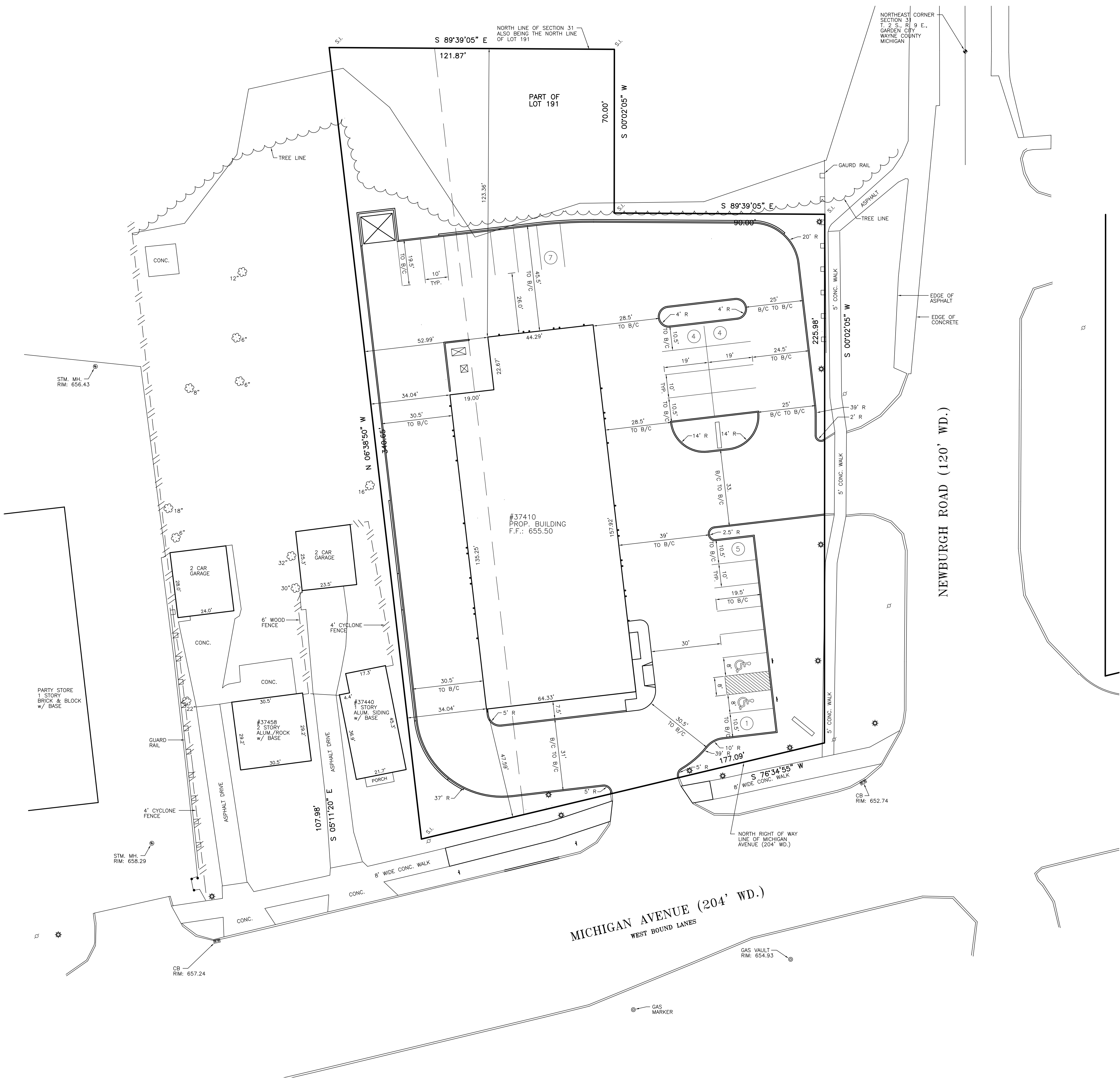
FILE NO.: 689-190	DWG. NO.: 689-190ENG
DESIGNED BY: S.A.S.	SHEET No. C-2a
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

CLIENT	9/25/14
PER MEETING	10/6/14
JACK DEMMER FORD	
37300 MICHIGAN AVENUE	
WAYNE, MI 48184	

8495 N. TERRITORIAL RD.
PLYMOUTH, MI 48170
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GLA SURVEYORS & ENGINEERS

SITE PLAN
JACK DEMMER FORD - STORAGE
37458 MICHIGAN AVENUE
PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
CITY OF WAYNE, WAYNE COUNTY, MICHIGAN



SCALE: 1" = 20'

BENCHMARKS

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DISK STAMPED 82667 2006 SET IN A 1 1/2 INCH DIAMETER CONCRETE POST FLUSH WITH THE GROUND LOCATED 420' EAST OF THE CENTERLINE OF TREADWELL STREET, 53.5 FEET WEST OF THE EASTERLY MOST CENTER OF THE DRIVE INTO THE REPUBLIC WASTE SERVICES ADDRESS 36850, 32.6 FEET NORTH OF THE CENTERLINE OF VAN BORN ROAD, 26.0 FEET EAST OF THE TOP OF A FIRE HYDRANT AND 3.2 FEET NORTH OF A CARSONITE WITNESS POST. ELEVATION: 653.88 NAVD 88

BM #2
ARROW ON THE HYDRANT LOCATED ON THE NORTHWEST CORNER OF MICHIGAN AVENUE AND NEWBURGH ROADS. ELEVATION: 654.97 NAVD 88

ZONING & SETBACKS

ZONED: B-3 BUSINESS EXTENSIVE

SETBACK REQUIREMENTS:
FRONT: NONE
REAR: NONE
SIDES: NONE

BUILDING CANNOT BE CLOSER THAN 20' TO A RESIDENTIAL BUILDING

MUNICIPALITY

CITY OF WAYNE
3355 SOUTH WAYNE ROAD
WAYNE, MI 48184

MAIN: 734-722-2000
COMMUNITY DEVELOPMENT: 734-722-2002
BUILDING/ENGINEERING: 734-728-9100

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OVERHEAD WIRES		POLE OR POST	
FENCE		SIGN	
EX. SPOT ELEVATION		LIGHT	
RECORDED DISTANCE	R.	DECIDUOUS TREE	
MEASURED DISTANCE	M.	EVERGREEN TREE	
SET IRON		CULWIRE	
FOUND IRON	F.I.	GAS MARKER	
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POINT OF BEGINNING	P.O.B.	UTILITY PEDESTAL	
TOP OF PIPE	T/P	GUTTER	
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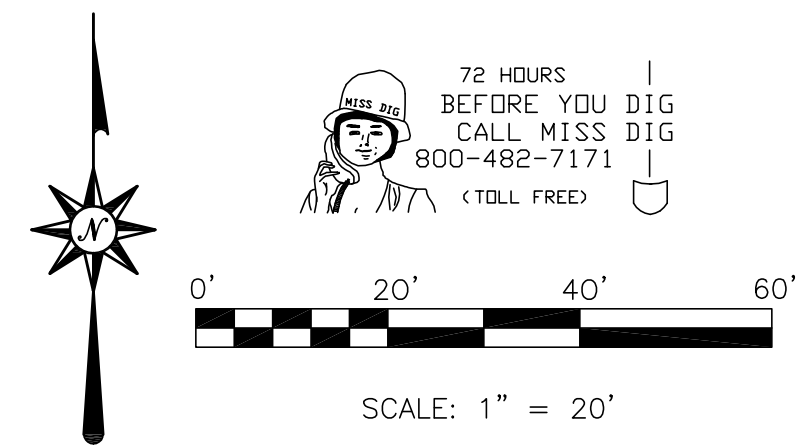
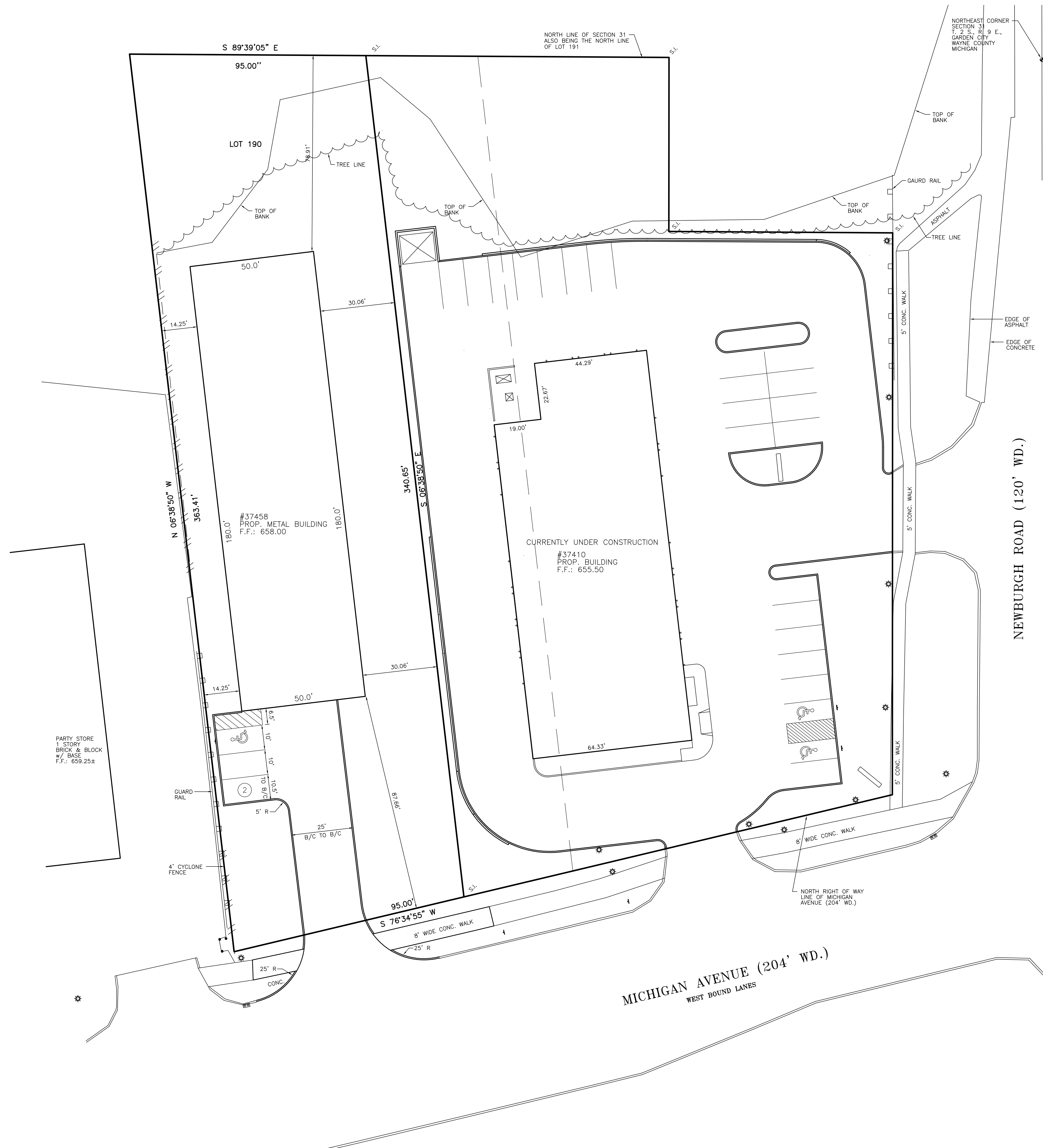
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DESIGNED BY: S.A.S.	SHEET No. C-3
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

CLIENT	11/14/13
7/15/14 SITE DEVELOPMENT PERMIT	
5/16/14 PER WAYNE COUNTY/VIDEO	
7/28/14 PER WAYNE COUNTY	
9/29/14 AMEND PER #37458	
10/6/14 PER MEETING	

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DIMENSIONAL SITE PLAN
JACK DEMMER FORD
37410-37434 MICHIGAN AVENUE
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LEGAL DESCRIPTION

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ELEVATION: 663.88 NAVD 88

BM #2
ARROW ON THE HYDRANT LOCATED ON THE NORTHWEST CORNER OF MICHIGAN AVENUE AND NEWBURGH ROADS.
ELEVATION: 654.97 NAVD 88

ZONING & SETBACKS

ZONED: B-3 BUSINESS EXTENSIVE

SETBACK REQUIREMENTS:
FRONT: NONE
REAR: NONE
SIDES: NONE

BUILDING CANNOT BE CLOSER THAN 20' TO A RESIDENTIAL BUILDING

PROPOSED
SITE: 0.76 ac
PAVING/HARD SURFACE: 0.27.8 ac (36.6%)
LANDSCAPE/GREENBELT: 0.48.2 ac (63.4%)

FLOODPLAIN

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COMMUNITY-PANEL NUMBER 26630218E
EFFECTIVE DATE: FEBRUARY 2, 2012

MUNICIPALITY

CITY OF WAYNE
3355 SOUTH WAYNE ROAD
WAYNE, MI 48184

MAIN: 734-722-2000
COMMUNITY DEVELOPMENT: 734-722-2002
BUILDING/ENGINEERING: 734-728-9100

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LEGEND

BENCHMARK	B.M.	STORM MANHOLE	⊕
FINISHED FLOOR	F.F.	STORM CATCH BASIN	⊞
FINISHED GRADE	F.G.	SANITARY MANHOLE	⊕
INVERT ELEVATION	I.E.	GATE VALVE & WELL	⊕
GAS MAIN	—	DET. EDISON MANHOLE	⊕
WATERMAIN	—	WATER/GAS SHUT OFF	⊕
STORM SEWER	—	FIRE HYDRANT	⊕
SANITARY SEWER	—	UTILITY POLE	⊕
OVERHEAD WIRES	—	POLE OR POST	⊕
FENCE	—	SIGN	⊕
EX. SPOT ELEVATION	⊕	LIGHT	⊕
RECORDED DISTANCE	R.	DECIDUOUS TREE	⊕
MEASURED DISTANCE	M.	EVERGREEN TREE	⊕
SET IRON	S.I.	CULWIRE	⊕
FOUND IRON	F.I.	GAS MARKER	⊕
FOUND CONC. MON.	F.C.M.	SECTION CORNER	⊕
POINT OF BEGINNING	P.O.B.	UTILITY PEDESTAL	⊕
TOP OF PIPE	T/P	GUTTER	⊕
TOP OF CURB	T/C	CLEAN OUT	⊕

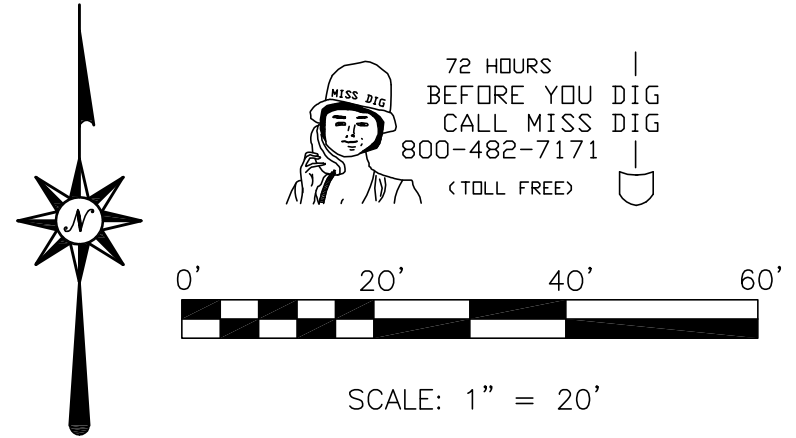
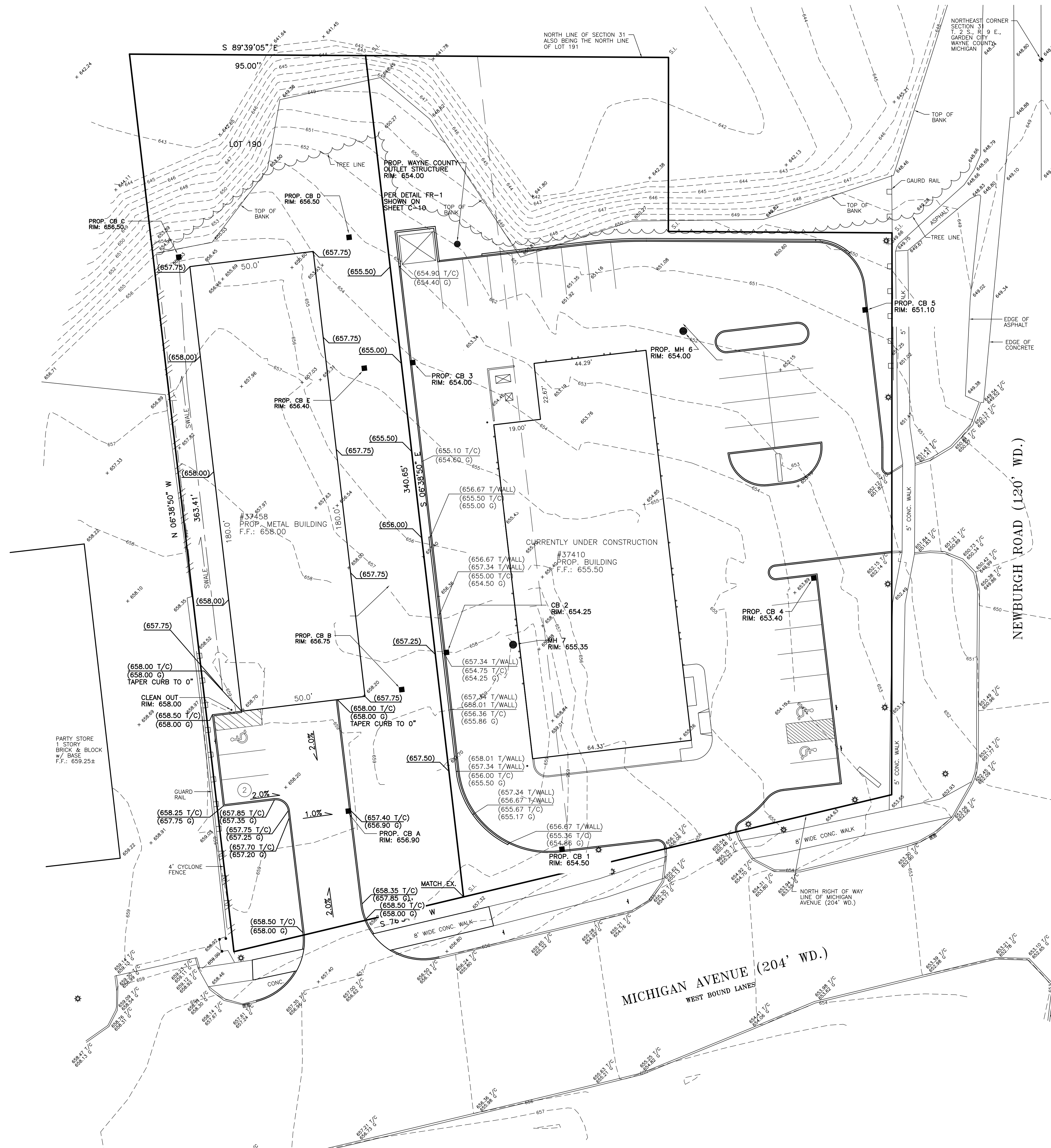
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PER MEETING	10/6/14
JACK DEMMER FORD 37300 MICHIGAN AVENUE WAYNE, MI 48184	

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BM #2
ARROW ON THE HYDRANT LOCATED ON THE NORTHWEST CORNER OF MICHIGAN AVENUE AND NEWBURGH ROADS.
ELEVATION: 654.97 NAVD 88

ZONING & SETBACKS

ZONED: B-3 BUSINESS EXTENSIVE

SETBACK REQUIREMENTS:
FRONT: NONE
REAR: NONE
SIDES: NONE

BUILDING CANNOT BE CLOSER THAN 20' TO A RESIDENTIAL BUILDING

PROPOSED
SITE: 0.76 ac
PAVING/HARD SURFACE: 0.27.8 ac (36.6%)
LANDSCAPE/GREENBELT: 0.48.2 ac (63.4%)

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COMMUNITY-PANEL NUMBER 26630218E
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MUNICIPALITY

CITY OF WAYNE
3355 SOUTH WAYNE ROAD
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MAIN: 734-722-2000
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BUILDING/ENGINEERING: 734-728-9100

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TOP OF CURB	T/C	CLEAN OUT	

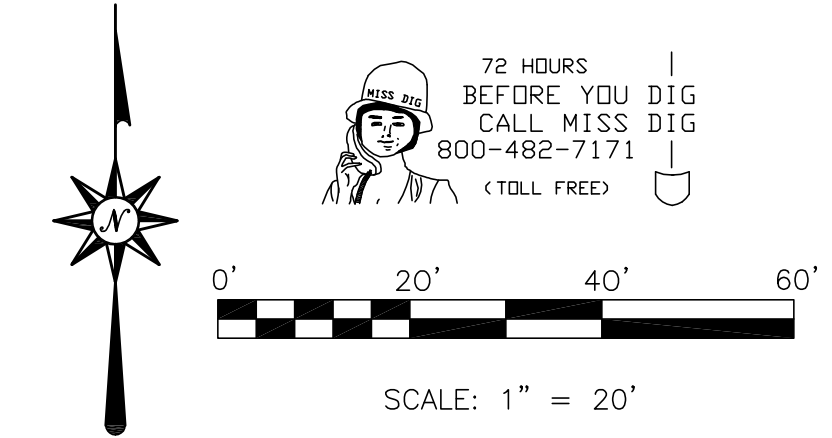
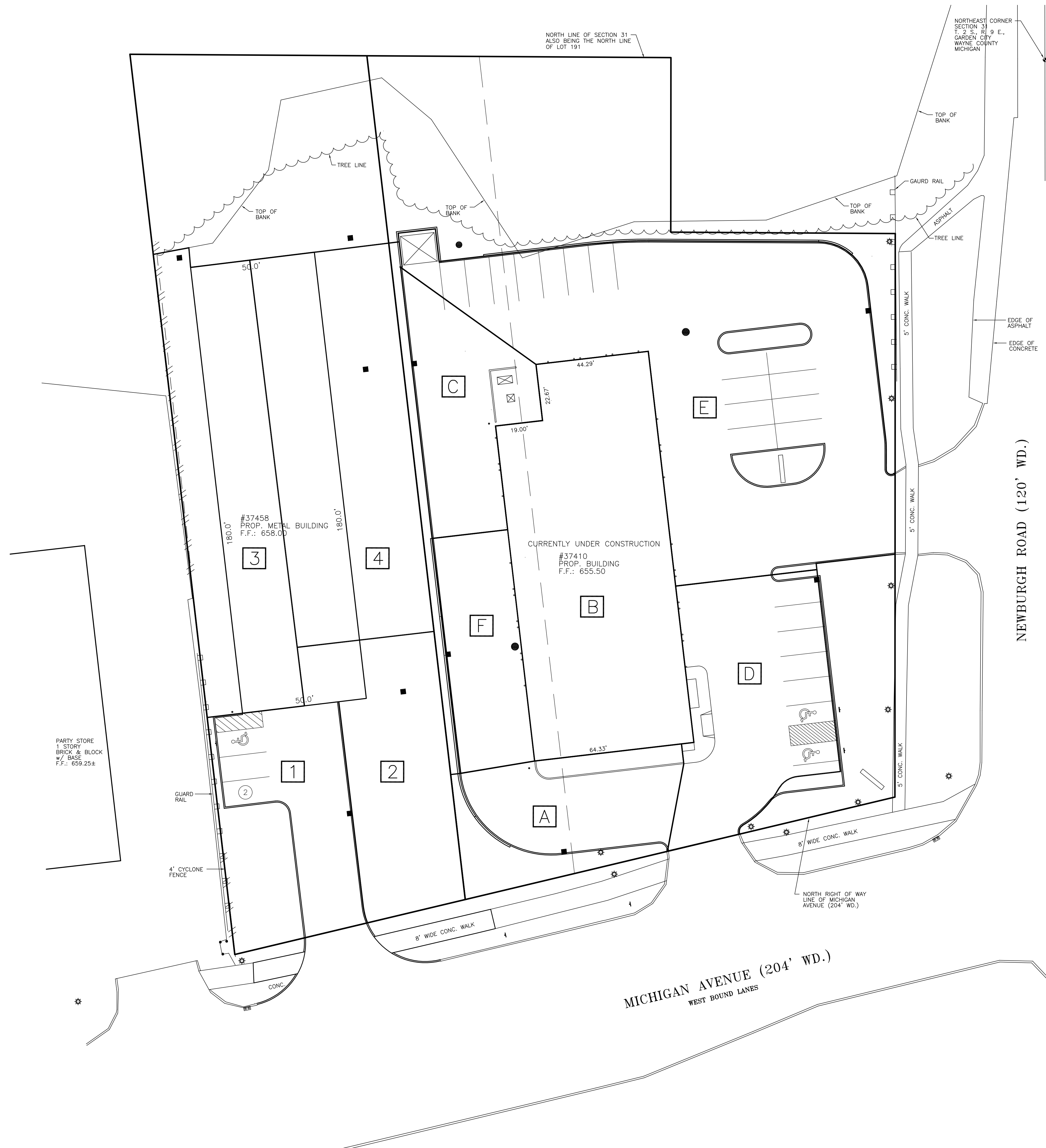
FILE NO.: 689-190	DWG. NO.: 689-190ENG
DESIGNED BY: S.A.S.	SHEET No. C-4a
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

CLIENT:	9/25/14
JACK DEMMER FORD	10/6/14
37300 MICHIGAN AVENUE	
WAYNE, MI 48184	

8495 N. TERRITORIAL RD.
PLYMOUTH, MI 48170
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FAX: (734) 416-9657
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GRADING PLAN
JACK DEMMER FORD - STORAGE
37458 MICHIGAN AVENUE
PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
CITY OF WAYNE, WAYNE COUNTY, MICHIGAN



72 HOURS BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

CLIENT: 9/25/14
10/6/14
PER MEETING

JACK DEMMER FORD
37300 MICHIGAN AVENUE
WAYNE, MI 48184

AREA	GRASS (SQ. FT.)	HARD SURFACE (SQ. FT.)	SQ. FT. (TOTAL)	ACRE (TOTAL)	WEIGHTED "C"
A	436	3,694	4,130	0.09	0.88
B	0	9,720	9,720	0.22	0.95
C	0	3,509	3,509	0.08	0.95
D	102	5,438	5,540	0.13	0.94
E	814	14,543	15,357	0.35	0.91
F	0	2,848	2,848	0.07	0.95
1	1,703	3,232	4,935	0.11	0.71
2	4,284	591	4,875	0.11	0.33
3	0	4,400	4,400	0.10	0.95
4	4,711	4,011	8,722	0.20	0.57
Total	12,050	51,986	64,036	1.47	0.82

	SURFACE	"C" VALUE	City of Wayne Values
GRASS:	0.25		
HARD:	0.95		

- DRAINAGE DISTRICT NOTE**
- AREA'S 1, 2, 3, AND 4 ARE FOR THE PROPOSED STORAGE BUILDING SITE LOCATED AT 37458 MICHIGAN AVENUE.
 - AREA'S A, B, C, D, E, AND F ARE FROM THE PREVIOUSLY APPROVED SITE JACK DEMMER - QUICKLANE SITE LOCATED AT 37410 MICHIGAN AVENUE.
 - BOTH SITES ARE PROPOSED TO HAVE A CENTRAL STORM WATER DISCHARGE AS SHOWN ON THE UTILITY PLAN OF THIS PLAN SET.

BENCHMARKS

BM #1
DISK STAMPED 82667 2006 SET IN A 16 INCH DIAMETER CONCRETE POST FLUSH WITH THE GROUND LOCATED 420' EAST OF THE CENTERLINE OF TREADWELL STREET, 53.5 FEET WEST OF THE EASTERLY MOST CENTER OF THE DRIVE INTO THE REPUBLIC WASTE SERVICES ADDRESS 36850, 32.6 FEET NORTH OF THE CENTERLINE OF VAN BORN ROAD, 26.0 FEET EAST OF THE TOP OF A FIRE HYDRANT AND 3.2 FEET NORTH OF A CARBONITE WITNESS POST.
ELEVATION: 663.88 NAVD 88

BM #2
ARROW ON THE HYDRANT LOCATED ON THE NORTHWEST CORNER OF MICHIGAN AVENUE AND NEWBURGH ROADS.
ELEVATION: 654.97 NAVD 88

MUNICIPALITY

CITY OF WAYNE
3355 SOUTH WAYNE ROAD
WAYNE, MI 48184

MAIN: 734-722-2000
COMMUNITY DEVELOPMENT: 734-722-2002
BUILDING/ENGINEERING: 734-728-9100

UTILITY NOTE

UNDERGROUND UTILITY LINES AND STRUCTURES SHOWN ARE PER RECORDS MADE AVAILABLE BY UTILITY OR MUNICIPALITY, AND BY FIELD OBSERVATION WHERE POSSIBLE. ALL MUNICIPALITIES AND UTILITY COMPANIES SHOULD BE NOTIFIED BY CONTRACTOR FOR FIELD LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

LEGEND

BENCHMARK	B.M.	STORM MANHOLE	
FINISHED FLOOR	F.F.	STORM CATCH BASIN	
FINISHED GRADE	F.G.	SANITARY MANHOLE	
INVERT ELEVATION	I.E.	GATE VALVE & WELL	
GAS MAIN		DET. EDISON MANHOLE	
WATERMAIN		WATER/GAS SHUT OFF	
STORM SEWER		FIRE HYDRANT	
SANITARY SEWER		UTILITY POLE	
OVERHEAD WIRES		POLE OR POST	
FENCE		SIGN	
EX. SPOT ELEVATION		LIGHT	
RECORDED DISTANCE	R.	DECIDUOUS TREE	
MEASURED DISTANCE	M.	EVERGREEN TREE	
SET IRON	S.I.	CULWIRE	
FOUND IRON	F.I.	GAS MARKER	
FOUND CONC. MON.	F.C.M.	SECTION CORNER	
POINT OF BEGINNING	P.O.B.	UTILITY PEDESTAL	
TOP OF PIPE	T/P	GUTTER	
TOP OF CURB	T/C	CLEAN OUT	

FILE NO.: 689-190
DWG. NO.: 689-190ENG

DESIGNED BY: S.A.S.
DRAWN BY: S.A.S.
CHECKED BY: L.A.T.

SHEET No.
C-5

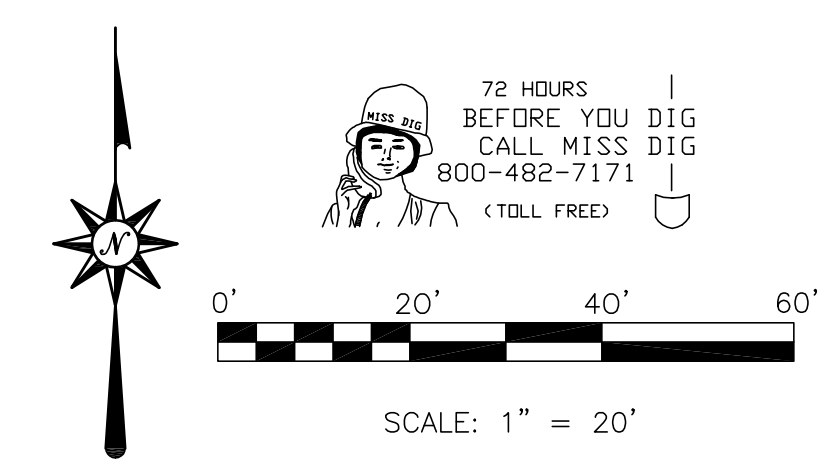
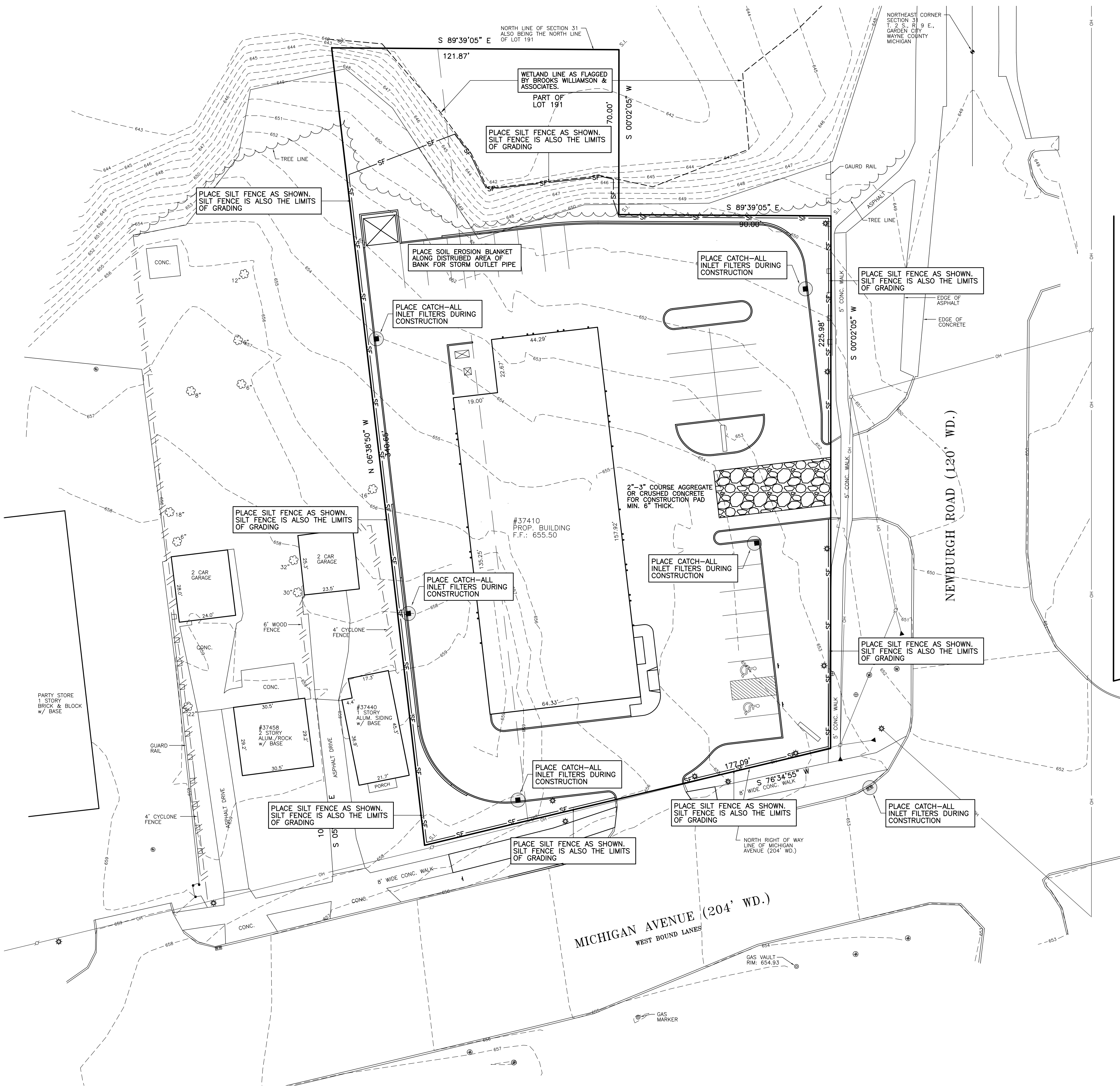
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DRAINAGE DISTRICT PLAN
JACK DEMMER FORD - QUICKLANE
37458 MICHIGAN AVENUE
PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
CITY OF WAYNE, WAYNE COUNTY, MICHIGAN



SOIL EROSION NOTE

1. SOIL EROSION NOTES AND DETAILS ARE ON SHEET C-8

CONTRACTOR NOTE

ALL CONSTRUCTION CONTRACTORS ARE REQUIRED TO CONTROL ALL POLLUTANT SOURCES AT THE CONSTRUCTION SITE THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY, INCLUDING BUT NOT LIMITED TO: CONSTRUCTION MATERIALS AND WASTE DISCARDED BUILDING MATERIALS, CONCRETE WASHOUT, CHEMICALS, FUEL, LITTER AND SANITARY WASTE. THE CONTRACTOR MUST REPORT TO THE PROJECT ENGINEER, WAYNE COUNTY AND/OR CITY OF WAYNE OFFICIAL ANY ILLEGAL DISCHARGES THEY MAY OBSERVE, IMPACTING WATER QUALITY.

BENCHMARKS

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MUNICIPALITY

CITY OF WAYNE
3355 SOUTH WAYNE ROAD
WAYNE, MI 48184

MAIN: 734-722-2000
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BUILDING/ENGINEERING: 734-728-9100

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INVERT ELEVATION	I.E.	GATE VALVE & WELL	
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EX. SPOT ELEVATION		DECIDUOUS TREE	
RECORDED DISTANCE	R.	EVERGREEN TREE	
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SET IRON	S.I.	UTILITY POLE	
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FOUND CONC. MON.	F.C.M.	SECTION CORNER	
POINT OF BEGINNING	P.O.B.	UTILITY PEDESTAL	
TOP OF PIPE	T/P	GUTTER	
TOP OF CURB	T/C	CLEAN OUT	

FILE NO.: 689-190	DWG. NO.: 689-190ENG
DESIGNED BY: S.A.S.	SHEET No. C-6
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

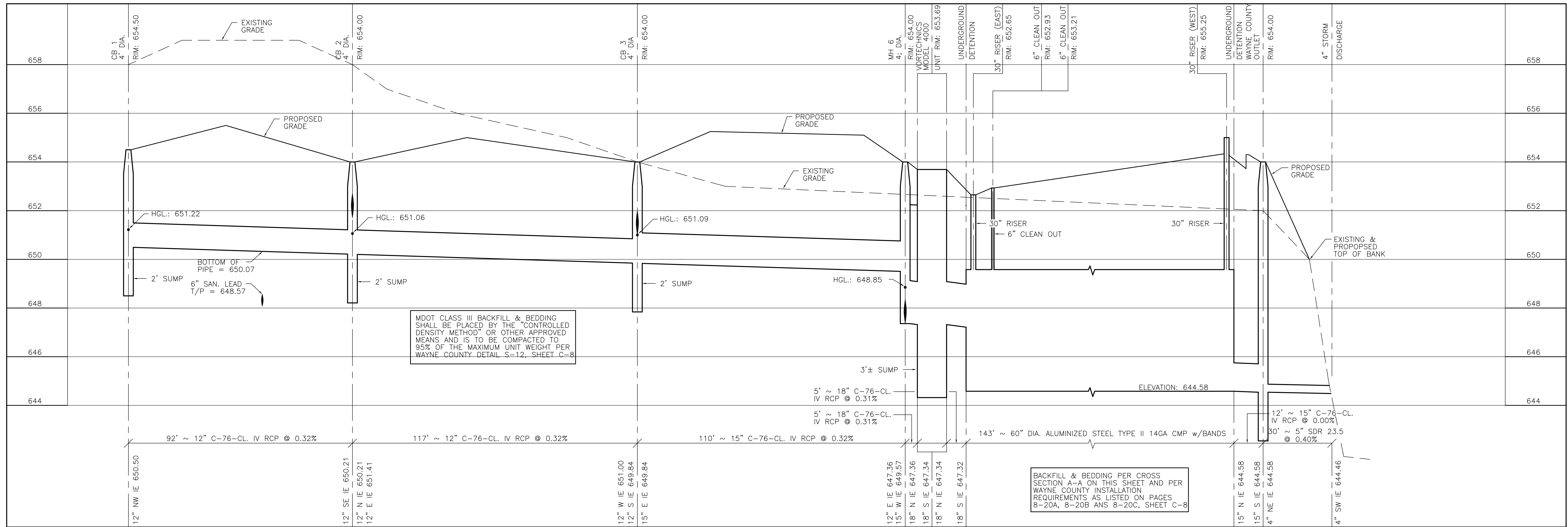
CLIENT:
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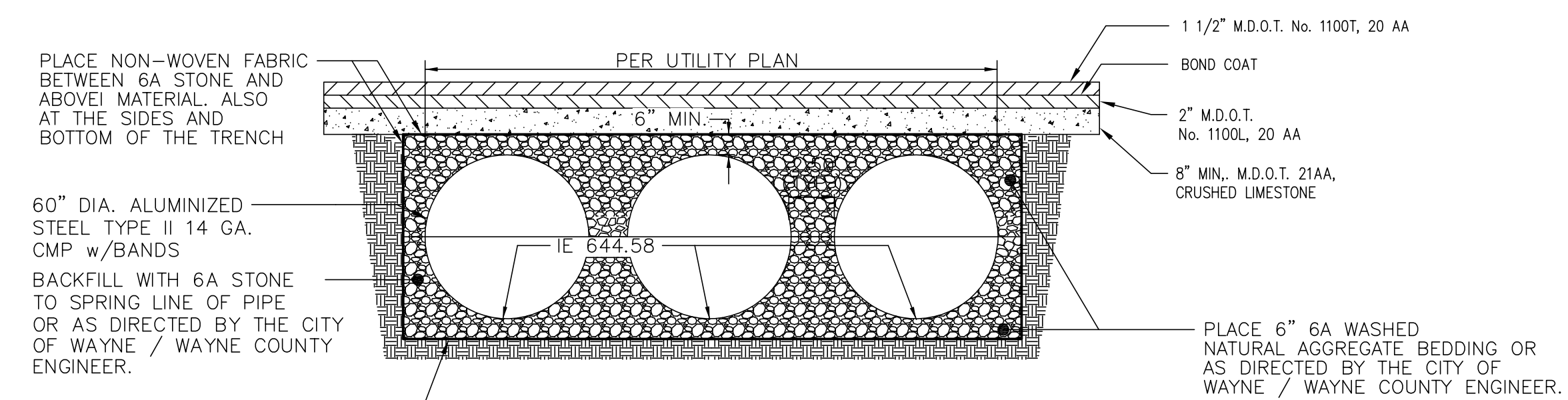
GLA SURVEYORS & ENGINEERS

SOIL EROSION PLAN
JACK DEMMER FORD
37410-37434 MICHIGAN AVENUE
PART OF THE N.E. 1/4 SEC. 31
CITY OF WAYNE, MICHIGAN

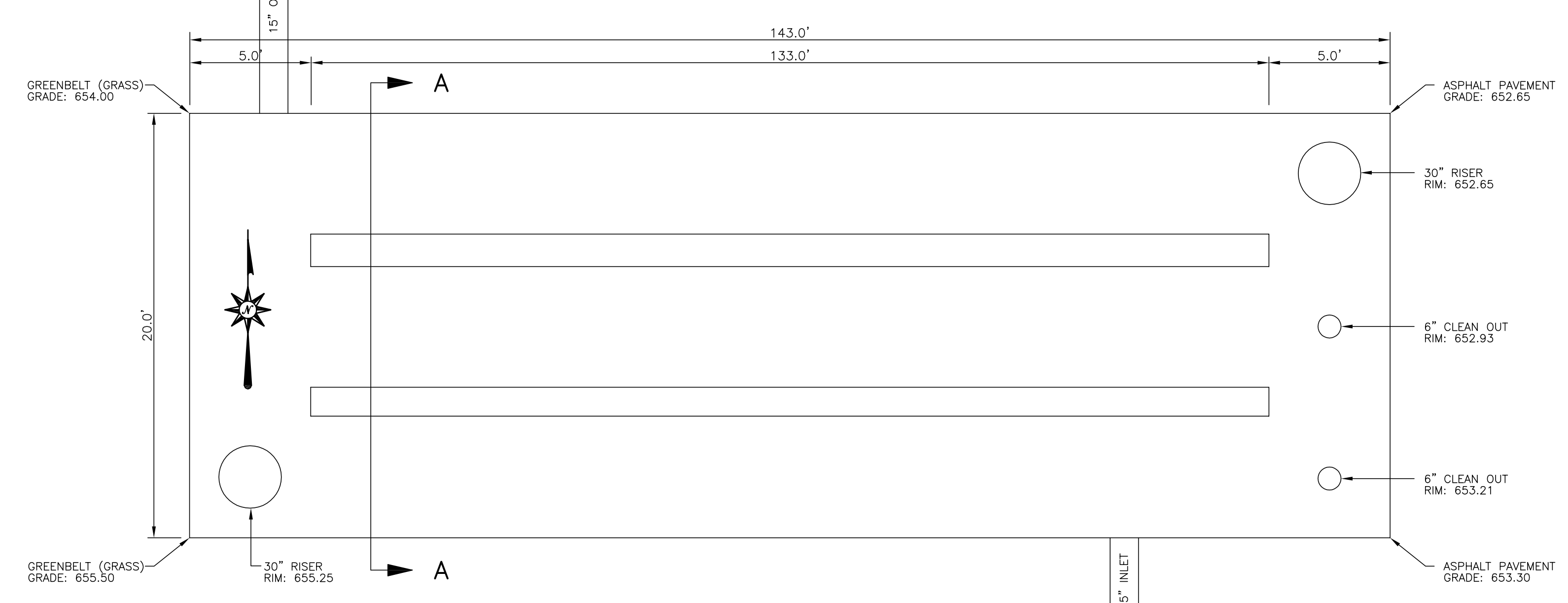
11/14/13
12/18/13 CITY/COUNTY SUBMITTAL
1/15/14 SITE DEVELOPMENT PERMIT
5/16/14 PER WAYNE COUNTY/WDCO
7/28/14 PER WAYNE COUNTY
9/29/14 AMEND PER #37458
10/6/14 PER MEETING



37410 MICHIGAN AVENUE STORM SEWER – JACK DEMMER "QUICKLANE"



DETENTION BARREL CROSS-SECTION A-A
NOT TO SCALE



PROPOSED PRE-TREATMENT UNIT

THE REQUIRED PRE-TREATMENT UNIT SHALL BE AN APPROVED WAYNE COUNTY PRE-TREATMENT UNIT DESIGNED TO HANDLE THE DESIGN PEAK FLOW OF 4.88 cfs.
VORTECHNICS..... 5000 MODEL

PROPOSED UNDERGROUND DETENTION

THE REQUIRED UNDERGROUND DETENTION SHALL BE 60" DIA. ALUMINIZED STEEL TYPE II 14 GA. CMP w/BANDS.

WAYNE COUNTY GENERAL NOTES

- ALL WORK WITHIN THE WAYNE COUNTY ROAD RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS, INCLUDING SOIL EROSION AND SEDIMENTATION CONTROL OF THE WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES, AND MDOT 2012 SPECIFICATIONS FOR CONSTRUCTION.
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- CONTRACTOR SHALL NOTIFY WAYNE COUNTY 72 HOURS PRIOR TO START OF CONSTRUCTION. CONTACT MR. CHARLES SMITH AT (734) 595-6504 EXTENSION 2009.
- THE STORM DRAINAGE SYSTEM FROM THE MECHANICAL TREATMENT SYSTEM TO THE DISCHARGE POINT SHALL BE WAYNE COUNTY TESTED MATERIAL.
- PLACE THE PROPOSED SEWERS AND DRAINAGE STRUCTURES UNDER WAYNE COUNTY JURISDICTION PER COUNTY DETAIL "S-12" OR AS DIRECTED BY THE COUNTY ENGINEER. DETAIL HAS BEEN ADDED TO SHEETS C-8, C-8a, C-9, C-9a AND C-10.
- THE MANUFACTURER OF THE STORM TREATMENT SYSTEM MUST CONTACT THE WAYNE COUNTY TESTING OFFICE AT 734-595-6504 EXT. 2015 THREE BUSINESS DAYS PRIOR TO FABRICATIONS TO SCHEDULE INSPECTION DURING FABRICATION OF STORM WATER TREATMENT SYSTEM (STRUCTURE, DETENTION PIPES, ECT.).

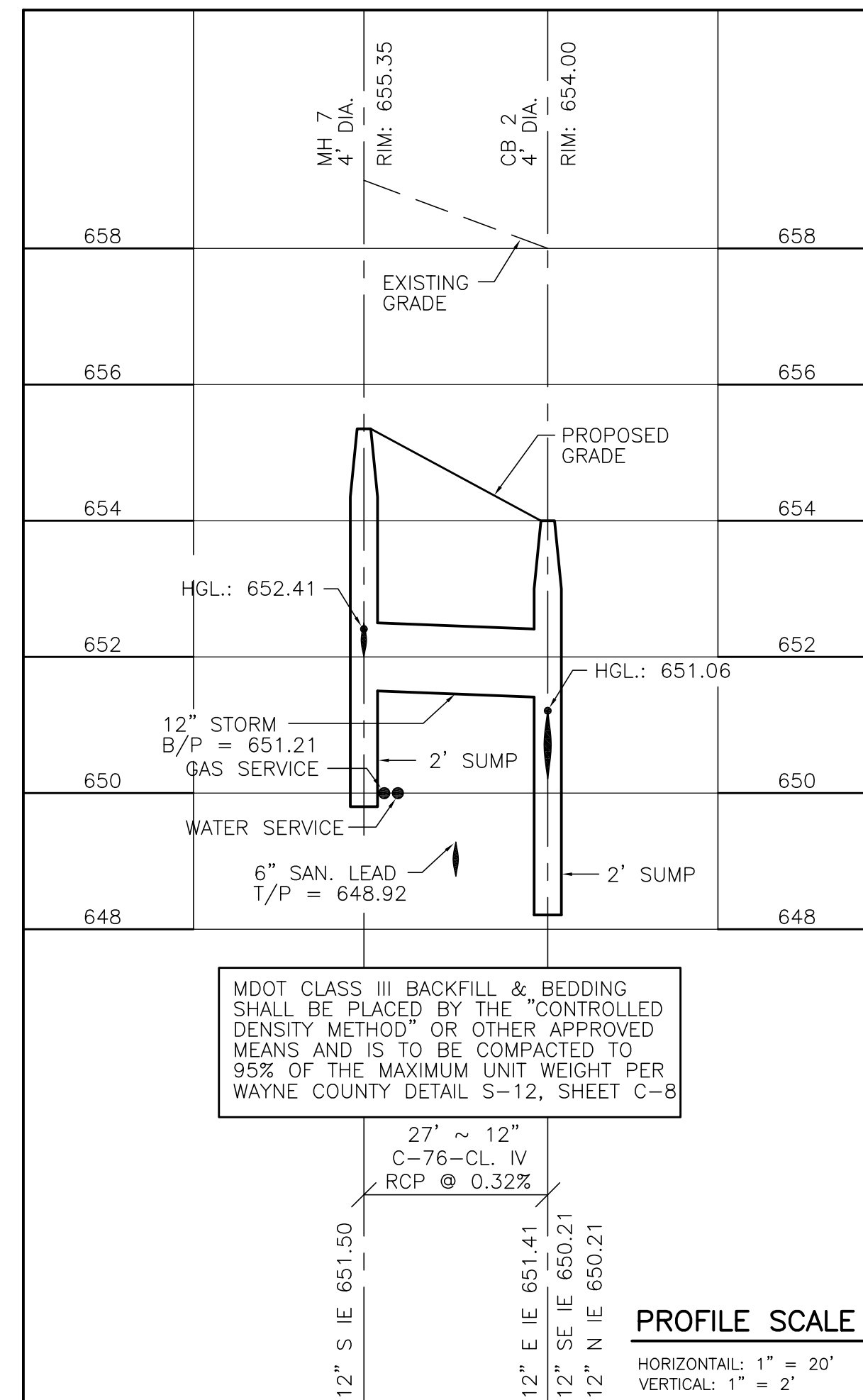
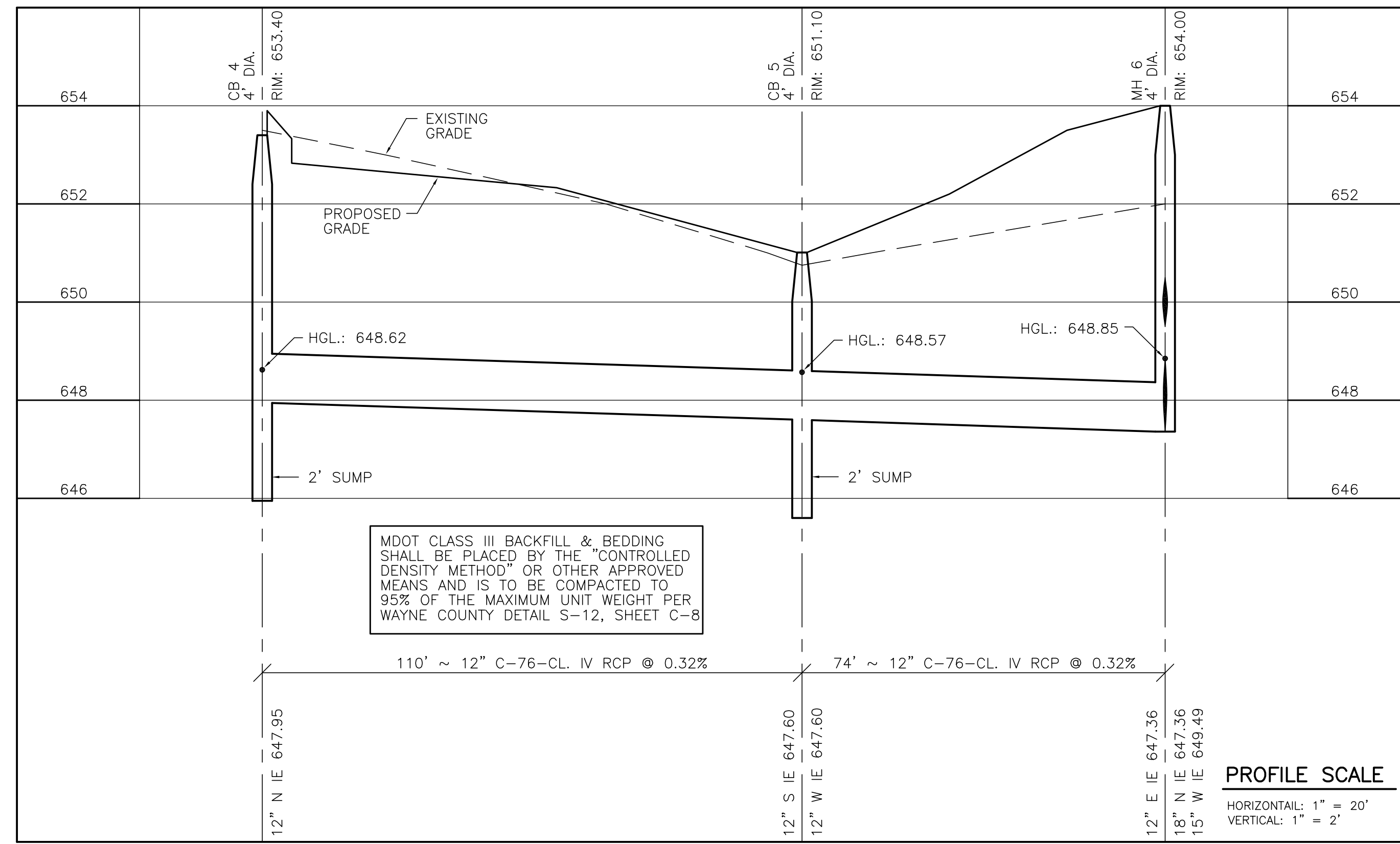
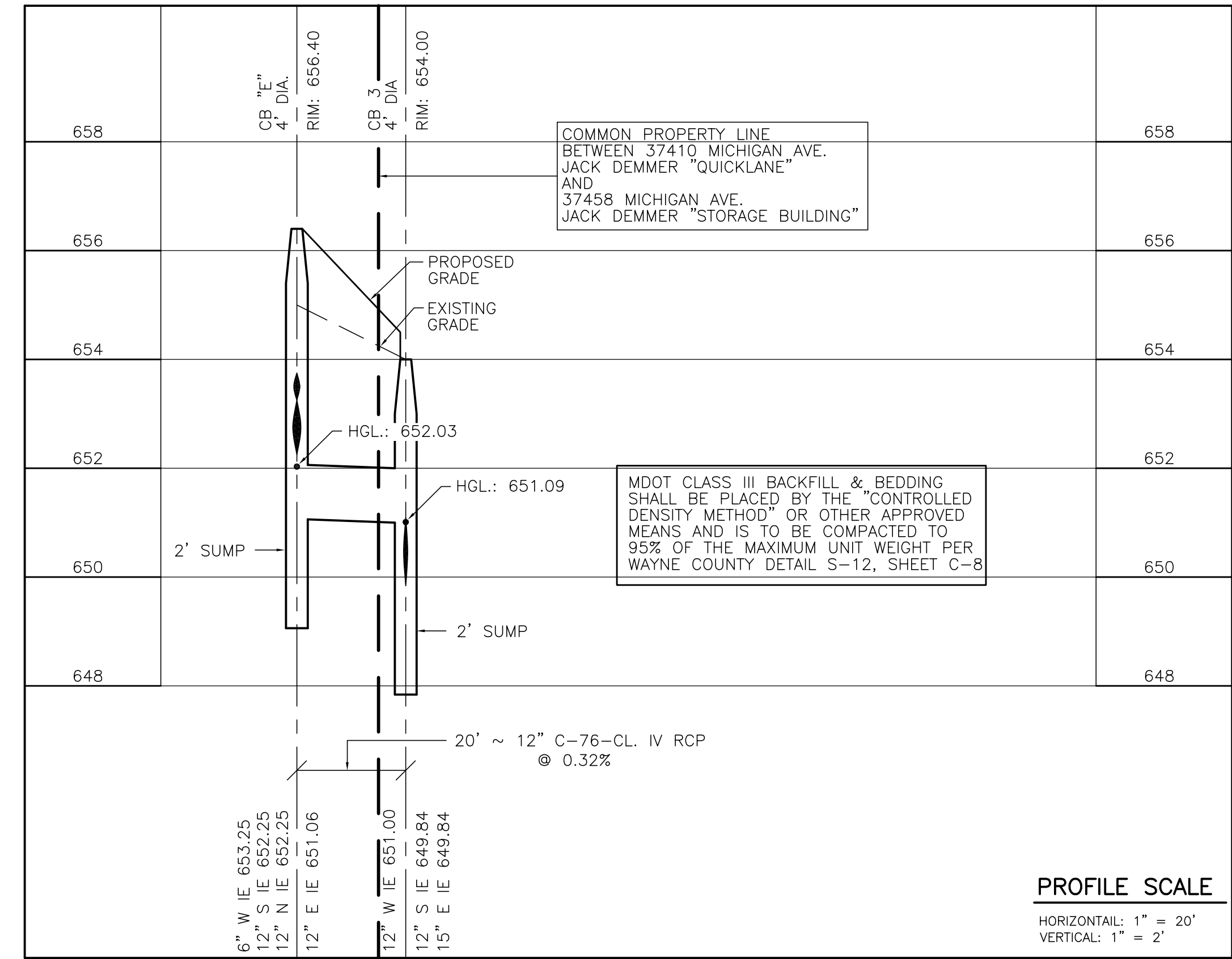
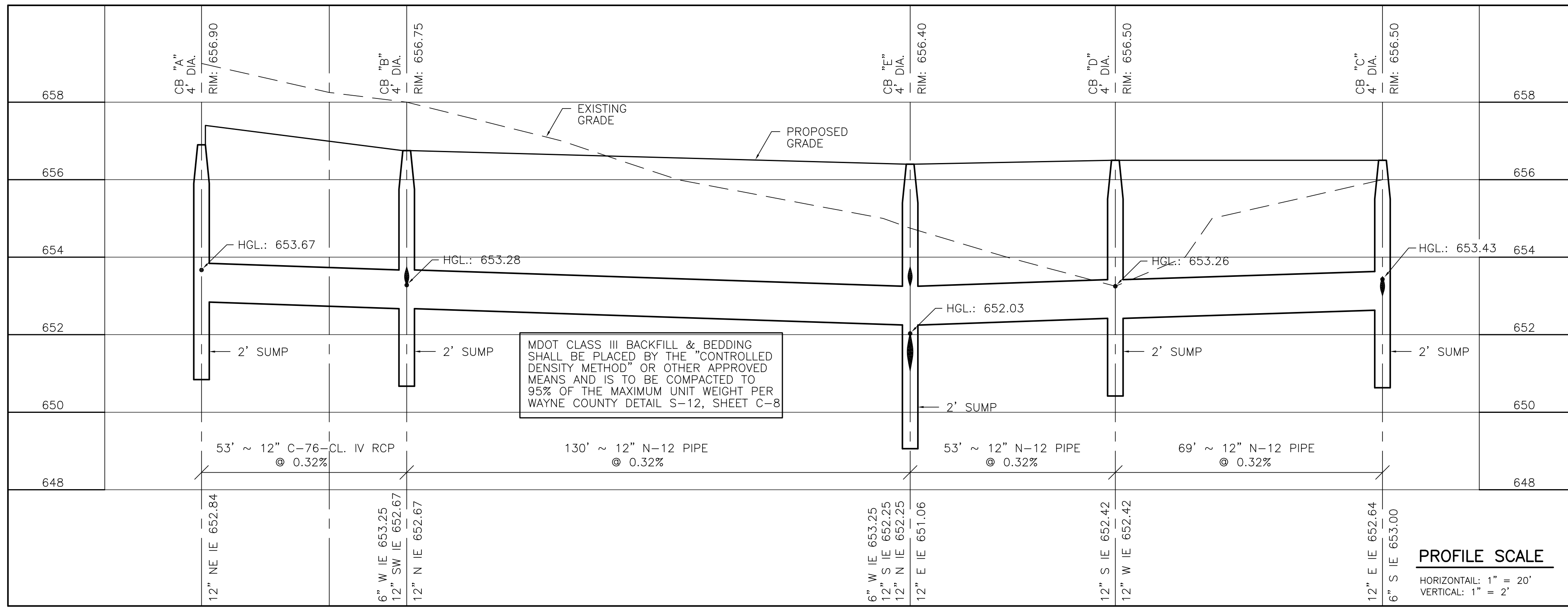
FILE NO.: 689-190	DWG. NO.: 689-190ENG
DESIGNED BY: S.A.S.	SHEET No. C-9
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

CLIENT:
12/18/13
2/10/14 PER CITY OF WAYNE REVIEW
5/16/14 PER WAYNE COUNTY/MDEQ
7/28/14 PER WAYNE COUNTY
8/27/14 PER WAYNE COUNTY
9/29/14 AMEND PER #37458
10/6/14 PER MEETING

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STORM SEWER PROFILES
JACK DEMMER FORD – QUICKLANE
37458 MICHIGAN AVENUE
PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
CITY OF WAYNE, WAYNE COUNTY, MICHIGAN



CLIENT: 12/18/13
 1/15/14 SITE DEVELOPMENT PERMIT
 2/10/14 PER CITY OF WAYNE REVIEW
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 VORTECHNICS..... 5000 MODEL

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FILE NO.: 689-190	DWG. NO.: 689-190ENG
DESIGNED BY: S.A.S.	SHEET No. C-9a
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

STORM SEWER PROFILES
 JACK DEMMER FORD – QUICKLANE
 37458 MICHIGAN AVENUE
 PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
 CITY OF WAYNE, WAYNE COUNTY, MICHIGAN

PREVIOUSLY APPROVED CALCULATIONS (QUICKLANE SITE ONLY)
 PERMIT No. C-47783. ISSUE DATE 9/9/2014. REVIEW No. R 13-340

RUNOFF COEFFICIENT

ROOF/ASPHALT:	0.91ac	0.95
LAWN/GRASS/LANDSCAPING:	0.03ac	0.25

$C = (0.91)(0.95) + (0.03)(0.25) / 0.94 = 0.93$

REQUIRED VOLUME

$Q_0 =$ MAXIMUM ALLOWABLE OUTFLOW RATE FROM THE DETENTION SYSTEM (cfs)

$Q_0 = 0.15cfs / acres \times "A"$
 $Q_0 = 0.15cfs \times 0.94ac = 0.14cfs$

$Q_0 =$ MAXIMUM ALLOWABLE OUTFLOW RATE PER ACRE IMPERVIOUSNESS (cfs/acre imperviousness)

$Q_0 = Q_0 / (A \times C)$
 $Q_0 = 0.14 / (0.94 \times 0.93) = 0.16cfs / acres \text{ imperviousness}$

$T_{10} =$ STORAGE TIME DEFINED AS THE INSTANT STORAGE BEGINS UNTIL PEAK STORAGE IS ATTAINED (minutes)

$T_{10} = -19.9 + \sqrt{4530 / Q_0}$
 $T_{10} = -19.9 + \sqrt{4530 / 0.16} = 148.36 \text{ minutes}$

$V_{s10} =$ MAXIMUM VOLUME OF WATER STORED IN THE DETENTION SYSTEM PER ACRE IMPERVIOUSNESS (cf/acre imperviousness)

$V_{s10} = [(9108 \times T_{10}) / (T_{10} + 19.9)] - 40 \times Q_0 \times T_{10}$
 $V_{s10} = [(9108 \times 148.36) / (148.36 + 19.9)] - 40 \times 0.16 \times 148.36 = 7081.30cf / acre \text{ imperviousness} \dots \text{ say } 7082$

$V_{t10} =$ MAXIMUM VOLUME OF WATER STORED IN THE DETENTION SYSTEM (cf)

$V_{t10} = V_{s10} \times A \times C$
 $V_{t10} = 7082 \times 0.94 \times 0.93 = 6191.08cf \dots \text{ say } 6192cf$

$V_{tbf} =$ BANK FULL FLOOD STORAGE VOLUME (cf)

$V_{tbf} = 5160 \times A \times C$
 $V_{tbf} = 5160 \times 0.94 \times 0.93 = 4510.87cf \dots \text{ say } 4511cf$

STORAGE PROVIDED

PIPE DIAMETER = 60"
 CROSS-SECTIONAL AREA = 19.635sf
 REQUIRED LINEAR FOOTAGE = 6192 / 19.635sf = 315.36
 PROVIDED LINEAR FOOTAGE = 325
 TOTAL DETENTION PROVIDED = 325 x 19.635 = 6381.38cf

$V_{tbf} - \text{adjusted} = 4511cf / 325 = 13.88sf$

Water Depth = 3.33'

$Z_{10bf} =$ BANK FULL FLOOD STORAGE ELEVATION

$Z_{10bf} = 644.58 + 3.33 = 647.91$

$Z_{10} =$ 10-YEAR STORM ELEVATION

$Z_{10} - \text{adjusted} = 6192cf / 325 = 19.05sf$

Water Depth = 4.66'

$Z_{10} = 644.58 + 4.66 = 649.24$

CONTROL OUTLET STRUCTURE DESIGN

SIZING FOR BANK FULL FLOOD

$Q_{ave} = 0.031cfs = V_{tbf} / (40 \times 3600)$

$h_{ave} = 1.67 = 0.5 \times (Z_{bf} - Z_0) + (Z_0 - Z_{out})$

$A = 0.00482sf = Q_{avg} / (0.62 \times (32.2 \times 2 \times h_{avg})^{0.5})$

Hole Dia. = 1-INCH

Hole # = 0.884

USE 1 Hole @ Elevation 644.58

$A_{actual} = 0.00545 = \text{No. Holes} \times \text{Area of Hole}$

$Q_{ave \text{ actual}} = 0.035cfs = (0.62 \times A_{actual} \times (32.2 \times 2 \times h_{avg})^{0.5})$

$\text{Actual Time} = 35.80hrs = V_{tbf} / (Q_{avg \text{ actual}} \times 3600)$

SIZING FOR 10-YEAR FLOOD

$Q_{peak} = 0.14cfs = Q_0$

CALCULATE FOR BANK FULL HOLE(S) CONTRIBUTION

$h_{ave} (bf) = 4.66' = Z_{10} - Z_0 + (Z_0 - Z_{out})$

$Q_{avg} (bf) = 0.059cfs = (0.62 \times A_{actual} (bf) \times (32.2 \times 2 \times h_{avg} (bf))^{0.5})$

EXTRA HOLE(S) REQUIRED

$Q_{adjusted} = 0.081cfs = Q_{peak} - Q_{avg} (bf)$

$h_{max} = 1.33 = Z_{10} - Z_{bf}$

$A = 0.0141sf = Q_{adjusted} / (0.62 \times (32.2 \times 2 \times h_{max})^{0.5})$

Hole Size = 1-INCH = 0.00545sf

Hole # = 2.58 = A / 0.00545

USE (2) Holes @ Elevation 647.91

$A_{actual} = 0.0109sf = \text{No. Holes} \times \text{Area of Hole}$

$Q_{actual} = 0.148cfs = Q_{avg} (bf) + (0.62 \times A_{actual} \times (32.2 \times 2 \times h_{max})^{0.5})$

OUTLET DESIGN

$Q_{peak} = 0.14cfs$

Pipe Size = 4"

$n = 0.012$

Area = 0.087sf

$R = 0.166'$

Slope = 0.45%

$V = 1.57fps$

CALCULATIONS FOR COMBINED SITES

RUNOFF COEFFICIENT

	"QUICKLANE SITE"	"STORAGE BUILDING SITE"
ROOF/ASPHALT:	0.91ac	0.95
LAWN/GRASS/LANDSCAPING:	0.03ac	0.25
	0.44ac	0.25

$C = (0.91)(0.95) + (0.03)(0.25) + (0.28)(0.95) + (0.38)(0.25) / 1.66 = 0.75$

REQUIRED VOLUME

$Q_0 =$ MAXIMUM ALLOWABLE OUTFLOW RATE FROM THE DETENTION SYSTEM (cfs)

$Q_0 = 0.15cfs / acres \times "A"$
 $Q_0 = 0.15cfs \times 1.66ac = 0.24cfs$

$Q_0 =$ MAXIMUM ALLOWABLE OUTFLOW RATE PER ACRE IMPERVIOUSNESS (cfs/acre imperviousness)

$Q_0 = Q_0 / (A \times C)$
 $Q_0 = 0.24 / (1.66 \times 0.75) = 0.19cfs / acres \text{ imperviousness}$

$T_{10} =$ STORAGE TIME DEFINED AS THE INSTANT STORAGE BEGINS UNTIL PEAK STORAGE IS ATTAINED (minutes)

$T_{10} = -19.9 + 4530 / Q_0$
 $T_{10} = -19.9 + 4530 / 0.19 = 134.51 \text{ minutes}$

$V_{s10} =$ MAXIMUM VOLUME OF WATER STORED IN THE DETENTION SYSTEM PER ACRE IMPERVIOUSNESS (cf/acre imperviousness)

$V_{s10} = [(9108 \times T_{10}) / (T_{10} + 19.9)] - 40 \times Q_0 \times T_{10}$
 $V_{s10} = [(9108 \times 134.51) / (134.51 + 19.9)] - 40 \times 0.16 \times 134.51 = 6911.91cf / acre \text{ imperviousness} \dots \text{ say } 6912$

$V_{t10} =$ MAXIMUM VOLUME OF WATER STORED IN THE DETENTION SYSTEM (cf)

$V_{t10} = V_{s10} \times A \times C$
 $V_{t10} = 6912 \times 1.66 \times 0.75 = 8605.44cf \dots \text{ say } 8606cf$

$V_{tbf} =$ BANK FULL FLOOD STORAGE VOLUME (cf)

$V_{tbf} = 5160 \times A \times C$
 $V_{tbf} = 5160 \times 1.66 \times 0.75 = 6424.20cf \dots \text{ say } 6425cf$

STORAGE PROVIDED

PIPE DIAMETER = 60"
 CROSS-SECTIONAL AREA = 19.635sf
 REQUIRED LINEAR FOOTAGE = 8606 / 19.635sf = 438.30
 PROVIDED LINEAR FOOTAGE = 439
 TOTAL DETENTION PROVIDED = 439 x 19.635 = 8619.77cf

$V_{tbf} - \text{adjusted} = 6425cf / 439 = 14.64sf$

Water Depth = 3.49'

$Z_{10bf} =$ BANK FULL FLOOD STORAGE ELEVATION

$Z_{10bf} = 644.58 + 3.49 = 648.07$

$Z_{10} =$ 10-YEAR STORM ELEVATION

$Z_{10} - \text{adjusted} = 8606cf / 439 = 19.60sf$

Water Depth = 4.95'

$Z_{10} = 644.58 + 4.95 = 649.53$

CONTROL OUTLET STRUCTURE DESIGN

SIZING FOR BANK FULL FLOOD

$Q_{ave} = 0.045cfs = V_{tbf} / (40 \times 3600)$

$h_{ave} = 1.75 = 0.5 \times (Z_{bf} - Z_0) + (Z_0 - Z_{out})$

$A = 0.0068sf = Q_{avg} / (0.62 \times (32.2 \times 2 \times h_{avg})^{0.5})$

Hole Dia. = 1-INCH

Hole # = 1.247

USE 1 Hole @ Elevation 644.58

$A_{actual} = 0.00545 = \text{No. Holes} \times \text{Area of Hole}$

$Q_{ave \text{ actual}} = 0.036cfs = (0.62 \times A_{actual} \times (32.2 \times 2 \times h_{avg})^{0.5})$

$\text{Actual Time} = 49.58hrs = V_{tbf} / (Q_{avg \text{ actual}} \times 3600)$

SIZING FOR 10-YEAR FLOOD

$Q_{peak} = 0.24cfs = Q_0$

CALCULATE FOR BANK FULL HOLE(S) CONTRIBUTION

$h_{ave} (bf) = 4.95' = Z_{10} - Z_0 + (Z_0 - Z_{out})$

$Q_{avg} (bf) = 0.060cfs = (0.62 \times A_{actual} (bf) \times (32.2 \times 2 \times h_{avg} (bf))^{0.5})$

EXTRA HOLE(S) REQUIRED

$Q_{adjusted} = 0.18cfs = Q_{peak} - Q_{avg} (bf)$

$h_{max} = 1.46 = Z_{10} - Z_{bf}$

$A = 0.0300sf = Q_{adjusted} / (0.62 \times (32.2 \times 2 \times h_{max})^{0.5})$

Hole Size = 1-INCH = 0.00545sf

Hole # = 5.50 = A / 0.00545

USE (5) Holes @ Elevation 648.07

$A_{actual} = 0.02725sf = \text{No. Holes} \times \text{Area of Hole}$

$Q_{actual} = 0.22cfs = Q_{avg} (bf) + (0.62 \times A_{actual} \times (32.2 \times 2 \times h_{max})^{0.5})$

OUTLET DESIGN

$Q_{peak} = 0.24cfs$

Pipe Size = 5"

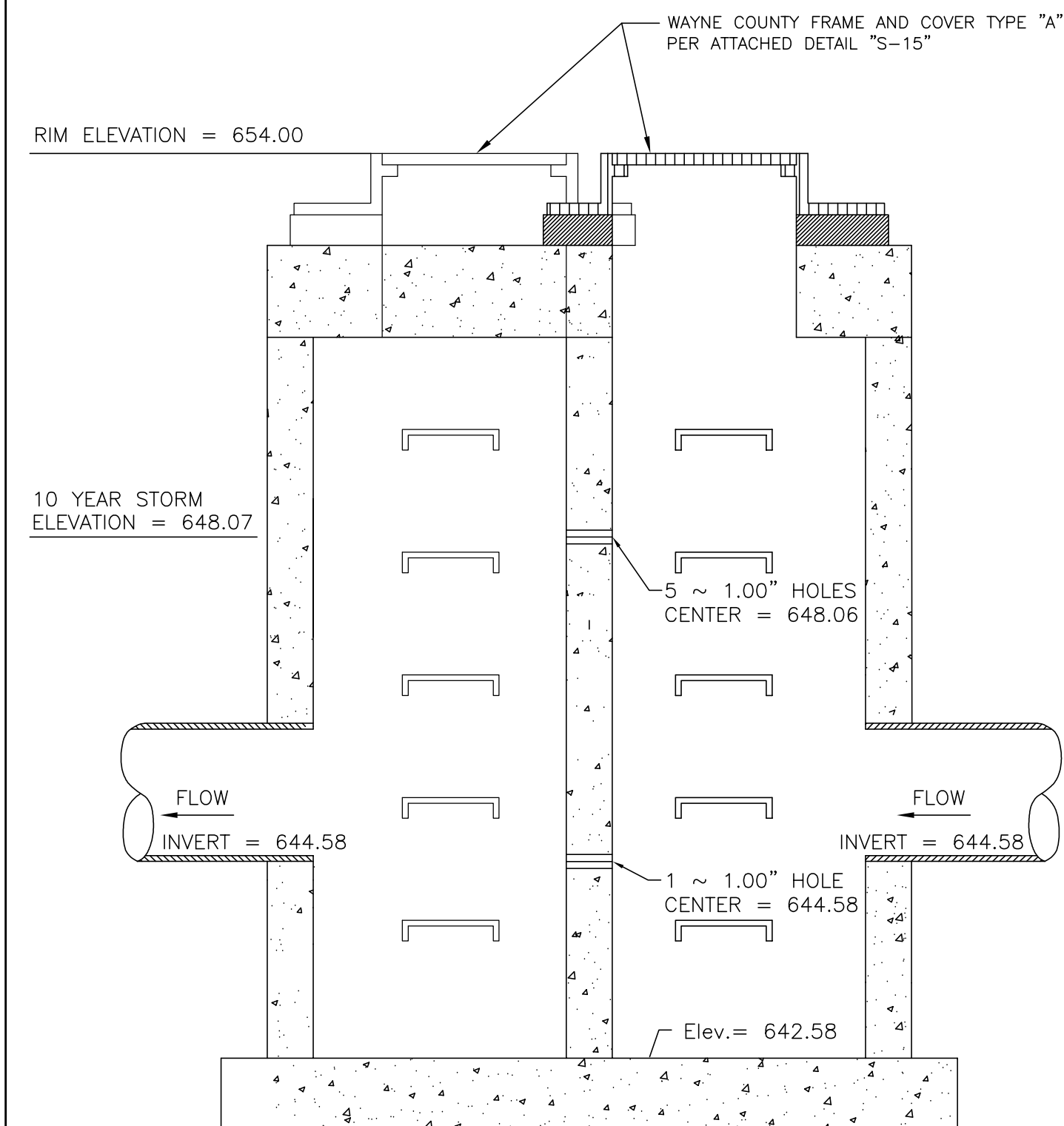
$n = 0.012$

Area = 0.1385sf

$R = 0.21'$

Slope = 0.40%

$V = 1.74fps$



CONSTRUCT THE OUTLET CONTROL STRUCTURE PER THE ATTACHED WAYNE COUNTY FR-1 DETAIL FOR FLOW RESTRICTOR WITH NO OVER FLOW LOCATED ON SHEET C-14

OUTLET CONTROL STRUCTURE

NO SCALE

THE MANUFACTURER OF THE STORM TREATMENT SYSTEM MUST CONTACT THE WAYNE COUNTY TESTING OFFICE AT 734-595-6504 EXT. 2015 THREE BUSINESS DAYS PRIOR TO FABRICATIONS TO SCHEDULE INSPECTION DURING FABRICATION OF STORM WATER TREATMENT SYSTEM (STRUCTURE, DETENTION PIPES, ECT.)

PROPOSED PRE-TREATMENT UNIT

THE REQUIRED PRE-TREATMENT UNIT SHALL BE AN APPROVED WAYNE COUNTY PRE-TREATMENT UNIT DESIGNED TO HANDLE THE DESIGN PEAK FLOW OF 4.88 cfs.

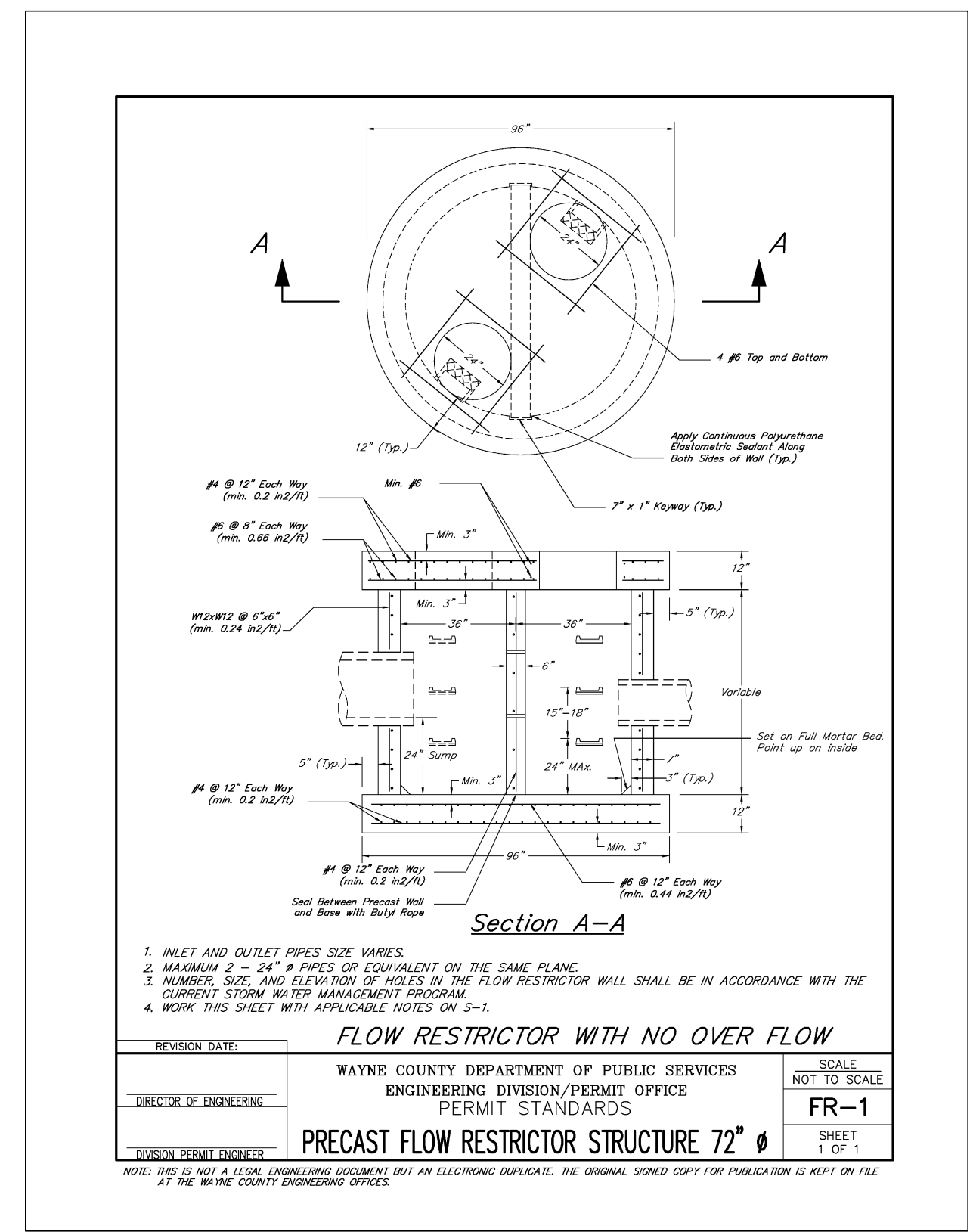
VORTECHNICS..... 5000 MODEL

PROPOSED UNDERGROUND DETENTION

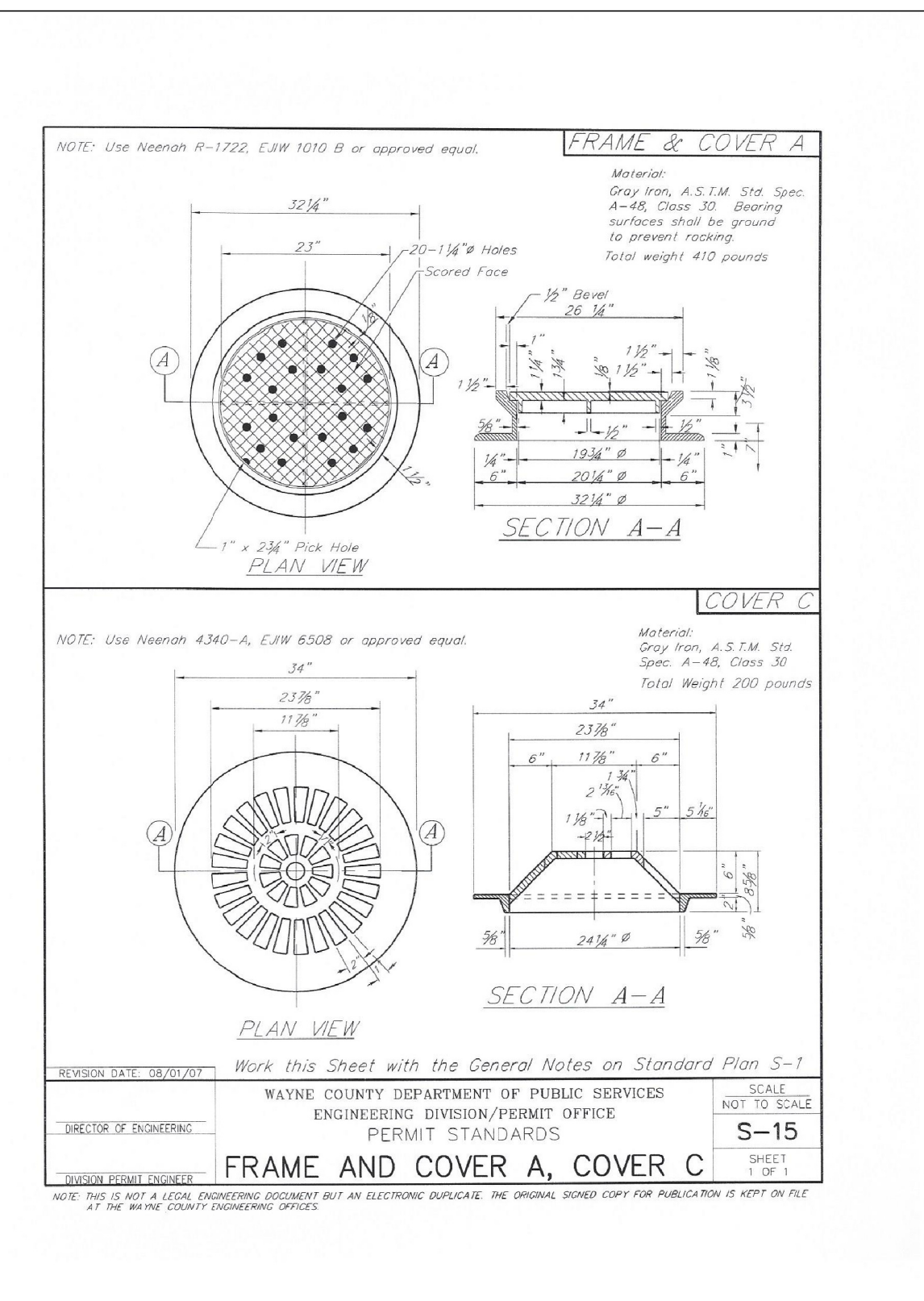
THE REQUIRED UNDERGROUND DETENTION SHALL BE AN APPROVED WAYNE COUNTY PIPE MATERIAL.

WAYNE COUNTY GENERAL NOTES

- ALL WORK WITHIN THE WAYNE COUNTY ROAD RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS, INCLUDING SOIL EROSION AND SEDIMENTATION CONTROL OF THE WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES, AND MDT 2012 SPECIFICATIONS FOR CONSTRUCTION.
- THESE PLANS ARE NOT VALID WITHOUT ATTACHMENT OF THE WAYNE COUNTY PERMIT SPECIFICATIONS FOR CONSTRUCTION WITHIN ROAD RIGHT-OF-WAY, PARKS, DRAIN EASEMENT OR SANITARY SEWER UNDER JURISDICTION OF THE WAYNE COUNTY (07/01/93) REVISED 12/15/2004.
- CONTRACTOR SHALL NOTIFY WAYNE COUNTY 72 HOURS PRIOR TO START OF CONSTRUCTION. CONTACT MR. CHARLES SMITH AT (734) 595-6504 EXTENSION 2009.
- THE STORM DRAINAGE SYSTEM FROM THE MECHANICAL TREATMENT SYSTEM TO THE DISCHARGE POINT SHALL BE WAYNE COUNTY TESTED MATERIAL.
- PLACE THE PROPOSED SEWERS AND DRAINAGE STRUCTURES UNDER WAYNE COUNTY JURISDICTION PER COUNTY DETAIL "S-12" OR AS DIRECTED BY THE COUNTY ENGINEER. DETAIL HAS BEEN ADDED TO SHEETS C-8, C-8a, C-9, C-9a AND C-10
- THE MANUFACTURER OF THE STORM TREATMENT SYSTEM MUST CONTACT THE WAYNE COUNTY TESTING OFFICE AT 734-595-6504 EXT. 2015 THREE BUSINESS DAYS PRIOR TO FABRICATIONS TO SCHEDULE INSPECTION DURING FABRICATION OF STORM WATER TREATMENT SYSTEM (STRUCTURE, DETENTION PIPES, ECT.)



THE MANUFACTURER OF THE STORM TREATMENT SYSTEM MUST CONTACT THE WAYNE COUNTY TESTING OFFICE AT 734-595-6504 EXT. 2015 THREE BUSINESS DAYS PRIOR TO FABRICATIONS TO SCHEDULE INSPECTION DURING FABRICATION OF STORM WATER TREATMENT SYSTEM (STRUCTURE, DETENTION PIPES, ECT.)



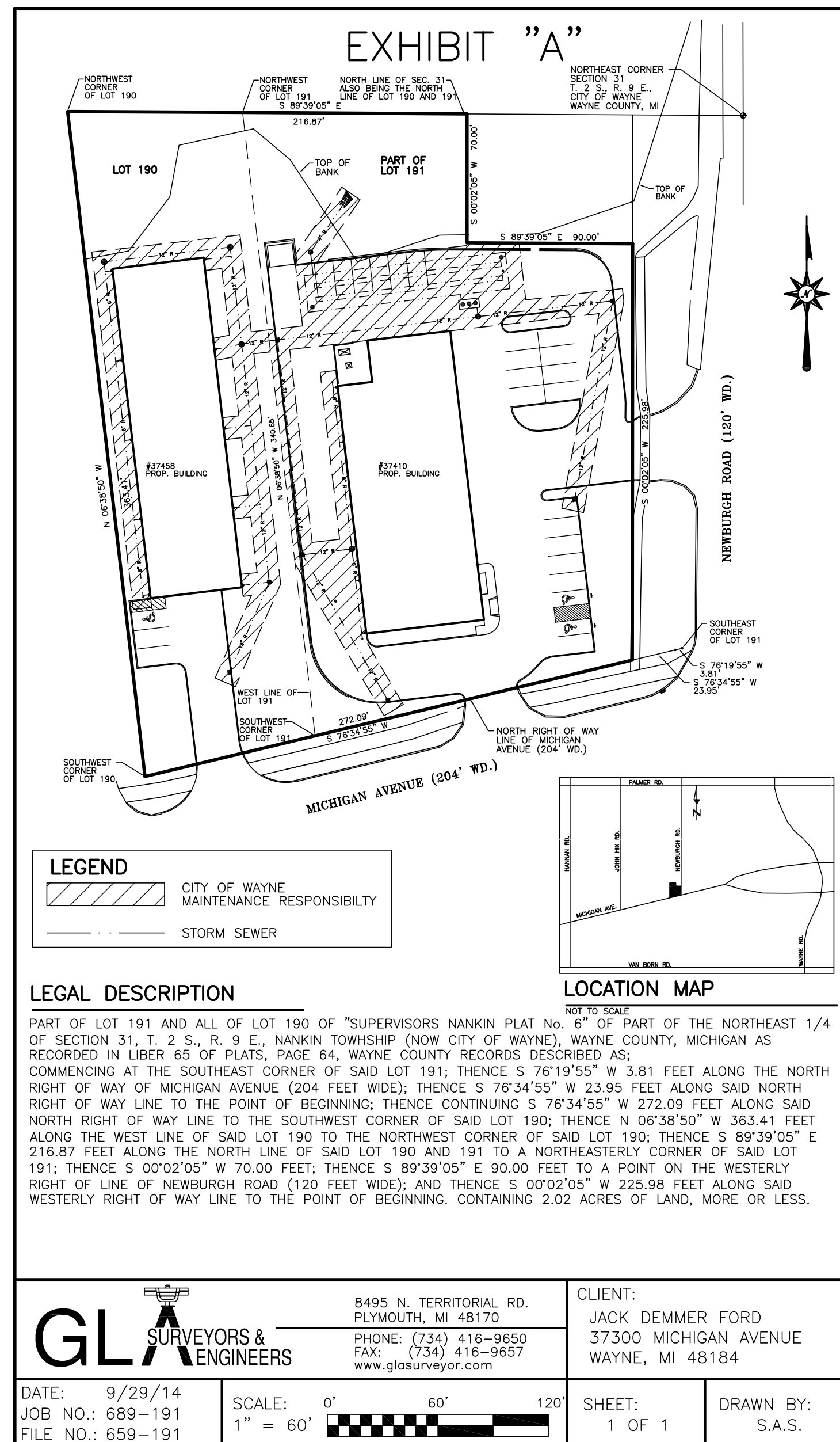
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DESIGNED BY: S.A.S.	SHEET No. C-10
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

CLIENT	12/18/13
1/15/15 SITE DEVELOPMENT PERMIT	
5/16/14 PER WAYNE COUNTY/MDAQ	
7/16/14 PER WAYNE COUNTY	
7/28/14 PER WAYNE COUNTY	
9/29/14 AMEND PER #37488	
10/3/14 PER MEETING w/ W.C.	

8495 N. TERRITORIAL RD.
 PLYMOUTH, MI 48170
 PHONE: (734) 416-9650
 FAX: (734) 416-9657
 www.glsurveyors.com

GLA SURVEYORS & ENGINEERS

STORM DETENTION CALCULATIONS
 JACK DEMMER FORD - QUICKLANE
 37458 MICHIGAN AVENUE
 PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
 CITY OF WAYNE, WAYNE COUNTY, MICHIGAN



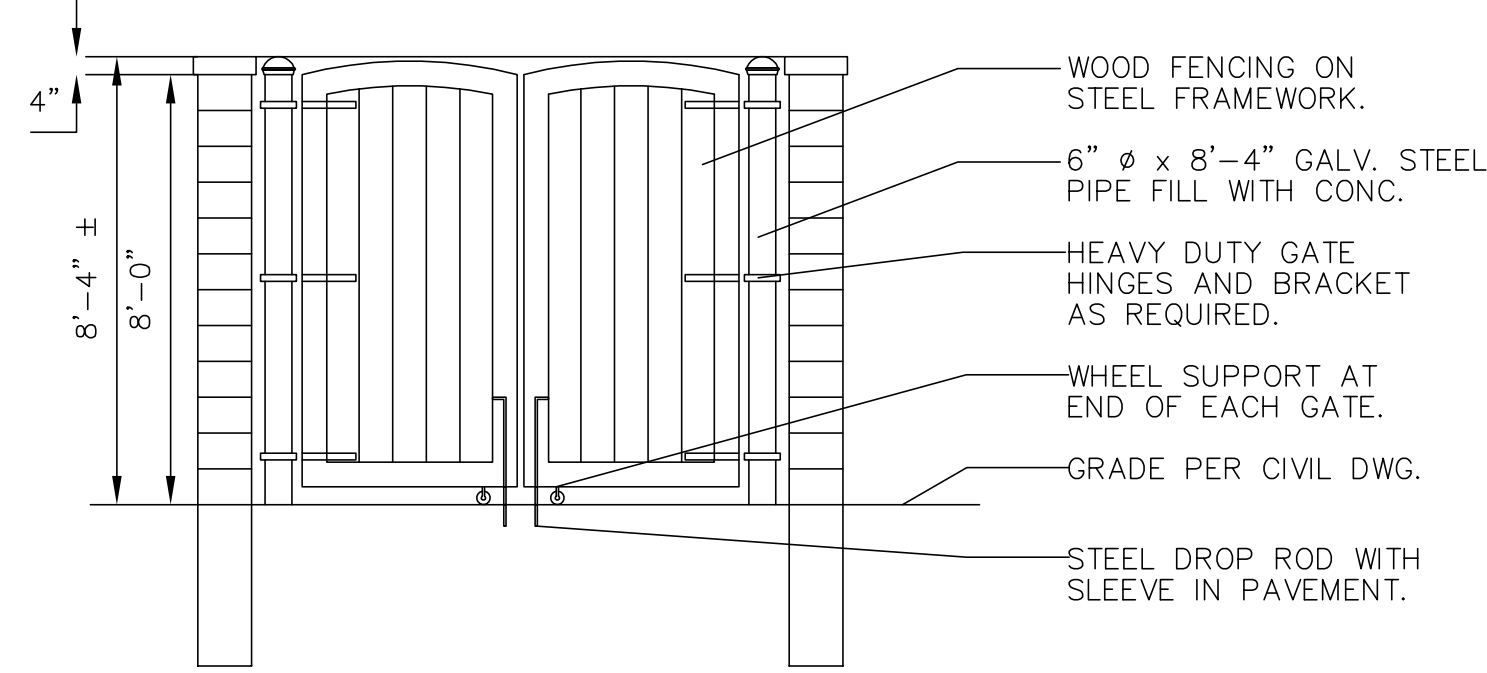
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DESIGNED BY: S.A.S.	C-13
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

CLIENT:	5/16/14
JACK DEMMER FORD	7/28/14 PER WAYNE COUNTY
37300 MICHIGAN AVENUE	9/29/14 AMEND PER #37458
WAYNE, MI 48184	10/6/14 PER MEETING

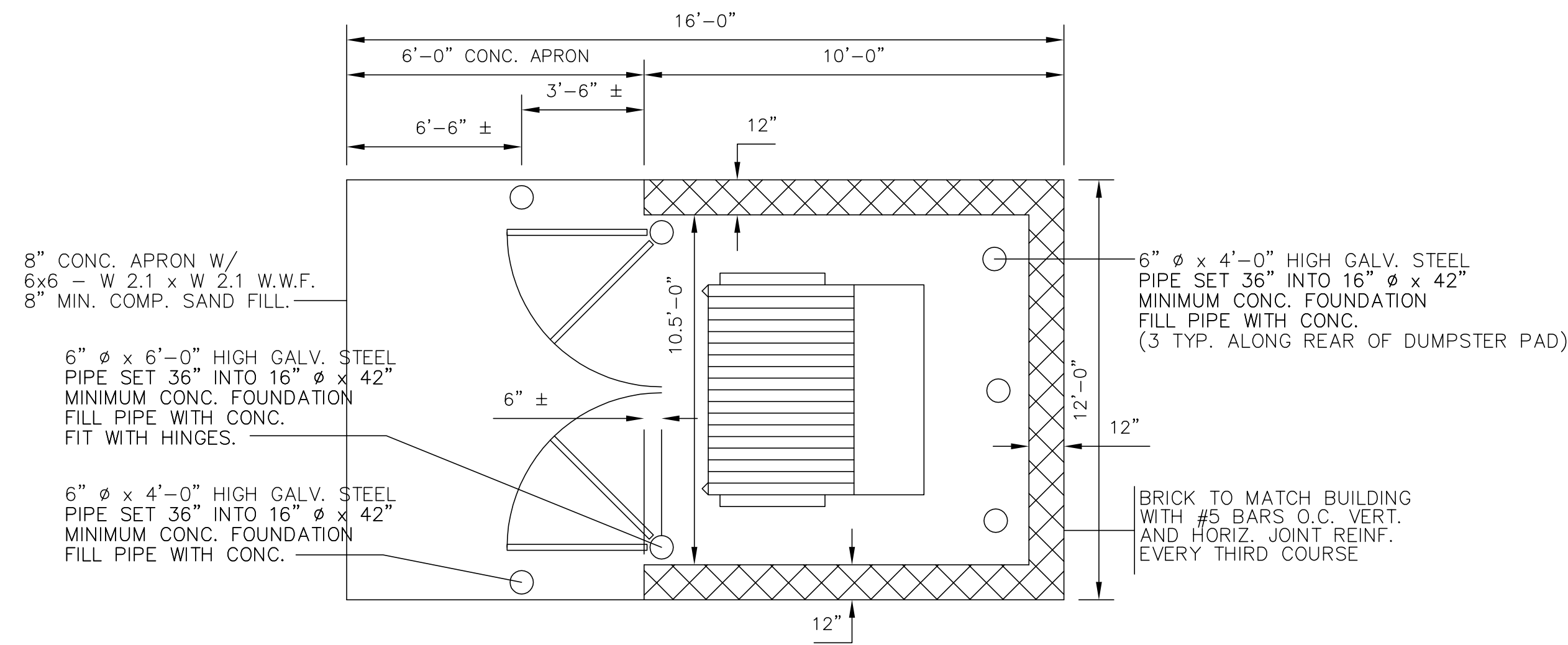
GLA SURVEYORS & ENGINEERS

8495 N. TERRITORIAL RD.
PLYMOUTH, MI 48170
PHONE: (734) 416-9650
FAX: (734) 416-9657
www.glasurveyor.com

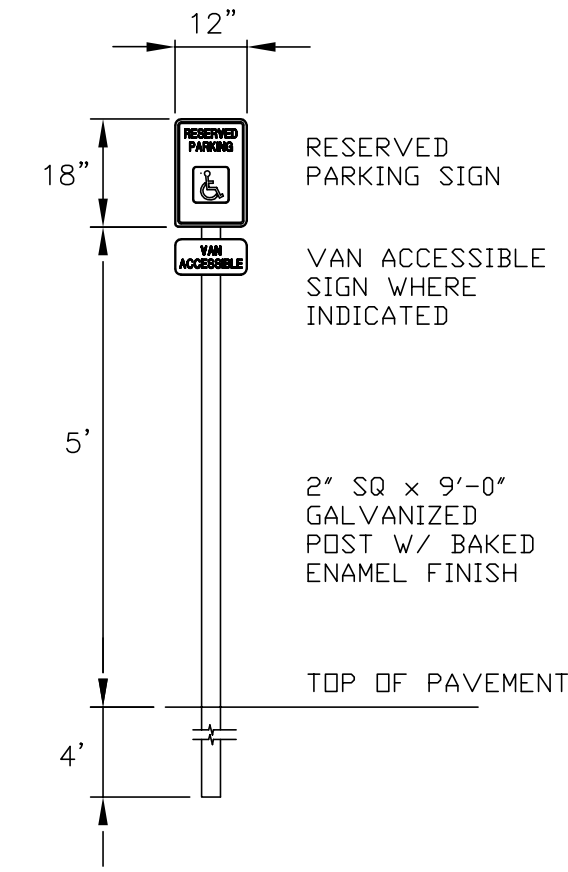
EXHIBIT A & B STORM DOCUMENTS
JACK DEMMER FORD
 37410-37434 MICHIGAN AVENUE
 PART OF THE N.E. 1/4 SEC. 31 T. 2 S., R. 9 E.,
 CITY OF WAYNE, WAYNE COUNTY, MICHIGAN



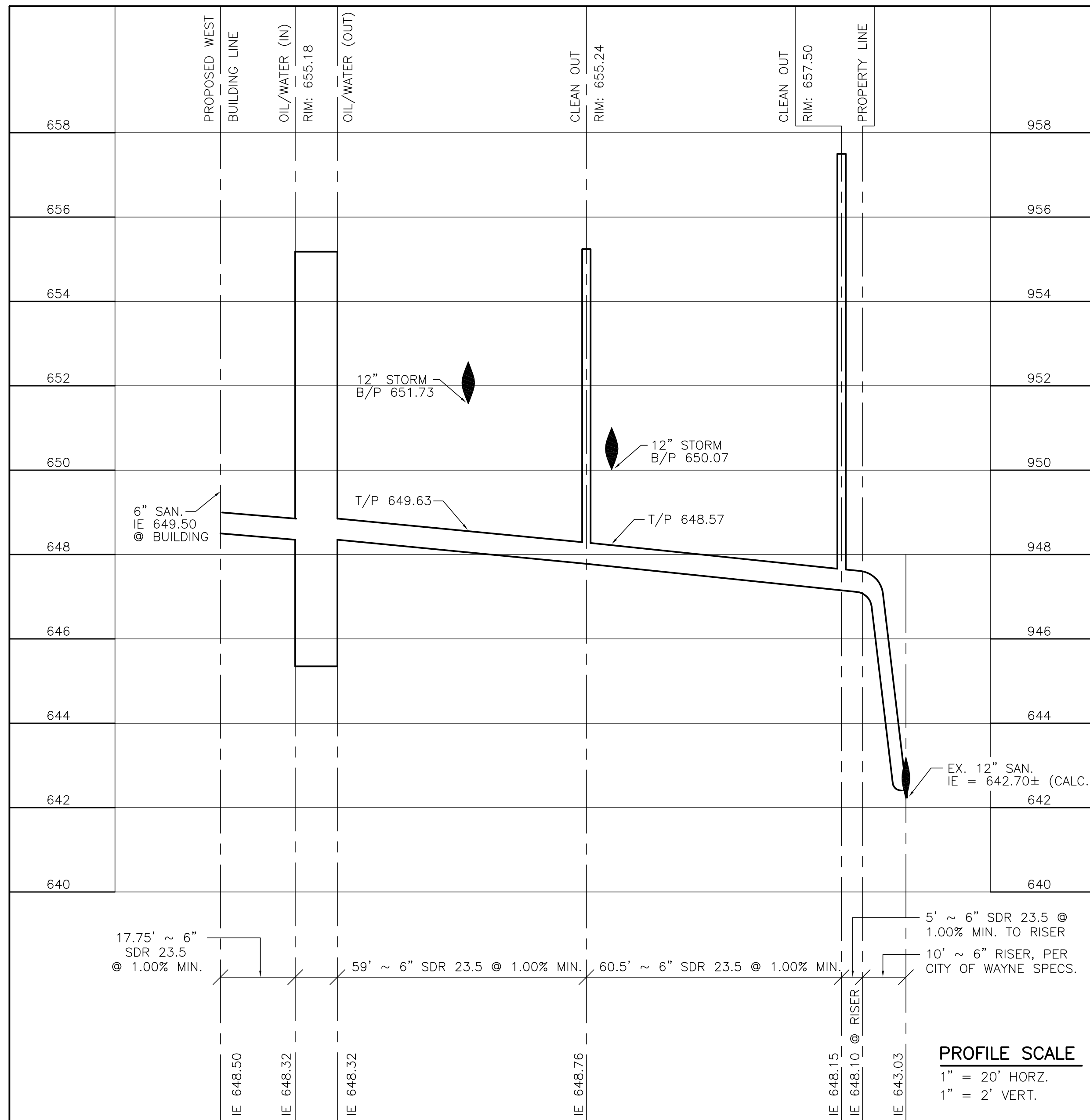
DUMPSTER ENCLOSURE ELEVATION
NO SCALE



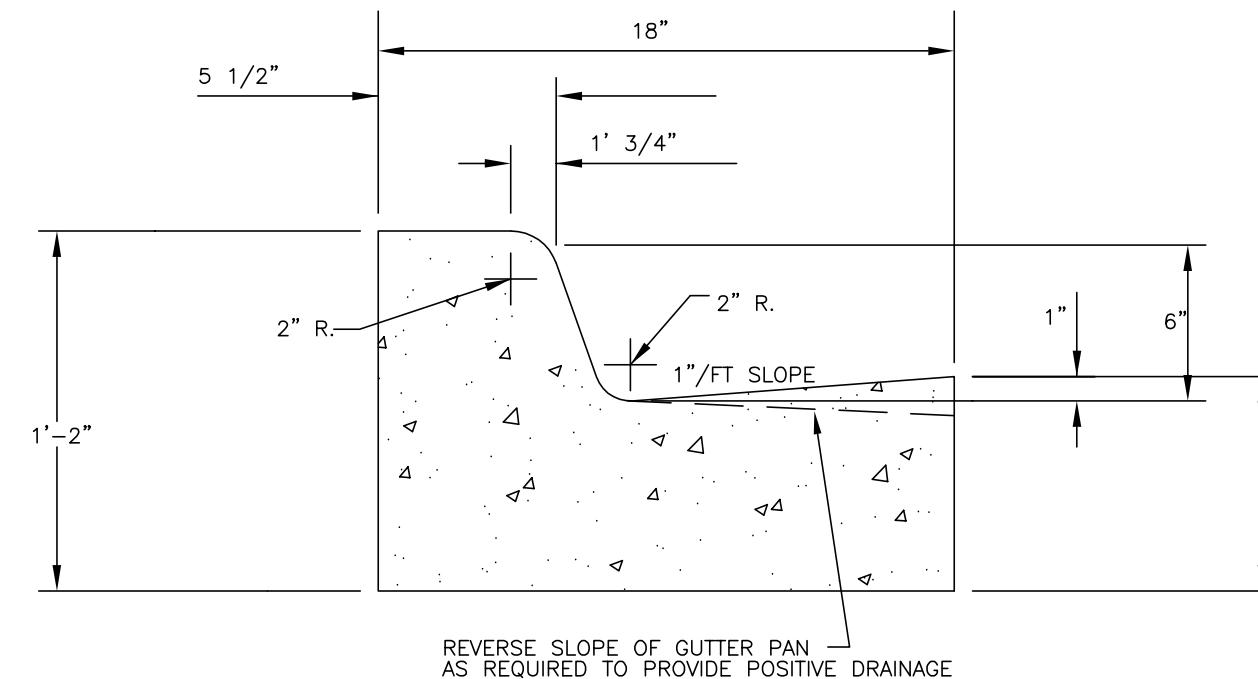
DUMPSTER ENCLOSURE PLAN
NO SCALE



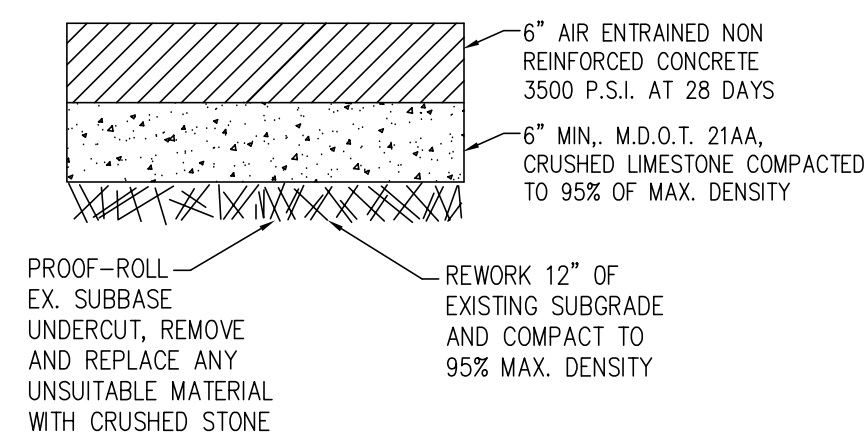
BARRIER FREE PARKING SIGN
NO SCALE



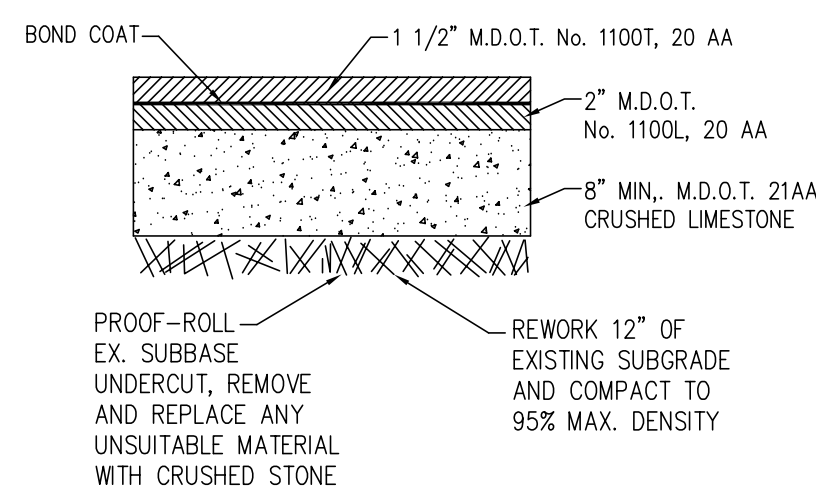
SANITARY LEAD PROFILE
NO SCALE



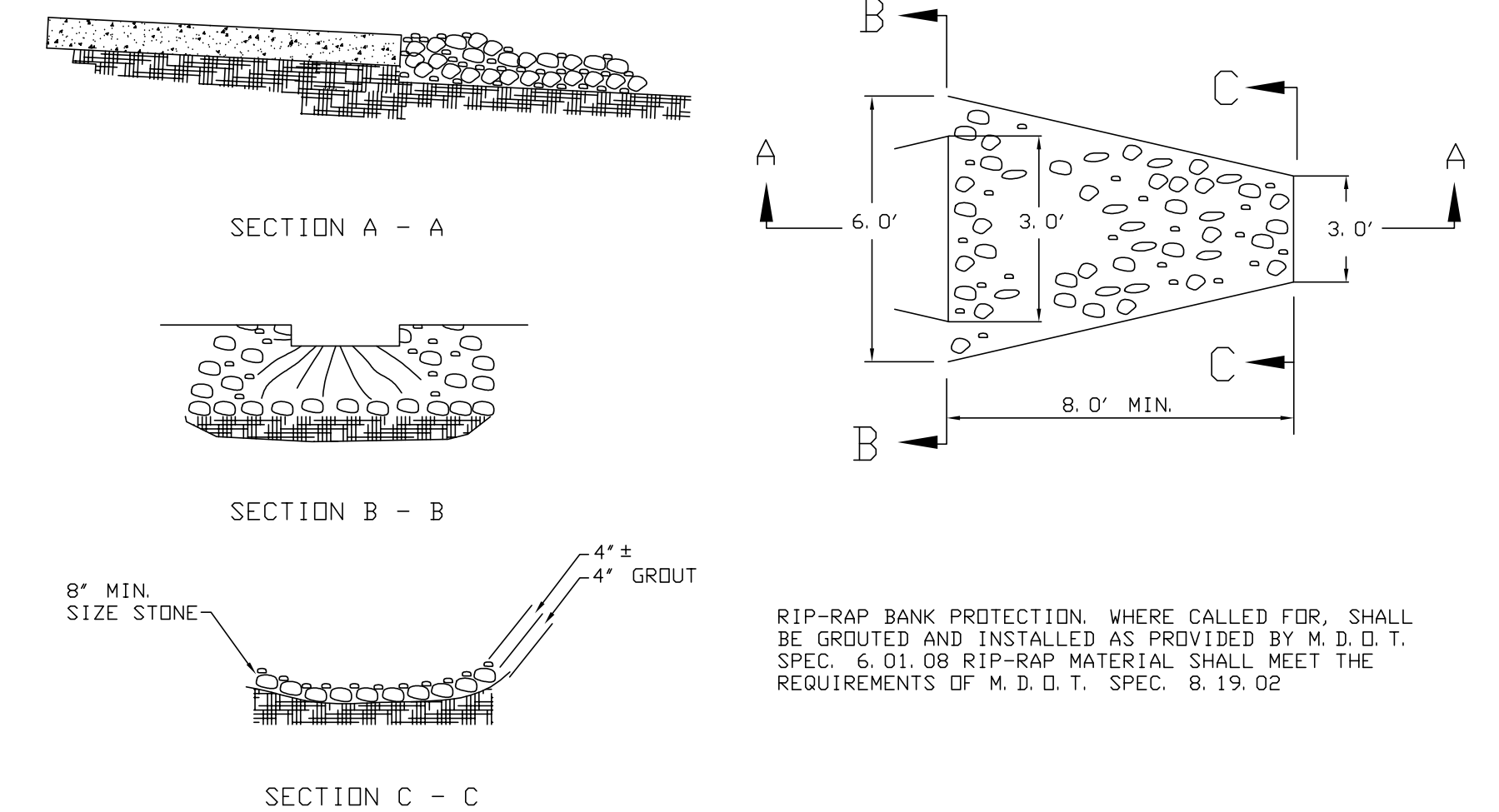
MDOT TYPE "F" CURB
NO SCALE



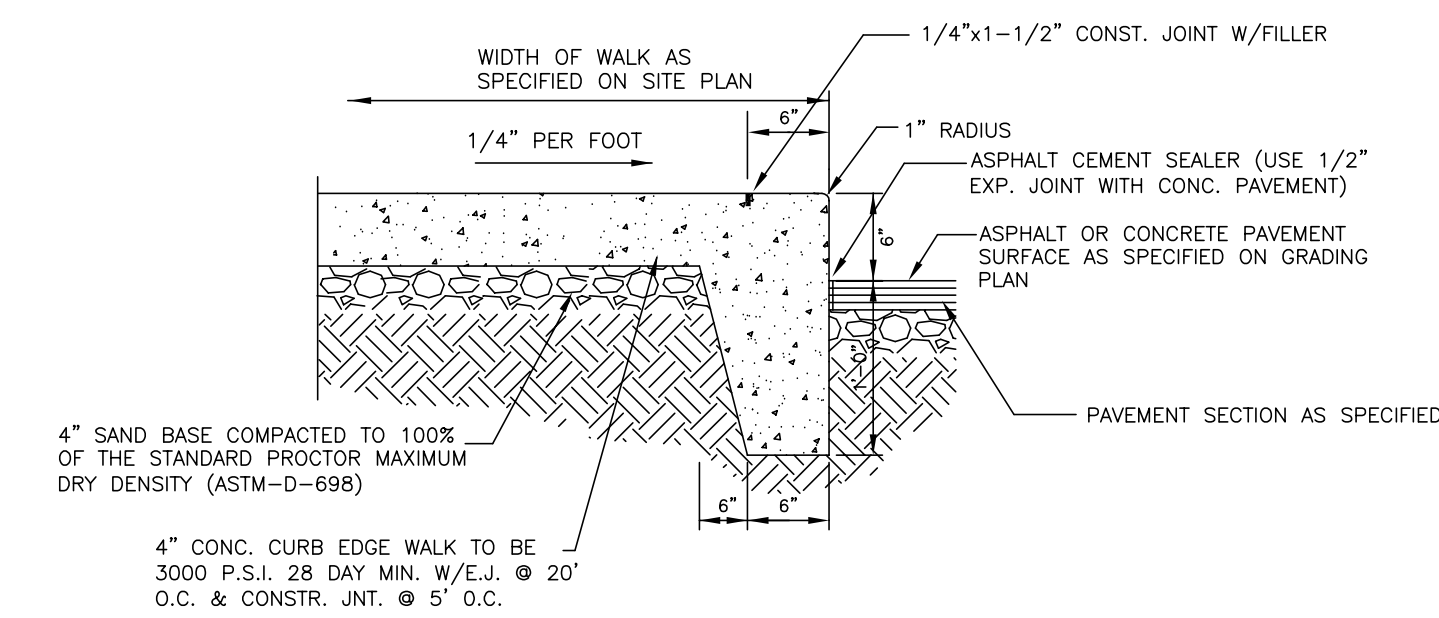
CONCRETE PAVEMENT SECTION
NO SCALE



ASPHALT PAVEMENT SECTION
NO SCALE



STONE RIP-RAP
NO SCALE



INTEGRAL CURB AND SIDEWALK
NO SCALE

FILE NO.: 689-190	DWG. NO.: 689-190ENG
DESIGNED BY: S.A.S.	SHEET No. C-12
DRAWN BY: S.A.S.	
CHECKED BY: L.A.T.	
SCALE: 1" = 20'	

CLIENT: 12/18/13
1/15/15 SITE DEVELOPMENT PERMIT
5/16/14 PER WAYNE COUNTY/MDEO
7/26/14 PER WAYNE COUNTY
9/29/14 AMEND PER #37458
10/6/14 PER MEETING

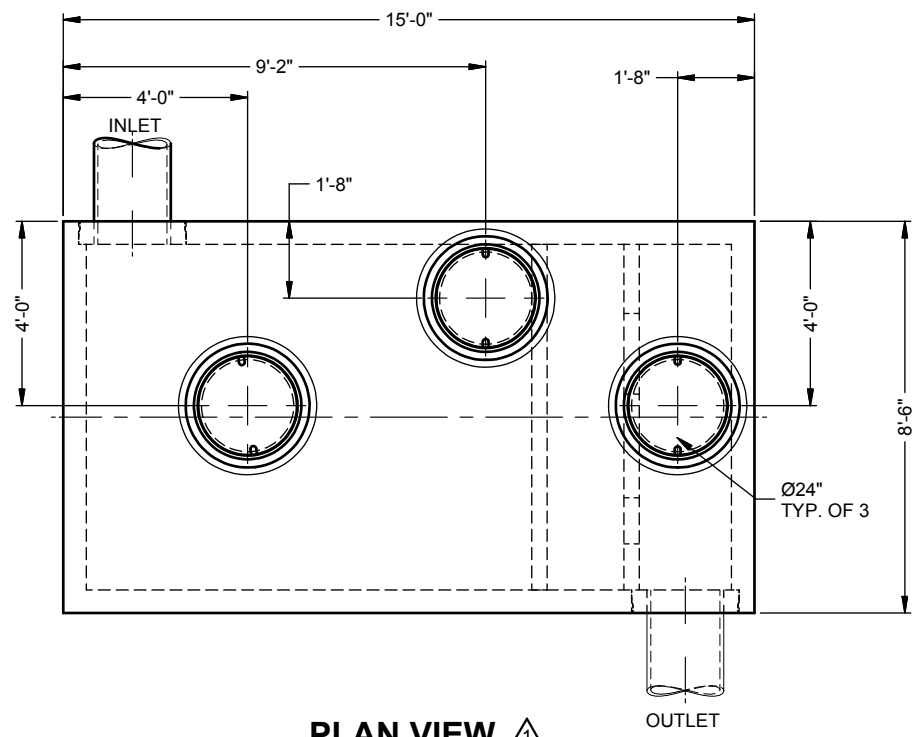
JACK DEMMER FORD
37300 MICHIGAN AVENUE
WAYNE, MI 48184

8495 N. TERRITORIAL RD.
PLYMOUTH, MI 48170
PHONE: (734) 416-9650
FAX: (734) 416-9657
www.glsurveyor.com

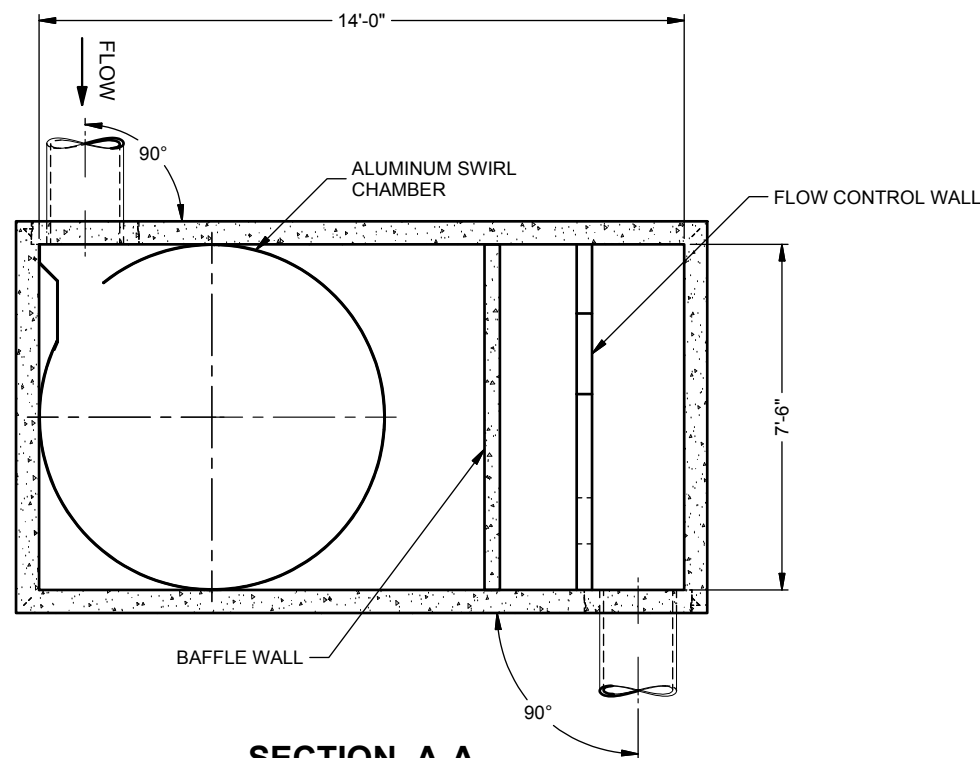
GLA SURVEYORS & ENGINEERS

SITE DETAILS
JACK DEMMER FORD
37410-37434 MICHIGAN AVENUE
PART OF THE N.E. 1/4 SEC. 31
CITY OF WAYNE, WAYNE COUNTY, MICHIGAN

T. 2 S., R. 9 E.,



PLAN VIEW Δ



SECTION A-A

THE MANUFACTURER OF THE STORM TREATMENT SYSTEM MUST CONTACT THE WAYNE COUNTY TESTING OFFICE AT 734-595-6504 EXT.2015 THREE BUSINESS DAYS PRIOR TO FABRICATIONS TO SCHEDULE INSPECTION DURING FABRICATION OF STORM TREATMENT SYSTEM (STRUCTURE, DETENTION PIPES, ETC.)

WAYNE COUNTY C#: C-47783

MATERIALS LIST - PROVIDED BY CONTECH

COUNT	DESCRIPTION	INSTALLED BY
1	ALUMINUM SWIRL CHAMBER	CONTECH
1	SWIRL CHAMBER SEALANT	CONTECH
1	ALUMINUM ORIFICE PLATE	CONTECH
1	ALUMINUM WEIR PLATE	CONTECH
1	BUTYL MASTIC JOINT SEALANT	CONTRACTOR
3	Ø24" X 4" EJ #41600389, OR EQUIVALENT	CONTRACTOR

SITE DESIGN DATA Δ

WATER QUALITY FLOW RATE	4.94 CFS
PEAK FLOW RATE	6.4 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS
*GROUNDWATER ELEV. (ASSUMED)	647.34'

* SEE NOTE 4

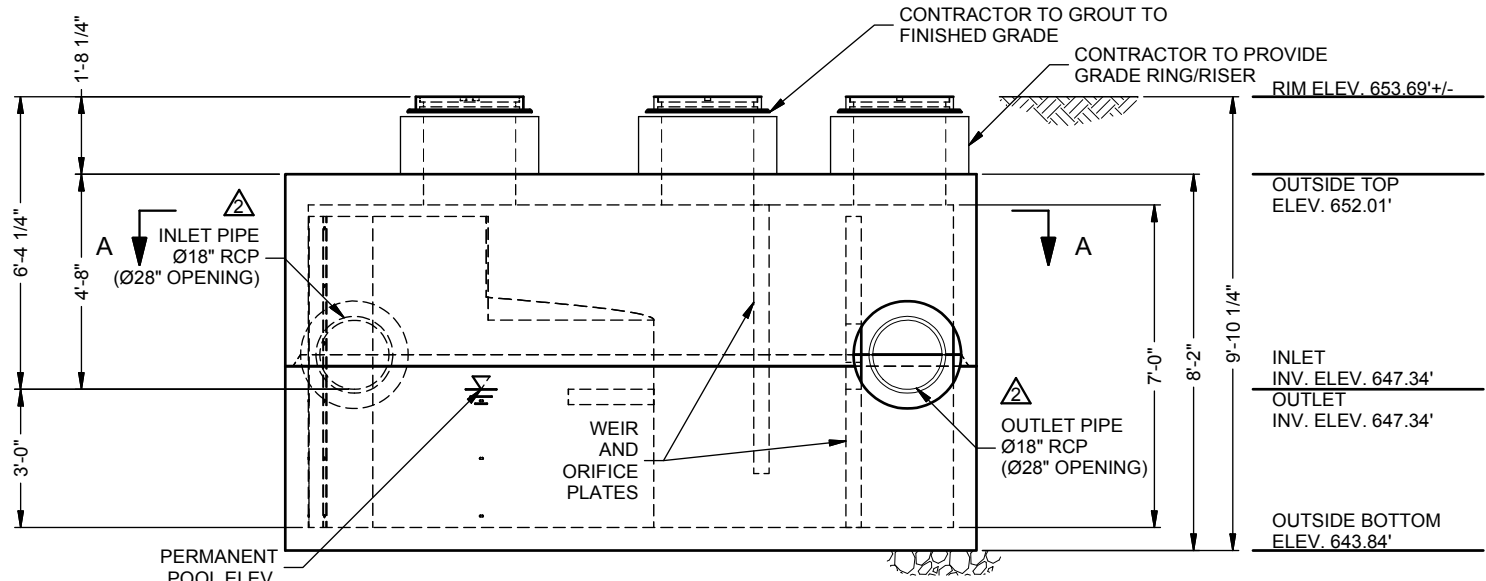
GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR FABRICATION DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.ContechES.com
- VORTECHS WATER QUALITY VAULT SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM THAT STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET HS-25 LOAD RATING ASSUMING EARTH COVER OF 0' - 5', AND GROUNDWATER ELEVATION AT, OR BELOW, 3'-0" ABOVE STRUCTURE INVERT. ENGINEER OF RECORD TO PROVIDE ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
- WATER SURFACE ELEVATION IN THE VORTECHS STRUCTURE IS EXPECTED TO BE AT OR BELOW TOP OF FLOW CONTROL WALL DURING THE DESIGN STORM.
- VORTECHS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE VORTECHS STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE JOINTS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. INLET PIPE TO BE SET 90° TO STRUCTURE WALL. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- CONTRACTOR TO PROVIDE ANY EXTERNAL BYPASS STRUCTURE REQUIRED FOR OFFLINE LAYOUT UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR TO PROVIDE AND INSTALL MANHOLE RISERS, GRADE RINGS OR BLOCK REQUIRED BETWEEN THE TOP OF THE VORTECHS STRUCTURE AND THE BASE OF THE MANHOLE FRAMES.
- INSTALLATION AND ASSEMBLY INSTRUCTIONS AVAILABLE UPON REQUEST.

STRUCTURE WEIGHT
 APPROXIMATE HEAVIEST PICK = 26000 LBS.
 OF 2 PIECES
 MAX FOOTPRINT = 8.5' x 15'



ELEVATION VIEW

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NO.	DATE	REVISION DESCRIPTION	BY
2	10/7/14	ENGINEER OF RECORD	ASB
1	10/2/14	UNIT CHANGED FROM 4000 TO 5000	DLF

VORTECHS 5000 - 493502-10
 JACK DEMMER FORD- QUICK LUBE
 WAYNE, MI
 FOR SYSTEM: PRE TREATMENT UNIT

CONTECH
 ENGINEERED SOLUTIONS LLC
www.ContechES.com
 5022 Centre Pointe Drive, Suite 400, West Chester, OH 45399
 800-338-1122 513-645-7000 513-645-7846 FAX

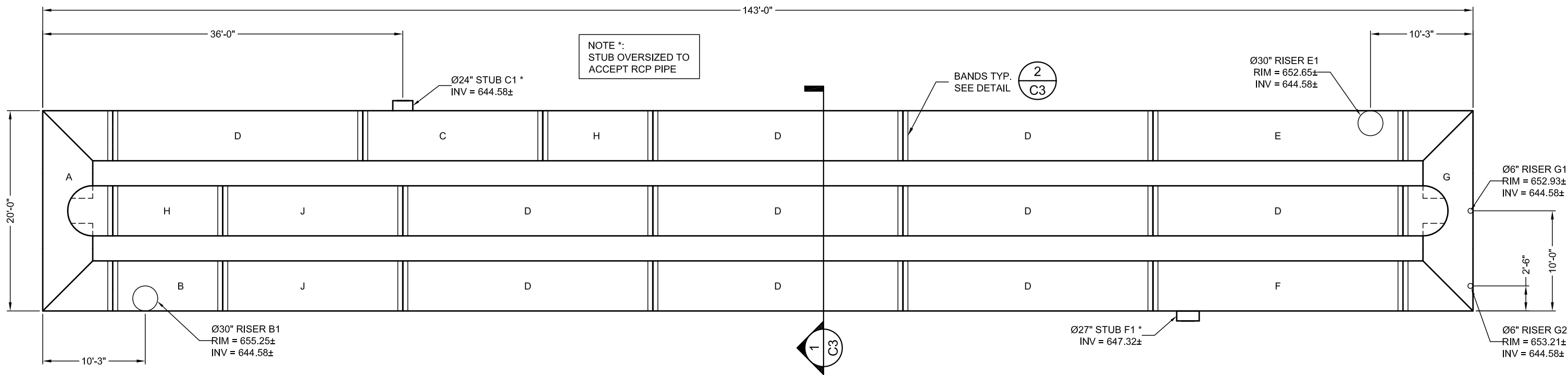
Vortechs
 THIS PRODUCT MAY BE PROTECTED BY THE FOLLOWING U.S. PATENT: 5,798,415 (RELATED FOREIGN PATENTS)

DATE:	09/22/2014	SCALE:	
DESIGNED:	PWV	DRAWN:	DMB
CHECKED:		APPROVED:	
PROJECT NUMBER:	493502		
SHEET:	1 OF 1		

CONTECH
CONTRACT
 DRAWING

NCI
 CLASS 600

I:\AD\CONTECH\CPL\COM\ROOT\MERLIN\PROJECT\ACTIVE\493502-020-CMP_DETENTION\DRAWINGS\CONTRACT\PRE-493502-020-CMP-CONC-D.DWG 10/7/2014 5:35 PM



WAYNE COUNTY C#: C-47783

THE MANUFACTURER OF THE STORM TREATMENT SYSTEM MUST CONTACT THE WAYNE COUNTY TESTING OFFICE AT 734-595-6504 EXT. 2015 THREE BUSINESS DAYS PRIOR TO FABRICATIONS TO SCHEDULE INSPECTION DURING FABRICATION OF STORM TREATMENT SYSTEM (STRUCTURE, DETENTION PIPES, ETC.)

ASSEMBLY
 SCALE: 1" = 10'
 VOLUME: 8,619 C.F.
 LOADING: H20/H25
 SYSTEM INV = 644.58

NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE.
- ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2 3/8" x 1/2" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO FABRICATED TO 1'-20" BELOW GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.

THE UNDERSIGNED HEREBY APPROVES THE ATTACHED (7) PAGES INCLUDING THE FOLLOWING:

- **VOLUME = 8,619 CF**
- **MAINLINE PIPE GAUGE = 14**
- **WALL TYPE = SOLID**
- **DIAMETER = 60"**
- **FINISH = ALT2**

CUSTOMER

DATE

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MARK	DATE	REVISION DESCRIPTION	BY
2	10/7/14	REVISE PER NEW ENGINEERS DRAWINGS	FCS
1	10/2/14	ADD PIPE & MOVE STUB	DLF

CONTECH
 ENGINEERED SOLUTIONS LLC
 www.ContechES.com

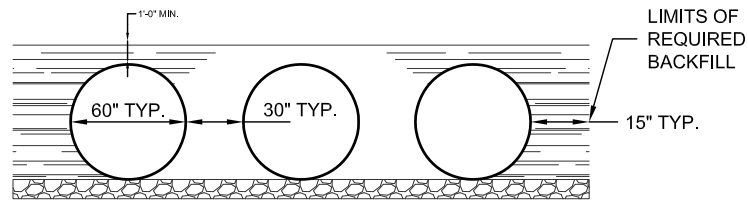
605 Global Way Suite 113, Linthicum, MD 21090
 866-740-3318 410-796-5505 866-376-8511 FAX

CONTECH
 CMP DETENTION SYSTEMS

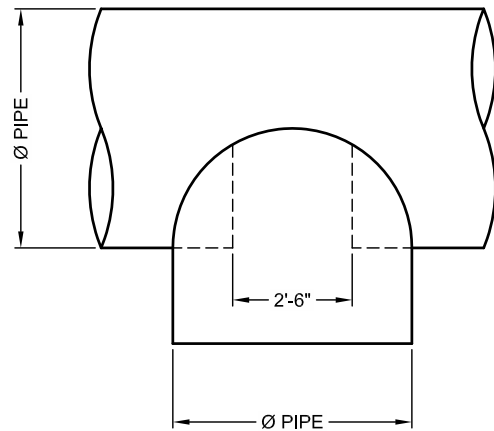
CONTECH
 CONTRACT
 DRAWING

Ø60" UNDERGROUND DETENTION SYSTEM - 493502-020
 JACK DEMMER FORD
 WAYNE, MI
 SITE DESIGNATION: DETENTION

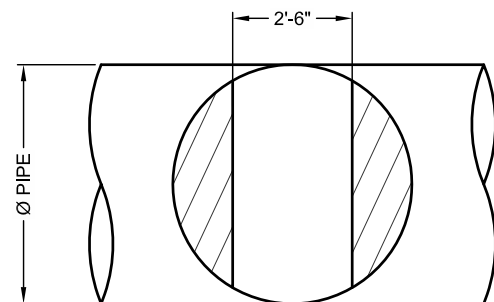
PROJECT No.: 493502	SEQ. No.: 020	DATE: 9/23/2014
DESIGNED: PWW	DRAWN: FCS	
CHECKED:	APPROVED:	
SHEET NO.: C1 OF 7		



TYPICAL SECTION VIEW
SCALE: N.T.S.



PLAN



FRONT
TYPICAL MANWAY DETAIL
SCALE: N.T.S.

FABRICATION BoM

FITTING	TYPE	QTY	Ø	CORRUGATION	GAGE	FINISH	WALL TYPE	LENGTH	TOTAL
A	MANIFOLD	1	60	3 x 1	14	ALT2	Solid	24	24
A - TEE	TEE	1	60	3 x 1	14	ALT2	Solid	4.5	4.5
B	PIPE	1	60	3 x 1	14	ALT2	Solid	11	11
B1	RISER	1	30	2 2/3x1/2	16	ALT2	Solid	7.17	7.17
C	PIPE	1	60	3 x 1	14	ALT2	Solid	18	18
C1	STUB	1	24	2 2/3x1/2	16	ALT2	Solid	3.5	3.5
D	PIPE	10	60	3 x 1	14	ALT2	Solid	25	250
E	PIPE	1	60	3 x 1	14	ALT2	Solid	25	25
E1	RISER	1	30	2 2/3x1/2	16	ALT2	Solid	4.57	4.57
F	PIPE	1	60	3 x 1	14	ALT2	Solid	25	25
F1	STUB	1	27	2 2/3x1/2	16	ALT2	Solid	3.25	3.25
G	MANIFOLD	1	60	3 x 1	14	ALT2	Solid	24	24
G - TEE	TEE	1	60	3 x 1	14	ALT2	Solid	4.5	4.5
G1	RISER	1	6	1 1/2x1/4	16	ALT2	Solid	5.85	5.85
G2	RISER	1	6	1 1/2x1/4	16	ALT2	Solid	6.13	6.13
H	PIPE	2	60	3 x 1	14	ALT2	Solid	11	22
J	PIPE	2	60	3 x 1	14	ALT2	Solid	18	36
BAND FASTENER	12" HUGGER	21	60	w/BAR BOLT & STRAP	18	ALT2			
GASKETS	FLAT	21	60	12" WIDE					

I:\AD\CONTECH\CPL\COMBROOT\MERLIN\PROJECT\ACTIVE\493502-020\CMP_DETENTION\DRAWINGS\CONTRACT\PRE-493502-020\CMP-COND.DWG 10/7/2014 5:35 PM

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If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to Contech immediately for re-evaluation of the design. Contech accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

MARK	DATE	REVISION DESCRIPTION	BY
2	10/7/14	REVISE PER NEW ENGINEERS DRAWINGS	FCS
1	10/2/14	ADD PIPE & MOVE STUB	DLF

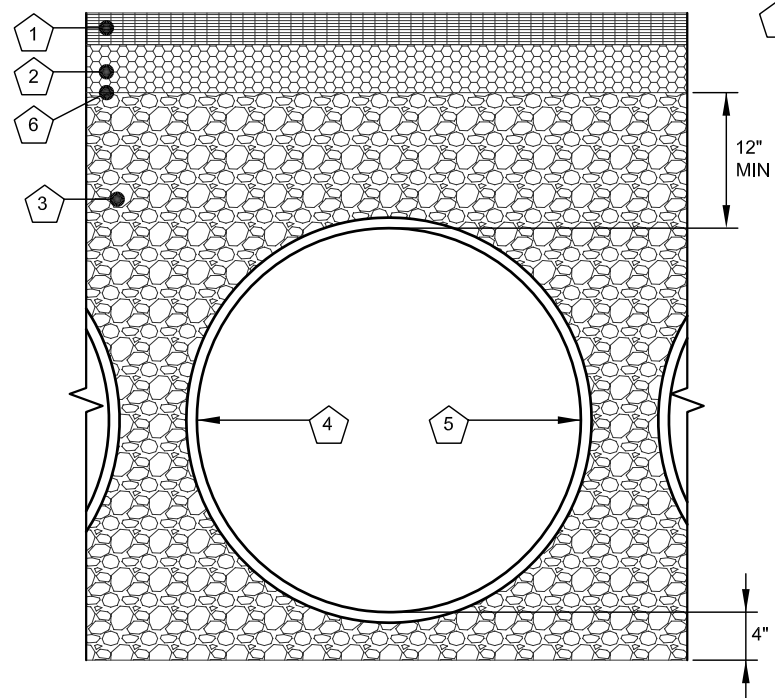
CONTECH
ENGINEERED SOLUTIONS LLC
www.ContechES.com
605 Global Way Suite 113, Linthicum, MD 21090
866-740-3318 410-796-5505 866-376-8511 FAX

CONTECH
CMP DETENTION SYSTEMS
CONTECH
CONTRACT
DRAWING

Ø60" UNDERGROUND DETENTION SYSTEM - 493502-020
JACK DEMMER FORD
WAYNE, MI
SITE DESIGNATION: DETENTION

PROJECT No.: 493502	SEQ. No.: 020	DATE: 9/23/2014
DESIGNED: PWV	DRAWN: FCS	
CHECKED:	APPROVED:	
SHEET NO.: C2 OF 7		

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- NOTES:**
- 1.) RIGID OR FLEXIBLE PAVEMENT.
 - 2.) GRANULAR ROAD BASE. (MDOT 21-AA OR EQUAL)
 - 3.) MDOT 2G, 34G, 6A, OR 21AA STONE OR GRAVEL SHALL BE USED AS BACKFILL, COMPACTED TO A MINIMUM OF 95% (90% MINIMUM REQUIRED FOR 6A AND 21AA) OF THE BACKFILL MATERIALS MAXIMUM UNIT WEIGHT AT MOISTURE CONTENT NOT GREATER THAN OPTIMUM (PER WAYNE COUNTY SPECIFICATION PAGE 8-20B, 9 OCT 2009).
 - 4.) Ø12" THRU Ø84" 2 2/3 X 1/2" CSP, GAUGE PER AASHTO SECTION 12, MDOT 2003 OR WAYNE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION.
 - 5.) Ø 54" THRU Ø144" 3" X 1" OR 5" X 1" CSP GAGE PER AASHTO SECTION 12, MDOT 2003 OR WAYNE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION.
 - 6.) CONTECH C-40 OR C-45 NON-WOVEN GEOTEXTILE.
 - 7.) CMP COATING DAMAGED DURING INSTALLATION SHALL BE REPAIRED WITH ZINC RICH PAINT PER ASTM A 760.

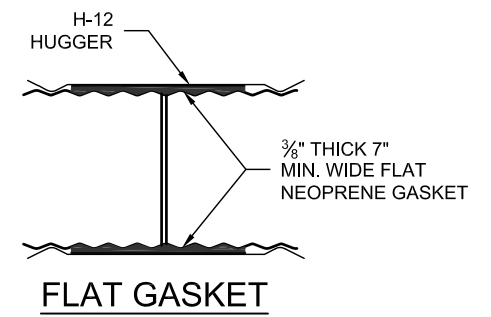
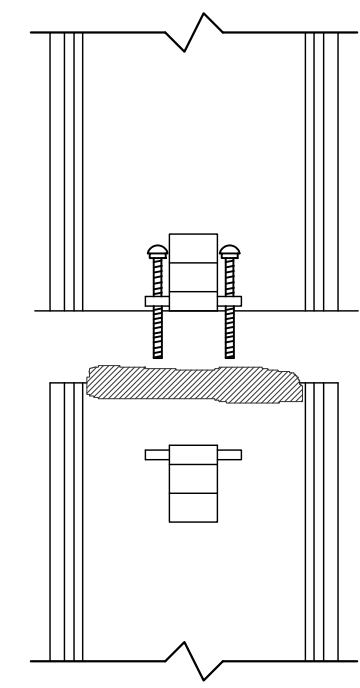
FOUNDATION/BEDDING PREPARATION

PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER. ONCE THE FOUNDATION PREPARATION IS COMPLETE, THE 4 INCHES OF A WELL-GRADED GRANULAR MATERIAL SHALL BE PLACED AS THE BEDDING.

BACKFILL

THE MATERIAL SHALL BE PLACED IN 8-INCH LOOSE LIFTS AND COMPACTED TO 95% AASHTO T99 STANDARD PROCTOR DENSITY (OR PER WAYNE COUNTY STANDARD). WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO LIFT (16") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE DETENTION SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON THE PIPE.

1 BACKFILL DETAIL
SCALE: N.T.S.



**CONNECTION DETAIL
SINGLE BOLT, BAR AND STRAP**

GENERAL NOTES

1. BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
12" THRU 48", 1-PIECE
54" THRU 96", 2-PIECE
102" THRU 144", 3-PIECES
2. BAND FASTENERS ARE ATTACHED WITH SPOT WELDS, RIVETS OR HAND WELDS
3. REROLLED ANNULAR END CORRUGATIONS ARE NORMALLY 2 3/8" x 1/2". DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES

2 H-12 HUGGER BAND DETAIL
SCALE: N.T.S.

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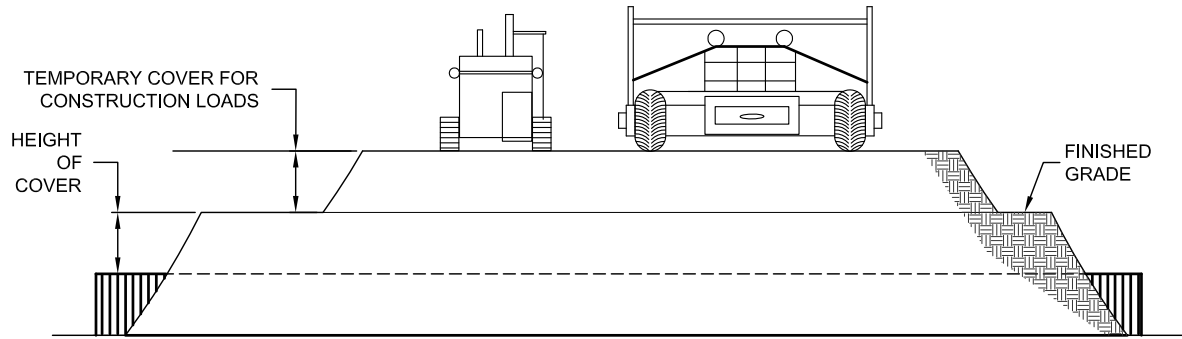
MARK	DATE	REVISION DESCRIPTION	BY
2	10/7/14	REVISE PER NEW ENGINEERS DRAWINGS	FCS
1	10/2/14	ADD PIPE & MOVE STUB	DLF

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CONTECH
CMP DETENTION SYSTEMS
CONTECH CONTRACT DRAWING

Ø60" UNDERGROUND DETENTION SYSTEM - 493502-020
JACK DEMMER FORD
WAYNE, MI
SITE DESIGNATION: DETENTION

PROJECT No.: 493502	SEQ. No.: 020	DATE: 9/23/2014
DESIGNED: PWV	DRAWN: FCS	
CHECKED:	APPROVED:	
SHEET NO.: C3 OF 7		



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

3 CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.

SPECIFICATION FOR CORRUGATED STEEL PIPE-ALUMINIZED TYPE 2 STEEL

SCOPE

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE CORRUGATED STEEL PIPE (CSP) DETAILED IN THE PROJECT PLANS.

MATERIAL

THE ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M274 OR ASTM A929.

PIPE

THE CSP SHALL BE MANUFACTURED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AASHTO M36 OR ASTM A760. THE PIPE SIZES, GAGES AND CORRUGATIONS SHALL BE AS SHOWN ON THE PROJECT PLANS.

ALL FABRICATION OF THE PRODUCT SHALL OCCUR WITHIN THE UNITED STATES.

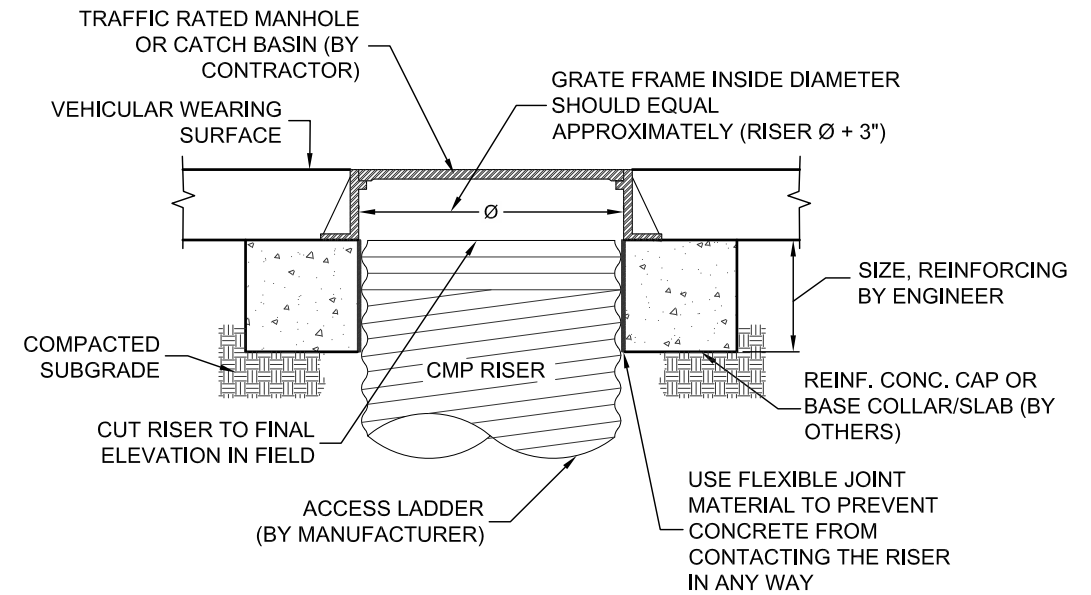
HANDLING AND ASSEMBLY

SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OF THE NATIONAL CORRUGATED STEEL PIPE ASSOCIATION (NCSPPA)

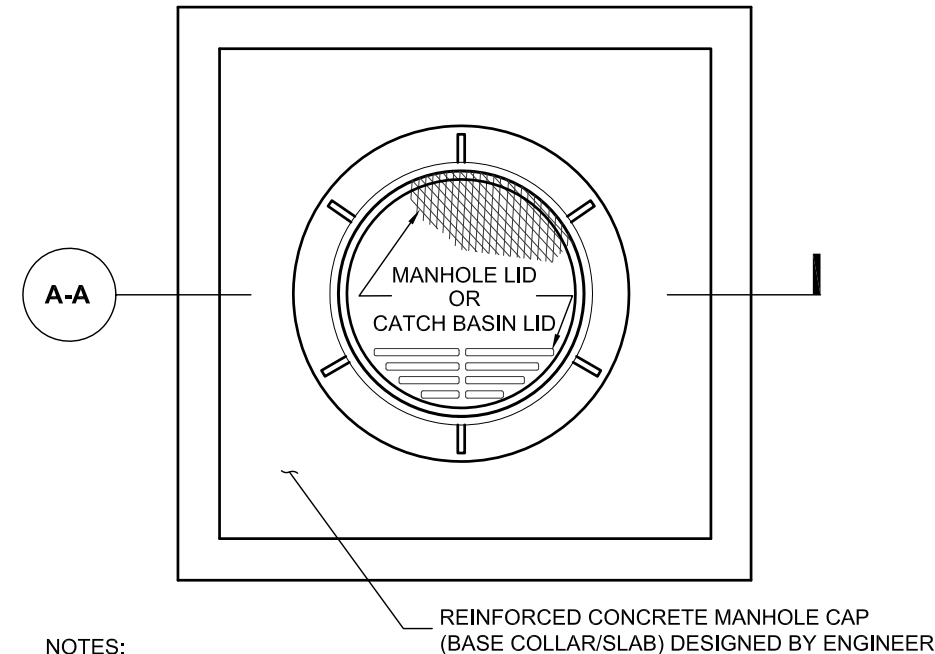
INSTALLATION

SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II OR ASTM A798 AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.



SECTION A-A



NOTES:

1. THE CONCRETE CAP (BASE COLLAR/SLAB) SHALL BE SIZED AND DESIGNED BY OTHERS SO THAT THE LOADS ARE TRANSMITTED TO THE SOIL, AND NOT THE RISER.
2. THE CONCRETE CAP SHALL BE SIZED TO PROVIDE AN ADEQUATE BOTTOM AREA BASED ON THE ALLOWABLE BEARING CAPACITY OF THE SOIL.
3. THE FLEXIBLE JOINT MATERIAL (RECYCLED VINYL OR EQ.) TO BE STIFF ENOUGH SO THAT THE CONCRETE CAN NEVER ENGAGE WITH THE RISER CORRUGATIONS.

4 MANHOLE CAP DETAIL
SCALE: N.T.S.

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1	10/2/14	ADD PIPE & MOVE STUB	DLF



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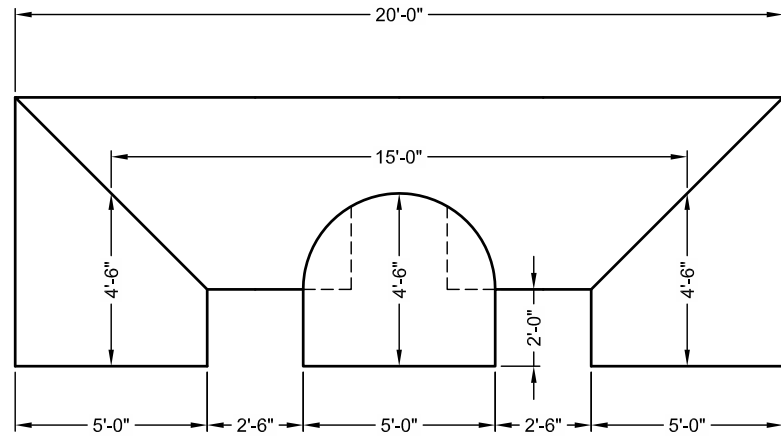


CONTECH CONTRACT DRAWING

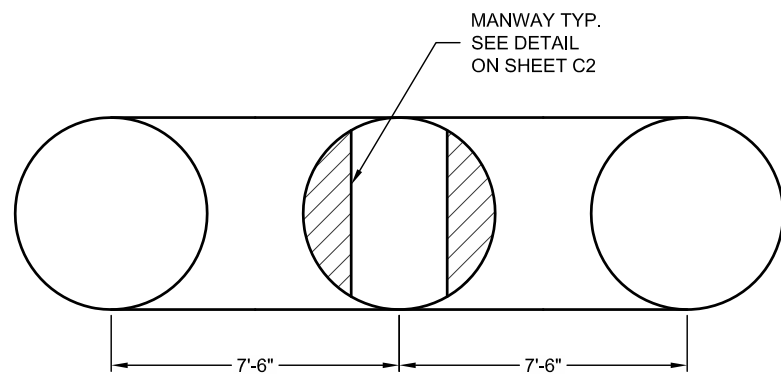
Ø60" UNDERGROUND DETENTION SYSTEM - 493502-020
JACK DEMMER FORD
WAYNE, MI
SITE DESIGNATION: DETENTION

PROJECT No.: 493502	SEQ. No.: 020	DATE: 9/23/2014
DESIGNED: PWV	DRAWN: FCS	
CHECKED:	APPROVED:	
SHEET NO.: C4 OF 7		

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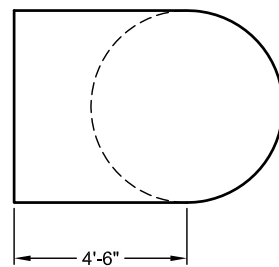


PLAN VIEW

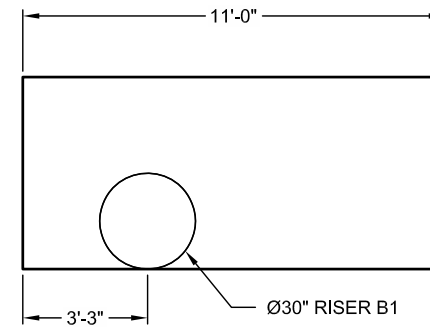


ELEVATION VIEW

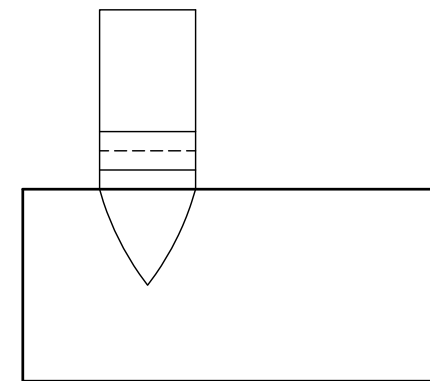
PART A
1" = 5'



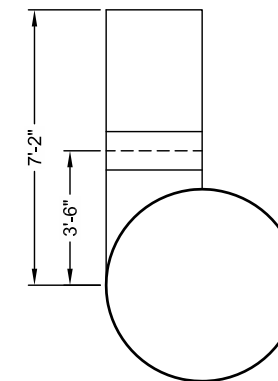
RIGHT VIEW



PLAN VIEW



ELEVATION VIEW



RIGHT VIEW

PART B
1" = 5'

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1	10/2/14	ADD PIPE & MOVE STUB	DLF

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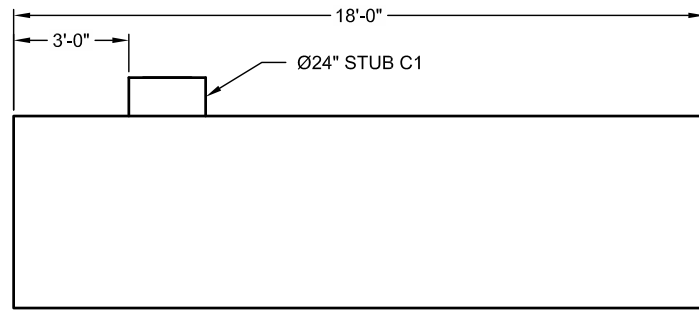
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FABRICATION
DRAWING

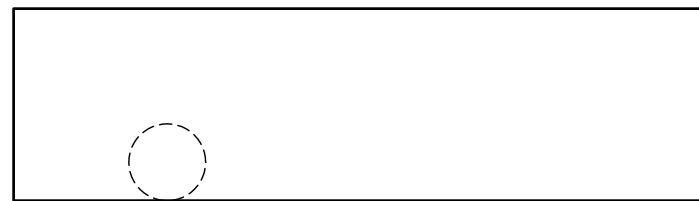
Ø60" UNDERGROUND DETENTION SYSTEM - 493502-020
JACK DEMMER FORD
WAYNE, MI
SITE DESIGNATION: DETENTION

PROJECT No.: 493502	SEQ. No.: 020	DATE: 9/23/2014
DESIGNED: PWV	DRAWN: FCS	
CHECKED:	APPROVED:	
SHEET NO.: F1 OF 7		

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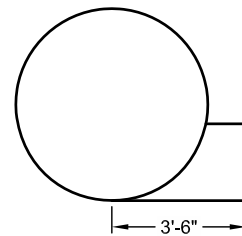


PLAN VIEW

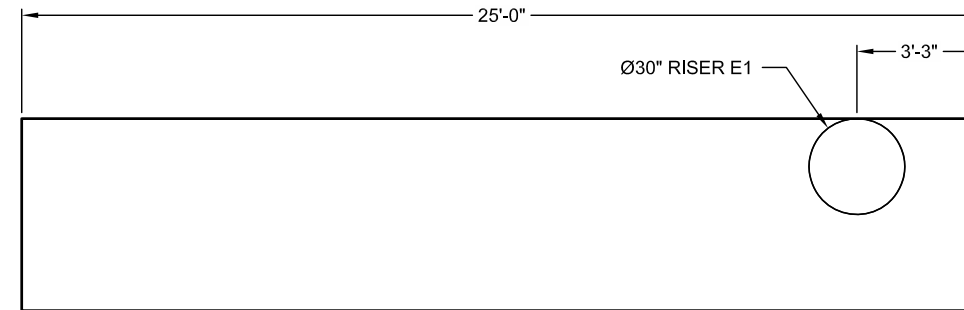


ELEVATION VIEW

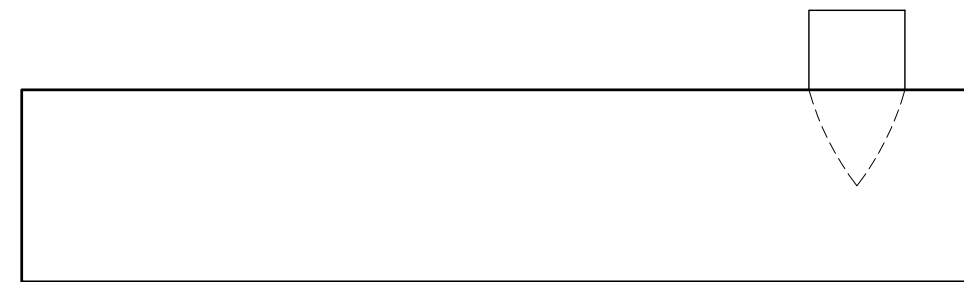
PART C
1" = 5'



RIGHT VIEW

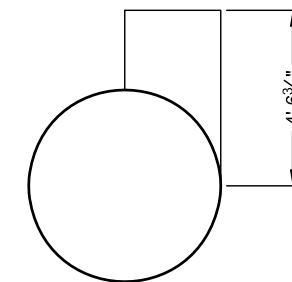


PLAN VIEW



ELEVATION VIEW

PART E
1" = 5'



RIGHT VIEW

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1	10/2/14	ADD PIPE & MOVE STUB	DLF

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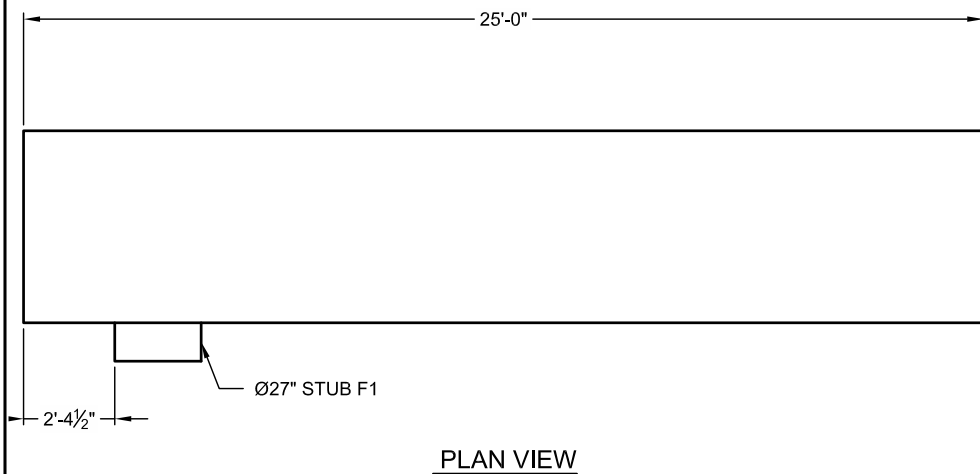
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FABRICATION
DRAWING

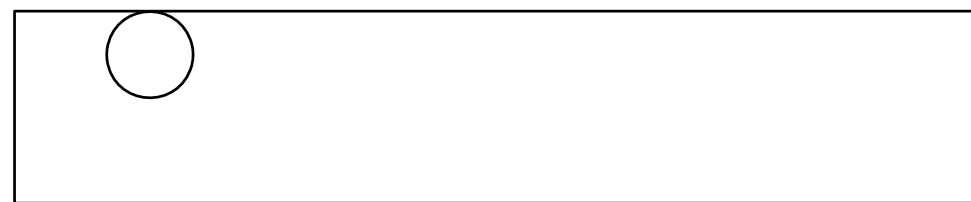
Ø60" UNDERGROUND DETENTION SYSTEM - 493502-020
JACK DEMMER FORD
WAYNE, MI
SITE DESIGNATION: DETENTION

PROJECT No.: 493502	SEQ. No.: 020	DATE: 9/23/2014
DESIGNED: PWV	DRAWN: FCS	
CHECKED:	APPROVED:	
SHEET NO.: F2 OF 7		

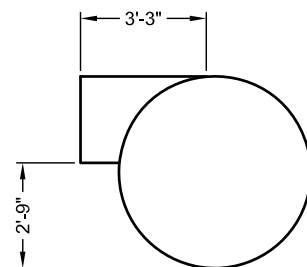
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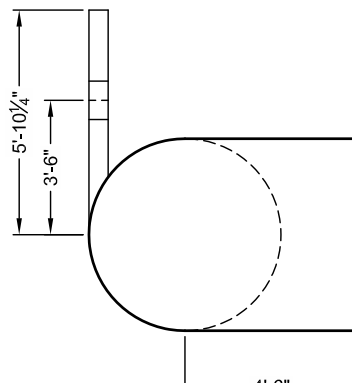
PLAN VIEW



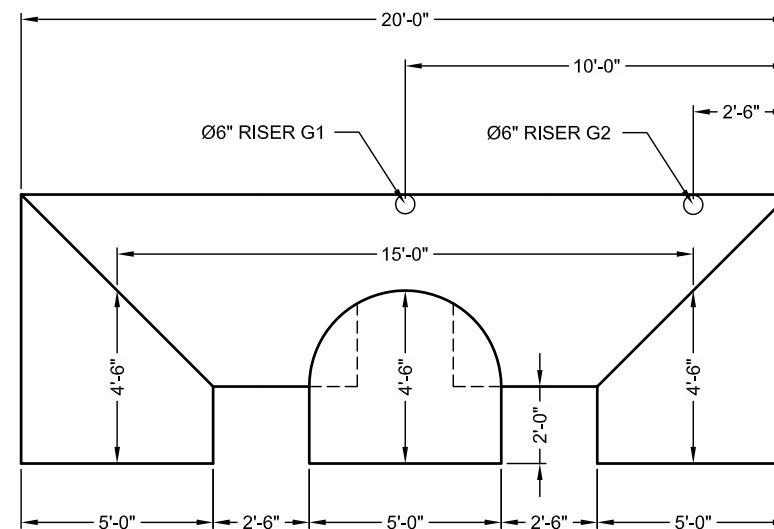
ELEVATION VIEW



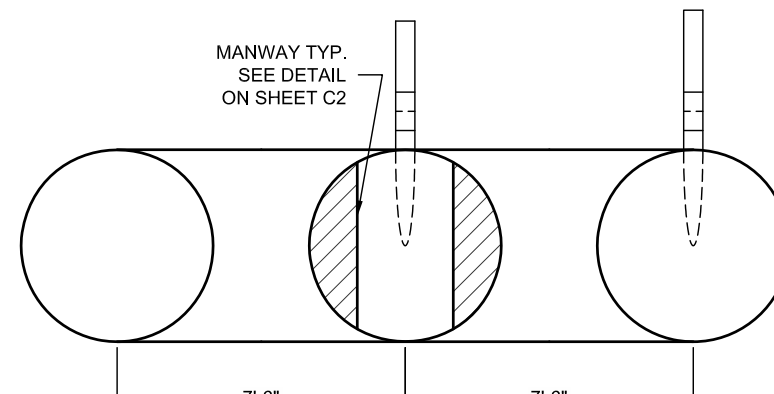
RIGHT VIEW



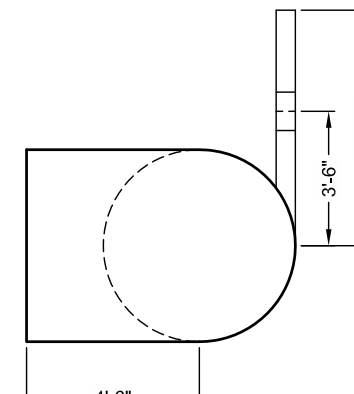
LEFT VIEW



PLAN VIEW



ELEVATION VIEW



RIGHT VIEW

PART F
1" = 5'

PART G
1" = 5'

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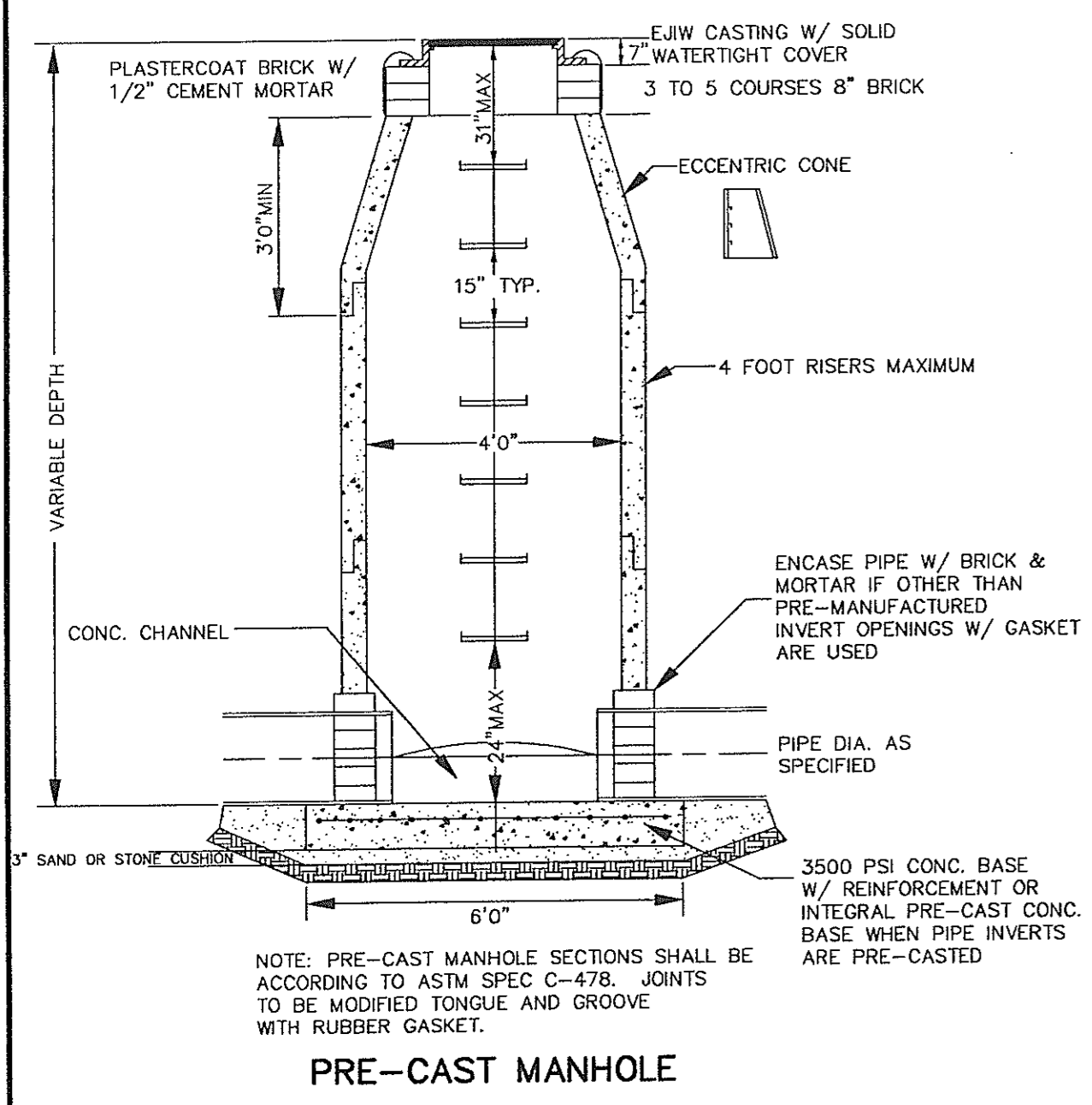
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2	10/7/14	REVISE PER NEW ENGINEERS DRAWINGS	FCS
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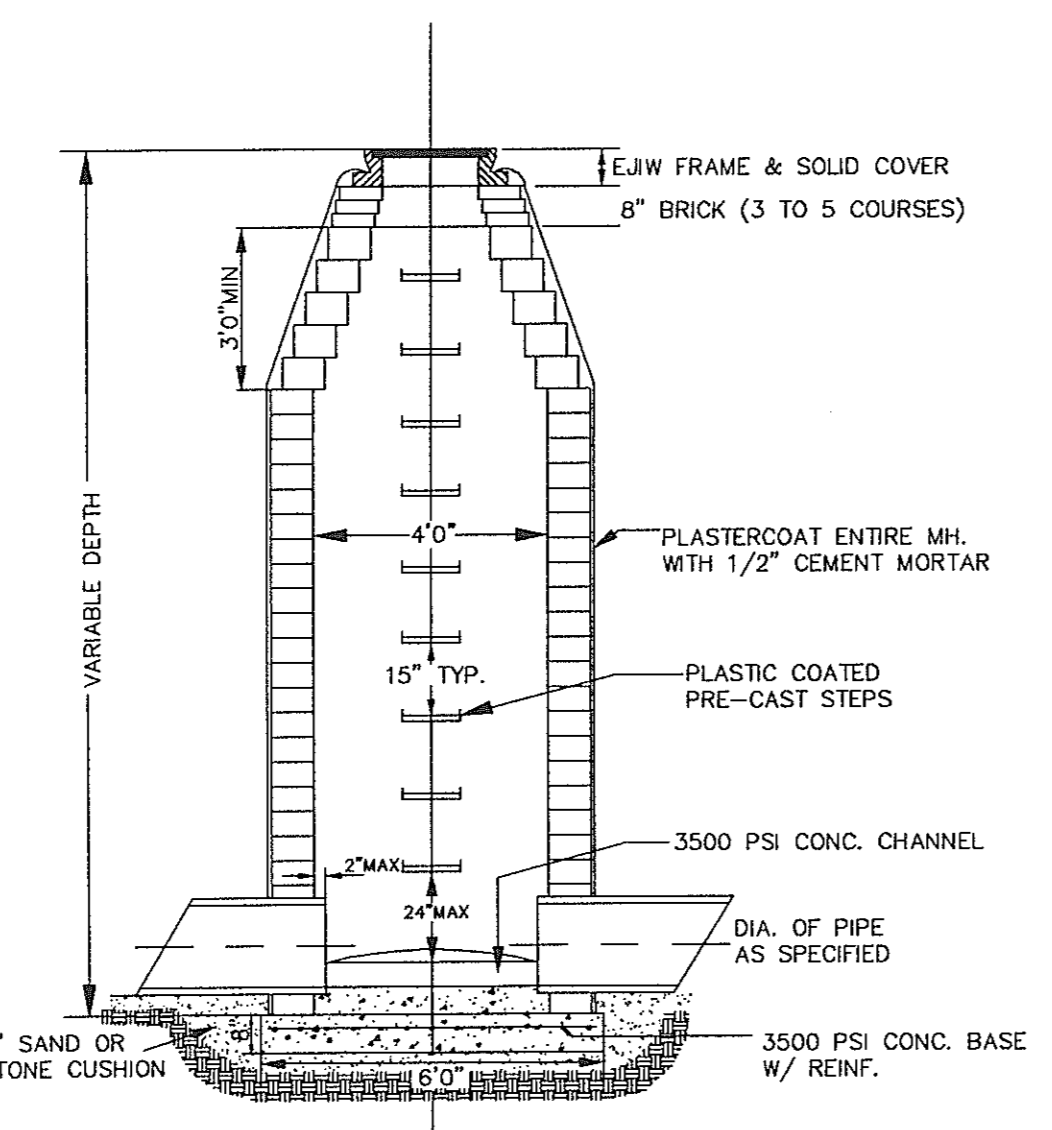
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Ø60" UNDERGROUND DETENTION SYSTEM - 493502-020
JACK DEMMER FORD
WAYNE, MI
SITE DESIGNATION: DETENTION

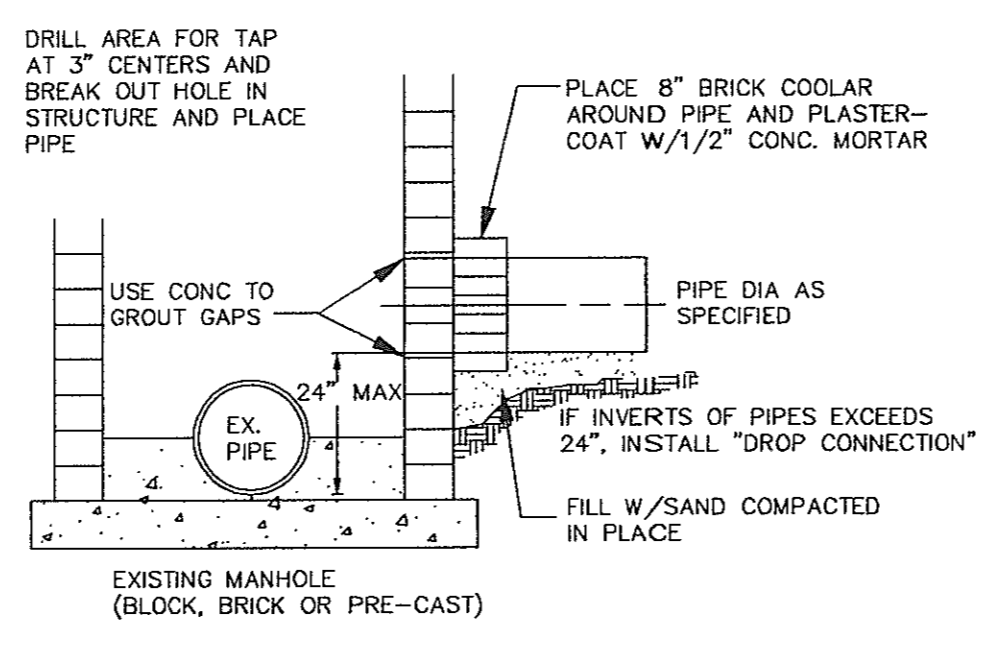
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DESIGNED: PWV	DRAWN: FCS	
CHECKED:	APPROVED:	
SHEET NO.: F3 OF 7		



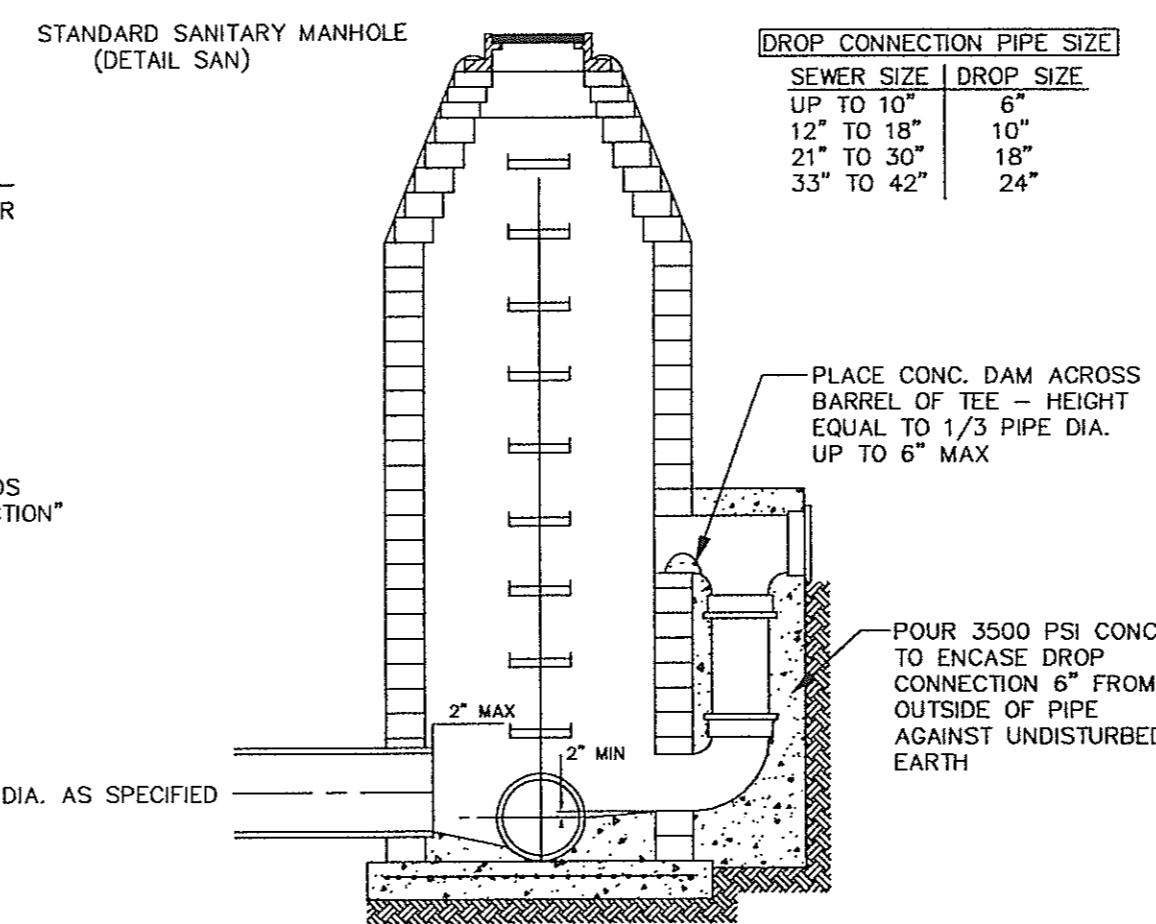
PRE-CAST MANHOLE



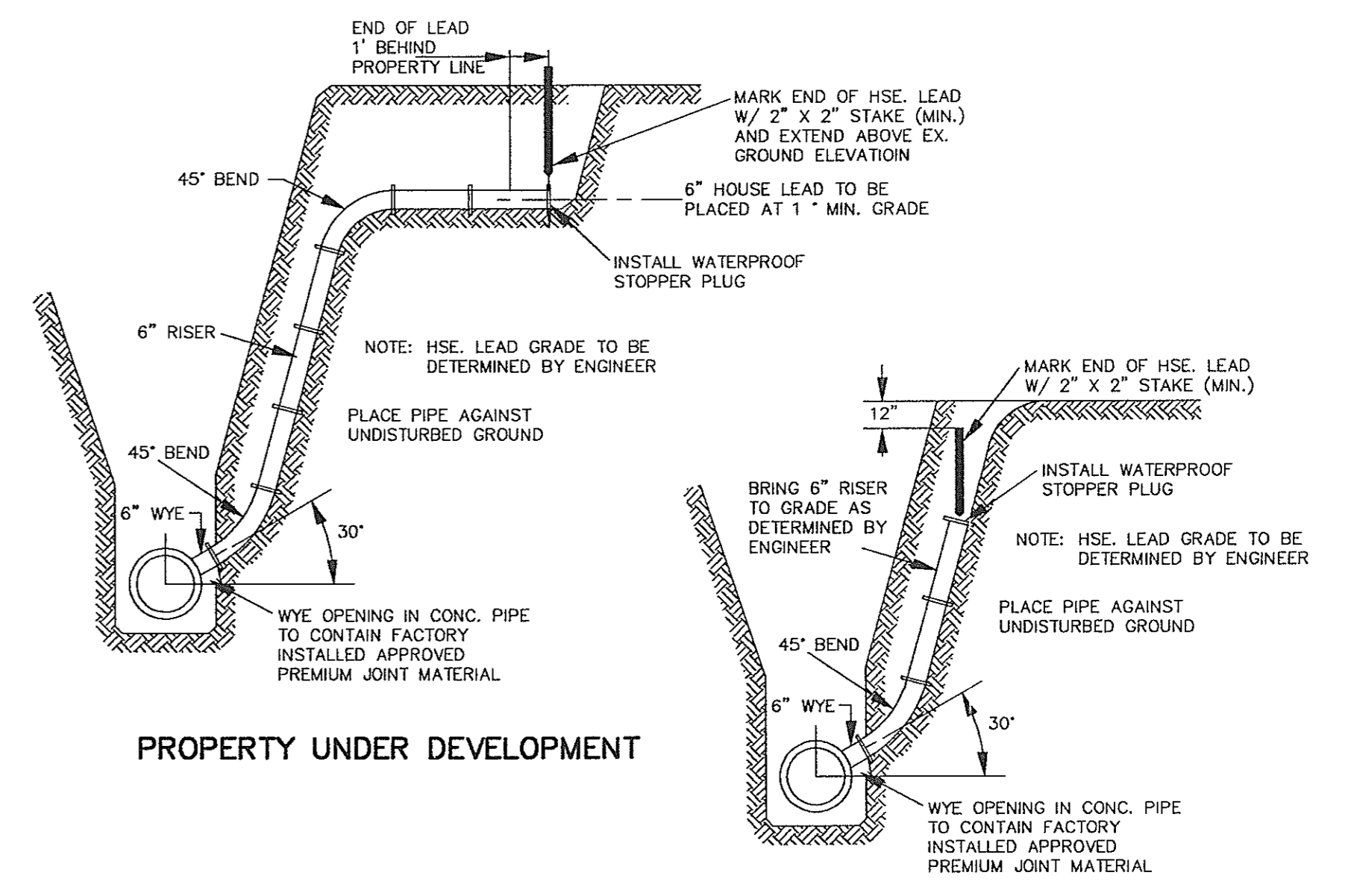
6" CONC. BLOCK MANHOLE



TAPPING EXISTING MANHOLE

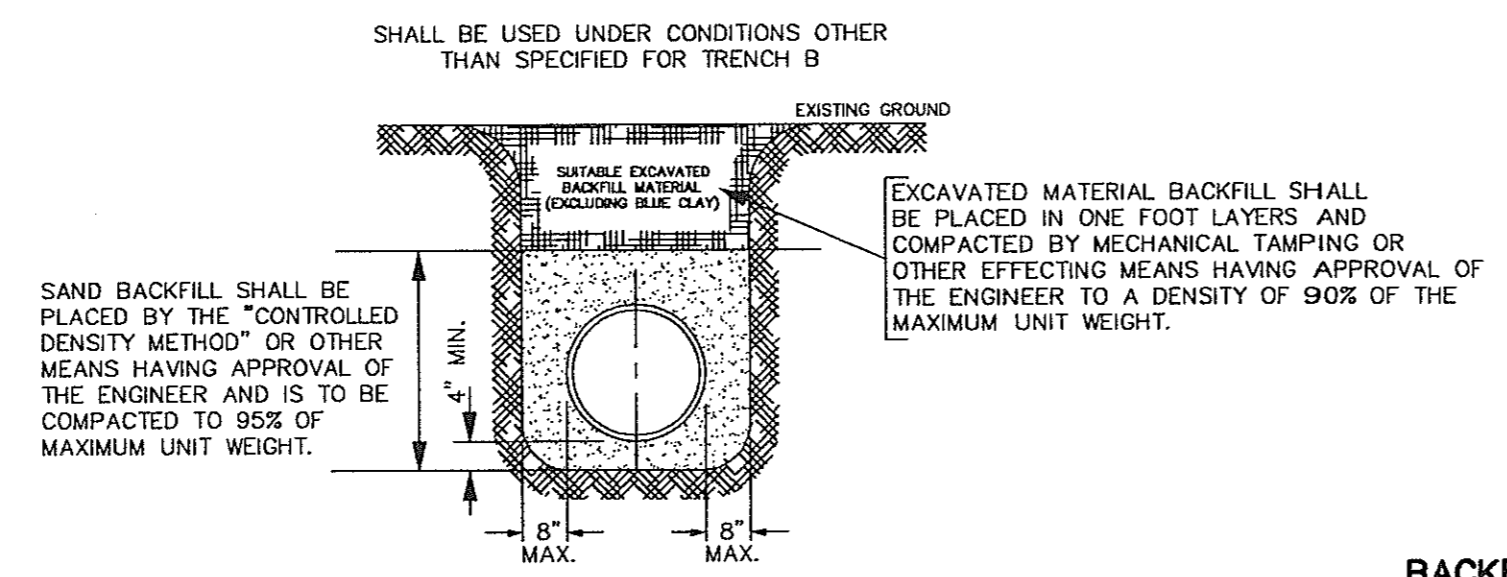


DROP CONNECTION AT MANHOLE



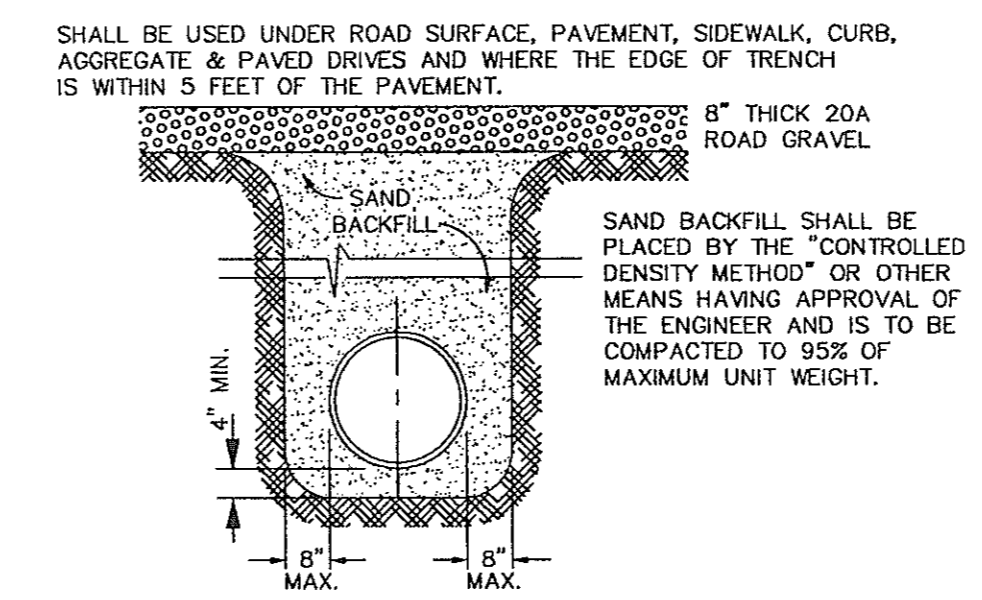
SEWER WYES AND RISERS

SANITARY



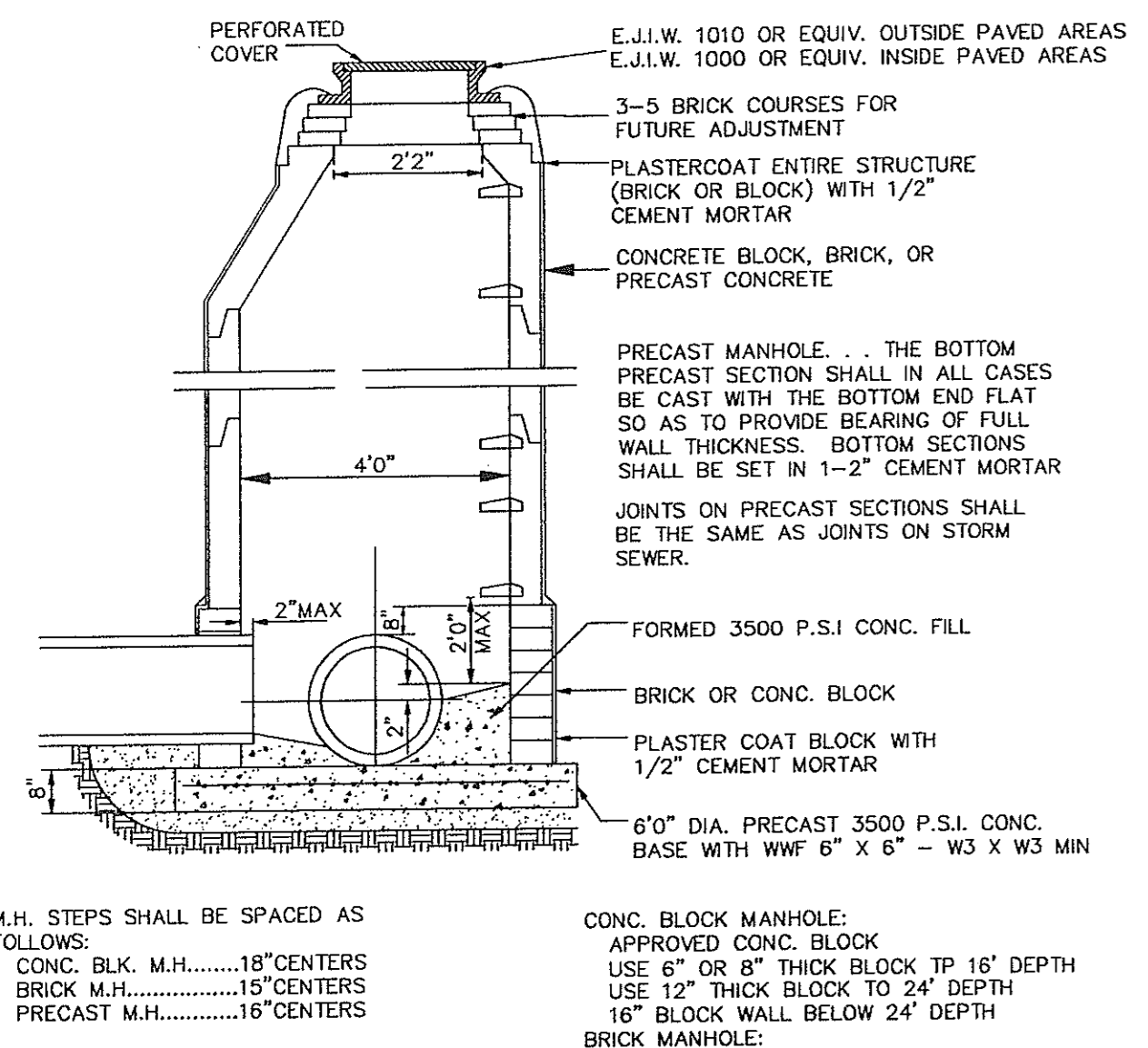
TRENCH A NOT UNDER ROAD CLASS III BEDDING

BACKFILL AND BEDDING

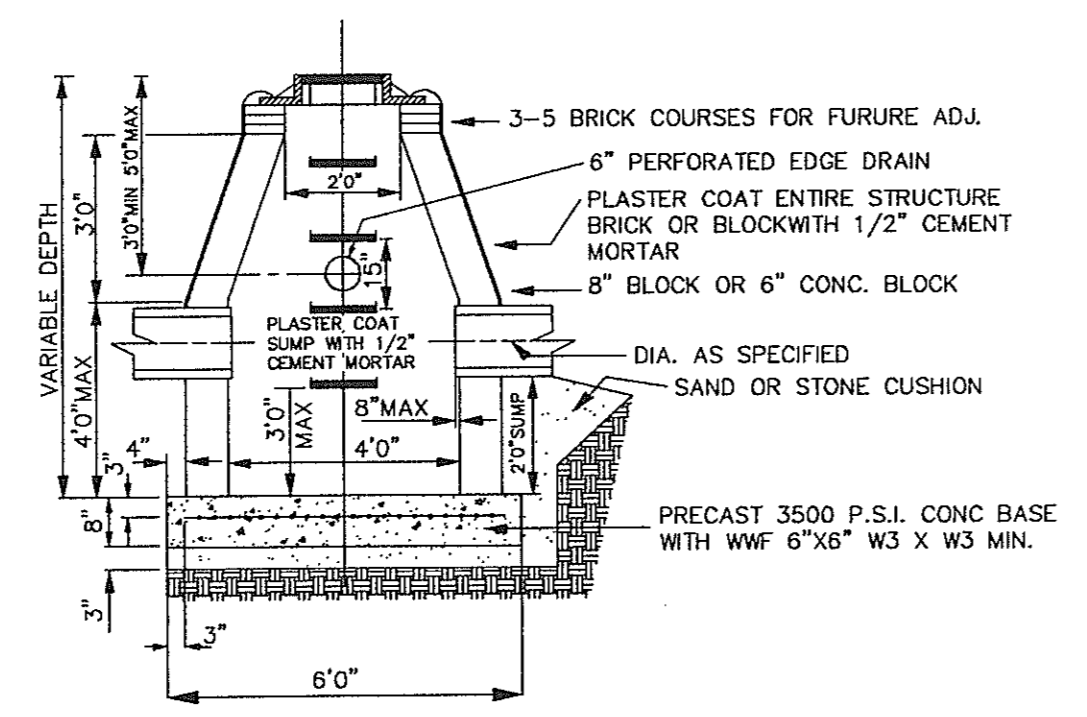


TRENCH B UNDER ROAD CLASS III BACKFILL

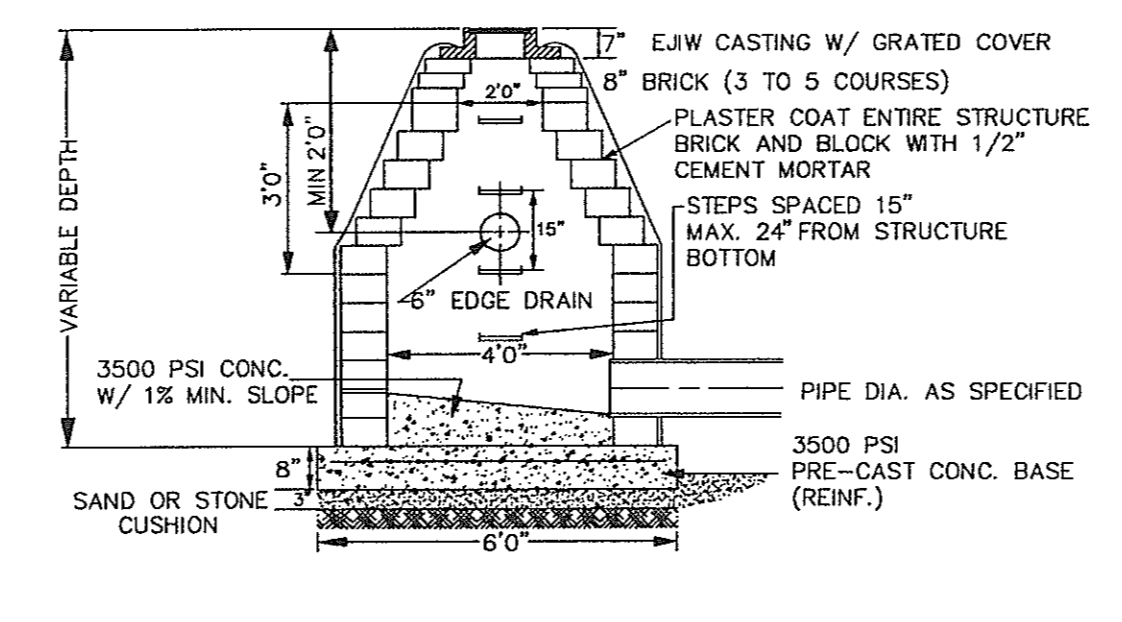
STORM



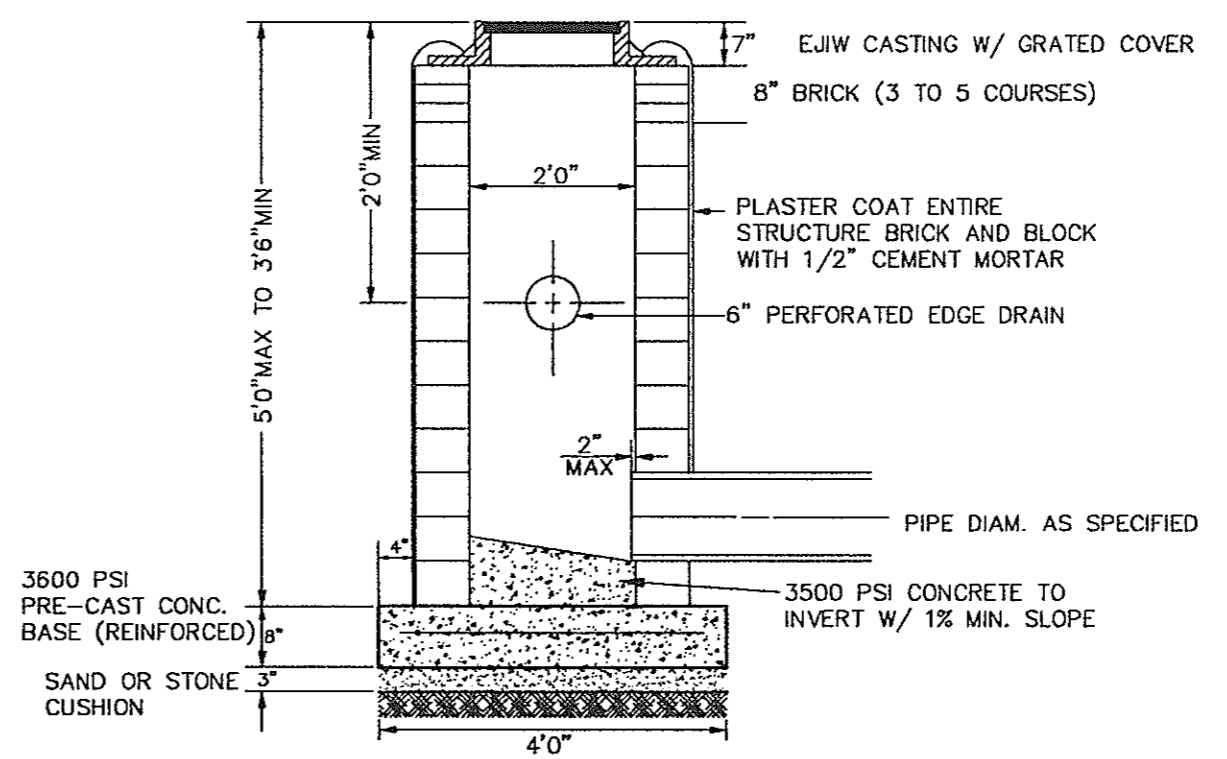
STORM MANHOLE



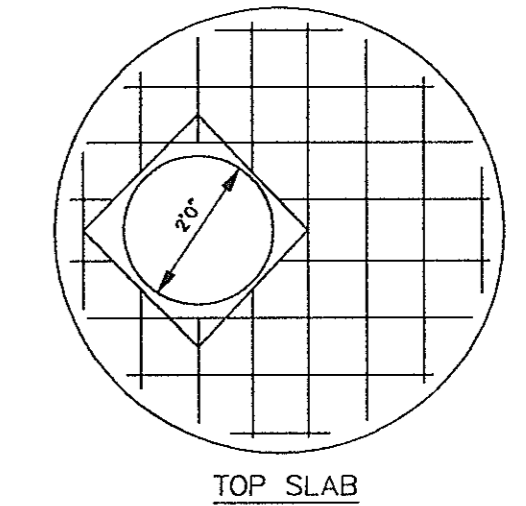
4' DIAMETER STORM CATCH BASIN



4' DIAMETER INLET STRUCTURE



2' DIAMETER INLET STRUCTURE



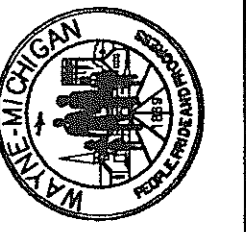
FLAT TOP STORM STRUCTURE

OUTLET D	M.H. I.D.	TOP SLAB "T"	WALLS "T"	REINF STEEL*
24"	42"	9"	8"	#6 @ 9" E.W.
30"	48"	9"	8"	#6 @ 9" E.W.
36"	54"	9"	12"	#6 @ 9" E.W.
42"	60"	10"	12"	#6 @ 9" E.W.
48"	66"	11"	12"	#7 @ 9" E.W.
54"	72"	11"	12"	#7 @ 9" E.W.

* TOP SLAB
** 2' SUMP REQ'D. FOR MANHOLE WITH OUTLETS OF 18" & UNDER

DRAWN BY: M.L.B.
SCALE: 1"=10'
DATE: 00-00-99
REVISIONS:

STANDARD SEWER DETAILS



CITY OF WAYNE
ENGINEERING DEPARTMENT

4001 S. WAYNE ROAD WAYNE, MI 48184 (734)728-9100

SHEET X OF X