

PREOWNED CAR DISPLAY AUDI OF ROCHESTER HILLS

45545 & 45555 DEQUINDRE ROAD, ROCHESTER HILLS, MICHIGAN 48315

OWNER

EITEL DAHM PROPERTIES
45550 DEQUINDRE ROAD
SHELBY TOWNSHIP, MICHIGAN 48317
EMAIL: eitel.dahm@edmotorgroup.com

ARCHITECT

CHMP, INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
(810) 645-5910
(810) 645-0680 (FAX)
EMAIL: chonovate@chmpinc.com

ELECTRICAL ENGINEER

DICLEMENTE SIEGEL DESIGN INC.
1075 E. BRISTOL ROAD
BURTON, MICHIGAN 48529
(810) 238 1024
(810) 238 7114 (FAX)
EMAIL: dsvtas@dcdonline.com

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ADS - ADVANCE DRAINAGE SYSTEMS INC.

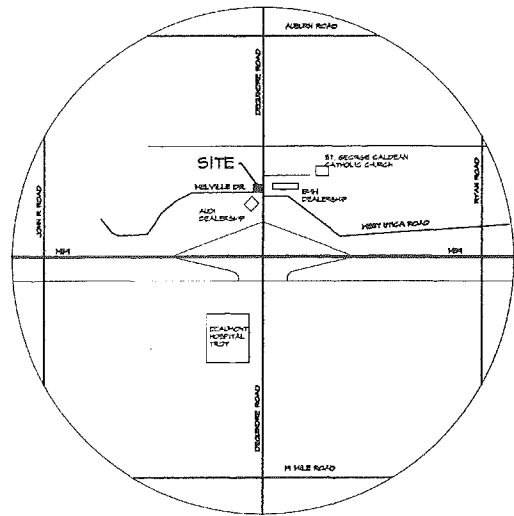
1. TITLE SHEET / SPECIFICATIONS
2. PROPOSED LAYOUT / ELEVATIONS
3. FILL MATERIALS / CHAMBER SYSTEMS
4. DETAILS
5. DETAILS

DRAWING SYMBOLS

	SECTION CUT		INTERIOR ELEVATION
	DETAIL NUMBER		COLUMN CENTERLINE
	DETAIL REFERENCE		GLASS ELEVATION NUMBER
	FINISH ELEVATION		BUILDING SECTION
	INTERIOR ELEVATION		ROOM NUMBER
			WINDOW NUMBER

ABBREVIATIONS

°	ANGLE	INT.	INTERIOR
⊥	ANCHOR BOLT	JAN.	JANITOR
A.B.	AIR CONDITIONING	J.B./J. BOX	JUNCTION BOX
A.C.	ACOUSTICAL	LAM.	LAMINATE
ACQST.		LAV.	LAVATORY
ADJ.	ADJUSTABLE	LL.	LANDLORD
A.F.F.	ABOVE FINISH FLOOR	MAS.	MASONRY
ALT.	ALTERNATE	MATL.	MATERIAL
ALUM.	ALUMINUM	MAX.	MAXIMUM
ARCH.	ARCHITECTURAL	MECH.	MECHANICAL
BLKS.	BLOCKING	MET.	METAL
B.M.	BENCH MARK	MISG.	MISCELLANEOUS
BOT.	BOTTOM	MIN.	MINIMUM
BRG.	BEARING	M.O.	MASONRY OPENING
B.U.R.	BUILT UP ROOF	N.C.	NOT IN CONTRACT
CHNL.	CHANNEL	N.T.S.	NOT TO SCALE
C.T.	CERAMIC TILE	O.C.	ON CENTER
C.J.	CONTROL JOINT	O.D.	OUTSIDE DIAMETER
CL/L	CENTER LINE	OPUS.	OPENING
CLG.	CEILING	OPP.	OPPOSITE
C.O.	CLEAN OUT	PL.LAM.	PLASTIC LAMINATE
COL.	COLUMN	PL./E.	PLATE
CONC.	CONCRETE	PLYCD.	PLYWOOD
CONST. JT.	CONSTRUCTION JOINT	FR.	FAIR
CONT.	CONTINUOUS	R.A.	RETURN AIR
DBL.	DOUBLE	R.	RADIUS
DET.	DETAIL	R.D.	ROOF DRAIN
DIA/φ	DIAMETER	REF.	REFRIGERATOR
DIV.	DIVISION	REINF.	REINFORCING
DN.	DOWN	REQ.	REQUIRED
DN.	DISHWASHER	S.A.	SUPPLY AIR
D.S.	DOWN SPOUT	S.F.S.	SURFACE FOUR SIDES
DWS.	DRAWING	S.C.	SOLID CORE
EA.	EACH	SHT.	SHEET
E.J.	EXPANSION JOINT	SPEC.	SPECIFICATION
ELEC.	ELECTRICAL	SS.	SERVICE SINK
ELEV.	ELEVATION	ST.STL.	STAINLESS STEEL
EQ.	EQUAL	STL.	STEEL
EST.	ESTIMATE	STOR.	STORAGE
E.N.	EACH WAY	STR.	STRUCTURAL
E.W.C.	ELECTRICAL WATER COOLER	T.	THERMOSTAT
EXP.	EXPANSION	T.C.	TOP OF CURB
EXT.	EXTERIOR	TEN.	TENANT
FIN. FLR/F.F.	FINISH FLOOR	T.G.C.	TENANT'S GENERAL CONTRACTOR
FIN.	FINISH	T.P.	TOP OF PAVING
FLR.	FLOOR	TYP.	TYPICAL
F.S.	FLOOR SINK	UNO.	UNLESS NOTED OTHERWISE
F.B.O.	FURNISHED BY OWNER	V.I.F.	VERIFY IN FIELD
F.D.	FLOOR DRAIN	V.T.R.	VENT THROUGH ROOF
FDN.	FOUNDATION	W.H.	WATER HEATER
GA.	GAUGE	WI.	WROUGHT IRON
GALV.	GALVANIZED	WP.	WATER PROOF
G.C.	GENERAL CONTRACTOR	WR.	WATER RESISTANT
G.I.	GALVANIZED IRON	WT.	WEIGHT
H.B.	HOSE BIBB	WV	WITH
H.C.	HOLLOW CORE	W/O	WITHOUT
HDR.	HARDWARE		
H.M.	HOLLOW METAL		
I.D.	INSIDE DIAMETER		
INSUL.	INSULATION		



LOCATION MAP
N.T.S.

TITLE SHEET
PROJECT No. 14004500

10-13-2014

NO CHANGES THIS SHEET



TREE PLAN

LEGAL DESCRIPTION:
PROPERTY DESCRIPTION:
PARCEL #15-036-26-002

A PARCEL OF LAND IN THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4, OF SECTION 36, TOWN 3 NORTH, RANGE 11 EAST, AVON TOWNSHIP (N.W. CITY OF ROCHESTER HILLS), OAKLAND COUNTY, MICHIGAN, STARTING AT THE EAST 1/4 POST, THENCE S.00°51'30"W, 1118.88 FEET TO THE POINT OF BEGINNING; THENCE S.00°51'30"W, 100 FEET ALONG CENTERLINE OF DEQUINDRE ROAD; THENCE N.88°57'30"W, 260 FEET; THENCE N.00°51'30"E, 100 FEET; THENCE S.88°57'30"E, 260 FEET TO THE POINT OF BEGINNING EXCEPT THE EASTERLY 80 FEET TAKEN BY THE MICHIGAN STATE HIGHWAY COMMISSION AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 5576, PAGE 77 OAKLAND COUNTY RECORDS.

PARCEL #15-36-426-003

PART OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4, OF SECTION 36, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, COMMENCING AT A POINT WHICH IS 1218.88 FEET S.00°51'30"W, OF THE EAST 1/4 POST OF SAID SECTION 36 AND THENCE EXTENDING S.00°51'30"W, 100.00 FEET; THENCE N.88°57'30"E, 260.00 FEET; THENCE N.00°51'30"E, 100.00 FEET; THENCE S.88°57'30"E, 260.00 FEET TO THE POINT OF BEGINNING, EXCEPT THE EASTERLY 80 FEET DEEDED FOR ROAD PURPOSES.

1801 VILLAGE GREEN BLVD
ROCHESTER HILLS, MI 48307
#15-36-426-010

1801 VILLAGE GREEN BLVD
ROCHESTER HILLS, MI 48307
#15-36-426-010

BENCHMARK:

BM #1
ARROW ON HYDRANT AT THE SOUTH EAST CORNER OF PROPERTY.
ELEVATION: 700.51 NAVD 88 DATUM

BM #2
SET PK NAIL IN EAST FACE UTILITY POLE WEST SIDE OF DEQUINDRE ROAD BETWEEN 4545 AND 4555
ELEVATION: 700.47 NAVD 88 DATUM

45441 DEQUINDRE RD
ROCHESTER, MI 48307
#15-36-426-008

S.E. CORNER
SECTION 36, T.3N., R.11E.,
CITY OF ROCHESTER HILLS,
OAKLAND COUNTY,
L.1507, P.730 O.C.R.

1801 VILLAGE GREEN BLVD
ROCHESTER HILLS, MI 48307
#15-36-426-010

E. 1/4 CORNER
SECTION 36, T.3N., R.11E.,
CITY OF ROCHESTER HILLS,
OAKLAND COUNTY,
L.14992, P.117 O.C.R.

3 FULL WORKING DAYS
BEFORE YOU DIG CALL

811

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MISS 811 System, Inc.

1-800-482-7171 www.missdg.com



SCALE: 1" EQ. 15'



REICHERT
SURVEYING INC.
140 FLUMERFELT LANE
ROCHESTER, MI 48306

P: (248) 658-0562
F: (248) 658-7099
E: MAIL@RSI.COM
REICHERTSURVEYING.COM

LEGEND:

○ FOUND IRON

TREE TABLE		
#	DESC.	ELEV.
1940	12" APPLE	700.32
1941	18" 15" 11" 10" 8" MAPLE	700.62
1942	11" PINE	700.58
1943	5" 6" MULBERRY	700.42
1944	13" 14" MAPLE	700.14
1945	9" 11" BASSWOOD	699.35
1946	10" BASSWOOD	699.76
1947	10" 11" 14" APPLE	699.46
1948	7" APPLE	699.36
1949	7" APPLE	699.07
1950	5" APPLE	698.59
1951	6" APPLE	698.36

TREE TABLE		
#	DESC.	ELEV.
1952	12" PINE	699.56
1953	12" PINE	699.81
1954	11" PINE	699.16
1955	13" PINE	699.49
1956	12" PINE	698.99
1957	13" MAPLE	699.19
1958	11" MAPLE	698.38
1959	13" MAPLE	698.44

TREE PLAN
PART OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4, OF SECTION 36, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

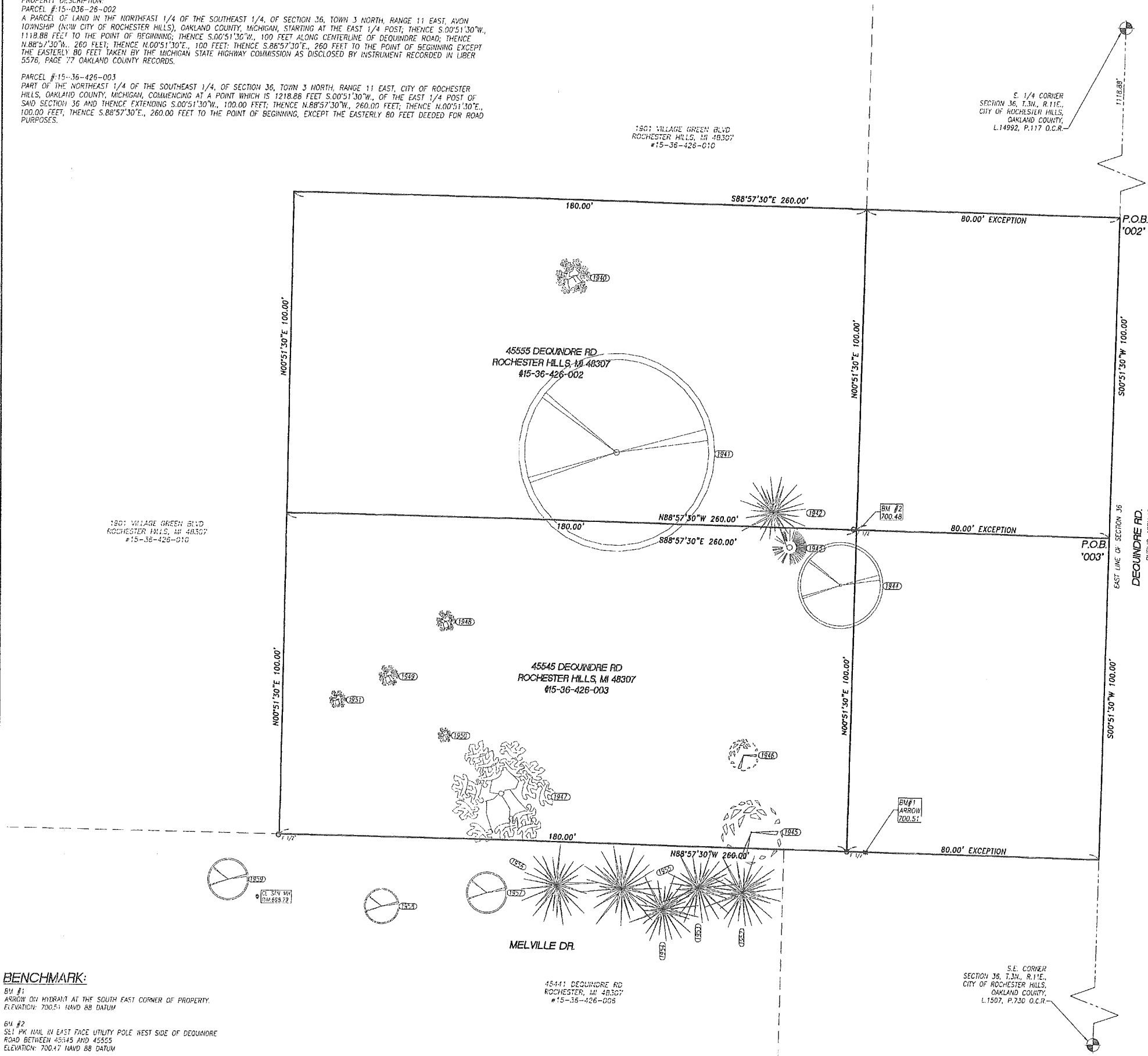
PREPARED FOR:
AUDI OF ROCHESTER HILLS
45441 DEQUINDRE RD.
ROCHESTER HILLS, MI 48307
(248) 997-7400

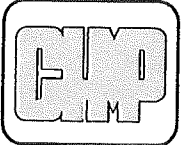
SEAL:

E. L. [Signature]

DATE	DESCRIPTION	DATE	DESCRIPTION

SCALE: 1" = 15' DRAWING: D.G.R.
DATE: 4/2/15 CHECK: G.H.R.
JOB # 15-028 SHEET: 1 OF 1





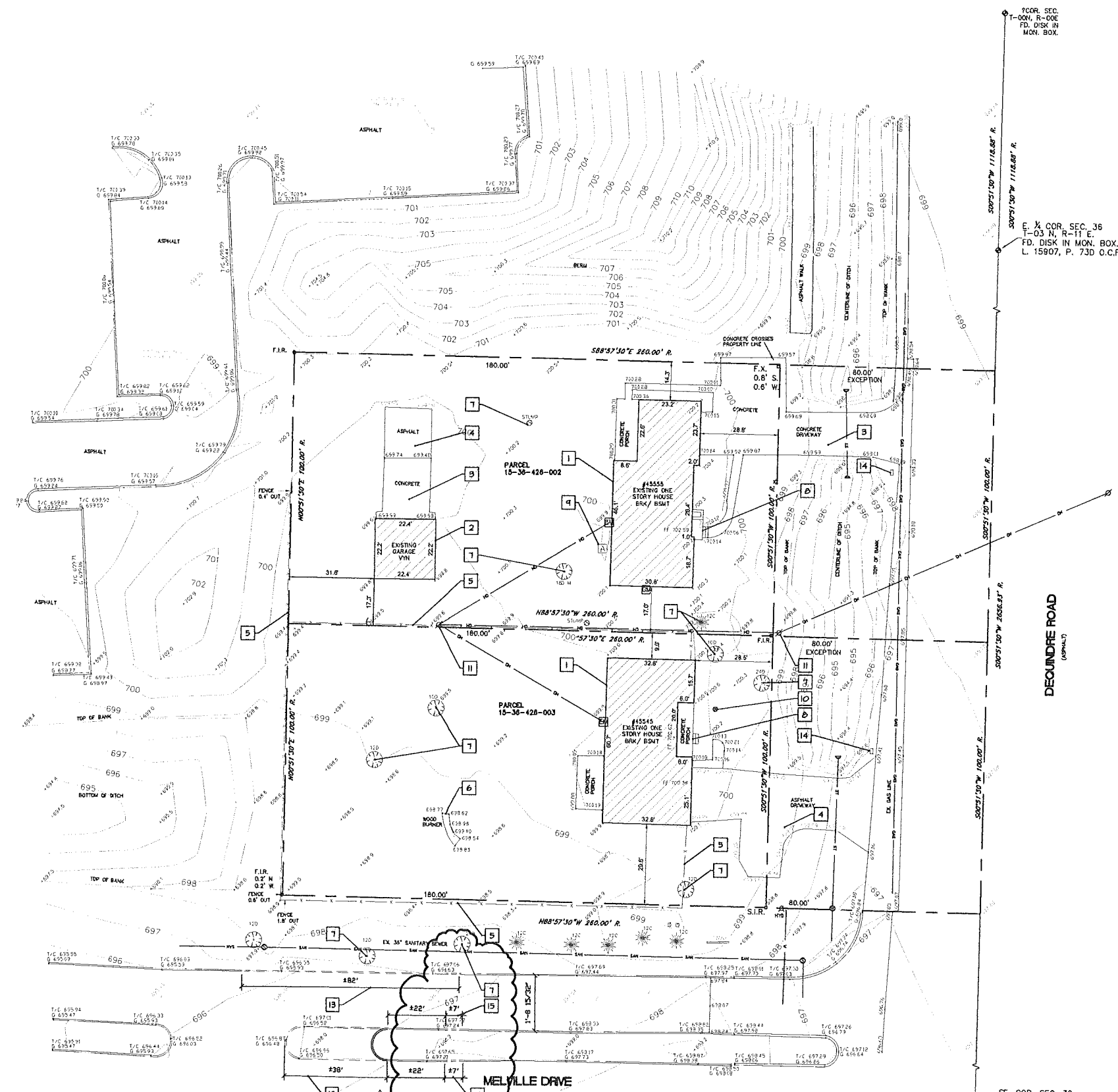
ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
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FREONNED CAR DISPLAY
Audi of Rochester Hills
 45545 & 45555 DEQUINDRE ROAD, CITY OF ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO. 14004800
DATE 10-15-2014
AS BUILT DATE
DRAWN BY RSP
CHECKED BY DH
SCALE AS NOTED
REVISION DATE
07-15-2015

SHEET NO.
D-1
OF 1
CITY FILE #00-001.2



- LEGEND**
- R. RECORD
 - M. MEASURED
 - F.X. FOUND CUT CROSS
 - F.I.R. FOUND IRON ROD
 - S.I.R. SET IRON ROD
 - G.M. GAS METER
 - E.M. ELECTRIC METER
 - U.P. UTILITY POLE
 - A.C. AC UNIT
 - D.T. DECIDUOUS TREE
 - C.T. CONIFER TREE
 - L.P. LAMP POST
 - T.B. TELEPHONE BOX
 - O.W. OUY WIRE
 - F.H. FIRE HYDRANT
 - S.D. SOL DORING
 - T-24" TREE-24" DIA.
 - D.W. DOMESTIC WATER WELL
 - S.E. EX. SPOT ELEVATION
 - C.L. EX. CONTOUR LINES
 - P.L. PROPERTY LINE
 - S.S. EX. STORM SEWER
 - F.L. EX. FENCE LINE
 - S.L. EX. SEWER LINE
 - G.L. EX. GAS LINE
 - W.L. WATERMAIN LINE
 - O.L. OVERHEAD LINES

- REFERENCE NOTES**
THE FOLLOWING ITEMS ARE TO BE DEMOLISHED / REMOVED
- 1 ONE STORY HOUSE WITH BASEMENT
 - 2 ONE STORY GARAGE
 - 3 CONCRETE PAVING
 - 4 ASPHALT PAVING
 - 5 FENCE
 - 6 WOOD BURNER
 - 7 TREE AND/OR STUMP
 - 8 CONCRETE PORCH
 - 9 AIR CONDITIONER CONDENSER
 - 10 DOMESTIC WATER WELL BY OTHERS
 - 11 POLE AND OVERHEAD WIRES BY UTILITY CO.
 - 12 ASPHALT CURB AND ISLAND (SEE SITE PLAN)
 - 13 ASPHALT CURB AND PAVING (SEE SITE PLAN)
 - 14 MAIL BOX
 - 15 ASPHALT CURB

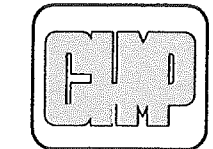
7COR. SEC. 36
T-03 N, R-11 E.
FD. DISK IN MON. BOX.
L. 15907, P. 73D O.C.R.

E. X. COR. SEC. 36
T-03 N, R-11 E.
FD. DISK IN MON. BOX.
L. 15907, P. 73D O.C.R.

SE. COR. SEC. 36
T-03 N, R-11 E.
FD. DISK IN MON. BOX.
L. 14992, P. 117 O.C.R.



DEMOLITION PLAN
SCALE 1" = 20'-0"



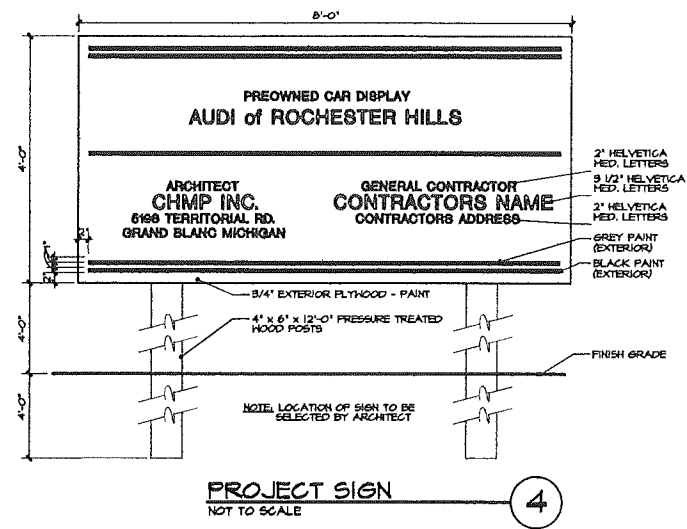
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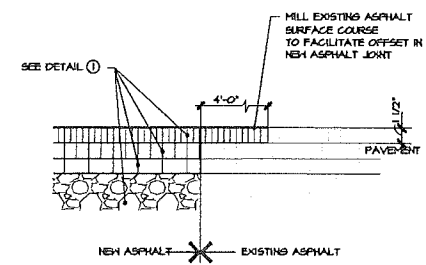
PREOWNED CAR DISPLAY
AUDI of Rochester Hills
 45545 & 45555 DEQUINDRE ROAD, CITY OF ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO. 14004900
 DATE 10-15-2014
 AS BUILT DATE
 DRAWN BY RBF
 CHECKED BY CH
 SCALE AS NOTED
 REVISION DATE 07-15-2015

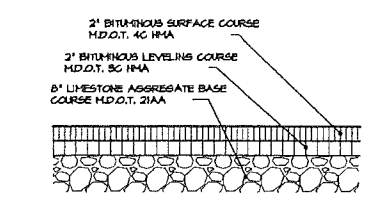
SHEET NO.
C-1
 OF 4
 CITY FILE #00-001.2



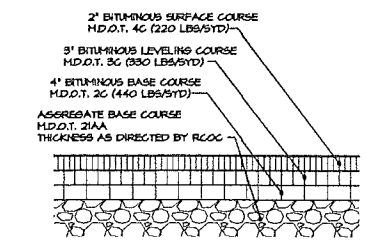
PROJECT SIGN
 NOT TO SCALE



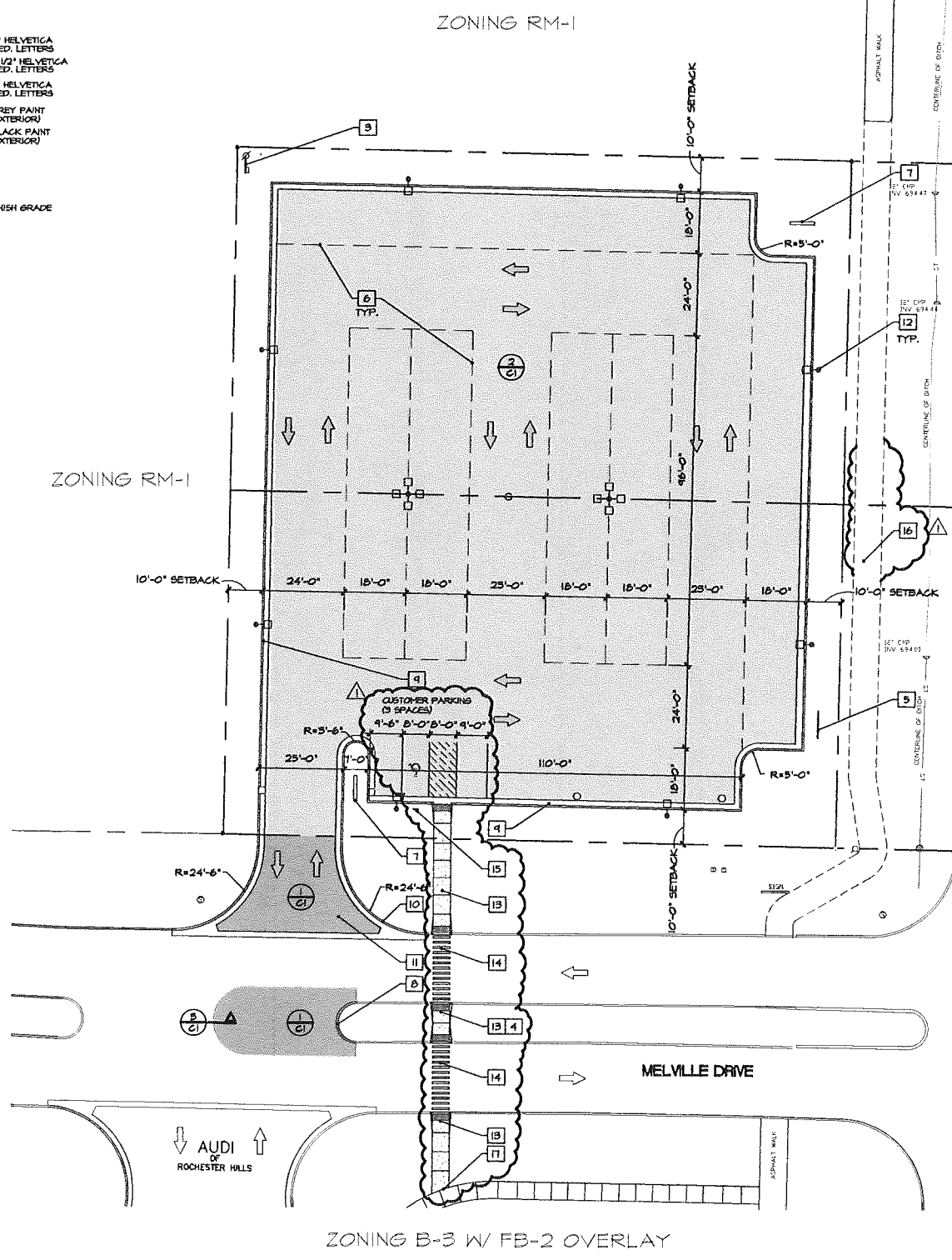
PAVING JOINT
 N.T.S. 02510-016



HMA PAVING SECTION
 N.T.S.

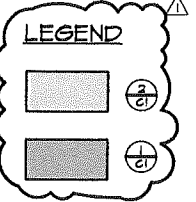


HMA PAVING SECTION
 N.T.S.



GENERAL NOTES

- NO MAJOR REPAIR OR MAJOR REFINISHING SHALL BE DONE ON THE LOT.
- ALL SIGNS MUST MEET SECTION 130-6.304 AND CHAPTER 134 OF THE CITY CODE OF ORDINANCES AND BE APPROVED UNDER A SEPARATE PERMIT ISSUED BY THE BUILDING DEPARTMENT.



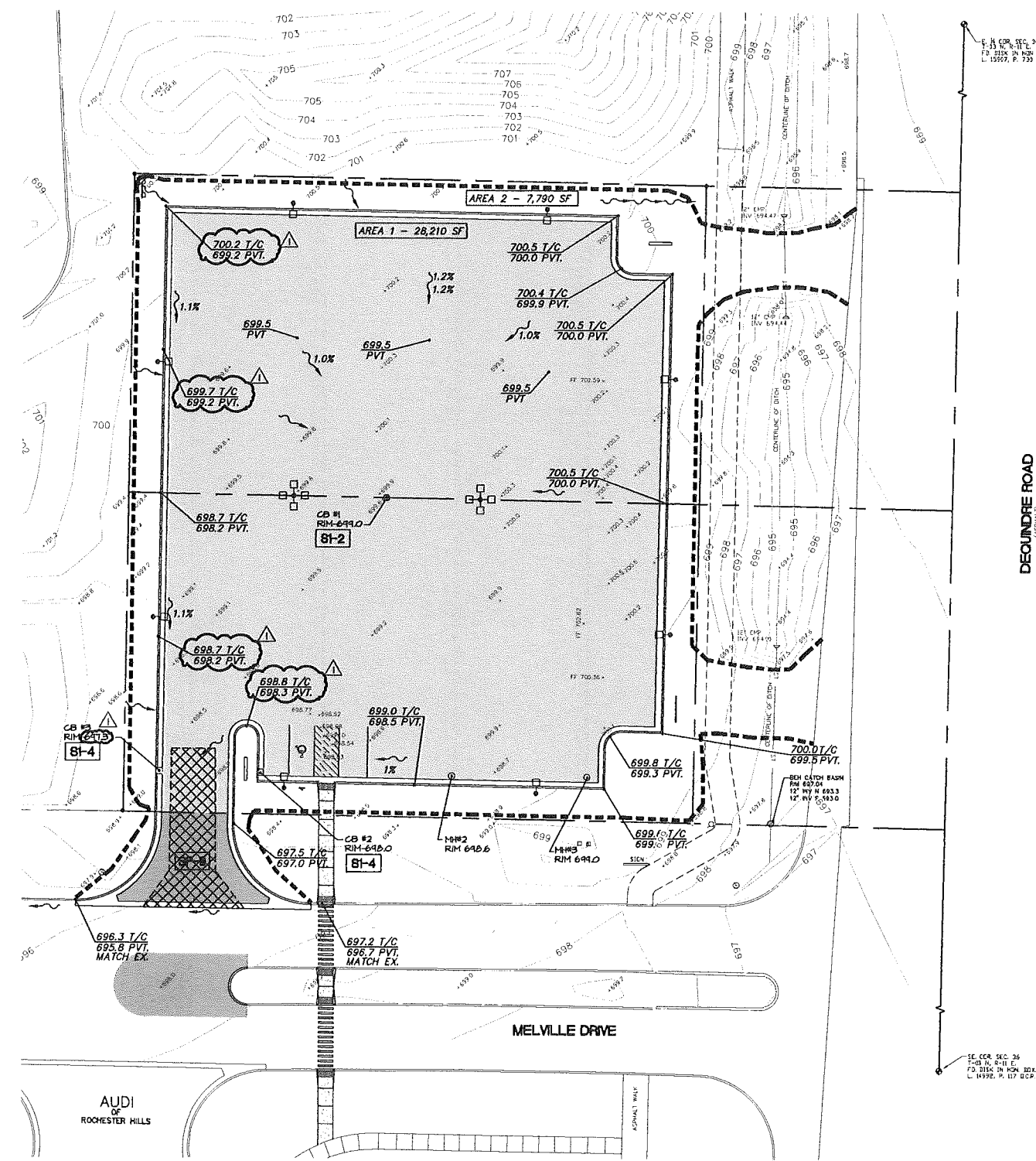
SITE DATA

PARCEL SIZE	200'-0" X 260'-0" (COMBINED LESS R.O.W.) 1.19 ACRES (52,000 S.F.)
EXISTING USE	RESIDENTIAL
PROPOSED USE	USED CAR SALES
ZONING	B2 - GENERAL BUSINESS
PARKING SETBACK	10'-0" AT R.O.W. AND ABUTTING RESIDENTIAL

- REFERENCE NOTES**
- CATCH BASIN - SEE UTILITY PLAN
 - LIGHT POLE - SEE ELECTRICAL PLAN
 - NEW ELECTRICAL SERVICE - SEE ELECTRICAL PLAN
 - SLOPE WALK 2% TOWARD CURBS
 - TEMPORARY CONSTRUCTION SIGN DETAIL 4/C1
 - PARKING DESIGNATIONS SHOWN FOR PLANNING PURPOSES
 - INTERNALLY ILLUMINATED MONUMENT SIGN
 - NEW ASPHALT CURB TO MATCH EXISTING
 - MDOT F4 CURB AND BUTTER PER MDOT 12-24-6 TYPICAL INTERIOR
 - MDOT B-2 CURB AND BUTTER PER MDOT R-24-6
 - DRIVE OPENINGS AND APPROACH PER MDOT R-24-6, DETAIL 1' WITHIN ROAD RIGHT OF WAY
 - LIGHT POLE - REFER TO SITE ELECTRICAL
 - 3" CONC. SIDEWALK (4" CONC. SLAB ON GRADE W/ 6x6x14x1.4 W/F REINFORCING) & RAMP SLOPING 1/12 W/ DETECTABLE SURFACE. REFER TO MDOT DETAIL R-28-1
 - PAINTED PEDESTRIAN CROSSINGS
 - ACCESSIBLE PARKING SIGN
 - PROPOSED FUTURE WALK BY RCOG IN 2016/2017
 - MATCH EXISTING WALK

UTILITY NOTE:
 ALL UTILITY LINES SHALL BE MAINTAINED AT ALL TIMES. BEFORE YOU DIG, CALL MISS DIG, 811. A WORKING DAY BEFORE YOU DIG.

SITE PLAN
 SCALE 1" = 20'-0"



GRADING NOTES

1. SLOPE ALL PAVED SURFACES TO DRAIN TO STORM STRUCTURES. MINIMUM SLOPE ON NEW PAVED AREAS SHALL BE 0.5% MAXIMUM SHALL BE 4.0%.
2. CHECK LOCATION OF ALL UTILITY LINES PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO UTILITIES AND/OR THE OWNER'S PROPERTY AND SHALL REPAIR, REPLACE, OR RESTORE SAME AT THE CONTRACTOR'S EXPENSE. CALL 4656 DIG (9) WORKING DAYS BEFORE DIGGING AT 1-800-483-3111.
3. SLOPE ALL SITE WORK UNIFORMLY BETWEEN NEW GRADES OR BETWEEN NEW GRADES AND EXISTING GRADES. THIS INCLUDES SLOPING ALL SITE WORK BETWEEN NEW GRADES AND EXISTING GRADES AT CATCH BASINS. TRANSITIONS BETWEEN CHANGE IN GRADES SHALL BE CONSTRUCTED WITH A MINIMUM 25 FOOT VERTICAL CURVE. PLAN GRADES INDICATE POINT OF INTERSECTION ELEVATIONS. ABRUPT GRADE CHANGES AT CATCH BASINS AND HIGH POINTS ARE NOT ALLOWED.
4. AREA OF PAVING SHALL BE STRIPPED OF TOPSOIL. TOPSOIL SHALL BE STORED ON THIS CONSTRUCTION SITE FOR RE-USE. EXCESS EXCAVATED MATERIAL SHALL BE REMOVED FROM THIS CONSTRUCTION SITE.
5. ALL FILL NECESSARY TO PROVIDE SUBGRADES FOR DRIVEWAYS AND PARKING SPACES SHALL BE MICHIGAN DEPARTMENT OF TRANSPORTATION CLASS II.
6. OBTAIN PERMIT AND PROVIDE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES IN ACCORD WITH OAKLAND COUNTY REQUIREMENTS. SEE EROSION CONTROL MEASURES ON THIS SHEET.
7. ALL REINFORCED CONCRETE PIPE SHALL BE PLACED IN 1800 STD. DET. IV-500 TRENCH DETAIL 'B' UNDER PAVED AREAS AND TRENCH DETAIL 'A' UNDER LAWN AREAS.
8. DRAIN TILE FOR EDGE DRAINS AND SUB-PAVEMENT DRAINS WHERE INDICATED SHALL BE 4" POLYETHYLENE CORRUGATED PERFORATED DRAINAGE PIPE WITH NYLON SOCK. PROVIDE FITTINGS FOR TURNS AND CONNECTIONS AS REQUIRED. CONNECT TO STORM STRUCTURE.
9. FOR THE PURPOSE OF THESE BIDDING DOCUMENTS THE TERM 'DEVELOPER' SHALL BE CONTRACTOR.
10. DEVELOPER SHALL OBTAIN APPROVAL FROM CITY OF ROCHESTER HILLS PRIOR TO CONSTRUCTING THE STORM SYSTEM AND DISCHARGE REFER AND FOLLOW RECOMMENDATION FOUND IN THE GEOTECHNICAL REPORT.
11. PREPARED BY CONSTRUCTION TESTING SERVICES (CTS) 603 0766. SEE SHEET S-21 FOR SOIL BORING LOCATIONS.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

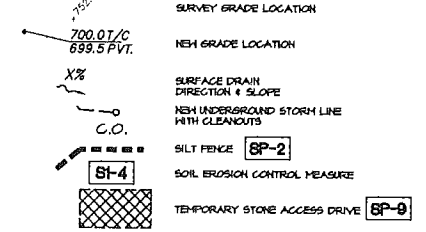
1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OF THE OAKLAND COUNTY DRAIN COMMISSIONER. REFER TO SOIL EROSION AND SEDIMENTATION CONTROL DETAILS, SHEET C-101.
2. ALL TEMPORARY AND PERMANENT (POST CONSTRUCTION) SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO THE CITY OF ROCHESTER HILLS CURRENT MSA PERMIT. ANY CONFLICT BETWEEN THESE STANDARDS AND THE MSA PERMIT, THE PERMIT'S CONDITIONS SHALL TAKE PRECEDENCE.
3. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES, AND ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY.
4. ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS.
5. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. TEMPORARY MEASURES SHALL BE REMOVED AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES, AND OTHER FATH CHANGES HAVE BEEN ACCOMPLISHED PER OAKLAND COUNTY DRAIN COMMISSIONER'S STANDARDS. THIS WOULD INCLUDE TEMPORARY SEDIMENTATION PONDS AND TEMPORARY SOD FILTERS.
6. STAGING THE WORK WILL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLANS AND AS REQUIRED TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED FATH.
7. SOIL EROSION CONTROL PRACTICES SHALL BE ESTABLISHED IN THE EARLY STAGES OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENT CONTROL PRACTICES WILL BE APPLIED AS A PERIMETER OFFSET AGAINST ANY TRANSPORT OF SOIL OFF THE SITE.
8. FAILURE TO COMPLY WITH APPROVED SOIL EROSION AND SEDIMENTATION MEASURES MAY RESULT IN WORK STOPPAGE BY APPROPRIATE AUTHORITY.
9. EXCEPTIONS TO THESE CONTROL MEASURES INSTALLATION WILL ONLY BE PERMITTED WHERE TRENCHES AND STUMPS NEED TO BE REMOVED TO INSTALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.
10. CONTRACTOR IS TO PROVIDE THE CITY WITH PERMIT RENEWALS, VIOLATION CORRECTIONS, AND OMB RELEASES.

TO BE COMPLETED BY CONTRACTOR PRIOR TO PERMIT ISSUANCE

MAINTENANCE SEQUENCE	MAINTENANCE SCHEDULE											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
STREET SHEEPINGS												
SILT FENCING												
MAINTAIN BUFFER STRIPS												
INLET STRUCTURES												
SEEDING AND MULCH												
SEDIMENT BASINS												
RIP-RAP												
REMOVE TEMPORARY MEASURES												

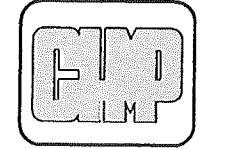
CONSTRUCTION SEQUENCE	CONSTRUCTION SCHEDULE											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TEMPORARY SEEG MEASURES												
RUSH GRADING												
UNDERGROUND UTILITIES												
ROAD INSTALLATION												
BUILDING CONSTRUCTION												
PERMANENT SEEG MEASURES												
FINAL GRADE												
LANDSCAPING												

LEGEND



GRADING AND SOIL EROSION CONTROL PLAN
SCALE 1" = 20'-0"

CHMP INC.
5108 TERRITORIAL ROAD
GRAND BLAND, MI 48480
TELEPHONE 810/888-8010



ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

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PREOWNED CAR DISPLAY
Audi of Rochester Hills
45545 & 45555 DEQUINDRE ROAD, CITY OF ROCHESTER HILLS, MICHIGAN 48304

PROJECT NO. 14004800
DATE 10-15-2014
AS BUILT DATE
DRAWN BY
CHECKED BY
SCALE AS NOTED
REVISION DATE 07-15-2015

SHEET NO.
C-2
OF 4

CITY FILE #00-001.2

UTILITY NOTE:
ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS STANDARD SPECIFICATIONS FOR PUBLIC UTILITIES. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS STANDARD SPECIFICATIONS FOR PUBLIC UTILITIES. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS STANDARD SPECIFICATIONS FOR PUBLIC UTILITIES. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS STANDARD SPECIFICATIONS FOR PUBLIC UTILITIES.

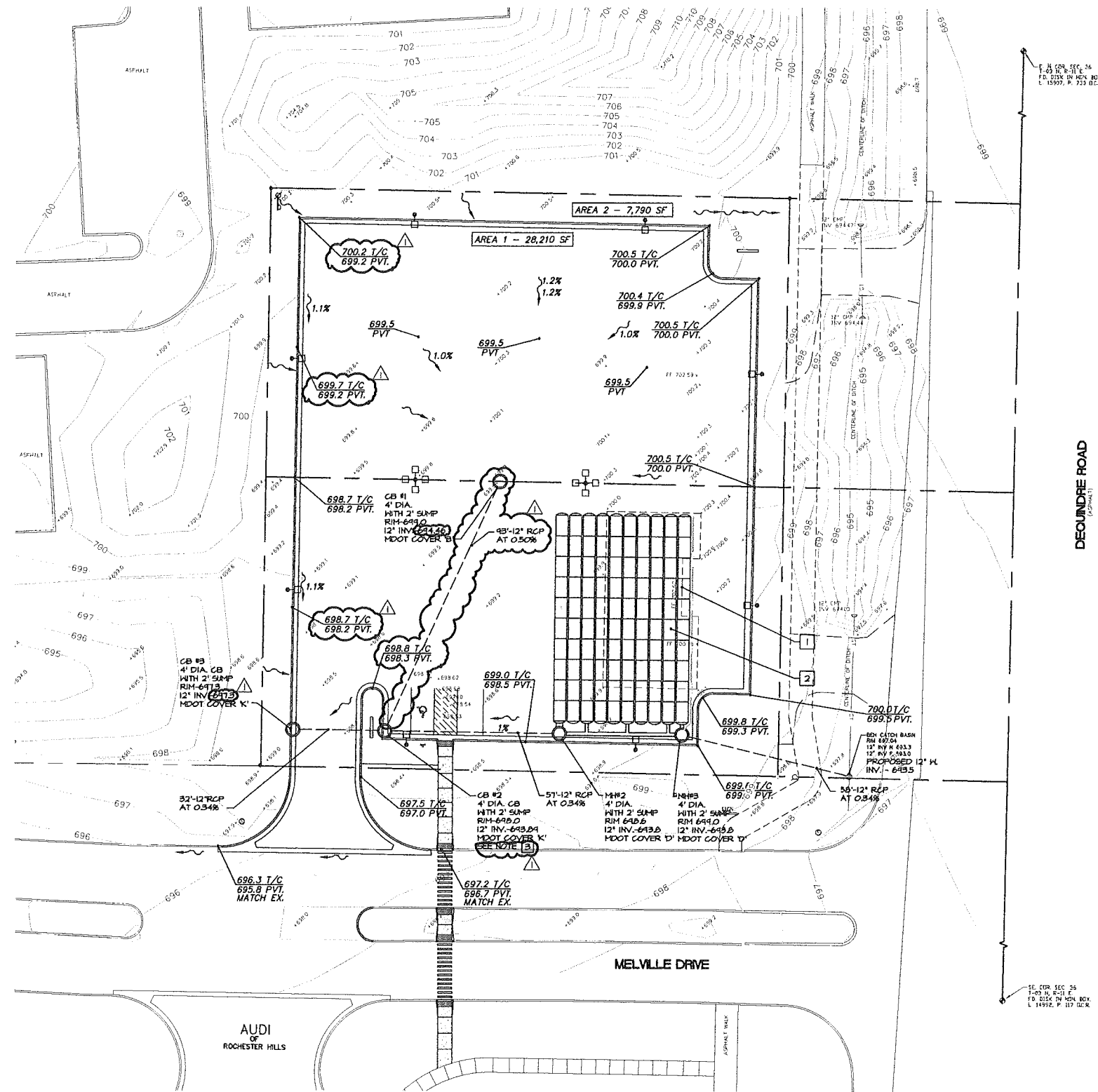
WORKING DAYS BEFORE YOU DID CALL MISS DIG, 811



ARCHITECTURE
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 LANDSCAPE ARCHITECTURE
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FREONNED CAR DISPLAY
Audi of Rochester Hills
 45545 & 45555 DEQUINDRE ROAD, CITY OF ROCHESTER HILLS, MICHIGAN 48304



LEGEND

- 68.3 EX. CONTOURS
- 69.5 EX. SPOT ELEVATIONS
- 691.36 PROPOSED ELEVATIONS
- T/R TOP OF RAMP ELEVATIONS
- T/W TOP OF WALK ELEVATIONS
- T/C TOP OF CURB ELEVATIONS
- PVT PAVEMENT ELEVATIONS
- SP-2 EROSION CONTROL KEY
- 31 — EX. STORM SEWER
- NEW STORM SEWER
- 3.5% SURFACE DRAIN DIRECTION & SLOPE
- NEW STORM SEWER STRUCTURE

REFERENCE NOTES

- 1 DEMOLISHED HOUSE AND BASEMENT LOCATION SHOWN DOTTED
- 2 UNDERGROUND DETENTION SEE ADS DRAWINGS 1-3
- 3 STORMWATER PRETREATMENT DEVICE SHALL BE HYDRO INTERNATIONAL DOWN STREAM DEFENDER, 4' DIAMETER OR APPROVED EQUAL CAPABLE OF MEETING OAKLAND COUNTY WATER RESOURCE COMMISSION STANDARDS.

**DETENTION VOLUME CALCULATION
 OAKLAND COUNTY METHOD**

Total Area (outside R/W)	36,000 square feet
Area 1 (Paving)	28,210 square feet
C 1	0.95
Area 2 (Grass)	7,790 square feet
C 2	0.25
Net C	0.80
Q _A = (A) (0.2 cfs/acre)	0.17 cfs
Q _B = Q _A /AC	0.25 cfs/acre

Storage time for 100-year storm

$$T_{100} = -25 + (10,312.5 Q_{100})^{1/2}$$

$$T_{100} = 177.91 \text{ minutes}$$

$$V_s = 16,500 (T_{100} + 25) - 40 Q_{100} T_{100}$$

$$V_s = 12,685 \text{ cubic feet/acre-inpervious}$$

$$V_i = V_s AC = 8,371 \text{ cubic feet}$$

$$d = 0.19 \text{ acre-feet}$$

Orifice Calculation

Allowable discharge	0.17 cfs
Flow (Q) = CA (2gh) ^{0.5}	
C = 0.6	
Orifice Cross Section Area (A)	
gravity (g) = 32.2 feet/sec ²	
distance from highwater to center of pipe	
d = depth of storage	3.8 feet

Orifice Diameter (D)	Area (A)	h	Flow (Q)
(inches)	(ft ²)	(ft)	(cfs)
2	0.02	3.67	0.20
3	0.05	3.63	0.45
4	0.09	3.58	0.80
5	0.14	3.54	1.24
6	0.20	3.50	1.77

UTILITY NOTE:
 ALL UTILITIES SHOWN ARE BASED ON RECORD DRAWINGS AND FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. CALL 811 BEFORE YOU DIG.

STORMWATER MANAGEMENT PLAN
 SCALE 1" = 20'-0"

PROJECT NO. 14004500
 DATE 10-15-2014
 AS BUILT DATE
 DRAWN BY REP
 CHECKED BY DH
 SCALE AS NOTED
 REVISION DATE
 07-15-2015

SHEET NO.
C-3
 OF 4
 CITY FILE #00-0012



ARCHITECTURE
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PREOWNED CAR DISPLAY
Audi of Rochester Hills
 45545 & 45555 DEQUINDRE ROAD, CITY OF ROCHESTER HILLS, MICHIGAN 48304

PROJECT NO. 14004500
DATE 10-15-2014
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SCALE AS NOTED
REVISION DATE
07-15-2015

SHEET NO. C-4
CITY FILE #00-001.2

LANDSCAPE NOTES:

- INSTALLATION OF PLANT MATERIAL SHALL BE IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS, LATEST EDITION.
- PLACE 4" OF SHREDED CEDAR OR HARDWOOD BARK MULCH AROUND ALL NEW PLANT MATERIAL. MULCH SHOULD BE 2" THICK BY 3" DIAMETER HALVED RINGS AT THE BASE OF ALL TREES IN LAND AREAS. CUT TOP OR SEED IN A SMOOTH UNIFORM CIRCULAR LINE.
- IF A MINIMUM DEPTH TOPSOIL OVER ALL LAND AND LANDSCAPING AREAS HYDRO-SEED LAND IN ACCORDANCE WITH THE FOLLOWING MIXTURE: 50% SOD GRASS, 25% PERennial Ryegrass OR REDTOP, 25% BLUEGRASS, 15% NEWPORT KY BLUEGRASS OR A NURSERY FROM BLUEGRASS SOO MIXTURE.
- PROTECT SEED MIX WITH SLURRY MULCH ON SLOPES BETWEEN 4:1 AND 5:1 USE A STRAIN BLANKET OR SLURRY WITH A PHOTODEGRADABLE NETTING ON TOP SIDE SO ON A 2 INCH CENTERS. FOR SLOPES STEEPER THAN 5:1 AND USE A STRAIN BLANKET WITH PHOTODEGRADABLE NETTING ON BOTH SIDES SO ON 2 INCH CENTERS.
- ALL EXISTING LANDSCAPED AND LAND AREAS WHICH ARE DAMAGED AS A RESULT OF THIS CONSTRUCTION ACTIVITY, PARTIAL AND ADJACENT TO THE SITE SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR. SOO SHALL BE USED FOR REPAIRING EXISTING LAND AREAS.
- FOR BALLED DECIDUOUS TREES DO NOT STAKE UNLESS IN HEAVY CLAY SOIL. IN MOST CONDITIONS 3" OR GREATER DIAMETER TREE TRUNK OR LARGE CROWN, IF STAKING IS NEEDED DUE TO THESE CONDITIONS:
 - A STAKE WITH 2"x2" HARDWOOD STAKES OR APPROVED EQUAL, DRIVEN 6" TO 8" OUTSIDE OF ROOT BALL.
 - LOOSELY STAKE TREE TRUNK TO ALLOW FOR TRUNK FLEXING.
 - STAKE TREES JUST BELOW FIRST BRANCH WITH 2" OR 3" HOLE LINE INLION FOR PLASTIC STAKES TO PER TREE OPPOSITE SIDES OF TREE CORRECT FROM TREE TO STAKE HORIZONTALLY.
 - REMOVE ALL STAKING MATERIALS AFTER ONE YEAR.
 - SEE PLANTING DETAILS.
- ALL PLANTS AND LAND AREAS SHALL BE WATERED, FERTILIZED, TRIMMED, MOVED AND GENERALLY MAINTAINED FOR A HEALTHY GROWING CONDITION FOR A PERIOD OF 90 DAYS AFTER FINAL COMPLETION. ALL PLANTS AND TREE AREAS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE FINAL COMPLETION DATE. SIGHT GUARANTEE LETTER WITH DATES TO THE OWNER. THE OWNER IS RESPONSIBLE FOR MAINTAINING PLANTS AND LANDSCAPING 90 DAYS AFTER FINAL APPROVAL. LANDSCAPING AREAS SHALL BE MOVED AT 1 1/2"-5" HT.
- EARTH BERMS ARE TO BE CONSTRUCTED OF LIGHT ORGANIC SOILS. SIDE SLOPES SHALL BE 10 STEEPER THAN ONE (1) ON ONE (1).
- LAYOUT OF LANDSCAPE MATERIAL MAY BE ADJUSTED IN THE FIELD AT THE DISCRETION OF THE CONTRACTOR TO PROVIDE PROPER SPACING BETWEEN NEW AND EXISTING PLANTS AND TO ALLOW FOR MATURE HEIGHT AND SPREAD OF PLANTS AND TO AVOID CONFLICTS WITH OVERHEAD WIRES.
- EDGING (S) HERE NOTED ON PLAN SHALL BE COMMERCIAL GRADE PLASTIC INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
- IRRIGATION SYSTEM SHALL NOT BE CONSTRUCTED WITHIN A PUBLIC ROAD RIGHT OF WAY.
- ALL UNDERBUSH AND DEAD TREES TO BE REMOVED FROM ENTIRE PARCEL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING RUBBISH ON SITE.
- PROTECT EXISTING TREES TO REMAIN. DO NOT ALTER GRADE WITHIN DRAP LINE.
- ALL PLANTS AREAS AND ADJACENT PUBLIC RIGHT-OF-WAYS SHALL BE IRRIGATED. WATERING SHALL BE DONE AT LEAST ONCE PER WEEK FOR 2 AND 3 INCH PLANTS.
- PRIOR TO RELEASE OF THE PERFORMANCE BOND, THE CITY OF ROCHESTER HILLS MUST INSPECT ALL LANDSCAPE PLANTINGS.

SITE MAINTENANCE NOTES

- THE OWNER OF THE PROPERTY SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF SITE LANDSCAPING, AS FOLLOWS:
- LANDSCAPING SHALL BE KEPT IN A NEAT, ORDERLY AND HEALTHY GROWING CONDITION, FREE FROM DEBRIS AND REFUSE.
 - PRUNING SHALL BE MINIMAL AT THE TIME OF INSTALLATION, ONLY TO REMOVE DEAD OR DISEASED BRANCHES. SUBSEQUENT PRUNING SHALL ASSURE PROPER MATURATION OF PLANTS TO ACHIEVE THEIR APPROVED PURPOSE.
 - ALL DEAD, DAMAGED, OR DISEASED PLANT MATERIAL SHALL BE REMOVED IMMEDIATELY AND REPLACED WITHIN SIX (6) MONTHS AFTER IT DIES OR IN THE NEXT PLANTING SEASON, WHICHEVER OCCURS FIRST. FOR PURPOSES OF THIS SECTION, THE PLANTING SEASON FOR DECIDUOUS PLANTS SHALL BE BETWEEN MARCH 1 AND JUNE 1 AND FROM OCTOBER 1 UNTIL THE PREPARED SOIL BECOMES FROZEN. THE PLANTING SEASON FOR EVERGREEN PLANTS SHALL BE BETWEEN MARCH 1 AND JUNE 1. PLANT MATERIAL INSTALLED TO REPLACE DEAD OR DISEASED MATERIAL SHALL BE AS CLOSE AS PRACTICAL TO THE SIZE OF THE MATERIAL IT IS INTENDED TO REPLACE. THE CITY MAY NOTIFY PROPERTY OWNERS OF THE NEED TO REPLACE DEAD, DAMAGED, OR DISEASED MATERIAL.
 - THE APPROVED LANDSCAPE PLAN SHALL BE CONSIDERED A PERMANENT RECORD AND INTEGRAL PART OF THE SITE PLAN APPROVAL. UNLESS OTHERWISE APPROVED IN ACCORDANCE WITH THE APPROPRIATE PROCEDURES, ANY REVISIONS TO OR REMOVAL OF PLANT MATERIALS, OR NON-COMPLIANCE WITH THE MAINTENANCE REQUIREMENTS OF THIS SECTION 138-12.109 WILL PLACE THE PARCEL IN NON-COMPLIANCE WITH THE APPROVED LANDSCAPE PLAN AND BE A VIOLATION OF THIS ORDINANCE.
 - IF PROTECTED TREES ARE DAMAGED, A FINE SHALL BE ISSUED ON AN INCH-BY-INCH BASIS AT A MONETARY RATE AS DEFINED BY THE FORESTRY DEPARTMENT.

ORDINANCE LANDSCAPE DATA

- SOUTH PROPERTY LINE - MELVILLE DR. PERMETER - 100 LF.**
 REQUIRED: 1 DECIDUOUS TREE PER 25 LF +/-
 1 ORNAMENTAL TREE PER 50 LF +/-
 PROPOSED: 1 EXISTING DECIDUOUS TREE (IN ROW)
 2 EXISTING EVERGREEN (IN ROW)
 5 DECIDUOUS TREES
 5 ORNAMENTAL TREES
- EAST PROPERTY LINE - DEQUINDRE RD. PERMETER - 200 LF**
 REQUIRED: 1 DECIDUOUS TREE PER 25 LF +/-
 1 ORNAMENTAL TREE PER 50 LF +/-
 PROPOSED: 4 DECIDUOUS TREES
 4 ORNAMENTAL TREES
- NORTH PROPERTY LINE - TYPE 'C' BUFFER - 100 LF**
 REQUIRED: 2 DECIDUOUS TREES PER 100 LF +/-
 1 ORNAMENTAL TREE PER 100 LF +/-
 2 EVERGREEN TREES PER 100 LF +/-
 2 SHRUBS PER 100 LF +/-
- WEST PROPERTY LINE - TYPE 'C' BUFFER - 200 LF**
 REQUIRED: 2 DECIDUOUS TREE PER 100 LF +/-
 1 ORNAMENTAL TREE PER 100 LF +/-
 2 EVERGREEN TREES PER 100 LF +/-
 2 SHRUBS PER 100 LF +/-
- PROPOSED: 5 DECIDUOUS TREES
 1 ORNAMENTAL TREE
 2 EVERGREEN HEDGE
 6 SHRUBS

PLANT LIST

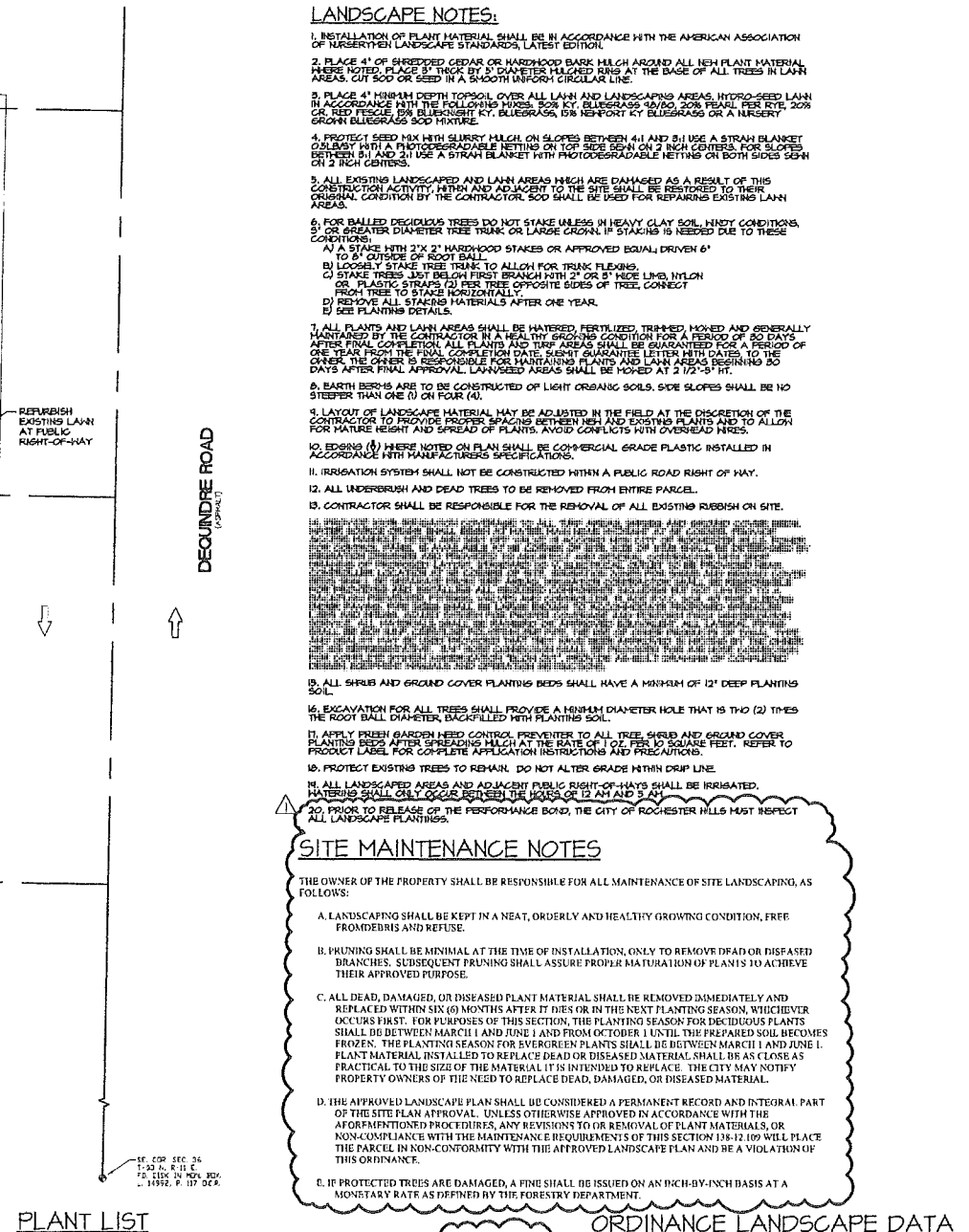
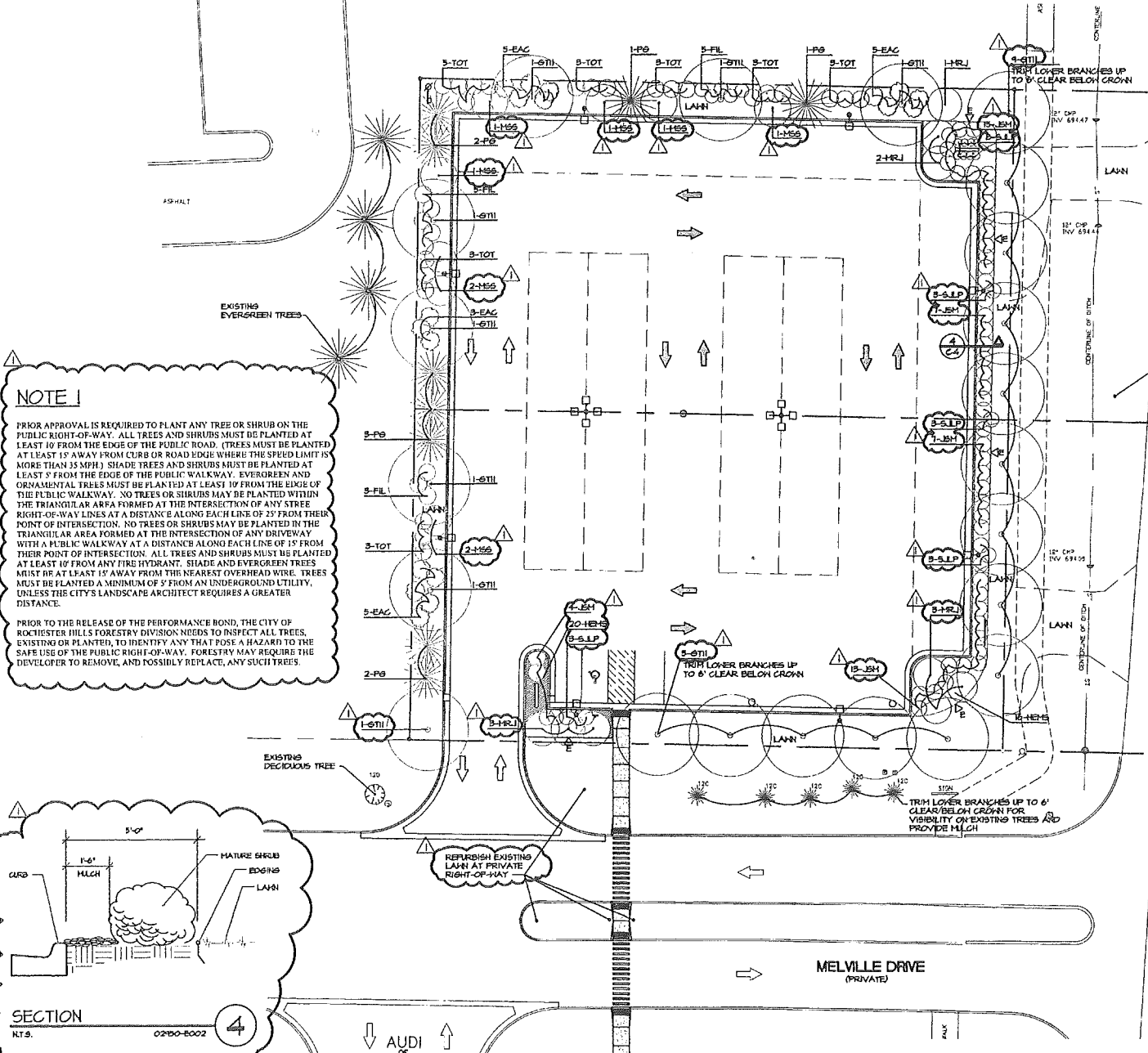
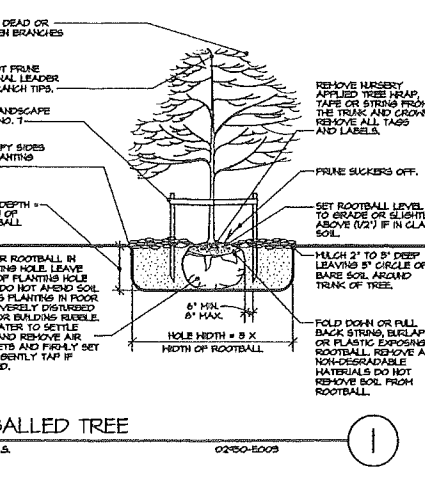
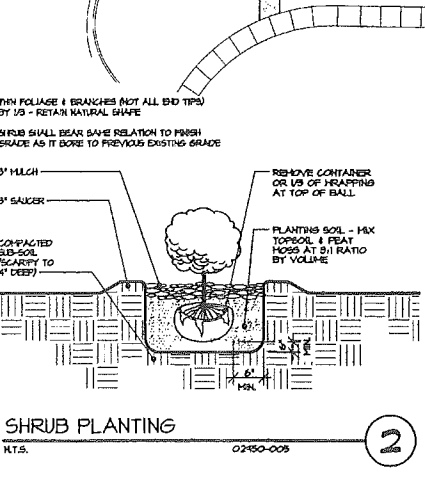
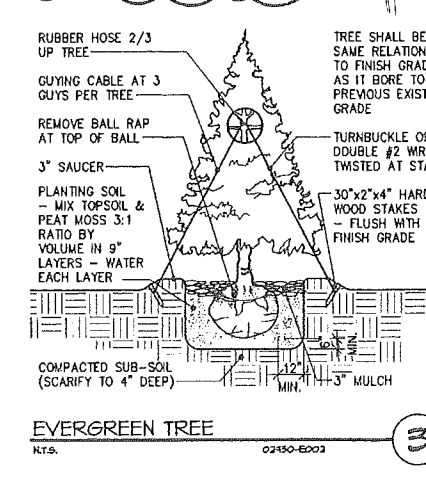
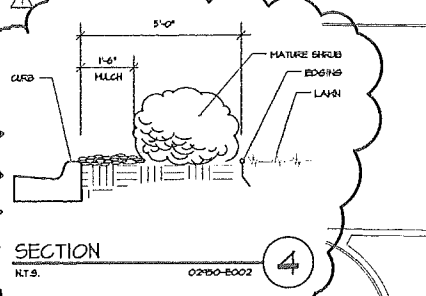
KEY	SYMBOL	QTY.	BOTANICAL / COMMON NAME	PLANT SIZE	MADE IN U.S.?	ESTIMATE	UNIT COST	ESTIMATE
EAC	(Symbol)	10	EUCOMMIS ALATA COMPACTA COMPACT BURNING BUSH	NO. 3 CONT.	8' x 6'	35.00	630.00	
FIL	(Symbol)	15	FORSYTHIA INT. LYNNWOOD LYNNWOOD FORSYTHIA	NO. 5 CONT.	8' x 8'	35.00	455.00	
GTH	(Symbol)	21	GLANDULIFERA TRI. BERNIS IMPERIAL 5' DIA. IMPERIAL HONEYLOCUST	38" x 85"	250.00	5250.00		
HEHS	(Symbol)	36	HEBERCALLIS STELLA D'ORO DAYLILY	NO. 2 CONT.	12" x 12"	12.00	432.00	
JSM	(Symbol)	46	JISHONNA GALSARY CARPET JAMPER	NO. 3 CONT.	10" x 6"	35.00	1610.00	
HRJ	(Symbol)	4	MALUS RED JADE R.L. FLOWERING CRAB	2" DIA.	12" x 12"	200.00	1800.00	
PG	(Symbol)	4	PICEA GLAUCA WHITE SPRUCE	10' HT.	60" x 20"	500.00	2100.00	
TOT	(Symbol)	29	THALIA OCC. TECHNY TECHNY ARBOREVITAE	6' HT.	8' x 5'	80.00	1840.00	
MSS	(Symbol)	4	MALUS SPRING BLOSS 5.5. FLOWERING CRAB	2" DIA. 5.1B	20" x 15"	200.00	1800.00	
S.L.P.	(Symbol)	20	SEMPERVA JAP. LITTLE PRINCESS L.P. SPYRAEA	NO. 5 CONT.	2' x 3'	35.00	700.00	
LAND EDGING, MULCH & MISCELLANEOUS LANDSCAPE							2500.00	
IRRIGATION SYSTEM							5000.00	
TOTAL LANDSCAPE & IRRIGATION (FOR BOND PURPOSES)							24710.00	

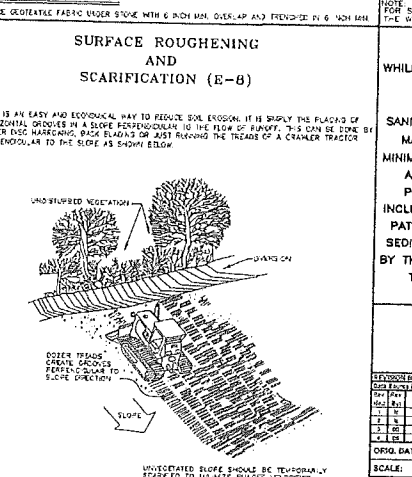
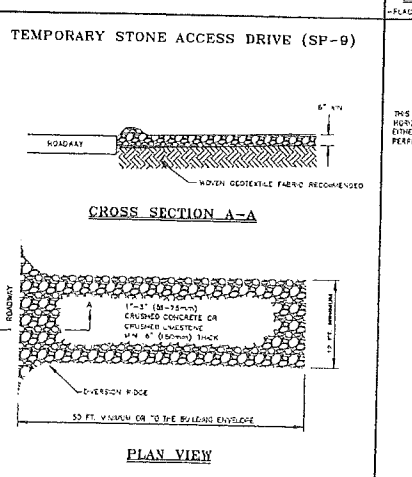
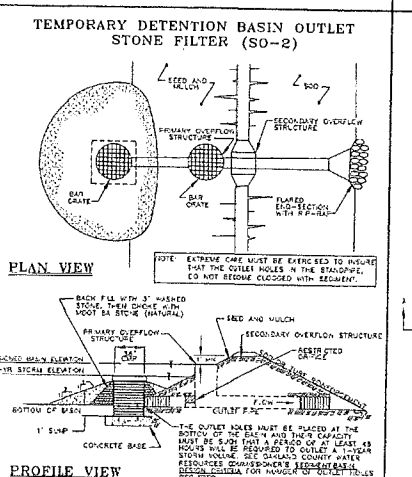
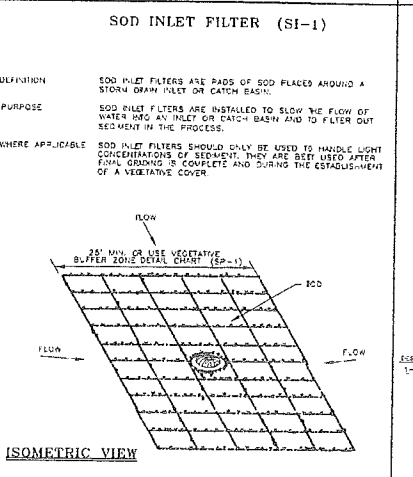
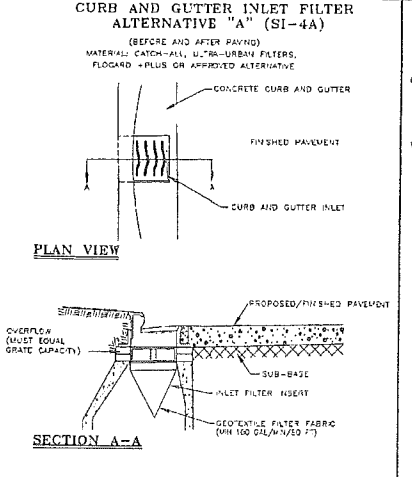
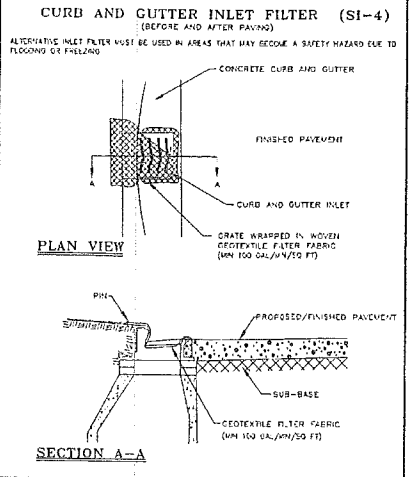
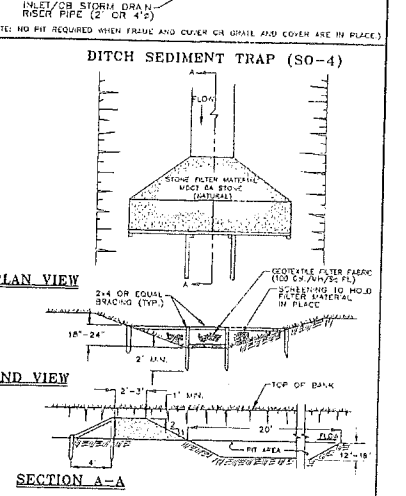
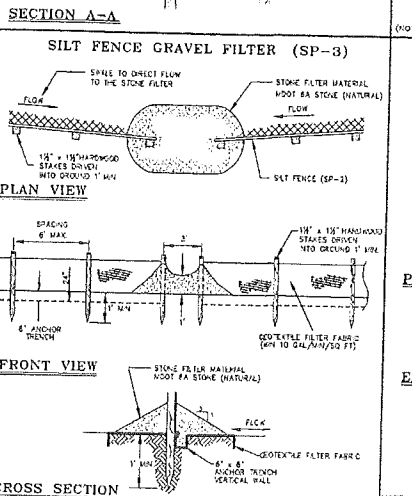
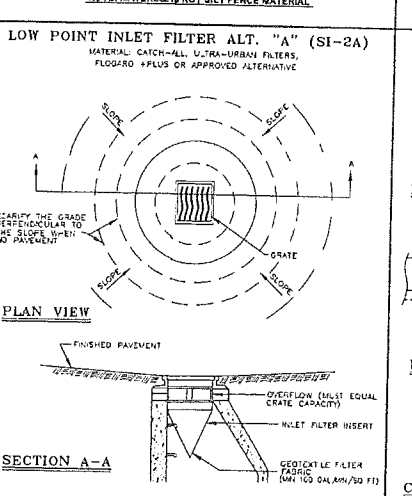
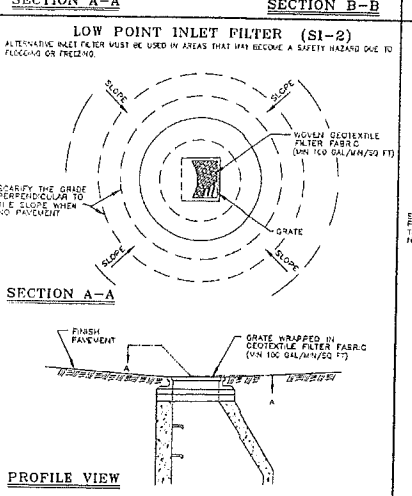
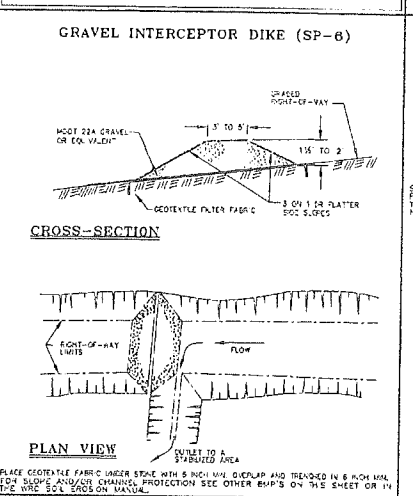
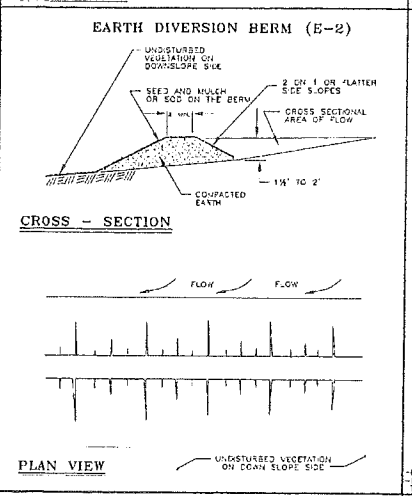
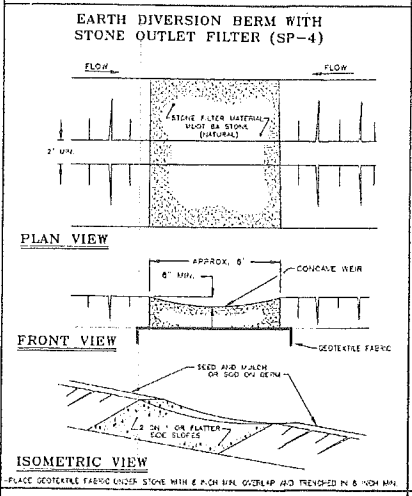
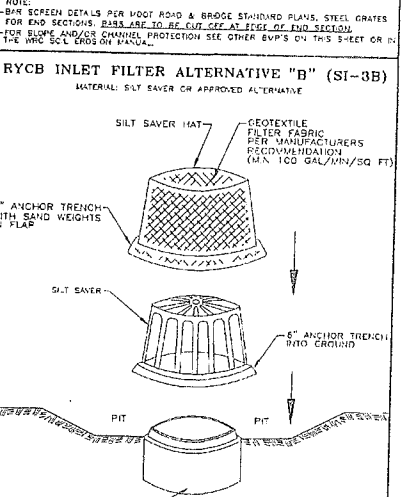
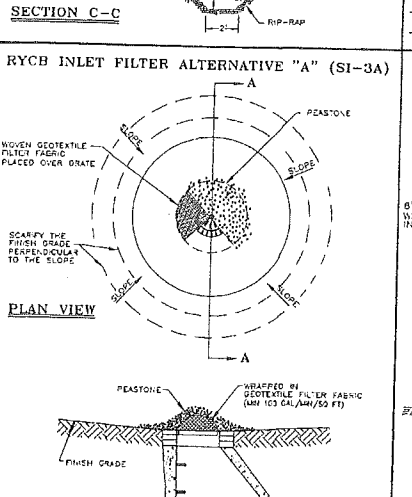
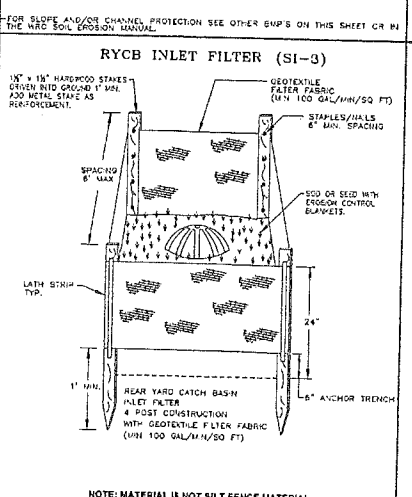
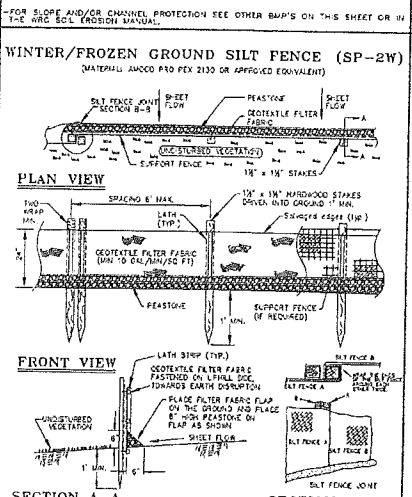
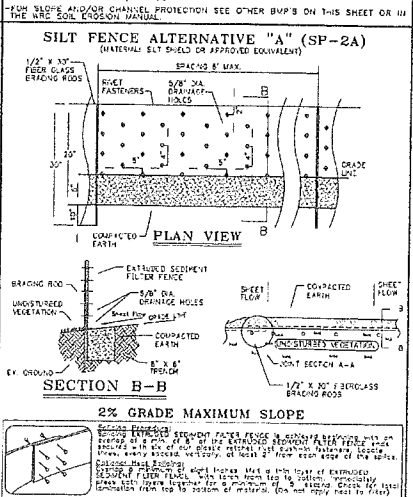
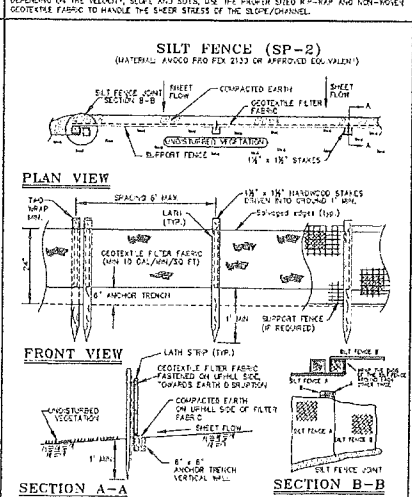
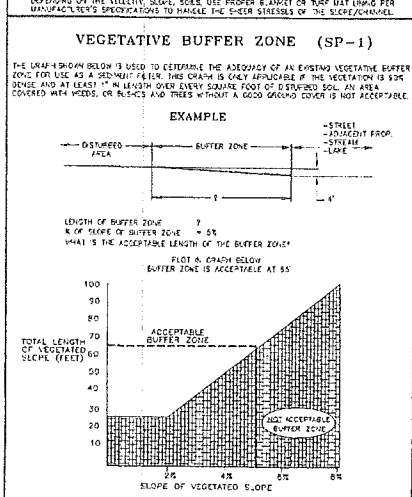
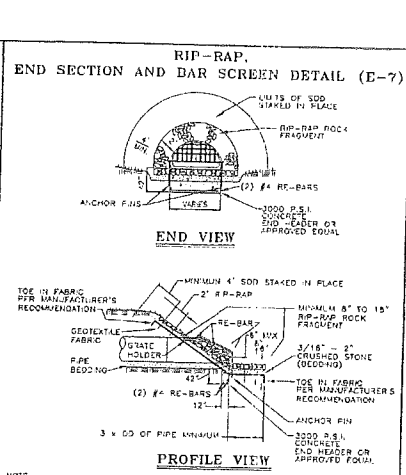
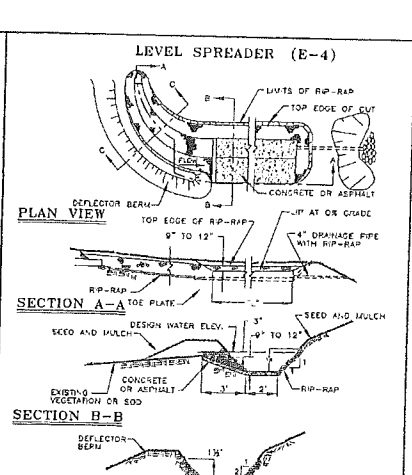
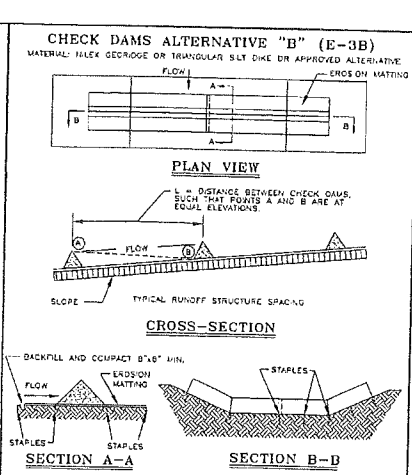
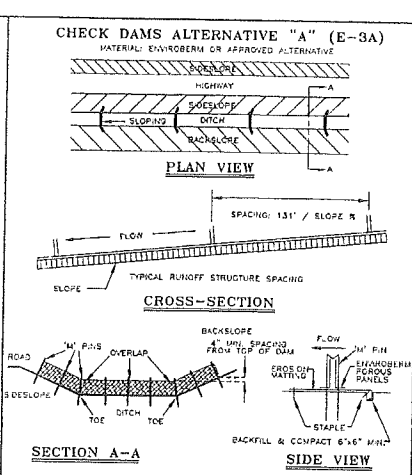
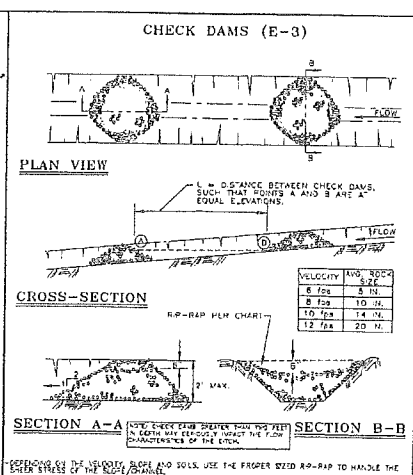
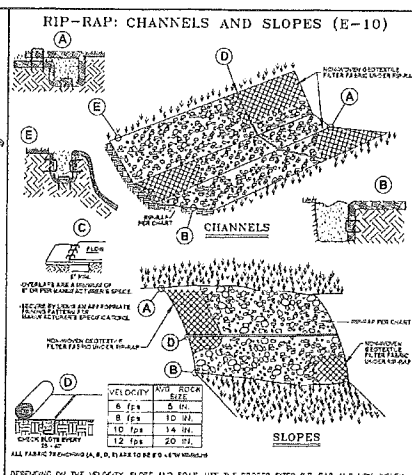
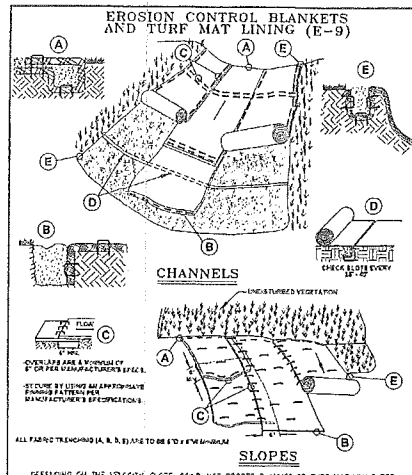
UTILITY NOTES:
SEE YOUR LOCAL UTILITY BUREAU TO LOCATE ALL UTILITIES BEFORE YOU DIG. CALL MISS DIG. 811 AT LEAST 48 HOURS BEFORE YOU DIG. ANY UTILITIES NOT LOCATED BY MISS DIG. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

NOTE 1

PRIOR APPROVAL IS REQUIRED TO PLANT ANY TREE OR SHRUB ON THE PUBLIC RIGHT-OF-WAY. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF THE PUBLIC ROAD. (TREES MUST BE PLANTED AT LEAST 15' AWAY FROM CURB OR ROAD EDGE WHERE THE SPEED LIMIT IS MORE THAN 35 MPH). SHADE TREES AND SHRUBS MUST BE PLANTED AT LEAST 5' FROM THE EDGE OF THE PUBLIC WALKWAY. EVERGREEN AND ORNAMENTAL TREES MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF THE PUBLIC WALKWAY. NO TREES OR SHRUBS MAY BE PLANTED WITHIN THE TRIANGULAR AREA FORMED AT THE INTERSECTION OF ANY TREE RIGHT-OF-WAY LINES AT A DISTANCE ALONG EACH LINE OF 25' FROM THEIR POINT OF INTERSECTION. NO TREES OR SHRUBS MAY BE PLANTED IN THE TRIANGULAR AREA FORMED AT THE INTERSECTION OF ANY DRIVEWAY WITH A PUBLIC WALKWAY AT A DISTANCE ALONG EACH LINE OF 15' FROM THEIR POINT OF INTERSECTION. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 15' AWAY FROM ANY FIRE HYDRANT. SHADE AND EVERGREEN TREES MUST BE PLANTED AT LEAST 5' FROM AN UNDERGROUND UTILITY, UNLESS THE CITY'S LANDSCAPE ARCHITECT REQUIRES A GREATER DISTANCE.

PRIOR TO THE RELEASE OF THE PERFORMANCE BOND, THE CITY OF ROCHESTER HILLS FORESTRY DIVISION NEEDS TO INSPECT ALL TREES, EXISTING OR PLANTED, TO IDENTIFY ANY THAT POSE A HAZARD TO THE SAFE USE OF THE PUBLIC RIGHT-OF-WAY. FORESTRY MAY REQUIRE THE DEVELOPER TO REMOVE, AND POSSIBLY REPLACE, ANY SUCH TREES.





NOTE:

WHILE PERFORMING WORK INVOLVING GROUNDS MAINTENANCE AND/OR THE CONSTRUCTION/MAINTENANCE OF ANY INFRASTRUCTURE, INCLUDING ROADS, WATER MAINS, SANITARY SEWERS, STORM DRAINS AND STORM WATER BEST MANAGEMENT PRACTICES (BMPs), CONTRACTORS SHALL MINIMIZE POLLUTION FROM STORM WATER RUNOFF THAT CAN AFFECT WATER QUALITY RELATED TO WORK ACTIVITIES. POLLUTANTS THAT COULD IMPAIR WATER QUALITY MAY INCLUDE FUEL, GREASE AND OIL, NUTRIENTS, BACTERIA AND PATHOGENS, LITTER AND DEBRIS, AND SOIL EROSION AND SEDIMENTATION. APPLICABLE BMPs SHALL BE IMPLEMENTED BY THE CONTRACTOR TO THE MAXIMUM EXTENT PRACTICABLE TO PROTECT WATER QUALITY AND WILDLIFE HABITAT.

SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

DATE: 01/13/11

SCALE: NONE

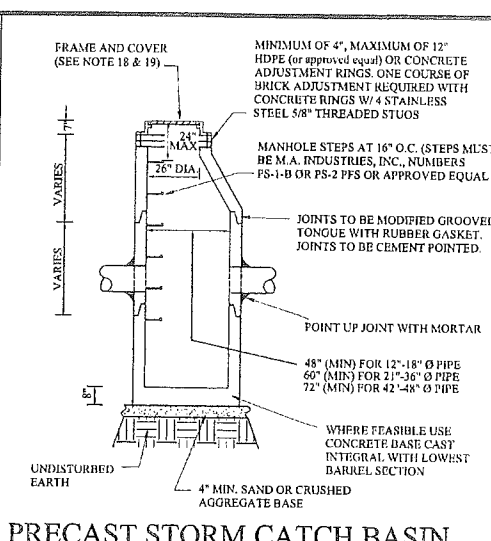
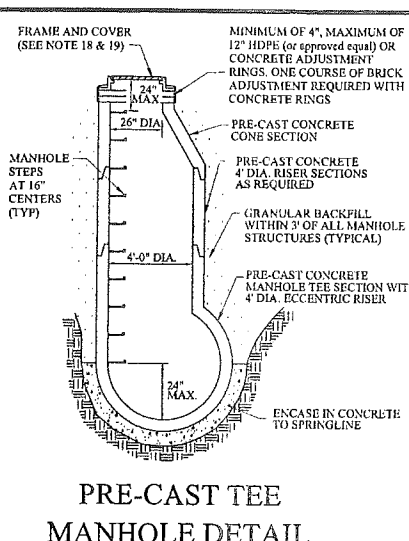
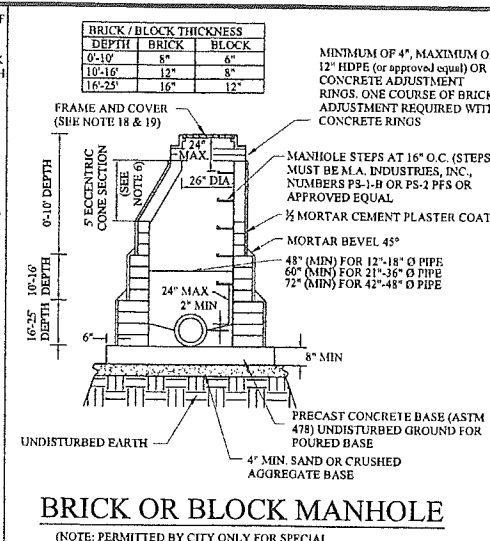
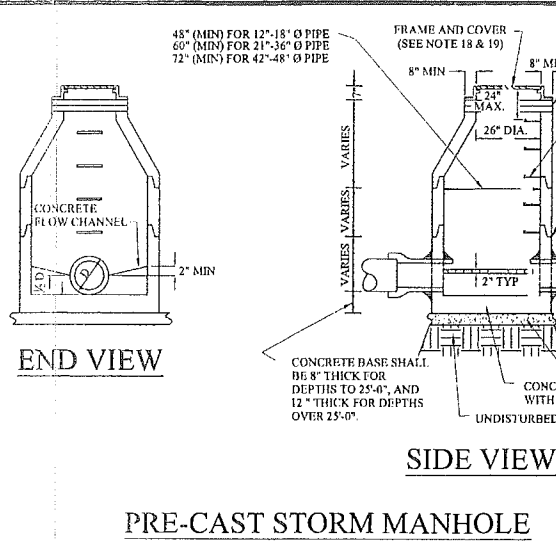
DESIGNED BY: WRC

DRAWN BY: M12/12

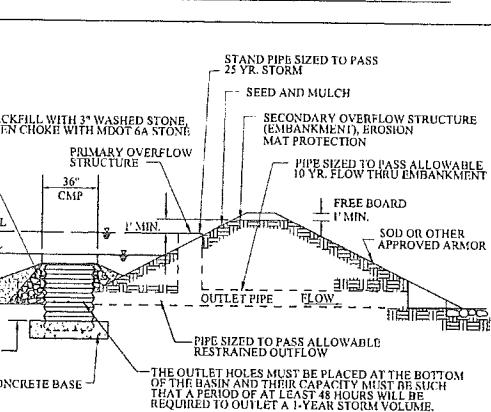
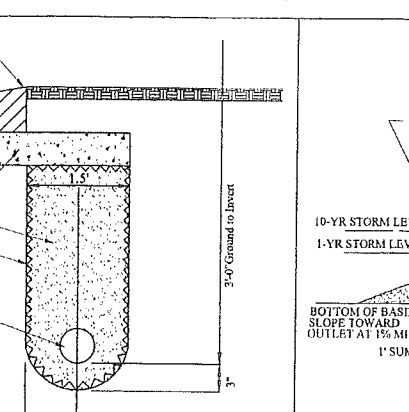
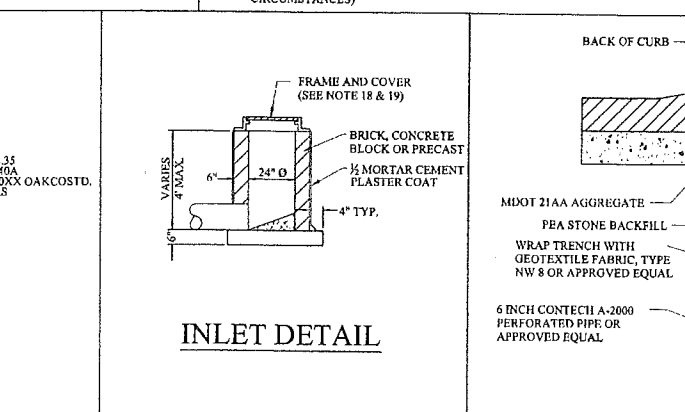
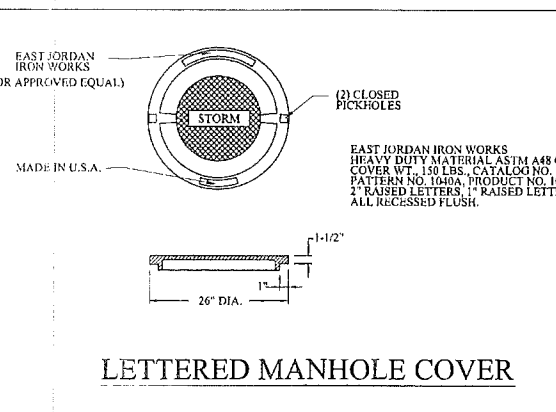
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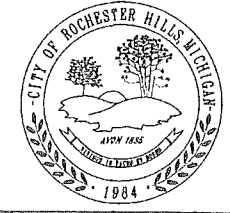
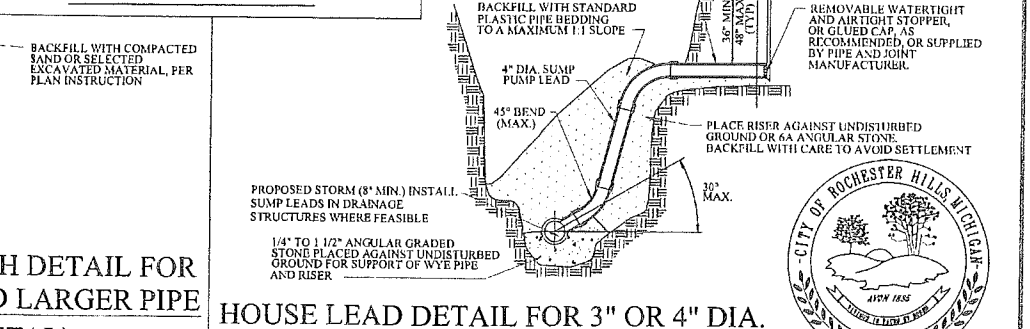
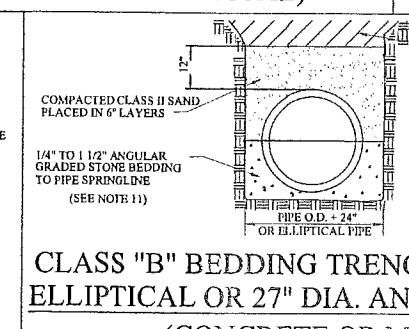
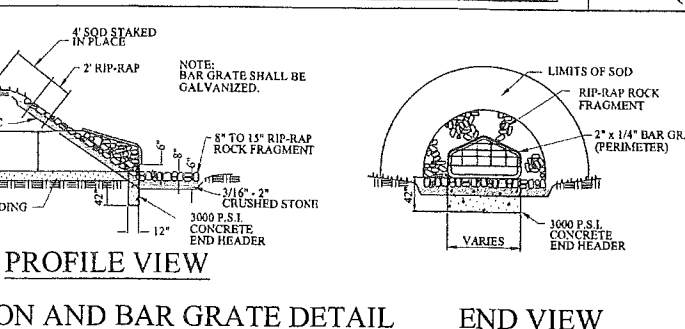
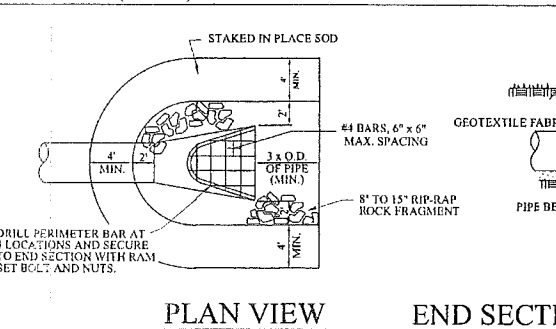
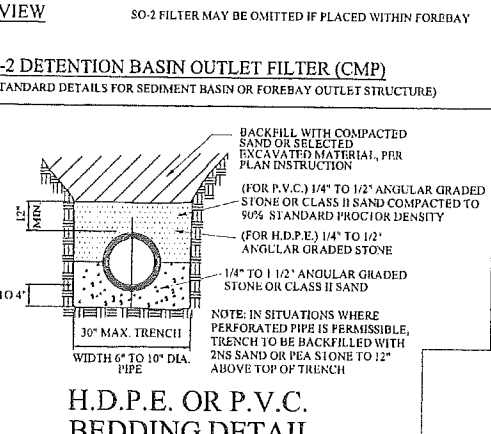
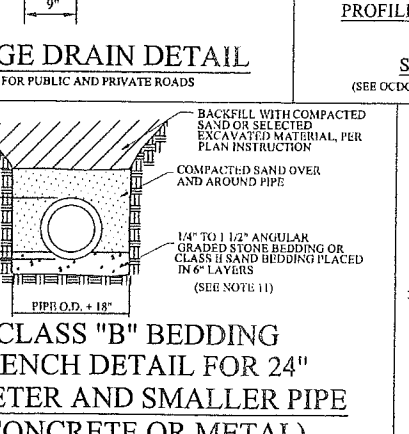
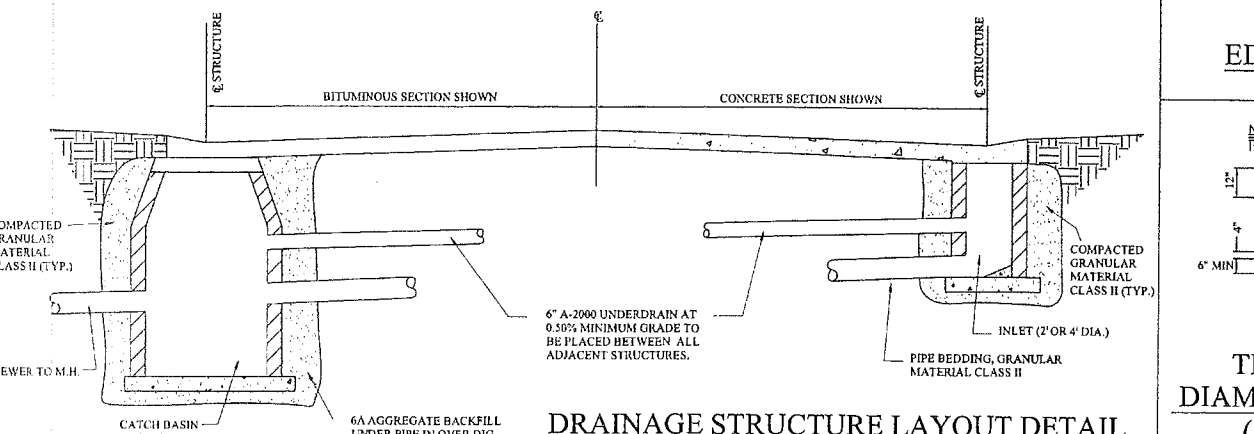
1 of 1



- GENERAL NOTES:**
- ALL EXISTING AND NEW STORM SYSTEMS SHALL BE CLEANED AND FLUSHED ONCE SITE IS 90% BUILT OUT AND VEGETATED. SEDIMENT, ROCK AND OTHER DEBRIS SHALL BE COLLECTED AND DISPOSED OF IN A PROPER MANNER. IN NO CASE SHALL DEBRIS BE FLUSHED DOWN A STORAGE OR SANITARY SEWER FOR DISPOSAL.
 - ALL DAMAGED IRRIGATION AND MOUSE DRAINAGE PIPE, DRAIN TILES, SEWER LATERALS AND CULVERTS SHALL BE REPAIRED EXPEDITIOUSLY. DEBRIS COLLECTED SHALL BE DISPOSED IN A COMMERCIAL LANDFILL OR OTHER APPROVED LOCATION.
 - STORM SEWER PIPE SHALL BE OF SIZE AND TYPE NOTED ON THE APPROVED PLANS.
 - REINFORCED CONCRETE PIPE (RCP) SHALL BE MODIFIED GROOVED TONGUE JOINTS WITH O-RING TYPE RUBBER GASKET, PER ASTM C413.
 - ALL CATCH BASIN LEADS AND INLET LEADS SHALL BE ASTM C76-CLASS IV PIPE.
 - MINIMUM PIPE SIZE FOR SEWERS, CATCH BASIN LEADS, AND INLET LEADS SHALL BE 12" NOMINAL INTERNAL DIAMETER.
 - ECCENTRIC CONES SHALL BE PROVIDED ON ALL STRUCTURES, REGARDLESS OF THE MATERIAL USED. PRECAST REINFORCED CONCRETE MANHOLE, BLOCK, OR BRICK TO PROVIDE A TRUE VERTICAL FACE FOR PLACEMENT OF MANHOLE STEPS.
 - THE INSIDE JOINTS OF PIPES SIZES 42" AND LARGER DIAMETER SHALL BE POINTED UP WITH MORTAR UPON COMPLETION OF BACKFILLING OPERATIONS.
 - ALL PIPES SHALL HAVE CLASS, LOT NUMBER, AND DATE OF MANUFACTURED CONSPICUOUSLY MARKED ON EACH LENGTH BY MANUFACTURER.
 - ALL END SECTIONS 18" AND LARGER SHALL BE PROVIDED WITH A GALVANIZED BAR SCREEN.
 - PRECAST REINFORCED CONCRETE SECTIONS SHALL CONFORM TO ASTM 2418.
 - IN DRY, STABLE SOILS, PEASTONE (EQUIVALENT TO M.D.O.T. 348 SPECIFICATIONS) MAY BE SUBSTITUTED FOR THE STANDARD BEDDING. IF THE TRENCH IS WET OR UNSTABLE A GEOTEXTILE FABRIC MUST BE USED TO LINE THE TRENCH PRIOR TO THE PLACEMENT OF THE 2NS SAND, PEASTONE, OR 1/4" - 1/2" ANGULAR GRADED STONE.
 - SCHEDULE INSPECTIONS 48 HOURS PRIOR TO START OF CONSTRUCTION BY CALLING THE CITY'S INSPECTION LINE AT 348-841-2510. FULL TIME INSPECTION SHALL BE REQUIRED FOR ALL UNDERGROUND STORM SEWER CONSTRUCTION.
 - THE CONTRACTOR SHALL CONTACT MISS DIG 72 HOURS BEFORE CONSTRUCTION AT (811) TO LOCATE EXISTING UNDERGROUND UTILITIES.
 - PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL HAVE IN HIS POSSESSION A CURRENT SOIL EROSION CONTROL PERMIT AS ISSUED BY THE O.C.D.C.
 - MINIMUM SUMP DEPTH IS 2' FOR CATCH BASINS.
 - A FLOATABLE TRAP IS REQUIRED PRIOR TO THE OUTLET, IN ACCORDANCE WITH CURRENT CITY OF ROCHESTER HILLS DESIGN STANDARDS.
 - AS A MEANS OF INSURING PROPER INSTALLATION OF THE STORM SEWER PIPE, AT THE DISCRETION OF THE CITY ENGINEER, THE CONTRACTOR SHALL VIDEO INSPECT, ACCORDING TO THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS, 100% OF THE STORM SEWER PIPE 12" AND LARGER IN DIAMETER. IF VIDEO INSPECTION IS REQUIRED BY THE CITY ENGINEER THE CONTRACTOR SHALL PROVIDE 24 HOURS NOTICE TO THE CITY OF ROCHESTER HILLS PRIOR TO VIDEO INSPECTION, SO A REPRESENTATIVE MAY BE PRESENT. ROCHESTER HILLS WILL BE PROVIDED WITH A DIGITAL COPY OF THE VIDEO INSPECTION AND LOG IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS.
- PROJECTS THAT THE CITY ENGINEER MAY IMPOSE THESE REQUIREMENTS ARE:
- ALL PUBLIC PROJECTS OR PROJECTS BEING CONSTRUCTED ON PUBLIC PROPERTY.
 - ANY PROJECT INVOLVING A DEVELOPMENT, SUBDIVISION, SITE CONDOMINIUM, CONDOMINIUM, OR ASSOCIATION.
 - ANY PROJECT THAT WILL RESULT IN MORE THAN ONE OWNER RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE COMPLETE STORM DRAINAGE SYSTEM.



- COVERS FOR MANHOLES, CATCH BASINS, AND INLETS**
- MANHOLE FRAME AND COVER SHALL BE EJIW 1040, TYPE A COVER OR EQUIVALENT.
 - CATCH BASINS AND INLET FRAME AND COVER SHALL BE AS FOLLOWS:
 - EJIW 7045 WITH TYPE M1 GRATE AND 7050 T1 BACK, OR EQUAL, FOR USE WITH CONCRETE CURB AND GUTTER, (STRAIGHT CURB M.D.O.T. F CURB) AND WITH CONCRETE PAVEMENT WITH INTEGRAL CURB.
 - EJIW 7085 WITH TYPE M1 GRATE OR EQUAL, FOR USE WITH CONCRETE B-2 MODIFIED MODIFIED CURB AND GUTTER, AND WITH CONCRETE WITH B-2 MODIFIED INTEGRAL CURB.
 - EJIW 7065 WITH TYPE M1 GRATE OR EQUAL, FOR USE WITH MOUNTABLE CURB AND GUTTER, AND WITH CONCRETE PAVEMENT WITH MOUNTABLE INTEGRAL CURB.
 - EJIW FRAME 1060 WITH TYPE N OVAL GRATE OR TYPE O3 BEEHIVE GRATE, OR EQUAL, FOR USE ON OPEN DITCH STRUCTURES AND ON CATCH BASINS LOCATED IN SWALES, AND IN EASEMENTS OUTSIDE THE PUBLIC STREET RIGHT-OF-WAY.
 - EJIW FRAME 7030 WITH TYPE M6 VANE GRATE AND T1 BACK, OR EQUAL, FOR USE WITH RELIEF BASINS WHICH ARE ON LONGITUDINAL ROAD SLOPES OF 4% OR GREATER.
 - EJIW FRAME 5105 WITH TYPE M1 SINUSOIDAL GRATE, OR EQUAL, FOR USE IN NON-CURB PAVEMENT AREAS.
 - NOTE: COVERS MUST HAVE THE "DUMP NO WAS I/EI DRAINS TO WATERWAY" LETTERING (WHEN APPLICABLE).



REVISIONS	DATE	APPROVED BY	NOTIFY ROCHESTER HILLS ENGINEERING DEPARTMENT @ 248-841-2510 48 HRS. PRIOR TO START OF CONSTRUCTION
Edge Drain Detail	11-7-12	CITY COUNCIL, DATE: JULY 21, 2008	
		PREPARED BY ENGINEERING DIVISION DEPARTMENT OF PUBLIC SERVICES	

City of Rochester Hills
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

STORM SYSTEM STANDARD DETAILS	NOT TO SCALE	DATE: 7/21/2008
SHEET 1 OF 1		

CITY FILE #00-COL.2
NO CHANGES THIS SHEET



ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

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FREONED CAR DISPLAY
Audi of Rochester Hills
 45545 & 45555 DEQUINDRE ROAD, CITY OF ROCHESTER HILLS, MICHIGAN 48069

PROJECT NO. 14004500
DATE 10-13-2014
AS BUILT DATE
DRAWN BY DDA
CHECKED BY DL
SCALE AS NOTED
REVISION DATE 07-15-15

SHEET NO.
E-1

CITY FILE #00-0012

ELECTRICAL SHEET INDEX	
SHEET	DESCRIPTION
E-1	OVERVIEW OF SCOPE, PROJECT REQUIREMENTS, RISER DIAGRAM, LIGHTING FIXTURE, PANEL AND SYMBOL SCHEDULES, AND SHEET INDEX
E-2	ELECTRICAL SITE PLAN AND DETAIL
E-2A	ELECTRICAL SITE PLAN- PHOTOMETRICS AND SCHEDULES.
E-3	ELECTRICAL SPECIFICATIONS

OVERVIEW OF ELECTRICAL SCOPE

THIS OVERVIEW OF SCOPE IS INCLUDED TO GIVE THE CONTRACTOR A GENERAL OVERVIEW OF THE PROJECT REQUIREMENTS. THE OVERVIEW IS NOT ALL INCLUSIVE AND IS NOT INTENDED TO, AND SHOULD NOT BE USED TO, ESTABLISH CONTRACT LIMITS OR PRICING INCLUSIONS. THE CONTRACT DOCUMENTS SHALL BE USED TO ESTABLISH CONSTRUCTION CONTRACT SCOPE.

THIS OVERVIEW OF SCOPE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

ELECTRICAL:

1. PROVIDE ALL REQUIRED ELECTRICAL DEVICES, OUTLETS, CONDUIT, WIRING, BREAKERS, BACK BOXES, ETC. AS INDICATED ON THE DRAWINGS.
2. PROVIDE POWER FEEDERS AND/OR BRANCH CIRCUITS FOR ELECTRICAL SERVICE, INCLUDING ASSOCIATED CONDUIT, PANEL, CIRCUIT BREAKERS, WEATHERHEAD, CT CABINET, WIRING, ETC. WHERE INDICATED.
3. PROVIDE LIGHTING CONTROL SYSTEM, INCLUDING ASSOCIATED TIMER, WIRING, CONTACTOR, PHOTOCELL, ETC. WHERE INDICATED.
4. PROVIDE ALL REQUIRED LIGHTING FIXTURES, INCLUDING ASSOCIATED CONDUIT, WIRING, CONCRETE BASES, BREAKERS, ACCESSORIES, LAMPS, POLES, ETC. AS INDICATED ON THE DRAWINGS.

GENERAL NOTES (FOR ALL ELECTRICAL SHEETS)

1. ALL CONDUIT SIZES ARE BASED ON THW WIRES, U.O.H.
2. ALL ELECTRICAL ITEMS SHOWN ON THE DRAWINGS ARE NEW, UNLESS OTHERWISE NOTED.
3. ALL ELECTRICAL ITEMS SHOWN, SHALL BE PROVIDED, INSTALLED, ETC. (AS INDICATED), BY THE CONTRACTOR, U.O.H.
4. ALL NEW BRANCH CIRCUITS SHALL BE 20A-1P, W/RED WITH 3/4" C-2#12 AND 1#12 GROUND, UNLESS OTHERWISE NOTED. PROVIDE #10 WIRE FOR CIRCUITS OVER 100'-0" FROM RESPECTIVE PANEL. PROVIDE THE NEXT SIZE LARGER WIRE SIZE FOR CIRCUITS OVER 100'-0" FROM RESPECTIVE PANEL AND WHICH ALREADY HAVE A WIRE SIZE LARGER THAN #12.
5. INSTALL ALL NEW CONDUITS "CONCEALED" UNLESS SPECIFIC APPROVAL IS RECEIVED FROM THE OWNER OR ARCHITECT TO INSTALL CONDUITS EXPOSED.

PROJECT REQUIREMENTS

PROVIDE AND PAY FOR ALL NECESSARY PERMITS. ALL WORK SHALL BE INSTALLED TO COMPLY WITH THE OWNER'S STANDARDS, STATE AND LOCAL CODES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING CODES AND THEIR RELATED REFERENCES:
2012 MICHIGAN BUILDING CODE
2011 NATIONAL ELECTRICAL CODE AS AMENDED BY THE 2011 MICHIGAN CODE RULES PART B.
MANUFACTURER AND MODEL NUMBER LISTED REPRESENTS THE BASIS OF DESIGN FOR THIS PROJECT. THE ELECTRICAL CONTRACTOR SHALL BEAR ALL ADDITIONAL COST ASSOCIATED WITH USING EQUIPMENT BY OTHER APPROVED MANUFACTURERS INCLUDING ADDITIONAL COSTS BY OTHER TRADES.

ALL EQUIPMENT INSTALLED SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHERE FIELD OR PROJECT CONDITIONS DO NOT ALLOW ALL MANUFACTURER'S RECOMMENDATIONS TO BE MET, THE INSTALLING CONTRACTOR SHALL SUBMIT IN WRITING TO THE ENGINEER THE PROPOSED DEVIATION, IN A SKETCH FORM, ACCOMPANIED BY THE MANUFACTURER'S CONCURRENCE.



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810.238.1034 Fax 810.238.7114
Project No. 14-6928
ACAD#s 14-6928 E1
Engineering and Architecture

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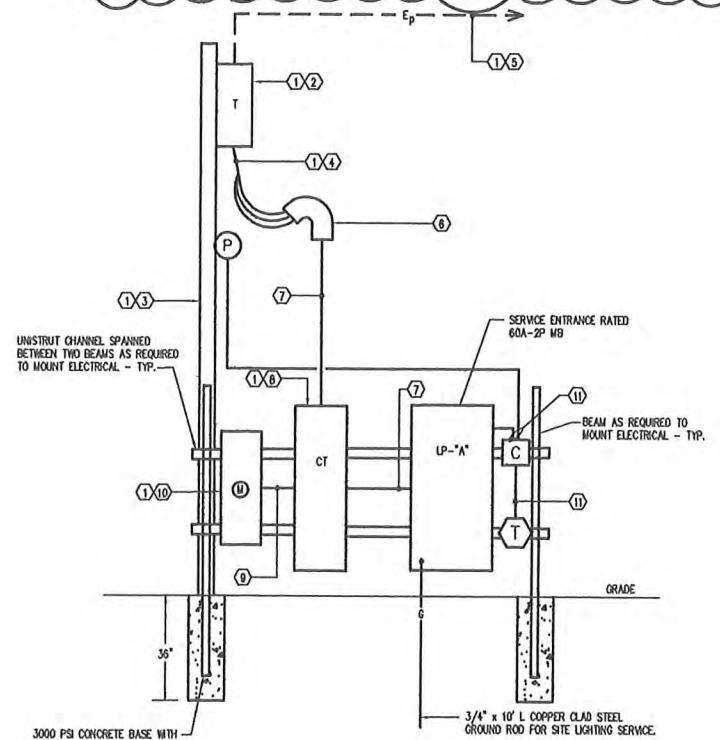
SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
NEW	NEW
□	QUAD HEAD SITE LIGHT
□	SINGLE HEAD SITE LIGHT
□	DUPLEX RECEPTACLE OUTLET
□	JUNCTION BOX
□	LIGHTING/RECEPTACLE/EQUIPMENT PANEL
---	UNDERGROUND SITE LIGHTING SERVICE
---	OVERHEAD ELECTRIC SERVICE - PRIMARY
□	CONTACTOR
□	TIMER
□	PHOTO CELL
□	CURRENT TRANSFORMER
WP	WEATHERPROOF
GFI	GROUND FAULT INTERRUPTER
AFG	ABOVE FINISHED GRADE
MB	MAIN BREAKER

120/240VOLT-1PHASE-3WIRE+GRND PANELBOARD SCHEDULE						
PANELBOARD DESIGNATION		NEW LP-"A"		LOCATION PARKING LOT		
100 AMP BUS	X	M.C.B.	M.L.O.	MOUNTING: FLUSH	SURFACE X	
SPECIAL REQUIREMENTS		60A-2P MB, WATER TIGHT				
QTY	VA	LOAD TYPE	A	B	LOAD TYPE	VA
1	1404	LIGHTS			(1) RECEPTACLES	360
3	840	LIGHTS			(1) RECEPTACLE	180
5	--	SPARE			SIGN	500
7	--	SPARE			SIGN	500
9	--	SPARE			SPARE	--
11	--	SPARE			SPARE	--
LIGHTING		1,944 VA	AT 100 %	=	1,944 VA	
RECEPTACLE		540 VA	AT 100 %	=	540 VA (FIRST 10,000 VA AT 100%)	
RECEPTACLE		0 VA	AT 50 %	=	0 VA	
MISC.		1,000 VA	AT 80 %	=	800 VA	
TOTAL		3,484 VA	TOTAL DEMAND	=	3,284 VA	/ 240 V = 13.68 A

① ALL BREAKERS ARE 20A-1P U.O.H.

NOTE
ALL LIGHTING SHALL BE SHIELDED FROM ADJACENT RESIDENTIAL DISTRICTS.

LIGHTING FIXTURE SCHEDULE			
TYPE	DESCRIPTION	MOUNTING	WATTAGE
"LAA"	OUTDOOR 26" L X 13" W X 7" D. ARM MOUNTED FULL CUTOFF TYPE PARKING LOT LIGHTING FIXTURE W/AMBERAL INVERT LED DRIVER, 120V OPERATION, (1) 20 LED LIGHT ENGINE, SINGLE PIECE DIE-CAST ALUMINUM HOUSING WITH DARK BRONZE THERMOSTAT POWER COAT FINISH, FUSING, PRECISION-MOLDED ACRYLIC LENS, TYPE IV MEDIUM THROW LIGHT DISTRIBUTION, HOUSE SIDE SHIELD, LABELED "SUITABLE FOR USE IN WET LOCATIONS" AND MOUNTED ON A 12'-0" HIGH SQUARE STRAIGHT STEEL POLE WITH VIBRATION DAMPER AND DARK BRONZE FINISH.	POLE MOUNTED	72
"LAB"	LITHONIA CAT. NO. DSX0LED-20C-1000-40K-T4HWS-INVOLT-SPA-SF-DOBXD-DSXHS200U AND POLE #SSA-12-4C-DM19AS-DOBXD-VO OR APPROVED EQUAL.	POLE MOUNTED	72
"LAC"	SAME AS TYPE "LAA" EXCEPT WITH AN 8'-0" HIGH POLE. LITHONIA CAT. NO. DSX0LED-20C-1000-40K-T4HWS-INVOLT-SPA-SF-DOBXD-DSXHS200U AND POLE #SSA-8-4C-DM19AS-DOBXD-VO OR APPROVED EQUAL. SAME AS TYPE "LAA" EXCEPT WITH (4) FIXTURES ON POLE, MOUNTED 8' APART, NO HOUSE SIDE SHIELD, (2) OF THE FIXTURES (EAST AND WEST) HAVE (2) 40 LED LIGHT ENGINES AND TYPE V WIDE LIGHT DISTRIBUTION. (2) LITHONIA CAT. NO. DSX0LED-40C-1000-40K-T5W-INVOLT-SPA-SF-DOBXD AND (2) CAT. NO. DSX0LED-20C-1000-40K-T5W-INVOLT-SPA-SF-DOBXD FIXTURES AND (1) POLE #SSA-12-4C-DM19AS-DOBXD-VO OR APPROVED EQUAL.	POLE MOUNTED	420

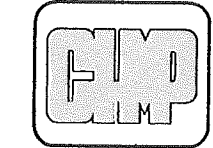


SITE ELECTRICAL SERVICE RISER DIAGRAM

NO SCALE

KEY NOTES

- ① ALL UTILITY COMPANY COSTS SHALL BE PAID FOR BY THE OWNER.
- ② NEW DETROIT EDISON COMPANY (D.E. CO.) 120/240V-1P-3W SECONDARY POLE MOUNTED TRANSFORMER, PROVIDED AND INSTALLED BY D.E. CO. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE EXACT LOCATION, INSTALLATION, ETC. WITH D.E. CO. IN FIELD.
- ③ NEW POWER POLE, PROVIDED AND INSTALLED BY D.E. CO. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE EXACT LOCATION, INSTALLATION, ETC. WITH D.E. CO. IN FIELD.
- ④ NEW 120/240V-1P-3W OVERHEAD SECONDARY ELECTRIC SERVICE WIRING, PROVIDED AND INSTALLED BY D.E. CO.
- ⑤ NEW OVERHEAD PRIMARY ELECTRIC SERVICE WIRING, PROVIDED AND INSTALLED BY D.E. CO. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE EXACT ROUTING, TERMINATION POINT, INSTALLATION, ETC. WITH D.E. CO. IN FIELD.
- ⑥ NEW 120/240V-1P-3W ELECTRIC SERVICE WEATHERHEAD, PROVIDED AND INSTALLED BY CONTRACTOR.
- ⑦ 1" C - 3#6 AND 1#8 GROUND, BY CONTRACTOR.
- ⑧ NEW 120/240V-1P-3W WEATHERPROOF CURRENT TRANSFORMER CABINET, PROVIDED AND INSTALLED BY CONTRACTOR PER D.E. CO. STANDARDS/SPECIFICATIONS.
- ⑨ 1" CONDUIT WITH WIRING AS DIRECTED BY D.E. CO., PROVIDED AND INSTALLED BY CONTRACTOR PER D.E. CO. STANDARDS/SPECIFICATIONS.
- ⑩ NEW 120/240V-1P-3W ELECTRIC SERVICE METER, PROVIDED BY D.E. CO. AND INSTALLED BY CONTRACTOR.
- ⑪ 3/4" C - 2#12 AND 1#12 GROUND.



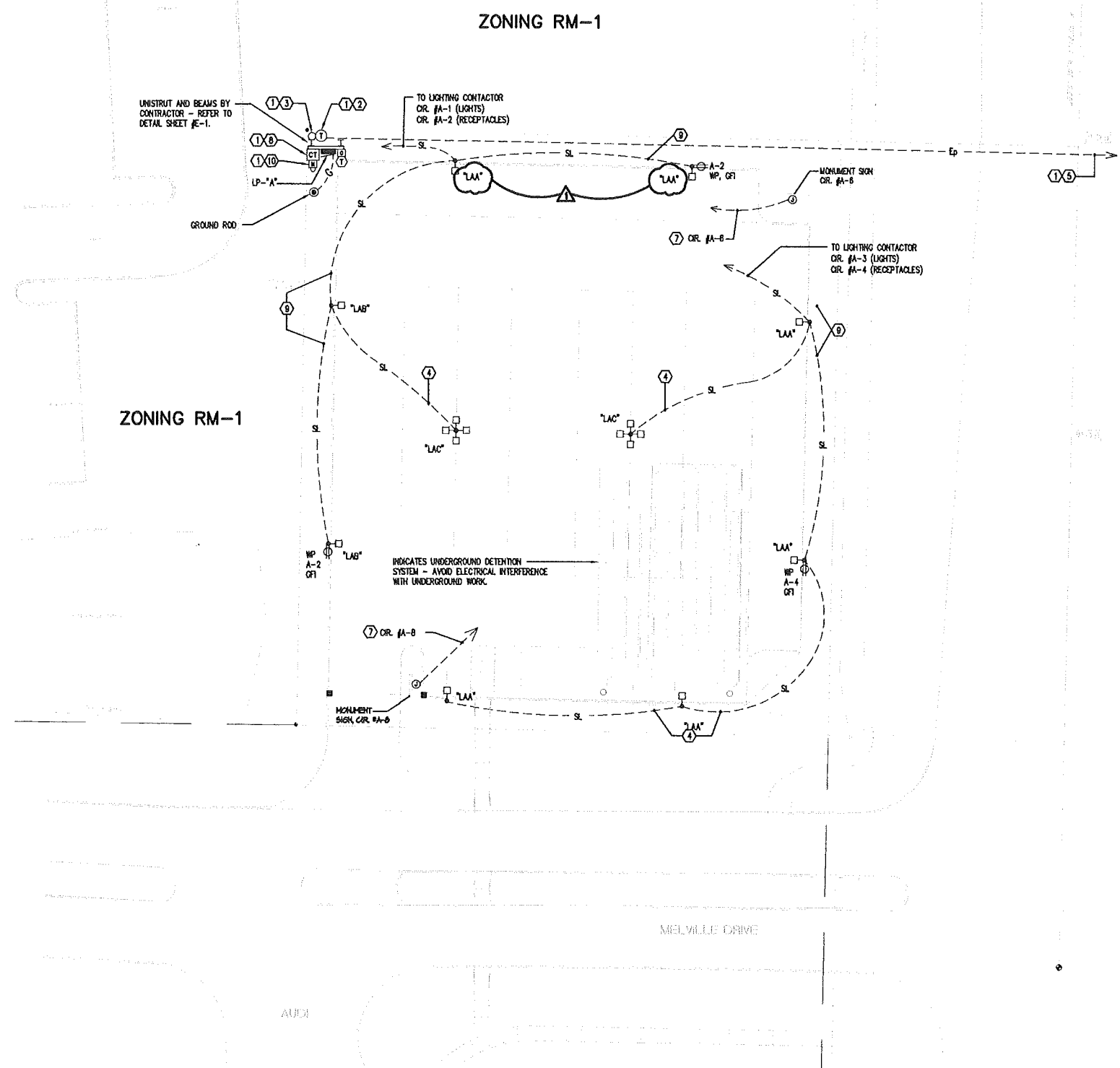
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Audi of Rochester Hills
 45545 & 45555 DEQUINDE ROAD, CITY OF ROCHESTER HILLS, MICHIGAN 48309

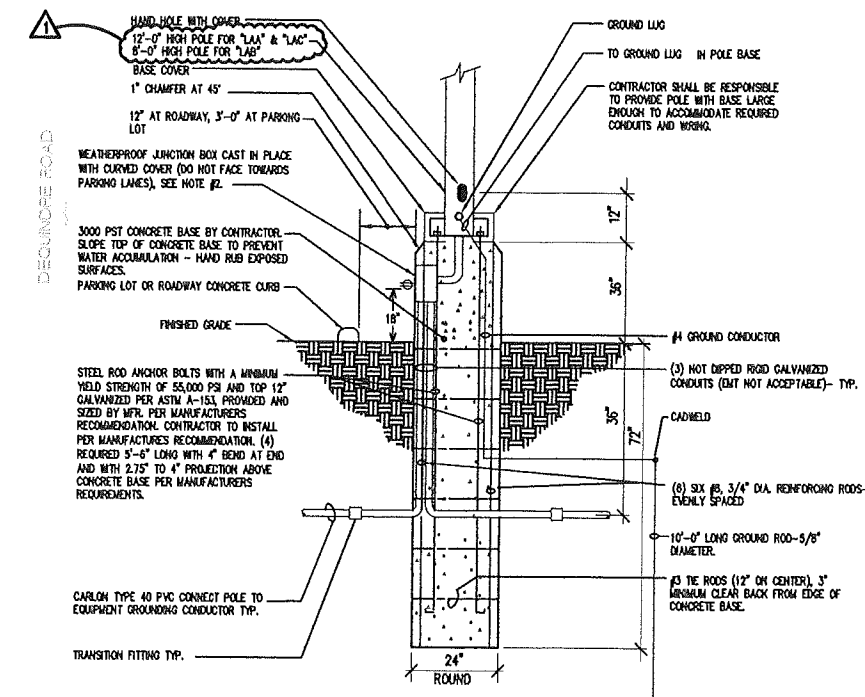
PROJECT NO.	14004500
DATE	10-13-2014
AS BUILT DATE	
DRAWN BY	DDA
CHECKED BY	DL
SCALE	AS NOTED
REVISION	DATE
1	07-15-2015

SHEET NO.	E-2
OF	3



KEY NOTES

1. ALL UTILITY COMPANY COSTS SHALL BE PAID FOR BY THE OWNER.
2. NEW DETROIT EDISON COMPANY (D.E. CO.) 120/240V-1A-3W SECONDARY POLE MOUNTED TRANSFORMER, PROVIDED AND INSTALLED BY D.E. CO. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE EXACT LOCATION, INSTALLATION, ETC. WITH D.E. CO. IN FIELD.
3. NEW POWER POLE, PROVIDED AND INSTALLED BY D.E. CO. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE EXACT LOCATION, INSTALLATION, ETC. WITH D.E. IN FIELD.
4. NEW UNDERGROUND 1" C. - 2#10 AND 1#10 GROUND.
5. NEW OVERHEAD PRIMARY ELECTRIC SERVICE WIRING, PROVIDED AND INSTALLED BY D.E. CO. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE EXACT ROUTING, TERMINATION POINT, INSTALLATION, ETC. WITH D.E. CO. IN FIELD.
6. NEW 120/240V-1A-3W ELECTRIC SERVICE WEATHERHEAD, PROVIDED AND INSTALLED BY CONTRACTOR.
7. NEW UNDERGROUND 1" C. - 2#12 AND 1#12 GROUND TO LP-"A".
8. NEW 120/240V-1A-3W CURRENT TRANSFORMER CABINET, PROVIDED AND INSTALLED BY CONTRACTOR PER D.E. CO. STANDARDS/SPECIFICATIONS.
9. NEW UNDERGROUND 1" C. - 2#10 (LIGHTS), 2#12 (RECEPTABLES), AND 1#10 GROUND.
10. NEW 120/240V-1A-3W ELECTRIC SERVICE METER, PROVIDED BY D.E. CO. AND INSTALLED BY CONTRACTOR.



NOTE
ALL LIGHTING SHALL BE SHIELDED FROM ADJACENT RESIDENTIAL DISTRICTS.

UTILITY NOTE:
ALL WATER MAIN, STORM SEWER, SANITARY SEWER AND PUBLIC LIGHTING UTILITIES AS SHOWN HEREON ARE TAKEN FROM THE BEST AVAILABLE RECORDS AS DISCLOSED BY THE VARIOUS UTILITY COMPANIES AND/OR MANUFACTURERS. NO GUARANTEE CAN BE GIVEN BY US AS TO THE ACCURACY OR COMPLETENESS THEREOF.

5 WORKING DAYS BEFORE YOU DIG CALL MISS DIG, 811
FOR THE LOCATION OF PUBLIC UTILITY LINES

ELECTRICAL SITE PLAN
SCALE 1" = 20'-0"

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PH: 588.338.1024 Fax: 588.338.7114
ACADITs 14-6928 E2



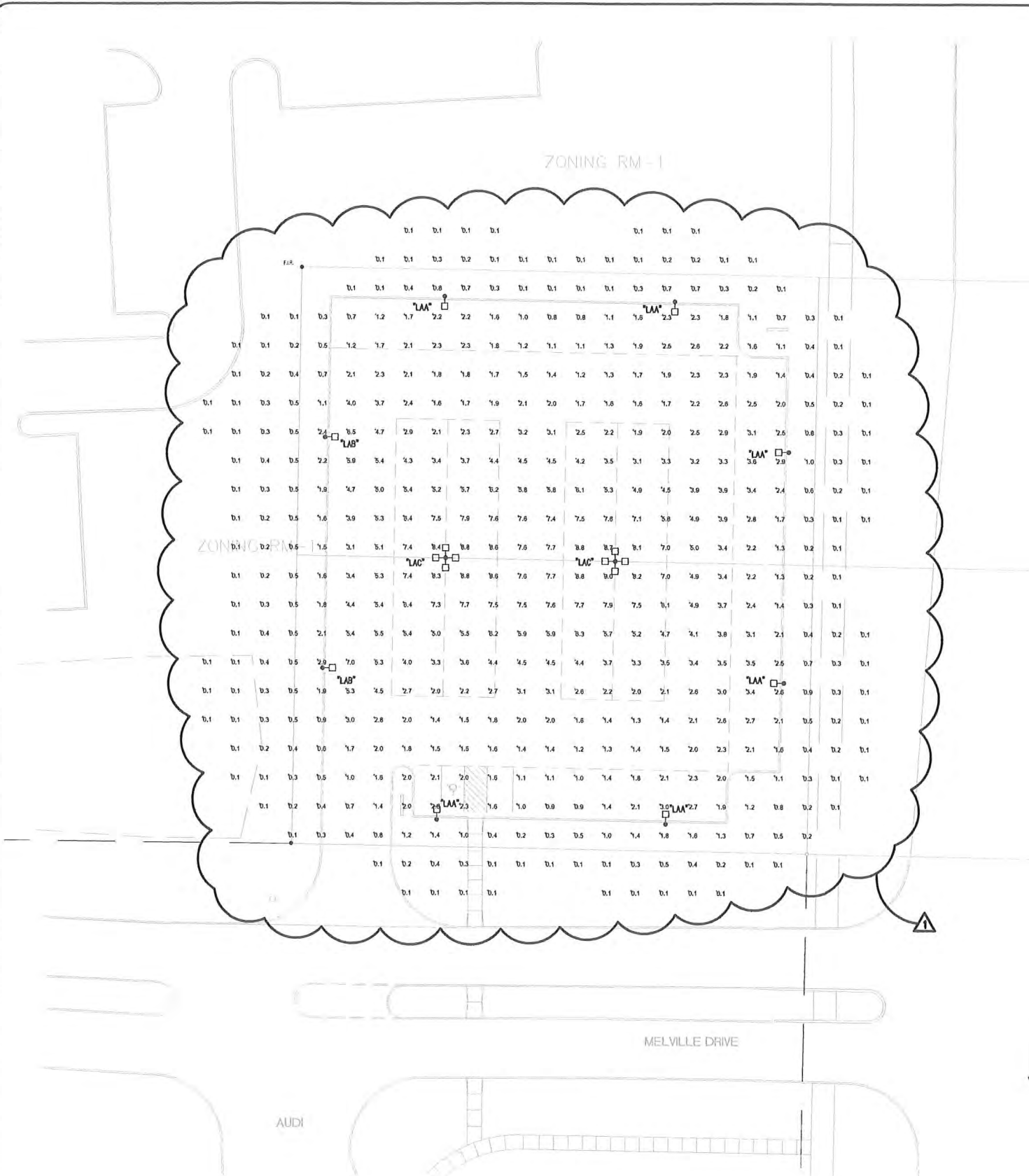
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PROJECT NO. 14004500
DATE 10-13-2014
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CHECKED BY DL
SCALE AS NOTED
REVISION DATE 07-15-2015
SHEET NO. E-2A
OP 3
CITY FILE #00-001.2



LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LUF	Watt
□	LAA	6	DSX0 LED 20C 1000 40K T4M MVOLT HS	DSX0 LED WITH (1) 20 LED LIGHT ENGINE, TYPE T4M OPTIC, 4000K, @ 1000mA WITH HOUSE SIDE SHIELD	LED	DSX0_LED_20 C_1000_40K_T 4M_MVOLT_H 8.jpg	Absolute	0.95	72
□	LAB	2	DSX0 LED 20C 1000 40K T4M MVOLT HS	DSX0 LED WITH (1) 20 LED LIGHT ENGINE, TYPE T4M OPTIC, 4000K, @ 1000mA WITH HOUSE SIDE SHIELD	LED	DSX0_LED_20 C_1000_40K_T 4M_MVOLT_H 8.jpg	Absolute	0.95	72
□	LAC	2	DSX0 LED 40C 1000 40K T4W MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINE, TYPE T4W OPTIC, 4000K, @ 1000mA	LED	DSX0_LED_40 C_1000_40K_T 5W_MVOLT3a 8.jpg	Absolute	0.95	278
□	LAM	2	DSX0 LED 20C 1000 40K T4W MVOLT	DSX0 LED WITH (1) 20 LED LIGHT ENGINE, TYPE T4W OPTIC, 4000K, @ 1000mA	LED	DSX0_LED_20 C_1000_40K_T 5W_MVOLT3a 8.jpg	Absolute	0.95	143.90

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	1.2 fc	9.0 fc	0.0 fc	N/A	N/A

NOTE
ALL LIGHTING SHALL BE SHIELDED FROM
ADJACENT RESIDENTIAL DISTRICTS.

UTILITY NOTE:
ALL WATER MAIN, STORM SEWER, SANITARY
SEWER AND PUBLIC UTILITY UTILITIES AS
SHOWN HEREON ARE TAKEN FROM THE BEST
AVAILABLE RECORDS AS COLLECTED BY THE
VARIOUS UTILITY COMPANIES AND/OR
MUNICIPALITIES. NO GUARANTEE CAN BE GIVEN
BY US AS TO THE ACCURACY OR
COMPLETENESS THEREOF.

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG,
811
FOR FREE LOCATION
OF PUBLIC UTILITY LINES

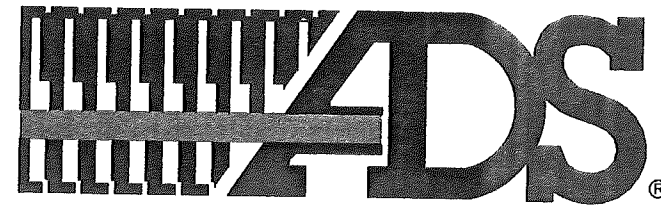
ELECTRICAL SITE PLAN PHOTOMETRICS
SCALE 1" = 20'-0"

Diclemente Segel Design Inc.
1078 E. Bristol Road, Burton, Michigan 48029
910.238.1024 Fax 910.238.7114
Engineering and Architecture
Project No. 14-6926
ACADFile 14-6926 E2A

These documents are two dimensional, traditional plan and specification documents that are not intended to be used by the contractor as shop drawings. Final dimensions, equipment access, routing, miscelaneous fittings, final installation and coordination is the contractor's responsibility.

These documents are a part of a contract for professional services. The client is responsible for providing all necessary information and data for the project. The client is responsible for obtaining all necessary permits and approvals. The client is responsible for providing all necessary information and data for the project. The client is responsible for providing all necessary information and data for the project.

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	CHRIS OWEN 248-431-1361 CHRIS.OWEN@ADS-PIPE.COM
ADS SALES REP:	RANDY NOSEK 810-348-8914 RANDY.NOSEK@ADS-PIPE.COM
PROJECT NO:	79912



ADVANCED DRAINAGE SYSTEMS, INC.



AUDI OF ROCHESTER HILLS

SHELBY, MICHIGAN

STORMWATER CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500 OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

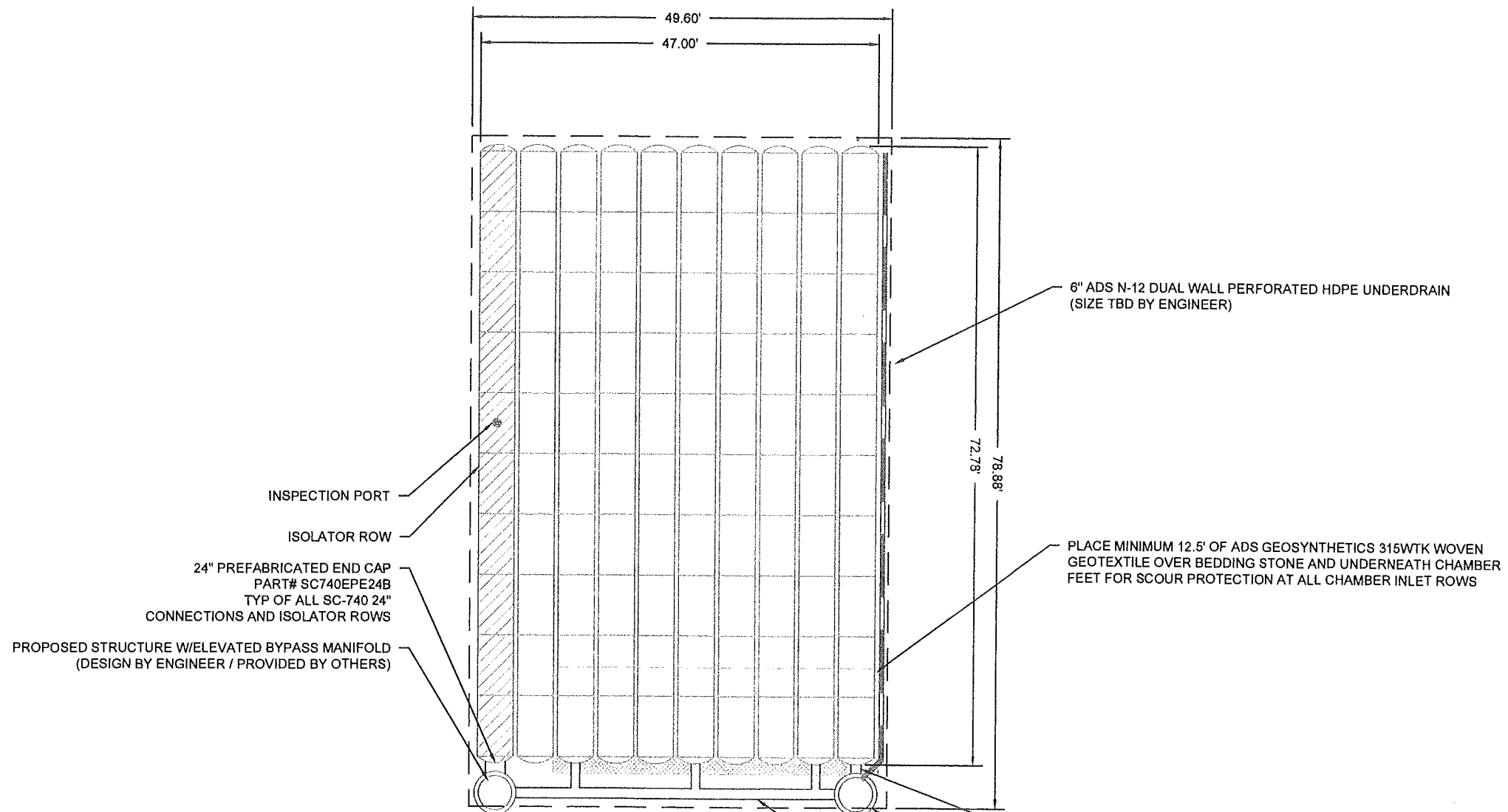
1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.
STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm) MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING..
10. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIRE LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



PROPOSED LAYOUT

(100) STORMTECH SC-740 CHAMBERS
 (20) STORMTECH SC-740 END CAPS
 INSTALLED WITH 6" COVER STONE, 6" BASE STONE, 40% STONE VOID
 INSTALLED SYSTEM VOLUME: 8,233 CF (PERIMETER STONE INCLUDED)
 AREA OF SYSTEM: 3,912 FT²
 PERIMETER OF SYSTEM: 257 FT

PROPOSED ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	704.80
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	698.80
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	698.30
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	698.30
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	698.30
TOP OF STONE:	697.30
TOP OF CHAMBER:	696.80
12" TOP FEEDING MANIFOLD INVERT:	695.34
12" BOTTOM CONNECTION INVERT:	694.43
24" ISOLATOR ROW INVERT:	694.31
BOTTOM OF CHAMBER:	694.30
UNDERDRAIN INVERT:	693.80
BOTTOM OF STONE:	693.80

6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN
 (SIZE TBD BY ENGINEER)

PLACE MINIMUM 12.5' OF ADS GEOSYNTHETICS 315WTK WOVEN
 GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER
 FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

12" ADS N-12 BOTTOM CONNECTION
 MAXIMUM INLET FLOW 2 CFS, INV 1.2" ABOVE CHAMBER BASE
 MAXIMUM OUTLET FLOW 2 CFS,
 (SIZE TBD BY ENGINEER)

PROPOSED OUTLET CONTROL STRUCTURE
 (DESIGN BY ENGINEER / PROVIDED BY OTHERS)

12" X 12" ADS N-12 MANIFOLD
 MAXIMUM INLET FLOW 6 CFS, INV 12.5" ABOVE CHAMBER BASE
 MAXIMUM OUTLET FLOW 2 CFS,
 (SIZE TBD BY ENGINEER / SEE TECH SHEET #7
 FOR MANIFOLD SIZING GUIDANCE)

ADS
 ADVANCED DRAINAGE SYSTEMS, INC.
 4640 TRUEMAN BLVD
 HILLIARD, OH 43026
 1-800-733-7473

StormTech
 Extension-Enhance-Reduce-Reuse Quality
 70 INWOOD ROAD, SUITE 3 | ROCKY HILL, CT | 06067
 860-523-8188 | 888-892-2664 | WWW.STORMTECH.COM

REV	DRW	CHK	DESCRIPTION
12-18-2014	DAF	GFI	CHANGED LAYOUT TO SC-740'S
07-30-15	KTP	GFI	REMOVE N. STRUCTURES/MANIFOLD

AUDI OF ROCHESTER HILLS
 SHELBY, MICHIGAN
 DATE: 12-2-14 DRAWN: SKR
 PROJECT #: 79912 CHECKED: GFI

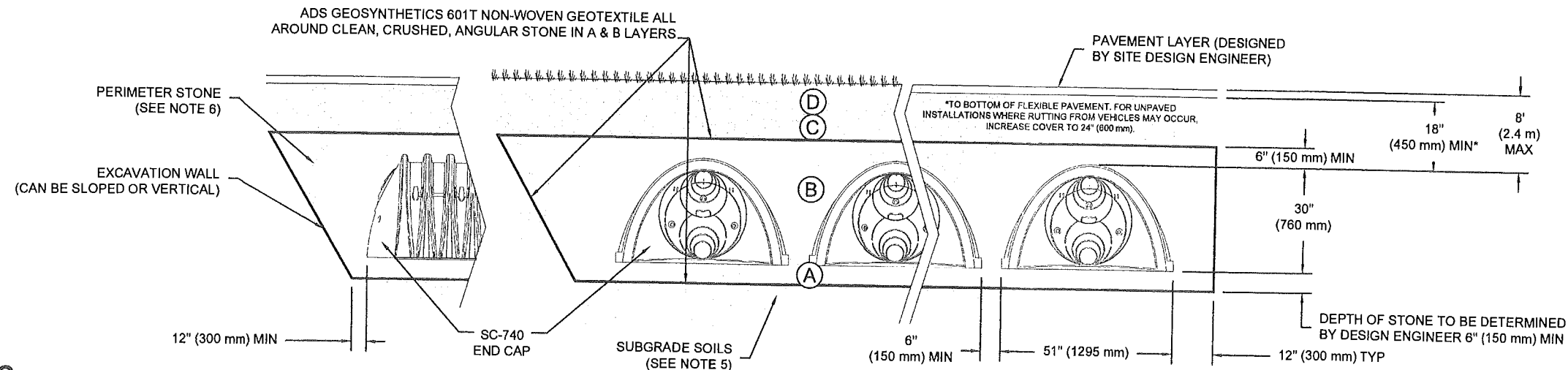
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:

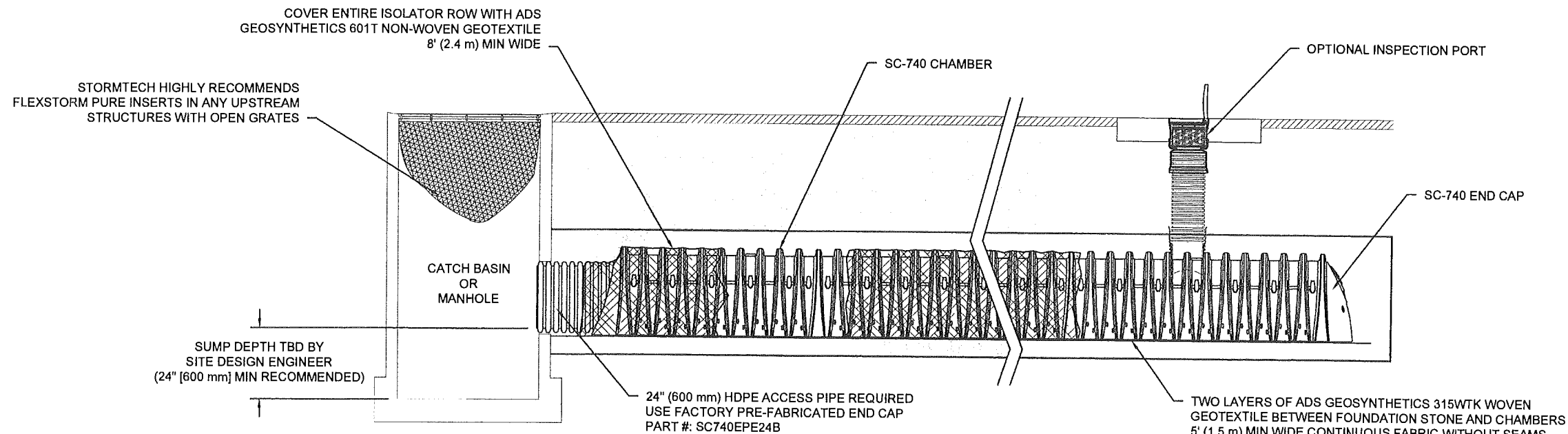
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

AUDI OF ROCHESTER HILLS SHELBY, MICHIGAN		DATE: 12-2-14	DRAWN: SKR
DESCRIPTION CHANGED LAYOUT TO SC-740'S REMOVE N. STRUCTURE & MANFOLD	CHK GFI	GFI	GFI
REV 12-18-2014	DAF	KTP	GFI
PROJECT # 79912		CHECKED: GFI	
70 INWOOD ROAD, SUITE 3 ROCKY HILL CT 06867 860-528-8108 888-802-2694 WWW.STORMTECH.COM		StormTech Dedication - Resilience - Water Quality	
4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473		ADS ADVANCED DRAINAGE SYSTEMS, INC.	
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.			
SHEET		3 OF 5	



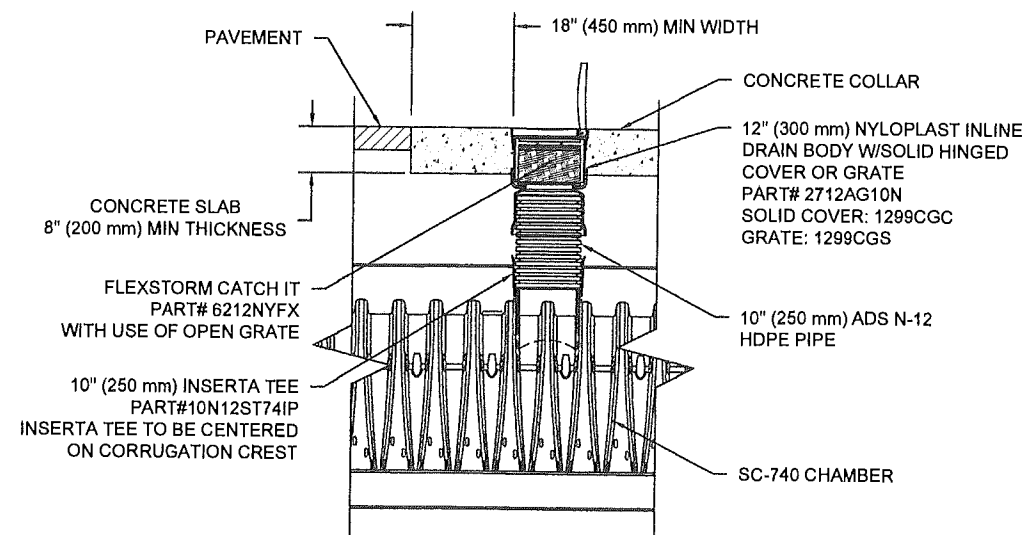
SC-740 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR ROWS
 - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

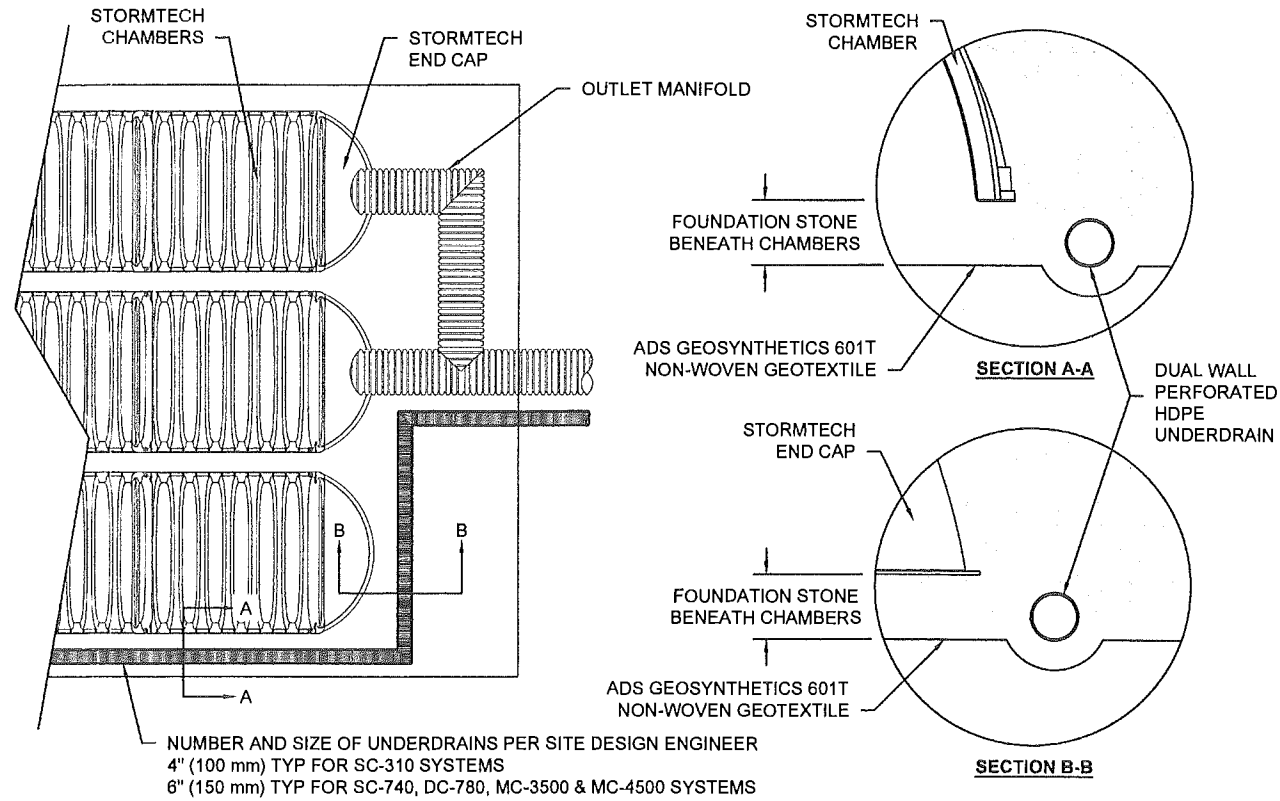


SC-740 INSPECTION PORT DETAIL
NTS

AUDI OF ROCHESTER HILLS SHELBY, MICHIGAN		DATE: 12-2-14 DRAWN: SKR CHECKED: GFI
REV 12-18-2014 07-30-15	DRW DAF KTP	CHK GFI GFI
DESCRIPTION CHANGED LAYOUT TO SC-740'S REMOVE N. STRUCTURE & MANIFOLD		
 <small>Construction - Retention - Water Quality</small> Stormtech <small>70 INWOOD ROAD, SUITE 3 ROCKY HILL CT 06067 860-528-8188 888-882-2854 WWW.STORMTECH.COM</small>		
4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473		
<small>THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.</small>		
SHEET 4 OF 5		CITY FILE #00-001.2

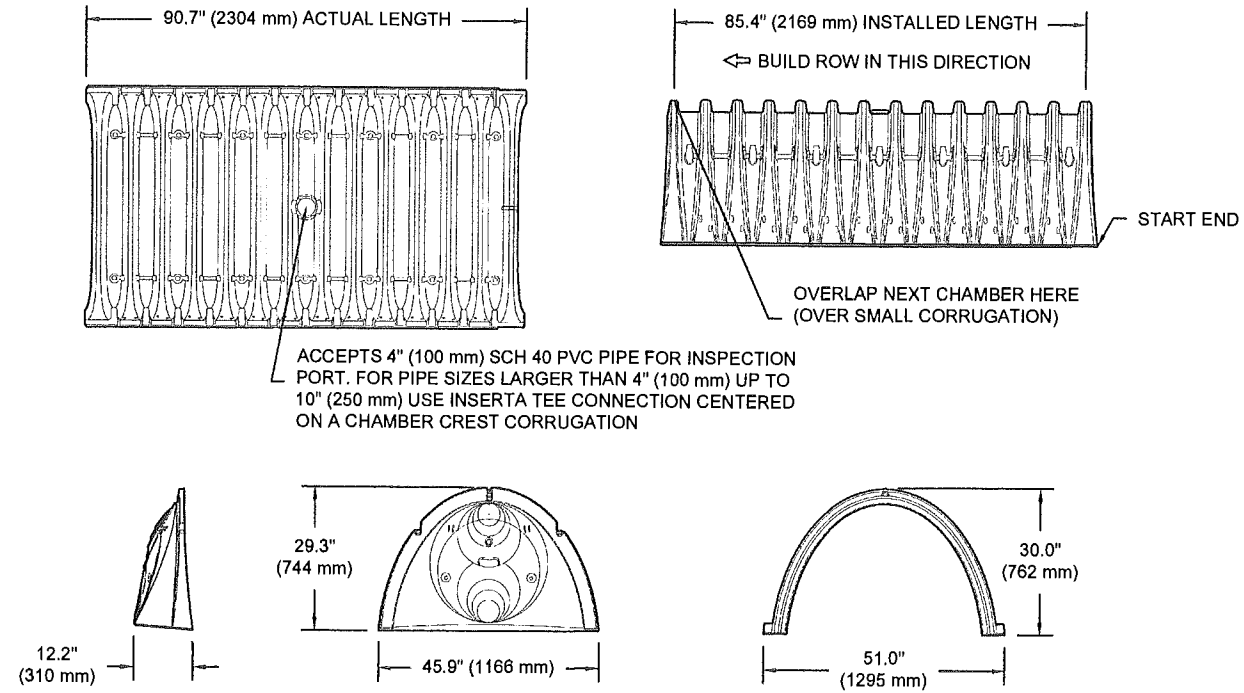
UNDERDRAIN DETAIL

NTS



SC-740 TECHNICAL SPECIFICATION

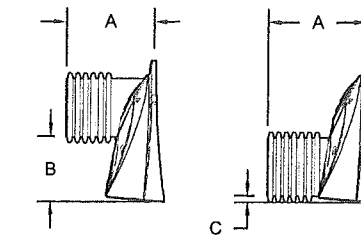
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m ³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m ³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE08TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC	---	---	---	0.5" (13 mm)
SC740EPE08T / SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC	---	---	---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC	---	---	---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC	---	---	---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC	---	---	---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC	---	---	---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

CITY FILE #00-001.2

AUDI OF ROCHESTER HILLS SHELBY, MICHIGAN		DATE: 12-2-14	DRAWN: SKR
REV	DRW	CHK	DESCRIPTION
12-18-2014	DAF	GFI	CHANGED LAYOUT TO SC-740'S
07-30-15	KTP	GFI	REMOVE N. STRUCTURE&MANIFOLD
PROJECT # 79912		CHECKED: GFI	

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5 OF 5

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