ROCHESTER COLLEGE

FIELD HOUSE

ROCHESTER HILLS, MICHIGAN
PROJECT NO. 2015-047

DECEMBER 1, 2015 — AMENDED SITE PLAN SUBMITTAL
JANUARY 18, 2016 — REVISED SITE PLAN

LIST OF DRAWINGS - SITE PLAN

IMAGES
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P-1.2 PARTIAL TOPOGRAPHIC SURVEY
P-1.3 EXISTING TREE SURVEY
P-6.1 EXISTING DRAINAGE PLAN AND CALCULATIONS
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C0.2 CONCEPTUAL DEMOLITION PLAN
C0.3A CONCEPTUAL UTILITY PLAN
C0.3B CONCEPTUAL FIRE TRUCK PLAN
C0.4A CONCEPTUAL GRADING PLAN (WEST)
C0.4B CONCEPTUAL GRADING PLAN (EAST)
C0.5A CONCEPTUAL PAVING PLAN
C0.5B MDOT CURB RAM DETAILS
C0.6 CONCEPTUAL DRAINAGE MAP
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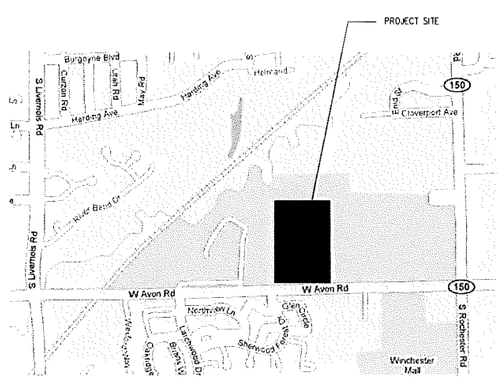
A2.01 FIRST FLOOR PLAN
A2.02 SECOND FLOOR PLAN
A2.03 ROOF PLAN
A4.01 EXTERIOR ELEVATIONS
A4.02 EXTERIOR ELEVATIONS

ELECTRICAL
ES2.00 ELECTRICAL SITE PLAN
ES2.01 ELECTRICAL SITE PLAN - PHOTOMETRICS



LOCATION MAP
SCALE: NOT TO SCALE

SITE ANALYSIS

ZONING

EXISTING SITE ZONED	PUD
ADJACENT SITE ZONING	
NORTH	PUD
SOUTH	RM-1
EAST	PUD
WEST	PUD

SITE AREA

GROSS SITE AREA	76.23 ACRES
PROPOSED SITE COVERAGE	2%

BUILDING REGULATIONS

FIRST FLOOR BUILDING AREA	21,880 S.F.
MEZZANINE AREA	1,552 S.F.
TOTAL BUILDING AREA	23,432 S.F.
PROPOSED BUILDING HEIGHT	31 FT. A.F.F.
PROPOSED BUILDING STORIES	1 STORY W/ MEZZ.
REQUIRED BUILDING SETBACKS (SP ZONING)	
FRONT	50 FEET
SIDE	50 FEET
REAR	50 FEET
PROPOSED BUILDING SETBACKS	
FRONT	94 FEET
SIDE	1045 FEET (WEST) 405 FEET (EAST)
REAR	915 FEET

PARKING REQUIREMENTS

EXISTING DORMITORY (352 BEDS • 1 PER 2 BEDS)	176 PARKING SPACES
EXISTING CHAPEL (210 SEATS • 1 PER 3 SEATS + 2 STAFF • 1 PER 2 STAFF)	71 PARKING SPACES
EXISTING THEATER (200 SEATS • 1 PER 3 SEATS + 2 STAFF • 1 PER 2 STAFF)	68 PARKING SPACES
NEW GYMNASIUM (868 SEATS • 1 PER 3 SEATS)	290 PARKING SPACES
TOTAL PARKING SPACES REQUIRED	605 PARKING SPACES
EXISTING PARKING SPACES PROVIDED	530 PARKING SPACES
NEW PARKING PROPOSED	79 PARKING SPACES
TOTAL PARKING AVAILABLE	609 PARKING SPACES
BARRIER FREE PARKING REQUIREMENTS- NEW FIELDHOUSE- 112 SPACES IN EXISTING PARKING LOT WEST OF BUILDING PLUS 79 NEW PARKING SPACES - 191 PARKING SPACES SO 8 BARRIER FREE SPACES ARE REQUIRED	8 BF SP. PROVIDED- ALL IN NEW PARKING LOT
BARRIER FREE PARKING REQUIREMENTS- CAMPUS WIDE- 609 TOTAL PARKING SPACES SO 18 BARRIER FREE SPACES ARE REQUIRED	16 EX. BF SP. PLUS 8 NEW BF. SP - 24 TOTAL BF SP. PROVIDED
LOADING SPACE REQUIRED- (1 SPACE + 1 SPACE FOR EACH 20,000 S.F. OVER 20,001 S.F.)	1 (10'X50') SPACES
LOADING SPACE PROVIDED-	1 SPACES (10'X50')

FRENCH associates
architects planners interiors

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CIVIL ENGINEERING & SITE DESIGN
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Strategic Energy Solutions

City File No. 15-022, Parcel No. 15-15-451-008

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08076.00 ROCHESTER COLLEGE HEALTH AND LIFE SCIENCE CENTER

KEY PLAN

ISSUE DATE	ISSUED FOR
12/1/2015	AMENDED SITE PLAN REVIEW
1/18/2016	NO CHANGE

DRAWN

CHECKED

APPROVED

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PROJECT

Rochester College
Field House

Rochester Hills,
Michigan

SHEET

Field House
Aerial View From
Southwest

PROJECT NUMBER

2015-047

SHEET NUMBER

I1.01

2015-047 Rech Coll Gym

LEGAL DESCRIPTIONS

PARCEL NO. 15-15-378-001 (FROM TAX DESCRIPTION)
LAND IN THE CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PART OF THE SOUTHWEST 1/4, SECTION 15, TOWN 3 NORTH, RANGE 11 EAST, BEGINNING AT SOUTH 1/4 SECTION CORNER; THENCE WEST 1770.5 FEET TO EASTERLY RIGHT OF WAY LINE OF GRAND TRUNK RAILROAD; THENCE NORTH 41 DEGREES 53 MINUTES 30 SECONDS EAST, 692.82 FEET AND NORTH 49 DEGREES 33 MINUTES 30 SECONDS EAST, 1427.3 FEET ALONG SAID RIGHT OF WAY LINE, THENCE SOUTH 89 DEGREES 20 MINUTES 00 SECONDS EAST, 300.9 FEET; THENCE SOUTH 03 DEGREES 04 MINUTES 30 SECONDS WEST ALONG NORTH AND SOUTH 1/4 LINE TO BEGINNING.

PROPERTY DESCRIPTION FOR PARCEL 15-15-378-001
FROM QUIT CLAIM DEED RECORDED IN L. 4609, P. 568
PARCEL A
PART OF SOUTHWEST 1/4 OF SECTION 15, TOWN 3 NORTH, RANGE 11 EAST, DESCRIBED AS: BEGINNING AT THE SOUTH 1/4 CORNER OF SECTION 15, RUNNING THENCE WEST 1311.6 FEET TO THE 1/8 CORNER, THENCE NORTH 1° 16' WEST 173.4 FEET TO A POINT; THENCE NORTH 89° 24' EAST 242.2 FEET TO A POINT; THENCE NORTH 81° 50' EAST 253.7 FEET TO A POINT; THENCE NORTH 49° 16' EAST 401.7 FEET TO A POINT; THENCE NORTH 31° 3' EAST 114.3 FEET TO A POINT; THENCE NORTH 2° 22' WEST 172.5 FEET TO A POINT; THENCE NORTH 53° 28' 30" WEST 210.1 FEET TO A POINT; THENCE NORTH 65° 30' WEST 245.22 FEET TO A POINT; THENCE NORTH 49° 33' EAST 852.1 FEET TO A POINT; THENCE SOUTH 89° 20' EAST 300.9 FEET TO A POINT; THENCE SOUTH 3° 4' 30" WEST 1440 FEET TO THE PLACE OF BEGINNING. CONTAINING 23.62 ACRES; EXCEPTING LAND BEGINNING AT A POINT IN SOUTH LINE OF SECTION 15 WHICH IS WEST 730 FEET FROM SOUTH 1/4 CORNER OF SECTION 15; THENCE RUNNING WEST ALONG SECTION LINE 581.8 FEET; THENCE LEAVING SECTION LINE NORTH 1° 16' WEST 173.4 FEET; THENCE NORTH 89° 24' EAST 242.2 FEET; THENCE NORTH 81° 50' EAST 253.7 FEET; THENCE NORTH 49° 16' EAST 121.57 FEET; THENCE SOUTH 291.27 FEET TO POINT OF BEGINNING. CONTAINING 2.6 ACRES, MORE OR LESS, AND EXCEPTING THE SAND PIT AS RESERVED IN DEED, LIBER 252, PAGE 551.

PARCEL B
PART OF SOUTHWEST 1/4 OF SECTION 15, TOWN 3 NORTH, RANGE 11 EAST, MORE PARTICULARLY DESCRIBED AS: BEGINNING AT A POINT IN THE SOUTH LINE OF SECTION 15, WHICH IS WEST 730 FEET FORM THE SOUTH 1/4 CORNER OF SECTION 15, RUNNING THENCE WEST ALONG SECTION LINE 581.8 FEET; THENCE LEAVING SECTION LINE NORTH 1° 16' WEST 173.4 FEET; THENCE NORTH 89° 24' EAST 242.2 FEET; THENCE NORTH 81° 50' EAST 253.7 FEET; THENCE NORTH 49° 16' EAST 121.57 FEET; THENCE SOUTH 291.27 FEET TO THE POINT OF BEGINNING. CONTAINING 2.6 ACRES, MORE OR LESS, EXCEPTING THE SAND PIT AND RIGHT-OF-WAY OVER 12 FOOT ROADWAY, RUNNING FROM THE SAND PIT TO THE PUBLIC HIGHWAY ON SOUTHERLY LINE OF PROPERTY AS RESERVED AND RECITED IN DEED, LIBER 252, PAGE 551.

PARCEL C
PART OF THE SOUTHWEST 1/4 OF SECTION 15, TOWN 3 NORTH RANGE 11 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT THE 1/8 CORNER, WHICH IS WEST 1311.6 FEET OF THE SOUTH 1/4 CORNER OF SAID SECTION 15, RUNNING THENCE NORTH 1° 16' WEST 173.4 FEET TO A POINT; THENCE NORTH 89° 24' EAST 242.2 FEET TO A POINT; THENCE NORTH 81° 50' EAST 253.7 FEET TO A POINT; THENCE NORTH 49° 16' EAST 401.7 FEET TO A POINT; THENCE NORTH 31° 3' EAST 114.3 FEET TO A POINT; THENCE NORTH 2° 22' WEST 172.8 FEET TO A POINT; THENCE NORTH 53° 28' 30" WEST 210.1 FEET TO A POINT; THENCE NORTH 65° 30' WEST 245.22 FEET TO A POINT; THENCE SOUTH 49° 33' 30" WEST 875.2 FEET TO A POINT; THENCE SOUTH 41° 53' 30" WEST 692.89 FEET TO A POINT; THENCE EAST 468.7 FEET TO THE PLACE OF BEGINNING. EXCEPT THAT PART OF SAID PREMISES FALLING WITHIN THE RAILROAD RIGHT-OF-WAY.

PARCEL NO. 15-15-451-003
(FROM WARRANTY DEED RECORDED IN LIBER 4657, PAGE 657 AS BASIS FOR DESCRIPTION)
LAND IN THE TOWNSHIP OF AVON (NOW CITY OF ROCHESTER HILLS), COUNTY OF OAKLAND AND STATE OF MICHIGAN TO-WIT:

THAT PART OF THE WEST 1/2 OF THE SOUTHEAST QUARTER OF SECTION 15, TOWN 3 NORTH, RANGE 11 EAST, MICHIGAN, DESCRIBED AS COMMENCING AT THE SOUTHEAST CORNER THEREOF; THENCE NORTH 1637 FEET TO A POINT ON THE EAST LINE THEREOF; THENCE NORTH 78 DEGREES 18 MINUTES WEST 810 FEET; THENCE NORTH 28 DEGREES 34 MINUTES WEST TO CENTER OF CLINTON RIVER; THENCE ALONG CENTER OF SAID RIVER TO WEST LINE OF WEST HALF OF SOUTHEAST QUARTER; THENCE SOUTH TO THE SOUTHWEST CORNER THEREOF; THENCE EAST ALONG THE SOUTH LINE OF SAID SECTION TO THE POINT OF BEGINNING.

EXCEPT THE EASTERLY 1000 FT THEREOF.

NEW DESCRIPTION FOR THE ROCHESTER COLLEGE PARCEL
#15-15-451-008 AFTER CONVEYANCE OF 2.5 FT WIDE PARCEL TO THE ROCHESTER CHURCH OF CHRIST
LAND IN THE CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THE EASTERLY 1000 FEET OF PART OF THE WEST 1/2 OF THE SOUTHEAST 1/4, BEGINNING AT THE SOUTHEAST CORNER OF THE WEST 1/2 OF THE SOUTHEAST 1/4; THENCE NORTH 1637 FEET TO A POINT ON THE EAST LINE THEREOF; THENCE NORTH 78° 18' WEST 810 FEET; THENCE NORTH 28° 34' WEST TO THE CENTERLINE OF CLINTON RIVER; THENCE SOUTHWESTERLY ALONG SAID CENTERLINE, TO THE WEST LINE OF THE WEST 1/2 OF THE SOUTHEAST 1/4; THENCE SOUTH TO THE SOUTHWEST CORNER OF THE WEST 1/2 OF THE SOUTHEAST 1/4; THENCE EAST ALONG THE SOUTH LINE OF SECTION 15 TO THE POINT OF BEGINNING. EXCEPT, BEGINNING AT A POINT DISTANT DUE EAST 1003.13 FEET FROM THE SOUTH 1/4 CORNER, THENCE NORTH 01° 40' 04" EAST 687.19 FEET; THENCE DUE EAST 393.37 FEET; THENCE SOUTH 01° 50' 10" WEST 260.31 FEET; THENCE SOUTH 01° 35' 20" WEST 628.88 FEET; THENCE DUE WEST 393.47 FEET TO THE POINT OF BEGINNING; AND ALSO EXCEPT, COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 15, THENCE DUE EAST ALONG THE SOUTH LINE OF SECTION 15, 1003.13 FEET; THENCE NORTH 01° 40' 04" EAST 600.00 FEET; THENCE DUE WEST 2.50 FEET; THENCE SOUTH 01° 40' 04" WEST 600.00 FEET TO THE SOUTH LINE OF SECTION 15; THENCE DUE EAST 2.50 FEET BACK TO THE POINT OF BEGINNING.

NEW DESCRIPTION OF OVERALL PARCEL - COMBINATION OF ROCHESTER COLLEGE PARCELS
#15-15-376-001, #15-15-451-003 and #15-15-451-008
LAND IN PART OF THE WEST HALF OF THE SOUTHEAST 1/4 AND PART OF THE SOUTH 1/2 OF THE SOUTHWEST 1/ 4 OF SECTION 15, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS SUBSEQUENT TO A BOUNDARY SURVEY BY RAYMOND J. DONNELLY & ASSOCIATES (PROJECT 2005-035) IN MAY 2005.

BEGINNING AT THE SOUTH 1/4 CORNER OF SAID SECTION 15 AND PROCEEDING THENCE ALONG THE SOUTH LINE OF THE SE 1/4 OF THE SW 1/4 OF SECTION 15 AND CENTERLINE OF AVON ROAD, NORTH 89° 48' 28" WEST 1310.84 FEET TO THE SOUTH 1/8 CORNER OF THE SW 1/4; THENCE CONTINUING ALONG THE SOUTH LINE OF THE SW 1/4 OF THE SW 1/4 OF SECTION 15 AND CENTERLINE OF AVON ROAD, NORTH 88° 25' 10" WEST 443.79 FEET TO THE INTERSECTION OF SAID SOUTH LINE WITH THE SOUTHEASTERLY LINE OF THE CLINTON RIVER "TRAIL" (FORMERLY KNOWN AS THE GRAND TRUNK WESTERN RAILROAD); THENCE ALONG THE SOUTHEASTERLY LINE OF SAID "TRAIL", NORTH 42° 34' 44" EAST 332.30 FEET TO A POINT OF CURVATURE; THENCE CONTINUING ALONG THE SOUTHEASTERLY LINE OF SAID "TRAIL", NORTHEASTERLY 797.46 FEET ON THE ARC OF A 5524.16 FT. CURVE TO THE RIGHT (CONCAVE TO THE SOUTHEAST), WITH A CENTRAL ANGLE OF 08° 15' 16" AND CHORD BEARING AND DISTANCE OF NORTH 46° 42' 52" EAST 796.77 FEET TO THE END OF SAID CURVE; THENCE CONTINUING ALONG THE SOUTHEASTERLY LINE OF SAID "TRAIL", NORTH 50° 51' 00" EAST 1021.20 FEET TO THE SOUTHWESTERLY CORNER OF A TRIANGULAR SHAPPED PARCEL OF LAND OWNED BY LOCHIRCO, et al (TAX ID # 15-15-328-001); THENCE LEAVING THE SOUTHEASTERLY LINE OF SAID "TRAIL", AND FOLLOWING ALONG THE SOUTH LINE OF SAID LOCHIRCO PARCEL, NORTH 89° 39' 41" EAST 244.89 FEET TO THE EAST 1/8 CORNER OF THE SW 1/4 OF SECTION 15; THENCE ALONG THE SOUTH LINE OF THE NW 1/4 OF SE 1/4, NORTH 89° 47' EAST 27 FEET, MORE OR LESS, TO A POINT IN THE CENTER OF THE CLINTON RIVER; THENCE FOLLOWING ALONG WITH THE CENTER OF THE CLINTON RIVER IN MEANDERING DIRECTIONS, BUT GENERALLY NORTHEASTERLY, A DISTANCE OF 1740 FEET, MORE OR LESS, DOWNSTREAM; THENCE LEAVING THE CENTER OF THE CLINTON RIVER, SOUTH 59° 44' EAST 25 FEET, MORE OR LESS, TO THE NORTHWEST CORNER OF LAND OWNED BY ROSE AND WOJAS (TAX ID # 15-15-405-004); THENCE FOLLOWING ALONG WITH THE WESTERLY AND SOUTHERLY BOUNDARY OF SAID ROSE AND WOJAS PARCEL, SOUTH 22° 07' 04" EAST 226.22 FEET AND SOUTH 71° 51' 04" EAST 610.00 FEET TO THE SOUTHEAST CORNER OF SAID PARCEL; THENCE ALONG THE WESTERLY LINE OF THE BZENKO PARCEL (TAX ID # 15-15-429-032), SOUTH 02° 16' 56" WEST 118.03; THENCE ALONG THE WESTERLY LINE, IN PART, OF THE LIFE TIME FITNESS PARCEL (TAX ID # 15-15-476-039), SOUTH 01° 52' 23" WEST 623.74 FEET TO THE NORTHEAST CORNER OF THE ROCHESTER CHURCH OF CHRIST PARCEL (TAX ID # 15-15-451-007); THENCE ALONG THE NORTHERLY AND WESTERLY BOUNDARY OF SAID CHURCH PARCEL, DUE WEST 393.37 FEET AND SOUTH 01° 40' 04" WEST 287.19 FEET, AND DUE WEST 2.50 FEET, AND SOUTH 01° 40' 04" WEST 600.00 FEET TO A POINT ON THE SOUTH LINE OF SECTION 15; THENCE ALONG THE SOUTH LINE OF SECTION 15 AND CENTERLINE OF AVON ROAD, DUE WEST 1000.83 FEET BACK TO THE POINT OF BEGINNING.

THIS DESCRIBED PARCEL CONTAINS 81.01 ACRES OF LAND AS SURVEYED, BEING SUBJECT TO THE RIGHTS OF THE PUBLIC IN AVON ROAD, SUBJECT TO THE RIPARIAN RIGHTS OF OTHERS IN THE CLINTON RIVER, AND ALSO SUBJECT TO AND TOGETHER WITH ANY EASEMENTS, RESTRICTIONS, OR RESERVATIONS AFFECTING THIS PARCEL.

MODIFIED HISTORIC DISTRICT PARCEL DESCRIPTION
LAND IN THE CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS:

COMMENCING AT THE SOUTH 1/4 CORNER OF SECTION 15, TOWN 3 NORTH, RANGE 11 EAST; THENCE ALONG THE SOUTH LINE OF SAID SECTION 15, DUE EAST 756.99 FEET; THENCE DUE NORTH 60.00 FEET TO THE POINT OF BEGINNING; THENCE DUE NORTH 213.00 FEET; THENCE DUE EAST 212.24 FEET; THENCE SOUTH 01° 40' 04" WEST, 213.09 FEET; THENCE ALONG THE NORTHERLY 60 FT. RIGHT-OF-WAY LINE OF AVON ROAD, DUE WEST 206.04 FEET BACK TO THE POINT OF BEGINNING.
CONTAINING 1.02 ACRES OF LAND SUBJECT TO AND TOGETHER WITH ANY EASEMENTS, RESTRICTIONS, OR RESERVATIONS AFFECTING THIS DESCRIBED PARCEL.

PART OF TAX I.D. #15-15-451-008

DESCRIPTION OF ROCHESTER COLLEGE PARCEL (REMAINDER) AFTER DEDICATION OF AVON ROAD RIGHT-OF-WAY AND DIVISION OF MODIFIED HISTORIC DISTRICT PARCEL BEING PARTS OF ROCHESTER COLLEGE PARCELS #15-15-378-001, #15-15-451-003 and #15-15-451-008
LAND IN PART OF THE WEST HALF OF THE SOUTHEAST 1/4 AND PART OF THE SOUTH 1/2 OF THE SOUTHWEST 1/ 4 OF SECTION 15, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS SUBSEQUENT TO A BOUNDARY SURVEY BY RAYMOND J. DONNELLY & ASSOCIATES (PROJECT 2005-035) IN MAY 2005.

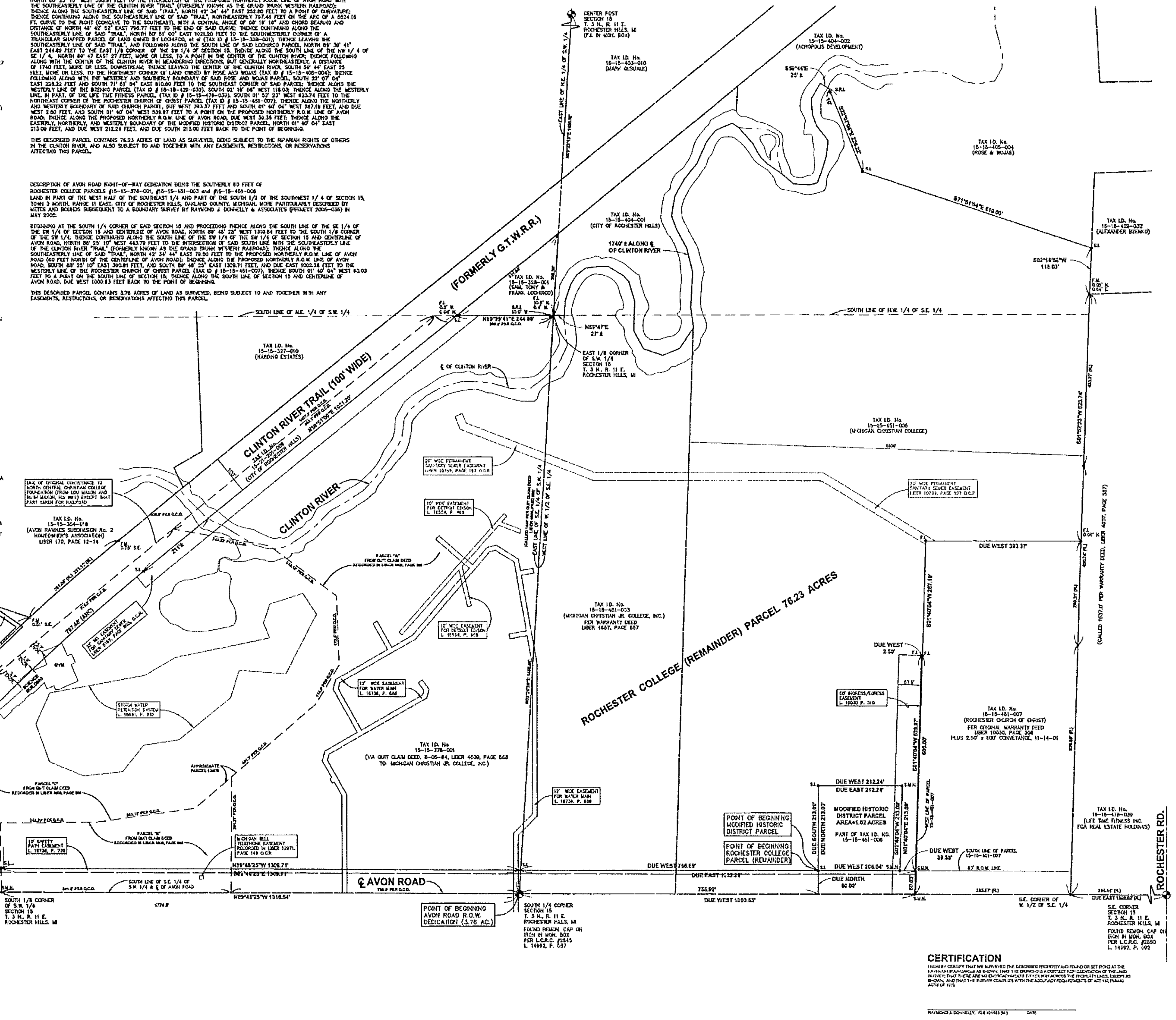
COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 15 AND PROCEEDING THENCE ALONG THE SOUTH LINE OF SECTION 15 AND CENTERLINE OF AVON ROAD, DUE EAST 756.99 FEET; THENCE DUE NORTH 60.00 FEET TO THE POINT OF BEGINNING OF THIS ROCHESTER COLLEGE (REMAINDER) PARCEL; THENCE ALONG THE PROPOSED NORTHERLY R.O.W. LINE OF AVON ROAD (60 FEET NORTH OF THE CENTERLINE OF AVON ROAD), DUE WEST 756.89 FEET, AND NORTH 89° 48' 25" WEST 1309.71 FEET, AND NORTH 88° 25' 10" WEST 390.91 FEET TO THE INTERSECTION OF THE PROPOSED NORTHERLY R.O.W. LINE OF AVON ROAD WITH THE SOUTHEASTERLY LINE OF THE CLINTON RIVER "TRAIL" (FORMERLY KNOWN AS THE GRAND TRUNK WESTERN RAILROAD); THENCE ALONG THE SOUTHEASTERLY LINE OF SAID "TRAIL", NORTH 42° 34' 44" EAST 252.80 FEET TO A POINT OF CURVATURE; THENCE CONTINUING ALONG THE SOUTHEASTERLY LINE OF SAID "TRAIL", NORTHEASTERLY 797.44 FEET ON THE ARC OF A 5524.16 FT. CURVE TO THE RIGHT (CONCAVE TO THE SOUTHEAST), WITH A CENTRAL ANGLE OF 08° 16' 16" AND CHORD BEARING AND DISTANCE OF NORTH 46° 42' 52" EAST 796.77 FEET TO THE END OF SAID CURVE; THENCE CONTINUING ALONG THE SOUTHEASTERLY LINE OF SAID "TRAIL", NORTH 50° 51' 00" EAST 1021.20 FEET TO THE SOUTHWESTERLY CORNER OF A TRIANGULAR SHAPPED PARCEL OF LAND OWNED BY LOCHIRCO, et al (TAX ID # 15-15-328-001); THENCE LEAVING THE SOUTHEASTERLY LINE OF SAID "TRAIL", AND FOLLOWING ALONG THE SOUTH LINE OF SAID LOCHIRCO PARCEL, NORTH 89° 39' 41" EAST 244.89 FEET TO THE EAST 1/8 CORNER OF THE SW 1/4 OF SECTION 15; THENCE ALONG THE SOUTH LINE OF THE NW 1/ 4 OF SE 1/ 4, NORTH 89° 47 EAST 27 FEET, MORE OR LESS, TO A POINT IN THE CENTER OF THE CLINTON RIVER; THENCE FOLLOWING ALONG WITH THE CENTER OF THE CLINTON RIVER IN MEANDERING DIRECTIONS, BUT GENERALLY NORTHEASTERLY, A DISTANCE OF 1740 FEET, MORE OR LESS, DOWNSTREAM; THENCE LEAVING THE CENTER OF THE CLINTON RIVER, SOUTH 59° 44' EAST 25 FEET, MORE OR LESS, TO THE NORTHWEST CORNER OF LAND OWNED BY ROSE AND WOJAS (TAX ID # 15-15-405-004); THENCE FOLLOWING ALONG WITH THE WESTERLY AND SOUTHERLY BOUNDARY OF SAID ROSE AND WOJAS PARCEL, SOUTH 22° 07' 04" EAST 226.22 FEET AND SOUTH 71° 51' 04" EAST 610.00 FEET TO THE SOUTHEAST CORNER OF SAID PARCEL; THENCE ALONG THE WESTERLY LINE OF THE BZENKO PARCEL (TAX ID # 15-15-429-032), SOUTH 02° 16' 56" WEST 118.03; THENCE ALONG THE WESTERLY LINE, IN PART, OF THE LIFE TIME FITNESS PARCEL (TAX ID # 15-15-476-039), SOUTH 01° 52' 23" WEST 623.74 FEET TO THE NORTHEAST CORNER OF THE ROCHESTER CHURCH OF CHRIST PARCEL (TAX ID # 15-15-451-007); THENCE ALONG THE NORTHERLY AND WESTERLY BOUNDARY OF SAID CHURCH PARCEL, DUE WEST 393.37 FEET AND SOUTH 01° 40' 04" WEST 287.19 FEET, AND DUE WEST 2.50 FEET, AND SOUTH 01° 40' 04" WEST 539.97 FEET TO A POINT ON THE PROPOSED NORTHERLY R.O.W. LINE OF AVON ROAD; THENCE ALONG THE PROPOSED NORTHERLY R.O.W. LINE OF AVON ROAD, DUE WEST 39.35 FEET; THENCE ALONG THE EASTERLY, NORTHERLY, AND WESTERLY BOUNDARY OF THE MODIFIED HISTORIC DISTRICT PARCEL, NORTH 01° 40' 04" EAST 213.09 FEET, AND DUE WEST 212.24 FEET, AND DUE SOUTH 213.00 FEET BACK TO THE POINT OF BEGINNING.

THIS DESCRIBED PARCEL CONTAINS 76.23 ACRES OF LAND AS SURVEYED, BEING SUBJECT TO THE RIPARIAN RIGHTS OF OTHERS IN THE CLINTON RIVER, AND ALSO SUBJECT TO AND TOGETHER WITH ANY EASEMENTS, RESTRICTIONS, OR RESERVATIONS AFFECTING THIS PARCEL.

DESCRIPTION OF AVON ROAD RIGHT-OF-WAY DEDICATION BEING THE SOUTHERLY 60 FEET OF ROCHESTER COLLEGE PARCELS #15-15-378-001, #15-15-451-003 and #15-15-451-008
LAND IN PART OF THE WEST HALF OF THE SOUTHEAST 1/4 AND PART OF THE SOUTH 1/2 OF THE SOUTHWEST 1/ 4 OF SECTION 15, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS SUBSEQUENT TO A BOUNDARY SURVEY BY RAYMOND J. DONNELLY & ASSOCIATES (PROJECT 2005-035) IN MAY 2005.

BEGINNING AT THE SOUTH 1/4 CORNER OF SAID SECTION 15 AND PROCEEDING THENCE ALONG THE SOUTH LINE OF THE SE 1/4 OF THE SW 1/4 OF SECTION 15 AND CENTERLINE OF AVON ROAD, NORTH 89° 48' 28" WEST 1310.84 FEET TO THE SOUTH 1/8 CORNER OF THE SW 1/4; THENCE CONTINUING ALONG THE SOUTH LINE OF THE SW 1/4 OF THE SW 1/4 OF SECTION 15 AND CENTERLINE OF AVON ROAD, NORTH 88° 25' 10" WEST 443.79 FEET TO THE INTERSECTION OF SAID SOUTH LINE WITH THE SOUTHEASTERLY LINE OF THE CLINTON RIVER "TRAIL" (FORMERLY KNOWN AS THE GRAND TRUNK WESTERN RAILROAD); THENCE ALONG THE SOUTHEASTERLY LINE OF SAID "TRAIL", NORTH 42° 34' 44" EAST 79.50 FEET TO THE PROPOSED NORTHERLY R.O.W. LINE OF AVON ROAD (60 FEET NORTH OF THE CENTERLINE OF AVON ROAD); THENCE ALONG THE PROPOSED NORTHERLY R.O.W. LINE OF AVON ROAD, SOUTH 88° 25' 10" EAST 390.91 FEET, AND SOUTH 89° 48' 25" EAST 1309.71 FEET, AND DUE EAST 1002.28 FEET TO THE WESTERLY LINE OF THE ROCHESTER CHURCH OF CHRIST PARCEL (TAX ID # 15-15-451-007), THENCE SOUTH 01° 40' 04" WEST 60.03 FEET TO A POINT ON THE SOUTH LINE OF SECTION 15; THENCE ALONG THE SOUTH LINE OF SECTION 15 AND CENTERLINE OF AVON ROAD, DUE WEST 1000.83 FEET BACK TO THE POINT OF BEGINNING.

THIS DESCRIBED PARCEL CONTAINS 3.76 ACRES OF LAND AS SURVEYED, BEING SUBJECT TO AND TOGETHER WITH ANY EASEMENTS, RESTRICTIONS, OR RESERVATIONS AFFECTING THIS PARCEL.



CERTIFICATION
I HEREBY CERTIFY THAT WE SURVEYED THE DESCRIBED PROPERTY AND FOUND OR SET IRONS AT THE EXTERIOR BOUNDARIES AS SHOWN, THAT THE DRAWING IS A CORRECT REPRESENTATION OF THE LAND SURVEYED, THAT THERE ARE NO ENCROACHMENTS EITHER WAY ACROSS THE PROPERTY LINES, EXCEPT AS SHOWN, AND THAT THE SURVEY COMPLIES WITH THE ACCURACY REQUIREMENTS OF ACT 132, PUBLIC ACTS OF 1970.

RAYMOND J. DONNELLY, RLS #21583 (M.I.) DATE

ABBREVIATIONS

ENCR.	ENCROACHMENT
FI	FOUND IRON ROD
FIP	FOUND IRON PIPE
FM	FOUND CONCRETE MONUMENT
SI	SET IRON ROD
S.M.N.	SET MAG. NAIL
S.R.I.	SET REFERENCE IRON
C	CALCULATED
M	MEASURED
R	RECORD
BM	BENCH MARK
CB	CATCH BASIN
CO	CLEAN OUT
DS	DOWNSPOUT
FF	FINISHED FLOOR
GV&W	GATE VALVE & WELL
HYD	HYDRANT
INL	INLET
IE	INVERT ELEVATION
LP	LIGHT POLE
MH	MANHOLE
NTS	NOT TO SCALE
OH	OVERHEAD
SB	SOIL BORING
TC	TOP OF CURB
UG	UNDERGROUND
UP	UTILITY POLE

SYMBOLS
CABLE
ELECTRIC
FENCE
GAS
GUY WIRE & ANCHOR
SANITARY SEWER
STORM SEWER
TELEPHONE
TRAVERSE/CONTROL POINT
WATER MAIN

ISSUE DATE	ISSUED FOR
10-22-08	SITE PLAN RE-SUBMITTAL
12-03-08	SITE PLAN RE-SUBMITTAL
01-16-09	SITE PLAN RE-SUBMITTAL

DRAWN	RLS
CHECKED	RLS
APPROVED	DNH

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Site Development Consulting
"23 Years of Excellence"
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Fax: 248.689.5677
Web:www.rjdsurveyors.com

BOUNDARY SURVEY
ROCHESTER COLLEGE
ROCHESTER HILLS, MI

ROCHESTER COLLEGE
800 WEST AVON RD.
ROCHESTER HILLS, MI 48307

J.E.K.	5-17-05	No Scale
2005-035		

PROJECT
Rochester College
Health & Life
Science Center

Rochester Hills
Michigan

SHEET
Boundary Survey

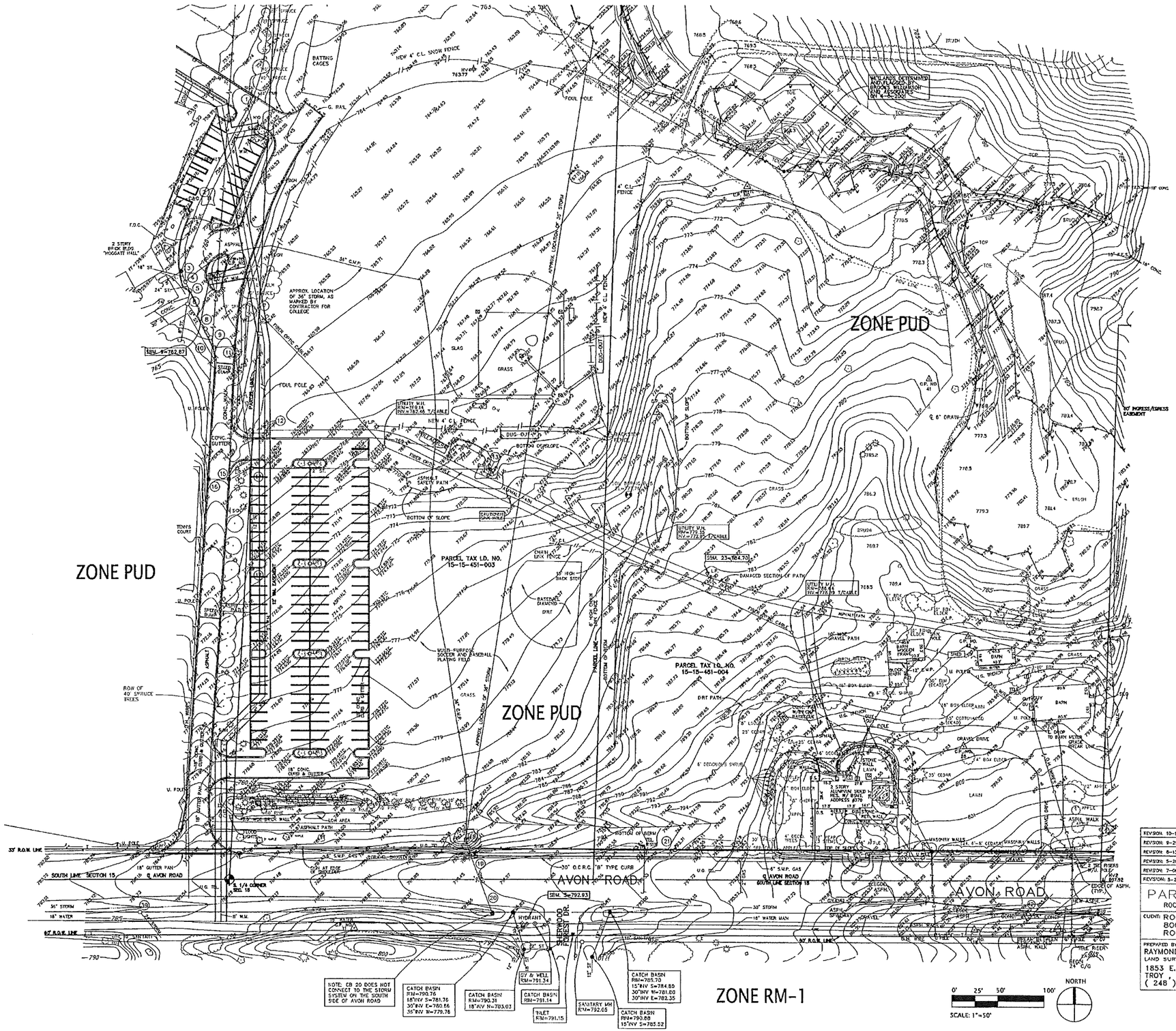
SCALE: 1" = 120'

PROJECT NUMBER
2008-076
PEA PROJECT NO. 2008-135

SHEET NUMBER
P-1.1

XREF: 2008135\DWG\TOPOBASE-08135.DWG
XREF: 2008135\DWG\SITE PLANS\PBASE-08135.DWG
XREF: 2008135\DWG\BASE-EXISTINGSITEPLAN-FROM-TMP.DWG

PRELIMINARY NOT FOR CONSTRUCTION
CITY FILE # 94-426.8, SECTION #15



BENCH MARK DATA

SBM. 3
ELEV.=792.93
ARROW ON HYDRANT SW. CORNER OF AVON AND SHERWOOD FOREST DR.

SBM. 5
ELEV.=759.80
PK. NAIL NORTH FACE OF 36" OAK 970' NORTH OF SOUTH 1/4 CORNER.

SBM. 7
ELEV.=797.89
TOP OF SOUTH WEST CORNER OF SQUARE CONCRETE LIGHT POLE BASE, 170' NORTH OF CENTER LINE AVON ROAD AND 65' SOUTHWEST OF SOUTHWEST BUILDING CORNER OF CHURCH OF CHRIST (250 AVON RD.).

SBM. 8
ELEV.=818.45
ARROW ON HYDRANT AT NORTH EAST CORNER OF NORTH PARKING LOT OF CHURCH OF CHRIST (250 AVON RD.).

SBM. 9
ELEV.=762.87
ARROW ON HYDRANT IN KIDNEY SHAPED ISLAND, 50' EAST OF SOUTH EAST CORNER OF HOGGATT HALL DORM AND 640' NORTH OF SOUTH 1/4 CORNER.

B.M. 23
ELEV.=784.70
NORTH EAST BOLT ON LIGHT POLE BASE, LOCATED 332' NORTH OF ℄ AVON ROAD AND 474' WEST OF ℄ DRIVE TO CHURCH OF CHRIST

LEGEND

S.I.	SET IRON PIPE W/ R.L.S. CAP #31563
F.I.	FOUND IRON PIPE
F.M.	FOUND MONUMENT
P.K.	P.K. NAIL
R.	RECORD
M.	MEASURED
C.	CALCULATED
U. POLE	UTILITY POLE
L.P.	LIGHT POLE
T/C	TOP OF CURB
G.	GUTTER
O.H.	OVERHEAD
U.G.	UNDERGROUND
C. & G.	CURB & GUTTER
B.B.	BUMPER BLOCK
HYD.	HYDRANT
SAN.	SANITARY
G.V. & W.	GATE VALVE & WELL
ST.	STORM
C.B.	CATCH BASIN
M.H.	MANHOLE
T.S.V. & W.	TAPPING SLEEVE VALVE & WELL
	GUY WIRE & ANCHOR
	WATER MAIN
	STORM SEWER
	SANITARY SEWER
	GAS MAIN BURIER
	ELECTRIC WIRES
	TELEPHONE WIRES
	CABLE T.V. WIRES
	FENCE LINE
	TRAVERSE/CONTROL POINT
	STRUCTURE PLANNER
	EXISTING ELEVATIONS
	EDGE OF WETLAND

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NOTE: UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANIES. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF.

PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD. CALL U-S-S-D-I-G

ANY INFORMATION OR DATA ON THIS DRAWING IS NOT INTENDED TO BE SUITABLE FOR REUSE BY ANY PERSON, FIRM OR CORPORATION OR ANY OTHERS ON EXTENSIONS OF THIS PROJECT OR FOR ANY USE ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY THE SURVEYOR FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO THE SURVEYOR OR ENGINEER.

REVISION: 10-13-04 ADDED ALTERNATE APPROX. LOCATION – 36" STORM
REVISION: 9-29-04 ADDED 36" STORM LOCATION MARKED IN FIELD BY CONTRACTOR
REVISION: 8-13-04 ADDED NEW TOPO INFORMATION
REVISION: 5-20-03 ADDED NEW TOPO INFORMATION
REVISION: 7-06-01 NEW FENCE FOR BASEBALL DIAMOND
REVISION: 5-22-01 NEW TOPO INFORMATION ADDED

PARTIAL TOPOGRAPHIC SURVEY

ROCHESTER COLLEGE–ROADWAY, PARKING AND ATHLETIC FIELDS

CLIENT: ROCHESTER COLLEGE
800 W. AVON ROAD
ROCHESTER HILLS, MI 48307

PREPARED BY:
RAYMOND J. DONNELLY & ASSOCIATES , INC.
LAND SURVEYORS AND SITE DEVELOPMENT CONSULTANTS
1853 E. MAPLE ROAD
TROY , MICHIGAN 48083-4207
(248) 689-5555 FAX (248) 689-5677

DATE:	SCALE:
08-13-04	1"=50'
DRN. BY: J.W.F./J.E.K.	CHK'D. BY: R.J.D.
SHEET 1 OF 1	JOB NO. 01036

XREF: 2008135\DWG\TOPOBASE-08135.DWG
XREF: 2008135\DWG\SITE PLAN\BASE-08135.DWG
XREF: 2008135\DWG\BASE-EXISTNGSITEPLAN-FROM-TMP.DWG

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12-03-08	SITE PLAN RE-SUBMITTAL
01-16-09	SITE PLAN RE-SUBMITTAL
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PROJECT
Rochester College Health & Life Science Center

Rochester Hills Michigan

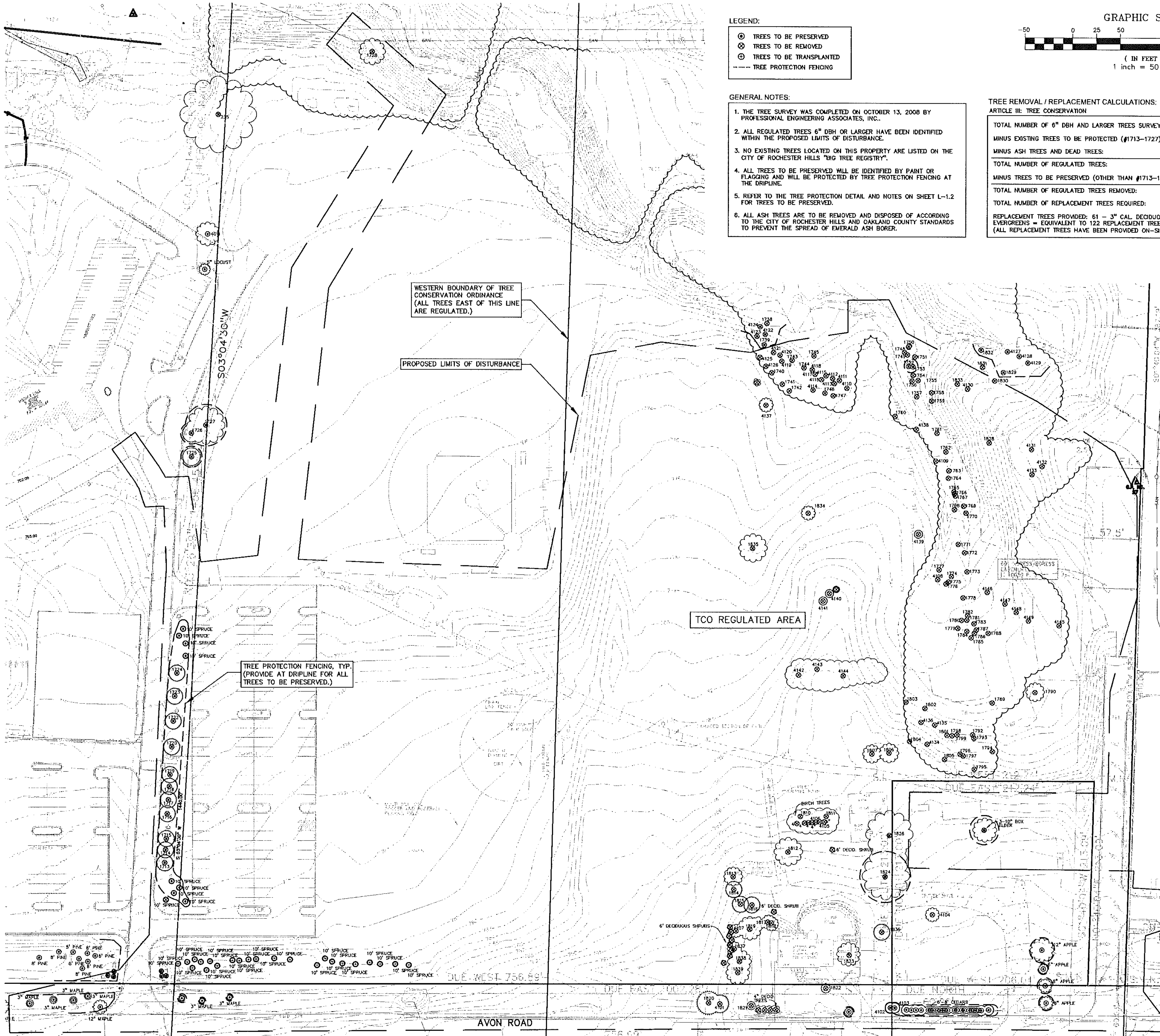
SHEET
Partial Topographic Survey

SCALE: 1" = 50'

PROJECT NUMBER
2008-076
PEA PROJECT NO. 2008-135

SHEET NUMBER
P-1.2

PRELIMINARY NOT FOR CONSTRUCTION
CITY FILE # 94-426.8, SECTION #15



LEGEND:

- ⊙ TREES TO BE PRESERVED
- ⊗ TREES TO BE REMOVED
- ⊕ TREES TO BE TRANSPLANTED
- ---- TREE PROTECTION FENCING

GRAPHIC SCALE

−50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

GENERAL NOTES:

1. THE TREE SURVEY WAS COMPLETED ON OCTOBER 13, 2008 BY PROFESSIONAL ENGINEERING ASSOCIATES, INC..
2. ALL REGULATED TREES 6" DBH OR LARGER HAVE BEEN IDENTIFIED WITHIN THE PROPOSED LIMITS OF DISTURBANCE.
3. NO EXISTING TREES LOCATED ON THIS PROPERTY ARE LISTED ON THE CITY OF ROCHESTER HILLS "BIG TREE REGISTRY".
4. ALL TREES TO BE PRESERVED WILL BE IDENTIFIED BY PAINT OR FLAGGING AND WILL BE PROTECTED BY TREE PROTECTION FENCING AT THE DRIPLINE.
5. REFER TO THE TREE PROTECTION DETAIL AND NOTES ON SHEET L-1.2 FOR TREES TO BE PRESERVED.
6. ALL ASH TREES ARE TO BE REMOVED AND DISPOSED OF ACCORDING TO THE CITY OF ROCHESTER HILLS AND OAKLAND COUNTY STANDARDS TO PREVENT THE SPREAD OF EMERALD ASH BORER.

TREE REMOVAL / REPLACEMENT CALCULATIONS:
ARTICLE III: TREE CONSERVATION

TOTAL NUMBER OF 6" DBH AND LARGER TREES SURVEYED:	159
MINUS EXISTING TREES TO BE PROTECTED (#1713–1727):	−14
MINUS ASH TREES AND DEAD TREES:	− 9
TOTAL NUMBER OF REGULATED TREES:	136
MINUS TREES TO BE PRESERVED (OTHER THAN #1713–1727):	−15
TOTAL NUMBER OF REGULATED TREES REMOVED:	121
TOTAL NUMBER OF REPLACEMENT TREES REQUIRED:	121
REPLACEMENT TREES PROVIDED: 61 – 3" CAL. DECIDUOUS / 10' HT. EVERGREENS = EQUIVALENT TO 122 REPLACEMENT TREES (ALL REPLACEMENT TREES HAVE BEEN PROVIDED ON-SITE.)	

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

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CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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www.missdig.org

N

EXISTING TREE LIST:

TAG #	DBH (IN)	SPECIES	COND	COMMENT TRUNKS	REGULATED (Y/N)	REGULATED TREES TO BE PROTECTED	REMOVE (X)	PRESERVE (X)	COMMON NAME	LATIN NAME
1713	19	BS	G		NO	X		X	Blue Spruce	Picea pungens
1714	12	BS	G		NO	X		X	Blue Spruce	Picea pungens
1715	13	BS	G		NO	X		X	Blue Spruce	Picea pungens
1716	22	BS	G		NO	X		X	Blue Spruce	Picea pungens
1717	17	BS	G		NO	X		X	Blue Spruce	Picea pungens
1718	21	BS	G		NO	X		X	Blue Spruce	Picea pungens
1719	15	BS	P		NO	X		X	Blue Spruce	Picea pungens
1720	19	BS	F		NO	X		X	Blue Spruce	Picea pungens
1722	15	BS	G		NO	X		X	Blue Spruce	Picea pungens
1723	17.5	BS	G		NO	X		X	Blue Spruce	Picea pungens
1724	16.5	BS	G		NO	X		X	Blue Spruce	Picea pungens
1725	18.5	BS	G		NO	X		X	Blue Spruce	Picea pungens
1726	17	BS	G		NO	X		X	Blue Spruce	Picea pungens
1727	27.5	E	G		NO	X		X	American Elm	Ulmus americana
1728	18	GA	D	DEAD	NO		X		Green Ash	Fraxinus pennsylvanica
1729	14	WA	D	DEAD	NO		X		White Ash	Fraxinus americana
1739	6	BC	F		YES			X	Wild Black Cherry	Prunus serotina
1740	11	RO	G		YES		X		Red Oak	Quercus rubra
1741	14	RO	F		YES		X		Red Oak	Quercus rubra
1742	11	RO	F		YES		X		Red Oak	Quercus rubra
1743	[illegible]	B	G	MULTIPLE	YES		X		Basswood	Tilia americana
1744	12	SE	F		YES		X		Siberian Elm	Ulmus pumila
1745	22	B	F		YES		X		Basswood	Tilia americana
1746	9	B	F		YES		X		Basswood	Tilia americana
1747	13	E	F	MULTIPLE	YES		X		American Elm	Ulmus americana
1748	11	CT	D	DEAD	NO		X		Cottonwood	Populus deltoides
1749	12	CT	D	DEAD	NO		X		Cottonwood	Populus deltoides
1750	12	CT	F		YES			X	Cottonwood	Populus deltoides
1751	15	CT	F		YES		X		Cottonwood	Populus deltoides
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

REFERENCE DRAWINGS

FLOODPLAIN: ZONE 'C' PER FIRM MAP #260471-0020-B

SURVEY AND EXISTING UTILITIES INFORMATION PROVIDED BY:
RAYMOND J. DONNELLY & ASSOCIATES, INC. SURVEYORS

XREF: 2008135\DWG\TOPOBASE-08135.DWG
XREF: 2008135\DWG\SITE PLANS\PBASE-08135.DWG
XREF: 2008135\DWG\BASE-EXISTINGSITEPLAN-FROM-TMP.DWG

ISSUE DATE	ISSUED FOR
10-22-08	SITE PLAN RE-SUBMITTAL
12-03-08	SITE PLAN RE-SUBMITTAL
01-16-09	SITE PLAN RE-SUBMITTAL

DRAWN	LAW
CHECKED	JTS
APPROVED	DNH

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PROJECT
Rochester College Health & Life Science Center

Rochester Hills Michigan

SHEET
Existing Tree Survey

PROJECT NUMBER
2008-076
PEA PROJECT NO. 2008-135

SHEET NUMBER
P-1.3

PRELIMINARY NOT FOR CONSTRUCTION
CITY FILE # 94-426.8, SECTION #15

RUN-OFF COEFFICENT VALUES:

RUN-OFF COEFFICIENT VALUES USED PER THE CITY OF ROCHESTER HILLS STORMWATER ORDINANCE:

ROOF: 'C' = 0.95
PAVEMENT: 'C' = 0.95
GRASS: 'C' = 0.25

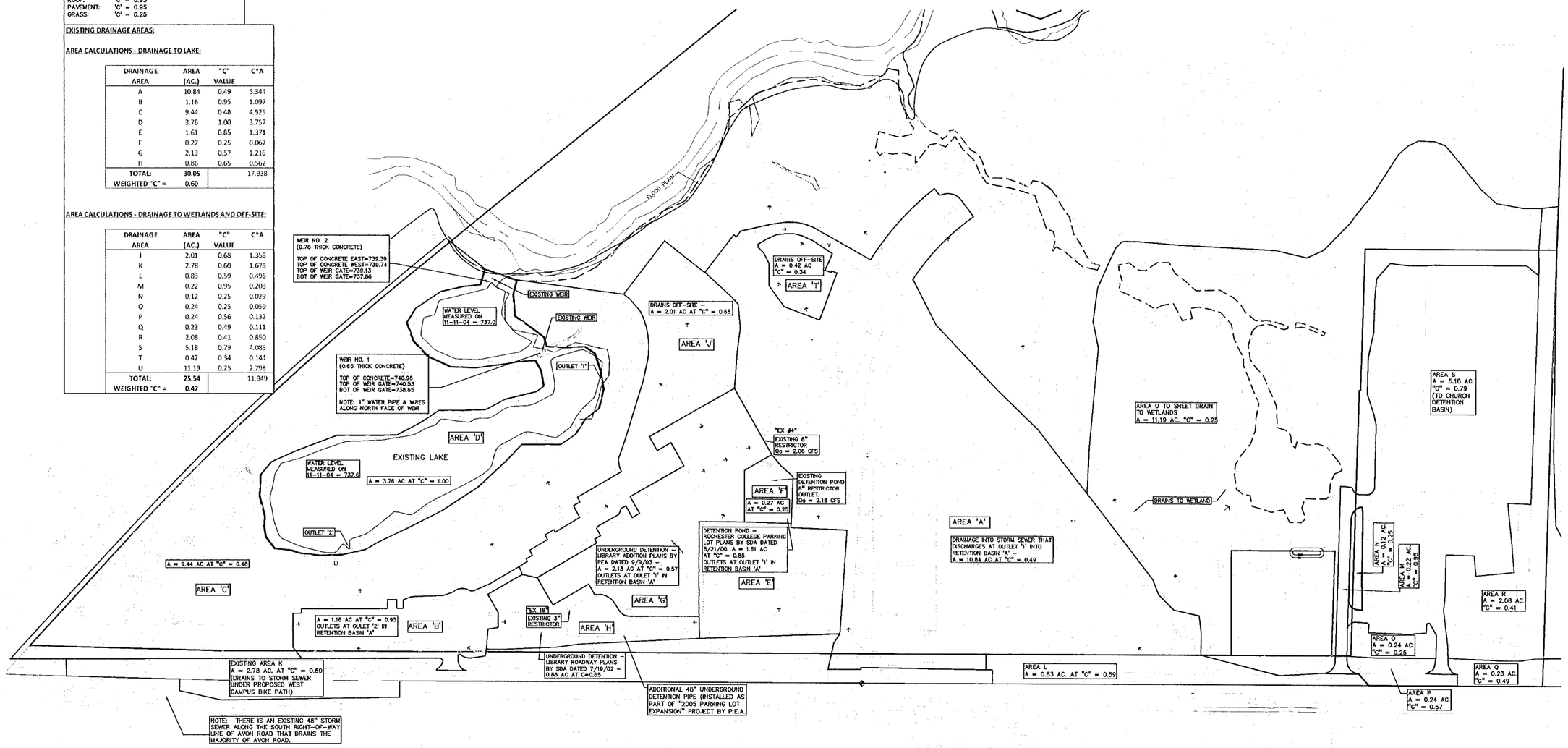
EXISTING DRAINAGE AREAS;

AREA CALCULATIONS - DRAINAGE TO LAKE;

DRAINAGE AREA	AREA (AC.)	"C" VALUE	C*A
A	10.84	0.49	5.344
B	1.16	0.95	1.097
C	9.44	0.48	4.525
D	3.76	1.00	3.757
E	1.61	0.85	1.371
F	0.27	0.25	0.067
G	2.13	0.57	1.216
H	0.86	0.65	0.562
TOTAL:	30.05		17.938
WEIGHTED "C" =	0.60		

AREA CALCULATIONS - DRAINAGE TO WETLANDS AND OFF-SITE;

DRAINAGE AREA	AREA (AC.)	"C" VALUE	C*A
J	2.01	0.68	1.358
K	2.78	0.60	1.678
L	0.83	0.59	0.496
M	0.22	0.95	0.208
N	0.12	0.25	0.029
O	0.24	0.25	0.059
P	0.24	0.56	0.132
Q	0.23	0.49	0.111
R	2.08	0.41	0.850
S	5.18	0.79	4.085
T	0.42	0.34	0.144
U	11.19	0.25	2.798
TOTAL:	25.54		11.949
WEIGHTED "C" =	0.47		



GRAPHIC SCALE

-100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

N

25 YEAR STORM DETENTION DESIGN (OAKLAND COUNTY DESIGN METHOD)

Contributing Area (A)	33.22	
Allowable Discharge (Qa)	6.49	(EXISTING RATE THROUGH WEIR OPENING)
Coefficient of Runoff (Cr)	0.64	

Calculation of Required Discharge/Acre

Qo = ((Qa)*A)/(A)(Cr)	0.31
T = 25 + ((506.2*(Qo))/0.8	187.82

EXISTING WEIR:
B= 4.9
H= 0.42
Q=(2/3)*B*((SQRT(2*G))*H^(3/2)
Q= 6.49 CFS

Storage Volume Required

Vs = (1.2960*T)*((T+25))-480(Qo)(T) 9286.47

Vd=(Vs)/(A)(Cr) 196.375 C.F

EXISTING DETENTION PROVIDED ON-SITE:
EXISTING PIPE STORAGE = 3816.58 C.F
EXISTING DETENTION BASIN = 5777.08 C.F

THEREFORE DETENTION REQUIRED = 186.782 C.F

AREA OF LAKE	94.307 S.F
ELEV. CHANGE	1.98 FT
NORMAL WATER ELEV.	737.60
25-YEAR STORAGE ELEV.	739.58
EXISTING TOP OF WEIR GATE	740.53

THEREFORE 25-YEAR STORAGE IS BELOW EXISTING WEIR GATE

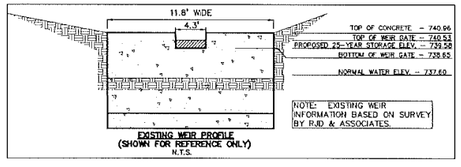
SINCE THE WATER LEVEL IN THE EXISTING LAKE HAS BEEN LOW, AND THE ELEVATION OF THE TOP OF THE WEIR GATE IS HIGHER THAN THE PROPOSED 25-YEAR STORAGE ELEVATION THE EXISTING WEIR SHALL REMAIN AS IS WITH NO PROPOSED ALTERATIONS

NOTES:

1. EXISTING DRAINAGE CONDITIONS BASED ON SURVEY INFORMATION PROVIDED BY SJD SURVEYORES, RECORD DRAWINGS, AND SITE VISITS.

2. THE "C" VALUES LISTED ON THE PLAN ARE BASED ON THE CITY OF ROCHESTER HILLS CURRENT STANDARDS, AND THEREFORE, DO NOT MATCH THE "C" VALUES USED DURING PREVIOUS PHASES OF THE CAMPUS.

3. THE DIFFERENT IN TOTAL DRAINAGE AREA BETWEEN EXISTING AND PROPOSED IS A PORTION OF AVON ROAD THAT CURRENTLY DRAINS TO A 36" PIPE THAT CROSSES THE CAMPUS AND OUTLETS TO THE WETLANDS. THIS PIPE WILL BE DISCONNECTED AS PART OF THIS PROJECT AND WILL BE CONNECTED TO THE STORM SEWER IN AVON ROAD.



EXISTING WEIR PROFILE
(SHOWN FOR REFERENCE ONLY)
N.T.S.

EXISTING STORMWATER DETENTION REFERENCE NOTES:

NOTE: PER SPALDING DeDECKER PLANS FOR "MICHIGAN CHRISTIAN COLLEGE" DATED 2-13-96 (CITY FILE NO. 94-426), THE TRIBUTARY AREA OF EXISTING MANHOLE "EX-4" CONTRIBUTED 2.06 CFS TO THE SYSTEM. SUBSEQUENT PLANS BY SPALDING DeDECKER FOR "ROCHESTER COLLEGE LIBRARY - PHASE II", DATED 7-30-01 (CITY FILE NO. 94-426.4) INDICATED THAT DETENTION MUST BE PROVIDED FOR ANY DISCHARGE GREATER THAN 2.06 CFS. IN OTHER WORDS THE ALLOWABLE DISCHARGE AT "EX-4" IS 2.06 CFS.

PER THE "LIBRARY ROADWAY EXTENSION" PLANS BY SPALDING DeDECKER, DATED 7-19-02 (CITY FILE NO. 94-426.5), A 3" RESTRICTOR HAS BEEN INSTALLED AT EXISTING CATCH BASIN "EX-18" ON THE EXISTING 12" NE LINE AND THE FLOW IS SET AT 0.174 CFS.

PER THE "LIBRARY EXPANSION" PLANS BY PROFESSIONAL ENGINEERING ASSOCIATES, DATED 9-9-03 (CITY FILE NO. 94-426.7), A 6" RESTRICTOR HAS BEEN INSTALLED AT EXISTING MANHOLE "EX-4" AND THE FLOW IS RESTRICTED TO 2.06 CFS. DETENTION WAS PROVIDED IN UNDERGROUND PIPES FOR THE LIBRARY EXPANSION.

PER THE LIBRARY PARKING EXPANSION PROJECT BY PROFESSIONAL ENGINEERING ASSOCIATES, DATED 11-2-05, THE DRAINAGE AREA TO EXISTING CATCH BASIN "EX-18" WAS INCREASED TO 0.86 AC. AT A "C" VALUE OF 0.62.

THE ALLOWABLE DISCHARGE AT "EX-18" WAS RESTRICTED BY AN EXISTING 3" RESTRICTOR TO Q = 0.17 CFS, THE VOLUME REQUIRED WAS 3,807.99 C.F.

PER THE "LIBRARY ROADWAY EXTENSION" PLANS BY SPALDING DeDECKER, DATED 7-19-02 (CITY FILE NO. 94-426.5), THE UNDERGROUND DETENTION WAS DESIGNED FOR AN AREA OF 0.87 AC. AT A "C" VALUE OF 0.43 AND THE TOTAL VOLUME WAS PROVIDED BY 195 L.F. OF 48" PIPE AND 59 L.F. OF 12" PIPE, TOTALING 2,496.78 C.F. OF STORAGE.

PER THE LIBRARY PARKING EXPANSION PROJECT BY PROFESSIONAL ENGINEERING ASSOCIATES, DATED 11-2-05, ADDITIONAL 48" UNDERGROUND PIPING WAS ADDED TO PROVIDE AN ADDITIONAL 1318.8 C.F. OF STORAGE.

NOTE: PER SPALDING DeDECKER PLANS FOR "ROCHESTER COLLEGE PARKING LOT" DATED 8-21-00, A DETENTION BASIN WAS CONSTRUCTED TO DETAIN FLOW FROM THE PARKING LOT EXPANSION, EAST OF THE EXISTING LIBRARY. THE TRIBUTARY AREA TO THIS POND IS SHOWN TO BE 1.5 ACRES AT A "C" VALUE OF 0.80. A 10-YEAR STORAGE VOLUME OF 5,777.08 CF WAS PROVIDED. THE OUTLET CONTROL STRUCTURE CONSISTS OF A 6" RESTRICTED OUTLET.

THE ACTUAL DISCHARGE FROM THE EXISTING 6" RESTRICTOR AT THE POND OUTLET IS:

Q= CA (2gh)^0.5

BOTTOM OF BASIN = 765
10 YEAR STORAGE ELEVATION = 768
THEREFORE, H = 3 FT.

Q= 0.80 (0.196 S.F.) (2 * 32.2 * 3)^0.5

Q= 2.18 CFS

PER PROFESSIONAL ENGINEERING ASSOCIATES PLANS FOR THE "NORTH PARKING LOT AND LIBRARY PARKING LOT EXPANSIONS" DATED 11-2-05, KEEPING THE EXISTING DISCHARGE RATE FROM THE POND, THE VOLUME OF STORAGE REQUIRED FOR THE NEW TRIBUTARY AREA FROM THE LIBRARY PARKING LOT ADDITION (1.8 ACRES AT "C" = 0.81) WAS 4,898.88 C.F.

(PER SPALDING DeDECKER PLANS FOR "ROCHESTER COLLEGE PARKING LOT" DATED 8-21-00), THE EXISTING VOLUME OF THE DETENTION BASIN IS 5,777.08 C.F.)

XREF: 2008135\DWG\TOPOBASE-08135.DWG
XREF: 2008135\DWG\SITE PLAN\VBASE-08135.DWG
XREF: 2008135\DWG\BASE-EXISTNG\SITEPLAN-FR(AV-TWP.DWG

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CHECKED	RLS
APPROVED	DNH

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PROJECT
Rochester College Health & Life Science Center

Rochester Hills Michigan

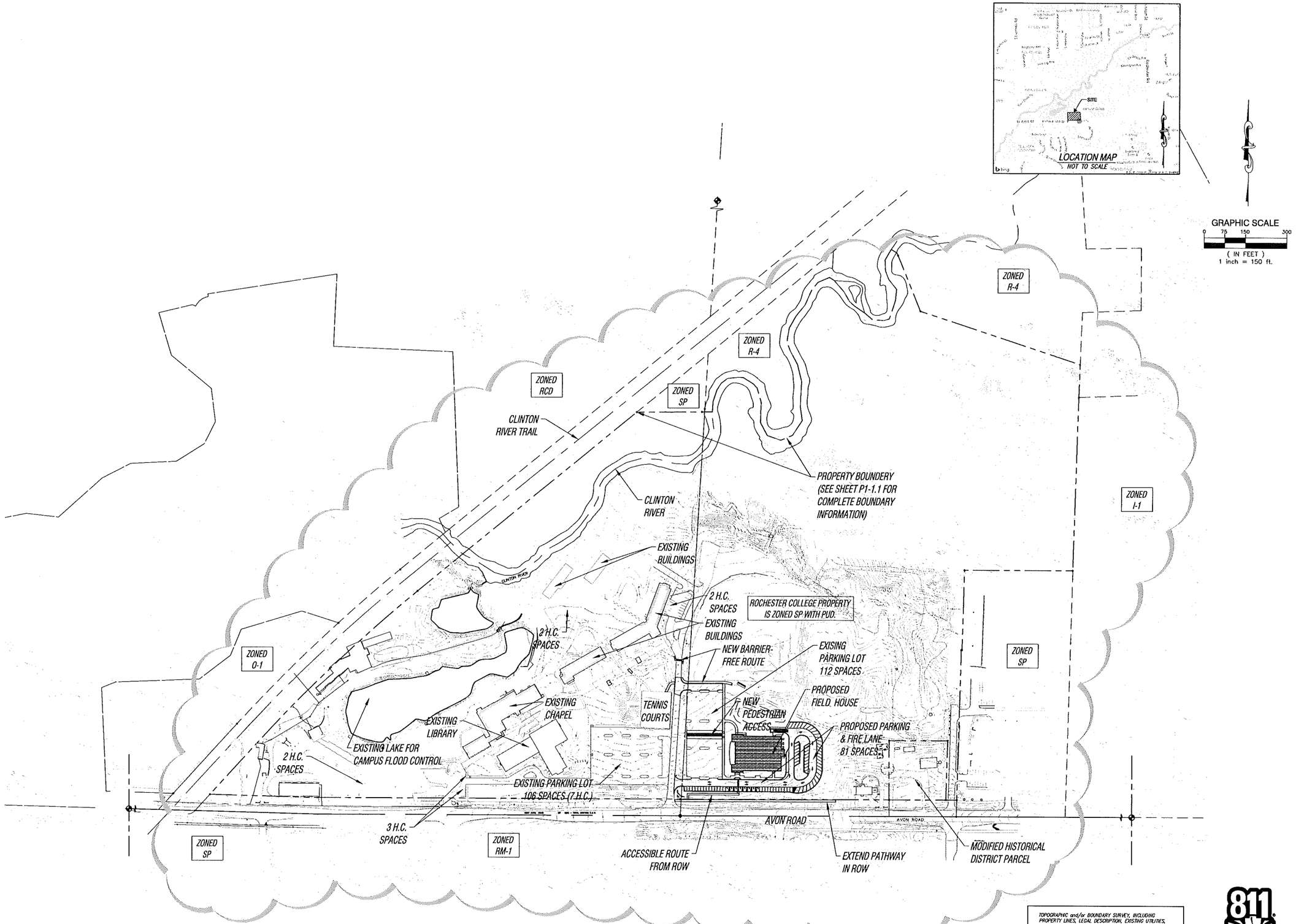
SHEET
Existing Drainage Plan & Calculations

SCALE: 1" = 100'

PROJECT NUMBER
2008-076
PEA PROJECT NO. 2008-135

SHEET NUMBER
P-6.1

PRELIMINARY NOT FOR CONSTRUCTION
CITY FILE # 94-426.8, SECTION #15



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City File # 15-022,
Parcel # 15-15-451-008

ISSUE DATE	ISSUED FOR
12/01/2015	SITE PLAN REVIEW
01/18/2016	REVISED SITE PLAN

DRAWN
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APPROVED

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TROY, MI 48083
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jarnold@creative-site-solutions.com

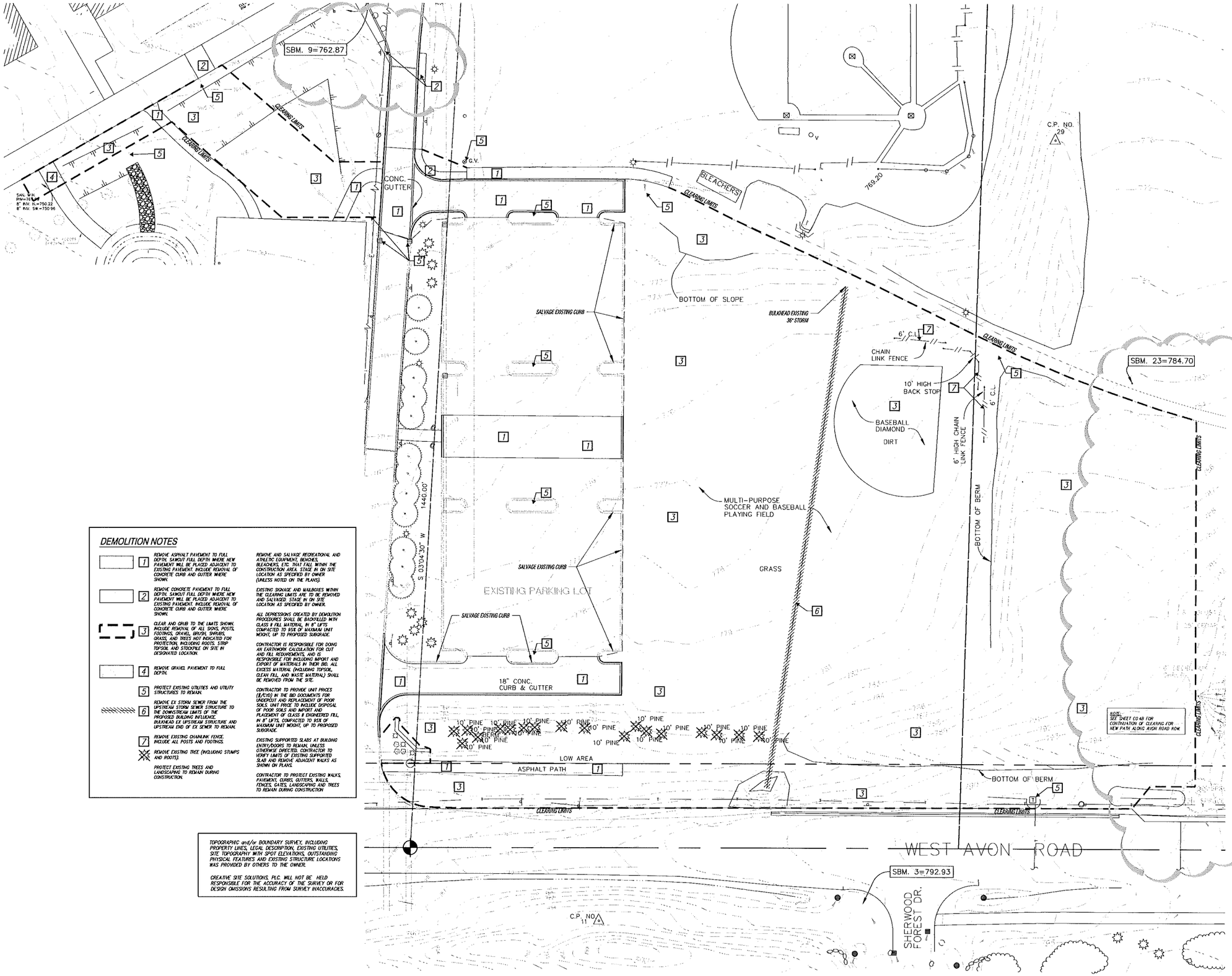
PROJECT
Rochester College Field House

Rochester Hills, Michigan

SHEET
Conceptual Overall Site Plan

PROJECT NUMBER
2015-047

SHEET NUMBER
C0.1



DEMOLITION NOTES

1. REMOVE ASPHALT PAVEMENT TO FULL DEPTH. SAWCUT FULL DEPTH WHERE NEW PAVEMENT WILL BE PLACED ADJACENT TO EXISTING PAVEMENT. INCLUDE REMOVAL OF CONCRETE CURB AND GUTTER WHERE SHOWN.
2. REMOVE CONCRETE PAVEMENT TO FULL DEPTH. SAWCUT FULL DEPTH WHERE NEW PAVEMENT WILL BE PLACED ADJACENT TO EXISTING PAVEMENT. INCLUDE REMOVAL OF CONCRETE CURB AND GUTTER WHERE SHOWN.
3. CLEAR AND GRUB TO THE LIMITS SHOWN. INCLUDE REMOVAL OF ALL SIGNS, POSTS, FOOTINGS, GRAVEL, BRUSH, SHRUBS, GRASS, AND TREES NOT INDICATED FOR PROTECTION, INCLUDING ROOTS. STRIP TOPSOIL AND STOCKPILE ON SITE IN DESIGNATED LOCATION.
4. REMOVE GRAVEL PAVEMENT TO FULL DEPTH.
5. PROTECT EXISTING UTILITIES AND UTILITY STRUCTURES TO REMAIN.
6. REMOVE EX STORM SEWER FROM THE UPSTREAM STORM SEWER STRUCTURE TO THE DOWNSTREAM LIMITS OF THE PROPOSED BUILDING INFLUENCE. BULKHEAD EX UPSTREAM STRUCTURE AND UPSTREAM END OF EX SEWER TO REMAIN.
7. REMOVE EXISTING CHAINLINK FENCE. INCLUDE ALL POSTS AND FOOTINGS.

REMOVE EXISTING TREE (INCLUDING STUMPS AND ROOTS).

PROTECT EXISTING TREES AND LANDSCAPING TO REMAIN DURING CONSTRUCTION.

REMOVE AND SALVAGE RECREATIONAL AND ATHLETIC EQUIPMENT, BENCHES, BLEACHERS, ETC. THAT FALL WITHIN THE CONSTRUCTION AREA. STAGE IN ON SITE LOCATION AS SPECIFIED BY OWNER (UNLESS NOTED ON THE PLANS).

EXISTING SIGNAGE AND MAILBOXES WITHIN THE CLEARING LIMITS ARE TO BE REMOVED AND SALVAGED. STAGE IN ON SITE LOCATION AS SPECIFIED BY OWNER.

ALL DEPRESSIONS CREATED BY DEMOLITION PROCEDURES SHALL BE BACKFILLED WITH CLASS II FILL MATERIAL IN 8" LIFTS COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT, UP TO PROPOSED SUBGRADE.

CONTRACTOR IS RESPONSIBLE FOR DOING AN EARTHWORK CALCULATION FOR CUT AND FILL REQUIREMENTS, AND IS RESPONSIBLE FOR INCLUDING IMPORT AND EXPORT OF MATERIALS IN THEIR BID. ALL EXCESS MATERIAL (INCLUDING TOPSOIL, CLEAN FILL, AND WASTE MATERIAL) SHALL BE REMOVED FROM THE SITE.

CONTRACTOR TO PROVIDE UNIT PRICES ($/CYD) IN THE BID DOCUMENTS FOR UNDERCUT AND REPLACEMENT OF POOR SOILS. UNIT PRICE TO INCLUDE DISPOSAL OF POOR SOILS AND IMPORT AND PLACEMENT OF CLASS II ENGINEERED FILL IN 8" LIFTS, COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT, UP TO PROPOSED SUBGRADE.

EXISTING SUPPORTED SLABS AT BUILDING ENTRY/DOORS TO REMAIN, UNLESS OTHERWISE DIRECTED. CONTRACTOR TO VERIFY LIMITS OF EXISTING SUPPORTED SLAB AND REMOVE ADJACENT WALKS AS SHOWN ON PLANS.

CONTRACTOR TO PROTECT EXISTING WALKS, PAVEMENT, CURBS, GUTTERS, WALLS, FENCES, GATES, LANDSCAPING AND TREES TO REMAIN DURING CONSTRUCTION

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GRAPHIC SCALE
0 15 30 60
(IN FEET)
1 inch = 30 ft.

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City File # 15-022,
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jarnold@creative-site-solutions.com

PROJECT
Rochester College Field House

Rochester Hills, Michigan

SHEET
Conceptual Demolition Plan

PROJECT NUMBER
2015-047

SHEET NUMBER
C0.2

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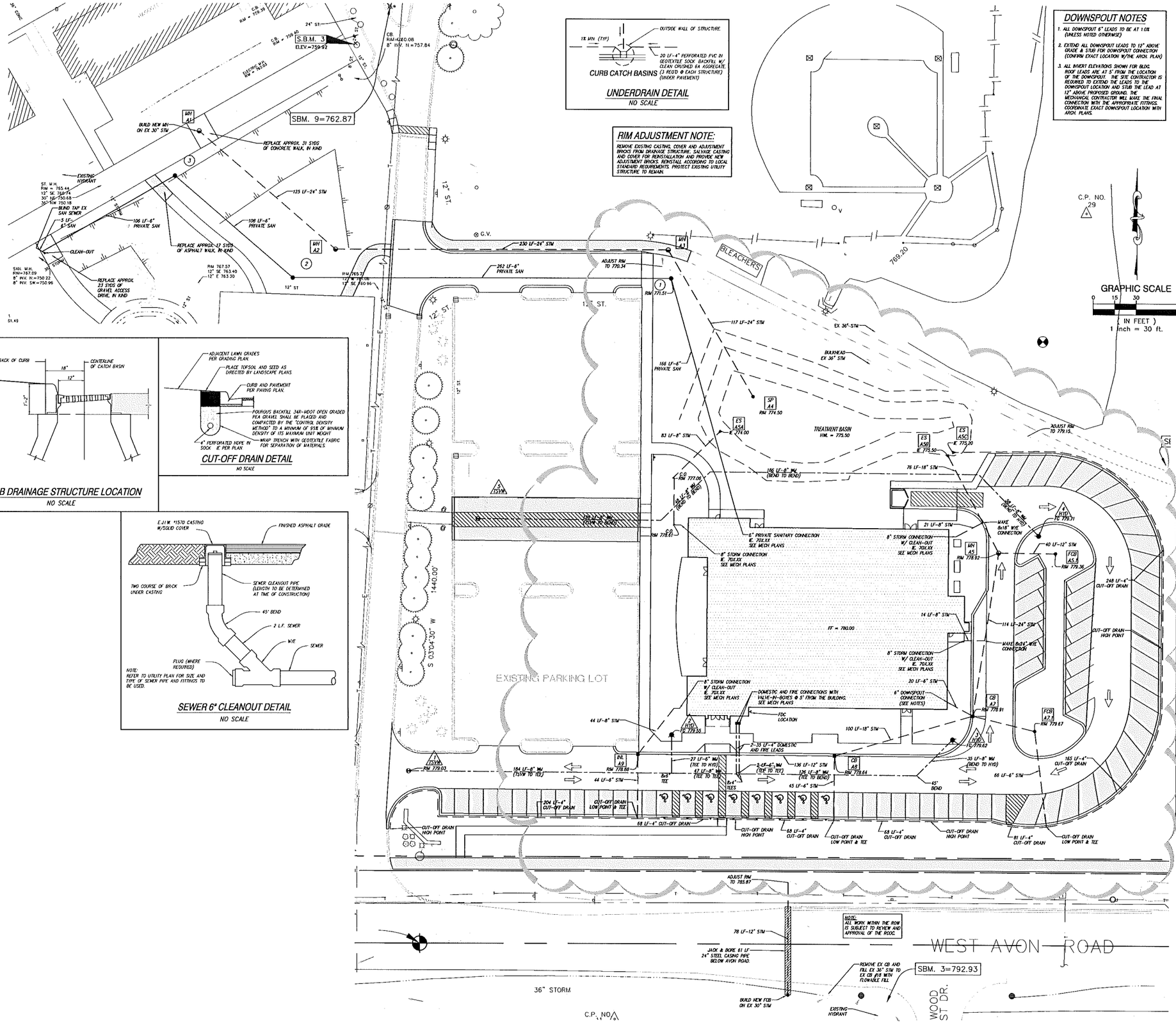

CURB DRAINAGE STRUCTURE LOCATION

NO SCALE

CUT-OFF DRAIN DETAIL

NO SCALE

SEWER 6" CLEANOUT DETAIL

NOTE: REFER TO UTILITY PLAN FOR SIZE AND TYPE OF SEWER PIPE AND FITTINGS TO BE USED.

NO SCALE

CURB CATCH BASINS

UNDERDRAIN DETAIL

NO SCALE

RIM ADJUSTMENT NOTE:

REMOVE EXISTING CASTING, COVER AND ADJUSTMENT BRICKS FROM DRAINAGE STRUCTURE. SALVAGE CASTING AND COVER FOR REINSTALLATION AND PROVIDE NEW ADJUSTMENT BRICKS. REINSTALL ACCORDING TO LOCAL STANDARD REQUIREMENTS. PROTECT EXISTING UTILITY STRUCTURE TO REMAIN.

DOWNSPOUT NOTES

1. ALL DOWNSPOUT 6" LEADS TO BE AT 1.0% (UNLESS NOTED OTHERWISE)
2. EXTEND ALL DOWNSPOUT LEADS TO 12" ABOVE GRADE & STUB FOR DOWNSPOUT CONNECTION. (CONFIRM EXACT LOCATION W/THE ARCH. PLAN)
3. ALL INVERT ELEVATIONS SHOWN FOR BLDG. ROOF LEADS ARE AT 5' FROM THE LOCATION OF THE DOWNSPOUT. THE SITE CONTRACTOR IS REQUIRED TO EXTEND THE LEADS TO THE DOWNSPOUT LOCATION AND STUB THE LEAD AT 12" ABOVE PROPOSED GROUND. THE MECHANICAL CONTRACTOR WILL MAKE THE FINAL CONNECTION WITH THE APPROPRIATE FITTINGS. COORDINATE EXACT DOWNSPOUT LOCATION WITH ARCH. PLANS.

LEGEND

- PROPOSED WATERMAIN
- PROPOSED SANITARY
- PROPOSED STORM SEWER
- PROPOSED GAS MAIN
- PROPOSED ELECTRIC
- PROPOSED HYDRANT
- PROPOSED GATE VALVE & WELL (GVW)
- PROPOSED TAPPING SLEEVE, VALVE & WELL (TSVW)
- PROPOSED SAN MANHOLE (SAN)
- PROPOSED STORM MANHOLE (MH)
- PROPOSED CATCH BASIN (CB)
- PROPOSED INLET (INL)
- PROPOSED END SECTION (ES)
- PROPOSED FIELD CATCH BASIN (FCB) W/BEEHIVE COVER OR STANDPIPE (SP) W/ BAR GRATE COVER
- STANDARD BITUMINOUS PAVEMENT
- HEAVY-DUTY BITUMINOUS PAVEMENT
- DEEP-STRENGTH BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- MILL PAVEMENT
- (2) UTILITY CROSSING (SEE DATA TABLE)
- STORM SEWER STRUCTURE: CB — STRUCT. TYPE; 2 — STRUCT. NO.
- SANITARY SEWER STRUCTURE: (20)
- WATERMAIN STRUCTURE: 10 — STRUCT. NO.; XXX — STRUCT. TYPE

UTILITY NOTES

1. STORM SEWER 12" AND LARGER SHALL BE C76 CL IV (PREM.JT.) UNLESS OTHERWISE NOTED ON THE PLAN.
2. STORM SEWER 6" AND SMALLER SHALL BE PVC SDR 23.5. STORM SEWER GREATER THAN 6" THROUGH 10" SHALL BE PVC SDR 26.
3. SANITARY SEWER SHALL BE PVC TRUSS PIPE. LEADS SHALL BE SOLID WALL, PVC, SDR 23.5.
4. WATER MAIN SHALL BE CLASS 54 DUCTILE IRON. WATER MAINS SHALL BE LEAKAGE AND PRESSURE TESTED IN ACCORDANCE WITH AWWA STANDARD C600. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651 PRIOR TO BEING PUT INTO SERVICE.
5. ALL UTILITY TRENCHES THAT FALL WITHIN A 1-ON-1 INFLUENCE OF PAVEMENT AREAS SHALL BE BACKFILLED WITH CLASS 2 SAND AND COMPACTED TO 95% OF MAXIMUM DENSITY.
6. ALL WATER MAIN SHALL BE BURIED WITH 6' OF COVER FROM PROPOSED GRADES. USE 22.5° BENDS TO LOWER WATER MAIN WHERE NOTED AT UTILITY CROSSING.
7. WHERE HYDRANTS ARE INDICATED ON THE PLAN, COMPLETE HYDRANT ASSEMBLIES ARE REQUIRED, INCLUDING SHUT-OFF VALVE AND BOX (REFER TO THE STANDARD DETAIL SHEET FOR DETAILED REQUIREMENTS) THE ELEVATION OF THE VALVE BOX SHALL BE EQUAL TO THE FINISH GRADE (FG) ELEVATION OF THE HYDRANT UNLESS OTHERWISE NOTED.
8. ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS.
9. ALL UTILITIES SHALL BE INSTALLED ON CLASS "B" BEDDING OR BETTER.
10. ALL HYDRANTS MUST BE AT LEAST 5' FROM THE BACK OF CURB OR EDGE OF PAVEMENT.
11. ALL UTILITIES SHALL BE PLACED AT LEAST 10' FROM OTHER UTILITIES, SIGNIFICANT TREES, AND FIXED STRUCTURES.
12. UNLESS OTHERWISE NOTED, ALL STORM SEWER STRUCTURES SHALL BE 4' DIAMETER (INLETS SHALL BE 2' DIAMETER) UNLESS OTHERWISE INDICATED ON THE STANDARD DETAIL SHEETS CASTINGS SHALL BE:
   PVMT. CATCH BASINS – EJIW 5105 – "M1" (FRAMES WITH CURB BOXES WILL NOT BE ALLOWED)
   YARD CATCH BASINS – EJIW 1040 – "02"
   MANHOLES – EJIW 1040 – "A"
13. PLACEMENT OF EDGE DRAINS AND FINGER DRAINS AT ALL CATCH BASINS IS REQUIRED. SEE DETAIL INFO SHEET.
14. FOR CURB CATCH BASINS, SEE BASIN LOCATION DETAIL FOR BASIN STAKING RELATIVE TO THE CURB.
15. SANITARY MANHOLE COVERS SHALL BE LABELED "SANITARY SEWER" ONLY. REFER TO STANDARD DETAIL SHEET FOR REQUIRED TEXT OF UTILITY CASTINGS.
16. LOCATIONS OF LIGHT POLES, IF SHOWN ON THESE DRAWINGS, MAY BE APPROXIMATE. CONFIRM EXACT LOCATION (I.E. CURB OFFSETS, SIDEWALK OFFSETS, ETC.) PRIOR TO STAKING AND CONSTRUCTION. REFER TO SITE ELECTRICAL PLAN FOR DETAILS, AND COORDINATE WITH ELECTRICAL ENGINEER, ARCHITECT, AND CIVIL ENGINEER TO DETERMINE PROPER PLACEMENT.
17. WHERE THESE PLANS DIFFER FROM THE STANDARD DETAILS OR STANDARD SPECIFICATIONS OF THE COMMUNITY, THE COMMUNITY REQUIREMENTS SHALL GOVERN.

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01/18/2016	REVISED SITE PLAN

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jarnold@creative-site-solutions.com

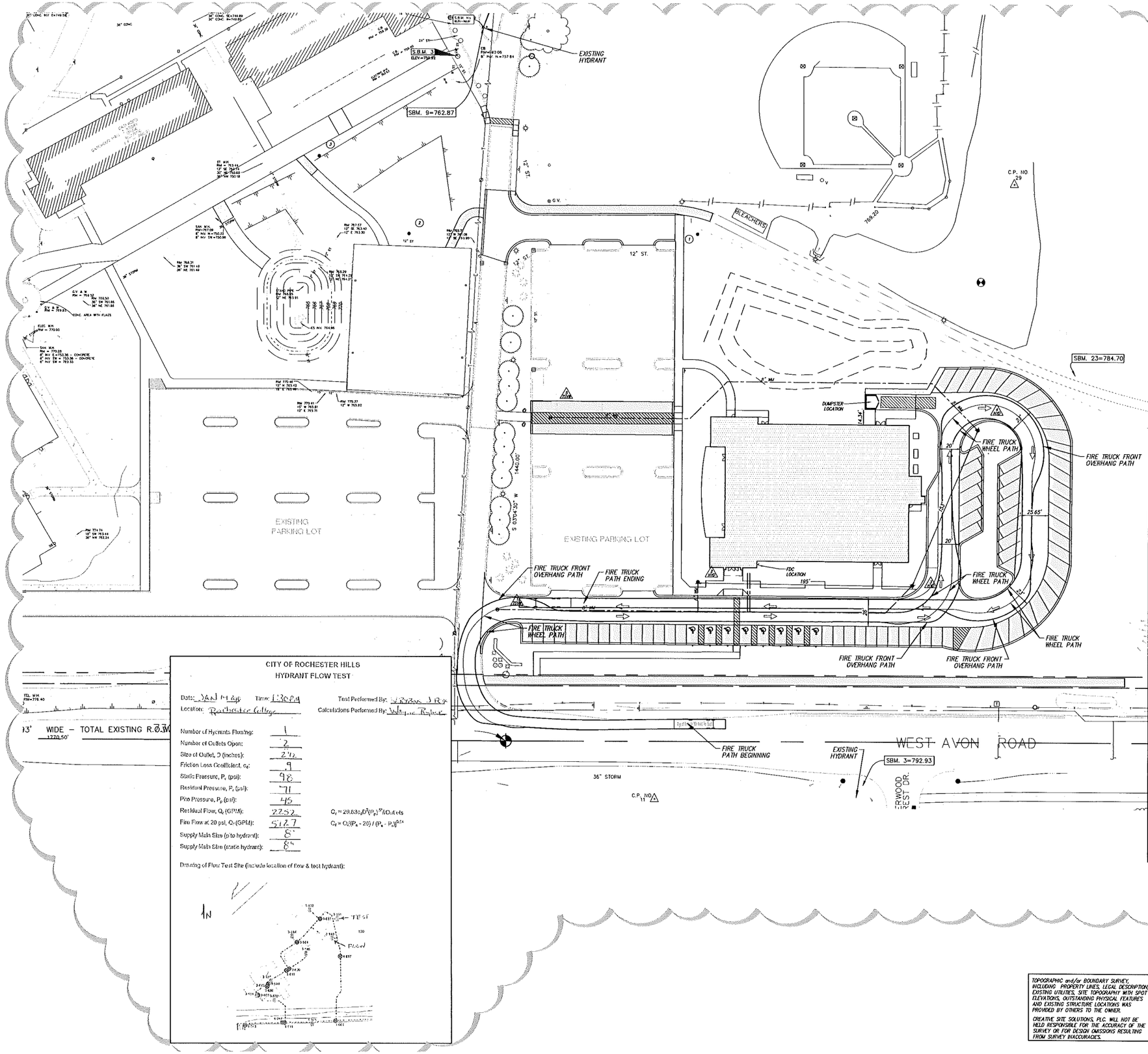
PROJECT
Rochester College Field House

Rochester Hills, Michigan

SHEET
Conceptual Utility Plan

PROJECT NUMBER
2015-047

SHEET NUMBER
C0.3A



LEGEND

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- PROPOSED SANITARY
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- PROPOSED GAS MAIN
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- PROPOSED HYDRANT
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- WATERMAIN STRUCTURE: 10 / XXX – STRUCT. NO. / STRUCT. TYPE

CITY OF ROCHESTER HILLS
HYDRANT FLOW TEST

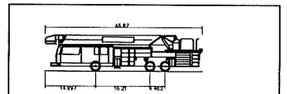
Date: JAN 14 16 Time: 1:30 PM Test Performed By: Urban Jr
Location: Rochester College Calculations Performed By: Wayne Reyes

Number of Hydrants Flowing:	1
Number of Outlets Open:	2
Size of Outlet, D (inches):	2½
Friction Loss Coefficient, c_d:	.9
Static Pressure, P_s (psi):	98
Residual Pressure, P_r (psi):	71
Pitot Pressure, P_p (psi):	45
Residual Flow, Q_r (GPM):	2252
Fire Flow at 20 psi, Q_f (GPM):	5127
Supply Main Size (pitot hydrant):	8"
Supply Main Size (static hydrant):	8"

$Q_r = 29.83c_dD^2(P_p)^{0.5}$/Outlets

$Q_f = Q_r(P_s - 20) / (P_s - P_r)^{0.54}$

Drawing of Flow Test Site (include location of flow & test hydrant):



Copy of Rochester Hills Aerial Fire Truck	
Overall Length	46.670ft
Overall Width	8.500ft
Overall Body Height	10.519ft
Min Body Ground Clearance	0.950ft
Track Width	8.500ft
Lock-to-lock time	4.0s
Curb to Curb Turning Radius	42.500ft

FIRE TRUCK PROFILE
SCALE: NONE

FIRE DEPARTMENT NOTES:

1. A KNOX KEY SYSTEM SHALL BE INSTALLED, IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE FROM THE KNOX COMPANY AT KNOXBOX.COM.
2. FIRE LANES SHALL BE DESIGNATED BY THE FIRE CODE OFFICIAL AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE. WITH FIRE LANE SIGNS, SPACED NOT MORE THAN 100 FEET APART. FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE", AND SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC 2006 CHAPTER 14.
4. OPEN BURNING IS NOT PERMITTED INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN THE CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES.

BUILDING CODE INFORMATION:

1. BUILDING CLASSIFICATION: ASSEMBLY (A-4).
2. CONSTRUCTION TYPE: 2B
3. BUILDING AREA:
   FIRST FLOOR AREA: 21,680 SQ.FT.
   MEZZANINE: 992 SQ.FT.
   TOTAL GROSS AREA: 22,672 SQ.FT.
4. BUILDING CONSTRUCTION IS FULLY SPRINKLED.

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jamold@creative-site-solutions.com

PROJECT
Rochester College Field House

Rochester Hills, Michigan

SHEET
Conceptual Fire Truck Plan

PROJECT NUMBER
2015-047

SHEET NUMBER
C0.3B

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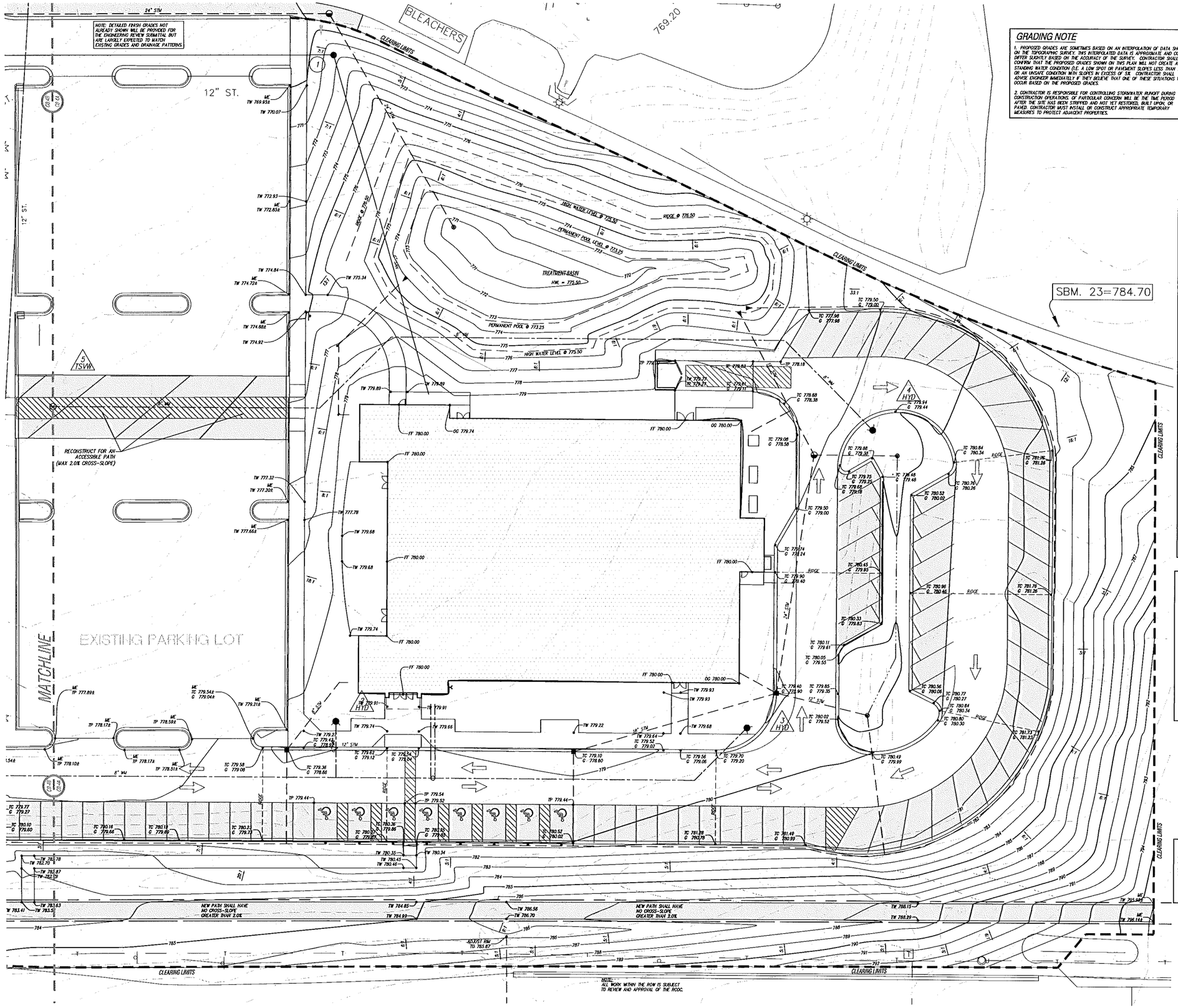

GRADING NOTE

1. PROPOSED GRADES ARE SOMETIMES BASED ON AN INTERPOLATION OF DATA SHOWN ON THE TOPOGRAPHIC SURVEY. THIS INTERPOLATED DATA IS APPROXIMATE AND COULD DIFFER SLIGHTLY BASED ON THE ACCURACY OF THE SURVEY. CONTRACTOR SHALL CONFIRM THAT THE PROPOSED GRADES SHOWN ON THIS PLAN WILL NOT CREATE A STANDING WATER CONDITION (I.E. A LOW SPOT OR PAVEMENT SLOPES LESS THAN 1%) OR AN UNSAFE CONDITION WITH SLOPES IN EXCESS OF 5:1. CONTRACTOR SHALL ADVISE ENGINEER IMMEDIATELY IF THEY BELIEVE THAT ONE OF THESE SITUATIONS WILL OCCUR BASED ON THE PROPOSED GRADES.

2. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING STORMWATER RUNOFF DURING CONSTRUCTION OPERATIONS. OF PARTICULAR CONCERN WILL BE THE TIME PERIOD AFTER THE SITE HAS BEEN STRIPPED AND NOT YET RESTORED, BUILT UPON, OR PAVED. CONTRACTOR MUST INSTALL OR CONSTRUCT APPROPRIATE TEMPORARY MEASURES TO PROTECT ADJACENT PROPERTIES.

GRAPHIC SCALE

0 10 20 40

(IN FEET)
1 inch = 20 ft.

LEGEND

- PROPOSED WATERMAIN
- PROPOSED SANITARY
- PROPOSED STORM SEWER
- PROPOSED GAS MAIN
- PROPOSED ELECTRIC
- PROPOSED HYDRANT
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GRADING LEGEND

EXISTING ELEVATION

- TC 000.00 — PROPOSED TOP OF CURB ELEVATION
- G 000.00 — PROPOSED GUTTER ELEVATION
- OG 000.00 — OUTSIDE GRADE ELEVATION
- EXISTING CONTOURS
- 1130 — PROPOSED CONTOURS
- TP 000.00 — TOP OF PAVEMENT ELEVATION
- TW 000.00 — TOP OF WALK ELEVATION
- FG 000.00 — FINISH GRADE ELEVATION
- T/WALL 000.00 — TOP OF WALL ELEVATION
- ME 000.00 — MATCH EXISTING ELEVATION
- FLOW ARROW

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PROJECT
Rochester College Field House

Rochester Hills, Michigan

SHEET
Conceptual Grading Plan (East)

PROJECT NUMBER
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SHEET NUMBER
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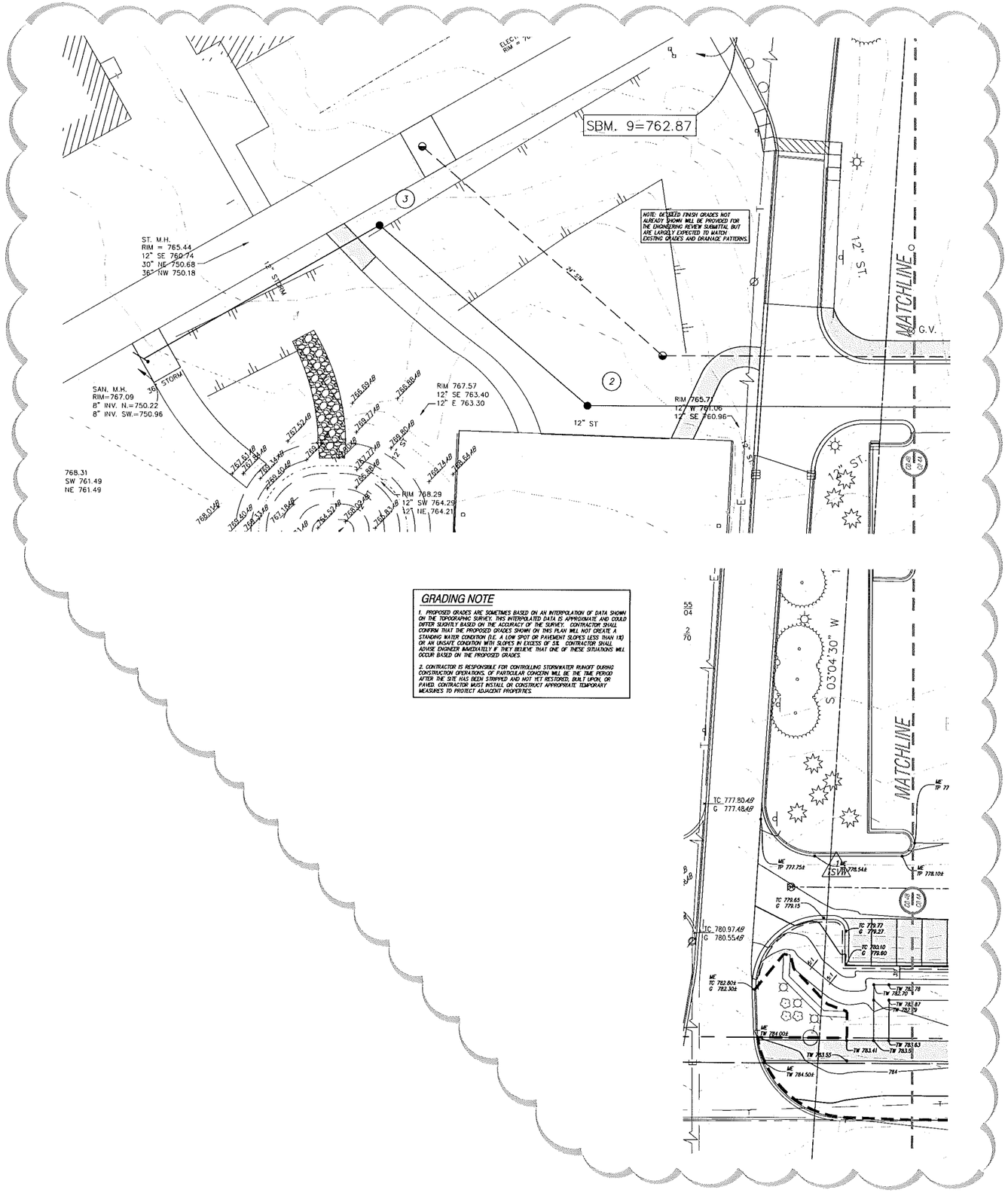

GRADING NOTE

1. PROPOSED GRADES ARE SOMETIMES BASED ON AN INTERPOLATION OF DATA SHOWN ON THE TOPOGRAPHIC SURVEY. THIS INTERPOLATED DATA IS APPROXIMATE AND COULD DIFFER SLIGHTLY BASED ON THE ACCURACY OF THE SURVEY. CONTRACTOR SHALL CONFIRM THAT THE PROPOSED GRADES SHOWN ON THIS PLAN WILL NOT CREATE A STANDING WATER CONDITION (I.E. A LOW SPOT OR PAVEMENT SLOPES LESS THAN 1%) OR AN UNSAFE CONDITION WITH SLOPES IN EXCESS OF 5%. CONTRACTOR SHALL ADVISE ENGINEER IMMEDIATELY IF THEY BELIEVE THAT ONE OF THESE SITUATIONS WILL OCCUR BASED ON THE PROPOSED GRADES.

2. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING STORMWATER RUNOFF DURING CONSTRUCTION OPERATIONS. OF PARTICULAR CONCERN WILL BE THE TIME PERIOD AFTER THE SITE HAS BEEN STRIPPED AND NOT YET RESTORED, BUILT UPON, OR PAVED. CONTRACTOR MUST INSTALL OR CONSTRUCT APPROPRIATE TEMPORARY MEASURES TO PROTECT ADJACENT PROPERTIES.

GRAPHIC SCALE

0 10 20 40

(IN FEET)
1 inch = 20 ft.

LEGEND

- PROPOSED WATERMAIN
- PROPOSED SANITARY
- PROPOSED STORM SEWER
- PROPOSED GAS MAIN
- PROPOSED ELECTRIC
- PROPOSED HYDRANT
- PROPOSED GATE VALVE & WELL (GVW)
- PROPOSED TAPPING SLEEVE, VALVE & WELL (TSVW)
- PROPOSED SAN MANHOLE (SAN)
- PROPOSED STORM MANHOLE (MH)
- PROPOSED CATCH BASIN (CB)
- PROPOSED INLET (INL)
- PROPOSED END SECTION (ES)
- PROPOSED FIELD CATCH BASIN (FCB) W/BEEHIVE COVER OR STANDPIPE (SP) W/ BAR GRATE COVER
- STANDARD BITUMINOUS PAVEMENT
- HEAVY-DUTY BITUMINOUS PAVEMENT
- DEEP-STRENGTH BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- WILL PAVEMENT
- (2) UTILITY CROSSING (SEE DATA TABLE)
- STORM SEWER STRUCTURE: CB — STRUCT. TYPE; 2 — STRUCT. NO.
- SANITARY SEWER STRUCTURE: (20)
- WATERMAIN STRUCTURE: 10 — STRUCT. NO.; XXX — STRUCT. TYPE

GRADING LEGEND

- EXISTING ELEVATION
- TC 000.00 / G 000.00 — PROPOSED TOP OF CURB ELEVATION / PROPOSED GUTTER ELEVATION
- OG 000.00 — OUTSIDE GRADE ELEVATION
- EXISTING CONTOURS
- 1130 — PROPOSED CONTOURS
- TP 000.00 — TOP OF PAVEMENT ELEVATION
- TW 000.00 — TOP OF WALK ELEVATION
- FG 000.00 — FINISH GRADE ELEVATION
- T/WALL 000.00 — TOP OF WALL ELEVATION
- ME 000.00 — MATCH EXISTING ELEVATION
- FLOW ARROW

TOPOGRAPHIC and/or BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, SITE TOPOGRAPHY WITH SPOT ELEVATIONS, OUTSTANDING PHYSICAL FEATURES AND EXISTING STRUCTURE LOCATIONS WAS PROVIDED BY OTHERS TO THE OWNER.

CREATIVE SITE SOLUTIONS, PLC WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF THE SURVEY OR FOR DESIGN OMISSIONS RESULTING FROM SURVEY INACCURACIES.

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

not to be used as construction drawings

City File # 15-022,
Parcel # 15-15-451-008

ISSUE DATE	ISSUED FOR
12/01/2015	SITE PLAN REVIEW
01/18/2016	REVISED SITE PLAN

DRAWN
CHECKED
APPROVED

architects planners interiors
FRENCH associates
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Rochester, MI 48307
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F 248.656.7746

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jarnold@creative-site-solutions.com

PROJECT
Rochester College Field House

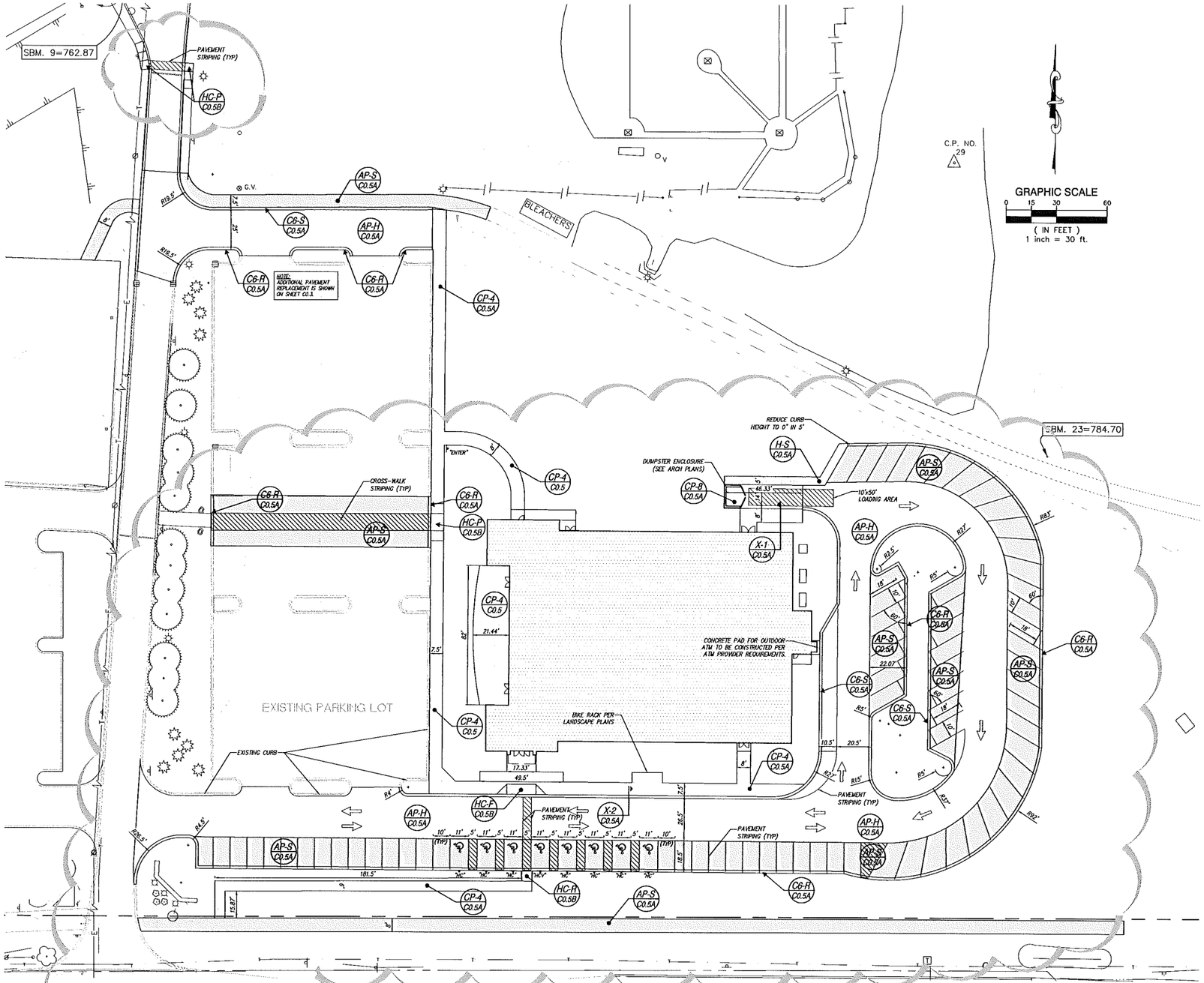
Rochester Hills, Michigan

SHEET
Conceptual Grading Plan (West)

PROJECT NUMBER
2015-047

SHEET NUMBER
C0.4B

R:\Dropbox\CSS Projects\French - Rochester College\DWG\A4131GP.dwg, 1/18/2016 9:32:50 AM, FOXIT PDF&Image Writer



PAVING CONSTRUCTION NOTES

1. EARTHWORK AND PAVEMENT CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNLESS OTHERWISE NOTED IN THE FOLLOWING ITEMS.
2. REMOVE ANY EXISTING TOPSOIL, VEGETATION, TREES AND OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE SOIL. TREE ROOTS SHALL BE COMPLETELY REMOVED.
3. EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE RECOMMENDED PAVEMENT SYSTEM.
4. THE TOP 12 INCHES OF THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A DENSITY NO LESS THAN 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D 1557-91).
5. THE FINAL SUBGRADE SHALL BE THOROUGHLY PROOFROLLED UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS WHICH CANNOT BE MECHANICALLY STABILIZED SHALL BE REMOVED AND REPLACED WITH ENGINEERED FILL OR AS DICTATED BY FIELD CONDITIONS.
6. THE AGGREGATE BASE SHALL BE COMPACTED TO A DENSITY NO LESS THAN 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D 1557-91). THE BASE SHALL EXTEND A MINIMUM OF 1 FOOT BEYOND THE PAVED EDGE.
7. ALL BITUMINOUS MATERIAL SHALL BE COMPACTED TO A DENSITY NO LESS THAN 97 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE MARSHALL METHOD.
8. A BOND COAT OF SS-1H EMULSION IS REQUIRED BETWEEN THE LEVELING COURSE AND THE WEARING COURSE WHEN EITHER 48 HOURS HAVE ELAPSED BETWEEN PLACEMENT OF THE BITUMINOUS COURSES OR THE SURFACE OF THE PAVEMENT HAS BEEN CONTAMINATED WITH DIRT, DUST, OR FOREIGN MATERIAL. THE BOND COAT SHALL BE APPLIED IN A UNIFORM MANNER OVER THE SURFACE AT A RATE OF 0.1 GALLONS/S.Y. IN THE EVENT A BOND COAT IS NOT REQUIRED, THE LEVELING COURSE MAY REQUIRE LOCALIZED BROOM CLEANING.
9. PERFORMANCE GRADE PG64-22 ASPHALT CEMENT SHALL BE USED IN THE PRODUCTION OF ALL BITUMINOUS MIXTURES. RECLAIMED ASPHALT PAVEMENT (RAP) SHALL BE ALLOWED IN THE SURFACE COURSE ONLY AS SPECIFIED BY THE CURRENT MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
10. CONSTRUCTION TRAFFIC SHALL BE MINIMIZED ON THE NEW PAVEMENT. IF CONSTRUCTION TRAFFIC IS ANTICIPATED ON THE PAVEMENT STRUCTURE, THE PLACEMENT OF THE FINAL LIFT SHALL BE DELAYED UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. THIS ACTION WILL ALLOW REPAIR OF LOCALIZED FAILURE, IF ANY DOES OCCUR, AS WELL AS REDUCE LOAD DAMAGE ON THE PAVEMENT SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR TO ANY DAMAGED SECTION RESULTING FROM CONSTRUCTION ACTIVITY.
11. TAPER CURB HEIGHT DOWN TO ZERO HEIGHT IN FIVE FEET AT ALL CURB ENDINGS UNLESS OTHERWISE NOTED ON THE PLAN.
12. WHERE CURB AND GUTTER SECTION IS ADJACENT TO A HANDICAP RAMP, DROP CURB HEIGHT TO MAXIMUM 1/4" ACROSS THE RAMP OPENING.
13. STRIPE PARKING LOTS AS SHOWN, USING 4" PAVEMENT MARKING – BLUE FOR HANDICAP SPACES, YELLOW FOR STANDARD SPACES. IF NEW PARKING LAYOUT IS NOT INDICATED, MATCH ORIGINAL STRIPING PATTERN.
14. CONTRACTOR SHALL PROTECT EXISTING CURBS, GUTTER, SIDEWALK, WALLS, FENCES AND ALL OTHER EXISTING SITE FEATURES NOT INDICATED FOR REMOVAL OR REHABILITATION.
15. PLACE EXPANSION JOINTS WHERE NEW CONCRETE PAVEMENT OR WALKS ABUT BUILDING WALLS (PROPOSED OR EXISTING), CURBS, OR EXISTING CONCRETE PAVEMENT. PLACE JOINT SEALANT ON ALL EXPANSION JOINTS.
16. CONTRACTOR TO CONSTRUCT CONTRACTION AND EXPANSION JOINTS IN ALL NEW CONCRETE PAVEMENT. CONTRACTION JOINTS SHALL BE TOOLED WHERE SIDEWALK WIDTH IS 8' OR LESS, AND SHALL BE SPACED EQUAL TO THE WIDTH OF THE PAVEMENT (I.E. 8' SPACING FOR 8' WIDE WALK), BUT NOT MORE THAN 10' APART. PLACE EXPANSION JOINTS WITH JOINT SEALANT AT MAXIMUM 50' SPACING. CONTRACTOR SHALL GENERALLY MATCH THE JOINT PATTERNS FOR CONCRETE PAVEMENT WHEN SHOWN ON THE PLANS.
17. WHERE THESE PLANS DIFFER FROM THE STANDARD DETAILS OR STANDARD SPECIFICATIONS OF THE COMMUNITY, THE COMMUNITY REQUIREMENTS SHALL GOVERN.
18. CONCRETE PAVEMENT SHALL MEET THE REQUIREMENTS FOR MDOT GRADE P1 CONCRETE PER THE CURRENT MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

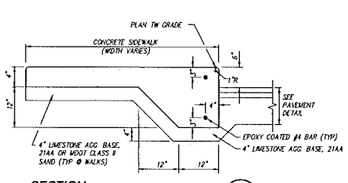
PROPOSED SIGN LEGEND

PROPOSED SIGN

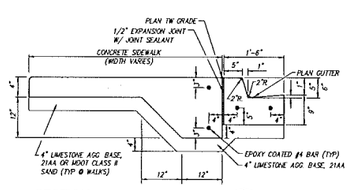
"HC" – RESERVED PARKING HANDICAP ONLY
"HCV" – RESERVED PARKING HANDICAP ONLY VAN ACCESS
"ENTER" – CUSTOM SIGN INDICATING TO PEDESTRIANS THAT THE MAIN ENTRANCE IS ON THE SOUTH FACE OF THE BUILDING.

ALL SIGNS MUST MEET CHAPTER 134 OF THE CITY CODE OF ORDINANCES AND BE APPROVED UNDER A SEPARATE PERMIT ISSUED BY THE BUILDING DEPARTMENT.

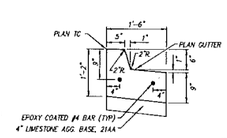
ALL SIGNAGE SHALL BE IN ACCORDANCE WITH THE CURRENT M.M.U.T.C.D. AND THE MDOT TRAFFIC AND SAFETY SIGN SUPPORT STANDARD PLANS.



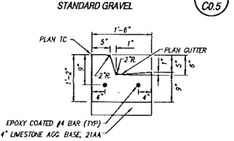
SECTION — INTEGRAL WALK/CURB — X-1 C0.5



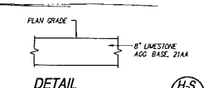
SECTION — WALK/CURB & GUTTER STANDARD PAN — X-2 C0.5



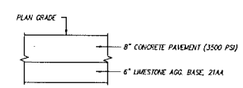
DETAIL — 6" CURB & GUTTER REVERSE PAN (MDOT TYPE F1) — C6-R C0.5



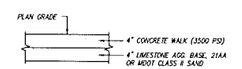
DETAIL — 6" CURB & GUTTER STANDARD PAN (MDOT TYPE F1) — C6-S C0.5



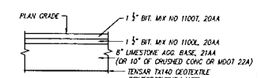
DETAIL — STANDARD GRAVEL — H-S C0.5



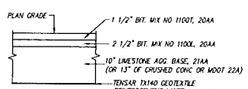
DETAIL — 8" CONCRETE PAVEMENT — CP-8 C0.5



DETAIL — 4" CONCRETE WALK — CP-4 C0.5



DETAIL — STANDARD BITUMINOUS PAVEMENT — AP-S C0.5



DETAIL — HEAVY DUTY BITUMINOUS PAVEMENT — AP-H C0.5

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

not to be used as construction drawings

City File # 15-022,
Parcel # 15-15-451-008

ISSUE DATE	ISSUED FOR
12/01/2015	SITE PLAN REVIEW
01/18/2016	REVISED SITE PLAN

DRAWN
CHECKED
APPROVED

architects planners interiors
FRENCH associates
1600 Parkdale
Rochester, MI 48307
T 248.656.1377
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CREATIVE SITE SOLUTIONS, PLC
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3728 NASH DRIVE
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jarnold@creative-site-solutions.com

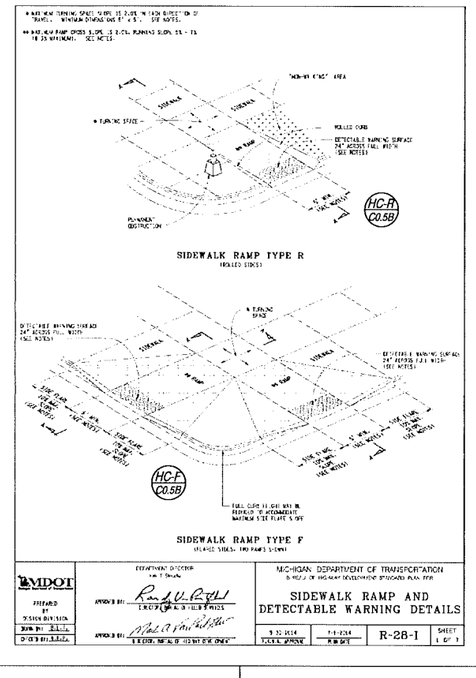
PROJECT
Rochester College Field House

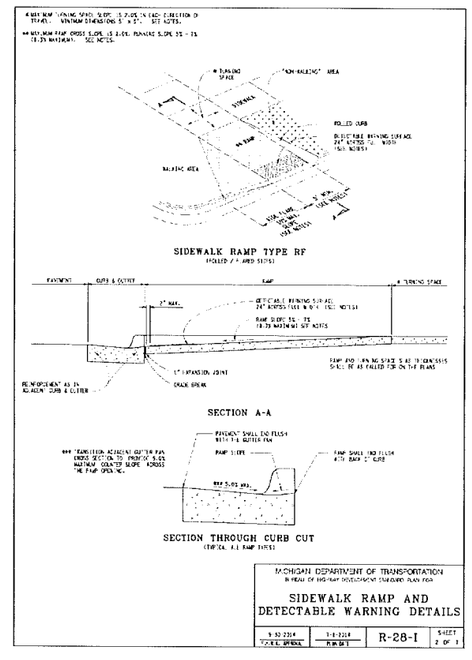
Rochester Hills, Michigan

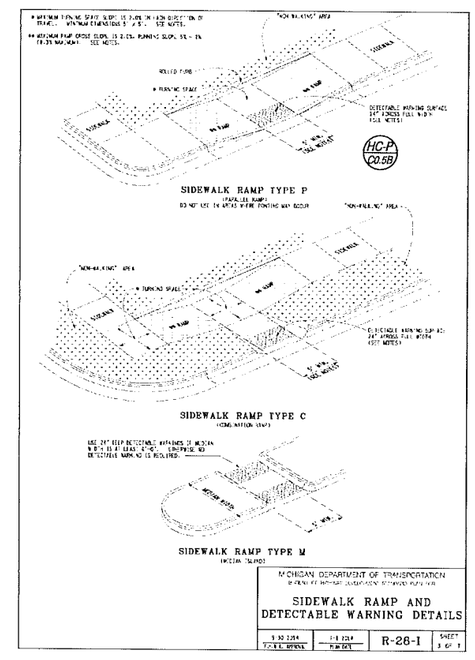
SHEET
Conceptual Paving Plan

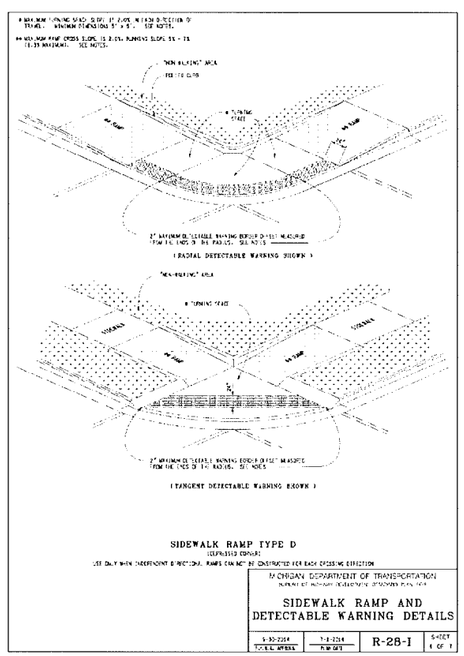
PROJECT NUMBER
2015-047

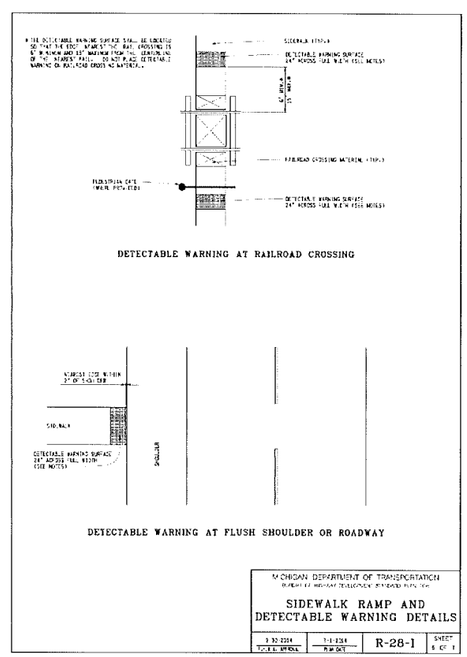
SHEET NUMBER
C0.5A

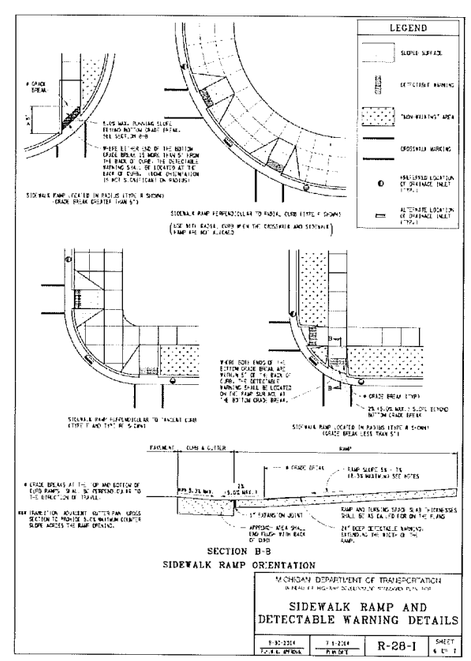


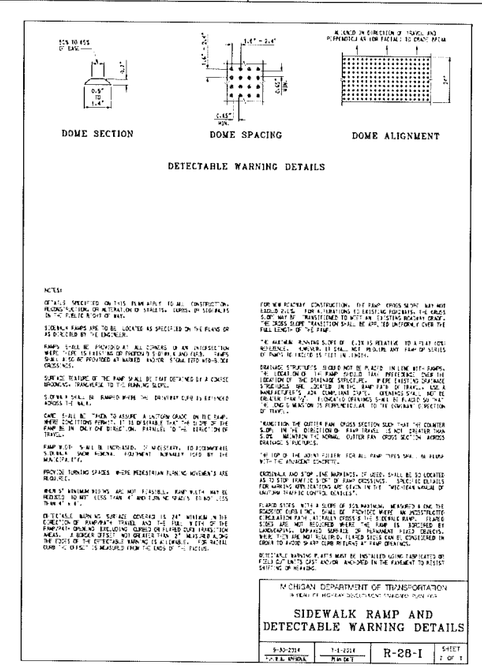












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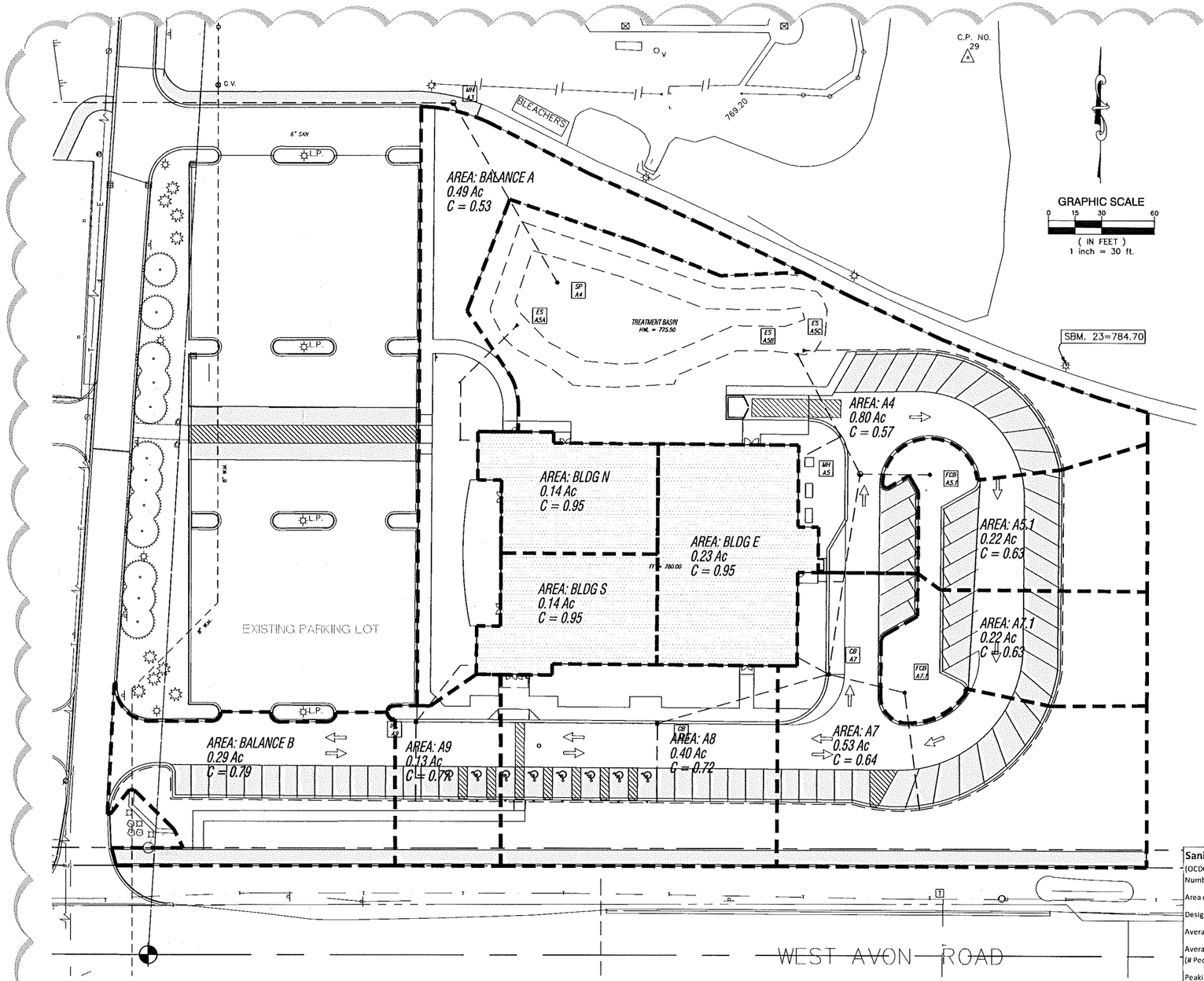
PROJECT
Rochester College Field House

Rochester Hills, Michigan

SHEET
MDOT Curb Ramp Details

PROJECT NUMBER
2015-047

SHEET NUMBER
C0.5B



Stormwater Management Calculations

(Rochester Hills Design Standards)

Job Name: Rochester College Field House — **Designed by JA**

Job No.: JA1511 — **Checked by:**

Treatment Basin Calculations

Total Area Tributary (At) = 3.52 Acres

Area Label	A	C	A*C
Roof Area	22,134	0.95	21,027
Pavement	56,668	0.95	53,835
Lawn (slope < 4%, HSG C)	0	0.30	0
Lawn (slope 4-8%, HSG C)	0	0.35	0
Lawn (slope >8%, HSG C)	74,475	0.40	29,790
Sum	153,277		104,652

Overall site average C factor : 0.68

Stormwater Recharge and Infiltration

Rev = 1815 x A x C = 1815 x 3.52 x 0.68

Rev = 4,344 CFT = 161 CYDS

Post Development Water Quality

WQv = 1815 x A x C = 1815 x 3.52 x 0.68

WQv = 4,344 CFT = 161 CYDS

Channel Protection (Bankfull)

Cpv = 6788 x A x C = 6788 x 3.52 x 0.68

Cpv = 16,248 CFT = 602 CYDS

Flooding Protection (Overbank, 25-Year Oakland County Calculation)

Allowable Release Rate, q = 0.20 CFS/Ac

Total Area Disrupted, A = 3.52 Ac

Composite run-off coefficient, C = 0.68 unitless

Total Allowable Release Rate, Qa=q x A 0.70 CFS

Qo = Qa / (A x C) = 0.7 / (3.52 x 0.68)

Qo = 0.29 CFS/ Acre of Imperviousness

Storage Time, T = -25 + sqrt(8062.5 / Qo) = -25 + sqrt(8062.5/0.29)

T = 141.74 minutes

Maximum Volume of Storage per Acre of Imperviousness, Vs

Vs = (12,900 (T) / (T+ 25)) - 40(Qo)(T) = 12,900 (141.74) / (141.74 + 25)) - 40(0.29)(141.74)

Vs = 9322 CFT/ Acre of Imperviousness

Total Volume of Storage Required for 25-Year Flood Protection, Vt

Vt = Vs x A x C = 9322 x 3.52 x 0.68

Vt = 22,313 CFT

Vt = 826 CYDS

Capacity of Existing Lake for Flood Protection

Note: Calculations are based on values from PEA plans dated 01-16-09, sheet P-6.1.

Allowable Release Rate, q = 0.20 CFS/Ac

Total Existing Area Contributing to Lake, A = 30.05 Ac

Composite run-off coefficient, C = 0.60 unitless

Total Allowable Release Rate, Qa=q x A 6.01 CFS

Qo = Qa / (A x C) = 6.01 / (30.05 x 0.6)

Qo = 0.33 CFS/ Acre of Imperviousness

Storage Time, T = -25 + sqrt(8062.5 / Qo) = -25 + sqrt(8062.5/0.33)

T = 131.31 minutes

Maximum Volume of Storage per Acre of Imperviousness, Vs

Vs = (12,900 (T) / (T+ 25)) - 40(Qo)(T) = 12,900 (131.31) / (131.31 + 25)) - 40(0.33)(131.31)

Vs = 9104 CFT/ Acre of Imperviousness

Total Volume of Storage Required for 25-Year Flood Protection, Vt

Vt = Vs x A x C = 9104 x 30.05 x 0.6

Vt_ex = 164,145 CFT of EXISTING STORAGE REQUIREMENT

Top of Existing Weir Gate = 740.53

Normal Water Level = 737.60

Difference, D = 2.93 Feet

Area of Lake, LA = 94,307 square feet

Total Existing Lake Storage Capacity, LA x D = 276,320 CFT

Excess Storage Capacity, LA x D - Vt_ex = 112,175 CFT

Excess Storage Capacity is greater than the Flood Protection Volume requirement for the proposed Field House Development, therefore OK!

Sanitary Sewer Basis of Design (Health Club @ 75%)

(OCDC Schedule of Unit Assignment Factors, 7/1/1998)

Number of Health Clubs = 1

Area of Health Club = 21,432 square feet

Design Population = 2.3 per 1000 sft = 49 People

Average Water Usage Rate = 100 G.P.C.P.D.

Average Water Usage =
(# People x 100 G.P.C.P.D.)/(1440 min/day) = 3.4028 GPM

Peaking Factor = 4

Peak Flow = Average Usage x Peaking Factor = 13.6112 GPM

75% of Peak Flow = 10.2084 GPM

Sanitary Sewer Basis of Design (Theaters @ 25%)

(OCDC Schedule of Unit Assignment Factors, 7/1/1998)

Number of Theaters = 1

Number of Seats in the Theater = 1530 Seats

Design Population = 0.008 per seat = 12.24 People

Average Water Usage Rate = 100 G.P.C.P.D.

Average Water Usage =
(# People x 100 G.P.C.P.D.)/(1440 min/day) = 0.85 GPM 0.001894 CFS

Peaking Factor = 4

Peak Flow = Average Usage x Peaking Factor = 3.4 GPM 0.007576 CFS

25% of Peak Flow = 0.85 GPM

25% of Theater Peak Flow+ 75% of Health Club Peak Flow = 11.0584 GPM

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
Total Basin Volume - HWL-Prop	1.00	1.00	16964.49 Sq. Ft.	259.11 Cu. Yd.	864.38 Cu. Yd.	605.27 Cu. Yd.<Fill>
Sump Volume PPL-Prop	1.00	1.00	15348.11 Sq. Ft.	818.83 Cu. Yd.	229.86 Cu. Yd.	589.04 Cu. Yd.<Cut>
Totals			32312.59 Sq. Ft.	1078.00 Cu. Yd.	1094.24 Cu. Yd.	16.24 Cu. Yd.<Fill>

BASIN NOTES:

- THE TOTAL BASIN VOLUME IS CALCULATED BY SUBTRACTING THE PROPOSED TERRAIN SURFACE FROM THE HIGH WATER LEVEL (HWL @ 775.50 = 864.38 CYDS) PLANE OVER THE BASIN. THE SUMP VOLUME IS CALCULATED BY SUBTRACTING THE PROPOSED TERRAIN SURFACE FROM THE PERMANENT POOL LEVEL (PPL @ 773.25 = 229.86 CYDS) PLANE OVER THE BASIN. THEREFORE, THE STORAGE CAPACITY OF THE BASIN IS CALCULATED AS THE DIFFERENCE IN "FILL" VOLUMES (BASIN STORAGE CAPACITY = 864.38 - 229.86 = 634.52 CYDS). THE OTHER NUMBERS SHOWN IN THIS TABLE ARE ARBITRARY.
- THE FLOODING PROTECTION VOLUME IS INTENDED TO BE CONVEYED TO THE CAMPUS LAKE WHERE EXCESSIVE FLOOD CONTROL CAPACITY EXISTS.

not to be used as construction drawings

City File # 15-022,
Parcel # 15-15-451-008

ISSUE DATE	ISSUED FOR
12/01/2015	SITE PLAN REVIEW
01/18/2016	REVISED SITE PLAN

DRAWN

CHECKED

APPROVED

architects planners interiors

FRENCH associates

1600 Parkdale
Rochester, MI
48307
T 248.656.1377
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3728 NASH DRIVE
TROY, MI 48083
248 259 2023
jarnold@creative-site-solutions.com

PROJECT

Rochester College Field House

Rochester Hills, Michigan

SHEET

Conceptual Drainage Map

PROJECT NUMBER

2015-047

SHEET NUMBER

C0.6

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

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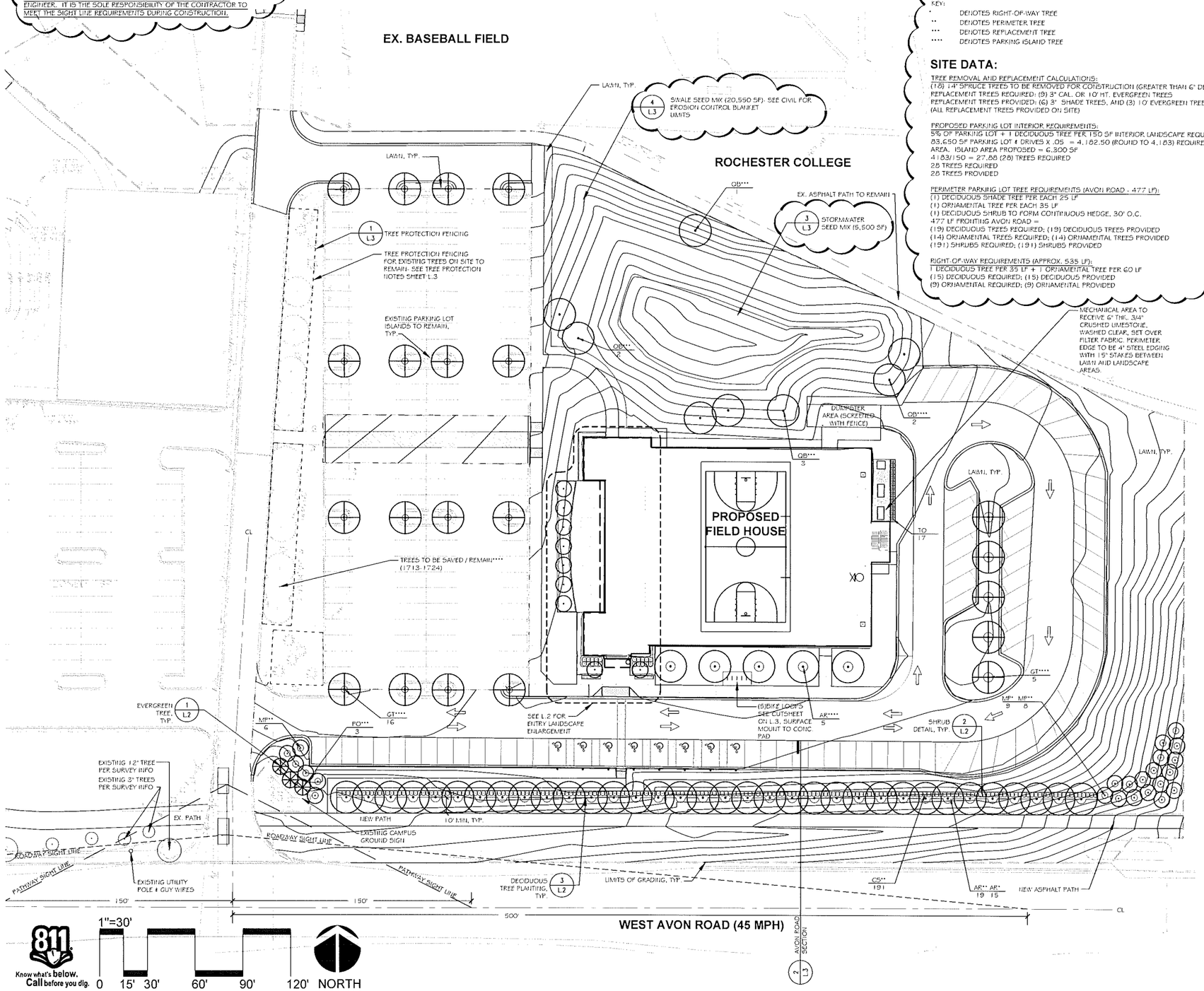
THE SIGHT DISTANCE INFORMATION PROVIDED ON THIS SHEET IS FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR SHALL FIELD LAYOUT, VERIFY, AND REVIEW ALL SIGHT DISTANCE REQUIREMENTS DURING CONSTRUCTION WITH THE CITY OF ROCHESTER HILLS ENGINEER TO ENSURE IT MEETS THE SIGHT VISIBILITY REQUIREMENTS. THE CONTRACTOR SHALL REVIEW THE CITY OF ROCHESTER HILLS STANDARD DETAILS FOR SIGHT DISTANCE FOR ROADWAYS AND SIGHT DISTANCE FOR PATHWAYS.

THE DESIGN TEAM SHALL NOT BE HELD RESPONSIBLE FOR INACCURACIES OF THE SURVEY PROVIDED. THERE IS NO PROPOSED LANDSCAPE WORK WITHIN THE SIGHT VISIBILITY AREA. IF ANY EXISTING FEATURE ON SITE IS CONFLICTING WITH THE SIGHT LINES, THE CONTRACTOR SHALL REVIEW THE OBSTRUCTION WITH THE CITY ENGINEER. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MEET THE SIGHT LINE REQUIREMENTS DURING CONSTRUCTION.

STATE OF MICHIGAN
SHANNON MOSS
LANDSCAPE ARCHITECT
No. 1440
REGISTERED LANDSCAPE ARCHITECT



PLANT SCHEDULE (THIS SHEET ONLY)

SYM.	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOTS	COMMENTS	$/UNIT	$ TOTAL
AR	39	Acer rubrum	Red Maple 'October Glory'	3" cal.	B&B	Plant As Shown	$450	$17,550.00
CS	191	Cornus sericea 'Bergesson's Compact'	Bergeson Compact Dogwood	#5	Cont.	Plant 30" O.C.	$75	$14,325.00
GT	21	Gleditsia triacanthos 'Skylole'	Skyline Honey Locust	3" cal.	B&B	Plant As Shown	$400	$8,400.00
MP	23	Malus x 'Prairiefire'	'Prairiefire' Flowering Crab	2"	B&B	Plant As Shown	$300	$6,900.00
PO	3	Picea omorika	Serbian Spruce	10' Ht.	B&B	Plant As Shown	$750	$2,250.00
TO	17	Thuja occidentalis 'Techny'	Techny Arborvitae	5' Ht.	B&B	Plant 30" O.C.	$125	$2,125.00
QB	8	Quercus bicolor	Swamp Oak	3"	B&B	Plant As Shown	$475	$3,800.00
								$55,350.00

KEY:
- * DENOTES RIGHT-OF-WAY TREE
- ** DENOTES PERIMETER TREE
- *** DENOTES REPLACEMENT TREE
- **** DENOTES PARKING ISLAND TREE

SITE DATA:

TREE REMOVAL AND REPLACEMENT CALCULATIONS:
(18) 14" SPRUCE TREES TO BE REMOVED FOR CONSTRUCTION (GREATER THAN 6" DBH)
REPLACEMENT TREES REQUIRED: (9) 3" CAL. OR 10' HT. EVERGREEN TREES
REPLACEMENT TREES PROVIDED: (6) 3" SHADE TREES, AND (3) 10 EVERGREEN TREES
(ALL REPLACEMENT TREES PROVIDED ON SITE)

PROPOSED PARKING LOT INTERIOR REQUIREMENTS:
5% OF PARKING LOT + 1 DECIDUOUS TREE PER 150 SF INTERIOR LANDSCAPE REQUIRED.
83,650 SF PARKING LOT + DRIVES X .05 = 4,182.50 (ROUND TO 4,183) REQUIRED AREA. ISLAND AREA PROPOSED = 6,300 SF
4183/150 = 27.88 (28) TREES REQUIRED
28 TREES REQUIRED
28 TREES PROVIDED

PERIMETER PARKING LOT TREE REQUIREMENTS (AVON ROAD - 477 LF):
(1) DECIDUOUS SHADE TREE PER EACH 25 LF
(1) ORNAMENTAL TREE PER EACH 35 LF
(1) DECIDUOUS SHRUB TO FORM CONTINUOUS HEDGE, 30" O.C.
477 LF FRONTING AVON ROAD =
(19) DECIDUOUS TREES REQUIRED; (19) DECIDUOUS TREES PROVIDED
(14) ORNAMENTAL TREES REQUIRED; (14) ORNAMENTAL TREES PROVIDED
(191) SHRUBS REQUIRED; (191) SHRUBS PROVIDED

RIGHT-OF-WAY REQUIREMENTS (APPROX. 535 LF):
1 DECIDUOUS TREE PER 35 LF + 1 ORNAMENTAL TREE PER 60 LF
(15) DECIDUOUS REQUIRED; (15) DECIDUOUS PROVIDED
(9) ORNAMENTAL REQUIRED; (9) ORNAMENTAL PROVIDED

GENERAL PLANTING & LANDSCAPE NOTES:

1. LANDSCAPE CONTRACTOR SHALL VISIT SITE, INSPECT EXISTING SITE CONDITIONS, AND REVIEW PROPOSED PLANTING AND RELATED WORK. IN CASE OF DISCREPANCY BETWEEN PLAN AND PLANT LIST, PLAN SHALL GOVERN QUANTITIES. CONTACT LANDSCAPE ARCHITECT WITH ANY CONCERNS

2. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ON-SITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION ON HIS/HER PHASE OF WORK. ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION MAY BE LOCATED BY CALLING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL COORDINATE ALL RELATED ACTIVITIES WITH OTHER TRADES ON THE JOB AND SHALL REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNERS REPRESENTATIVE PRIOR TO COMMENCING.

3. ALL PLANT MATERIAL TO BE PREMIUM GRADE NURSERY STOCK AND SHALL SATISFY AMERICAN ASSOCIATION OF NURSERYMEN STANDARD FOR NURSERY STOCK. ALL LANDSCAPE MATERIAL SHALL BE NORTHERN GROWN, NO. 1 GRADE.

4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON LANDSCAPE PLAN PRIOR TO PRICING THE WORK.

5. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.

6. ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.

7. ALL SINGLE STEM SHADE TREES TO HAVE A CENTRAL LEADER. TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED.

8. ALL MULTI STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL NOT BE ACCEPTED.

9. ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST 5 GROWING SEASONS.

10. ALL TREES TO HAVE CLAY OR CLAY LOAM ROOTBALLS. TREES WITH SAND ROOTBALLS WILL BE REJECTED.

11. NO MACHINERY IS TO BE USED WITHIN THE DRIP LINE OF EXISTING TREES. HAND GRADE ALL AREAS WITHIN THE DRIP LINE OF EXISTING TREES

12. ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.

13. IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS.

14. ALL PLANTING BEDS SHALL RECEIVE 4" SHREDDED HARDWOOD BARK MULCH. SHREDDED PALLET AND DYED MULCH WILL NOT BE ACCEPTED.

15. ALL LANDSCAPE AREAS SHALL RECEIVE A MINIMUM OF 8" COMPACTED PLANTING MIX.

16. ALL LAWN AND PLANTING BEDS TO HAVE AN IN-GROUND AUTOMATIC IRRIGATION SYSTEM. PROVIDE 100% COVERAGE FOR ALL LANDSCAPE AREAS. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE DESIGNED TO MINIMIZE WATER USAGE, AND SHALL BE SHUT OFF DURING WATER EMERGENCIES, PERIODS OF PROTRACTED RAINFALL, OR WATER RATIONING PERIODS.

17. AN IRRIGATION PLAN SHALL BE PROVIDED AT TIME OF FINAL LANDSCAPE PLAN.

18. PLANT MATERIAL ADJACENT TO FDC CONNECTIONS ARE TO ALLOW FOR VISUAL CLEARANCE.

19. TREE PROTECTION FENCING MUST BE INSTALLED, INSPECTED, AND APPROVED BY THE CITY'S LANDSCAPE ARCHITECT PRIOR TO THE ISSUANCE OF THE LAND IMPROVEMENT PERMIT FOR THIS DEVELOPMENT.

20. 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. SHADE TREES AND SHRUBS MUST BE PLANTED AT LEAST 5' FROM 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 STREET 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 TRIANGLE FORMED BY THE INTERSECTION OF ANY DRIVEWAY AND 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 10' FROM ANY HYDRANT. SHADE AND EVERGREEN TREES MUST BE PLANTED AT LEAST 15' FROM THE NEAREST OVERHEAD WIRE. TREES MUST BE PLANTED A MINIMUM OF 5' FROM AN UNDERGROUND UTILITY, UNLESS THE CITY'S LANDSCAPE ARCHITECT REQUIRES A GREATER DISTANCE. THESE REQUIREMENTS ARE INCORPORATED INTO THE PLAN.

21. 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.THESE REQUIREMENTS ARE INCORPORATED INTO THE PLAN.

22. A 2-YEAR WARRANTY IS REQUIRED FOR ALL PLANTS.

23. ALL DUMPSTERS AND MECHANICAL AREAS SHALL BE SCREENED PER THE ORDINANCE.

24. ALL SIGNS MUST MEET CHAPTER 134 OF THE CITY CODE OF ORDINANCES AND BE APPROVED UNDER A SEPARATE PERMIT ISSUED BY THE BUILDING DEPARTMENT.

not to be used as construction drawings

City File No. 94-426.8, Section 15

ISSUE DATE	ISSUED FOR
12/01/2015	AMENDED SITE PLAN
01/18/2015	**REVISED SITE PLAN**

DRAWN
CHECKED
APPROVED

architects planners interior
FRENCH associates
1600 Parkdale
Rochester, MI 48307
T 248.656.1377
F 248.656.7746

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3728 NASH DRIVE
TROY, MI 48083
248 259 2023
jarnold@creative-site-solutions.com

ZAREMBA & COMPANY
LANDSCAPE DESIGNERS/CONTRACTORS

PROJECT

Rochester College Field House

Rochester Hills, Michigan

SHEET

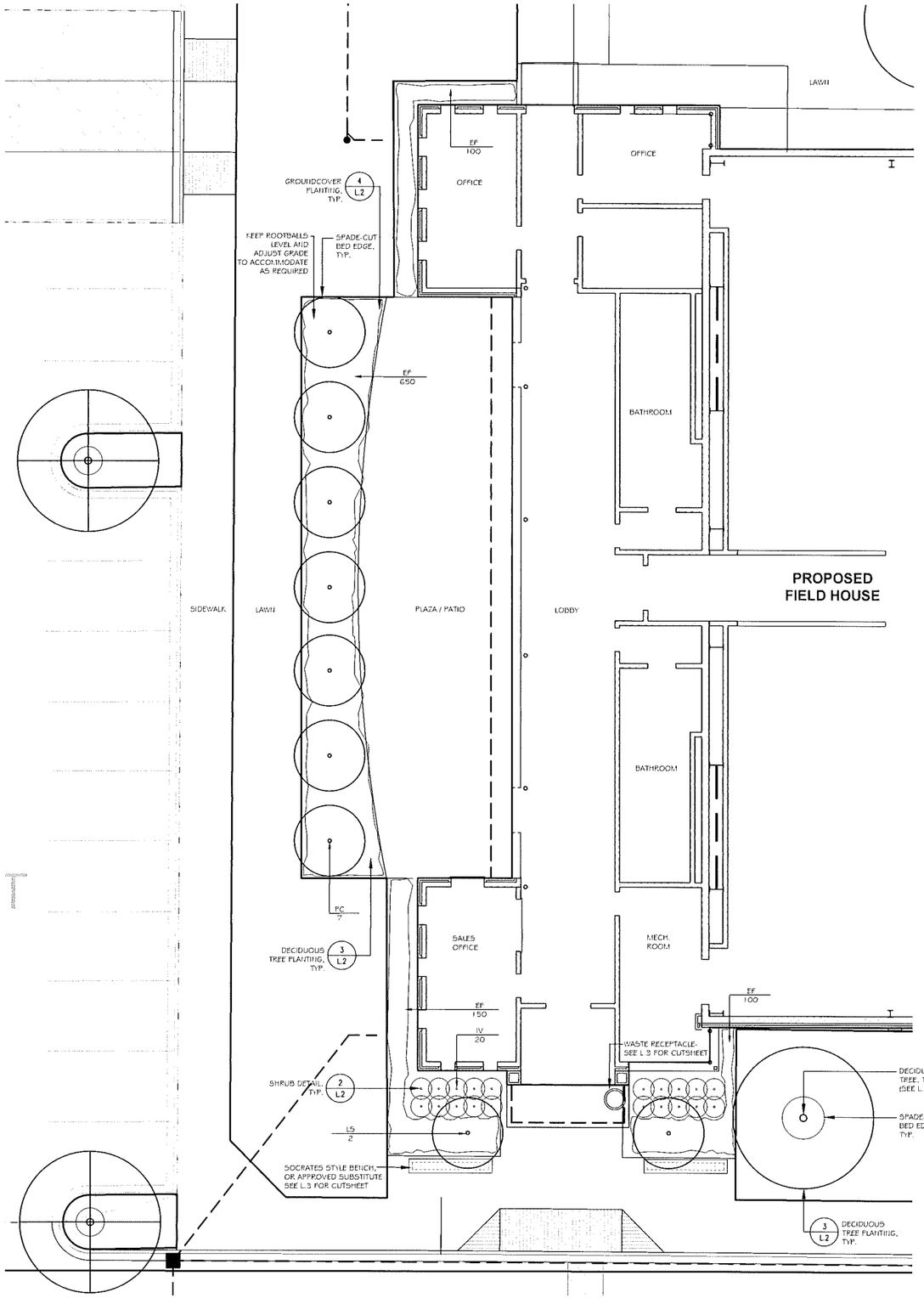
OVERALL LANDSCAPE PLAN

PROJECT NUMBER

2015-047

SHEET NUMBER

L.1



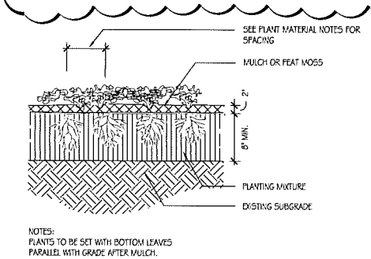
PLANT SCHEDULE (THIS SHEET ONLY)

SYM.	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOTS	COMMENTS	$/UNIT	$TOTAL
EF	1,000	Euonymus fortunei 'Coloratus'	Purpleleaf Wintercreeper	6"	container	12" O.C.	$10	$10,000.00
IV	20	Ilex verticillata 'Farrow/BPop'	Berry Poppins Winterberry	3 gal.	container	Plant 30" O.C.	$100	$2,000.00
LS	2	Liquidambar styraciflua 'Slender Silhouette'	Slender Silhouette Sweetgum	2" cal.	B&B	Matching Heads	$500	$1,000.00
PC	7	Pyrus calleryana 'Cleveland Select'	Cleveland Select Flowering Pear	2" cal.	B&B	Matching Heads	$375	$2,625.00
								$15,625.00

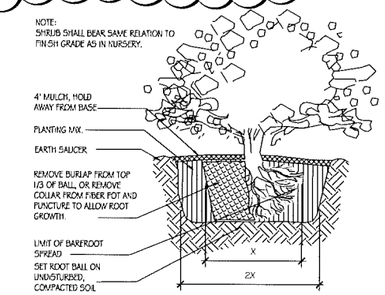
MISC.

QTY	UNIT	DESCRIPTION	$/UNIT	$ TOTAL
70,000	SF	FINE GRADING & SEEDED LAWN	$0.25	$17,500.00
20,550	SF	SWALE MIX APPLICATION	$0.40	$8,220.00
5,500	SF	STORMWATER SEED MIX APPLICATION	$0.40	$2,200.00
100	CY	PLANTING MIX @ 8" DEPTH FOR BEDS & PER PLANTING DETAILS	$90.00	$9,000.00
50	CY	SHREDDED HARDWOOD MULCH	$75.00	$3,750.00
9,000	SY	IRRIGATION SYSTEM ALLOWANCE	$1.50	$13,500.00
400	SF	GRAVEL & FABRIC/EDGING - MECH UNITS	$ 2.50	$1,000.00
1	LS	FERTILIZER	$1,500.00	$1,000.00
1	LS	BULK & PLANT DELIVERIES	$1,000.00	$1,000.00
				$57,170.00

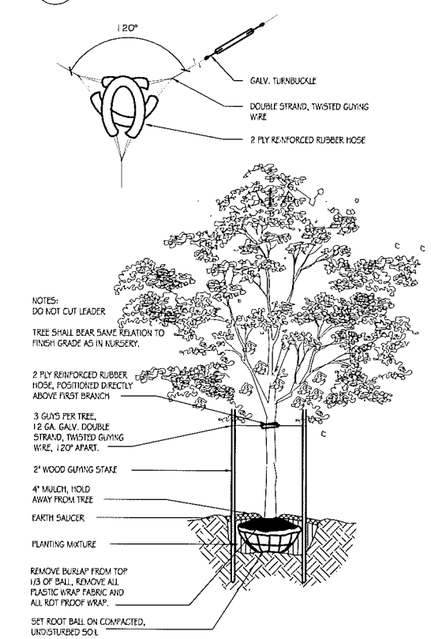
LANDSCAPE COST OPINION PROJECT TOTAL (L.1 & L.2) = $128,145.00



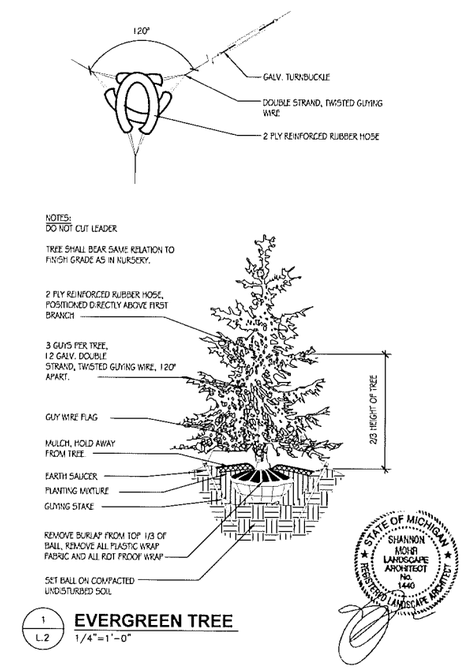
4 L.2 **GROUNDCOVER PLANTING**
1/2"=1'-0"



2 L.2 **SHRUB DETAIL**
1/4"=1'-0"



3 L.2 **DECIDUOUS TREE PLANTING**
1/4"=1'-0"



1 L.2 **EVERGREEN TREE**
1/4"=1'-0"

STATE OF MICHIGAN
SHANNON MONE
LANDSCAPE ARCHITECT
No. 1440
REGISTERED LANDSCAPE ARCHITECT

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

1"=10'
0 5' 10' 20' 30' 40'
NORTH

not to be used as construction drawings

City File No. 94-426.8, Section 15

ISSUE DATE	ISSUED FOR
12/01/2015	AMENDED SITE PLAN
01/18/2015	**REVISED SITE PLAN**

DRAWN
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ZAREMBA & COMPANY
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PROJECT

Rochester College Field House

Rochester Hills, Michigan

SHEET

LANDSCAPE PLAN ENLARGEMENT & DETAILS

PROJECT NUMBER

2015-047

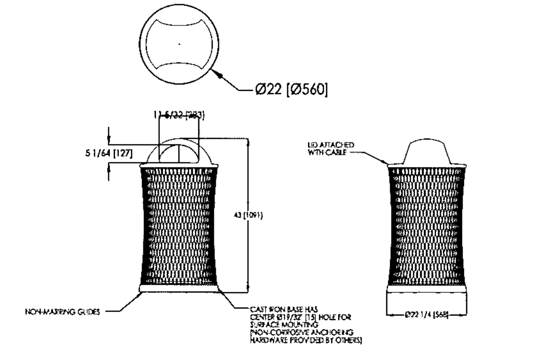
SHEET NUMBER

L.2

Product Drawing: parc view, side loading litter

Date: 7/20/2010

www.landscapeforms.com Ph: 800.521.2546



landscapeforms Drawing: PV642-01 Dimensions are in inches [mm] U.S. Patent Nos. D550,421; D548,916

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Swale Seed Mix

Botanical Name	Common Name	PLS Ounces/Acre	Seeds/Oz	Seeds/SQ FT
Permanent Grasses/Sedges:				
Andropogon gerardii	Big Bluestem	4.00	8183	0.75
Carex comosa	Bristly Sedge	2.50	41183	2.36
Carex cristatella	Crested Oval Sedge	2.00	59000	2.71
Carex lurida	Bottlebrush Sedge	2.50	12000	0.69
Carex spp	Prairie Sedge Mix	8.00	33422	6.14
Carex vulpinoidea	Brown Fox Sedge	4.00	125000	11.48
Elymus virginicus	Virginia Wild Rye	8.00	4375	0.80
Glyceria striata	Fowl Manna Grass	1.00	125000	2.87
Panicum virgatum	Switch Grass	2.00	28356	1.30
Scirpus atrovirens	Dark Green Rush	2.00	187500	8.61
Scirpus cyperinus	Wool Grass	1.00	562500	12.91
Spartina pectinata	Prairie Cord Grass	3.00	15750	1.08
	Total	40.00		51.71
Temporary Cover:				
Avena sativa	Common Oat	360.00	8125	67.15
Lolium multiflorum	Annual Rye	100.00	14188	32.57
	Total	460.00		99.72
Forbs:				
Alisma spp	Water Plantain (Various Mix)	1.00	70175	1.61
Asclepias incarnata	Swamp Milkweed	2.00	4540	0.21
Coreopsis tripteris	Tall Coreopsis	1.00	11500	0.26
Eutrochium maculatum	Spotted Joe Pye Weed	0.25	78125	0.45
Iris virginica	Blue Flag	4.00	1400	0.13
Liatris spicata	Marsh Blazing Star	1.00	12000	0.28
Lobelia cardinalis	Cardinal Flower	0.25	437000	2.51
Lobelia siphilitica	Great Blue Lobelia	0.50	520000	5.97
Lycopus americanus	Common Water Horehound	0.25	235000	1.35
Pycnanthemum virginianum	Common Mountain Mint	0.50	331250	3.80
Rudbeckia triloba	Brown-Eyed Susan	0.50	33000	0.38
Sagittaria latifolia	Common Arrowhead	0.25	56700	0.33
Senna hebecarpa	Wild Senna	1.00	1400	0.03
Silphium terebinthinaceum	Prairie Dock	1.00	1100	0.03
Symphyotrichum novae-angliae	New England Aster	1.00	76000	1.74
Verbena hastata	Blue Vervain	1.50	125000	4.30
Zizia aurea	Golden Alexanders	0.75	12000	0.21
	Total	16.75		23.37

Mix Statistics				
Native Component	PLS lbs /Acre	PLS Seeds/Acre	PLS Seeds/Sq. Ft	% of Native Mix
Forbs	1.05	1,018,156	23.37	31.13%
Grasses	2.50	2,252,548	51.71	68.87%
Total Natives	3.55	3,270,724	75.09	100.00%
Cover	28.75	4,343,800	99.72	
Totals	32.30	7,614,534	174.81	

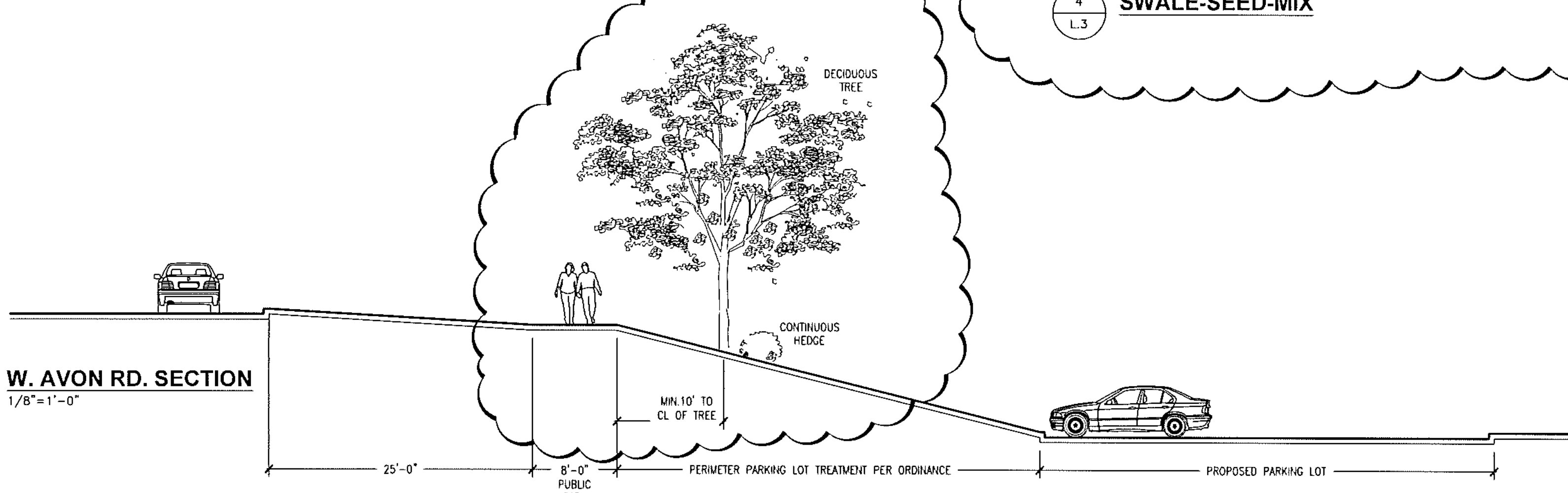
4 / L.3 **SWALE-SEED-MIX**

Stormwater Seed Mix

Botanical Name	Common Name	PLS Ounces/Acre	Seeds/Oz	Seeds/SQ FT
Permanent Grasses/Sedges/Rushes:				
Bolboschoenus fluviatilis	River Bulrush	0.25	27500	0.16
Carex cristatella	Crested Oval Sedge	2.00	59000	2.71
Carex lurida	Bottlebrush Sedge	3.00	12000	0.83
Carex vulpinoidea	Brown Fox Sedge	6.00	125000	17.22
Elymus virginicus	Virginia Wild Rye	13.50	4375	1.36
Glyceria striata	Fowl Manna Grass	1.25	125000	3.59
Juncus effusus	Common Rush	2.00	281000	12.90
Leersia oryzoides	Rice Cut Grass	1.00	94500	2.17
Panicum virgatum	Switch Grass	2.00	28356	1.30
Schoenoplectus tabernaemontani	Softstem Bulrush	3.00	37813	2.6
Scirpus atrovirens	Dark Green Rush	2.00	187500	8.61
Scirpus cyperinus	Wool Grass	1.00	562500	12.91
	Total	37.00		66.19
Temporary Cover:				
Avena sativa	Common Oat	360.00	8125	67.15
Lolium multiflorum	Annual Rye	100.00	14188	32.57
	Total	460.00		99.72
Forbs & Shrubs:				
Alisma spp.	Water Plantain (Vario	4.25	70175	6.85
Asclepias incarnata	Swamp Milkweed	1.50	4540	0.16
Bidens spp.	Bidens (Various Mix)	2.00	14175	0.65
Helenium autumnale	Sneezeweed	2.00	141750	6.51
Iris virginica	Blue Flag	4.00	1400	0.13
Lycopus americanus	Common Water Hore	0.25	235000	1.35
Mimulus ringens	Monkey Flower	1.00	283500	6.51
Oligoneuron riddellii	Riddell's Goldenrod	0.50	94500	1.08
Penthorum sedoides	Ditch Stonecrop	0.50	36063	0.41
Polygonum spp.	Pinkweed (Various M	4.00	4063	0.37
Rudbeckia subtomentosa	Sweet Black-Eyed Su	1.00	46000	1.06
Rudbeckia triloba	Brown-Eyed Susan	1.50	33000	1.14
Sagittaria latifolia	Common Arrowhead	1.00	56700	1.30
Senna hebecarpa	Wild Senna	1.00	1400	0.03
Symphyotrichum novae-angliae	New England Aster	1.50	76000	2.62
Thalictrum dasycarpum	Purple Meadow Rue	2.00	13500	0.62
	Total	28.00		30.78

Mix Statistics				
Native Component	PLS lbs /Acre	PLS Seeds/Acre	PLS Seeds/Sq. Ft	% of Native Mix
Forbs	1.75	1,340,687	30.78	31.74%
Grasses	2.31	2,883,281	66.19	68.26%
Total Natives	4.06	4,224,168	96.97	100.00%
Cover	28.75	4,343,800	99.72	
Totals	32.81	8,567,968	196.69	

3 / L.3 **STORMWATER-SEED-MIX**



2 / L.3 **W. AVON RD. SECTION**
1/8"=1'-0"

Loop Bike Rack, Surface Mount
Layout Drawing

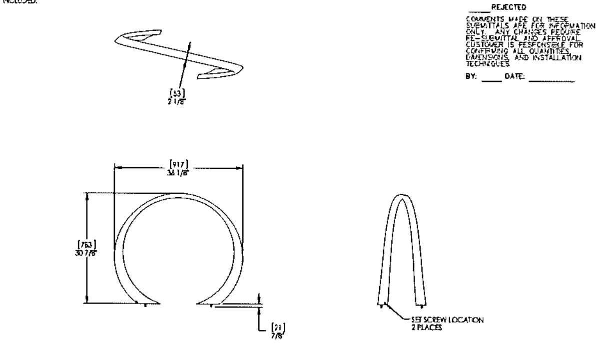
www.landscapeforms.com Date: 12/3/2014 Ph: 800.521.2546

(2) 3/8-16 x 1-1/2" SOCKET HEAD CAP SCREWS INCLUDED. ALSO INCLUDES (2) SET SCREWS TO SECURE. DROP-IN ANCHORS NOT INCLUDED.

___ APPROVED
___ REVISE AND RESUBMIT
___ REJECTED

COMMENTS MADE ON THESE SUBMITTALS ARE FOR INFORMATION ONLY. ANY CHANGES REQUIRE RE-SUBMITTAL AND APPROVAL. CUSTOMER IS RESPONSIBLE FOR CONFIRMING ALL QUANTITIES, DIMENSIONS, AND INSTALLATION TECHNIQUES.

BY: ___ DATE: ___



landscapeforms Drawing AE100-02 Dimensions are in inches [mm] Patent Pending

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TREE PROTECTION NOTES:

1. EITHER PLASTIC OR WOOD ORANGE SNOW FENCING SHALL BE INSTALLED AT OR BEYOND THE DRIP LINE UNLESS MORE SUBSTANTIAL FENCING IS REQUIRED.

2. STAKES SHALL BE METAL "I" POLES SPACED NO FURTHER APART THAN 5' ON CENTER.

3. FENCING SHALL NOT BE INSTALLED CLOSER THAN DRIP LINE OF THOSE TREES TO BE SAVED. SPECIAL CIRCUMSTANCES SHALL BE REVIEWED BY THE CITY.

4. FENCING SHALL BE ERECTED PRIOR TO CONSTRUCTION. THE CITY SHALL BE NOTIFIED ONCE THE FENCING IS INSTALLED AND READY FOR INSPECTION.

5. UNDER NO CIRCUMSTANCE SHALL THE PROTECTIVE FENCING TO REMOVED WITHOUT PROPER APPROVAL FROM THE CITY.

6. NO PERSON SHALL CONDUCT ANY ACTIVITY WITHIN THE AREAS PROPOSED TO REMAIN. THIS SHALL INCLUDE BUT NOT BE LIMITED TO:

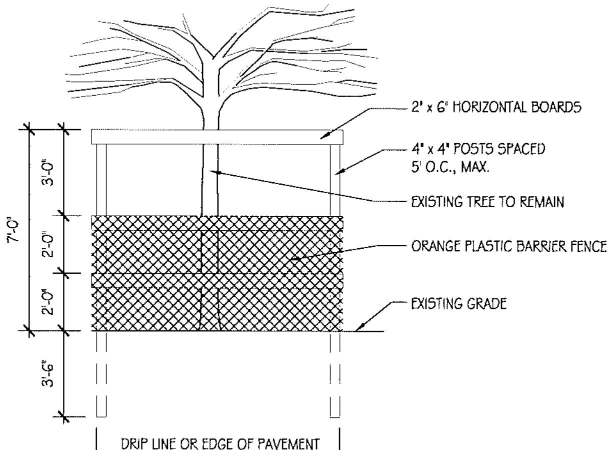
A. NO SOLVENTS OR CHEMICALS WITHIN THE PROTECTED AREAS.

B. NO BUILDING MATERIALS OR CONSTRUCTION EQUIPMENT WITHIN THE PROTECTED AREAS.

C. NO GRADE CHANGES , INCLUDING FILL, WITHIN THE PROTECTED AREAS.

D. NO REMOVAL OF VEGETATION FROM THE GROUND WITHOUT PERMISSION FROM THE REVIEWING AUTHORITY.

E. ANY REQUIRED SWALE NEEDS TO BE DIRECTED AROUND THE PROTECTED AREAS. IN INSTANCES WHERE SWALES ARE APPROVED THROUGH A PROTECTED AREA, THE SWALES NEED TO BE HAND-DUG. MACHINERY OF ANY KIND IS PROHIBITED.

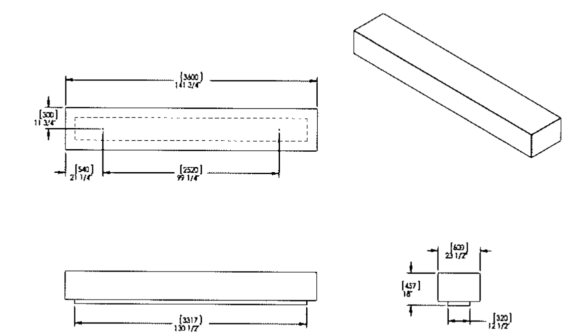


NOTE:
ALL TREE PROTECTION SHALL BE INSTALLED BY CONTRACTOR AND APPROVED BY CITY'S LANDSCAPE ARCHITECT PRIOR TO COMMENCEMENT OF DEMOLITION.

1 / L.3 **TREE PROTECTION FENCING**
1/4"=1'-0"

Escofet, Socrates Backless Bench, 142" length, Freestanding / Embedded
Product Drawing

www.landscapeforms.com Date: 8/29/2012 Ph: 800.521.2546



landscapeforms Drawing ESB03-02 Dimensions are in inches [mm]

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STATE OF MICHIGAN
SHANNON MOHR LANDSCAPE ARCHITECT No. 1440
REGISTERED LANDSCAPE ARCHITECT

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

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City File No. 94-426.8, Section 15

ISSUE DATE	ISSUED FOR
12/01/2015	AMENDED SITE PLAN
01/18/2015	REVISED SITE PLAN

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Rochester, MI 48307
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CREATIVE SITE SOLUTIONS, PLC
CIVIL ENGINEERING & SITE DESIGN
3728 NASH DRIVE
TROY, MI 4808
248 259 202
jarnold@creative-site-solutions.com

ZAREMBA & COMPANY
LANDSCAPE DESIGNERS/CONTRACTORS
5799 S Main #693 Clarkston MI 48347 | P 248 922 3600 | F 248 922

PROJECT

Rochester College Field House

Rochester Hills, Michigan

SHEET

LANDSCAPE DETAILS, SECTIONS & NOTES

PROJECT NUMBER

2015–047

SHEET NUMBER

L.3

CODE PLAN INFORMATION

1) DESIGN CODE

a) 2012 MICHIGAN BUILDING CODE

2) DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (106.3.4)

A. A. REPRESENTATIVE OF FRENCH ASSOCIATES WILL BE THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.

3) DEFERRED SUBMITTALS

A. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING DESIGN SUBMITTAL DRAWINGS AND CALCULATIONS FOR FIRE ALARM AND FIRE PROTECTION SYSTEMS. THE FOLLOWING SUBMITTALS SHALL BE PROVIDED TO THE BUILDING OFFICIAL AS DEFERRED SUBMITTALS.

4) USE AND OCCUPANCY CLASSIFICATION (CHAPTER 3)

BUILDING IS ASSEMBLY TYPE A-4 OCCUPANCY

5) ACTUAL FLOOR AREA (GROSS)

FIRST FLOOR = 21,880 SQUARE FEET
MEZZANINE = 1,552 SQUARE FEET
TOTAL GROSS AREA = 23,432 SQUARE FEET

6) ALLOWABLE AREA AND HEIGHT

AREA
ALLOWABLE BUILDING AREA (TABLE 503)
ASSEMBLY GROUP A-4 WITH 1-B CONSTRUCTION = 9,500 SQ. FT.
AUTOMATIC SPRINKLER SYSTEM INCREASE: 200% OF 9,500 SQ. FT. = 19,000 SQ. FT.
TOTAL ALLOWABLE AREA = 9,500 SQ. FT. + 19,000 SQ. FT. = 28,500 SQ. FT.

ALLOWABLE BUILDING HEIGHT (TABLE 503)
USE GROUP A-4 TYPE IIB: 2 STORIES
ACTUAL HEIGHT = 1 STORY, 31'-0"

7) TYPE OF CONSTRUCTION (CHAPTER 6)

A. TYPE IIB: FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (TABLE 601)

STRUCTURAL FRAME - 0
BEARING WALLS - 0
NONBEARING WALLS AND PARTITIONS (GREATER THAN 30' SEPARATION DISTANCE) - 0
FLOOR CONSTRUCTION - 0
ROOF CONSTRUCTION - 0

8) INTERIOR FINISHES (CHAPTER 8)

INTERIOR WALL AND CEILING FINISHES FOR EXIT ENCLOSURES AND EXIT PASSAGEWAYS SHALL BE MINIMUM CLASS B (TABLE 803.9)
INTERIOR WALL AND CEILING FINISHES FOR CORRIDORS SHALL BE MINIMUM CLASS B (TABLE 803.9)
INTERIOR WALL AND CEILING FINISHES FOR ROOMS AND ENCLOSED SPACES SHALL BE MINIMUM CLASS C (TABLE 803.9)

9) MEANS OF EGRESS (CHAPTER 10)

MAXIMUM EXIT TRAVEL DISTANCE
USE GROUP A = 200'

OCCUPANT LOAD
USE GROUP A - PARAGRAPH 1004.4 OCCUPANT LOAD DETERMINED BY THE NUMBER OF FIXED SEATS

OCCUPANT LOADS
516 BLEACHER SEATS
540 FLOOR SEATS
45 PARTICIPANTS
49 OCCUPANTS IN MEZZANINE
ASSEMBLY AREA = 1,552 OCCUPANTS
EGRESS IS PROVIDED FOR 1,553 OCCUPANTS

10) MEZZANINE (SECTION 505)

THE AREA LIMITATION OF THE MEZZANINE SHALL NOT EXCEED 1/3 THE AREA IT SERVES.
THIS MEZZANINE IS PROVIDED WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM AND AN APPROVED EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5.2.2.
MEZZANINE AREA = 1,552 SQUARE FEET
AREA SERVED (GYMNASIUM) = 14,437 SQUARE FEET

12) OTHER CODES

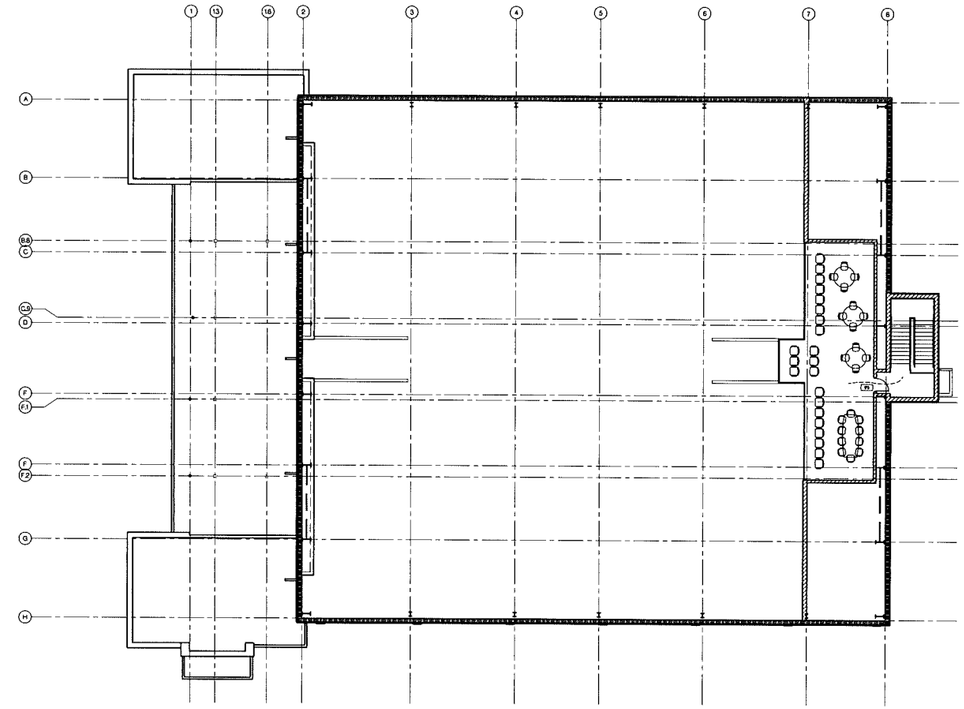
2012 MICHIGAN MECHANICAL CODE
2012 MICHIGAN PLUMBING CODE
2011 MICHIGAN ELECTRICAL CODE
2012 MICHIGAN UNIFORM ENERGY CODE

CODE PLAN LEGEND

	INDICATES WALLS THAT CREATE A 1 HOUR RATED FIRE BARRIER
EGRESS OCCUPANTS -	SPACE OCCUPANTS
	EGRESS ROUTE
-	EGRESS DOOR CAPACITY

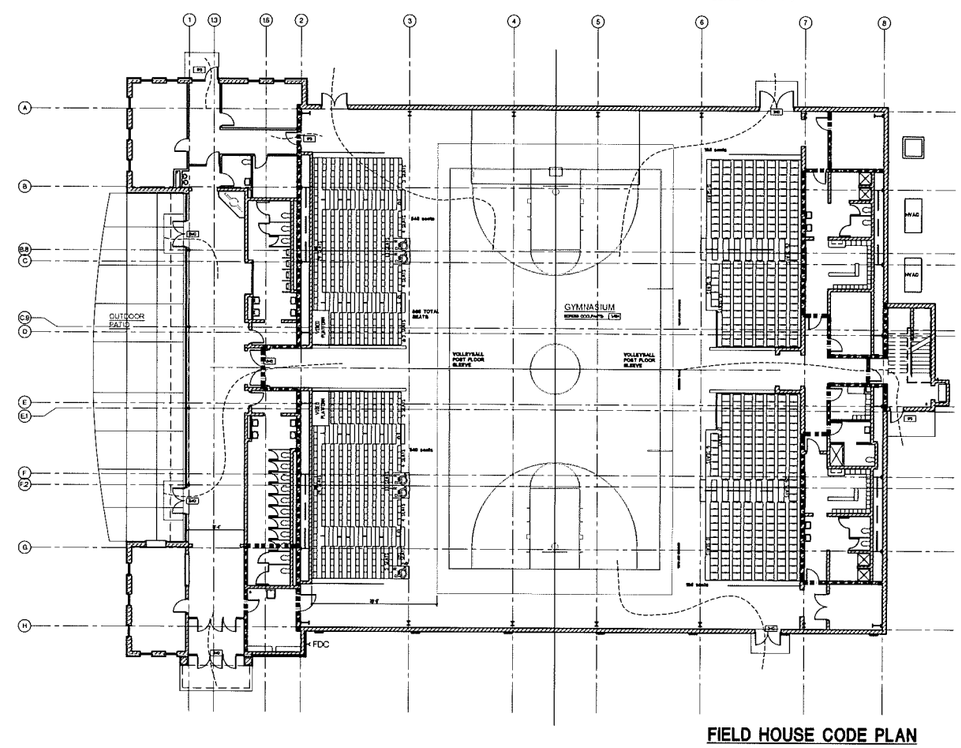
BUILDING CODE INFORMATION

1. BUILDING CLASSIFICATION - ASSEMBLY (A-4).
2. CONSTRUCTION TYPE - 2B
3. BUILDING AREA:
   FIRST FLOOR AREA - 21,880 SQ. FT.
   MEZZANINE FLOOR AREA - 1,552 SQ. FT.
   TOTAL BUILDING AREA - 23,432 SQ. FT.
4. BUILDING CONSTRUCTION IS FULLY SPRINKLED.



FIELD HOUSE MEZZANINE CODE PLAN

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



FIELD HOUSE CODE PLAN

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

KEY PLAN

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PROJECT
Rochester College
Field House

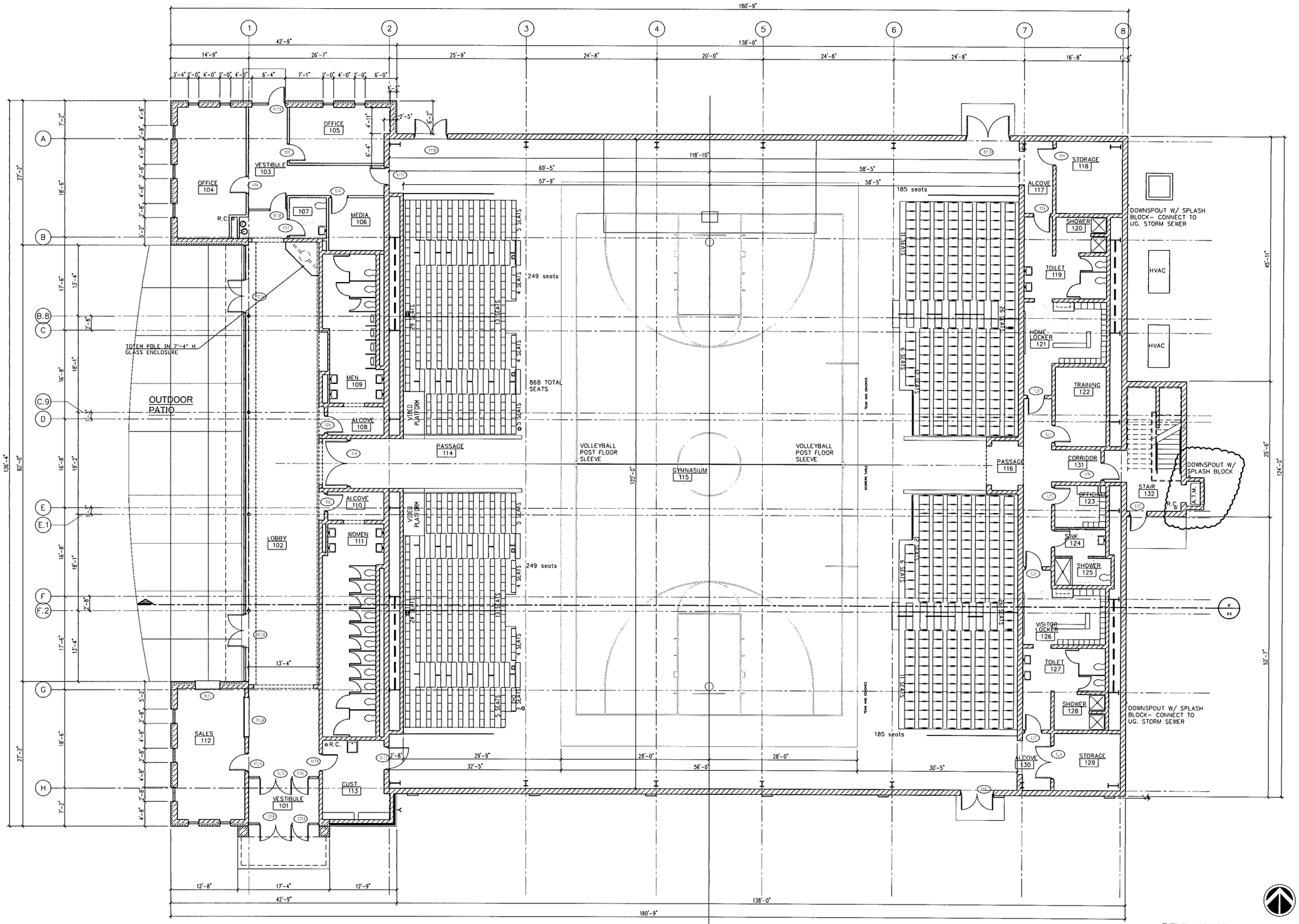
Rochester Hills,
Michigan

SHEET
Field House
Code Analysis

PROJECT NUMBER
2015-047

SHEET NUMBER
A0.01

2015-047 Rech Coll Gym



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

KEY PLAN

not to be used as construction drawings

City File # 15-022,
Parcel # 15-15-451-008

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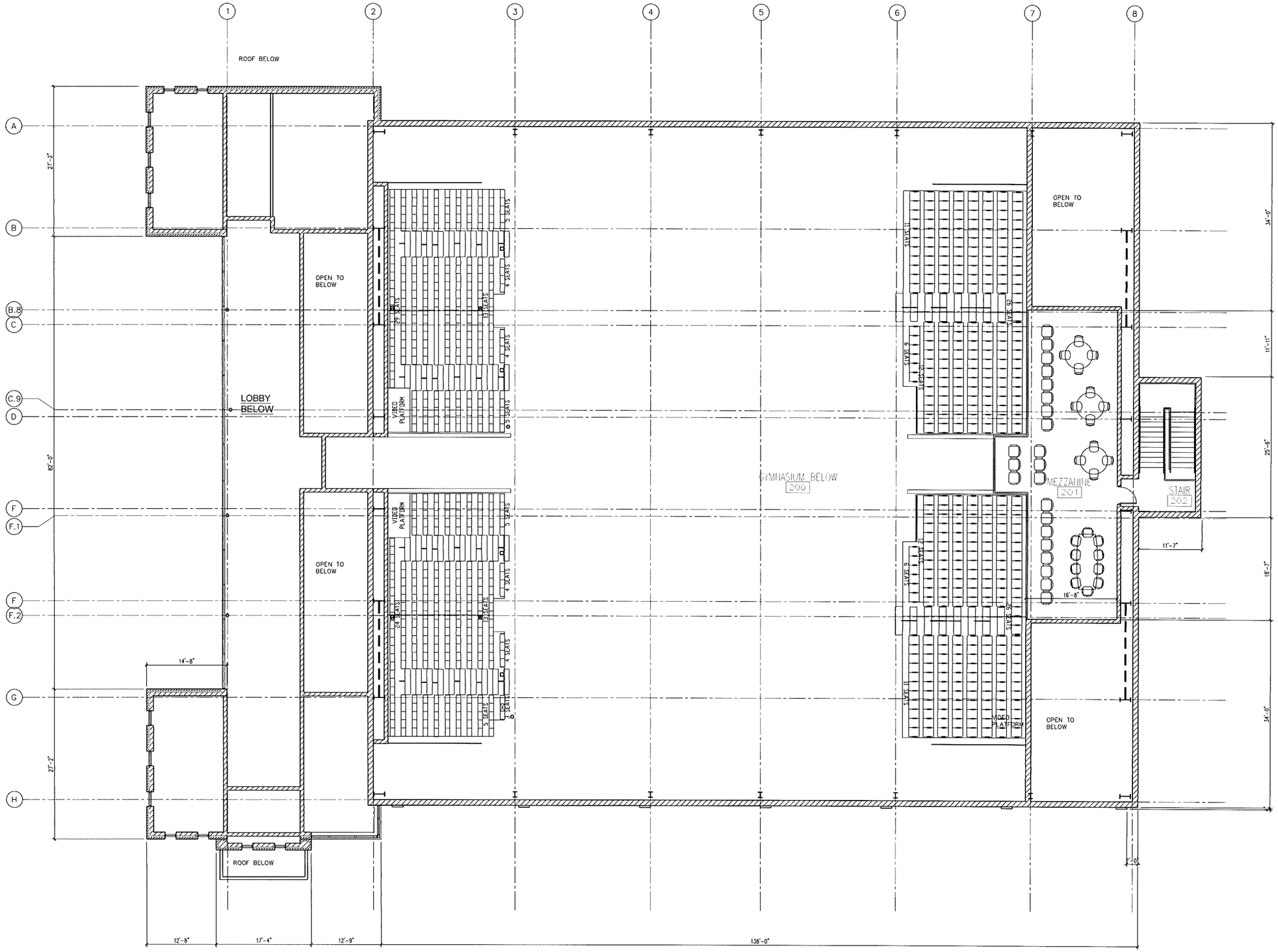
Rochester College Field House

Rochester Hills, Michigan

SHEET
Field House Floor Plan

PROJECT NUMBER
2015-047

SHEET NUMBER
A2.01



FIELD HOUSE MEZZANINE PLAN

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

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PROJECT

Rochester College
Field House

Rochester Hills,
Michigan

SHEET

Field House
Mezzanine
Plan

PROJECT NUMBER

2015-047

SHEET NUMBER

A2.02

2015-047 Rech Coll Gym

ROOF PLAN

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

KEY PLAN

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PROJECT

Rochester College
Field House

Rochester Hills,
Michigan

SHEET

Roof
Plan

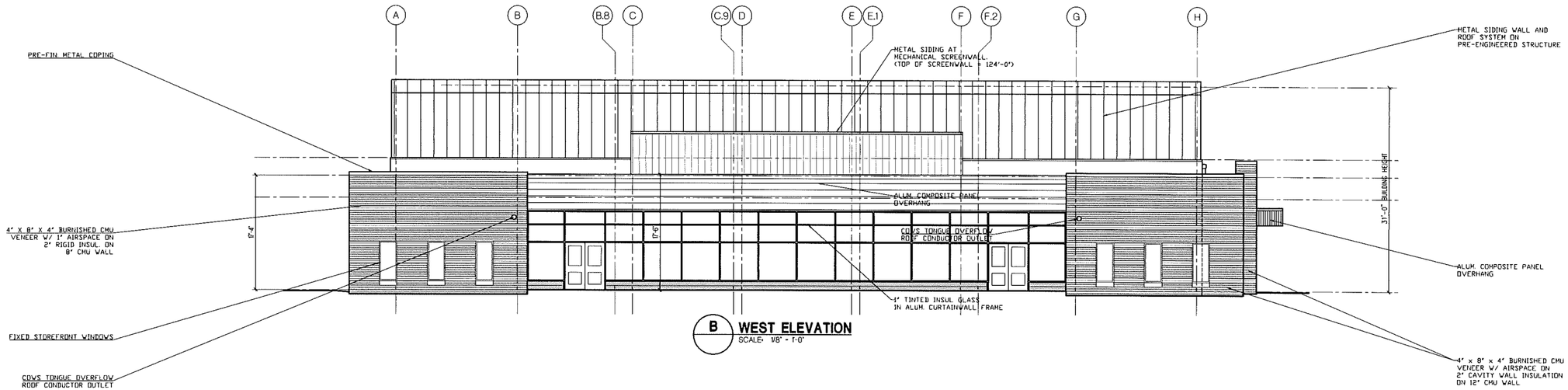
PROJECT NUMBER

2015-047

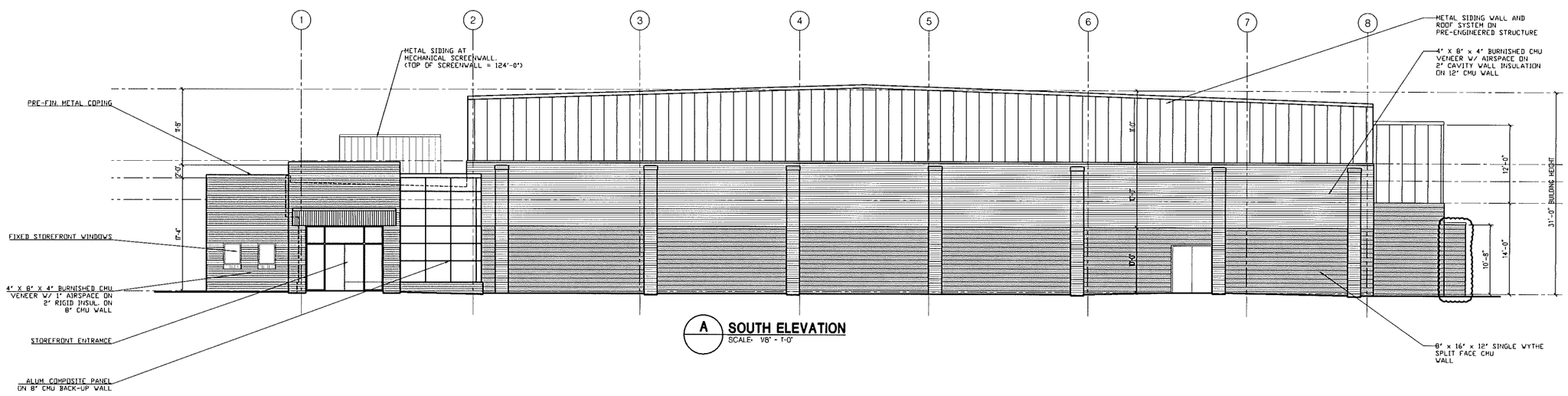
SHEET NUMBER

A2.03

2015-047 Rev: Cell Gym



B WEST ELEVATION
SCALE: 1/8" = 1'-0"



A SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

KEY PLAN

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PROJECT
Rochester College Field House

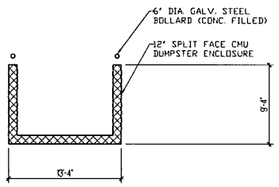
Rochester Hills, Michigan

SHEET
Exterior Elevations

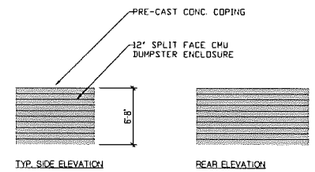
PROJECT NUMBER
2015-047

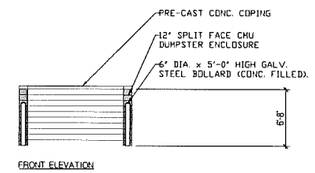
SHEET NUMBER
A4.01

2015-047 Rock Cell Gym

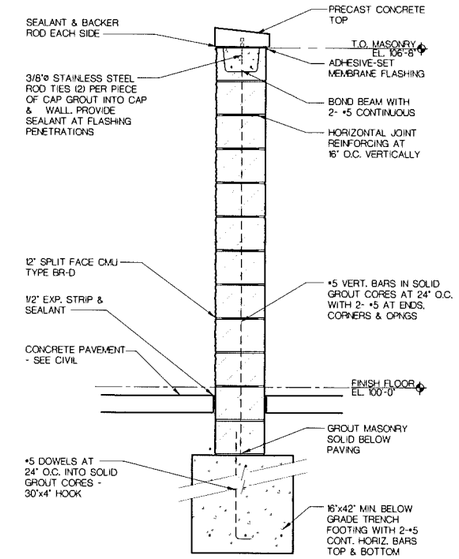


G DUMPSTER ENCLOSURE PLAN
SCALE: 1/8" = 1'-0"

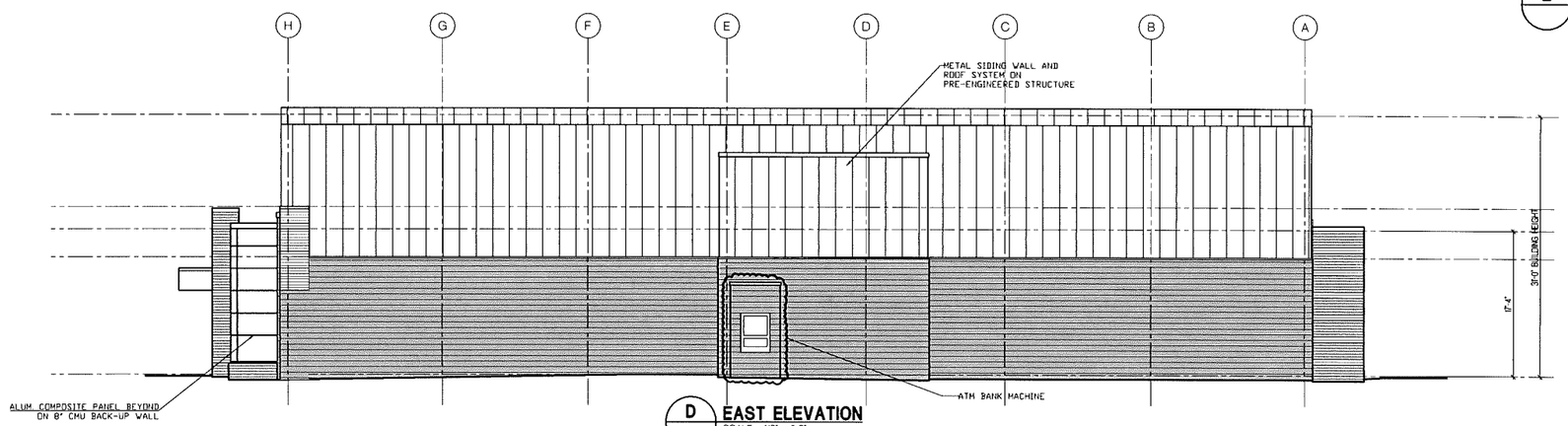




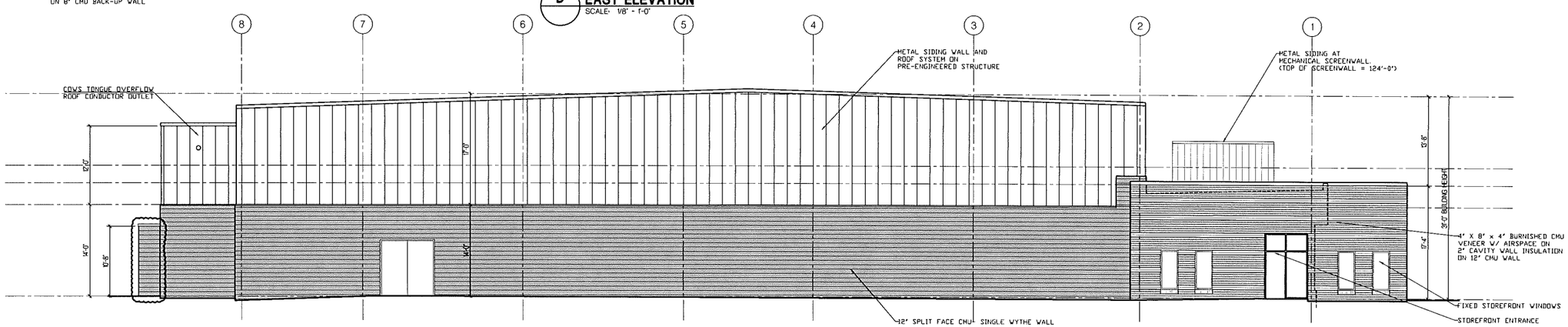
F DUMPSTER ENCLOSURE ELEVATIONS
SCALE: 1/8" = 1'-0"



E TYP. DUMPSTER ENCLOSURE WALL SECTION
SCALE: 3/4" = 1'-0"



D EAST ELEVATION
SCALE: 1/8" = 1'-0"



C NORTH ELEVATION
SCALE: 1/8" = 1'-0"

KEY PLAN

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Parcel # 15-15-451-008

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PROJECT
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Rochester Hills, Michigan

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Exterior Elevations

PROJECT NUMBER
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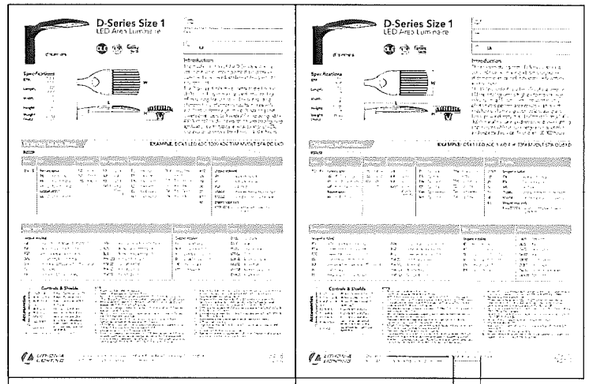
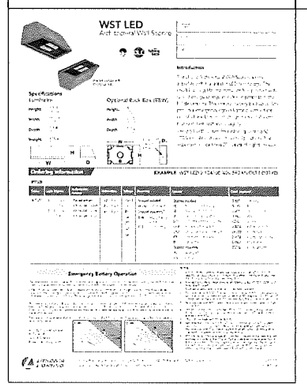
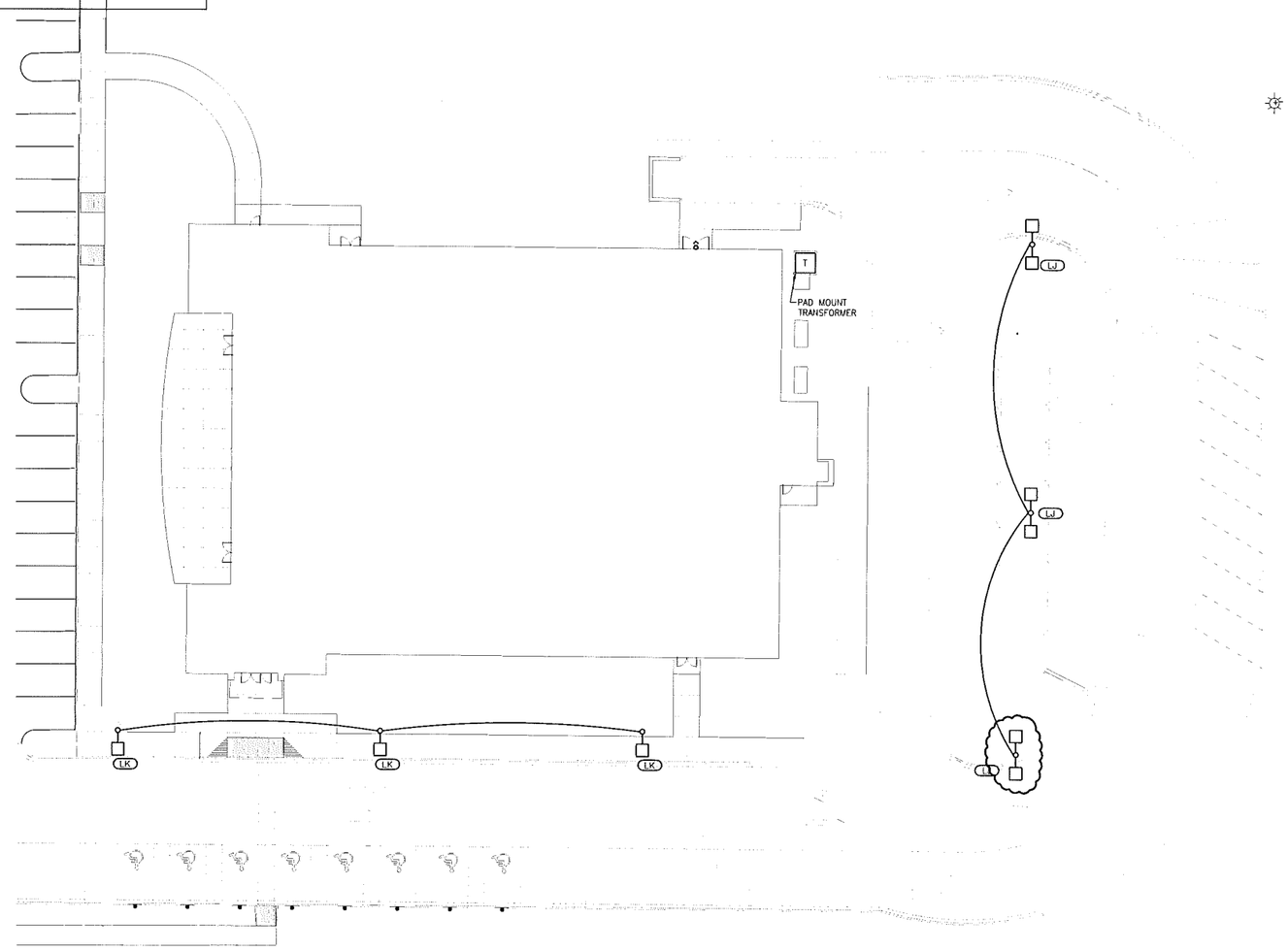
SHEET NUMBER
A4.02

2015-047 Rush Call Gym







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

KEY PLAN

not to be used
as construction
drawings

City File # 15-022,
Parcel # 15-15-451-008

ISSUE DATE	ISSUED FOR
1/18/2016	REVISED SITE PLAN

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APPROVED	DAB

SES
Strategic Energy Solutions
4000 W. Eleven Mile Road Berkley, MI 48072
Phone 248.399.1900 Fax 248.399.1901
www.sesnet.com
SES Project #15 0019 10

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PROJECT
Rochester College
Field House

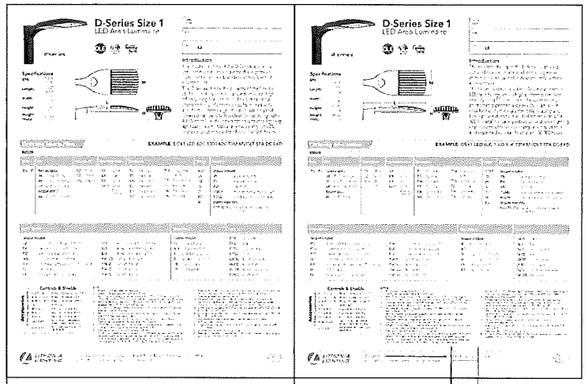
Rochester Hills,
Michigan

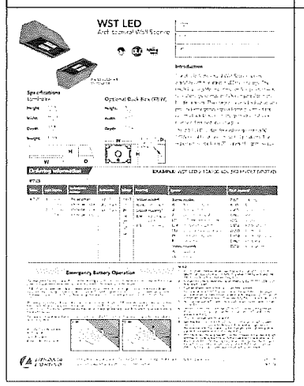
SHEET
ELECTRICAL SITE
PLAN

PROJECT NUMBER
2015-047

SHEET NUMBER
ES2.00

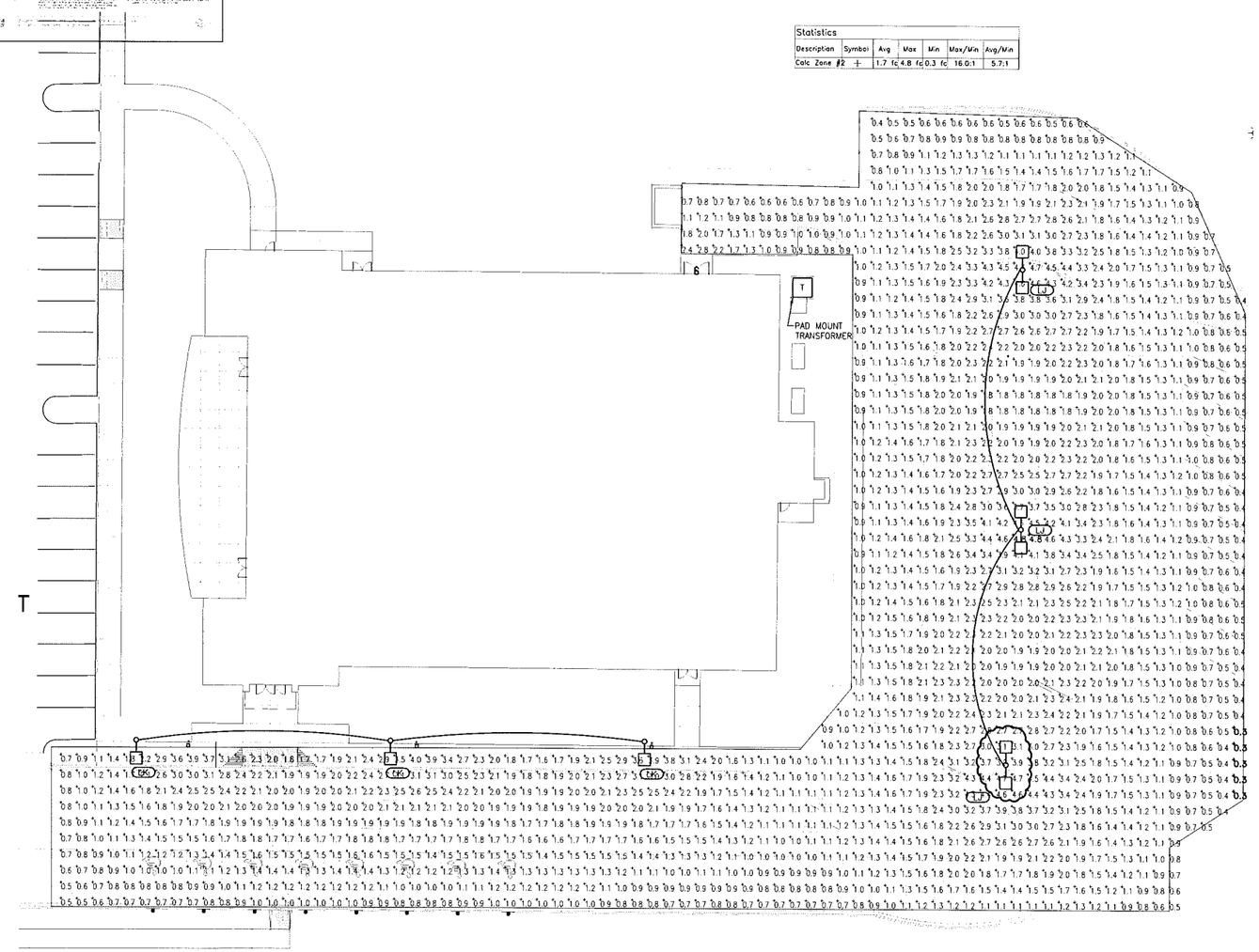
Drawing: S:\15 0019 10 Rochester College Gymnasium\CADD\ecd\15001910-ES200.dwg
Date: Jan 11, 2016, 3:04pm Layout: ES200 Plotted by: dad





Luminaire Schedule											
Symbol	Label	Quantity	Manufacturer	Mounting Height	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	B	1	Lithonia Lighting	15'-0" ABOVE GRADE	WST LED WITH 1 MODULE, 20 LEDS 700mA DRIVER, 5000K COLOR TEMPERATURE, TYPE 3 LENS	LED	1	WST_LED_2_10A700_50K_SR3_MVOLT.ies	4355.172	0.85	47
	LK	3	Lithonia Lighting	20'-0" ABOVE GRADE	DSX1 LED WITH (2) 30 LED LIGHT ENGINES, TYPE 14M OPTIC, 4000K, 530mA	LED	1	DSX1_LED_60C_530_40K_T4M_MVOLT.ies	11562.21	0.85	99.22
	LJ	3	Lithonia Lighting	20'-0" ABOVE GRADE	DSX1 LED WITH (2) 30 LED LIGHT ENGINES, TYPE T3M OPTIC, 5000K, 530mA	LED	1	DSX1_LED_60C_530_50K_T3M_MVOLT.ies	11628.72	0.85	198.44

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #2	+	1.7 fc	4.8 fc	0.3 fc	16.0:1	5.7:1



ELECTRICAL SITE PLAN - PHOTOMETRICS

SCALE: 1" = 20'-0"

KEY PLAN

not to be used as construction drawings

City File # 15-022,
Parcel # 15-15-451-008

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Rochester College Field House

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SHEET
ELECTRICAL SITE PLAN - PHOTOMETRICS

PROJECT NUMBER
2015-047

SHEET NUMBER
ES2.01

Drawing: S:\15 0019 10 Rochester College Gymnasium\CAD\Eco\15001910-ES200-temp.dwg
Date: Jan 11, 2016, 3:04pm Layout: ES200 Plotted by: dab