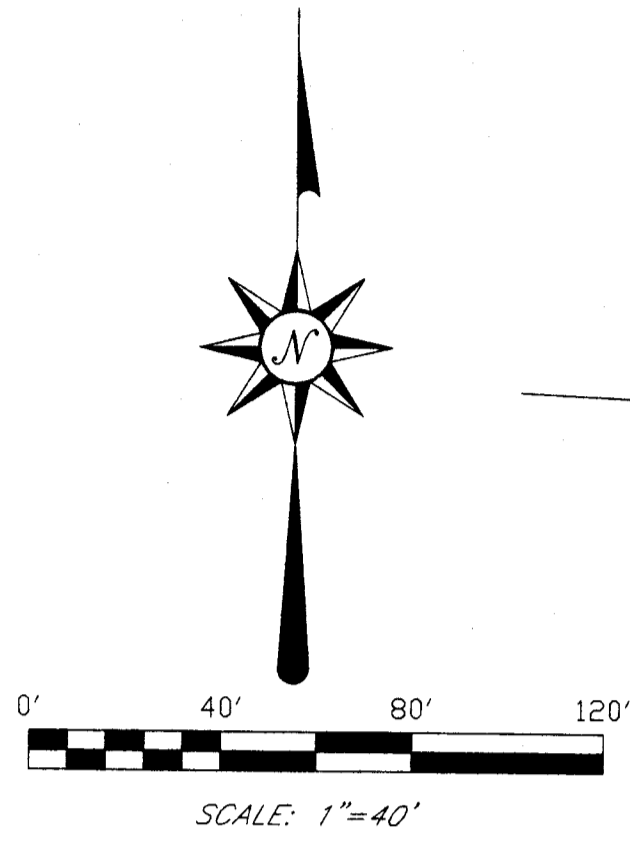
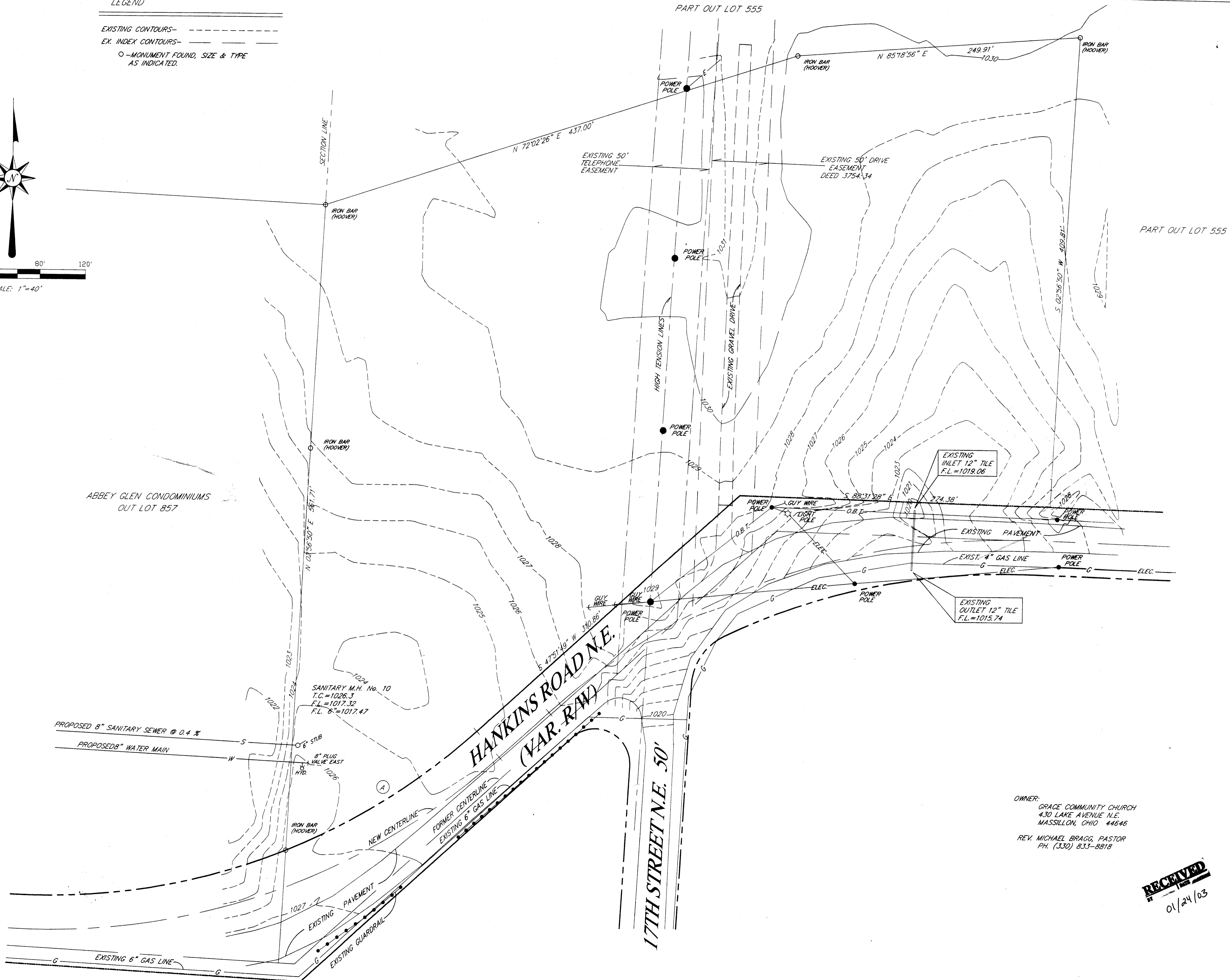


LEGEND

- EXISTING CONTOURS—
- EX. INDEX CONTOURS—
- MONUMENT FOUND, SIZE & TYPE AS INDICATED.



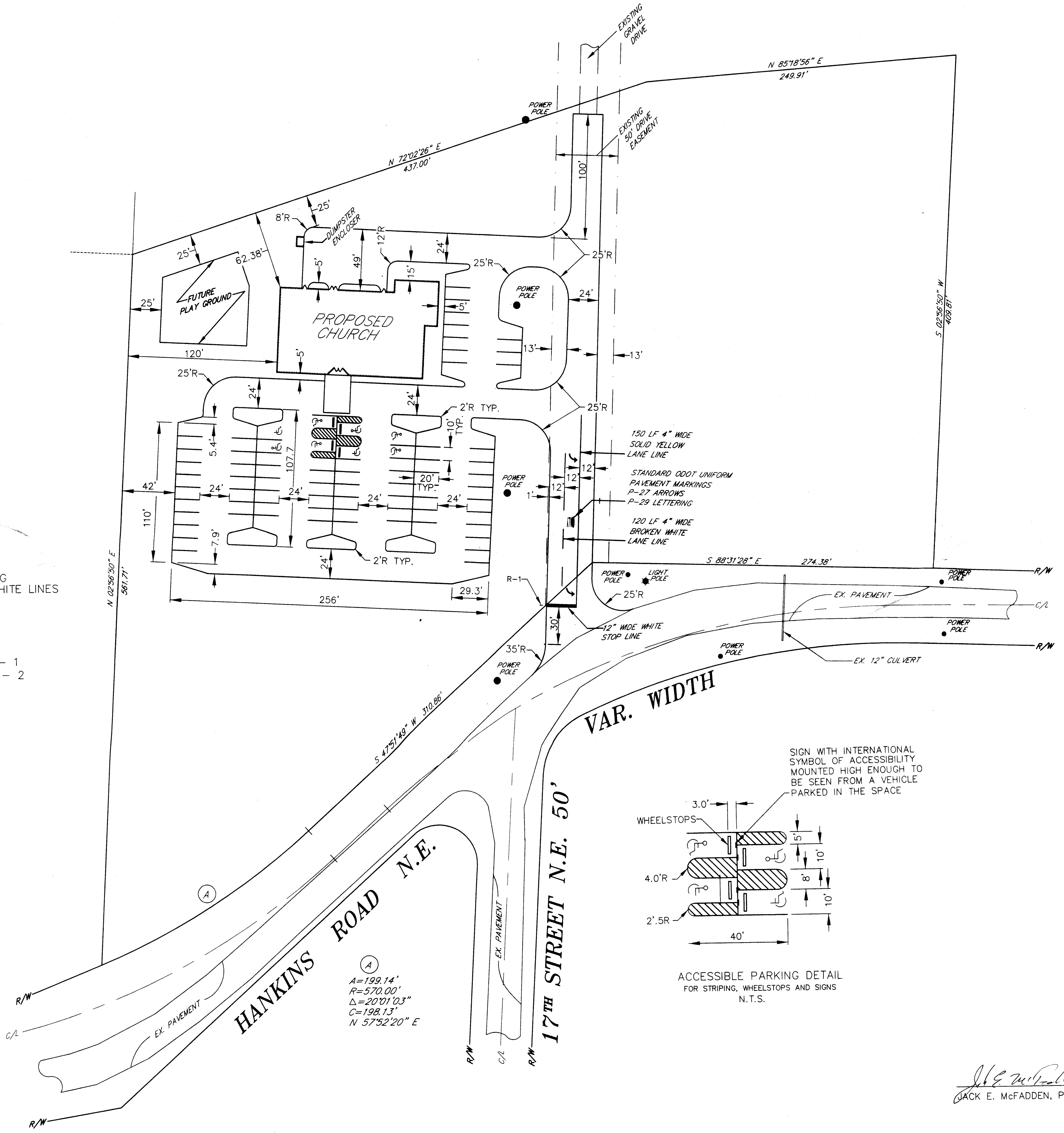
(A)
 L=199.14'
 R=570.00"
 Δ=20°11'03"
 C LEN=198.13'
 BRG=N 57°52'20" E



OWNER:
 GRACE COMMUNITY CHURCH
 430 LAKE AVENUE N.E.
 MASSILLON, OHIO 44646
 REV. MICHAEL BRAGG, PASTOR
 PH. (330) 833-8818

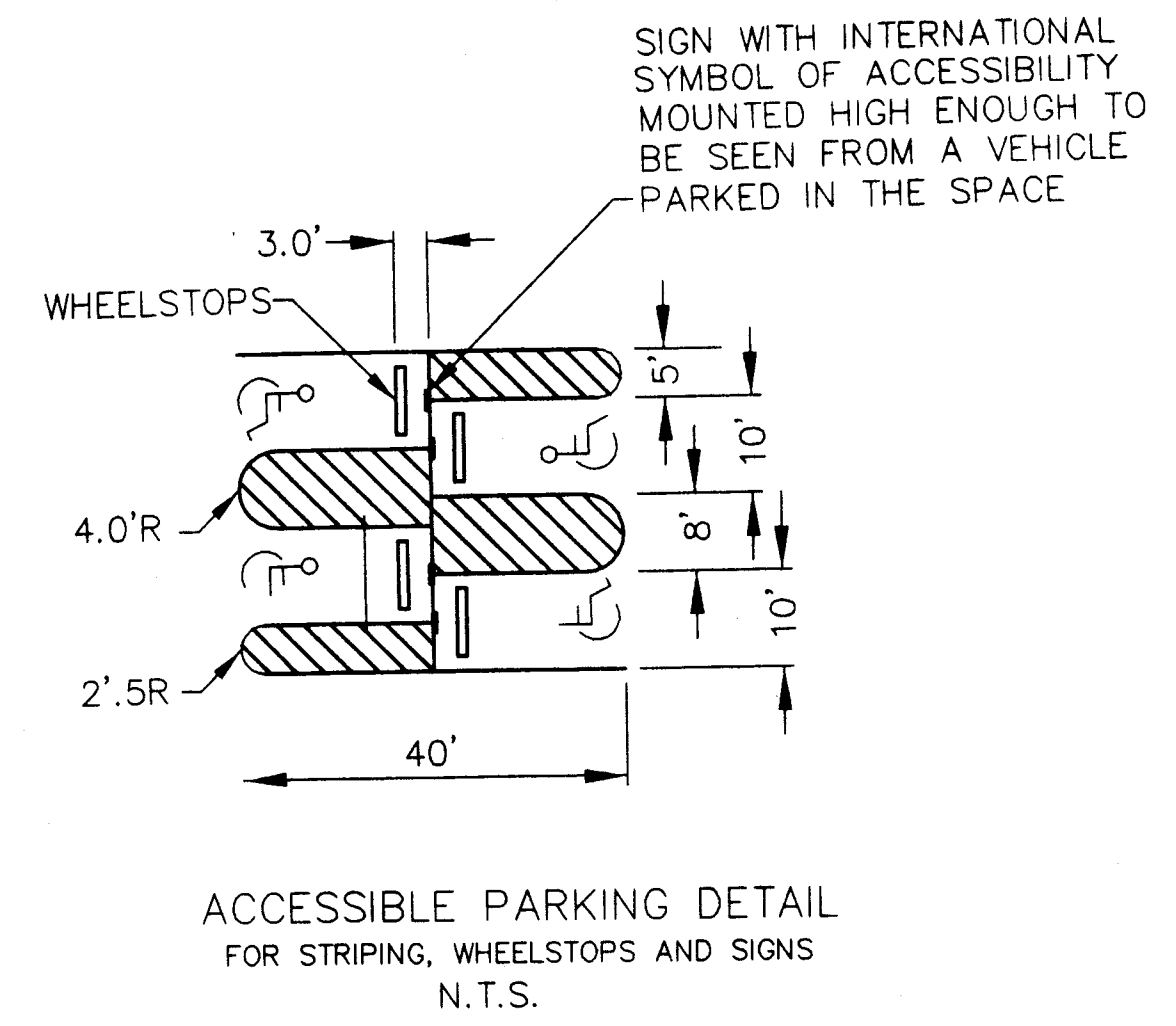
RECEIVED
 01/24/03

<p>TOPOGRAPHIC MAP</p> <p>GRACE COMMUNITY CHURCH CITY OF MASSILLON STARK COUNTY, OHIO</p> <p>SCALE: 1" = 40' FEBRUARY 2002</p>	<p>HOOVER & ASSOCIATES, Inc. Professional Surveying Services</p> <p>57827 Huckleberry Street N.W. North Canton, Ohio 44720 phone (330) 494-6744</p>
<p>DATE:</p>	<p>REVISION DESCRIPTION:</p>
<p>DRAWN BY:</p>	<p>CHECKED BY:</p>



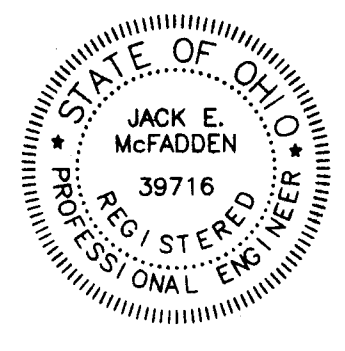
NOTES:

- FOR BUILDING DIMENSIONS SEE ARCHITECTURAL DRAWINGS
- SHAPE OF PROTECTIVE SURFACE ON PLAYGROUND WILL BE DETERMINED BY EQUIPMENT SELECTED.
- REQUIRED PARKING SPACES
CITY OF MASSILLON PLANNING & ZONING CODE CHAPTER 1183.01
ONE SPACE FOR EACH 6 SEATS
 $250/6=42$ SPACES
REGULAR SPACES SUPPLIED - 66
PARKING SPACES ARE TO BE 10' WIDE-20' LONG
PARKING LOT STRIPING TO BE 4" WIDE SOLID WHITE LINES
- MINIMUM ACCESSIBLE SPACES
ADA STANDARDS 4.1.2 (5)
TOTAL ACCESSIBLE REQUIRED 3
TOTAL ACCESSIBLE SPACES PROVIDED - 8
ACCESSIBLE SPACES WITH 60" AISLE REQUIRED - 1
ACCESSIBLE SPACES WITH 60" AISLE PROVIDED - 2
VAN ACCESSIBLE SPACES REQUIRED - 1
VAN ACCESSIBLE SPACES PROVIDED - 2
- TOTAL SPACES PROVIDED - 82



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SITE PLAN
FOR
GRACE COMMUNITY CHURCH
HANKINS ROAD N.E.
IN THE
CITY OF MASSILLON, COUNTY OF STARK, STATE OF OHIO



REVISIONS

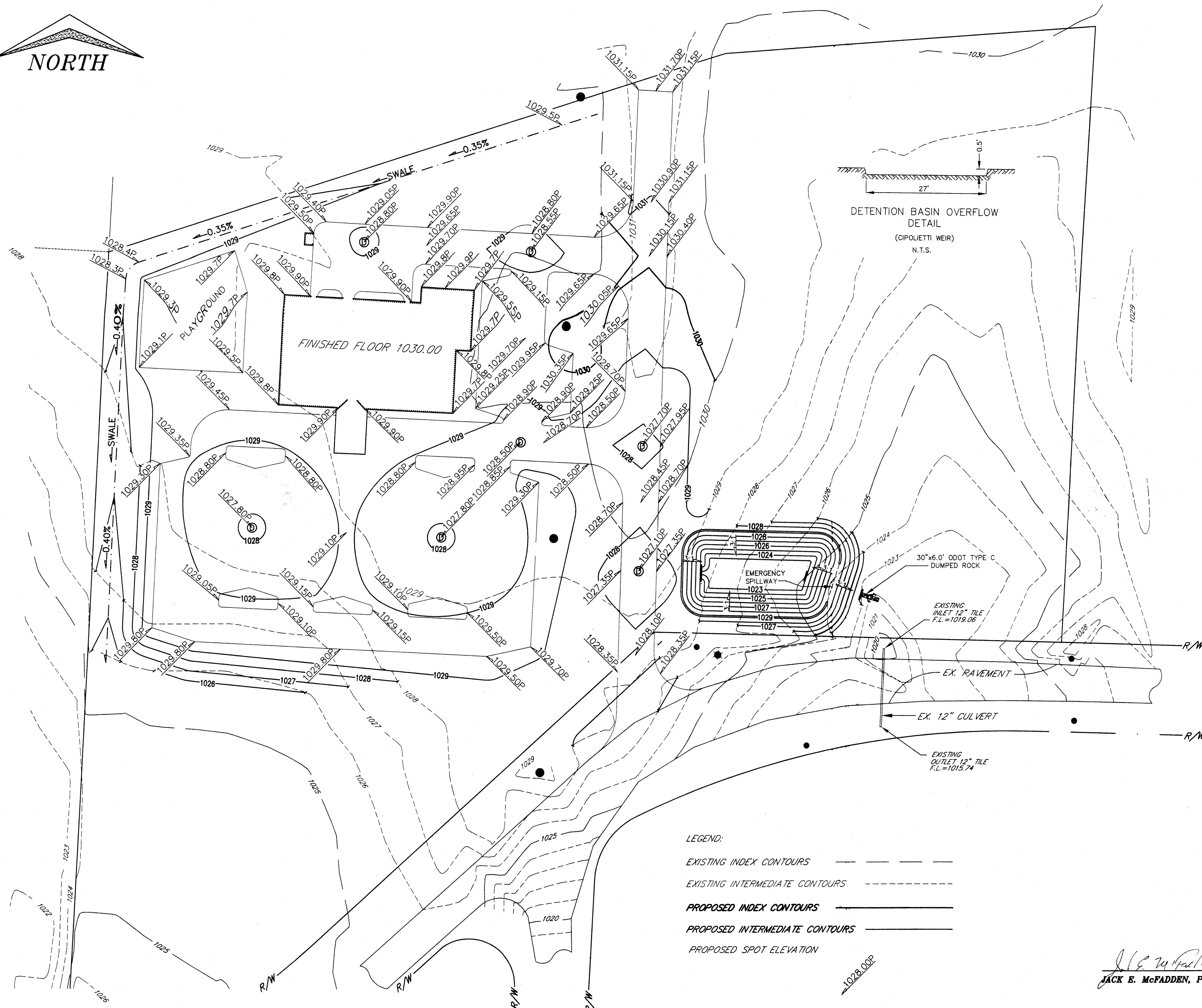
DATE	DESCRIPTION	BY
7/6/03	TURN LANE	J.E.M.

SCALE: HORIZ. 1" = 40'
VERT. _____

DRAWN BY: _____ J.E.M.
CHECKED BY: _____
APPROVED BY: _____
DATE: MARCH 28, 2002

J.E. McFadden
MARCH 28, 2002
JACK E. MCFADDEN, P.E., P.S. DESIGN ENGINEER

PROJECT No. 020101
SHEET No.



LEGEND:

EXISTING INDEX CONTOURS - - - - -

EXISTING INTERMEDIATE CONTOURS - - - - -

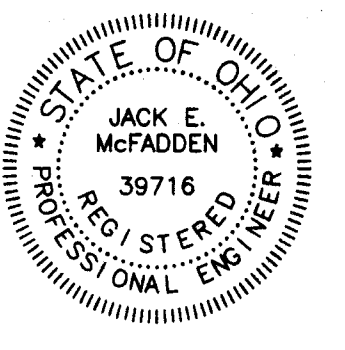
PROPOSED INDEX CONTOURS —————

PROPOSED INTERMEDIATE CONTOURS —————

PROPOSED SPOT ELEVATION ●

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GRADE PLAN
 FOR
 GRACE COMMUNITY CHURCH
 HANKINS ROAD N.E.
 IN THE
 CITY OF MASSILLON, COUNTY OF STARK, STATE OF OHIO



REVISIONS

DATE	DESCRIPTION	BY
1/6/03	TURN LANE & DUMPED ROCK	J.E.M.

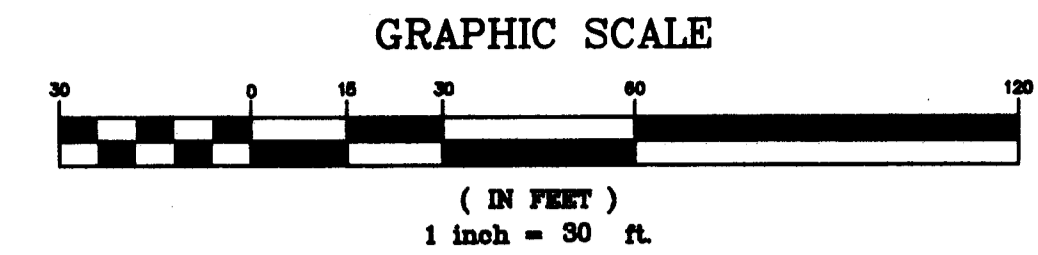
SCALE: HORIZ. 1" = 30'
 VERT. "

DRAWN BY: J.E.M.
 CHECKED BY:
 APPROVED BY:
 DATE: MAY 8, 2002

PROJECT No. 020101
 SHEET No.

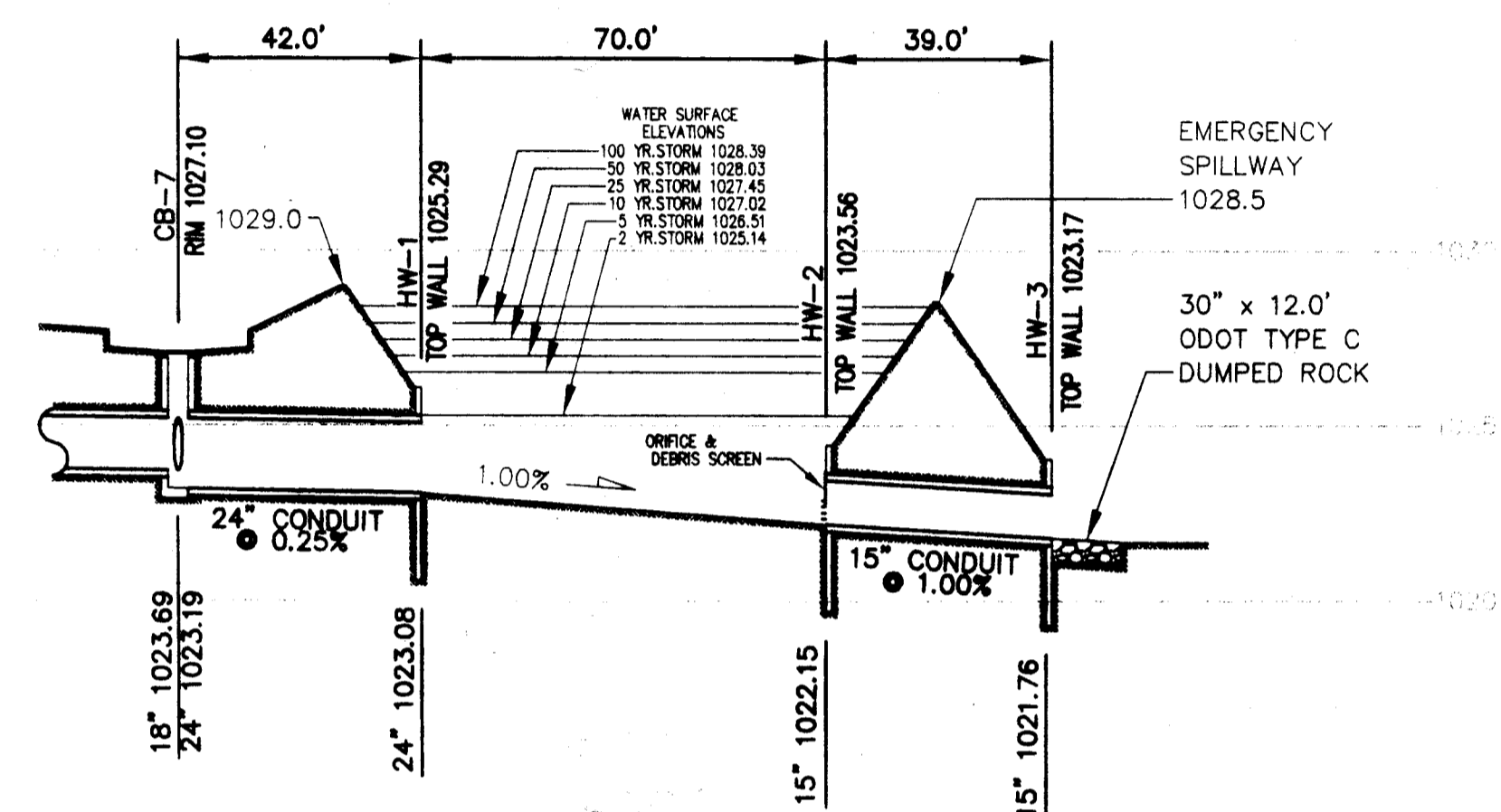
J. E. McFadden
JACK E. MCFADDEN, P.E., P.S. DESIGN ENGINEER
 May 8, 2002

020101 - UTILITY PLAN



DRAINAGE STRUCTURES

STRUCTURE	RIM ELEVATION	PIPE SIZE	INVERT ELEVATION
CB-1	1028.80	12"E	1026.0
CB-2	1028.55	12"W 15"S	1025.34 1025.09
CB-3	1028.50	15"N 15"E	1024.57 1024.57
CB-4	1027.80	15"E	1024.95
CB-5	1027.80	15"W 18"S	1024.40 1024.15
CB-6	1027.70	15"W 18"S	1023.97 1023.69
CB-7	1027.10	18"N 18"W 24"E	1023.69 1023.69 1023.19
HW-1		24"W	1023.08
HW-2		15"E	1022.15
HW-3		15"W	1021.76



PROFILE THROUGH DETENTION BASIN

SCALE: 1" = 30' H
1" = 5' V

SANITARY SEWER STRUCTURES

STRUCTURE	RIM ELEVATION	PIPE SIZE	INVERT ELEVATION
MH-1	1029.20	8"S	1024.08
MH-2	1026.10	8"N&S	1020.70
EX. MH	1026.3	8"N	1017.32

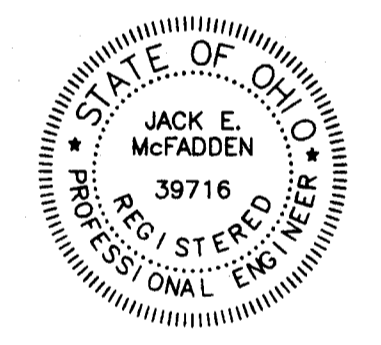
NOTE:
THE SANITARY SEWER AND WATER CONNECTION WHICH SERVES THIS BUILDING IS TO BE MAINTAINED BY THE OWNER OF THE BUILDING.

EXIST. SANITARY M.H.
T.C.=1026.3
F.L.=1017.32
F.L. 6"=1017.47

EXIST. 8" SANITARY SEWER @ 0.4 %
EXIST. 8" WATER MAIN

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UTILITY PLAN
FOR
GRACE COMMUNITY CHURCH
HANKINS ROAD N.E.
IN THE
CITY OF MASSILLON, COUNTY OF STARK, STATE OF OHIO



REVISIONS

DATE	DESCRIPTION	BY
7/6/03	TURN LANE & PROFILE	J.E.M.

SCALE: HORIZ 1" = 30'
VERT

DRAWN BY: J.E.M.
CHECKED BY:
APPROVED BY: J.E.M.
DATE: NOVEMBER 16, 2002

Jack E. McFadden
November 16, 2002
JACK E. McFADDEN, P.E., P.S. DESIGN ENGINEER

PROJECT No. 020101
SHEET No.

020101 EROSION CNTRL, EARTHWORK & PAVEMENT NOTES

EROSION CONTROL, EARTHWORK & PAVEMENT CONSTRUCTION NOTES

EROSION CONTROL NOTES

- This work shall conform to the latest edition of "Rainwater and Land Development Manual" by the Ohio Department of Natural Resources. The work shall also conform to the OEPA permit program, the requirements of the Soil & Water Conservation District and the Municipality.
- The erosion control installation shall be in place prior to any grading operations. Disturbed areas shall have soil stabilization initiated within seven days, if no work is planned for the area for more than 45 days. In areas within 50 feet of a stream, the soil stabilization shall begin within two days.
- Storm water runoff, from disturbed areas shall pass through a sediment settling basin. The sediment basin shall have a minimum capacity of 67 cubic yards for each acre within the total runoff area. The basin shall be cleaned of sediment periodically, as needed.
- Streams shall be stabilized immediately after any work, on the banks or in the bed is completed, interrupted or stopped. Precautions are to be taken to minimize erosion when in channel work is required.
- The soil erosion and sediment control measures shall be inspected at least once every seven calendar days and within 24 hours after any storm event greater than 0.5 inch of rain within a 24 hour period. The owners designated representative shall inspect the erosion and sediment control practices and direct maintenance and repairs by the contractor.
- The crossing of sensitive environmental areas shall be avoided. If it becomes necessary to cross such an area, the contractor shall preserve the area with as little damage to the soil and vegetation as possible. The placement of fill material shall be minimized. Temporary fills shall be removed in their entirety and the soils and vegetation shall be restored to a condition prior to construction activities.

EARTHWORK NOTES

- All clearing, grubbing and earthwork shall conform to ODOT Items 201 & 203. earthwork shall be inspected and tested, if deemed necessary by the Engineer. This testing shall be done by a laboratory approved by the Engineer. The cost of such inspection and testing is to be paid by the contractor.
- If soft soils are encountered and satisfactory stability cannot be obtained by moisture control and compaction, the unstable material shall be excavated to a depth approved by the Engineer and backfilled with suitable material.
- The price bid for earthwork shall include but not be limited to the following: removal of all trees, including stumps; brush and any other vegetation; structures and any obstructions that interfere with the project; excavation; embankment; removal of pavement; preparing the surface; dewatering; maintaining surface drainage and stability verification; providing soil erosion control and removal of sediment from ditches, swales and creeks which has resulted from this project.
- Rough grading shall be completed prior to underground construction.

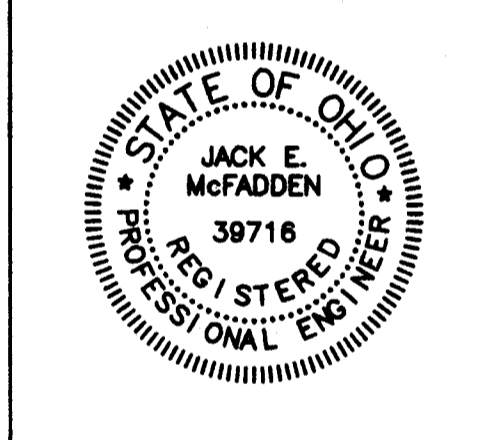
- Grading around drainage structures shall have uniform slope from the last given elevation to the structure. The contractor shall maintain positive drainage at all times to eliminate ponding on the site.
- The contractor shall blend new earthwork smoothly with existing surfaces.
- Proof-rolling shall be performed on all areas to be paved prior to placement of aggregate base.
- Unpaved areas being restored shall be prepared as per ODOT Item 652 or 653 placing topsoil and/or Item 654, renovating existing soil and seeded by the Hydro-seed method only, straw mulch is prohibited. If the density and uniformity of the grass is not acceptable to the Engineer, payment for the unaccepted areas will be withheld until such time as these requirements are met. Existing lawn areas, shrubs, flower beds, etc. disturbed by construction shall be replaced, by the contractor, to a condition equal to the original condition. All cuts, wounds or scars on trees, resulting from the contractors operations, shall be painted with a tree wound dressing.
- All footings shall be placed on virgin soil.
- The contractor is responsible for damage to any existing pavement or structure, inside or outside contract limits, due to his operations.
- All waste or excess materials shall be removed from the site at the contractors expense.

PAVEMENT NOTES

- Pavement bases shall be constructed as shown in the details and in accordance with ODOT Item 300.
- Pavement shall be constructed as shown in the details and in accordance with ODOT Item 400 for flexible pavement and ODOT Item 450 for rigid pavement.
- Concrete walks shall be a minimum of four inches thick and constructed as shown in the details and in accordance with ODOT Item 451. Drive aprons shall be a minimum of nine inches thick and constructed as shown in the details and in accordance with ODOT Item 451. Expansion joint material shall be one-half inch thick with silicon sealant and placed as shown on the walk and drive details.
- No walk, drive or pavement shall be laid on a frozen subbase, base or pavement.
- There shall be a uniform slope between given elevations and/or between given elevations and structure rims.
- The contractor shall make certain that all surfaces drain and all repairs or replacements blend smoothly with existing surfaces.
- All joints between existing and new pavement are to be saw cut and properly sealed.

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EROSION, EARTHWORK & PAVING NOTES
FOR
GRACE COMMUNITY CHURCH
HANKINS ROAD
IN THE
CITY OF MASSILLON, COUNTY OF STARK, STATE OF OHIO



REVISIONS		
DATE	DESCRIPTION	BY

SCALE: HORIZ _____
VERT _____

DRAWN BY: J.E.M.
CHECKED BY: _____
APPROVED BY: _____
DATE: November 18, 2002

PROJECT No. 020101
SHEET No. C-7

Jack E. McFadden NOVEMBER 18, 2002
JACK E. MCFADDEN, P.E., P.S. DESIGN ENGINEER

SEWER CONSTRUCTION NOTES

GENERAL NOTES

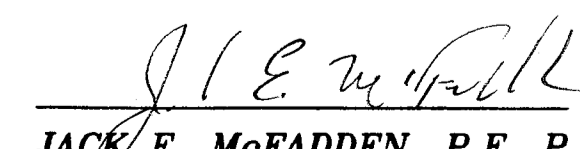
- 1. Roof drains, foundation drains and other clean water connections to the sanitary sewer are prohibited.
- 2. The contractor shall take all precautions necessary to prevent any caving or settling of any excavation or trench wall which would endanger the safety of any person or damage utilities or property. The type of this protection such as sheeting, shoring, bracing or a trench box shall be consistent with the depth and width of the excavation, the composition of the soil and its water content, the proximity of utilities or structures, the spoil placement and the vibration of equipment. If any sheeting cannot be removed without adversely affecting the pipe it shall be cut off, as directed by the Engineer, and left in place at no additional cost to the owner.
- 3. All sewer pipe is to be placed on a firm bedding for the entire length. The bedding shall conform to ASTM C-12 (A,B,C) for rigid pipe or ASTM D 2321 (I,II,III) for flexible pipe. In any area where unstable soils are found and a firm bedding cannot be established the unstable soil must be undercut to a depth approved by the Engineer and backfilled with approved material. It may be necessary to dewater prior to excavation to provide a stable trench bottom. The contractor shall be responsible for any damage to structures, pavements, utilities or the loss of well water that results from dewatering.
- 4. All trenches under existing or future pavement, and to a point five feet beyond the edge of pavement, shall be backfilled to conform to ODOT Item 603.08, the cost of which is to be included in the cost of conduit. Crushed slag, granulated slag or slacker aggregates shall not be used. Backfill of excavations outside of pavement areas shall conform with ODOT Item 603.08 compacted earth.
- 5. The line and grade of the sewers shall be controlled during construction by the use of a laser. The laser shall be checked from line and grade stakes at a maximum of fifty foot intervals.
- 6. Prior to connecting to an existing manhole or conduit the contractor shall take whatever measures necessary to keep drainage from entering the existing system and contaminating it with silt.
- 7. Any pipe that is to be abandoned, in place, shall have both ends sealed with a tight fitting plug.
- 8. All service connections shall have a minimum grade of one per-cent.
- 9. Prior to the final inspection all sewers (sanitary and storm), manholes and other structures are to be cleaned and flushed.
- 10. Sanitary sewers are to be video taped by a firm approved by the Engineer. The tapes and a written report is to be supplied to the Engineer prior to acceptance.

SANITARY SEWER NOTES

- 1. Sanitary sewers and appurtenances shall be constructed in accordance with the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers "Standards for Wastewater Facilities".
- 2. The sanitary conduit shall be: PVC sewer pipe, per ASTM D 3034 (SDR 35) having bell and spigot joints per ASTM D 3212 or extra strength VCP per ASTM C-700ES having compression type joints per ASTM C-425 except where ductile iron pipe is indicated on the plans.
- 3. All sanitary manholes are to be precast concrete and conform to ASTM C-478 and have joints between risers which conform to ASTM C-443. The manhole diameter shall be 48" or larger with an access hole 24" or larger. Manholes shall be set on a minimum of 6" thick compacted base of granular material (no slag). Where inlet and outlet pipes connect to the manhole flexible watertight gaskets conforming to ASTM C-923 are required. The manholes inspected for damage and tested for water tightness by the ASTM C-1244-93 method prior to being placed into service. Manhole steps shall be polypropylene per ASTM 2146-68. Grade adjustment of manholes is to be made with grade rings and/or a maximum of two courses of brick per ASTM C-32. Maximum adjustment shall not exceed twelve inches and shall be sealed with non-shrinking mortar or other material approved by the Engineer. Only solid manhole covers are to be used. In easements the covers are to also be the locking type.
- 4. The sanitary sewers shall meet or exceed the leakage and deflection tests requirements of the OEPA before acceptance. Vitrified clay pipe shall meet requirements of ASTM low pressure test C 828-98 and plastic gravity sewer pipe shall meet the requirements of ASTM low pressure test F 1417-92. The plastic pipe deflection test shall not exceed five per-cent. If the installation fails to meet the requirements of these tests the contractor shall repair or replace all defects and retest the installation. A written report, by a firm approved by the Engineer, shall be submitted prior to acceptance.

STORM SEWER NOTES

- 1. Storm sewers and appurtenances shall be constructed in accordance with ODOT Item 603 as well as local standards.
- 2. The storm conduit shall be: reinforced concrete pipe as per ASTM C-76, with bituminous joints. Pipe 12" & 15" shall be Class IV; pipe 18" through 24" shall be Class III; pipe 27" through 36" shall be Class II, or A D S, N-12 Polyethylene pipe meeting, ASTM F-667 specifications.
- 3. All manholes, catch basins and inlet basins are to be precast concrete which conforms to ASTM C-478 and have bituminous joints between risers. The manhole diameter shall be 48" or larger with an access hole 24" or larger. All structures are to be set on a minimum 6" base of granular material (no slag). Manhole steps shall be polypropylene per ASTM 2146-68.
- 4. All connections to catch basin shall have a minimum grade of one per-cent.

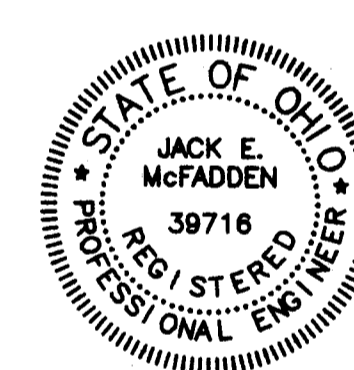

NOVEMBER 18, 2002
JACK E. MCFADDEN, P.E., P.S. DESIGN ENGINEER

McFADDEN
ENGINEERING & SURVEYING
ASSOCIATES, INC.
24100 EUCLID AVE. CLEVELAND, OHIO 44117-1707
(216) 531-5310

SEWER CONSTRUCTION NOTES

FOR
GRACE COMMUNITY CHURCH
HANKINS ROAD

IN THE
CITY OF MASSILLON, COUNTY OF STARK, STATE OF OHIO



REVISIONS

DATE	DESCRIPTION	BY

SCALE: HORIZ _____
VERT _____

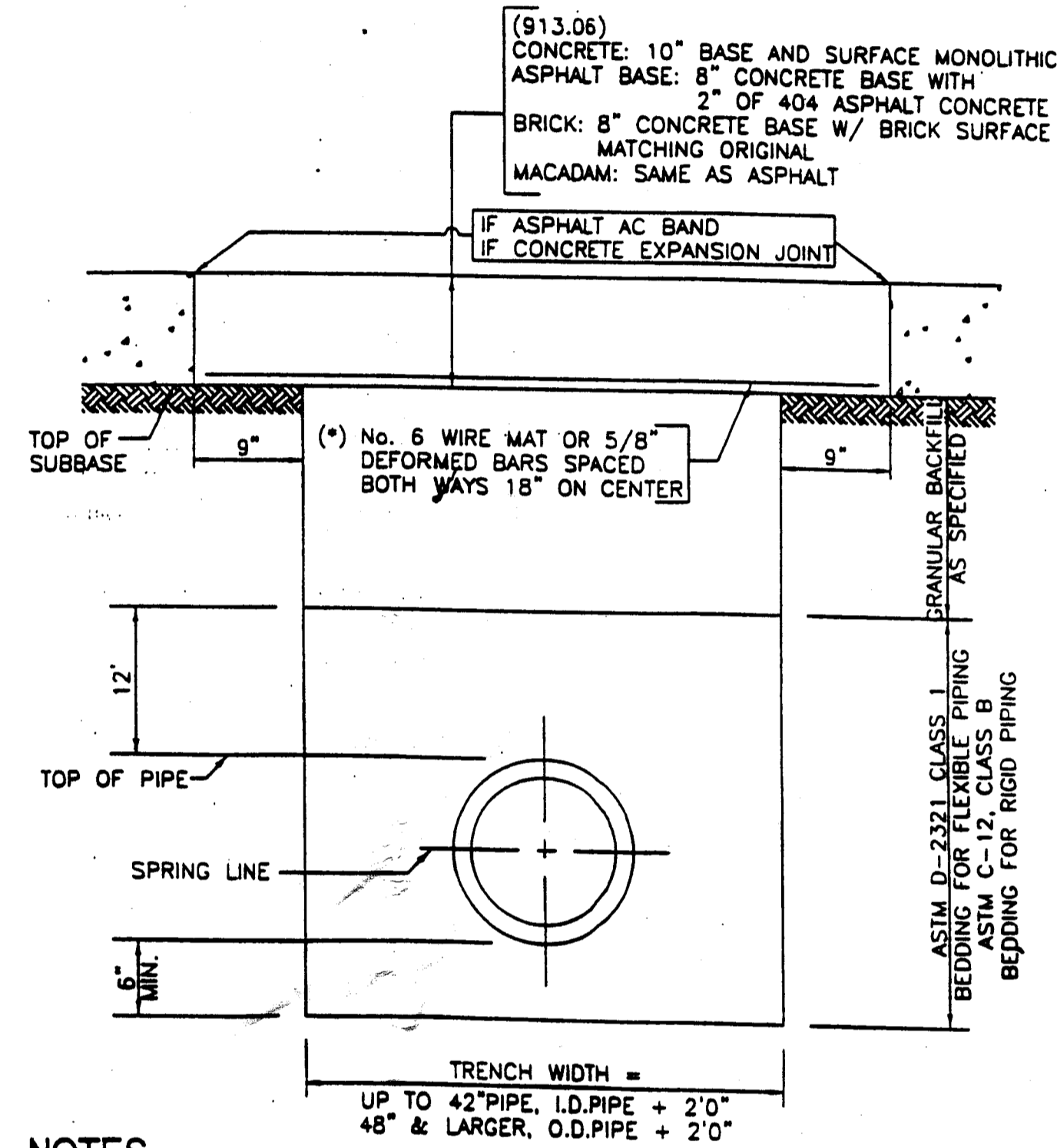
DRAWN BY: J.E.M.
CHECKED BY: _____
APPROVED BY: _____
DATE: November 18, 2002

PROJECT No. 020101
SHEET No. _____

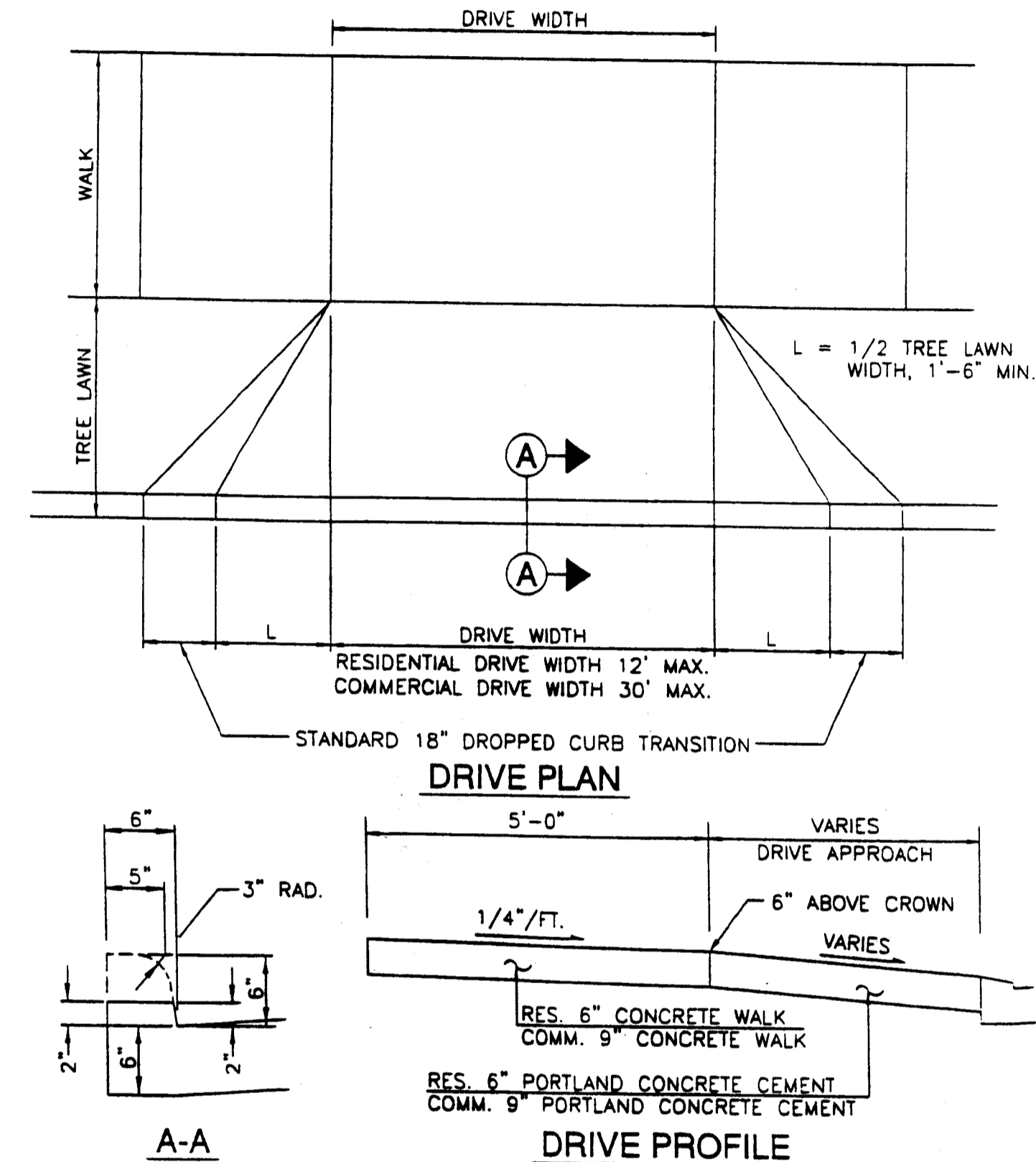
C-8

CITY OF MASSILLON NOTES AND DETAILS

1. Existing utilities to remain, which are crushed or damaged during construction, shall be replaced at the contractor's expense.
2. Roof drains, foundation drains and other clean water connections to the sanitary sewer are prohibited.
3. Any utilities found during excavation, not shown on the plans, shall be brought to the immediate attention of the architect or engineer.
4. Each subcontractor shall obtain his own permits and contact the utility company for verification and location of hook-up prior to any work being done.
5. Utilities shown were taken from records of respective utility companies and from a topographic survey and do not necessarily represent all underground or overhead utilities adjacent to or upon the premises shown on the plan. Call OUPS prior to excavation.
6. Coordinate utility connections at the building with mechanical drawings.
7. The plumbing contractor shall be responsible for providing adequate slope of building sewers towards the lateral sewer in strict accordance with the governing authorities prior to starting construction.
8. All storm sewers shall conform to ODOT Item 707.33 or equal material approved by the City.
9. Sanitary lateral shall be a minimum 6" diameter of PVC pipe, ASTM D3034, SDR35, with rubber joints or approved equal. Lateral shall be constructed with a minimum of 1% slope, and have a minimum of 3 foot cover.
10. Water service lateral shall be ductile iron of the same size shown on the mechanical drawings and shall have between 4 & 5 foot of cover. All backflow devices shall be approved by the Consumers of Ohio Water Company.
11. A sanitary permit will be required. Contractor to contact Massillon Engineering Department for permit and inspection requirements.
12. A driveway permit will be required, contractor to contact Massillon Engineering Department for a permit and inspection requirements.
13. Contractor to be licensed in the City of Massillon for all work within the right-of-way.
14. Contractor to coordinate any underground electric with Ohio Edison, underground telephone with Ameritech and underground cable service with Massillon Cable TV.



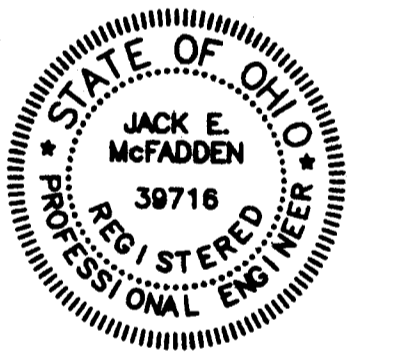
NOTES
 (*) MUST BE USED WHEN WIDTH OF TRENCH IS GREATER THAN 3' AT THE SUBBASE LEVEL.
 CONCRETE BASE SHALL BE OF 1:2:4, 6 BAG MIX, PORTLAND CEMENT CONCRETE USING HIGH EARLY STRENGTH CEMENT AND IT MUST BE CURED AT LEAST 48 HRS.



NOTE
 ANY DEVIATION FROM THIS MUST BE APPROVED BY THE CITY ENGINEER.

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 (216) 531-5310

CITY OF MASSILLON NOTES & DETAILS
 FOR
GRACE COMMUNITY CHURCH
HANKINS ROAD, N.E.
 IN THE
 CITY OF MASSILLON, COUNTY OF STARK, STATE OF OHIO



REVISIONS

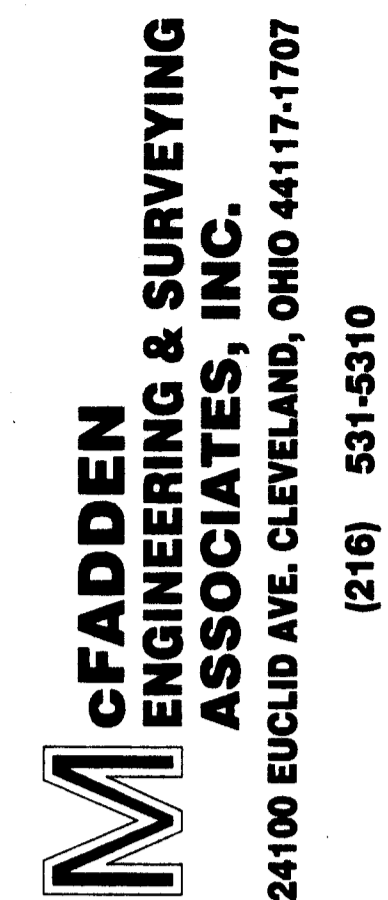
DATE	DESCRIPTION	BY

SCALE: HORIZ _____
 VERT _____
 DRAWN BY: **J.E.M.**
 CHECKED BY: _____
 APPROVED BY: _____
 DATE: **JANUARY 6, 2003**
 PROJECT No. **020101**
 SHEET No. **C-8A**

JACK E. MCFADDEN, P.E., P.S. DESIGN ENGINEER
JANUARY 6, 2003

WATER CONSTRUCTION NOTES

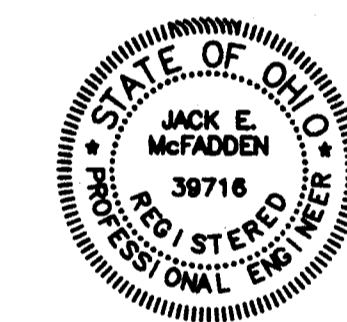
1. ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY THE WATER DEPARTMENT, SHALL BE AT THE EXPENSE OF THE PROJECT.
2. THE INFORMATION SHOWN FOR THE EXISTING WATER MAIN HAS BEEN TAKEN FROM RECORD INFORMATION AND IS NOT GUARANTEED.
3. CONTACT THE WATER DEPARTMENT TO SCHEDULE A MEETING PRIOR TO CONSTRUCTION.
THE OPERATION OF ANY VALVE OR ALTERATION OF ANY PART OF THE WATER SYSTEM BY THE CONTRACTOR OR THEIR EMPLOYEES IS PROHIBITED WITHOUT THE SUPERVISION OF A WATER INSPECTOR.
4. THE CONTRACTOR SHALL OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SUPPLY (AS-BUILT) PLANS TO THE WATER DEPARTMENT.
RECORD PRINTS IN A FORM ACCEPTABLE TO THE DIVISION OF
5. USE BACKFILL MATERIALS SPECIFIED AND COMPACT SUFFICIENTLY IN THOSE AREAS WHERE EXISTING MAINS AND SERVICE CONNECTIONS ARE EXPOSED.
6. ALL WATER MAINS AND APPURTENANCES THEREOF SHALL CONFORM WITH THE LATEST MATERIAL SPECIFICATIONS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CONSTRUCTION AND STANDARD DETAILS OF THE WATER DEPARTMENT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER MAINS.
8. ALL PIPE, UNLESS OTHERWISE CALLED FOR, SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED HAVING PUSH-ON JOINTS WITH RADIALY COMPRESSED RUBER RING GASKET.
9. ALL FITTINGS, UNLESS OTHERWISE CALLED FOR, SHALL BE DUCTILE IRON, CLASS 350, CEMENT LINED. ALL FITTINGS AND PIPE CONNECTED TO FITTINGS SHALL BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT IN ACCORDANCE WITH ANSI/AWWA C-110/A21.10 AND ANSI/AWWA C-153/A21.53.
10. ALL BOLTS AND NUTS ON ALL "RETAINED" MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88 CLASS "C" METHOD "B".
11. WHERE SHOWN ON THE PLANS, OR WHEN OTHERWISE CALLED FOR, PIPE AND FITTINGS SHALL HAVE AN APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.
12. IN ALL HYDRANT INSTALLATIONS THE CONTRACTOR SHALL FACE ALL HYDRANT 4" (STEAMER) NOZZLE TOWARD THE PAVEMENT PRIOR TO TESTING AND CHLORINATION OF WATER MAINS. CONTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE DEPARTMENT TO OBTAIN HYDRANT MODEL AND NOZZLE THREAD REQUIREMENTS IF NOT INDICATED ON THE APPROVED PLANS.
13. THE CONTRACTOR SHALL ARRANGE FOR A PERMIT WITH THE DIVISION OF WATER FOR ALL SIZE WATER CONNECTIONS.
14. ALL WATER MAIN CURB VALVE BOXES & METER VAULTS WILL BE INSTALLED IN GRASS AREAS WHEN POSSIBLE.



WATER CONSTRUCTION NOTES

FOR
GRACE COMMUNITY CHURCH
HANKINS ROAD

IN THE
CITY OF MASSILLON, COUNTY OF STARK, STATE OF OHIO



REVISIONS

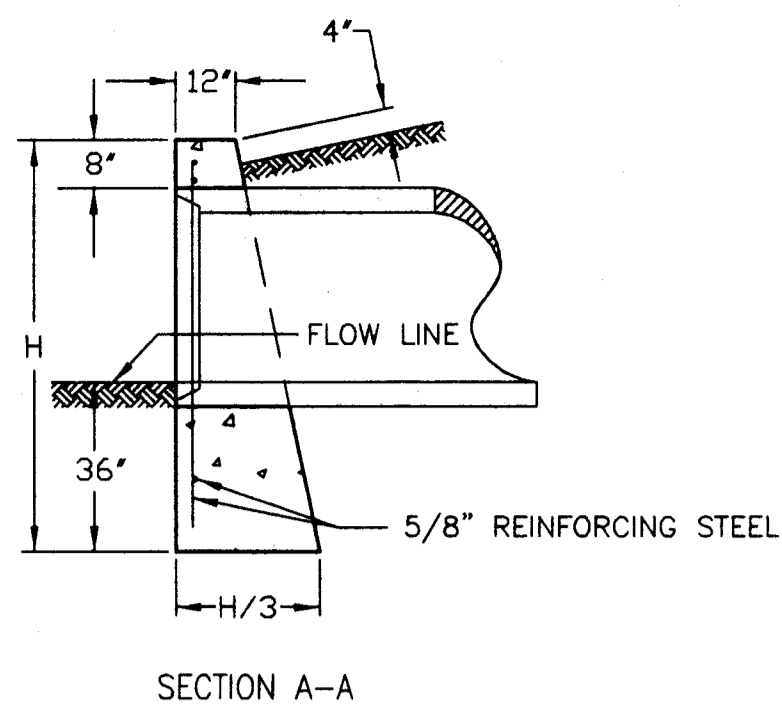
DATE	DESCRIPTION	BY

SCALE: HORIZ _____
VERT _____

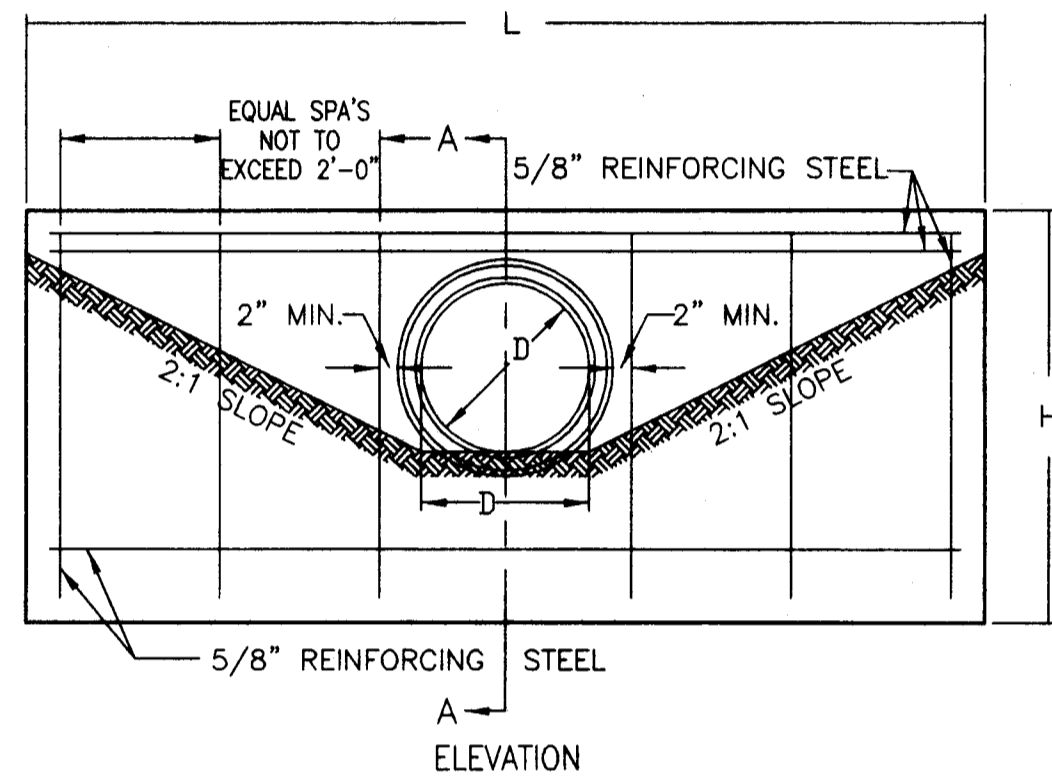
Jack E. McFadden NOVEMBER 18, 2002
 JACK E. McFADDEN, P.E., P.S. DESIGN ENGINEER

DRAWN BY: J.E.M.
 CHECKED BY: _____
 APPROVED BY: _____
 DATE: November 18, 2002

PROJECT No. 020101
 SHEET No. _____

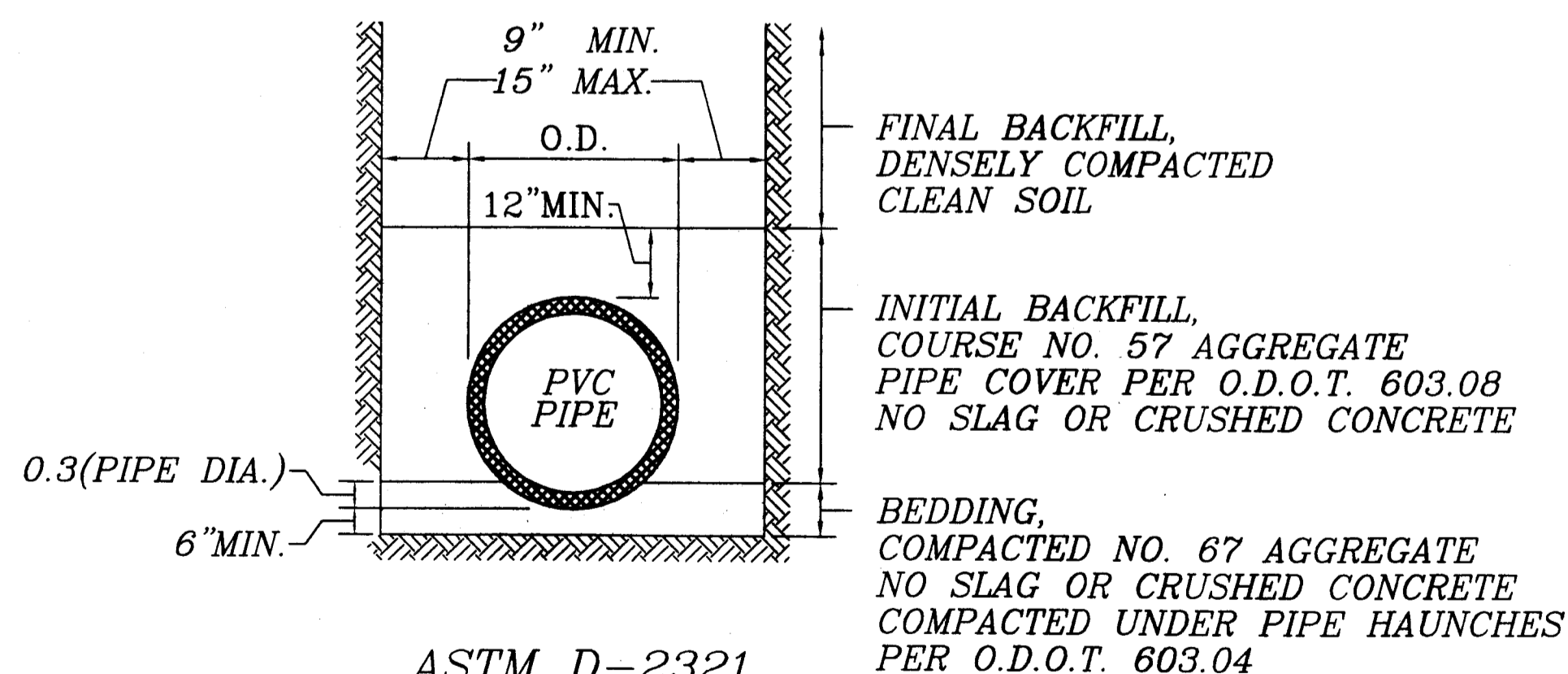


- NOTES:
- CONCRETE SHALL BE CLASS "C".
 - CHAMFER ALL EXPOSED CORNERS 3/4 OF AN INCH.
 - FOUNDATION— WHERE THE SOIL BORINGS INDICATE A BEARING CAPACITY OF LESS THAN 2600 POUNDS PER SQUARE FOOT, IT WILL BE NECESSARY TO INCREASE THE WIDTH OF THE BASE.

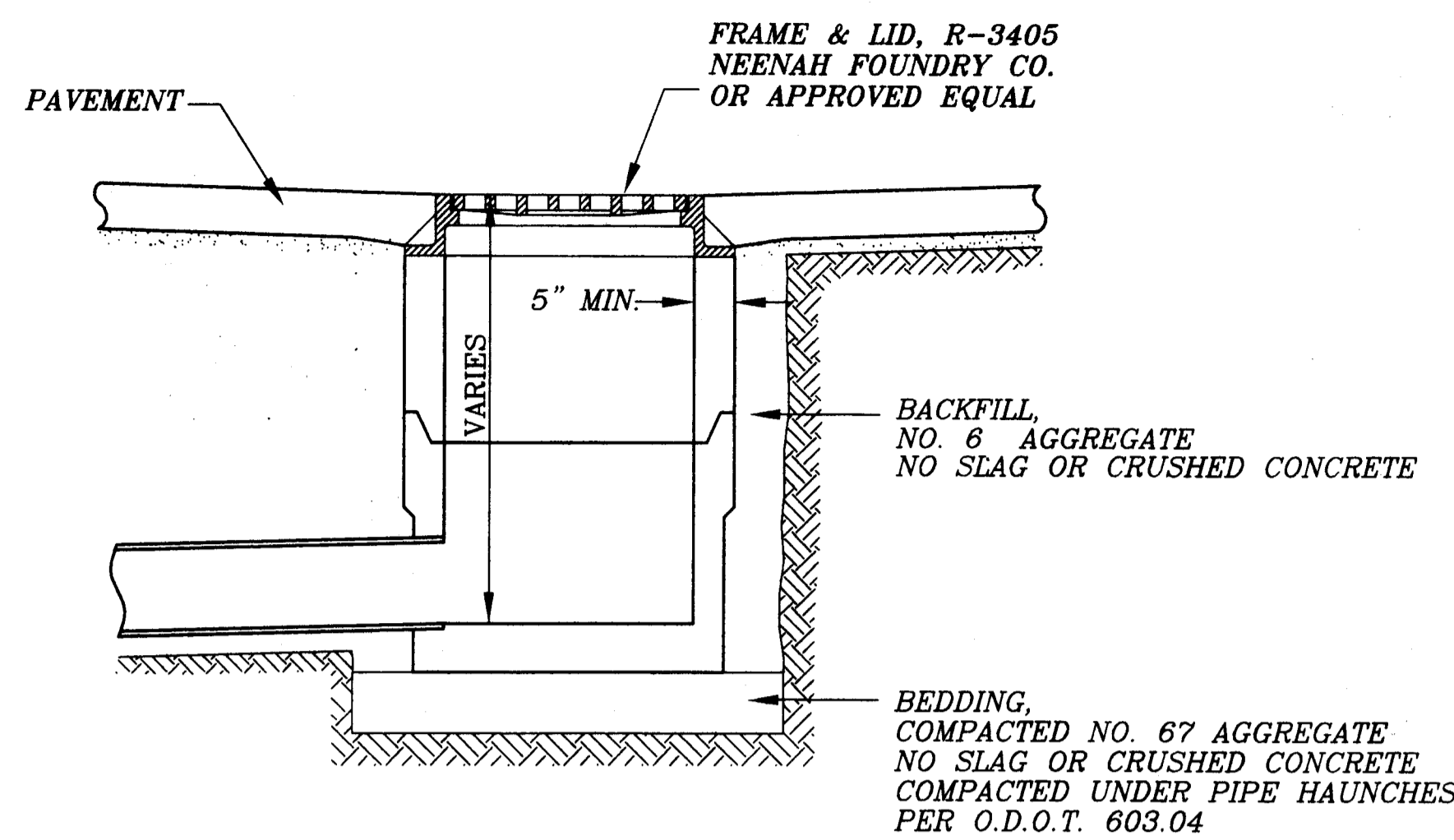


DIMENSIONS			QUANTITIES ONE HEADWALL	
DIAMETER	H	L	CONCRETE CU. YDS.	REINFORCING STEEL, LBS.
12" & 15"	5'-2"	7'-0"	1.7	41
18"	5'-5"	8'-4"	2.2	57
21"	5'-8"	9'-8"	2.8	62
24"	5'-11"	11'-0"	3.3	69
30"	6'-5"	13'-8"	4.7	92
36"	7'-0"	16'-4"	6.5	105

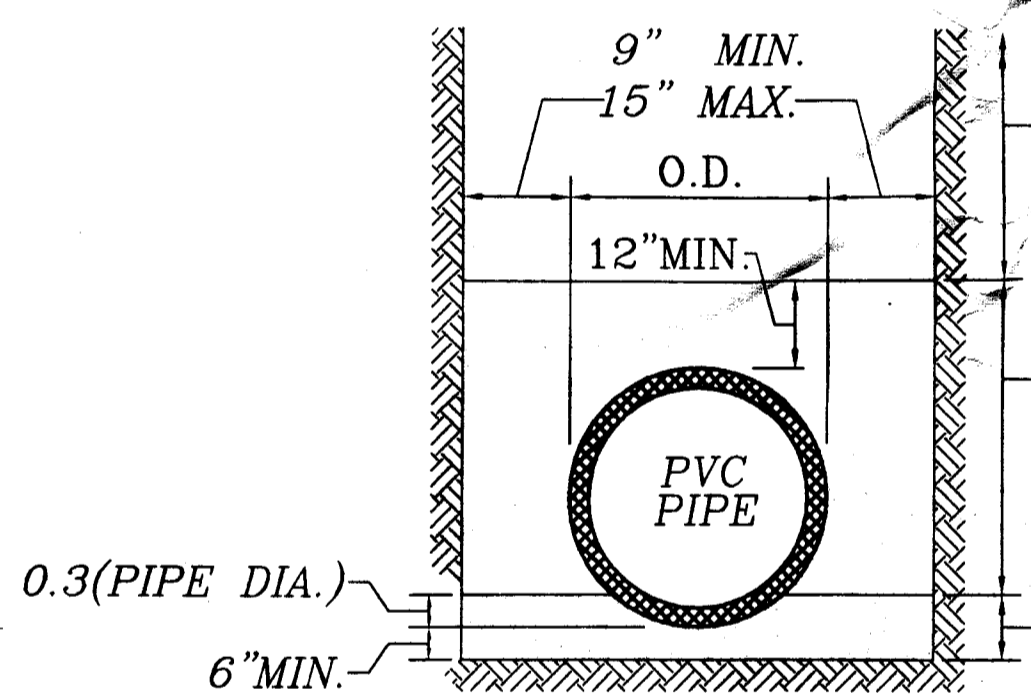
ODOT HW-1 HEADWALL,



ASTM D-2321
CLASS II BEDDING
FOR
FLEXIBLE PIPE
UNDER UNPAVED AREAS
DETAIL
NOT TO SCALE



24" X 24" PRECAST
REINFORCED CONCRETE
BASIN
NOT TO SCALE



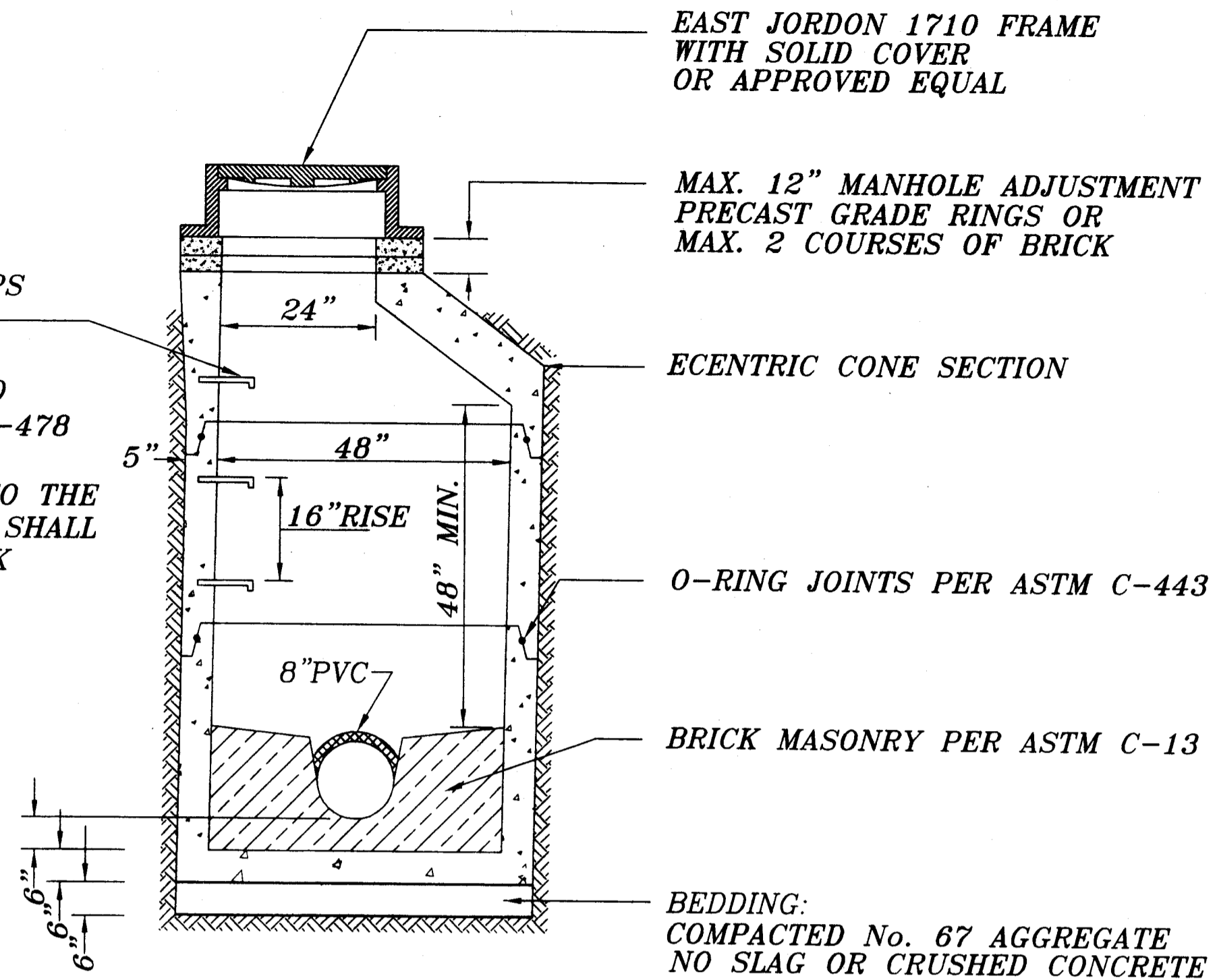
ASTM D-2321
CLASS II BEDDING
FOR
FLEXIBLE PIPE
UNDER PAVED AREAS
DETAIL
NOT TO SCALE

POLYPROPYLENE STEPS
PER ASTM 2146-68

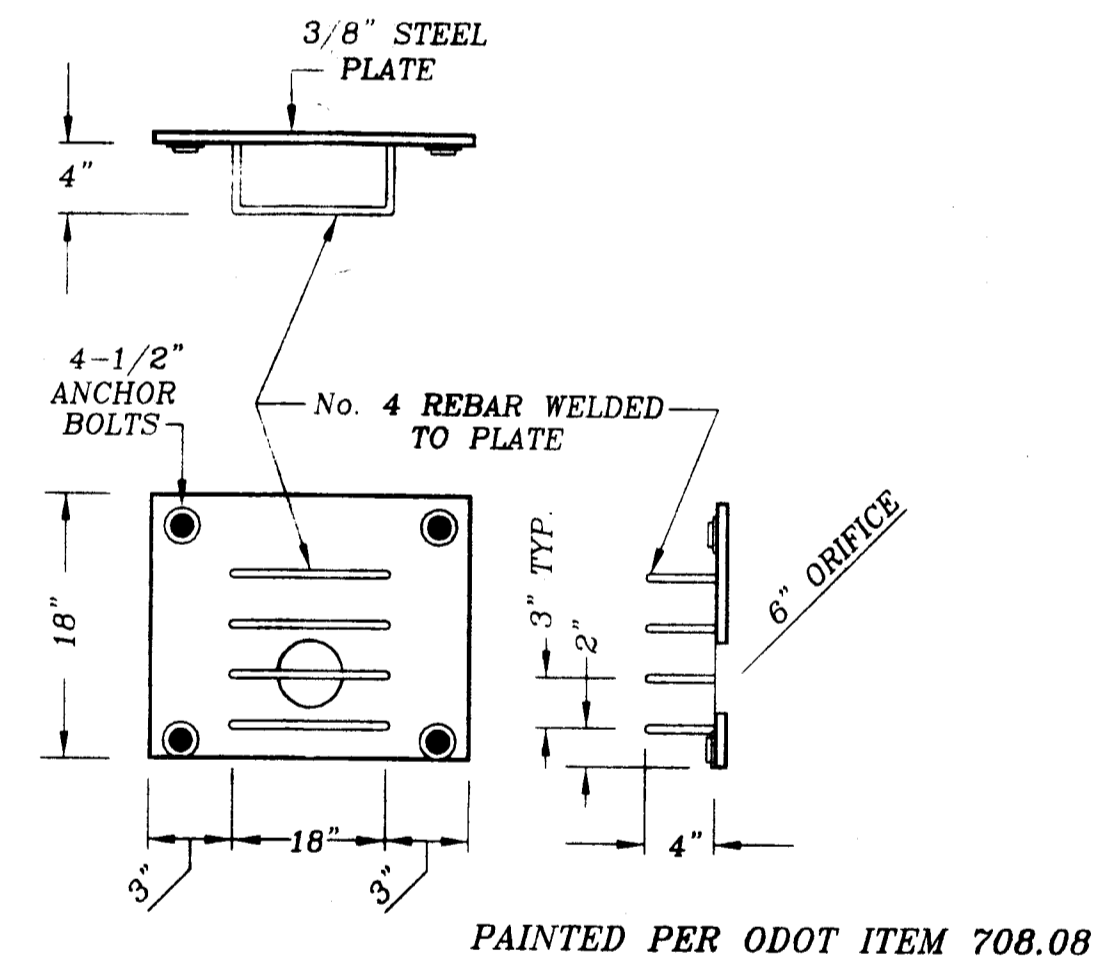
PRECAST MANHOLE TO
CONFORM TO ASTM C-478

PIPE CONNECTIONS TO THE
SANITARY MANHOLES SHALL
BE MADE WITH A-LOK
FLEXIBLE SEALS OR
APPROVED EQUAL

REINFORCING STEEL
PER ASTM C-478

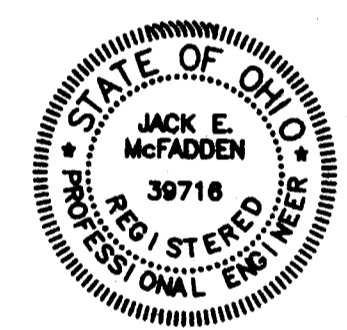


SANITARY SEWER MANHOLE
DETAIL
NOT TO SCALE



NOTE:
THE ORIFICE, DEBRIS SCREEN, PLATE AND BOLTS
ARE TO BE PROTECTED BY APPLYING ONE COAT
OF VINYL PAINT OVER ONE COAT OF INORGANIC
ZINC SILICATE PRIMER PAINT.

ORIFICE & DEBRIS SCREEN
DETAIL
N.T.S.



REVISIONS

DATE	DESCRIPTION	BY
1/8/03	REMOVE CATCH BASIN SUMP	J.E.M.

DATE	DESCRIPTION	BY

SCALE: HORIZ. _____
VERT. _____

DRAWN BY: J.E.M.
CHECKED BY: _____
APPROVED BY: _____
DATE: NOVEMBER 18, 2002

Jack E. McFadden
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