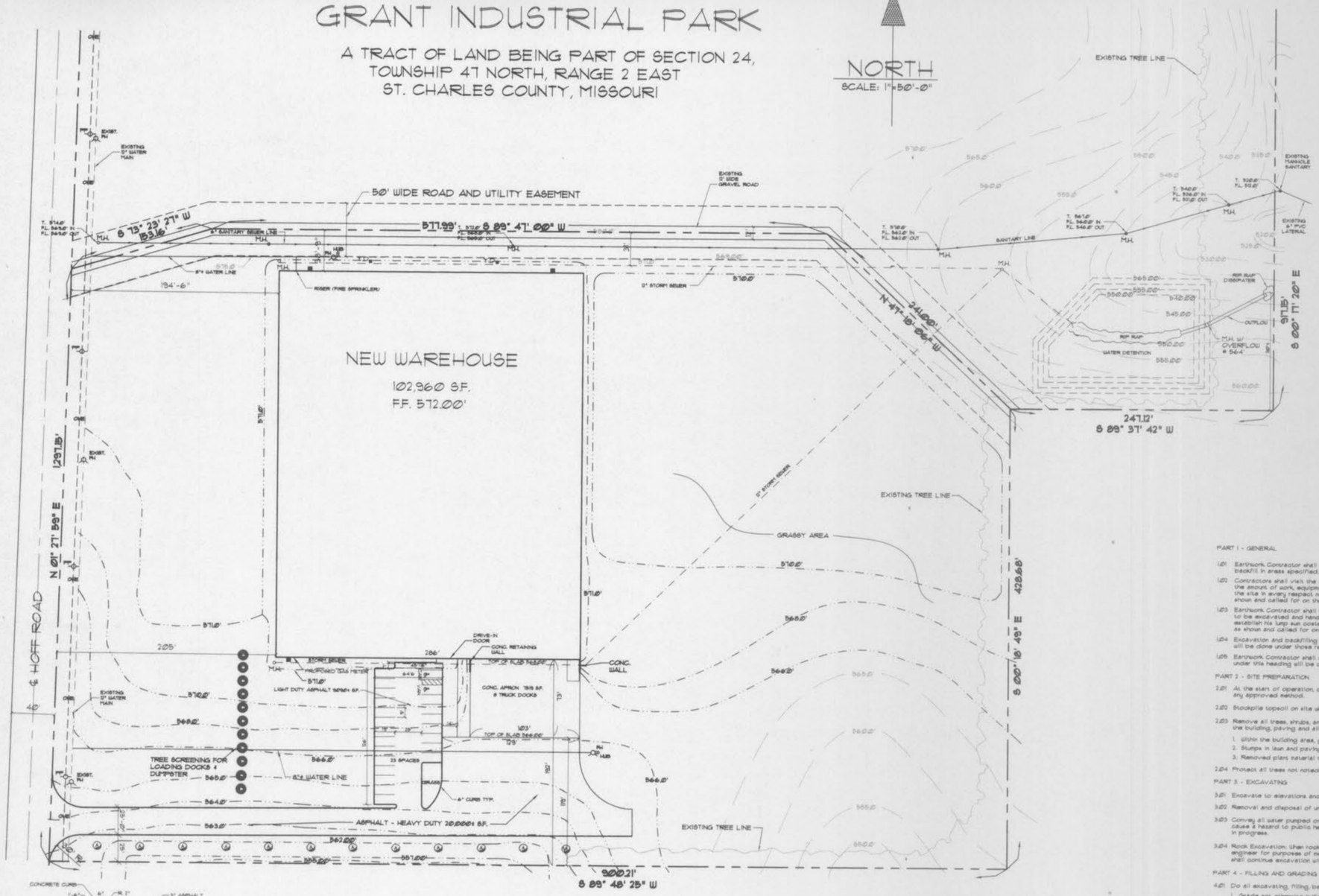
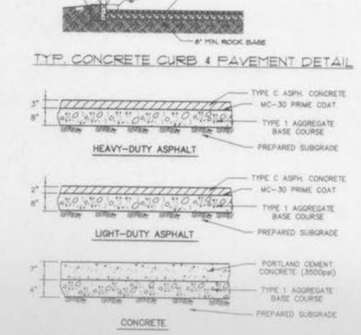
GRANT INDUSTRIAL PARK

A TRACT OF LAND BEING PART OF SECTION 24,
TOWNSHIP 47 NORTH, RANGE 2 EAST
ST. CHARLES COUNTY, MISSOURI

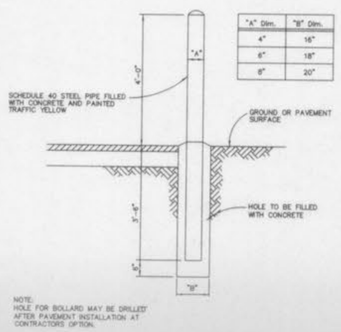
NORTH
SCALE: 1"=50'-0"



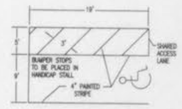


TYP. CONCRETE CURB & PAVEMENT DETAIL

PAVEMENT DETAILS

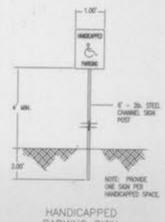


PIPE BOLLARD



HANDICAP PARKING STALL
N.T.S.

TYPICAL PARKING STALL
N.T.S.



HANDICAPPED PARKING SIGN
N.T.S.

LANDSCAPING

MARK	DESCRIPTION	REMARKS
A	SUGAR MAPLE	2" C @ 6' A.G.
B	BLACK LOCUST	
C	FLOWERING PLUMB	4' HIGH
D	AMERICAN HOLLY	
E	BROWN YEW	
F	WINTER GREEN BARBERRY	

UNDEVELOPED RUN-OFF TABLE 29.98 AC

DRAINAGE AREA		15 YR 20 MIN. STORM		25 YR 20 MIN. STORM		50 YR 20 MIN. STORM		100 YR 20 MIN. STORM	
#	AC.	FLOW(cfs)	RUNOFF C/S	FLOW(cfs)	RUNOFF C/S	FLOW(cfs)	RUNOFF C/S	FLOW(cfs)	RUNOFF C/S
ON SITE RUN-OFF (UNDEVELOPED)									
A-1	1.98	1.7	12.86	2.31	17.08	2.61	19.28	2.95	21.71
A-2	2.87	1.7	4.88	2.31	6.62	2.61	7.49	2.95	8.46
A-3	5.43	1.7	9.23	2.31	12.54	2.61	14.07	2.95	15.91
A-4	2.71	1.7	4.6	2.31	6.26	2.61	7.07	2.95	7.99
A-5	3.93	1.7	6.68	2.31	9.07	2.61	10.25	2.95	11.59
A-6	5.92	1.7	10.06	2.31	13.67	2.61	15.45	2.95	17.46
A-7	1.73	1.7	2.9	2.31	3.99	2.61	4.51	2.95	5.09
TOTAL (Q)			50.51		69.24		78.22		87.12
DEVELOPED AREA DIFFERENTIAL RUN-OFF									
A-1	2.48	2.8	9.16	3.44	9.88	3.71	6.84	3.13	7.61
A-2	4.9	2.8	1.48	3.44	14.1	3.71	18	3.13	2.14
TOTAL (Q)			6.64		7.92		8.55		9.75

DETENTION BASIN CALCULATIONS (DIFFERENTIAL)

TOTAL SITE: 29.44 AC.

DIFFERENTIAL RUN-OFF=

15 YR. 20 MIN. DEVELOPED AC. 3.69 x 1800 x 6.64 = 37,261 C.F. RUNOFF
25 YR. 20 MIN. DEVELOPED AC. 3.69 x 1800 x 7.92 = 41,836 C.F. RUNOFF
50 YR. 20 MIN. DEVELOPED AC. 3.69 x 1800 x 8.55 = 47,555 C.F. RUNOFF
100 YR. 20 MIN. DEVELOPED AC. 3.69 x 1800 x 9.75 = 54,229 C.F. RUNOFF

DIFFERENTIAL RUN-OFF 25 YR. - 20 MIN. 41,836 C.F.
DETENTION BASIN CAPACITY = 565.00' x 17,000 C.F.

LEGEND

- NEW FIRE HYDRANT
- EXIST. EXISTING FIRE HYDRANT
- POWER POLE
- NEW CONTOURS
- EXISTING CONTOURS
- EXISTING WATER LINE
- OHE OVERHEAD ELECTRIC LINE
- STORM SEWER
- PROPOSED WATER LINE
- SANITARY SEWER
- D.S. DOWNSPOUT
- F.G. FINISH GRADE
- F.L. FLOW LINE
- M.H. MAN HOLE
- Y.D. YARD DRAIN
- T. TOP

EARTHWORK

PART 1 - GENERAL

1.01 Earthwork Contractor shall perform all grading work and excavating and shall place fill and backfill in areas specified.

1.02 Contractors shall visit the site and carefully examine the conditions of the premises to determine the amount of work, equipment and materials required for this branch of work, in order to prepare the site in every respect necessary to construct and place all materials for all new pavement, as shown and called for on the Drawings.

1.03 Earthwork Contractor shall be solely responsible for computing the quantities and types of materials to be excavated and handled and for the amount of the backfilling and filling to be done to establish his lump sum costs for general excavation in order to perform completely all work required as shown and called for on the Drawings.

1.04 Excavation and backfilling for underground utilities and mechanical trades (for pipes, conduits, etc.) will be done under those respective Contracts.

1.05 Earthwork Contractor shall cooperate fully with other trades in all phases of the work so that the work under this heading will be coordinated with the sequences and operations of such other trades.

PART 2 - SITE PREPARATION

2.01 At the start of operation, construct silt fencing, strip the topsoil of areas to have cut or fill by any approved method.

2.02 Stockpile topsoil on site where directed by Architect and/or his representative.

2.03 Remove all trees, shrubs, and stumps, concrete slabs, asphalt paving and curbs as encountered within the building, paving and all disturbed areas.

1. Within the building area, grub and remove all stumps, roots larger than 3" in diameter and netted roots.
2. Stumps in lawn and paving areas shall have a minimum fill cover of 2'-0".
3. Removed plant material to be disposed of off-site.

2.04 Protect all trees not noted to be removed.

PART 3 - EXCAVATING

3.01 Excavate to elevations and contours shown.

3.02 Removal and disposal of unsuitable material will be as directed and approved by the Architect.

3.03 Convey all water pumped or baled from excavations to a point of discharge in a manner that will not cause a hazard to public health, or damage to public or private property or to work completed or in progress.

3.04 Rock Excavation: When rock is encountered within the limits of the excavation, immediately notify the engineer for purposes of measurement, category and volume of rock excavation. Earthwork Contractor shall continue excavation within limits of Base Bid.

PART 4 - FILLING AND GRADING

4.01 Do all excavating, filling, backfilling and grading necessary as shown on the grading plan.

1. Grade not otherwise indicated shall be given uniform levels or slopes between contours.
2. Abrupt changes in slopes shall be rounded.

4.02 Proof Rolling:

1. Before placing fill and after completing excavations to rough grades, proof roll the entire construction area with a heavy vibratory roller or other equipment approved by Architect.
2. Remove soft or loose material revealed, and replace with specified compacted material.

4.03 Material for Fill:

1. Mainly clay or granular material containing a minimum of vegetable matter or humus, reasonably free from branches, roots or other organic material and free from all building debris, masonry and stones larger than 6" in diameter. Stones larger than two inches in diameter shall not be permitted in the upper 6" of the fill material. The plasticity index shall not be more than 15.
2. Within the Building Area: Earth, clay or granular materials excavated from the site, free of expansive clay or organic matter as approved by Soils Engineer, or off-site material as approved by the Architect. The plasticity index shall not be more than 15. The liquid limit shall be less than 50.

4.04 Fills or embankments shall be constructed at the elevations and to the lines, grades and subgrades indicated on the Drawings and as directed by the Architect.

1. The completed fill shall correspond to the proposed elevations shown on the Drawings or meet requirements of the particular cases.
2. All suitable material removed from the excavations may be used in forming the necessary fill, except otherwise noted.

4.05 Distribute stockpiled topsoil as directed.

PART 5 - COMPACTION

5.01 Deposit fill in layers not exceeding eight (8) inches.

5.02 Earth compaction shall be accomplished by the use of mobilized earth compaction equipment or other acceptable mechanical compactors.

1. Fill material shall be compacted to 90% of the maximum dry density as determined by Modified Proctor Test, ASTM D -1557.

NO.	DESCRIPTION	DATE

REVISIONS

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
RONALD F. KALUPA
NUMBER E-11759

STRUCTURAL SYSTEMS, INC.
DESIGN CONTRACTORS
(314) 966 - 5920
916 South Kirkwood Road
St. Louis, Missouri 63122

Proposed Building for:
TRUE & TRUE
Hoff Road
O'Fallon, MO 63366
(636) 272-7100

SITE PLAN

DRAWN	R.E.R.
CHECKED	R.E.O.
SCALE	1"=50'-0"
ISSUE DATE	06/13/01
S.S.I. JOB NUMBER	01-005

DRAWING NUMBER
C2 of 3