

GENERAL NOTES

- ALL UTILITIES SHOWN HAVE BEEN LOCATED BY THE ENGINEER FROM AVAILABLE RECORDS. THEIR LOCATION SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES, PRIOR TO CONSTRUCTION, TO HAVE EXISTING UTILITIES FIELD LOCATED.
- BOUNDARY & TOPOGRAPHIC INFORMATION PROVIDED BY STOCK & ASSOCIATES CONSULTING ENGINEERS.
- ALL MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS. THE CITY OF O'FALLON SHALL BE NOTIFIED OF CONSTRUCTION ACTIVITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
- ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING AS REQUIRED BY THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS.
- PRIOR TO BEGINNING ANY WORK ON THE SITE, THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
- ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
- GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.
- PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
- NO GRADE SHALL EXCEED 3:1 SLOPE EXCEPT AT BOX CULVERTS HEADWALLS. STABILITY OF SLOPES STEEPER THAN 3:1 MUST BE VERIFIED BY A PROFESSIONAL GEOTECHNICAL ENGINEER.
- GRADING AND STORM WATER PER THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS.
- DRIVEWAYS AND ENTRANCES PER THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS.
- FEMA MAP 29183C043D E DATED 8/2/96 ZONE "X" AND OTHER AREAS.
- ALL SLOPES TO BE STABILIZED IMMEDIATELY AFTER GRADING.
- ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY SHALL BE COMPACTED TO 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
- ALL FILLED PLACES IN PROPOSED AND EXISTING ST. CHARLES COUNTY ROADS (HIGHWAYS) SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL TO 93 PERCENT MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING OPERATIONS.
- THE SEDIMENT CONTROL PLAN SHOULD BE IMPLEMENTED BEFORE GRADING BEGINS.
- EROSION CONTROL SHALL NOT BE LIMITED TO WHAT IS SHOWN ON THE PLAN. WHATEVER MEANS NECESSARY SHALL BE TAKEN TO PREVENT SILTATION AND EROSION FROM ENTERING NATURAL STREAMS AND ADJACENT ROADWAYS, PROPERTIES, AND DITCHES.
- ALL EROSION CONTROL SYSTEMS SHALL BE INSPECTED AND NECESSARY CORRECTIONS MADE WITHIN 24 HOURS OF ANY RAINSTORM RESULTING IN ONE-HALF INCH OF RAIN OR MORE.
- THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SILTATION INCLUDING, BUT NOT LIMITED TO, STAKED STRAW BALES AND/OR SILTATION FABRIC FENCES (POSSIBLE METHODS OF CONTROL ARE DETAILED IN THE PLAN). CONTROL SHALL COMMENCE WITH GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND/OR THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS. THE CONTRACTOR'S RESPONSIBILITIES INCLUDE ALL DESIGN AND IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE OWNER AND/OR THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS MAY AT THEIR OPTION DIRECT THE CONTRACTOR IN HIS METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITING OF SILTS OR MUD ON NEW OR EXISTING PAVEMENT OR IN NEW OR EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF THE OWNER AND/OR CITY OF O'FALLON AND/OR MDDOT.
- NO GRADED AREAS ARE TO REMAIN BARE FOR OVER 14 DAYS WITHOUT BEING SEEDED AND MULCHED.
- THE GEOTECHNICAL REPORT PREPARED BY MIDWEST TESTING IS CONSIDERED PART OF THESE SPECIFICATIONS AND SHALL BE USED AS THE BASIS FOR CONSTRUCTION MEANS AND METHODS.
- ST. CHARLES COUNTY AND CITY OF O'FALLON PAVING SPECIFICATIONS SHALL APPLY EXCEPT FOR THE SURFACE ASPHALT MIX. THE SURFACE ASPHALT MIX SHALL MEET MDDOT SPECIFICATIONS FOR SUPERPAVE MIX.
- PROPOSED TRAFFIC CONTROL MAY BE MODIFIED AFTER INSTALLATION AND EVALUATION OF EFFECTIVENESS.
- ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL SHALL BE PER MUTCD, MDDOT, AND CITY REQUIREMENTS WHICHEVER IS MORE STRINGENT.
- LANDSCAPING & LIGHTING NOTES:
 - NO STREET TREES EAST OF ROUNDABOUT. STREETS TREES WEST OF ROUNDABOUT PER PROGRESS POINT SUBDIVISION.
 - NO IRRIGATION.
 - ROUNDABOUT LANDSCAPING PER DETAIL ON SHEET C7.
 - NO STREET LIGHTING EXCEPT AS PROVIDED IN PROGRESS POINT SUBDIVISION.
- THE CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES (BMP) FOR SILTATION CONTROL MEASURES. THESE MEASURES SHALL BE TO THE SATISFACTION OF THE CITY ENGINEER.
- TEMPORARY ROCK DITCH CHECKS ARE NOT ALLOWED BY THE CITY OF O'FALLON.

WINGHAVEN BLVD. / GLA ENTRANCE WIDENING

STREET IMPROVEMENTS FOR WINGHAVEN BLVD. / GLA ENTRANCE INTERSECTION

STORM SEWER NOTES

- ALL CONCRETE SHALL BE REINFORCED, AND CONFORM TO A.S.T.M. DESIGNATION C78-80 CLASS III UNLESS NOTED.
- ALL STORM SEWER STRUCTURES WITHIN PROJECT SITE TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS.
- TYPE "C" BEDDING IS REQUIRED FOR PIPES IN ROCK.
- ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY SHALL BE COMPACTED TO 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
- ALL FILLED PLACES IN PROPOSED AND EXISTING ST. CHARLES COUNTY ROADS (HIGHWAYS) SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL TO 93 PERCENT MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING OPERATIONS.
- ALL CONNECTIONS TO PRE-CAST STRUCTURES SHALL HAVE MANUFACTURED OPENINGS.
- "O" RING PIPE TO BE USED ON ALL STORM SEWERS.
- NO BRICK STRUCTURES WILL BE ALLOWED IN THE CITY OF O'FALLON.
- CAST IRON COVERS ARE REQUIRED FOR ALL INLET TOPS IN THE CITY OF O'FALLON.

LEGEND

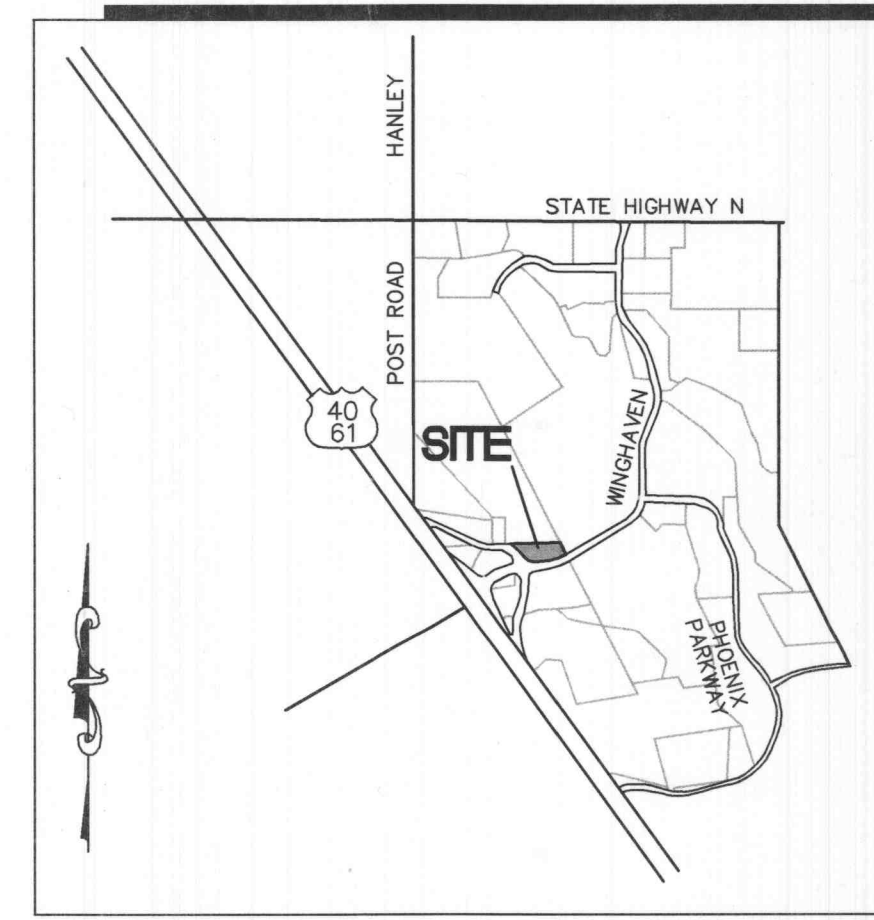
EXISTING CONTOURS	---	120
PROPOSED CONTOURS	---	120
EXISTING SANITARY SEWERS	==	○
EXISTING STORM SEWERS	==	□
PROPOSED SANITARY SEWERS	==	●
PROPOSED STORM SEWERS	==	■
PROPOSED RIGHT-OF-WAY CENTERLINE	---	---
EASEMENT	---	---
NON-REINFORCED CONCRETE PAVEMENT	▨	
EXISTING SPOT ELEVATION	+ EX.	120.15
PROPOSED SPOT ELEVATION	+ 120.10	
SWALE	---	
REMOVE	R	
REMOVE AND RELOCATE	R&R	
TO BE USED IN PLACE	UIP	
REMOVE AND RELOCATE BY OTHERS	R&RBO	
ADJUST TO GRADE	ATG	
GAS MAIN	G	
WATER MAIN	W	
UNDERGROUND TELEPHONE	T	
FIRE HYDRANT	⊕	
POWER POLE	⊕	
CHAIN-LINK FENCE	x-x-x-x-x-x	
MAILBOX	MB	

UTILITY NOTE:

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

BENCHMARK

SC-13: LOCATED 2.70 MILES NORTH/NORTHWEST OF THE INTERSECTION OF HIGHWAY 94 AND HIGHWAY 40 ON THE NORTH SIDE OF WESTBOUND LANES OF HIGHWAY 40 NEAR A FIELD ENTRANCE GOING NORTH FOR THE WESTBOUND LANES OF HIGHWAY 40. IT IS 29.55' NORTHEAST OF A P.K. NAIL IN THE CENTER LINE OF WESTBOUND HIGHWAY 40, 39.2' SOUTHWEST OF THE CENTER TO THE TOP OF THE NORTHWEST END OF A CORRUGATED METAL PIPE. ELEV.=499.34'



LOCATION MAP NOT TO SCALE

PERTINENT DATA

UTILITIES

- WATER SERVICE** = MISSOURI AMERICAN WATER COMPANY
535 NORTH NEW BALLAS ROAD
ST. LOUIS, MO 63141
PH. 314-996-2286
CONTACT: BILL CUNNINGHAM
- SEWER DISTRICT** = DUCKETT CREEK SEWER DISTRICT
3550 HIGHWAY K
O'FALLON, MO 63304-8616
PH. 636-441-1244
FAX 636-498-8150
CONTACT: MIKE O'BRIEN
- PHONE SERVICE** = SOUTHWESTERN BELL TELEPHONE
402 N. 3rd STREET
ST. CHARLES, MO 63301
PH. 636-949-1320
CONTACT: DEBBIE ESTES
- FIRE DISTRICT** = COTTLEVILLE FIRE PROTECTION DISTRICT
P.O. BOX 385
1385 MOTHERHEAD ROAD
COTTLEVILLE, MO 63338
PH. 636-447-8655 / FAX 636-441-1742
CONTACT: MARK BOEHLE, FIRE MARSHAL
- ELECTRIC SERVICE** = AMERENUE - WENTZVILLE DISTRICT
200 CALLAHAN ROAD
WENTZVILLE, MO 63385
PH. 636-639-8307
CONTACT: SUREN MEHTA
- GAS SERVICE** = ST. CHARLES GAS COMPANY
1 WESTBURY SQUARE, BUILDING D
ST. CHARLES, MO 63301
PH. 636-946-0352
CONTACT: MIKE LANGAN

SILTATION NOTES

- Installation of perimeter sediment control shall be implemented as the first step of grading and within seven (7) days of grubbing the site.
 - Inspection of siltation control devices shall take place once every seven days and within 24 hours of any 0.5"/24 hour rain event. Any siltation control in need of repair shall occur immediately.
 - Any disturbed areas which will remain unworked for 14 days or more shall be stabilized with seeding and mulching per specifications within 14 days. If seasonal conditions prohibit seeding, mulching or matting shall be used.
 - All slopes or drainage channels, once constructed to final grade, shall be seeded and mulched per specifications within seven (14) days.
 - Silt fences shall be installed immediately around each storm sewer structure once final construction of each individual structure is complete.
 - All siltation control devices shall remain in place until upslope areas have been permanently stabilized.
- Siltation Control Schedule Implementation**
- Perimeter siltation control and construction entrances to be installed.
 - Begin placing aggregate base in parking areas once area has reached final grade to prevent erosion.
 - Place silt fence around each storm sewer structure as it is completed.
 - Immediately seed areas upon reaching final grade that are to be permanently seeded.
- Temporary Access Roads and Parking Areas Specifications**
- Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes should not exceed 10 percent.
 - Grades should be sufficient to provide drainage, but should not exceed 10 percent.
 - Roadbeds shall be at least 24 feet wide.
 - All cuts and fills shall be 3:1 or flatter to the extent possible.
 - Drainage ditches shall be provided as needed.
 - The roadbed or parking surface shall be cleared of all vegetation, roots and other objectionable material.
 - A 10-inch course of 2" MINUS aggregate shall be applied immediately after grading or the completion of utility installation within the right-of-way. Filter fabric may be applied to the roadbed for additional stability in accordance with fabric manufacturer's specifications.

Channel Flow Applications

- Bales shall be placed in a single row, lengthwise, oriented perpendicular to the contour, with ends of adjacent bales tightly abutting one another.
- The remaining steps for installing a straw bale barrier for sheet flow applications apply here, with the following addition.
- The barrier shall be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale (see detail) to assure that sediment-laden runoff will flow either through or over the barrier but not around it.

Maintenance

- Straw bale barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- Close attention shall be paid to the repair of damaged fence, end runs and undercutting beneath fence.
- Necessary repairs to barriers or replacement of silt fence shall be accomplished promptly.

Silt Control Schedule Implementation

- Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
- Any sediment deposits remaining in place after the straw bale barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

Silt Fence Specifications

- Silt Fence to be woven geotextile fabric Mirafo 100X or equal.
- Fabric to be supported by metal tee post with spade base spaced on 5' centers with 6 x 6/10 x 10 gage welded wire fence. See detail this sheet.
- Fabric shall be entrenched and backfilled. A trench shall be excavated a minimum of 6 inches deep for the length of the fence. The excavated soil shall be backfilled against the fence. See detail this sheet.
- Fence height shall be a minimum of 4 feet in height, with the fabric installed on the fence on the upstream side.
- Silt fences shall be used only on sheet flow conditions.
- Silt fences shall be installed around all storm sewer structures.

Maintenance

- Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales.
- Necessary repairs to barriers or replacement of bales shall be accomplished promptly.
- Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
- Any sediment deposits remaining in place after the silt fence barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

Vegetation

All roadside ditches, cuts, fills and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable standards and specifications.

Maintenance

Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas should be checked periodically to ensure that a vigorous stand of vegetation is maintained. Roadside ditches and other drainage structures should be checked regularly to ensure that they do not become clogged with silt or other debris.

Straw Bale Siltation Control Specifications

Sheet Flow Applications

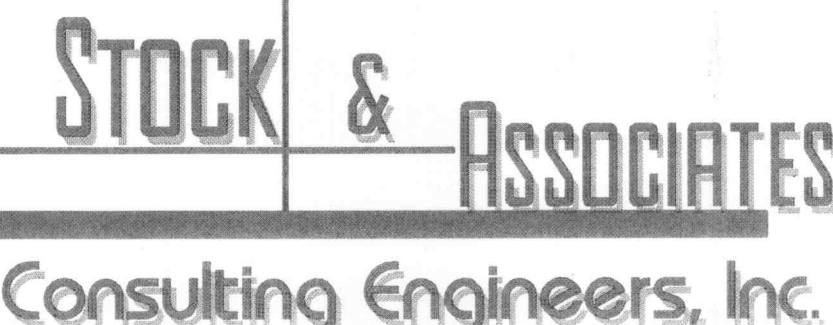
- Bales shall be placed in a single row, lengthwise on the contour, with both ends of adjacent bales tightly abutting one another.
- All bales shall be either wire-bound or string-tied. Straw bales shall be installed so that buildings are oriented around the sides rather than along the tops and bottoms of the bales (in order to prevent deterioration of the bindings). See detail this sheet.
- The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked, the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill and shall be built up to 4 inches against the uphill side of the barrier (See detail this sheet).
- Each bale shall be securely anchored by at least two stakes or rebars driven through the bale. The first stake in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or rebars shall be driven deep enough into the ground to securely anchor the bales.
- The gaps between bales shall be chinked (filled by wedging) with straw to prevent water from escaping between the bales. (Loose straw scattered over the area immediately uphill from a straw bale barrier tends to increase barrier efficiency).
- Inspection shall be frequent and repair or replacement shall be made promptly as needed.
- Straw bale barriers shall be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.

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APPROVED
Frank Lodwin
CITY OF O'FALLON, MO
JUL 20 2005

- 3 REVISED FOR CITY OF O'FALLON COMMENTS 07/05/05
- 2 REVISED FOR CITY OF O'FALLON COMMENTS 05/06/05
- 1 REVISED FOR CITY OF O'FALLON COMMENTS 02/22/05

WINGHAVEN BLVD.-GLA ENTRANCE WIDENING

TITLE/SPECIFICATION SHEET



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